U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
159-30 Rockaway Blvd, Suite 111
Jamaica, New York 11434

December 10, 2014

Mr. Ed Knoesel
Port Authority of New York and New Jersey
225 Park Avenue South, 9th Floor
New York, New York 10003

Re: LaGuardia Airport (LGA)
Central Terminal Building Redevelopment Program Environmental Assessment
Environmental Determination

Dear Mr. Knoesel:

The Federal Aviation Administration (FAA) has recently approved the Environmental Assessment (EA) and made a Finding of No Significant Impact/Record of Decision (FONSI/ROD) for the Central Terminal Building Redevelopment Program at LaGuardia Airport. A copy of the signed FONSI/ROD and the EA signature page are enclosed.

This Federal environmental approval is a determination by the Approving Official that the requirements imposed by applicable environmental statutes and regulations have been satisfied by a FONSI/ROD.

In compliance with Council on Environmental Quality (CEQ) regulations 1501.4(e)(1) and 1506.6, we require that your office make the final EA with Signature Page and FONSI/ROD available to the affected public, and announce such availability through appropriate media in the area. The announcement shall indicate the availability of the document for examination and note the appropriate location of general public access where the document may be found (i.e., your office, local libraries, public buildings, etc.). We request that a copy of such announcement be sent to the NYADO when it is issued. Given your desire to implement this project in the very near future, this announcement should happen as soon as possible.

Finally, your attention is directed to the mitigating measures that were made a condition of approval of the FONSI/ROD. These measures must be taken by the airport sponsor in order to meet the terms of the FONSI/ROD. Please note that this correspondence represents the formal Federal Environmental Finding; additional coordination with the FAA may be necessary for this project with regard to Airspace Review and the eligibility of all project components for potential funding decisions.

The process of making these environmental determinations is that of a partnership between yourself, as airport sponsor, and the other contributing parties, both public and private. We thank you for your effort and cooperation.

Please contact our office if you have any questions.

Sincerely,

Debbie Roth
Division Manager
Eastern Region

Enclosures (2)

cc: B. Oscarson, AECOM
N. Weymouth, AECOM

bcc: A. Brooks, AEA-610
G. Butler, AEA-7

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT
RECORD OF DECISION

Location

LaGuardia Airport (LGA)
Queens, New York

Introduction

This Finding of No Significant Impact/Record of Decision (FONSI/ROD) sets out the Federal Aviation Administration's (FAA) consideration of environmental and other factors for Airport Layout Plan (ALP) approval and federal financial assistance for the Central Terminal Building (CTB) Redevelopment Program at LaGuardia Airport (LGA). This FONSI/ROD is based on the Final Environmental Assessment (EA) for *Central Terminal Building Redevelopment Program at LaGuardia Airport* prepared by the Port Authority of New York and New Jersey (PANYNJ), dated November 2014.

Project Description

The Proposed Action is comprised of the following components: demolition of the existing central passenger terminal building and design and construction of a new terminal building; redesign of the terminal airside apron; and redesign of the landside roadways and the parking garage within LGA's central terminal area. Facilities that have been demolished and project components that involve redesign would be replaced by new facilities that are designed to function more efficiently. Additionally, facilities will be located to meet the most current standards for airport safety and security and to accommodate forecast passenger demand. The number of aircraft gates would remain at 35; forecasts demonstrate that the number of aircraft operations will generally not increase. The terminal building is proposed to be designed specifically to accommodate larger sized aircraft with increased seating capacity that would accommodate the expected increase in passenger demand. The CTB Redevelopment Program includes support projects such as the demolition of some existing buildings, relocation of utilities, and other miscellaneous improvements and changes needed to complete the Program. The project does not involve changes to the airfield runways or taxiways, air navigation aids or aircraft flight procedures.

Proposed Agency Actions

The FAA actions involved in the implementation of the Proposed Action include the following:

a. Unconditional Approval of a revised ALP to reflect the Central Terminal Building Redevelopment Program at LaGuardia, pursuant to 49 U.S.C. §40103(b) and §47107(a)(16); and determination and approval of the effects of this project upon the safe and efficient utilization of navigable airspace pursuant to 14 C.F.R. Parts 77 and 157 and 49 U.S.C. §44718;

b. Determination under 49 U.S.C. §§40101(d)(1) and 47105(b)(3) as to whether the Proposed Action maintains and enhances safety and security, and meets applicable design and engineering standards set forth in FAA Advisory Circulars;

c. Determinations concerning funding through the Federal grant-in-aid program authorized by the Airport and Airway Improvement Act of 1982, as amended (recodified at 49 U.S.C. §47107) and/or approval of an application to use Passenger Facility Charges (PFCs) under 49 U.S.C. §40117 (this FONSI/ROD does not determine eligibility or availability of potential funds);

d. Determination under 49 U.S.C. §44502(b) that the subject airport development is reasonably necessary for use in air commerce or in the interests of national defense;

e. Continued close coordination with the PANYNJ, the City of New York and appropriate FAA program offices, as required, for safety during construction (14 C.F.R. Part 77); and

f. Approval of appropriate amendments to the LGA Airport Certification Manual (ACM), as required, pursuant to 49 U.S.C. §44706.

Purpose and Need

The purpose and need for the Proposed Action is to efficiently utilize the limited space within the central terminal area to enable the CTB and ancillary facilities to safely and efficiently accommodate forecasted increases in aircraft size and passenger demand at acceptable levels of service.

Alternatives

In addition to the proposed alternative for each project component, several alternatives, including no action, were analyzed in detail. For the CTB component of the project, the Final EA considered configurations and concepts within the terminal area other than the Proposed Action, such as reconstruction and reuse of the existing building with the current concourse layout, an island/satellite concept, and finger concourses. Utilization of alternate sites within LGA, the use of other airports, building a new airport, and utilizing other modes of transportation were also considered.

Various configuration plans were considered for the both the airside apron and parking area, and landside roadways and parking within LGA's CTB area. Alternatives for support projects, including the demolition of Hangars 1, 2, and 4; relocation of the Central Heating and Refrigeration Plant; relocation of the East Field Lighting Vault; relocation of the Taxi Hold Lot; utility improvements; and improvements to key intersections near LGA were also considered. The Proposed Action was selected as the preferred alternative after a thorough evaluation of alternatives because of its ability to meet the project purpose and need with consideration to technical, operational, cost, and environmental considerations.

Discussion

The attached Final EA addresses the effects of the proposed project on the human and natural environment, and is made part of this Finding. The following impact analysis provides highlights of the more thorough analysis presented in the Final EA.

Roadway Traffic and Transportation

The redevelopment of the CTB is expected to take place over an eight-year period. Project related traffic impacts on airport access roads and other local roads surrounding the airport have been assessed. As indicated by site conditions, traffic improvements or changes may be needed to maintain or improve traffic levels-of-service during or after project construction. This

includes changes to the geometry of the Grand Central Parkway mainline and associated exit/entrance ramps.

The PANYNJ would implement a traffic monitoring program throughout the duration of the construction period and following project completion. During construction, a variety of temporary improvements may be required at a total of 12 intersections to accommodate the increased traffic volumes. These improvements include, but are not limited to, measures such as: traffic signal installation; traffic signal controller upgrades; signal timing adjustments; curbside parking prohibitions; lane widening/restriping; and the use of construction flaggers. With these improvements in place, no significant construction traffic impacts are anticipated to result from the Proposed Action.

After construction and through coordination with the appropriate agencies, minor adjustments to the timing of traffic signals at three signalized intersections along with roadway restriping, curbside parking prohibitions, and adjustments to the timing of traffic signals at a fourth intersection, as detailed in the Final EA, may be required to accommodate traffic volumes associated with the Proposed Action. With these improvements in place, no significant operational roadway traffic impacts are expected to occur. (See Appendix A of the Final EA for the detailed analysis).

Air Quality

Section 176(c) of the Clean Air Act (CAA), as amended in 1990, (42 U.S.C. §7521-7554) requires that Federal actions conform to the appropriate Federal or State air quality implementation plans in order to attain the CAA's air quality goals. Section 176(c) states: "No department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity which does not conform to an implementation plan."

LGA is located in Queens County, which is currently designated by the Environmental Protection Agency (EPA) as being a moderate non-attainment area for 8-hour ozone, a non-attainment area for particulate matter ($PM_{2.5}$), and a carbon monoxide (CO) maintenance area. Therefore, air emissions analyses were performed for both the construction phase and the operations phase of the Proposed Action.

In order to determine the potential for impacts to air quality, the following analyses were conducted: criteria and precursor pollutant emission inventory; construction equipment emissions inventory, hot spot analysis, and greenhouse gas emissions estimation. The air quality analyses demonstrate that construction and implementation of the Proposed Action would not cause an increase in air emissions above the applicable *de minimis* thresholds established by the General Conformity Rule in 40 C.F.R. Part 93, §93.153. Therefore, a General Conformity Determination is not required.

In accordance with FAA Order 1050.1E, Environmental Impacts: Policies and Procedures, and FAA Order 5050.4B, Airport Environmental Handbook, no further analysis with respect to General Conformity is needed. Accordingly, the Proposed Action conforms to the New York State Implementation Plan (SIP) and the CAA. Additionally, the operation of the Proposed Action would not create any new violation of the National Ambient Air Quality Standards (NAAQS), delay the attainment of any NAAQS, nor increase the frequency or severity of any existing violations of the NAAQS. Means and measures to reduce or minimize project-related emissions are also incorporated into the Proposed Action. Based on the above, since the

Proposed Action is unlikely to result in a pollutant concentration that would exceed NAAQS, it will not result in significant adverse impacts to air quality.

Department of Transportation (DOT) Section 303(c) (commonly referred to as Section 4(f)) and Historic Preservation

The Proposed Action involves development on land protected by Section 4(f) of the DOT Act of 1966, as amended, (49 U.S.C. 303(c)). The Act provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance or land from an historic site of national, State, or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use. Publicly and privately owned historic sites of national, state and local significance are protected under this statute and are subject to Section 4(f) evaluation if they are listed or eligible for listing on the National Register of Historic Places.

The Proposed Action involves the removal of Hangars 1, 2, and 4 to allow for construction of a new terminal building and aircraft apron area. Hangars 1, 3, and 5 (constructed as a unit) and Hangars 2 and 4 (also constructed as a unit) have been determined to be eligible for listing on the National Register of Historic Places by the New York State Historic Preservation Officer (NYSHPO). As such, these components of the site are considered 'Section 4(f) land.'

The Proposed Action would result in an adverse effect to historic resources (i.e., removal) under Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), and a permanent use of Section 4(f) property (construction). It is important to note that the Marine Air Terminal (approximately one-half mile west of the project site) is listed on the National Register of Historic Places and Hangar 7 (which is near the Marine Air Terminal and not in the central terminal area or part of the redevelopment of the central terminal area), has also been determined to be eligible for listing on the National and State Registers of Historic Places.

A substantial effort was undertaken to avoid and minimize impacts to the historic resources. Evaluation of these alternatives resulted in a determination that there is no feasible and prudent avoidance alternative to the use of land from a Section 4(f) property. The Proposed Action however, would cause the least overall harm and is the only alternative to meet the project's purpose and need. (See Appendix C of the Final EA for the detailed analysis).

The NHPA (16 U.S.C. 470) requires federal agencies to consider the impacts and effects of their undertakings on historic sites. Pursuant to 36 CFR 800, implementing Section 106 of the NHPA, the FAA, in conjunction with the PANYNJ, has discussed and coordinated the Proposed Action with the Advisory Council on Historic Preservation (ACHP) and the New York State Historic Preservation Officer (NYSHPO). FAA and PANYNJ have also discussed and coordinated the Proposed Action with the New York Landmarks Conservancy, the Office of the Queens Borough President, and American Airlines as the consulting parties to the Section 106 process, and the general public.

To mitigate the unavoidable adverse effects of removing Hangars 1, 2, and 4, photographic documentation and Level III Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) recordation would be performed. HABS/HAER recording combines drawings, history, and photography to produce a comprehensive, interdisciplinary

record. This would be performed for Hangars 1, 3, and 5, Hangars 2 and 4, and Hangar 7. Other mitigation measures include developing an interpretive display illustrating the history of LGA and historic hangars, implementing a demolition/construction management plan to ensure that adverse effects to the remaining Hangars 3 and 5 are avoided to the greatest extent practicable during construction, and implementing a maintenance plan to ensure that Hangars 3 and 5 are maintained in a state-of-good repair for the foreseeable future.

A Memorandum of Agreement (MOA) was entered into on October 30, 2014, by the FAA, PANYNJ, and NYSHPO, with the concurrence of the New York Landmarks Conservancy, the New York City Landmarks Preservation Commission, and the Office of the Queens Borough President. (See Appendices C and D of the final EA). The MOA stipulates mitigation measures to address the adverse effects on the historic resources. A separate Section 4(f) evaluation was prepared and submitted to the US Department of the Interior (DOI) for review. On May 20, 2014, DOI concurred that there is no prudent and feasible alternative to the proposed use of the Section 4(f) lands. (See Appendix G-12 of the final EA). The detailed discussion of the Section 106 process, Section 4(f) analysis, and the signed MOA can be found in the Final EA, and in Appendices C and D.

Coastal Zone Management and Floodplains

Federal actions that occur in or that would affect a coastal zone of a state having an approved state coastal zone management program must comply with that program to meet the requirements of the Coastal Zone Management Act of 1972 , as amended (16 U.S.C. §1451-1464).

LGA is located within the designated New York State Department of State (NYSDOS) Coastal Zone Management Area. Accordingly, any work undertaken within the Coastal Zone Management Area is subject to consistency with the New York State Coastal Zone Management Program. According to current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) and the recently released Preliminary FIRM, the majority of LGA is located within the tidal floodplain, some portions of which are designated a coastal flood zone with velocity hazard.

The project site consists entirely of uplands and is substantially developed with either airport or roadway infrastructure. The site is primarily covered with buildings or pavement, with about 10 percent of the area identified as urban landscaping. Under the Proposed Action, the project site would be reconfigured with the existing use of the land for transportation purposes remaining unchanged.

The Proposed Action would encroach upon a designated tidal floodplain. Because the majority of the airport is located within the floodplain, there is no feasible and prudent alternative that avoids the floodplain. Pursuant to FAA's Desk Reference for Airports Actions, a "significant encroachment" on the floodplain would not occur because: the probability of loss of human life is low; the Proposed Action would be designed to minimize future extensive damage or costs; and there would be no notable adverse impacts on the floodplain's natural and beneficial features. The Proposed Action includes a comprehensive flood hazard mitigation plan. (See Section 6.5 of Final EA).

After the New York State Department of State (NYSDOS) consulted with the New York City Department of City Planning, the NYSDOS, on November 15, 2013, determined that the

Proposed Action meets their consistency concurrence criteria for determining whether the projects proposed are consistent with the approved coastal zone management plan. (See Appendix G-56 of the final EA). Based on the above, it can be concluded that there would be no significant adverse impacts to the NYSDOS Coastal Zone Management Area or floodplains as result of the Proposed Action.

Noise

Airport development actions have the potential to cause or contribute to changes in community noise levels. It is important to emphasize that when compared to the No Action alternative, the Proposed Action would not increase aircraft takeoffs and landings, and that the existing runway configuration, arrival/departures procedures, and runway use percentages, would remain the same. However, because the Proposed Action would enable LGA to accommodate larger aircraft, this could alter aircraft-related noise impacts. Noise impact analyses were conducted that considered the potential changes in noise levels that would be expected as a result of both construction and operations resulting from the implementation of the Proposed Action.

Construction Noise: A noise analysis was performed for construction equipment using the Federal Highway Administration's approved Roadway Construction Noise Model (RCNM). Additionally, pursuant to the New York State Department of Transportation's *Noise Analysis Policy and Procedures* applicable to New York City, an impact to any sensitive receptor resulting from construction noise would only occur when levels are above 85 decibels (dB). During the first few years of construction for the Proposed Action, noticeable increases, ranging from 5 to 10 dB above existing background levels, will occur at Overlook Park and at 100th St. and Ditmars Ave. These increases correspond to pile driving activities that result in noise levels that are still below the 85 dB criterion established by NYSDOT.

Based on this analysis, construction equipment noise levels are expected to be well below New York State and New York City significance thresholds. With the exception of pile-driving activities during the first few years of construction, the noise generated during construction activities would not be discernable from the normal background noise levels in the area.

To mitigate noise impacts from pile-driving activities, the following measures shall be implemented: reduce the impact sound of the ram hitting the pile cap by placing a resilient pad in the anvil chamber; reduce the discharge sound of the hammer's air exhaust by installing a rectangular steel enclosure lined with acoustically-absorptive material; reduce the 'ringing' noise of the steel piles by utilizing acoustical paint across the web of each pile at four to six foot intervals; and prohibit pile driving at night.

After construction, noise levels from vehicular traffic are expected to increase, however, the noise increases are also predicted to be well below the thresholds of significance. Adverse impacts will be minimized through the use of a variety of measures, such as limiting construction days/hours, among others. These impacts will be controlled and limited by compliance with the mitigation measures coordinated with the appropriate agencies as set forth in the Final EA's Chapter 6, entitled, "Mitigation" and in this FONSI/ROD (see Conditions/Mitigation Measures, item 5 below).

Aircraft Operational Noise: After construction, aircraft noise could increase because of the use of larger aircraft. The small non-significant increase in aircraft noise attributable to the

Aircraft Operational Noise: After construction, aircraft noise could increase because of the use of larger aircraft. The small non-significant increase in aircraft noise attributable to the use of larger aircraft would be distributed proportionately beyond all four runway ends. A noise analysis for aircraft operational noise was conducted using FAA's Integrated Noise Model (INM) Version 7.0d. A significant noise impact is considered to exist when there is an increase of 1.5 dB or more over a noise-sensitive area within the 65 DNL (day-night level) noise contour. As discussed in the Final EA and in Appendix E, the Proposed Action would not result in any 1.5 dB increases within the DNL 65 dB noise exposure contour off airport property.

Nevertheless, for disclosure purposes only, a supplemental aircraft noise analysis was performed to determine the location and extent of potential noise increase even though the noise increase would be less than the 1.5 dB threshold of significance. A review of areas of noise increase less than 1.0 dB within the DNL 65 dB contour for the Proposed Action indicates a 0.5 dB increase would occur on the south side of the Airport over neighborhoods within Jackson Heights and Steinway, between the Brooklyn Queens Expressway and the approach end of Runway 4. No other communities or neighborhoods within the DNL 65 dB contour, located to the north, east, or west of the Airport would experience a noise increase of 0.5 dB or more. The results of the supplemental aircraft noise analysis support the determination that no significant noise impacts would occur as a result of the Proposed Action.

Based on the above, the Proposed Action will not result in significant adverse noise impacts.

Construction Impacts

Construction of the Proposed Action is not expected to cause significant long-term environmental impacts. However, short-term impacts resulting from construction operations may occur. Resources that are anticipated to experience short-term effects during construction are air quality, solid waste, light and visual, noise, traffic, and water quality. These impacts will be controlled and limited by compliance with the mitigation measures set forth in the Final EA's Chapter 6, entitled, "Mitigation" and in this FONSI/ROD under the heading "Conditions/Mitigtion Measures," as well as the FAA's Advisory Circular 150/5370-10F "Standards for Specifying Construction of Airports," Item P-156, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control; and Advisory Circular 150/5320-5D, "Airport Drainage Design" (see Conditions/Mitigation Measures, item 1 below)

Summary of All Impact Categories

The Final EA addresses all environmental impact categories, as required by FAA Orders 1050.1E, 5050.4B, and the Desk Reference for Airports Actions. Impact categories such as air quality; coastal zone; land use compatibility; DOT Section 4(f) resources; prime and unique farmland; fish, wildlife and plants; floodplains; hazardous materials; solid waste impacts; historical, architectural, archaeological, and cultural resources; light emissions; energy supply and natural resources; noise; socioeconomic impacts and environmental justice; water quality; wetlands; wild and scenic rivers; construction impacts; and cumulative impacts were considered during preparation of and analyses for the final EA. It is the FAA's finding that the proposed action will not have any significant effect on any of the above noted categories. These findings are further elaborated below.

Coordination with the General Public

A public informational meeting was held on December 12, 2012 at the LaGuardia Airport Marriot hotel. A Notice of Public Availability of the draft EA and Notice of Public Hearing was made in the following publications on or during the week of April 9, 2014: *Daily News (Queens Edition), Newsday, Queens Chronicle, Queens Gazette, Queens Times Ledger, Queens Ledger, El Especialito, The National Herald, Sing Tao Daily, Queens Courier, Queens Tribune, Newark Star Ledger, and Bergen Record.* The document was also made available to the public via the internet at *http://www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessmen.pdf*. The review and comment period was from April 9, 2014 to May 23, 2013. A Public Hearing on the Draft EA was also conducted during the review and comment period on May 8, 2014 at the LaGuardia Airport Marriot hotel.

Comments were received from various interested parties and primarily focused on support for the project and aircraft noise. All comments have been considered and adequately addressed in the Final EA. None of these comments, when considered individually or aggregately, resulted in significant changes to the proposed project.

Conditions/Mitigation Measures

1. Construction contract specifications developed for the projects shall contain the provisions of FAA Advisory Circular 150/5370-10F, "Standards for Specifying Construction of Airports," Item P-156, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control; and Advisory Circular 150/5320-5D, "Airport Drainage Design."

2. All required regulatory permits shall be obtained prior to construction of the Proposed Action, including a construction stormwater State Pollutant Discharge Elimination System permit when applicable.

3. Through coordination with the appropriate agencies, improvements and changes shall be made to maintain or improve traffic levels-of-service during and after construction. These improvements at a total of 12 intersections shall include, but not be limited to the following: traffic signal installation; traffic signal controller upgrade; signal timing adjustments; curbside parking prohibitions; lane widening/restriping; and use of construction flaggers.

4. To mitigate the unavoidable adverse effects of removing Hangars 1, 2, and 4, the following measures shall be implemented: performance of photographic documentation and Level III Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) recordation of Hangars 1, 3, and 5, Hangars 2 and 4, and Hangar 7; archaeological monitoring of areas of sensitivity; implementation of a demolition/construction management plan; implementation of a maintenance plan; and the installation of an interpretive display on the history of LGA. These mitigation measures are stipulated to in a MOA between the FAA, PANYNJ, and NYSHPO, with the concurrence of the New York Landmarks Conservancy, the New York City Landmarks Preservation Commission, and the Office of the Queens Borough President, executed pursuant to Section 106 of the NHPA.

5. To mitigate noise impacts from pile-driving activities, the following measures shall be implemented: reduce the impact sound of the ram hitting the pile cap by placing a

resilient pad in the anvil chamber; reduce the discharge sound of the hammer's air exhaust by installing a rectangular steel enclosure lined with acoustically-absorptive material; reduce the 'ringing' noise of the steel piles by utilizing acoustical paint across the web of each pile at four to six foot intervals; and prohibit pile driving at night.

6. A flood hazard mitigation plan for the Proposed Action has been developed in accordance with the National Flood Insurance Program, the International Building Code, the American Society of Civil Engineers national reference standards, and the New York City Building Code. Adherence to these requirements provides adequate assurance that project-related development impacts on the tidal floodplain would be minimized.

Further mitigation measures are detailed in Section 6 of the Final EA. Consistent with applicable orders, policies and guidance, including Council on Environmental Quality (CEQ) Guidance, dated January 14, 2011, "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact" under NEPA. The FAA understands that the PANYNJ will undertake the necessary actions to ensure that the above conditions and/or mitigation measures are undertaken and that it will monitor the implementation and effectiveness of such measures. In some instances, the above conditions are required as a result of coordination and agreement; they do not necessarily reflect impacts that require mitigation to meet FAA standards, pursuant to FAA Orders or Guidance.

Federal Agency Findings

In accordance with all applicable laws, the FAA makes the following findings for the Proposed Action based on all appropriate information and analyses contained in the Final EA and other portions of the Administrative Record for the Final EA:

A. **The Proposed Action is reasonably consistent with existing plans of public agencies for development of areas surrounding the airport. (49 U.S.C. §47106(a)(1).** The FAA is satisfied that the Proposed Action is consistent with plans (existing at the time the Proposed Action is approved) of public agencies for development of areas surrounding the airport based on coordination efforts with public agencies as indicated in Appendix G of the Final EA.

B. **The interest of the communities in or near where the Proposed Action may be located were given fair consideration. (49 U.S.C. §47106(b)(2).** The FAA is satisfied that the interests of the communities in or near where the Proposed Action will be located were given fair consideration as demonstrated by the Final EA, including Appendix H, Public Involvement, comments and responses to comments.

C. **The FAA has given this Proposed Action the independent and objective evaluation required by the Council on Environmental Quality (40 C.F.R. Section 1506.5).** The FAA's review and ultimate decision process included the FAA's rigorous exploration and objective evaluation of reasonable alternatives and probable environmental consequences, regulatory agency and Native American consultations, as required, and public involvement. FAA furnished guidance and participated in the preparation of the Final EA by providing input, advice and expertise throughout the planning and technical analyses, along with administrative direction and legal review. FAA has independently evaluated the Final EA and takes responsibility for its scope and content.

D. **The Proposed Action includes a direct use of resources protected under 49 U.S.C. §303(c) (Section 4(f) of the DOT Act); Implementation of the Proposed Action will comply with all requirements of Section 4(f) of the DOT Act, as well as the National Historic Preservation Act (NHPA) of 1966, as amended.** The Proposed Action will cause a direct use of Section 4(f) resources. Specifically, National Register-eligible Hangars 1, 2, and 4 will be removed in order to accommodate the redesigned CTB. There is no feasible and prudent alternative to retain Hangars 1, 2 and 4 in their current location while meeting the project purpose and need. Accordingly, coordination occurred with the NYSHPO and the ACHP. Pursuant to Section 106 of the NHPA and 36 C.F.R. Part 800, a MOA for the mitigation of the unavoidable removal of Hangars 1, 2 and 4 has been entered into by the FAA, PANYNJ and NYSHPO. All stipulations of the MOA will be implemented to mitigate the impact to the historic hangars.

E. **The Proposed Action will conform to the State Implementation Plan (SIP) in accordance with Section 176 of the Clean Air Act (CAA) and its amendments (42 U.S.C. §7506(c)).** LGA is located in Queens County, which is currently designated as being a moderate non-attainment area for 8-hour ozone, a non-attainment area for $PM_{2.5}$, and a CO maintenance area. The Proposed Action conforms to the New York State Implementation Plan and complies with the Clean Air Act Section 176(c)(1). The Proposed Action would not: cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area. Specifically, the Proposed Action's total construction emissions, based on specific emissions calculations, are below the *de minimis* thresholds established by the General Conformity Rule (40 C.F.R. Parts 51 and 93) and therefore, would conform to the SIP. According to FAA Order 1050.1E and the Desk Reference for Airports Actions, no mitigation is necessary and further analysis is not required to comply with the CAA or NEPA. In summary, although the Proposed Action is taking place in a non-attainment area, the FAA determined that project emissions would be below *de minimis* thresholds under General Conformity requirements. Therefore, a Conformity Determination is unnecessary and significant adverse impacts to air quality would be unlikely. The requirements of the General Conformity Rule have been met as discussed in Sections 4.2.2 and 5.2 and Appendix B of the Final EA.

F. **There are no disproportionately high and adverse environmental effects on minority and/or low-income populations that would result from the Proposed Action. (Executive Order 12989) (U.S. DOT Order 5610.2(a)).** Environmental Justice concerns are addressed in detail in Section 5.15 of the Final EA. The minority and low-income populations for Queens Community Districts 1 and 3 immediately adjacent to LGA that would experience non-significant increases in noise resulting from the Proposed Action are similar in composition to the population of the larger communities in close proximity to the airport. Furthermore, no significant impacts are associated with the proposed project. In accordance with FAA guidance provided in FAA Order 5050.4B and FAA Order 1050.1E, and the "Environmental Desk Reference for Airport Actions," implementation of the Proposed Action would not result in effects to any low income or minority population greater than the general community would experience. Additionally, there are no impact categories that experience a significant impact as a result of the

proposed project. Therefore, there would be no minority or low-income group that would bear a disproportionate burden of the effects of the Proposed Action.

G. **Executive Order 11988, that directs federal agencies to reduce the risk of flood loss, minimize the impacts of floods on human safety, health and welfare, and restore and preserve the natural and beneficial values served by floodplains, has been followed and as required, complied with appropriately.** The Final EA contains analyses that address whether the Proposed Action would be a "significant floodplain encroachment," as defined in FAA Order 1050.1E and Executive Order (EO) 11988. The FAA is satisfied that the Proposed Action would not be a significant encroachment on Floodplains and that implementation of the Proposed Action would comply with all the requirements of EO 11988. There is no feasible and prudent alternative that avoids the floodplain. A "significant encroachment" on the floodplain would not occur because: the probability of loss of human life is low; the Proposed Action would be designed to minimize future extensive damage or costs; and there would be no notable adverse impacts on the floodplain's natural and beneficial features. The appropriate and currently valid FIRMs were consulted and are included in the EA. The Proposed Action includes a comprehensive flood hazard mitigation plan.

H. **The Proposed Action is consistent with the New York State Coastal Zone Management Program in accordance with the CZMA, as amended (16 U.S.C. §1451-1464).** LGA is located within a designated New York State Coastal Zone Management Area. As indicated in Appendix G-56 of the final EA, the NYSDOS, on November 15, 2013, determined that the Proposed Action meets their consistency concurrence criteria for determining whether the projects proposed are consistent with the approved coastal zone management plan. There would be no significant adverse impacts to the NYSDOS Coastal Zone Management Area as result of the Proposed Action.

Decision and Order

The FAA recognizes its responsibilities under the National Environmental Policy Act of 1969 (NEPA) and its implementing CEQ regulations, and its own directives. Recognizing these responsibilities, I have carefully considered the FAA's goals and objectives in relation to the various aeronautical aspects of the *Central Terminal Building Redevelopment Program at LaGuardia Airport* as discussed in the Final EA, and I have used the environmental process to make a more informed decision. This review included the purposes and needs to be served by this project, alternative means of achieving them, the environmental impacts of these alternatives, and the mitigation and conditions necessary to preserve and enhance the human environment. This decision is based on a comparative examination of environmental impacts, operational factors, and economic factors for each of the alternatives. The Final EA provides a fair and full discussion of the impacts of the Proposed Action. The NEPA process included appropriate planning and design for avoidance and minimization of impacts, as required by NEPA, the CEQ regulations, other special purpose environmental laws, and appropriate FAA environmental directives and guidance.

The FAA has determined that environmental and other relevant concerns presented by interested agencies and the general public have been addressed in the Final EA. The FAA believes that with respect to the Proposed Project, there are no outstanding environmental issues within FAA jurisdiction to be studied or NEPA requirements that have not been met. In making this determination, the FAA must decide whether to approve the federal actions necessary for Project

implementation. FAA approval signifies that applicable federal requirements relating to airport development planning have been met and permits the PANYNJ to proceed with development and possibly receive funds for eligible items. Not approving these actions would prevent the PANYNJ from proceeding with the airport development.

After careful and thorough consideration of the facts contained herein and subsequent to my review of the Final EA and all of its related materials, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101 of NEPA and other applicable environmental requirements and will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of NEPA.

This decision does not constitute a commitment of funds under the Airport Improvement Program (AIP); however, it does fulfill the environmental prerequisites for future AIP funding determinations associated with AIP-eligible project components (49 U.S.C. §47107).

Similarly, this decision neither grants approval to use Passenger Facility Charges (PFC) nor constitutes a commitment of PFC approval. This decision fulfills the environmental analysis prerequisites for future PFC determinations. The FAA will review any future PFC application upon receipt from the PANYNJ and the FAA will make funding decisions in accordance with the established procedures and applicable statutory requirements (49 U.S.C. §40117).

Accordingly, pursuant to the authority delegated to me by the Administrator of the FAA, I find that the actions summarized in this FONSI/ROD are reasonably supported and approved. I hereby direct that action be taken together with the necessary related and collateral actions, to carry out the agency actions noted above. Specifically:

1. Unconditional Approval of the LGA ALP pursuant to 49 U.S.C. §40103(b) and §47107(a)(16), and determination of effects of each of the components comprising the Proposed Action as described above, in the Final EA, and all associated materials upon the safe and efficient utilization of navigable airspace pursuant to 14 C.F.R. Parts 77 and 157 and 49 U.S.C. §44718;

2. Determination under 49 U.S.C. §§40101(d)(1) and 47105(b)(3) that the proposed project meets applicable design and engineering standards set forth in FAA Advisory Circulars;

3. Determinations concerning funding through the Federal grant-in-aid program authorized by the Airport and Airway Improvement Act of 1982, as amended (recodified at 49 U.S.C. §47107) and/or approval of an application to use Passenger Facility Charges (PFCs) under 49 U.S.C. §40117 (this does not determine eligibility or availability of potential funds); and

4. Determination under 49 U.S.C. §44502(b) that the airport development is reasonably necessary for use in air commerce or in the interests of national defense.

5. Continued close coordination with the PANYNJ, the City of New York and appropriate FAA program offices, as required, for safety during construction (14 C.F.R. Part 77); and.

6. Approval of appropriate amendments to the LGA Airport Certification Manual (ACM), as required, pursuant to 49 U.S.C. §44706.

Approved: Debbie Roth 12/10/14

Debbie Roth Date
Airports Division Manager
Federal Aviation Administration
Eastern Region

Right of Appeal

This FONSI/ROD presents the Federal Aviation Administration's findings and final decision and approvals for the actions identified, including those taken under the provisions of Title 49 of the United States Code, Subtitle VII, Parts A and B.

Any party having a substantial interest may appeal this order to the United States Court of Appeals for the District of Columbia Circuit or in the court of appeals of the United States for the circuit in which the person resides or has its principal place of business, upon petition filed within 60 days after entry of this order in accordance with 49 U.S.C. §46110.

Central Terminal Building Redevelopment Program at LaGuardia Airport

Final Environmental Assessment and Section 4(f) Evaluation

Volume I – Technical Report

Prepared for
U.S. Department of Transportation
Federal Aviation Administration

Sponsored by
Port Authority of NY & NJ

Prepared by
AECOM

November 2014

This environmental assessment (EA) becomes a Federal document when evaluated, signed, and dated by the Responsible FAA Official.

Responsible FAA Official

12/9/14
Date

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Acronyms

ABFE	Advisory Base Flood Elevation
ADA	Americans with Disabilities Act
AGL	Above Ground Level
ALP	Airport Layout Plan
ANOMS	Airport Noise and Operations Management System
APE	Area of Potential Effect
APU	Auxiliary Power Units
ARPA	Archaeological Resources Protection Act
ASCPS	Airport System Capacity Planning Study
ASCE	American Society of Civil Engineers
AST	Aboveground Storage Tank
ATCT	Airport Traffic Control Tower
BAT	Best Available Technology
BMP	Best Management Practices
BMPP	Best Management Practices Plan
CAA	Clean Air Act (as amended in 1990)
CATEX	Categorical Exclusion
C-D	Collector-Distributor
CEQ	Council on Environmental Quality
CEQR	City Environmental Quality Review
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CES	Central Electrical Substation
CFR	Code of Federal Regulations
CHRP	Central Heating and Refrigeration Plant
CMP	Coastal Management Program
CO	Carbon Monoxide
CSO	Combined Sewer Overflow
CTB	Central Terminal Building
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
dB	Decibel
dBA	A-weighted Scale Decibel
DNL	Day-Night Average Sound Level
DOI	Department of Interior
EA	Environmental Assessment
EES	East End Substation
eGSE	Electric Ground Service Equipment
EIS	Environmental Impact Statement
E.O.	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
EWR	Newark Liberty International Airport
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency

FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FREEVAL	Freeway Evaluation
GHG	Greenhouse Gas
GSE	Ground Service Equipment
HABS	Historic American Buildings Survey
HAER	Historic American Engineering Record
HAP	Hazardous Air Pollutants
HCM	Highway Capacity Manual
HCQS	Highway Capacity and Quality Service
HOV	High Occupancy Vehicle
HVAC	Heating, Ventilation and Air Conditioning
Hz	Hertz
INM	Integrated Noise Model
JFK	John F. Kennedy International Airport
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Noise Level
LEED	Leadership in Energy and Environmental Design
LGA	LaGuardia Airport
LOS	Level of Service
LWRP	Local Waterfront Revitalization Program
MAP	Million Annual Passengers
MEP	Mechanical, Electrical and Plumbing
MOA	Memorandum of Agreement
MOS	Modification of Standard
MSL	Mean Sea Level
MHW	Mean High Water
MSW	Municipal Solid Waste
MTA	Metropolitan Transportation Authority
MVA	Megavolt Amperes
NAAQS	National Ambient Air Quality Standards
NCP	Noise Control Plan
NEPA	National Environmental Policy Act of 1969, as amended
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOx	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NYC	New York City
NYCDCP	New York City Department of City Planning
NYCDEP	New York City Department of Environmental Protection

NYCDOT	New York City Department of Transportation
NYCDPR	New York City Department of Parks and Recreation
NYCEDC	New York City Economic Development Corporation
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOS	New York State Department of State
NYSDOT	New York State Department of Transportation
NYNHP	New York Natural Heritage Program
OPRHP	Office of Parks, Recreation, and Historic Preservation
OSHA	Occupational Safety and Health Administration
PANYNJ	Port Authority of New York and New Jersey
PCAir	Pre-Conditioned Air
PCB	Polychlorinated Biphenyl
PCE	Passenger Car Equivalents
PFC	Passenger Facility Charge
$PM_{2.5}$	Inhalable particulate matter less than 2.5 microns in diameter
PM_{10}	Inhalable particulate matter less than 10 microns in diameter
RCNM	Roadway Construction Noise Model
RON	Remain Overnight
RSA	Runway Safety Area
RVSR	Restricted Vehicle Service Road
SPHINX	State Preservation Historical Information Network Exchange
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SPCC	Spill Prevention Control and Countermeasures
SPDES	State Pollutant Discharge Elimination System
SWF	Stewart International Airport
SWMP	Solid Waste Management Plan
SWPPP	Stormwater Pollution Prevention Plan
TAF	Terminal Area Forecast
TEB	Teterboro Airport
tpy	Tons Per Year
TRB	Transportation Research Board
TSA	Transportation Security Administration
ULSD	Ultra Low Sulfur Diesel
U.S. DOT	United States Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USGBC	U.S. Green Building Council
USGS	U.S. Geological Survey
UST	Underground Storage Tank
UW	Universal Waste
VGDS	Visual Guidance Docking System
VOCs	Volatile Organic Compounds
WES	West End Substation
WHMP	Wildlife Hazard Management Plan
WRP	Waterfront Revitalization Program

Executive Summary

In accordance with Federal Aviation Administration (FAA) policies and procedures for implementing the National Environmental Policy Act (NEPA), including FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, this Final Environmental Assessment (EA) analyzes the potential effects of the Central Terminal Building (CTB) Redevelopment Program at LaGuardia Airport (the Proposed Action). This Executive Summary describes the key findings of the Final EA, which is organized as follows:

- **Chapter 1: Introduction and Background** provides an overview and description of the Proposed Action
- **Chapter 2: Purpose and Need** establishes the necessity for and objectives of the Proposed Action
- **Chapter 3: Alternatives** identifies the Proposed Action and No-Action Alternatives and discusses why other options were considered and dismissed
- **Chapter 4: Affected Environment** defines the project setting and the resources to be considered
- **Chapter 5: Environmental Consequences** analyzes the impacts of the Proposed Action and No-Action Alternatives on the affected environment
- **Chapter 6: Mitigation** discusses the means and measures to be taken to reduce, minimize, or avoid the potential for environmental harm
- **Chapter 7: Public Involvement** describes the steps taken to include agencies and the public in the NEPA process
- **Chapter 8: List of Preparers**, **Chapter 9: References**, and **Chapter 10: Glossary of Terms** lists the firms that prepared the Final EA, the references cited in the Final EA, and definitions for terms used in the Final EA

In addition, **Appendix A** through **Appendix H** provide supplemental information needed to support the analysis and conclusions presented in the Final EA, including technical memoranda, copies of agency correspondence, and other supporting documentation.

Purpose and Need

The Port Authority of New York and New Jersey (PANYNJ) is proposing to redevelop the existing passenger terminal, airside apron, landside roadways, and parking garage within LaGuardia Airport's central terminal area. These facilities would be demolished and replaced with new facilities more efficiently designed and located to both meet the latest federal standards for airport safety and security and to accommodate forecast passenger demand at acceptable levels of service. The Proposed Action does *not* involve changes to the airfield runways or taxiways, air navigation aids, or aircraft flight procedures to or from the Airport.

The CTB, which has evolved over the past 50 years in response to major operational requirements (e.g., new aircraft, increased security needs, etc.) and higher air traffic and passenger demands, is heavily congested and overcrowded during busy periods of the day. These conditions result in inconvenience

and delays to passengers and delays in airline operations that can affect air service throughout the country. Forecasts prepared by the PANYNJ project that passenger demand at LaGuardia Airport (stated in million annual passengers or "MAP") will increase from approximately 23.6 MAP in 2010 to 34 MAP by approximately 2030. Approximately 17.5 MAP, or roughly half, of this future passenger demand would need to be accommodated at the CTB in 2030 compared to approximately 13 MAP under present, already congested conditions.

LaGuardia Airport has long been a highly congested airport and the FAA has placed an hourly limitation on the number of take-offs and landings (slots) for most of the week.[1] The forecasted number of passengers cannot be accommodated by the limited number of operations with the current fleet mix. Upgauging, or increasing the size of the aircraft and, therefore, the number of seats, would enable the passengers to be accommodated within the limited take-off and landing slots; however, the gate size and configurations at the existing CTB preclude larger aircraft. The terminal already operates inefficiently under present passenger demands. The existing CTB, from its apron areas and passenger and baggage screening facilities to its internal roadway and parking systems, could not efficiently accommodate larger aircraft and their increased passenger loads. Therefore, without comprehensive improvements to all elements of the CTB, LaGuardia Airport would be limited to approximately 30.1 MAP in 2030, with all of its systems operating at substantially worse conditions throughout the day and approximately 3.9 MAP of its projected 2030 demand levels left unserved.

Given these pressing needs, the goal of the Proposed Action is to design and build a new terminal that would efficiently utilize the limited space within the central terminal area to provide new airside and landside facilities that could meet the 2030 demand level of 17.5 MAP. The Proposed Action would accommodate a projected increase in aircraft size, higher passenger loads with acceptable levels of service, while efficiently meeting all required safety, security and other operational requirements.

The Proposed Action

The Proposed Action includes a series of projects divided into three functional areas: terminal building, airside apron and parking area, and landside roadways and parking. There are also a number of support projects needed to complete the Program. The Proposed Action elements are depicted in **Figure ES-1, Proposed Action** and described below:

- **Terminal Building**—*In order to adequately accommodate existing and forecasted passenger demand, the existing CTB, which has 35 gates, would be demolished and replaced with a new 1.3 million square foot passenger terminal building.* Under the Proposed Action, the concourses would be redesigned to accommodate 35 contact gate positions for B737 type aircraft—*no additional gates would be needed, just a larger airside footprint.* A three-level headhouse would provide ticketing on the upper level, baggage claim on the middle level, and ground transportation on the lower level. Inside the terminal building, passenger screening checkpoints and in-line baggage screening areas would be expanded to comply with Transportation Security Administration requirements, while concessions areas, retail space, airline lounges, and other passenger amenities would be added to enhance the traveling experience. There would be additional space for airline and airport support functions and an enclosed passenger walkway leading to the adjacent Terminal C.

[1] FAA, *Operating Limitations at New York LaGuardia Airport*, 79 Fed. Reg. 17222 (March 27, 2014).

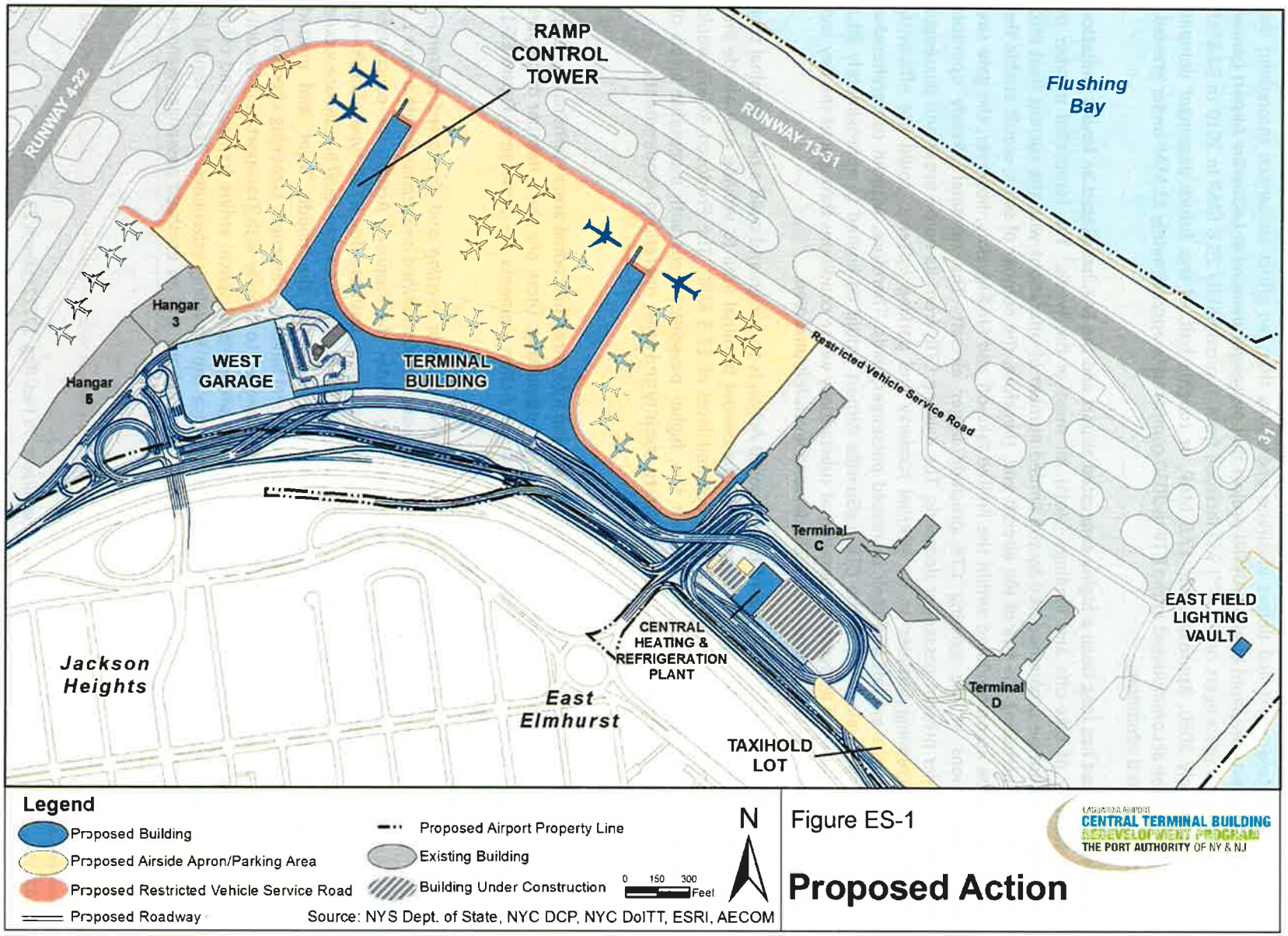

Figure ES-1

Proposed Action

- **Airside Apron and Parking Area**—*Under the Proposed Action, the terminal apron would be redesigned to accommodate the forecasted demand through the use of larger aircraft while enhancing airline efficiency, operational safety, and cost-effective standards of service.* By reconfiguring the apron area, dual (two-way) taxilanes would allow for optimal aircraft maneuvering within the limited space available, thereby reducing aircraft congestion and "gate-wait" delays. In addition, there would be new space available for up to 20 remain overnight (RON) aircraft and for restricted vehicle service roads used by airport vehicles and ground support equipment. An airline-operated ramp control tower would also be constructed to provide an elevated view for airline employees to assist pilots and ground crews responsible for maneuvering aircraft, vehicles, and equipment within the terminal area.

- **Landside Roadways and Parking**—*The landside roadways and parking areas would be redesigned to accommodate the demand and provide fast, safe, and efficient access, especially during peak hours of the day.* To make way for constructing the new terminal building, the existing 2,700 space CTB parking garage would be removed and replaced by a new West Garage with 2,900 spaces.[2] Reconfigured roadways would accommodate free flowing traffic movements between the Airport's terminals and the Grand Central Parkway. There would be added roadway capacity, simplified traffic routing, and improved signage. In front of the new terminal, there would be additional curb frontage for passenger loading and unloading, bypass/travel lanes to improve traffic circulation and flow, and a separate lower-level roadway for City and charter buses, hotel shuttles and other high occupancy vehicles. The new roadways would be located on existing Airport property and along the Grand Central Parkway right-of-way; no additional Airport entrances or exits are proposed.

Support projects include demolishing existing buildings, relocating utilities, and other miscellaneous improvements and changes needed to complete the Program.

The Proposed Action would involve implementing a large construction project at a busy airport, and it is essential that 35 gates, passenger handling facilities, roadways, and parking facilities remain operational during construction. To accomplish this, a construction phasing plan has been prepared that divides the project into multiple major phases which would take approximately eight years to complete.

The total cost of the CTB Redevelopment Program is $3.6 billion—inclusive of the terminal building and apron projects as well as infrastructure improvements including the new roadways, parking garage, and utilities. If the Proposed Action is approved and implemented, construction would begin in 2014 and be complete by 2021.

Environmental Consequences and Mitigation

The Final EA identifies and describes the reasonably foreseeable environmental consequences of the Proposed Action and No-Action Alternatives. Numerous other alternatives were considered during the planning phases of the project, but were eliminated from further detailed environmental review, as explained in Section 3.3. The focus of the analysis is on resources that would be directly, indirectly, or cumulatively affected by the Proposed Action, and mitigation measures to reduce adverse effects that cannot be avoided if the Proposed Action is implemented.

[2] Demolition of the CTB Garage would not begin until the new East Garage in front of Terminal C is completed.

- **Traffic and Transportation**—Project-related traffic impacts on airport access roads and other local roads surrounding the Airport have been assessed in consultation with New York City Department of Transportation (NYCDOT) staff using the *New York City Environmental Quality Review (CEQR) Technical Manual* criteria. PANYNJ would implement a traffic monitoring program in coordination with NYCDOT throughout the duration of the construction period and following the opening of the new terminal in 2021. As indicated by site conditions, traffic improvements or changes may be needed to maintain or improve traffic levels-of-service (LOS) during or after construction.[3] During construction, these improvements, at up to 12 intersections, may include a traffic signal installation, a traffic signal controller upgrade, signal timing adjustments, curbside parking prohibitions, lane widening/restriping, and the use of construction flaggers. These improvements would be recommended as temporary measures to reduce delays and to ensure the most efficient traffic signal operations at the study intersections during periods of construction activity. With these improvements in place, no significant construction traffic impacts are projected to occur in accordance with the *CEQR Technical Manual* criteria. After construction, minor reallocations of green time at three signalized intersections—coupled with lane restriping, curbside parking prohibitions and minor reallocations of green time at a fourth intersection—may be required to accommodate traffic volumes associated with the Proposed Action. With these improvements in place, no significant operational traffic impacts are projected to occur in accordance with the *CEQR Technical Manual* criteria.

  In addition, an analysis of the Grand Central Parkway was performed in consultation with NYCDOT and New York State Department of Transportation (NYSDOT) staff. Future traffic operations on the Grand Central Parkway in both directions were evaluated using the *CEQR Technical Manual* criteria for significant impact determination on highway sections. Based on the proposed design of the future roadway geometry, which include recent NYSDOT improvements to the Parkway at the 82nd Street and 94th Street ramps, the results of the analysis indicate that CEQR impact thresholds would not be exceeded on any Parkway segment in either direction as a result of the Proposed Action.

- **Air Quality**—Air emissions analysis was performed for both the construction phase and the operations phase of the Proposed Action. The results indicate that project-related emissions during and after construction are well below applicable *de minimis* thresholds. Means and measures to reduce or minimize project-related emissions are included in the Proposed Action. No additional air quality mitigation measures are needed to avoid a significance determination.

- **Coastal Resources**—The Proposed Action is located within a federally-designated coastal zone but would not adversely affect coastal resources. Except for coastal floodplains, the project site is devoid of coastal features identified in the New York City Waterfront Revitalization Program (WRP) as resources to be considered. PANYNJ submitted a Federal Consistency Assessment Form to the New York State Department of State (NYSDOS) and a WRP Consistency Assessment Form to the New York City Department of City Planning (NYCDCP). After consulting with NYCDCP, NYSDOS determined that the Proposed Action meets their general consistency concurrence criteria (letter dated November 15, 2013). No mitigation measures are proposed.

[3] Refers to LOS criteria in the Highway Capacity Manual (HCM). These improvements are included in the assessment of the Proposed Action.

- **Compatible Land Use**—In terms of land use compatibility related to aircraft noise, there are no proposed air traffic changes or new approach/departure flight procedures that would be required in association with the Proposed Action. However, the Proposed Action would accommodate larger aircraft, which would alter aircraft-related noise impacts and affect land uses subjected to those impacts. An aircraft noise analysis has been conducted and the results indicate that no significant noise impacts would occur; therefore, it can be concluded that there would be no significant land use impacts related to aircraft noise.

  In terms of land use compatibility *not* related to noise, the Proposed Action would be located exclusively within existing Airport property as well as transportation corridors and rights-of-way. As such, the Program is consistent with existing land uses. The Program is also consistent with relevant federal, state and local plans, including development plans for the NYSDOT.

- **U.S. Department of Transportation (U.S. DOT) Section 4(f) Resources**—The Proposed Action would not adversely affect public parks, recreational lands, open space, or wildlife or waterfowl refuges of national, state, or local importance. However, the FAA has determined that the Proposed Action would cause an unavoidable adverse effect on properties eligible for listing on the National Register of Historic Places (NRHP)—a Section 4(f) use. The properties are Hangars 1, 3, and 5 and Hangars 2 and 4. A Final Section 4(f) Evaluation has been prepared pursuant to Section 4(f) of the U.S. DOT Act (see **Appendix C** in the Final EA). The results of the Section 4(f) Evaluation indicate that the Proposed Action is the only alternative that meets the project's Purpose and Need, and it causes the least overall harm to the Section 4(f) resources. The No-Action Alternative and other avoidance alternatives would not impact properties eligible for listing on the NRHP, but those alternatives would not meet the project's purpose and need. Therefore, there is no feasible and prudent alterative to the use of the NRHP-eligible properties, and the Proposed Action includes all possible planning to minimize harm. A Draft Section 4(f) Evaluation was submitted to the U.S. Department of the Interior (DOI) for review. In a letter dated May 20, 2014, DOI concurred that there is no prudent and feasible alternative to the proposed use of Section 4(f) lands (see **Appendix C**). Mitigation measures would be implemented in accordance with Section 106 of the National Historic Preservation Act. A signed Memorandum of Agreement (MOA) is appended to the Final Section 4(f) Evaluation.

- **Fish, Wildlife and Plants**—Probable impacts to biotic resources include the temporary displacement of local indigenous species of wildlife and plants and the permanent loss of up to four acres of urban landscaping with limited habitat value. The Proposed Action includes the development of a comprehensive landscape architecture plan for the replacement of trees, shrubs, and grasses affected by the projects, including special provisions for tree protection, removal, and replacement/mitigation. Of the approximately 270 trees located within the project site (generally between the Airport buildings and Grand Central Parkway from 90th Street to 27th Avenue), approximately 200 trees would have to be removed, 63 of which are located off Airport property. Where removal of trees under the jurisdiction of New York City Department of Parks and Recreation (NYCDPR) cannot be avoided, mitigation measures would comply with *New York City (NYC) Rules Governing Tree Replacement.* No impacts would occur to any NYC Trees without the applicable NYCDPR *Construction and Forestry Permits*. PANYNJ has committed to develop a plan with NYCDPR to address local impacts to NYC Trees, including provisions for restitution for the loss of trees. Compliance with NYCDPR permit requirements, including mitigation for NYC Tree removal, provides adequate assurance that the unavoidable adverse impacts on NYC trees would not be significant.

- **Floodplains**—The Proposed Action would encroach upon a Federal Emergency Management Agency (FEMA) designated tidal floodplain. Because the majority of the Airport is located within the floodplain, there is no feasible and prudent build alternative that avoids the floodplain. Where development within the floodplain cannot be avoided, the Proposed Action includes a comprehensive flood hazard mitigation plan developed in compliance with federal, state, and local laws and regulations for the protection of floodplains as well as the referenced standards for flood-resistant design and construction to the degree practicable. Based on U.S. DOT policy, a "significant encroachment" on the floodplain would not occur because the probability of loss of human life is low, the Proposed Action would be designed to minimize future extensive damage or costs, and there would be no notable adverse impacts on the floodplain's natural and beneficial features. A coastal zone consistency determination has been prepared and NYSDOS and NYCDCP have concurred; therefore, it can be concluded that there would be no significant adverse impact on the (coastal) floodplain.

- **Hazardous Materials, Pollution Prevention, and Solid Waste**—During demolition of the hangars, hazardous materials and waste (most likely asbestos and lead) would be encountered. PANYNJ would implement appropriate safety procedures, remediation strategies, and removal protocols for the handling and storage of all regulated hazardous substances. After construction, PANYNJ would update the Airport's *Spill Prevention Control and Countermeasures (SPCC) Plan* for the all the elements of the Proposed Action.

- **Historic Resources**—No historic properties listed on the NRHP are located within the area of potential effect (APE). The APE is the geographic area or areas within which the Proposed Action may cause changes in the character or use of historic properties, if any such properties exist (see **Figure 5-7** for APE of the Proposed Action). Five existing aircraft hangars (built 1939-40) located within the APE have been determined to be eligible for listing on the NRHP. Hangars 1, 3, and 5, and Hangars 2 and 4, are part of the original LaGuardia Airport and have remained relatively unaltered over the years. The New York State Historic Preservation Office (SHPO) determined that the existing CTB (built 1964) is not eligible for listing on the NRHP due to major alterations that occurred in the 1970s and the 1990s. In addition, construction activities would disturb a state-listed area of archaeological sensitivity. No other potentially-eligible historic properties have been identified for further evaluation.

  In consultation with the SHPO, the FAA has determined that the Proposed Action would adversely affect Hangars 1, 3, and 5, and Hangars 2 and 4. Hangars 1, 2, and 4 would be directly affected by demolition; whereas, Hangars 3 and 5 would be indirectly affected by the demolition of the adjoining Hangar 1 and construction of the West Garage resulting in obstructed views of the hangars from the Grand Central Parkway. Because an adverse effect cannot be avoided, mitigation is recommended to offset the loss of the three hangars eligible for listing on the NRHP. In accordance with Section 106 the National Historic Preservation Act, the FAA coordinated the Section 106 consultation process among federal, state and local agencies, non-governmental organizations, and private sector interests. Two Consulting Parties workshops were conducted. As a result of those meetings, mitigation measures have been identified in an MOA (see **Appendix D** of this Final EA) that has been signed by the signatories—FAA, SHPO and PANYNJ—and the three concurring Consulting Parties (see Section 5.10 for a full discussion of the Section 106 consultation process). An executed MOA verifies that the adverse effects to the NRHP-eligible properties have been resolved and that the Section 106 process is complete.

- **Light Emissions and Visual Impacts**—Light emissions from the construction and operation of the Proposed Action would not be expected to cause or contribute to off-site annoyances in the vicinity of the Airport. No new light emissions would be introduced into a previously unaffected area. No adverse lighting impacts are anticipated; therefore, no mitigation measures are proposed. The Proposed Action would alter the view of the passenger terminal area as seen by drivers along the Grand Central Parkway and by pedestrians walking along the residential streets south of the Grand Central Parkway between 94th Street and 102nd Street, including Overlook Park. The current image is a row of aging and obsolete airport buildings separated from the Grand Central Parkway by a large parking garage and several surface parking lots. The proposed image is a row of modern airport buildings with complementary architecture that unifies and organizes the entire Airport campus. Two visual impact assessments have been prepared from different perspective views and no adverse impacts are identified (see illustrations in Section 5.11.2). In addition, a separate community impact study concluded that no further analysis of visual resources would be required to comply with local CEQR requirements.

- **Noise**—Construction equipment noise levels are expected to be well below New York State and New York City significance thresholds, due primarily to the distance between the proposed construction activities and the locations of the nearest noise sensitive receptors. Although distance would attenuate most construction noise, the contractor would still be required to prepare a Construction Noise Control Plan, which would include various noise control measures and alternatives that allow for contractors to continue their important construction tasks while having less noise impact on the surrounding environment. The highest noise levels would be associated with pile-driving activities; therefore, pile-driving noise attenuation measures would be recommended.

  After construction, traffic noise would increase due to additional vehicle operations, and aircraft noise would increase due to the use of larger aircraft. In both cases, however, the noise increases are predicted to be well below established significance thresholds. For disclosure purposes, supplemental aircraft noise analysis was performed to determine the location and extent of the potential noise increase, even though the noise increase would be less than the day-night average sound level (DNL) 1.5 decibels (dB) threshold of significance established by the FAA. According to FAA guidelines, DNL 65 dB is the threshold of noise compatibility with residential land use; if any noise sensitive land uses within the DNL 65 dB noise contour would experience increases in noise of DNL 1.5 dB or greater as a result of the Proposed Action, a significant noise impact would occur. As discussed in Section 5.13 and **Appendix E** in this Final EA, according to the results of the supplemental aircraft noise analysis:

  - There are no 1.5 dB or 1.0 dB increases within the DNL 65 dB noise exposure contour off Airport property.

  - A review of areas of noise increase less than 1.0 dB within the DNL 65 dB contour for the Proposed Action indicates a 0.5 dB increase would occur on the south side of the Airport over neighborhoods within Jackson Heights and Steinway, between the Brooklyn Queens Expressway and the approach end of Runway 4 (see **Figure 5-13** in this Final EA).

  - No other communities or neighborhoods within the DNL 65 dB contour located to the north, east, or west of the Airport would experience a noise increase of 0.5 dB or more.

  It is important to emphasize that the Proposed Action would not increase the use of aircraft (takeoffs and landings) when compared to the No-Action Alternative, and the existing runway

configuration, arrival/departures procedures, and runway use percentages would remain the same as well. As a result, the incremental increase in aircraft noise attributable to the use of larger aircraft would be distributed proportionately beyond all four runway ends, and would result in no significant noise impacts beyond any runway end. Because no significant noise impacts are predicted to occur, no noise mitigation measures are proposed.

- **Secondary/Induced Effects**—With or without the Proposed Action, LaGuardia Airport would continue to generate economic activity. However, as discussed in the Final EA, implementation of the Proposed Action would provide additional economic benefits when compared to the No-Action Alternative. The economic impacts would occur through direct expenditures of construction labor, materials and supplies, indirect impacts from construction spending, and long-term benefits to the region from the increased number of passengers served. In either scenario, the added benefits would not cause or contribute to significant induced development or create an appreciable change in public service demands.

- **Socioeconomic Impacts**—The Proposed Action would not relocate homes or businesses, cause a substantial loss in the community tax base, or disrupt local transportation patterns. There would be no disproportionate adverse effects on any minority or low income population, or disproportionate health and safety risks to children.

- **Water Quality**—The Proposed Action would not cause or contribute to a significant adverse impact on surface water or groundwater resources during or after construction. Construction-induced changes in storm runoff are likely to occur, but the changes would be minor and the adverse effects mitigated through water quality best management practices (BMPs) and control measures. After construction, the overall impact on water quality would be a positive one due to the installation of manufactured treatment devices, bio-filtration swales, and a system to harvest rainwater for beneficial reuse, which are not in place today and could not be reasonably implemented without new construction. With these provisions in place, no additional mitigation measures are needed to reduce the impacts of the Proposed Action below applicable significance thresholds.

- **Wetlands**—No wetlands are present within the project site. Tidal wetlands are located at the north and east end of the Airport; however, the location of the Proposed Action's various project elements and the activities they would entail would preclude any adverse impacts from occurring. Under the Proposed Action, there would be no impact on tidal wetlands and no adverse impact on the New York State-regulated tidal wetlands adjacent area. No permits are required and no mitigation measures are proposed.

- **Construction Impacts**—Under the Proposed Action, construction activities would cause or contribute to a temporary increase in air, noise, and water pollution, and traffic on local roadways; tree removal and the loss of urban landscaped area; demolition of three hangars eligible for listing on the NRHP and excavation of a potential archaeological site; and the need to dispose of hazardous materials and construction waste, including contaminated soils and groundwater. Construction impacts cannot be avoided, but the potential adverse effects can and would be minimized. Compliance with applicable federal, state, and local rules and regulations, as well as environmental commitments including mitigation measures, BMPs, and PANYNJ sustainability guidelines, would ensure that unavoidable construction impacts are reduced to the degree practicable.

- **Cumulative Impacts**—The Proposed Action is likely to have an adverse, but not significant, effect on the following impact categories: ground/road traffic; air quality; U.S. DOT Section 4(f) resources; fish, wildlife, and plants; historic properties; noise; and water quality. Although these impacts may not be significant themselves, cumulative impacts occur over time, from one or more projects, and can result in the degradation of important resources. In accordance with FAA's guidelines for considering cumulative effects under NEPA, the potential incremental effects of other past, present, and reasonably foreseeable projects were considered regardless of the agency or individual responsible for such other projects. After thorough review of potential cumulative impacts that might occur as a result of the Proposed Action, no significant cumulative impacts have been identified. On October 20, 2014, New York State Governor Andrew Cuomo announced a design competition for John F. Kennedy International and LaGuardia Airports. Submissions are expected to be due in early 2015. Currently, it is not possible to assess the impact of any submitted design concept to the CTB Redevelopment Program. To the extent any design submissions are further advanced and are determined to impact the CTB project or other program elements, an appropriate analysis and review will be undertaken at that time.

Agency Coordination

Correspondence with federal, state, and local agencies consulted with during the EA process is provided in **Appendix G: Agency Consultation**. The agencies contacted include:

- Federal Agencies
  - Advisory Council on Historic Preservation
  - Federal Aviation Administration
  - National Marine Fisheries Services
  - U.S. Department of the Interior
  - U.S. Environmental Protection Agency
- State Agencies
  - Metropolitan Transportation Authority
  - New York State Department of Environmental Conservation
  - New York State Office of Parks, Recreation, and Historic Preservation
  - New York State Department of State, Division of Coastal Resources
  - New York State Department of Transportation
- Local Agencies
  - Landmarks Preservation Commission
  - New York City Corporation Counsel
  - New York City Department of City Planning
  - New York City Department of Parks and Recreation
  - New York City Department of Transportation
  - New York City Economic Development Corporation
  - New York City Mayor's Office of Environmental Coordination

Public Involvement

Throughout the preparation of the EA, PANYNJ staff met with state and local elected officials to brief them on the project. A website has been established to introduce the Program and keep the public updated on its progress (www.panynj.gov/lgactb). A Public Information Open House was held on

December 12, 2012, to provide an opportunity for the community to learn more about the Proposed Action.

The Draft EA was made available for public review and comment for 45 days, from April 9 until May 23, 2014. A Notice of Availability of the Draft EA and Draft DOT Section 4(f) Evaluation was printed in the *Daily News (Queens edition), Newsday, Queens Chronicle, Queens Gazette, Queens Time Ledger, Queens Ledger, El Especialito, The National Herald, Sing Tao Daily, Queens Courier, Queens Tribune, Newark Star Ledger, and Bergen Record* newspapers. The document was available at PANYNJ's Administration Building at LaGuardia Airport, PANYNJ's office in Manhattan (225 Park Avenue South), and two branches of the Queens Borough Public Library (35-81 81st Street in Jackson Heights and 41-17 Main Street in Flushing) as well as on PANYNJ's website (www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessment.pdf).

A Public Information Session and Public Hearing were held at the New York LaGuardia Airport Marriott on May 8, 2014. The notification of the public hearing was widely advertised. Only one formal comment was made at the meeting and recorded by a stenographer. Interested parties were also permitted to submit comment cards, emails or other written testimony throughout the public comment period. All comments received during the public comment period have been addressed in this Final EA (see **Appendix H**).

1 Introduction and Background

This document is the Final Environmental Assessment (EA) prepared by the Port Authority of New York and New Jersey (PANYNJ) to analyze the expected environmental effects of a Proposed Action involving the Central Terminal Building Redevelopment Program at LaGuardia Airport (or "the Airport"). The EA process has been conducted and this document has been prepared in accordance with Federal Aviation Administration (FAA) policies and procedures for implementing the National Environmental Policy Act of 1969 (NEPA) as amended, as regulated by the Council on Environmental Quality (CEQ).[45] These policies and procedures include FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures.* An EA is required under NEPA because the project would require the FAA to approve a change to the Airport Layout Plan (ALP) for LaGuardia Airport and because federal funds may be granted and the approval to collect and use Passenger Facility Charges (PFCs) may be sought to implement the project. All of the previously described actions are federal actions that require compliance with NEPA.

New York City's acceptance of an easement from New York State Department of Transportation (NYSDOT) for property along the Grand Central Parkway for airport use would be a discretionary City action requiring review under City Environmental Quality Review (CEQR). A separate Full Form Environmental Assessment Statement (EAS) was submitted and a negative declaration indicating that the Proposed Action would not have a significant adverse impact on the environment was issued by the Mayor's Office of Environmental Coordination on August 22, 2014. There is no separate state action under the State Environmental Quality Review Act (SEQRA).

1.1 LaGuardia Airport and Its Terminals

Located in the Borough of Queens approximately eight miles east of midtown Manhattan (see **Figure 1-1**), LaGuardia Airport is situated along the waterfront of Flushing Bay and Bowery Bay, and borders the neighborhoods of Astoria, Jackson Heights, and East Elmhurst (see **Figure 1-2**). LaGuardia Airport is owned by the City of New York and operated by PANYNJ under a long-term lease agreement.[6] Constructed by the City and opened in 1939, the PANYNJ took control of the Airport in 1947. Since then, PANYNJ has worked continuously to improve LaGuardia Airport in order to meet FAA requirements and accommodate modern-day air travel demands.

LaGuardia Airport plays a vital role in the economy of the region and the air transportation system of the nation. Twelve airlines currently provide nonstop service to over 75 airports in the United States and Canada. More than 23.6 million passengers used LaGuardia Airport in 2010 and there were approximately 365,000 aircraft takeoffs and landings. These airport and airline operations are major contributors to the regional economy in terms of employment, salaries, and spending. LaGuardia Airport employs about 11,000 people and contributes almost $14.5 billion in economic activity to the New

[4] P.L. 91-190, 42 U.S.C. 4321-4347, et. seq., *National Environmental Policy Act*, 1969, Section 102(2)(c), as amended.

[5] Guidance Regarding NEPA Regulations, CEQ, 48 *Federal Register* 34263 (July 28, 1983).

[6] In 2004, PANYNJ renewed their lease agreements with the City of New York that ensures their continued operation of LaGuardia Airport and John F. Kennedy International Airport through 2050.

Figure 1-1

Location Map

CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

York/New Jersey region by generating about 109,000 job-years and $5.3 billion in annual wages and salaries.[7]

The Airport consists of 680 acres including two 7,000-foot long runways, four passenger terminals, arrival/departure roadways, and parking facilities. The remainder of the Airport's property is used for airport or airline support functions, such as FAA navigational aids and lighting, aircraft fuel storage, equipment storage and maintenance, etc. Unlike John F. Kennedy International (JFK) and Newark Liberty International (EWR) Airports, which have large-scale facilities designed for international passenger and cargo operations, LaGuardia Airport is used primarily for short-to-medium range domestic passenger service and generally utilizes smaller aircraft than the longer domestic and international flights. To ensure this air service pattern and associated mix of aircraft, PANYNJ instituted a Sunday-through-Friday "Perimeter Rule" in 1984 that bans non-stop flights from LaGuardia to cities more than 1,500 miles away, with the exception of Denver International Airport.[8] LaGuardia Airport's role in the New York City metropolitan area's air travel market is not expected to change.

LaGuardia Airport has four passenger terminal buildings—A, B, C, and D (see **Figure 1-2**).

Terminal A

Located on the west side of the Airport, Terminal A is used exclusively by Delta Airlines for shuttle service to Boston, Chicago, and Washington, DC. Once called the Overseas Terminal, and then the Marine Air Terminal, this was the original Airport terminal building serving international flights using flying boats through the 1940's. Terminal A is connected to a modern concourse with six gates for narrowbody jets. In 1995, the Marine Air Terminal was listed in the National Register of Historic Places. The terminal is also an interior and exterior landmark designated by the NYC Landmarks Preservation Commission (LPC).

Terminal B/Central Terminal Building

Of the more than 20 million passengers that use LaGuardia Airport annually, approximately half are processed through the Central Terminal Building (CTB). The CTB is the largest of the four terminals and is used by most air carriers serving LaGuardia Airport.[9] Opened in 1964, renovation and expansion projects over the years have enhanced the appearance and capacity of the CTB, although these improvements have not been sufficient to keep pace with passenger demand. The CTB has 835,000 square feet of floor space with four concourses and 35 contact gates. The CTB is connected to a five-level parking garage with 2,700 spaces.

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[7] PANYNJ, Planning and Regional Development Department, Memorandum, "Updated 2012 Aviation Economic Impacts," dated June 22, 2013. The estimate of job-years was determined by PANYNJ's economic impact model covering the 18 counties that approximate the PANYNJ District. The model is based on regional input-output analysis covering all major industrial sectors of the economy and estimates direct, indirect and induced job-year figures.

[8] PANYNJ, *Airport Rules and Regulations*, p. 38, August 4, 2009. http://www.panynj.gov/airports/pdf/Rules_Regs_Revision_8_04_09.pdf

[9] USAirways, WetstJet and Delta Airlines all operate out of Terminals C; while Delta Airlines occupies Terminals A and D.

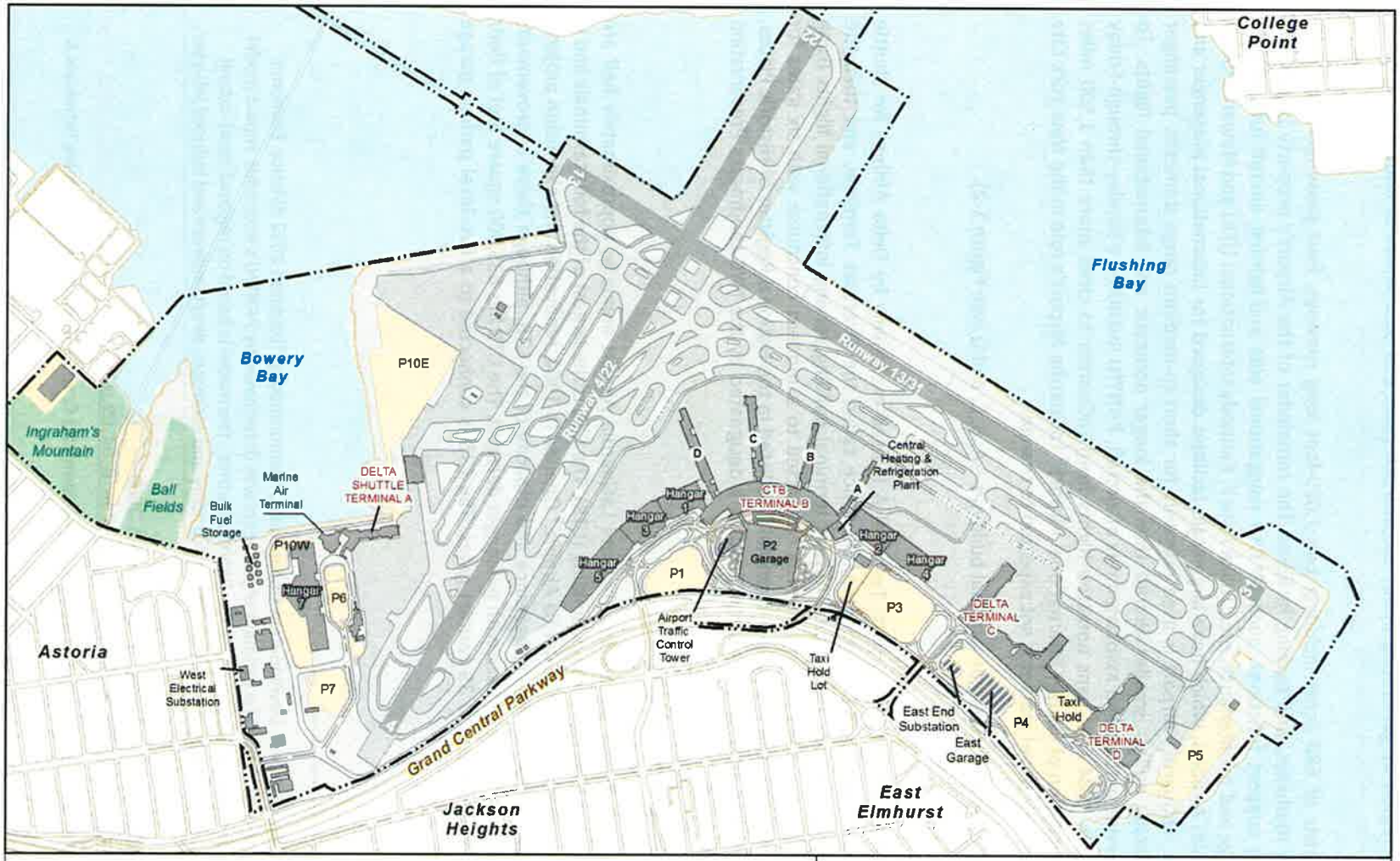

Figure 1-2

Existing Airport Facilities

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Terminal C

Opened in 1992, Terminal C is comprised of a 485,000-square foot terminal, two concourses with 12 gates for narrowbody jets, with an additional eight gates for smaller regional jets and turboprop aircraft. Formerly known as the US Airways Terminal, Delta Airlines took over the lease for Terminal C in 2011 as part of a plan to expand their hub operation beyond Terminal D. Recent improvements to Terminal C include a new Delta Sky Club, expanded security lanes, five new sit-down restaurants, an expansive food/beverage hall, additional retail stores, and renovated seating and circulation areas. In addition, a 630-foot pedestrian bridge opened in 2012, which allows passengers to walk between Terminals C and D without having to re-enter through security.

Terminal D

Delta Airlines constructed Terminal D at the east end of the Airport in 1983. The terminal has 247,000 square feet of floor space and 10 gates, several of which are designed for B-757/767 type aircraft. As part of the Terminal C/D improvement project undertaken by Delta Airlines, recent enhancements to Terminal D include expanded security lanes, an in-line baggage screening system (allowing existing machines to be removed from the lobby area), an expanded Delta Sky Club, and all new restroom facilities. In addition to the new pedestrian bridge connecting Terminals C and D, a new five-level parking garage (East Garage) with 1,100 spaces that will serve both terminals is under construction.

1.2 About the Central Terminal Building

1.2.1 History of the CTB

The CTB that exists today stands on the site of LaGuardia Airport's original central terminal and airport traffic control tower. Designed and constructed in the 1930s, those buildings were quickly rendered obsolete by an airline industry that was entering a new era of jet aircraft. Within 20 years of opening, plans for a major reconstruction and improvement program were already underway to replace the original central terminal with a much larger three-story terminal building along with a new control tower, a new southeast-northwest runway, a two-level terminal frontage roadway, and an expanded parking area.

These plans resulted in the second generation CTB which was designed and built in the 1960s as a series of four compartmentalized terminals based on the needs of multiple carriers. Each terminal was connected to a concourse for the exclusive use of the airlines occupying the space. The CTB functioned as four contiguous unit terminals operating separately under one roof. Over the next 20 years, this condition created many challenges as passenger activity increased, security screening procedures were introduced, operations changed, and airlines came and went. As described below, the tipping point occurred with the new security requirements implemented after 9/11.

In the late 1980s, the CTB was substantially reconfigured. The CTB Garage had been constructed directly in front of the terminal in 1976. To provide more vehicle capacity, PANYNJ expanded the arrivals- and departures-level inner and outer roadways along the terminal frontage. In addition, those improvements included new passenger circulation space along the inner and outer sections of each terminal, thus connecting all four terminals into one unified building that enabled the CTB to operate more like a typical multi-airline terminal. However, the concourses were not included in the unification project and neither were the building's electrical/mechanical systems, both of which continued to be operated and maintained by the airlines for their leasehold areas.

While the improvements in the 1980s solved several building deficiencies and improved the building environment, they did not address the emerging problem with the operation and maintenance of the building as a whole—airline tenants continued to be responsible for maintaining their own leased space and for making improvements as needed. The divided responsibilities for the CTB resulted in varying levels of primarily cosmetic enhancements, not necessarily compatible with the concept of a single unified terminal building with connecting concourses. Consequently, improvements undertaken by the airlines were not always fully integrated into adjacent tenant spaces nor connected to the overall building systems. For example, heating, ventilation and air conditioning (HVAC) upgrades in the concourses have been limited to the space occupied by the individual airline tenants and designed as stand-alone systems.

In the early 1990s, the lower level arrivals lobby of the terminal building was expanded outwards by infilling under the upper level sidewalk and departures roadway. The terminal was also expanded in several areas towards the airside apron at the arrivals- and departure-levels. The redesigned interior space was intended to relieve crowded conditions in the terminal and to improve the level of service in the ticketing, baggage claim, concessions, security, and airline operations areas. But because these areas were originally designed for other purposes, the space was not easily adapted or modified for the new use. The expansion resulted in roof leaks and water problems that require ongoing inspection and maintenance to preserve the building's integrity. A few years after this initial set of improvements, a series of additional improvements to the interior space included the construction of a new central concessions area and food court, interior finishes and upgrades, security screening systems, check-in counters, life safety and building code improvements, HVAC upgrades, and Americans with Disabilities Act (ADA) compliance measures.

By the 2000s, the airport traffic control tower (ATCT) located on the terminal airside apron above Concourse D was demolished and replaced with a new ATCT located adjacent to the terminal landside roadways. The only major component of the CTB to be removed, the 40-year old tower was too small and the infrastructure was too old to satisfy FAA requirements for next generation air traffic control monitoring and communications equipment. Alternatives to retrofit and reuse the building were not considered viable because the extensive renovations needed to meet current New York City (NYC) building code requirements and Occupational Safety and Health Administration (OSHA) standards could not be accomplished without interfering with the operation of the facility.[10]

Perhaps the biggest impact to the terminal building and ancillary facilities over the past 20 years has been the need to provide improved security and screening for passengers and their baggage. These requirements further increased after September 11, 2001. Since then, additional terminal modifications have been completed in compliance with Transportation Security Administration (TSA) protocols, but the additional space required for passenger and baggage screening has led to a corresponding loss of already limited building space and apron area. It has resulted in excessive waiting times and queuing length, resulting in aggravation and missed flights.

The commercial airline industry has evolved significantly since the CTB was opened. The average aircraft today is 25 percent larger in wingspan and 15 percent longer (see **Figure 1-3**[11]). The terminal gates in the CTB were designed for the narrowbody DC9-30, while today the narrowbody jet category includes a

[10] *LaGuardia Airport Air Traffic Control Tower Replacement Project, Environmental Assessment Re-Evaluation*. The Port Authority of New York & Jersey/DMJM+Harris (September 2004).

[11] http://www.boeing.com/boeing/commercial/

wider range of aircraft up to and including the B737-900W. The terminal was originally designed for 8 million annual passengers (MAP) and now must handle 13 MAP. With respect to commercial airline service, the terminal is functionally obsolete.

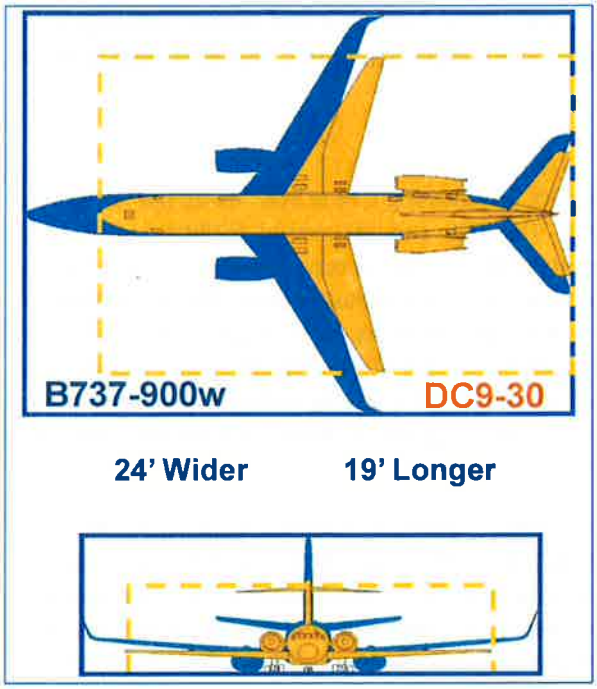

Figure 1-3. Design Aircraft

1.2.2 Existing Conditions

After nearly 50 years of service, the CTB has reached its service life and design capacity. Planned and constructed in a different era of civil aviation and unevenly renovated over the years, the terminal building is comprised of aging and obsolete facilities. The CTB regularly receives poor marks in customer satisfaction surveys. Passenger and baggage screening systems required by TSA cannot be accommodated within the existing terminal footprint. Demand has risen as high as 13 MAP in recent years, far exceeding the design capacity of 10 MAP for the existing building after improvements during the 1980s and 1990s. The large majority of retail shopping and food/beverage concessions are located before the security screening checkpoints, with minimal offerings on the secure concourses. Restrooms and other amenities along the concourses are insufficient.

Adjacent to the CTB, airside and landside constraints are no less limiting. Airside apron dimensions restrict the size of aircraft that can be gated at the terminal. Single-lane, tapering taxilanes between the concourses impede aircraft circulation. There is limited space for ground service equipment (GSE) operations, snow melting, and other airside functions. On the landside, the three-lane terminal curb frontages regularly seize up due to the number of vehicles accessing them during busy hours of the day. The inner two lanes are blocked by stopped vehicles, while maneuvering vehicles slow down in the third lane looking for a space to stop. Signalized crosswalks from the outer curbs also stop the flow of traffic. These deficiencies are described in greater detail later in Chapter 2, Purpose and Need.

1.2.3 Future Capacity and Service Needs

By 2030, passenger demand at LaGuardia Airport is expected to increase to 34 MAP and over half of those passengers—17.5 MAP—are expected to pass through the CTB.[12] The forecast demand exceeds the design capacity of the passenger processing areas inside the CTB (i.e., ticket lobby, security screening, and baggage claim areas) which are limited to approximately 10 MAP. Further compounding the issue is the lack of available space to expand the airside apron as needed to improve airline

[12] PANYNJ, *Long Range Forecasts for the Port Authority Airports* (April 2012). This is an unconstrained forecast and represents a market-driven demand for air service through 2032. At LaGuardia Airport, projected fleet change under a constrained activity scenario could accommodate the forecasted demand. Airlines would increase their aircraft size to serve a greater volume of passengers on the same number of operations. The Landrum and Brown forecast reflects this scenario. The Landrum and Brown forecast and the FAA's Terminal Area Forecast (TAF) can be found in **Appendix F**.

efficiency, operational safety, and to reduce "gate-wait" delays. There is also a lack of available space to modify the landside roadways as needed to relieve traffic congestion and delay along the frontage roads and curbs. All areas of the central terminal area complex—the airside apron, terminal building, and landside roadways—are nearing capacity and, in some cases, have already exceeded their design limits. A major increase in terminal building space, aircraft apron dimensions, and terminal curb frontage, is required to meet the demand of 17.5 MAP. The need for these improvements is also described in more detail later in Chapter 2, Purpose and Need.

1.2.4 Impacts of No Action

Without a major overhaul or terminal replacement project, the existing CTB is in a "fix-as-fail" situation, which is not an efficient way to operate the Airport. The CTB and associated facilities require an investment of approximately $3 billion to bring them into a state-of-good repair so that the service life of the building can be prolonged. This work is not simply near-term maintenance. This magnitude of expenditure is necessary to allow the building to continue to operate in its current layout for another 30 years, the equivalent of a newly-built facility. Implementation of the state-of-good-repair work would take approximately 10 years and involve complicated phasing and multiple airline moves within the terminal. However, even after such a costly and lengthy overhaul of the facilities, as demand continues to increase all terminal processors and critical areas would begin to fail.

Large as it is, this $3 billion investment would not enhance capacity or improve safety, efficiency or passenger levels of service. It would be difficult to justify this level of expenditure without expansion of the capacity to meet the future demand. Likewise, it is unacceptable to constrain the level of passenger activity at the CTB, preventing LaGuardia Airport from making its maximum contribution to the regional economy or the aviation system. Given the history of the CTB, lessons learned from the past have led PANYNJ to the conclusion that all parts of the CTB complex—airside, terminal, and landside—must be redesigned in order to meet the forecast demand of 17.5 MAP. These facilities cannot be left at their current capacity, creating bottlenecks throughout the system. Any development concept that proposes to retain portions of the existing CTB must include a complete reconfiguration of the terminal building including the passenger processing areas inside (i.e., ticketing lobby, security screening, and baggage claim areas).

Demolition of the current back corridor, concessions, and airline ticket offices would be required to provide sufficient space for areas such as check-in and baggage claim. New building area would be required to accommodate in-line baggage screening and passenger screening requirements. Previous studies have concluded that it would be extremely difficult to implement an automated in-line baggage screening system within the existing building without impacting other critical plant spaces and public areas, and without expanding the structure significantly.[13] The expansion of actual processing capacity in the terminal, the replacement and updating of the building systems, and the implementation of mandated screening areas for baggage and passengers would drive a complete "gut" reconstruction of the terminal building, as well as a major expansion.

1.3 About the CTB Redevelopment Program

Having determined that the existing facilities cannot meet the projected demand of 17.5 MAP without significant reconstruction and redesign, PANYNJ initiated a terminal redevelopment program. To date, the architectural team has completed Phase I and Phase II planning and Stage 1 design.

[13] SOM, *LGA Modernization White Paper* (Version 9).

Phase I Planning

The objectives of the Phase I planning effort were as follows:

- Set forth the airside, terminal, and landside facility requirements to be accomplished
- Identify and evaluate three broadly different terminal development concepts
  - Concept A—Reconstruction/Reuse
  - Concept B—Island
  - Concept C—Concourse/Pier
- Recommend one concept for further study and refinement

Phase I planning identified Concept C as the preferred approach to carry through to the Phase II planning process. While Concept C was considered superior to Concepts A and B, it was also understood that the specific configuration and facilities associated with Concept C could be improved through further evaluation in Phase II planning. More information about all three concepts is presented in Chapter 3, Alternatives.

Phase II Planning

The objective for Phase II was as follows:

- Further develop Concept C in each of its major sectors—airside, terminal, and landside—and coordinate the sector studies into a cohesive plan for Stage I (schematic) design (i.e., the Proposed Action).

Phase II planning involved extensive coordination between sectors. For example, alternatives for the airside apron had a direct impact on the alignment of the concourses, while different landside alternatives directly impacted the footprint of the terminal building, parking garage, and other ancillary facilities. In most cases, this work involved the development of more detailed design assumptions and parameters, as well as alternatives studies. Arrangements and layouts having "optimal" functional characteristics were sought prior to review for coordination, phasing, and cost.

As the work within each sector advanced, the results were reviewed in their own right, and across the project, to ensure the sector plans were coordinated. In addition, Phase II planning included an extensive parallel effort to further develop construction sequencing and phasing plans to ensure the project could be implemented safely and effectively, without impacting airport operations or reducing gate availability. In a number of cases, the phasing work influenced the specifics of a sector plan—in other instances, the reverse was the case.

The Proposed Action is, therefore, best described as Concept C as recommended in Phase I and as further developed in Phase II. Unless otherwise stated in this Final EA, the Proposed Action is consistent with the *LaGuardia Airport Terminal Redevelopment Phase II Planning Report* (March 16, 2012). From this point forward, further refinements to the plan resulting from schematic design are not expected to change the broader description of the Proposed Action or the affected environment.

1.4 Description of the Proposed Action

PANYNJ proposes to redevelop the passenger terminal building, airside apron, landside roadways, and parking garage within the Airport's CTB area. These facilities would be demolished and replaced with new facilities designed and constructed to meet the latest federal standards for airport safety and security, and to accommodate the larger aircraft necessary to meet the higher forecasted passenger

demand while operating at acceptable levels of service. PANYNJ expects to enter into a contractual arrangement with a third party to design, build, finance, operate, and maintain the project as described in this Final EA and the Project Briefing Book.[14] The Proposed Action does not involve the airfield runways or taxiways, or other terminals or facilities at LaGuardia Airport.

The Proposed Action includes a series of projects divided into three functional areas: (1) terminal building, (2) airside apron and parking area, and (3) landside roadways and parking. There is also a list of support projects needed to complete the Program. The proposed projects are consistent with the Program requirements established in the Phase II planning documents described in the previous section. The Proposed Action elements are depicted in **Figure 1-4** and are described below:

Terminal Building

The Proposed Action includes the following terminal building requirements:

- Demolish the existing terminal building including Concourses A, B, C, and D
- Construct a three-level terminal headhouse[15] and concourses designed to accommodate 17.5 MAP at an acceptable level of service and meet requirements for Leadership in Energy and Environmental Design (LEED) Gold or minimum Silver rating, including the following elements:
  - 35 contact gates with a connector to Terminal C (in association with the preferred airside concept described below)
  - Three-level terminal roadway frontage (in association with the preferred landside concept described below)
  - Approximately 1.3 million square feet of total space
  - Over 200 check-in positions (counters and kiosks)
  - Checked-bag handling system with a centralized in-line baggage screening facility designed to current TSA standards and specifications
  - Passenger screening checkpoints with a total of 22 lanes designed to current TSA standards and specifications
  - Bag claim units with over 1,600 linear feet of bag claim device presentation frontage
  - Concessions, airline clubs, and passenger amenities
  - Airport and airline operations and support space including building systems (mechanical, electrical, and plumbing)
  - Aircraft gate holdrooms to accommodate Group III and Group IV aircraft and secure circulation
  - Pedestrian bridge/walkway to the proposed West Parking Garage

Airside Apron and Parking Area

The Proposed Action includes the following airside requirements:

- Reconfigure the airside apron in compliance with FAA geometric design standards and airline operating procedures, as applicable, including the following:

[14] *LaGuardia Airport Central Terminal Building Replacement Project, Project Briefing Book for RFQ #31224* (October 26, 2012).

[15] The "headhouse" is the part of the airport passenger terminal providing accommodations for persons waiting to depart the airport or passengers arriving and waiting for baggage.

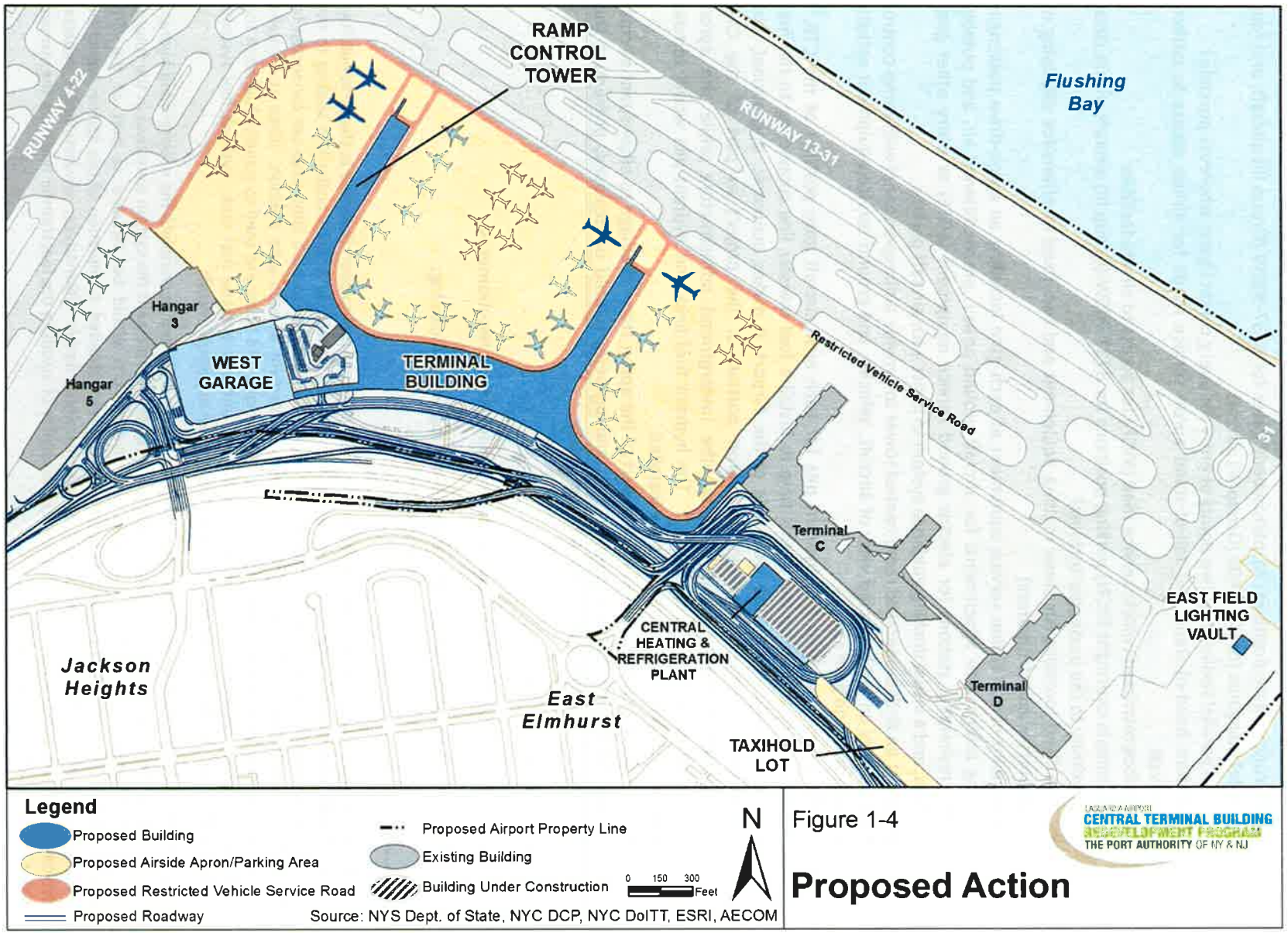

Figure 1-4

Proposed Action

LaGuardia Airport
CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

  - 35 contact gate positions: 31 narrowbody gates for B737-900W (Group III) aircraft, and four widebody gates for B767-400 (Group IV) aircraft
  - Dual parallel taxilanes or two points of entry for every contact gate, wherever possible
  - 24-foot head-of-stand and tail-of-stand apron service roads for airline access to parked aircraft
  - 30-foot restricted vehicle service road (RVSR) for access to airside facilities
  - 20 remain overnight (RON) parking positions for B737-900W (Group III) aircraft within close proximity to the passenger terminal
  - Two fixed locations for snow melting equipment and two fixed locations for disposing of lavatory waste (triturators)
- Install point-of-use airline service equipment at each gate including an apron-drive passenger boarding bridge with attachments for aircraft ground power, preconditioned air, and potable water; recharging stations for electric ground service equipment (eGSE) at every other gate position; and a visual docking guidance system to assist with aircraft parking
- Construct an airline-operated ramp control tower to provide airline personnel with ramp control responsibility an unobstructed view of aircraft, vehicles, and ground service equipment activity on the apron and gate areas
- Install hydrant fuel lines and hydrant pits for each new aircraft gate position at the CTB.[16] Although there is no proposal at this time to install a fuel transfer line connecting to the fuel storage tanks located on the west side of the Airport, it makes economic, operational, and environmental sense to include the apron portion of the project as part of the CTB Redevelopment Program and to install the underground infrastructure while the apron pavements are being reconstructed.[17] The hydrant fuel lines and hydrant pits would remain inactive until the fuel transfer lines are installed.
- Install a deicing containment system as part of the apron storm drainage to allow spent aircraft deicing fluid to be isolated, pumped out, and properly treated or disposed, preventing the discharge of contaminants to surrounding waters.

Landside Roadways and Parking

The Proposed Action includes the following roadway and parking requirements:

- Remove and replace the arrival and departure roadways including:
  - At-grade terminal frontage roads and ramps

[16] Hydrant fuel systems are specifically designed to efficiently dispense fuel to aircraft parked at the terminal. Fuel is transferred from storage tanks located at the perimeter of an airport via a fuel transfer line leading to the airside apron where a series of smaller hydrant fuel lines running lateral to each concourse are connected to hydrant fuel pits (manholes) located beneath the apron pavement at each gate position. When an airplane arrives at the gate, a hydrant cart pulls up alongside the airplane and hoses are used to transfer fuel from the hydrant pit though equipment mounted on the cart and into the airplane fuel tank. Hydrant fuel systems eliminate the need for the fuel tanker trucks to deliver jet fuel to parked aircraft.

[17] Due to very high construction costs, the tenant airlines have not agreed to complete the underground hydrant fuel system at this time. So as not to preclude the opportunity to implement the system sometime in the future, the costs of installing the hydrant fuel lines and hydrant pits would be incurred as part of the CTB Redevelopment Program when the aircraft apron is being reconstructed. Completion of the system would be deferred until after further investigation of site constraints, design alternatives, environmental impacts, operational effects, construction costs, and financial feasibility of installing the fuel transfer line from the storage tanks located on the west side of the Airport.

  - Elevated terminal frontage roads and ramps
  - Connecting roads to the Grand Central Parkway
- Reconstruct portions of the 94th Street and 102nd Street (23rd Avenue) bridges[18]
- Remove the existing CTB Garage (2,700 spaces) and construct a new West Parking Garage (2,900 spaces) with a pedestrian bridge to the new CTB[19]

Support Projects

In order to implement the projects listed above, the Proposed Action includes the following support projects, or *connected actions*, which would also have to be performed:

- Demolish aircraft hangars 1, 2, and 4
- Relocate and reconstruct the Central Heating and Refrigeration Plant (CHRP)[20]
- Relocate and reconstruct the East Field Lighting Vault
- Relocate and reconstruct the Taxi Hold Lot
- Provide for new in-ground utilities
- Improve key traffic intersections in the vicinity of the Airport

1.5 Other Airport Projects Not Included in the Proposed Action

In addition to the CTB Redevelopment Program, several Airport projects are needed to enhance airport efficiency and operational safety. Some are small, state-of-good repair projects, while others are larger Airport Capital Improvement Program projects. Regardless, these projects are referred to as Independent Utility projects because they are independent of the CTB Redevelopment Program and are needed whether or not the Proposed Action is implemented. They are identified in this Final EA for administrative convenience and to facilitate consideration of cumulative impacts. Independent Utility projects include, but are not necessarily limited to, the following:

- Rehabilitation of Taxiways R, S, P, and G
- Rehabilitation of Taxiways A, M, ZA, and B
- Pump House 4 Upgrades
- Delta Terminals C and D Connector and Escalator Addition
- East End Substation and East Garage
- Runway Safety Area (RSA) Enhancements

Each project listed above has been evaluated separately under stand-alone NEPA documents and received FAA environmental determinations. More detailed information about these projects is presented in Section 5.20, Cumulative Impacts.

On October 20, 2014, New York State Governor Andrew Cuomo announced a design competition for John F. Kennedy International and LaGuardia Airports. Submissions are expected to be due in early 2015. Currently, it is not possible to assess the impact of any submitted design concept to the Proposed Action. To the extent any design submissions are further advanced and are determined to impact the

[18] NYCDOT maps refer to the bridge as the 23rd Avenue bridge; however, the ALP identifies it as the 102nd Street bridge. It will be referred to as the 102nd Street bridge throughout the remainder of this document.

[19] Demolition of the CTB Garage would not begin until the new East Garage located in front of Terminal C is completed.

[20] The new CHRP would be constructed to meet requirements for LEED Gold or minimum Silver rating.

CTB redevelopment or other program elements, an appropriate analysis and review will be undertaken at that time.

1.6 Required Land Use/Environmental Permits

The following land use or environmental permits may be required prior to construction of the Proposed Action:

- New York State Department of Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-10-001
- Preparation of a Construction Noise Control Plan as mandated in Chapter 28, Title 15 of the City of New York Administrative Code, *Citywide Construction Noise Mitigation*
- Stormwater Pollution Prevention Plan (SWPPP) and Notice of Intent (NOI) (submitted to NYSDEC at least 30 days prior to construction)
- Concurrence with New York State and New York City Waterfront Revitalization Program Coastal Zone Consistency Assessment Forms
- New York City Department of Parks and Recreation (NYCDPR) Construction and Forestry Permits, with an agreement on restitution
- New York City Department of Transportation (NYCDOT) review and approval of proposed traffic improvements at several local intersections for both construction and operational conditions

The Airport property is currently owned by the City of New York and leased to PANYNJ through 2050. The roadway network would be partially built beyond the leasehold line on land that is owned by the City of New York and under the jurisdiction of NYCDPR and New York State Department of Transportation (NYSDOT). In a May 23, 2014 comment letter, New York City informed PANYNJ that the Proposed Action would include a discretionary City action requiring analysis pursuant to the Rules of Procedure for City Environmental Quality Review (CEQR), with the Mayor's Office of the Deputy Mayor for Housing and Economic Development as lead agency for environmental review. A negative declaration was issued by the Mayor's Office of Environmental Coordination (MOEC) on August 22, 2014 indicating that the discretionary action prompting CEQR would not have a significant adverse impact on the environment (see **Appendix G**). The Proposed Action is consistent with existing land uses as well as relevant federal, state and local plans, including development plans of the NYSDOT.

1.7 Requested Federal Action and Timing

The Federal Actions are:

- FAA approval of revisions to the ALP and the implementation of the Proposed Action as depicted in **Figure 1-4**;
- FAA approval for PANYNJ to establish eligibility to participate in the funding through the use of PFCs for eligible airport development, assuming the independent requirements of the PFC program are met.

In addition, the Proposed Action includes a discretionary City action – approval from the City of an easement from NYSDOT. In compliance with CEQR, a Full Form Environmental Assessment Statement (EAS) was submitted and a negative declaration has been issued by MOEC.

Subject to FAA's decision on this Final EA, State and City review and approval, ALP approval, and funding approvals, construction is expected to begin in 2014.

1.8 Document Content and Organization

This Final EA is arranged by section and has several attached appendices that provide detailed technical information to supplement material in the body of the document. The sections and appendices, along with their primary subject area, are listed below.

- Volume I – Technical Report
  - Chapter 1 presents an introduction to this Final EA and the project
  - Chapter 2 discusses the **Purpose and Need** for the Proposed Action
  - Chapter 3 identifies and describes the **Alternatives** considered
  - Chapter 4 discusses the **Affected Environment**
  - Chapter 5 identifies and describes the potential **Environmental Consequences** of the Proposed Action and No-Action Alternatives
  - Chapter 6 discusses **Mitigation** measures that can be taken to reduce potential harm
  - Chapter 7 discusses the **Public Involvement** program
  - Chapter 8 provides the **List of Preparers**
  - Chapter 9 lists the **References** used to prepare the Final EA
  - Chapter 10 provides a **Glossary of Terms** used throughout the Final EA

- Volume II – Appendices
  - Appendix A – Transportation
  - Appendix B – Air Quality Technical Report
  - Appendix C – Final Section 4(f) Evaluation
  - Appendix D – Evaluation of Historic Resources
  - Appendix E – Noise Technical Report
  - Appendix F – Supporting Data
  - Appendix G – Agency Consultation
  - Appendix H – Public Involvement

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2 Purpose and Need

The CTB Redevelopment Program (the Proposed Action) is needed to respond to decreasing efficiency and passenger convenience in LaGuardia Airport's central terminal area and to meet projected increases in passenger demand levels over the next 20 years. Factors that have influenced these trends include age and obsolescence of existing facilities, higher security-related passenger and baggage screening requirements, limited space available for improvements, and the airlines' ongoing transition to larger aircraft to serve the growing passenger demand in markets already served by high frequency flight schedules without the ability to increase the number of flights to and from the Airport. Thus, the existing facilities constructed decades ago do not match current needs, and continued use of these facilities would result in substantially worsened conditions and an inability to meet future demand levels.

The CTB Redevelopment Program is intended to resolve existing deficiencies in the central terminal area by replacing the existing terminal building and ancillary facilities with new facilities designed and constructed to efficiently meet the latest federal standards for airport safety and security, and to accommodate the forecasted increase in aircraft size and passenger demand levels at acceptable levels of service. Aircraft operations (takeoffs and landings) during the forecast period will not increase and can be handled by the existing runways and taxiways at LaGuardia Airport without increasing airfield delay. Implementation of the CTB Redevelopment Program would not create the need for additional runways. Instead, the Proposed Action would allow LaGuardia Airport to better serve both the aircraft and passengers currently accommodated by the existing airfield and those the airfield is expected to accommodate through the forecast period (2030).

2.1 Statement of Purpose and Need

The Proposed Action is needed because:

- The existing CTB and ancillary facilities are already severely constrained and unable to adequately handle current air service or future passenger demand.
- Faced with higher air passenger demand and the need to switch to larger aircraft to meet those demands, the CTB would incur substantially worsened levels of delay throughout the day while being unable to meet the projected changes in aircraft and their large passenger loads.

The purpose of the Proposed Action is to efficiently enable the CTB to safely and effectively accommodate forecasted increases in aircraft size and passenger demand at acceptable levels of service by:

- Improving airline efficiency and operational safety on the airside apron in order to handle the transition to larger aircraft;
- Improving passenger throughput capacity and convenience throughout the terminal;
- Improving parking operations and traffic circulation and flow along the terminal's landside roadways.

Implementation of the Proposed Action would serve the public interest by meeting the air transportation needs of the FAA, TSA, PANYNJ, LaGuardia Airport, the airlines, and passengers. Each of these needs is discussed in more detail below.

2.1.1 The Need to Accommodate Forecast Passenger Demand at Acceptable Levels of Service

Forecasts of future levels of aircraft and passenger activity provide the principle basis for determining the nature and timing of improvements to airport passenger terminal facilities. Significant terminal improvement programs must be supported by recently prepared and approved aviation forecasts. The FAA prepares forecasts annually for commercial and general aviation activities in the U.S. by studying trends in passenger demand, projected economic growth, and other relevant factors that affect aviation activity in local markets. Using these industry forecasts, the FAA also prepares a Terminal Area Forecast (TAF) for individual airports (see **Appendix F**); in turn, airports use the TAF for planning and investments. Independent forecasts are also prepared periodically by airport operators, such as PANYNJ, as part of planning updates, and for various financial analyses, such as those prepared for the issuance of revenue bonds.

Outlook for the U.S.

As the U.S. economy recovers from the recent economic downturn, the FAA predicts aviation activity will continue to grow. Based on the latest *FAA Aerospace Forecasts, FY 2013-2033*, air travel demand in the U.S. is projected to rise two to three percent per year for the next 20 years.[21] This demand is expected to be met by a corresponding increase in domestic airline seat capacity. In addition, large airports will continue to grow faster than their smaller counterparts, and the number of larger regional jets will increase as smaller regional jets are retired from the aircraft fleet. These forecast assumptions are fundamental to the need for the Proposed Action.

Outlook for LaGuardia Airport

According to PANYNJ's independent forecast, passenger activity at LaGuardia Airport is expected to rise 1.8 percent a year for the next 20 years, increasing to 34 million annual passengers (MAP) by approximately 2030. To accommodate this increase in passenger demand, and in keeping with regulatory limits on hourly operations ("slot controls"), the airlines are expected to continue transitioning into newer, larger, more efficient aircraft with additional seat capacity (i.e., upgauging). For example, smaller regional jets with 50 seats are being replaced with larger regional jets with 70 to 90 seats, and older narrowbody jets with 130 to 175 seats are being replaced with newer narrowbody jets with seating for up to 189 passengers.

Due to FAA-mandated slot controls at LaGuardia Airport, airline operations are limited to 350,298 operations per year. Assuming 1,170 airline takeoffs and landings per day, a design-day aircraft fleet mix has been prepared by Landrum and Brown (see Table 1, *Forecasts of Design Day and Annual Commercial Aircraft Operations Table* in **Appendix F**). Table 1 shows the projected aircraft types, seat capacity, and load factors required to accommodate the 34 MAP forecast. The FAA's *Terminal Area Forecast* for LaGuardia Airport is also presented in **Appendix F.** When compared to the TAF, PANYNJ's forecast passenger enplanements (34 MAP) are 12.9 percent *higher* than the TAF (30.1 MAP), while PANYNJ's forecast aircraft operations (350,298) are 9.5 percent *lower* than the TAF (387,097). PANYNJ's forecasts differ from the TAF by less than 10 percent in the 5-year forecast period, and 15 percent in the 10-year forecast period, in compliance with FAA guidance entitled "Review and Approval of Aviation Forecasts" (June 2008). A fleet mix corresponding to FAA's passenger forecast (30.1 MAP) based on 1,170 airline

[21] FAA. *FAA Aerospace Forecasts, Fiscal Years 2013-2033*. http://www.faa.gov/about/office_org/headquarters_offices/apl/aviation_forecasts/aerospace_forecasts/2013-2033/media/2013_Forecast.pdf

operations per day is also shown in shown in Table 1 in **Appendix F**. According to analysis by Landrum and Brown, the 3.9 MAP increase in passenger demand can be accommodated though the use of larger aircraft and without increasing airline operations above 1,170 per day.

Based on the 34 MAP forecast for LaGuardia Airport, PANYNJ has concluded that approximately half of the future demand—or 17.5 MAP—needs to be accommodated by the CTB, including the airside apron, terminal building, landside roadways, and parking facilities. Therefore, PANYNJ has established 34 MAP as the basis of design to be used for all four passenger terminals at LaGuardia Airport and determined that the CTB Redevelopment Program shall be planned to accommodate 17.5 MAP at an acceptable level of service.

Passenger Level of Service

Level of Service (LOS), in the context of airport terminal planning, relates to the degree of congestion and crowding experienced by travelers at the passenger and baggage processing facilities in the terminal building. LOS ratings range from A to F—with "A" representing excellent conditions with free flow and no delays, and "F" representing unacceptable levels of congestion and delay. LOS "C" is the generally accepted design objective as it "denotes good service at a reasonable cost." LOS "C" is described as providing "good" LOS; with stable flow, acceptable brief delays and a favorable level of comfort, at a cost that is financially acceptable to project sponsors. LOS "C" is the standard by which existing facilities are evaluated and for which future facilities should be planned. Therefore, passenger demand used to size the CTB to the LOS "C" standard is based on the planning level for the horizon year—17.5 MAP in 2030. This way, the conditions on opening day result in a better LOS, while passenger growth over the design life of the terminal allows the facilities to contract to LOS "C".

Capacity Deficiencies/Constraints

The existing CTB does not have the capacity, even at low levels of service, to accommodate 17.5 MAP. The actual capacity of the CTB when constrained to LOS "C" is approximately 10 MAP. Since annual throughput is about 13 MAP today, the existing CTB is operating well below LOS "C", which explains why deficiencies in the system cause the CTB to reach a failing LOS during busy hours of the day. As passenger demand continues to increase over time, these conditions will be exacerbated, further reducing LOS until passenger growth is constrained.

If the CTB is not expanded, and if the deficiencies are not resolved, the 2030 forecast for LaGuardia Airport would be limited to 30.1 MAP, with the CTB operating at an unacceptable LOS "F" in all areas of the building throughout most of the day and handling a maximum of 13.6 MAP or 3.9 MAP below its 20-year targeted level of 17.5 MAP. LOS "F" is characterized by system gridlock that leads to intolerable levels of inconvenience, congestion, and delay. This is not an acceptable mode of operation. Furthermore, if LaGuardia Airport does not have capacity to accommodate the 34 MAP forecast, millions of passengers per year would be forced to use JFK or Newark instead, thereby shifting additional demand to those airports, which have capacity constraints of their own.

In order for PANYNJ to meet demand with acceptable levels of service, each of New York City's three major airports—JFK, Newark and LaGuardia—needs sufficient infrastructure and facilities to accommodate the projected demand for that airport. In order to accommodate current and forecast passenger demand at LaGuardia Airport, PANYNJ needs to improve the airside apron, terminal building, landside roadways, and parking facilities associated with the CTB.

2.1.2 The Need to Improve Efficiency and Safety on the Airside Apron

The aircraft apron is the paved area on the airside of the terminal building where aircraft maneuver and park, and where loading, unloading, and aircraft servicing activities are performed. Ideally, the apron should be designed to ensure maximum efficiency, operational safety, and to allow the airlines to provide cost effective standards of service.

Airside Apron Deficiencies

Apron space around the CTB concourses is operationally inadequate. Narrow spaces between concourses and gates restrict the size of aircraft that can be gated at the terminal. Where parallel taxilanes are needed to allow simultaneous aircraft operations, instead single narrow, tapering taxilanes impede aircraft circulation and flow. There are minimal aircraft start-up positions, numerous tow-in gates, and some gates require pushback on to taxiways. Special handling of aircraft is required where wingtip clearances are less than minimum standards. There is limited area for apron service roads, ground service equipment, snow removal, and other airside functions.

These deficiencies cause aircraft congestion and delay within and around the CTB concourses. During busy periods, airline operations must slow down in order to maintain safe distances between moving aircraft and ground service equipment. As ground operations slow down, airlines lose efficiency due to increased aircraft taxi times and "gate-wait" delays. For example, when a departing aircraft is unable to push-back from the terminal gate, that gate is unavailable for the next scheduled arrival. While the departing aircraft continues to wait for clearance to push back, the arriving aircraft must also wait for the gate to become available. If the expected wait time is too long, the arriving aircraft may be sent to a "penalty box" until a suitable gate becomes available, and there is only limited space at LaGuardia Airport to temporarily park aircraft.

When ground delays occur, the airlines' cost of doing business at the airport increases in proportion to the length of the delay. The cost of delay to airline operations includes "hard costs" associated with additional fuel, crew, maintenance, and aircraft ownership, and "soft costs" described as future revenue loss resulting from passenger dissatisfaction. Hard costs are higher for longer delays as schedules are disrupted and airlines are forced to use tactical measures for aircraft, crew, and passenger delay recovery. On the worst days, extended delays can disrupt the airlines' daily schedule of aircraft and crew that can cause "ripple effects" not only at LaGuardia Airport but throughout the national airspace system. Soft costs are also higher for longer delays because a passenger is more likely to be dissatisfied as the result of a longer delay than a shorter one. Passengers are inconvenienced when airline flights do not arrive or depart as scheduled and serious passenger service problems arise when passengers miss their connections or other scheduled events. Due to a delayed arrival, departure, or missed connection on one occasion, a dissatisfied passenger may choose to use a different airport, air carrier, or decide to take a train or to drive instead, resulting in a revenue loss for the airline.

2.1.3 The Need to Improve Capacity and Convenience throughout the Terminal Building

The passenger terminal is the service center for the transfer of passengers and their baggage between the vehicle curb and parked aircraft. Ideally, the terminal should be a single, unified building that provides maximum operational efficiency and passenger convenience at a reasonable cost and is capable of future expansion.

Terminal Building Deficiencies

The existing CTB has reached its service life and design capacity. The 50-year old terminal is no longer adequate to support modern day airport or airline operations. Aside from the age and condition of the physical plant, the building is too small to handle the current or projected aircraft fleet mix or the corresponding levels of passenger activity. Industry changes that have occurred over the past 20 years have rendered the terminal's processors and floor plan functionally obsolete. As a result, passengers are accommodated at a very low level of service, with long lines and overcrowding in all areas of the terminal and aircraft waiting for a gate to park. Without a major improvement in the design and operations of the CTB, the shift to larger aircraft and the associated increase in passenger loads will substantially exacerbate these already congested conditions and eventually limit the terminal's ability to meet projected air service and passenger demands.

All airport terminals older than 45 years face the challenges of age and obsolescence. Changes in the airline industry have put older terminal buildings under tremendous pressure, particularly those—like the CTB—that were designed for an entirely different era of air travel. The average aircraft today is 25 percent larger in both wingspan and seat capacity. This issue alone has made all four concourses operationally inadequate. The terminal gates in the CTB were designed for a narrow range of aircraft that are no longer in service, primarily the narrowbody DC9-30, which had a wingspan of 93 feet and carried approximately 125 passengers. By comparison, today's narrowbody jet category includes a wider range of aircraft up to and including the B737-900W, which has a wingspan of 117 feet and typically carries 150 to 175 passengers in a two-class configuration.

Under current operating conditions, the limited space available between each gate restricts the size of aircraft that can be parked at the terminal, which is reflected in the aircraft fleet mix and corresponding gate schedule. For example, when a B737 or a comparable narrowbody jet is parked at a gate along the concourse, the wingspan encroaches upon the two adjacent aircraft parking positions, thus reducing gate capacity by requiring smaller aircraft to be parked on both sides of the B737. Those smaller aircraft have fewer seats and carry fewer passengers, and some require special handling to maneuver in and out of the remaining space available. Therefore, in addition to causing aircraft congestion, "gate-wait" delays, and reduced safety margins around parked aircraft, gate restrictions limit aircraft seat capacity and corresponding passenger volumes at the CTB.

Without an expanded and more efficient aircraft parking apron and new concourses designed to accommodate a wider array of aircraft, this situation is predicted to get worse. In keeping with the FAA's outlook for the aviation industry, as the airlines continue transitioning into newer, larger, and more efficient aircraft, passenger demand at the CTB will become constrained. Studies show that the existing CTB cannot accommodate an aircraft fleet mix schedule needed to fulfill the 17.5 MAP forecast for the CTB. Consequently, due to aircraft gate restrictions that cannot be resolved without constructing new facilities, the constrained 20-year forecasts for the CTB and the overall LaGuardia Airport are 13.6 MAP and 30.1 MAP, respectively, with poor levels of service throughout the CTB.

The terminal building is also plagued by similar capacity and operational constraints. The CTB was designed and built in the 1960s to accommodate about 8 MAP. Renovation and expansion projects over the years expanded the capacity of individual "processors" – such as the ticketing/check-in lobby, security checkpoints, and baggage claim areas – to about 10 MAP, but those improvements have not been sufficient to keep pace with demand. Annual throughput has risen as high as 13 MAP in recent years and projected demand for the CTB is expected to reach 17.5 MAP by approximately 2030. The existing CTB has neither the gross terminal square footage nor the interior operational or functional

capabilities to meet this projected demand level. Therefore, the goals of the Proposed Action cannot be accomplished within the confines of the existing building.

Compounding the capacity and operational constraints of the CTB is the age and condition of the building's mechanical and electrical systems. Much of the original plant and many of the utility distribution lines are still in use. The CTB was originally developed as a series of four unit terminals joined under one roof, with dividing walls separating each segment to serve individual airline needs. Separate building systems served each segment. This legacy continues to complicate and compromise the maintenance and servicing of the building today. The modernization program of the 1980s and 1990s removed those dividing walls and created two continuous check-in halls at the departures level and two continuous baggage claim areas at the arrivals area. However, operations spaces and systems serving these public areas followed the lease lines of individual airlines. Behind the walls and above the ceilings, the CTB is a patchwork of systems in various states of repair.

2.1.4 The Need to Improve Traffic Circulation and Flow on the Landside Roadways

The terminal area roadway system is a complex network of interrelated bridges and roads serving a variety of airport users. The roadway system includes the airport entrance/exit roads, terminal approach roads, terminal curb frontage, recirculation roads, as well as interior service roads for airport service vehicles, deliveries, and parking. Ideally, the roadways should be designed to provide fast, safe, efficient, and economical access and parking during the busy hours of the day.

Landside Roadways/Parking Deficiencies

The central terminal area roadways and parking facilities are inefficient and contribute to the overall poor performance of the CTB complex. Existing roadway conditions are represented by high peak hour volumes, heavily congested flow, and traffic demand exceeding roadway capacity. During busy periods, these conditions cause stop-and-go waves, poor travel times, low levels of comfort and convenience, and increased accident exposure. The worst conditions occur directly in front of the terminal building where there is insufficient curb frontage for passenger loading and unloading and where bypass/travel lanes are often blocked by double- and triple-parked vehicles. Other design factors also influence roadway capacity in the terminal area, such as circuitous routing, hairpin turns, at-grade intersections, pedestrian crossings, and mixing automobiles with larger vans and buses.

Traffic congestion reduces safety and efficiency by causing delays for drivers and passengers that can result in missed scheduled flights or other important meetings or appointments, increased likelihood of collisions due to tight vehicle spacing combined with stop-and-go conditions, and additional stress and frustration. Other negative effects include increased air pollution and carbon dioxide emissions owing to frequent acceleration and braking, and the potential for traffic from congested airport roadways to back up to main arteries, such as the Grand Central Parkway, or to spill over to secondary roads and neighborhood side streets as drivers attempt to find alternate routes to their destination.

As passenger activity increases over time, so will vehicular traffic volume. The existing terminal landside roadways do not have the capacity to accommodate additional demand. Valuable space that could be used to improve traffic efficiency and flow is occupied by the CTB parking garage. Opened in 1976, the five-level garage is nearing the end of its life cycle and is in need of extensive renovations and repairs. Rather than invest in costly improvements to the existing CTB garage, PANYNJ has determined that it would be more cost effective to construct a new parking garage that is better sized and located to efficiently meet the Airport's future needs.

Without additional capacity, the traffic situation on the terminal area roadways will continue to get worse. The existing terminal roadway system cannot accommodate the 34 MAP forecast, even at very low levels of service, and there is little or no space available to improve the existing situation without impacting the CTB parking garage. Even if the lack of improvements to the CTB limited passenger volumes at LaGuardia Airport to 30.1 MAP, drivers would still experience unacceptable levels of traffic congestion and delay.

2.2 Summary of Needs

In order for LaGuardia Airport to safely and effectively accommodate forecast passenger demand at acceptable levels of service, the following airside, terminal, and landside needs must be met.

Airside Apron and Parking

The airside apron needs to be redesigned to enable aircraft to maneuver efficiently and safely around the apron area in accordance with taxilane requirements and clearance standard dimensions contained in *FAA Advisory Circular 150/5300-13A: Airport Design*. No additional gates are needed, only additional space between them. There should also be adequate space for airline vehicles and ground service equipment including service roads and parking, as well as provisions for facilities and services needed to improve ramp operations such as snow melters and trituators.

Terminal Building

The existing terminal building needs to be replaced with new facilities designed to interface effectively between the airside apron and the landside roadways and parking garage, thus allowing passengers and their baggage to be processed through the terminal as quickly and efficiently as possible. The terminal concourses/gates should be able to accommodate the projected aircraft fleet mix, and the terminal headhouse should have the capacity to handle projected peak hour passenger volumes. There should be adequate public space for passenger amenities, convenient locations for concessionaires, and plenty of seating and restrooms. There should also be sufficient space for airport and airline functions, and allowance for TSA requirements to respond to specific threat and vulnerability levels as well as routine screening of passengers and bags. Ideally, the terminal should be designed and constructed in ways that safeguard the flexibility to adapt to variations in aviation demand and the changing needs of passengers, airlines, and aircraft.

Landside Roadways and Parking

The landside roadways need to be reconfigured to optimize the ability for different types of vehicles to access, egress, and circulate through the central terminal area. There should be convenient access to the terminal curbside and other destinations, such as parking, as well as sufficient throughput capacity in the roadway system to provide safe and efficient operations even as volumes increase during busy hours of the day. Curbside roadways should be vertically separated to interface with each level of the terminal—with departures on the upper level, arrivals on the middle level, and ground transportation on the lower level. There should be a parking garage adjacent and connected to the terminal but located such that it does not interfere with the optimal layout and function of the terminal.

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3 Alternatives

The Council on Environmental Quality (CEQ) regulations implementing NEPA require that the Federal decision-makers perform the following tasks when preparing an EA:

- Evaluate all reasonable alternatives, including alternatives not within the jurisdiction of the Federal agency, and for alternatives that were eliminated from further study, briefly discuss the reasons for their having been eliminated.
- Devote substantial treatment to each alternative considered in detail, including the Proposed Action and the No-Build/No-Action Alternative, so that reviewers can evaluate their comparative merits.

This section describes the Proposed Action and alternatives to the Proposed Action, including the No-Build/No-Action Alternative, and evaluates the ability of each alternative to accomplish the project's objectives as discussed in Chapter 2, Purpose and Need. The Proposed Action Alternative, described later in this section, would fulfill the purpose and need for the project. The No-Build/No-Action Alternative would not meet the purpose and need; however, it is analyzed in this Final EA pursuant to the requirements of FAA Order 5050.4B, FAA Order 1050.1E, CEQ and NEPA.

Federal and state guidelines concerning the environmental review process require that all prudent, feasible, reasonable, and practicable alternatives that might accomplish the objectives of a project be identified and evaluated. Federal agencies may consider the applicant's purpose and needs and the circumstances of a given situation in the development of alternatives.[22] Federal agencies may also afford substantial weight to the alternative preferred by the applicant, provided there is no substantially superior alternative from an environmental standpoint.

This Final EA was prepared to identify and evaluate all potential adverse impacts on the human and natural environments that are expected to result from the implementation of the Proposed Action and No-Build/No-Action Alternatives. Numerous other alternatives were considered during the planning phases of the project, but were eliminated from further detailed environmental review for reasons explained later in Section 3.3.

3.1 Proposed Action Alternative

This section describes the terminal, airside, landside, and supporting elements of the Proposed Action and how the Proposed Action addresses the Purpose and Need discussed in Chapter 2.

3.1.1 Terminal Building

Under the Proposed Action, the existing CTB would be demolished and replaced with a new terminal building designed and constructed to meet the latest Federal standards for airport safety and security, to accommodate forecast passenger demand, and to do so at acceptable levels of service (see **Figure 3-1**). The new terminal would be both functional and flexible with a building layout and environment that supports the highest level of passenger service and facilities within the available budget for a building of

[22] CEQ, Guidance Regarding NEPA Regulations, 48 *Federal Register* 34263 (July 28, 1983).

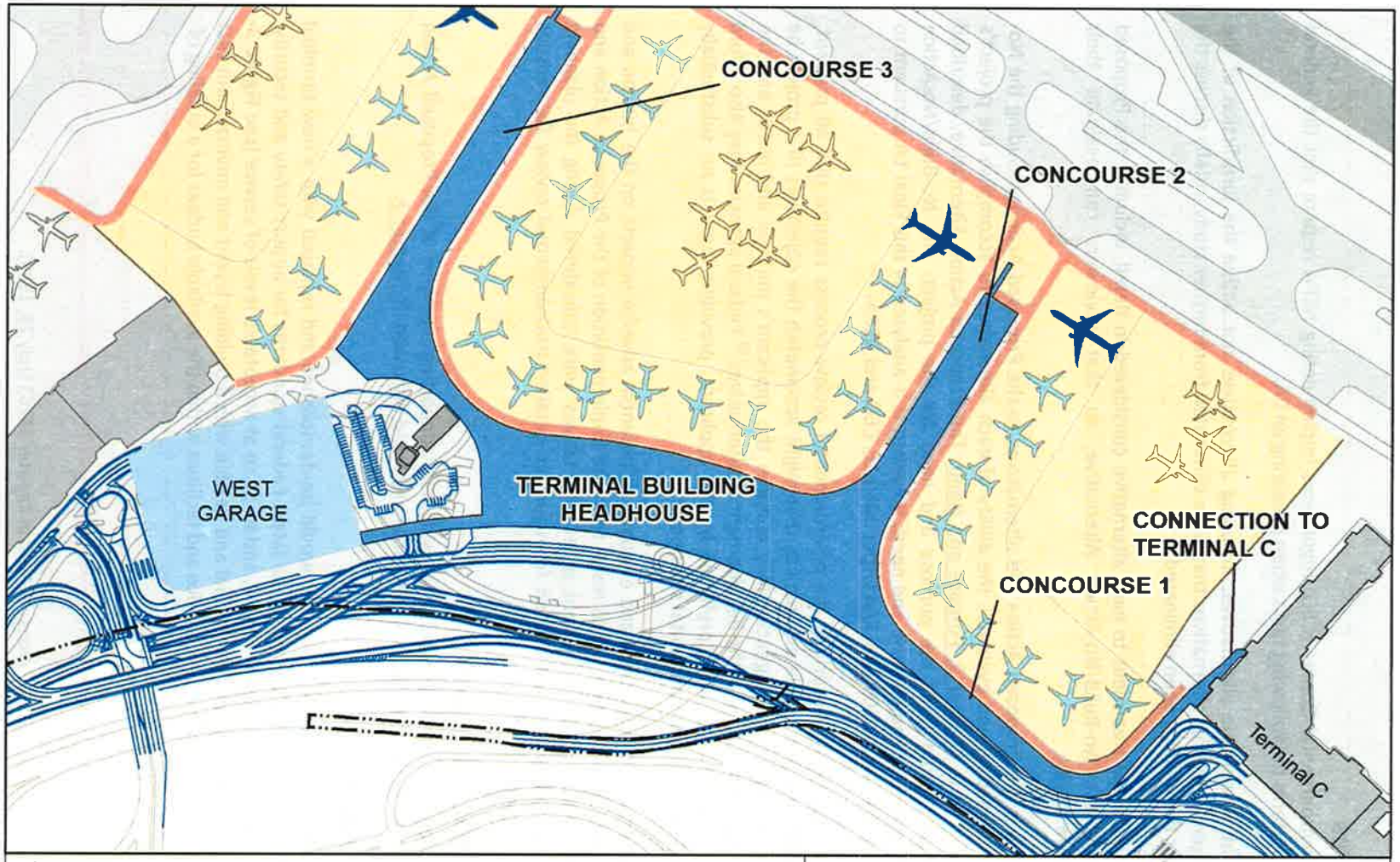

Figure 3-1

Proposed Action Alternative - Terminal Building

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this size. The new terminal would be certified under the Leadership in Energy and Environmental Design (LEED) program, striving towards a Gold rating, with a minimum acceptable rating of Silver.[23]

The headhouse would have three levels, with Departures/Ticketing on upper Level 3, Arrivals/Baggage Claim on middle Level 2, and Ground Transportation and airport/airline operations on ground Level 1. On the airside, concourses would interface with the preferred concept for the terminal airside apron; on the landside, all three building levels would interface with the preferred concept for landside roadways and parking. The Proposed Action includes the following terminal building projects:

- Headhouse and Concourses. The Program would provide for a compact bar-shaped headhouse with double-sided concourses and a smaller single-sided concourse to the east. The facilities are planned in the context of the Airport-wide demand of 34 MAP and the new terminal is designed to accommodate over half that demand—17.5 MAP—at LOS C. The proposed building would total approximately 1.3 million square feet, including the concourses and a connector to the adjacent Terminal C. There would be space for over 200 passenger check-in positions, 22 TSA screening lines, nine (9) baggage claim devices, and allowances for concessions, airline clubs, airport/airlines offices, with sufficient space for the building's support systems.

    - Level 3. The upper level would house the Check-In Hall and Passenger Security Screening Checkpoints. It would be served by a high elevated level (departures level) roadway and a 30-foot wide sidewalk for departures drop off. The Passenger Security Screening Checkpoints would match the layout of the concourses. After checking-in, passengers would proceed down to Level 2 by way of escalators, elevators or stairs.

    - Level 2. On the middle level, departing passengers would follow signage to their departure gate. Some gates would be located on the north side of the terminal headhouse. Most gates, however, would be located on one of the concourses. Level 2 would provide access to the airline lounges and concessions—a mix of retail and food and beverage offerings. Arriving passengers would follow signage to the Baggage Claim Hall. The area of bag claim carousels would be flanked by restrooms, concessions and airline service offices. Multiple vestibules would provide access to the elevated Arrivals Roadway and Curb, with taxi stands located at each end of the curb.

    - Level 1. The ground level of the new terminal would house the in-line baggage screening devices, major mechanical, electrical and plumbing (MEP) spaces, and the Ground Transportation lobby and curb in front.

    - All concourses would have two principle levels and a partial third level where they meet the terminal headhouse. The main passenger level of each concourse would house the gate holdrooms and central circulation corridors. The lower level would house the baggage make up areas, utilities, as well as airline and ground handling support services.

[23] LEED is a green building certification program that recognizes best-in-class building strategies. It is a nationally accepted benchmark for the design, construction and operation of high performance green buildings. A point system is used to rate projects that satisfy requirements based on the following categories: sustainability, water efficiency, energy and atmosphere, materials and resources used, indoor environmental quality, innovation in design and regional priority. The rating system and their corresponding point levels are: Certified (40-49 points), Silver (50-59 points), Gold (60-79 points) and Platinum (80 points and above). Projects receiving a higher rating level are deemed more environmentally responsible.
http://www.usgbc.org/Docs/Archive/General/Docs3330.pdf

3.1.2 Airside Apron and Parking Area

Under the Proposed Action, the terminal apron and taxilanes would be reconfigured to maximize airside efficiency and operational safety, and to enable the airlines to provide cost-effective and acceptable levels of service. As shown in **Figure 3-2**, the proposed layout would provide 35 contact gate positions (the same number as the current terminal) associated with the preferred terminal concept including dual parallel taxilanes for maintaining unimpeded taxi flow both to and from the aircraft gates. There would be adequate separation between the taxilanes to accommodate the appropriate design airplane based on the aviation demand forecast. The remaining airside components would also be designed using current FAA guidelines for the design aircraft. The use of these planning guidelines would provide for adequate wingtip and obstacle clearance, thereby resolving numerous deficiencies associated with the current configuration. The Proposed Action includes the following airside elements:

- 35-Gate Layout Plan. The Program would provide 31 contact gate positions for narrow-body aircraft with wingspans up to and including the B737-900W, plus four contact positions for widebody aircraft with wingspans up to and including the B767-400. To accommodate a wide range of aircraft types, powered passenger boarding bridges would be provided at each gate, and each bridge would be equipped with a ground power unit, a preconditioned air unit, and a potable water cabinet. Each gate would also be equipped with a visual guidance docking system (VGDS) to assist pilots attempting to maneuver an aircraft into its parking position. To support the airlines' use of electric ground service equipment (eGSE), including baggage tugs, belt loaders, and pushback tractors, recharging stations would be located at approximately every other gate position along the face of the building.

- Dual Parallel Taxilane Configuration. The Program would provide dual taxilanes or entry/exit points to the taxiways for each ramp area. The taxilane system would be designed to provide the most advantageous layout for each of the terminal areas. The west side configuration would include one taxilane for B757-200W aircraft, provide two points of entry/exit, and support eight gates. The central area configuration would include three parallel taxilanes for B757-200W aircraft, provide three points of entry/exit, and support 17 gates. The east side taxilane configuration would include two taxilanes for B757-200W aircraft, provide two points of entry/exit, and support ten gates. The full extent of apron construction would be to the edge of Taxiway A to permit the construction of new taxiway entry/exit points. This layout plan complies with FAA *Advisory Circular 150/5300-13A: Airport Design*, including all applicable clearance standard dimensions for aircraft as well as ground service vehicles and equipment. There are no proposed modifications of airport design standards associated with this plan and, importantly, one existing Modification of Standard (MOS) would be eliminated.

- Remain Overnight (RON) Aircraft Parking. The Program would provide 20 RON positions for parking aircraft within or close to the terminal ramp. Almost all RON positions would operate independently and maintain 25-foot wingtip clearances for B737-900W aircraft. Adequate capacity for RON parking improves airline flight scheduling and efficiency by allowing aircraft to be parked overnight at the same airport where they are needed for their first flight in the morning.

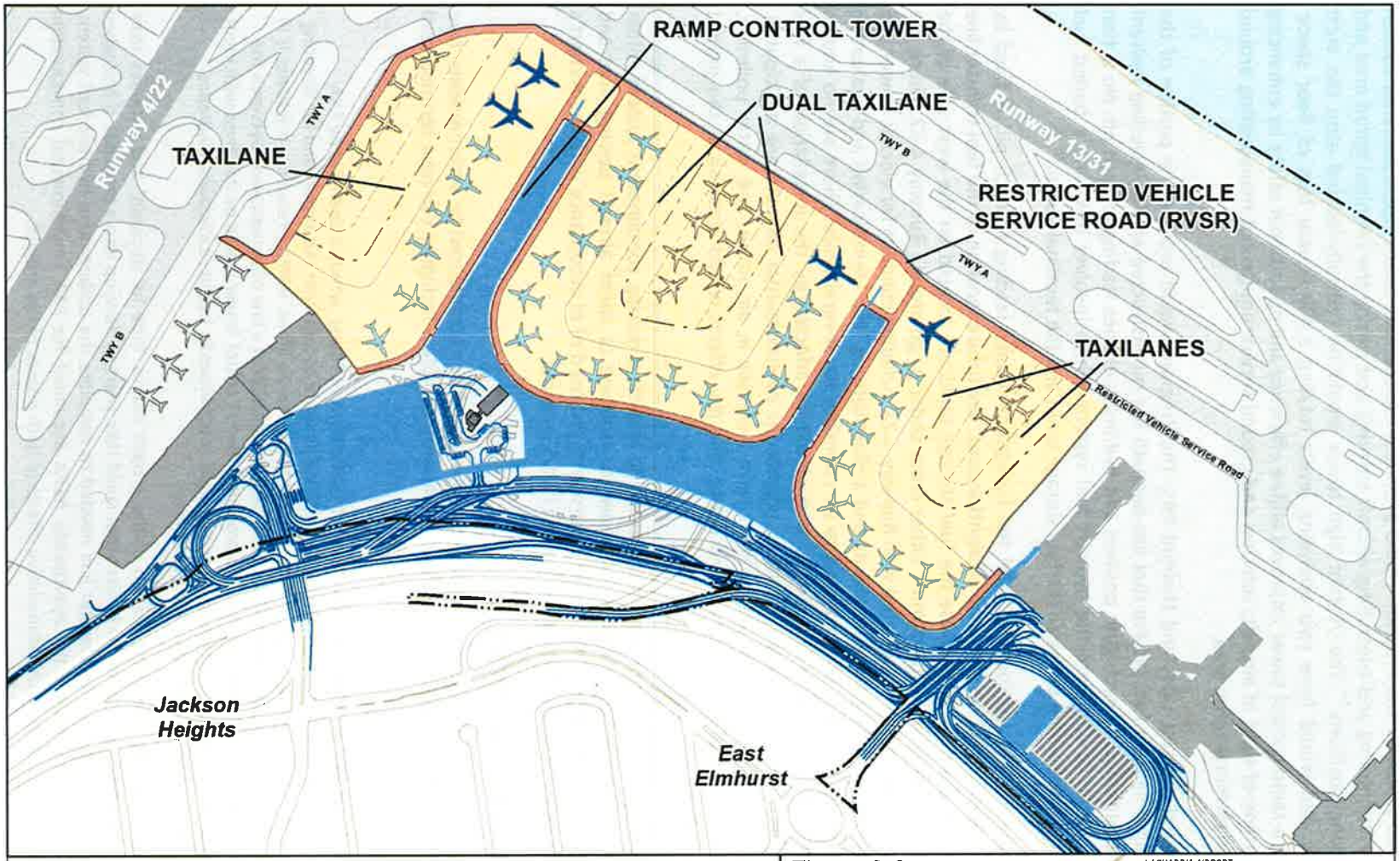

Figure 3-2

Proposed Action Alternative - Airside Apron and Parking

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- Ramp Control Tower. The Program would provide a replacement airline-operated ramp control tower for monitoring and controlling aircraft entering and exiting the terminal apron area and gate parking positions.[24] The 70-foot high tower would be centrally-located atop the west concourse and would have two operating levels totaling 3,400 square feet of floor space. Providing a ramp control tower improves airline efficiency and operational safety by enhancing controller line-of-sight of aircraft, vehicles, and ground service equipment maneuvering around the airside terminal apron area.

- Underground Hydrant Lines and Hydrant Pits. The Program would provide the portion of the underground hydrant fuel system that lies beneath the reconstructed apron, including hydrant fuel pits (manholes) at each gate position and hydrant fuel lines leading to each pit. No action would be taken to complete the hydrant fuel system, which involves installing a buried fuel transfer line somewhere between the fuel storage tanks and the terminal apron.[25]

  The location of hydrant fuel pits, and the hydrant fuel lines leading to each pit, is fixed by function and construction would be straightforward. The future location of the fuel transfer line has not been determined because the fuel storage tanks are located on the west side of the Airport and alternative routings must either cross under or go around Runway 4-22. There are numerous buried utilities associated with Runway 4-22 including conduits for electric power and control cables used for navigational aids and airfield lighting. The identification and evaluation of feasible alternatives is not expected to be complete for several years. There are no known environmental resources in the vicinity that would be affected by the installation of a fuel transfer line; therefore, no long-term or permanent environmental impacts are anticipated. During construction, there would be short-term increases in air, noise, and water pollution. These impacts would be temporary and minor, and the effects would diminish as the project nears completion.

- Deicing Containment System. The Program would provide a deicing containment system within the apron storm drainage that would allow for isolation of spent aircraft deicing fluid and pumping out of the fluid so that it may be properly disposed of in accordance with the Airport's State Pollutant Discharge Elimination System (SPDES) permit.

3.1.3 Landside Roadways and Parking

Under the Proposed Action, the terminal area roadways would be reconfigured to accommodate free flowing traffic movements through the entire terminal area complex, including the new terminal and

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[24] A ramp control tower is different from the FAA's Airport Traffic Control Tower, which is operated by FAA personnel responsible for directing aircraft through controlled airspace to and from the airport and for directing aircraft maneuvering on runways, taxiways, and designated airside apron areas. When a ramp control tower is in use, responsibility for controlling aircraft on the ground would transition at a line of demarcation between the terminal apron and the nearest active taxiway. The proposed Ramp Control Tower would be designed with input from the FAA and in accordance with appropriate line-of-sight requirements, height restrictions, clearance standard dimensions, and other applicable siting criteria.

[25] This Final EA focuses on the near-term portion of the project that is "ripe for decision" and excludes from consideration the long-term portion of the project that could take years to develop into a proposal. If and when there is a proposal to install the fuel transfer line needed to complete the underground hydrant fuel system, PANYNJ would prepare and submit the appropriate NEPA document for FAA environmental consideration including an assessment of the potential cumulative effects of both phases of the project.

existing Terminals C and D, for up to 34 MAP, while minimizing impacts on the Grand Central Parkway to the extent practicable. Generally, the roadway improvements include: at-grade frontage roadways and ramps; elevated and high-elevated frontage roadways and ramps; connecting roadways to the West Garage; connecting roadways to the Grand Central Parkway (East and West); reconstruction of portions of the 94th Street and 102nd Street bridges to the Airport; four signalized intersections; and roadway signage (see **Figure 3-3**). The Proposed Action includes the following landside projects:

- Frontage Roadway Layout Plan. Generally, the proposed roadways are categorized by elevation. At the new terminal, a high-elevated roadway would serve Level 3 (Departures); an elevated roadway would serve Level 2 (Arrivals); and an at-grade frontage roadway would serve Level 1 (Ground Transportation). At Terminals C and D, an elevated roadway would serve Level 2 (Departures) and an at-grade road would serve Level 1 (Arrivals). At all three terminals, the Arrivals and Departures frontage roadways would consist of four traffic lanes – one drop-off/pick-up lane, one maneuvering lane and two bypass lanes. At the new terminal, the ground level frontage roadway would consist of one drop-off/pick-up lane, two bypass lanes, a striped 3-foot median and one high occupancy vehicle (HOV) bypass lane. Amenities would include canopies, curb-side check-in facilities, taxi booths, bus stops, and access to at-grade parking and the East and West Garages.

- Connecting Bridges and Roadways. Two bridges and a flyover ramp to the Airport would be modified in order to connect existing public roadways to the new roadway configuration. The north side of the 94th Street bridge would be connected to a new at-grade intersection near the West Garage; the north side of the 102nd Street bridge would be connected to elevated roadways near Terminal C; and the Grand Central Parkway eastbound flyover entrance to the Airport would be realigned to direct traffic into the newly constructed terminal frontage roadways.

  There would be no new points of access or egress to the Parkway—only a modification to the existing flyover ramp from the Grand Central Parkway.

- Intersections. There are four signalized intersections in the new terminal roadway network—one intersection on Runway Drive, two intersections on 94th Street, and one intersection on 102nd Street (see **Figure 3-3**).
  - Intersection 1 would be located at Runway Drive and Recirculation Road. This would be a means for accessing Runway Drive Westbound to the Marine Air Terminal and the west side of the Airport, as well as Runway Drive Eastbound towards the West Garage.
  - Intersection 2 would be at 94th Street and the Collector-Distributor (C-D) Road. This would be the key Airport access/egress point on 94th Street.
  - Intersection 3 would be at 94th Street and Runway Drive/Parking Garage. This intersection would connect 94th Street to Runway Drive and to the West Garage access roadway.
  - Intersection 4 would be located on the north side of the 102nd Street bridge at the Westbound Recirculation Road and Outbound Terminal C Arrivals. This intersection would serve as a key node to accommodate outbound traffic from Terminals C and D Arrivals to 102nd Street Southbound/Grand Central Parkway Eastbound and East End Terminal recirculation, as well as HOVs from Terminals C and D to the proposed terminal.

- Signage. New signs for roadways and pedestrian wayfinding through the proposed terminal area facilities would be implemented in accordance with PANYNJ's *Airport Signing Standards Manual*,

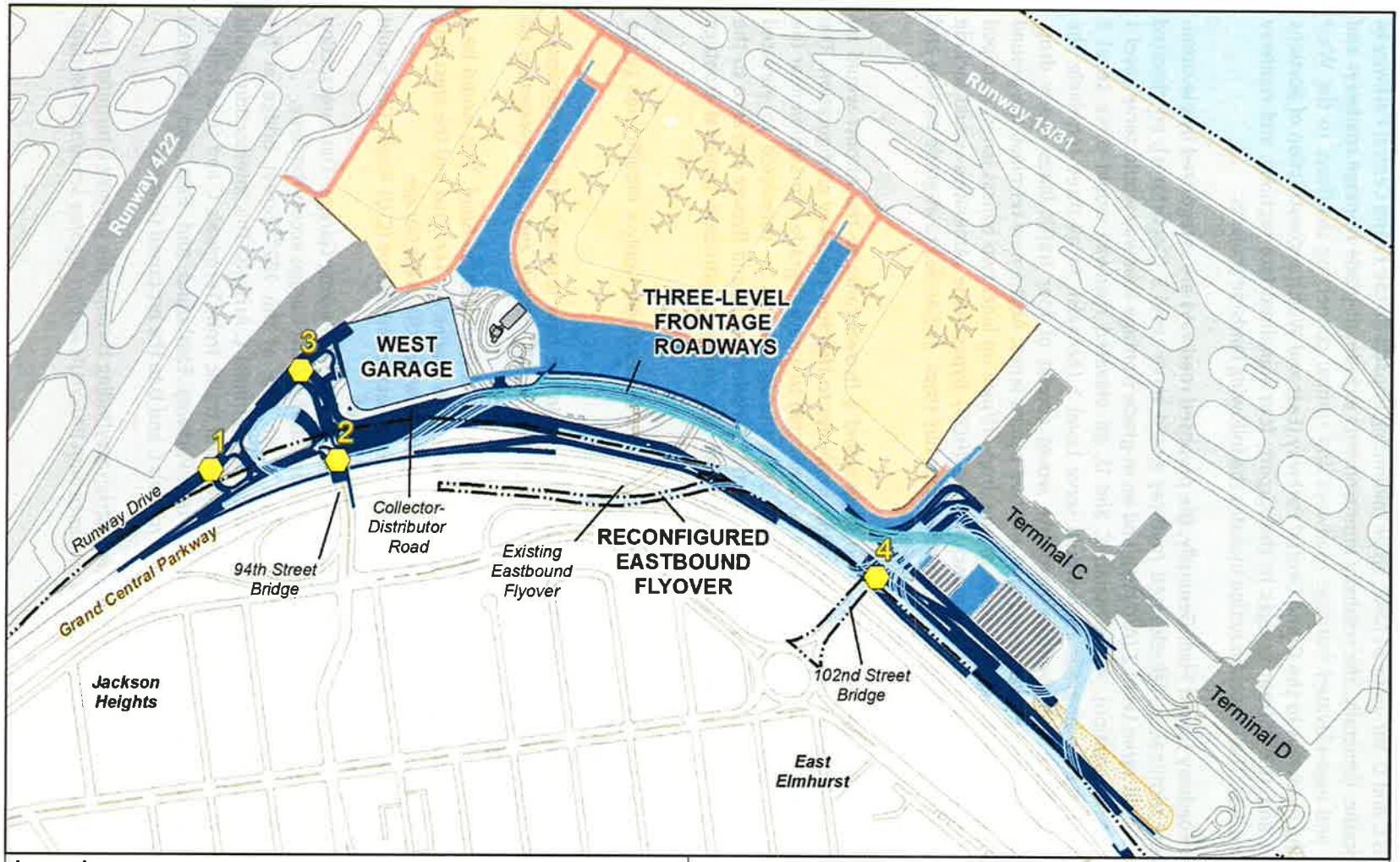

Figure 3-3

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Proposed Action Alternative - Landside Roadways and Parking

which provides for uniform and consistent application of wayfinding best practices and design criteria. This includes the following areas: on-Airport roadways, parking, curbside/ground transportation, and within the terminal building, including concourses/gates, ticketing/check-in, security checkpoints and baggage claim.

- Curb Frontage. A three-level curbside roadway would provide approximately 2,700 linear feet of terminal curb in front of the new terminal—900 feet on each terminal level (i.e., arrivals, departures, and ground transportation) where vehicles can stop to drop-off or pick-up airline passengers and their baggage. Adding a separate roadway and curb for ground transportation (taxis, buses, shuttle and other HOVs) would improve roadway operations by increasing the total length of curb frontage available and by allocating the curb frontage more efficiently.

- Parking Garage. The existing CTB parking garage (2,700 spaces) would be demolished and replaced by a new West Garage with 2,900 parking spaces and a pedestrian connection to the terminal. The proposed West Garage would complete PANYNJ's plan to "right size" parking offerings at the Airport.

3.1.4 Support Projects

The Proposed Action includes the following required ancillary projects (see **Figure 3-4):**

- Demolish Hangars 1, 2, and 4

  Three large but outmoded aircraft maintenance hangars would be removed to make way for constructing the proposed terminal. All three buildings, which have not been used for aircraft maintenance in many years, are leased to various tenants for offices, operations, shop space, baggage sorting and storage areas. The buildings—antiquated and obsolete—are eligible for listing on the National Register of Historic Places but have exceeded their useful life and are in need of extensive repairs, which are not planned. PANYNJ is working with the existing tenants to relocate the building functions so they can be removed in the near future. Pursuant to Section 106 of the National Historic Preservation Act, a Memorandum of Agreement (MOA) has been prepared that outlines the proposed conditions for demolition of the hangars (see **Appendix D**). The MOA was signed by PANYNJ, FAA and the New York State Historic Preservation Office, and concurred on by Consulting Parties.

- Relocate the Central Heating and Refrigeration Plant (CHRP)

  The existing CHRP, located within the existing CTB, has reached the end of its useful life and would be demolished and the equipment removed, and a new CHRP would be constructed. Designed and constructed specifically for the new terminal, the proposed CHRP would include four cooling towers as part of the overall plant facility. As with the new terminal, the proposed CHRP would be certified under LEED, striving towards a Gold rating, with a minimum acceptable rating of Silver. The CHRP is required to be located near the new terminal to minimize heating/cooling losses that would occur over longer distances, but away from the airport traffic control tower (ATCT) to avoid any potential for steam plumes from the cooling towers to interfere with site lines from the ATCT. The proposed location is currently being used

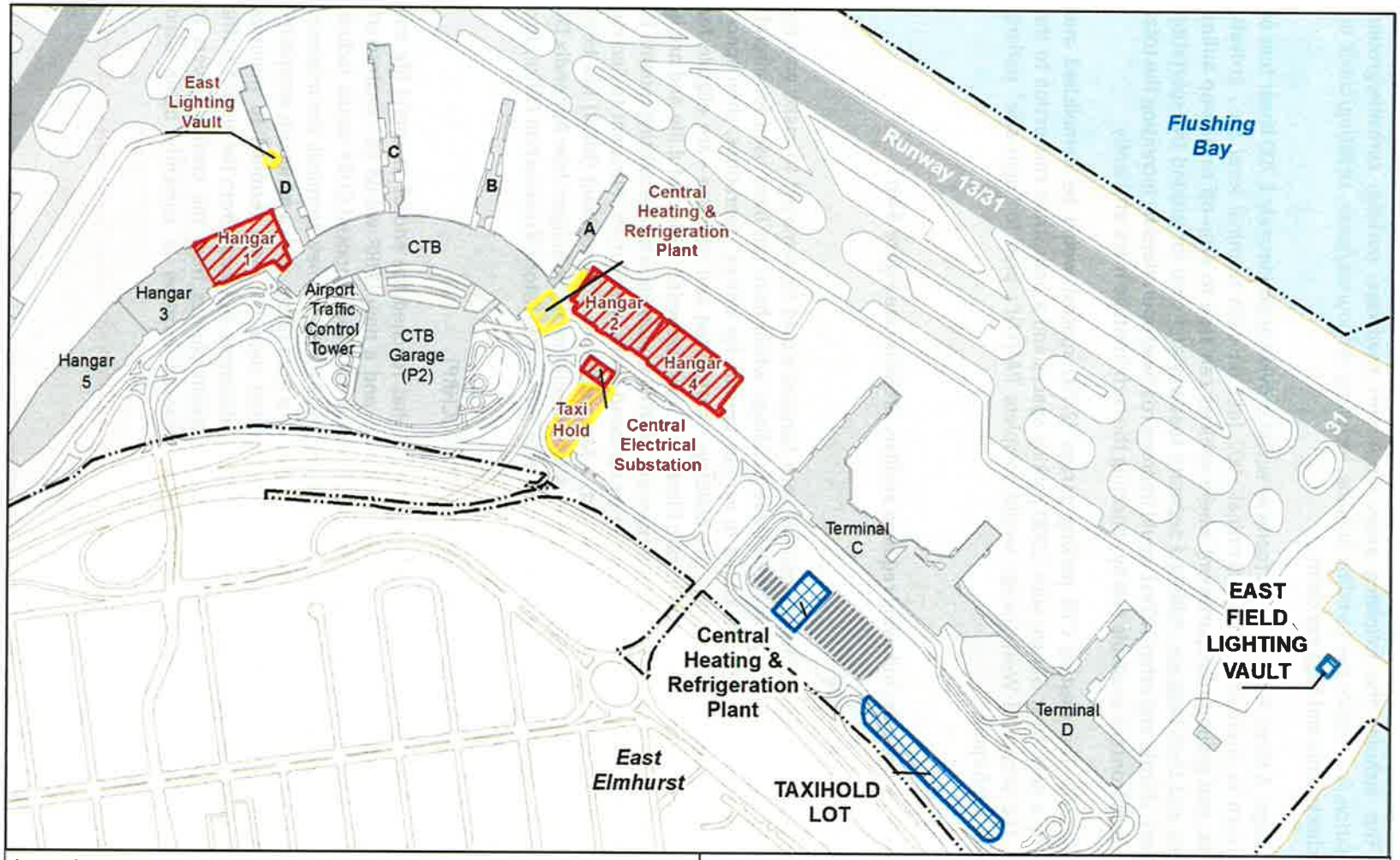

Figure 3-4

Proposed Action Alternative - Support Projects

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temporarily as open space for contractor parking and material lay down for construction of the East End Substation (EES) and the East Garage.[26]

The CHRP is an occupied building (24 hours per day/7 days per week), therefore provisions including offices, circulation, access/egress, storage and support space, as well as visitor and staff parking, would be provided. Adequate space would also be provided for truck maneuvering in order to allow maintenance workers to service large equipment including the chillers and boilers. The CHRP would be connected to existing utilities, including natural gas and electric service lines that run immediately adjacent to the project site. No new or additional utilities or services are needed to support the proposed CHRP. For emergency power, the project includes a diesel generator that would be placed above the base flood elevation and two 35,000-gallon tanks to store backup (diesel) fuel. Design would include flood-proofing measures to the degree practicable, with special emphasis on critical equipment.

- Relocate the East Field Lighting Vault

  The existing East Lighting Vault, located in Concourse D of the existing CTB near the base of the old ATCT, would also be demolished and the equipment removed; the preferred location for its replacement is on the east side of the Airport near Terminal D. The East Lighting Vault services the Runway 13-31 lighting systems, associated taxiways, and signage. It also powers two FAA 4160-Volt feeders serving FAA Navigational Aids and Visual Aids on the Airport. The lighting vault is essential for safe airport operations. The proposed scenario is to construct a new East Field Lighting Vault within vacant airside space near Parking Lot 5; no existing facilities would be removed or relocated to accommodate the proposed vault. Design would include flood-proofing measures to the degree practicable, with special emphasis on critical equipment.

  The proposed East Field Lighting Vault project would include constructing a one-story building (approximately 2,650 square feet), constructing and wiring new ductbanks and manholes to existing manholes, and reconnecting new wiring from the new vault. The standalone building and all electrical equipment would be new. Existing field lighting circuits currently supplied by the existing vault would be transferred to the new vault; no new circuits would be added or transferred from other facilities. PANYNJ has been coordinating with the local utility (Consolidated Edison) to ensure ample power supply is available (see letter dated August 21, 2013 in **Appendix G**). Once the new vault is commissioned, the existing vault can be decommissioned and removed without impacting airport operations or phased development of the proposed terminal.

- Relocate the Taxi Hold Lot

  The existing CTB taxi hold areas would also be displaced by construction of the new terminal. The various taxi hold areas around the CTB have a combined capacity of approximately 220 vehicles. The relocated, consolidated taxi hold area would be located on the southeast side of Parking Lot 4 and achieve the required goals of the Program by reducing re-circulating traffic volumes and vehicle emissions associated with the current configuration. The access road to the proposed taxi hold area would be a dedicated road reached from the main access road via a slip ramp that would bring taxis directly into the taxi hold area without requiring the vehicles to

[26] Finding of No Significant Impacts (FONSI) for East End Substation and East Garage at LaGuardia Airport signed by FAA on February 5, 2013.

circulate through the east end of the Airport, alleviating substantial traffic volume from those roadways. Access from the taxi hold area to the proposed arrivals frontage roadway would also be a direct route. Taxis would come out of the hold area at grade and climb a short ramp to the terminal frontage road. The ramp is designed with two lanes, providing a holding pocket with direct access to the terminal frontage roads without using the terminal frontage itself by allowing taxis to queue on the ramp while maintaining bypass capability. The proposed Taxi Hold Lot would accommodate 300 vehicles, representing an increase of 80 spaces as compared to the existing conditions. The other taxi hold area, situated between and serving Terminals C and D, would not be affected. Public parking spaces currently located in Parking Lot 4 and displaced by the proposed Taxi Hold Lot would be accommodated by other on-Airport parking.

- Provide for New In-Ground Utilities

  All the utilities needed to implement the Proposed Action are available within the Airport and are included in the Program; no off-Airport improvements, other than those planned under separate actions, are proposed. There are provisions for electricity, natural gas, sanitary sewer, potable water, storm drainage, and communications. Existing systems would be used to the greatest extent practicable; where it is not practicable, existing systems would be modified and new equipment installed as needed to meet the requirements of the Program, including all applicable permits, certifications, and approvals.

  - *Electricity*. Any high or medium voltage lines that are within or adjacent to new construction would be relocated or replaced as needed to provide electric service to the proposed terminal building and ancillary facilities. The electrical load demand would be provided by the existing West End Substation (WES) and the new EES, which is now under construction.[27] Concrete encased duct banks would be used to enclose cables emanating from the WES and the EES. The existing Central Electric Substation (CES) will be decommissioned as part of the EES project, upon completion of the EES and connection to electric service.

  - *Natural Gas*. High pressure gas lines including valves, meters, and regulators, would be installed to provide natural gas to the proposed terminal building and ancillary facilities. Each gas line would be designed for the total load of the building(s) and all underground coated steel gas piping would use a cathodically protected system to prevent corrosion.

  - *Sanitary Sewer*. Sanitary waste would flow through a force main system consisting of sanitary sewers, cross-connections and booster pumps, with provisions for sewerage ejectors and sump pumps, as needed to meet the requirements of the Program (see Section 5.16 for detailed discussion). The sanitary sewers for the proposed terminal would connect to the on-Airport system. The on-Airport system connects to a NYC box culvert, which is not being replaced. The new system would be reviewed and approved by New York City Department of Environmental Protection (NYCDEP) once design has progressed. The proposed layout would be along the landside perimeter of the site parallel to the Grand Central Parkway with a connection to the existing force main located near Hangars 3 and 5. The location of trenches for sanitary sewers in relationship to trenches for potable water mains would adhere to applicable requirements for separation.

[27] Finding of No Significant Impacts (FONSI) for East End Substation and East Garage at LaGuardia Airport signed by FAA on February 5, 2013.

- *Water*. Domestic water supply is available to meet projected demands, including low pressure and high pressure water for building systems ranging from basic plumbing to fire suppression, respectively. Layout of new water mains would be along the landside perimeter of the site, within the Airport boundaries, parallel to the Grand Central Parkway with connections to existing low and high pressure water mains near Hangars 3 and 5.

- *Storm Drainage*. The existing drainage system would be retained to the degree practicable. Existing storm drainage pipes would only be removed to accommodate construction of the terminal building or other permanent airside or landside facilities. New, relocated, or modified storm drainage systems would be designed to accommodate a 10-year storm, new and existing storm trunk lines would be interconnected to relieve overloaded conditions, and all storm drain pipes would be checked to verify they can handle existing and proposed peak discharges. Added measures would be taken to minimize risks associated with flooding. Roof drainage from the new terminal would be collected into a proposed closed drainage system to reclaim water for non-potable uses such as toilet flushing.

- Improve Key Intersections in the Vicinity of the Airport

  In order to ensure no significant traffic impacts would occur as a result of the construction or operations of the Proposed Action, minor improvements would be implemented at several local intersections near the Airport. During construction, improvements such as signal timing adjustments, widening and restriping of lanes, curbside parking prohibitions, installation of a traffic signal, a traffic signal controller upgrade, and use of construction flaggers may be required. Those improvements would be temporary, to reduce delays at those intersections during periods of peak construction activity. Permanent reallocations of green time at three local intersections—coupled with lane restriping, curbside prohibitions and minor reallocations of green time at a fourth intersection—may be required to maintain the intersection levels-of-service under the projected passenger demand. All transportation improvements on local roadways are subject to review and approval by NYCDOT. See Section 5.1 and **Appendix A** for a more detailed description of the improvements.

3.1.5 Construction Phasing

Construction activities would be expected to begin in the third quarter of 2014 (pending environmental approvals) and continue through the year 2021. As shown in **Figure 3-5**, the CTB Redevelopment Program is divided into multiple major construction phases during which time existing facilities would be demolished and replaced with new facilities. The Airport would remain open during construction; therefore, each phase must be sequenced to maximize passenger levels of service while minimizing potential impacts on airline operations.

In general, the roadways and bridges must be relocated to interface with the new terminal building and parking garage. The West Garage would be constructed early in the process. The demolition of Hangars 2 and 4 would allow the new terminal to be constructed, beginning with the structure to the east and working westward as the new building components become operational. Portions of the existing CTB would be demolished and new facilities constructed in stages. Construction of the airside apron and landside roadways would be staged to correspond to construction of the new terminal elements.

As part of the construction phasing plan, temporary facilities may be needed to maintain safe and secure airport and airline operations, to facilitate the transfer of passengers and baggage, and to accommodate displaced parking spaces. This is a normal part of the construction process. Demolition of

the CTB Garage would not begin until the East Garage is completed.[28] Temporary facilities would include, but not necessarily be limited to, building spaces, enclosed walkways, roads, utilities, and surface parking lots. It is assumed that all temporary facilities would be accommodated on existing Airport property. No off-Airport facilities or services are anticipated.

During construction, workers would park their personal vehicles at the Ingraham's Mountain Construction Staging Area located on the west side of the Airport near the intersection of 19th Avenue and 45th Street.[29] Shuttle buses would transport workers to and from the construction site. Heavy construction work is expected to occur on weekdays between the hours of 7:00 am and 3:00 pm. Minimal work would occur between 3:00 pm to 11:00 pm, and would mainly involve accepting materials deliveries. No construction work is expected to occur late at night or on weekends.

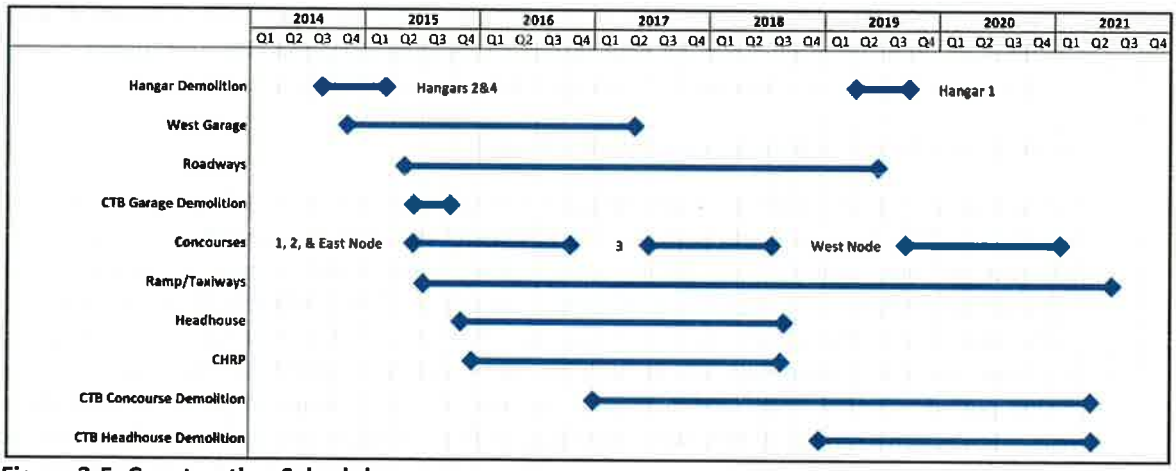

Figure 3-5. Construction Schedule

3.2 No-Build/No-Action Alternative

Under the No-Build/No-Action Alternative, the Proposed Action would not be implemented and the project-related development effects on the environment would not occur; however, the project's objectives would not be accomplished either, which means the Airport-wide 34 MAP forecast would not be achieved, airline efficiency and passenger levels of service would continue to get worse, and the public would go without the anticipated benefits of the CTB Redevelopment Program. Consequently, the need for the Proposed Action, as identified in Chapter 2, Purpose and Need, would not be fulfilled.

If the Proposed Action is not implemented, the existing facilities cannot accommodate the forecast demand. In addition, they cannot remain in their current condition for an extended period of time. PANYNJ would have no choice but to undertake another terminal modernization project designed to bring the CTB and associated facilities into a state of good repair. Under this alternative, the terminal building's infrastructure and all related systems would receive a major overhaul that would cost approximately $3 billion, take up to 10 years to complete, and prolong the life of the CTB in its current layout.

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[28] East Garage construction is a separate action; FONSI signed by FAA on February 5, 2013.

[29] The Ingraham's Mountain Construction Staging Area will be developed as part of the Runway Safety Area (RSA) Enhancements Project, which is separate from the CTB Redevelopment Program (FONSI signed by FAA on December 31, 2013).

Modernizing the CTB, even a complete "gut" renovation of the entire facility, would not resolve the deficiencies associated with the current design of the existing building. Without an approved terminal redevelopment program, the airside apron and taxilanes would not be reconfigured, the terminal building and its processors could not be reconfigured to accommodate Group III/IV aircraft, and the roadway system would not be improved. Instead, this alternative would result in a brand new central terminal area sized for aircraft and passenger volumes circa 1960—not 2030—and the newly renovated facilities would be functionally inadequate on opening day.

If the existing deficiencies are not resolved, then LaGuardia Airport would not have the facilities needed to accommodate forecast passenger demand. As discussed in Chapter 2, Purpose and Need, the existing CTB does not have the capacity, even at very low levels of service, to accommodate 17.5 MAP. As passenger demand continues to increase over time, the terminal building and its processors would become increasingly congested, and passenger levels of service would continue to decline, until the system fails and there is no more allowance to meet demand.

This lack of capacity is not limited to just the terminal building. The airside apron and taxilanes cannot accommodate the aircraft fleet mix associated with the 17.5 MAP forecast, and the landside roadways cannot accommodate the corresponding traffic volumes. Without a substantial increase in capacity across the CTB complex—airside, terminal, and landside—growth in passenger activity levels would be curtailed and passengers would not be served. For planning and evaluation purposes, the No-Build/No-Action forecast for LaGuardia Airport is 30.1 MAP—which is 3.9 MAP less than the 34 MAP forecast for the Proposed Action.

It is not acceptable to allow the existing CTB to constrain forecast passenger demand for two reasons:

- Under the current lease agreement, PANYNJ is tasked with ensuring that the City's airports – LaGuardia and JFK – operate as first class airports. Failure to take appropriate action to improve the CTB would conflict with this lease obligation as well as PANYNJ's commitment to the public, tenants, and bondholders to provide and maintain facilities at LaGuardia Airport in support of the traveling public. Neither the objectives of the project nor PANYNJ's mission and responsibility would be met by this alternative.[30]

- The consequences of taking no action would exacerbate existing conditions as demand increases. LaGuardia Airport would become a bottleneck in the system, forcing millions of additional passengers to use JFK International or Newark Liberty International Airports instead. As discussed later in Section 3.3.3, Alternatives to the CTB Redevelopment Program, this is not a viable option because both of those airports have similar capacity problems of their own.

The No-Build/No-Action Alternative is not a reasonable or prudent solution and is not recommended by PANYNJ. However, as discussed above, the No-Build /No-Action Alternative is required to be evaluated

[30] The aforementioned 1,500-mile "Perimeter Rule" ensures that LaGuardia Airport will continue to be used for short- to medium-range domestic airline passenger service and to prevent overcrowding by larger aircraft typically used for longer domestic and international flights that can be accommodated by JFK or Newark. Larger (widebody) aircraft require increased separation standards in the air and wider clearance requirements on the ground that would negatively affect airfield efficiency and gate capacity at LaGuardia Airport resulting in fewer passengers and longer delays. The FAA-approved *Long Range Forecast for Port Authority Airports* takes into consideration the Perimeter Rule; accordingly, the CTB Redevelopment Program has been developed to accommodate the forecast passenger demand (34 MAP) in keeping with the Perimeter Rule and the short- to medium-range air service role PANYNJ has established for LaGuardia Airport.

in an EA. As such, this alternative has been carried forward in the Final EA and used as a baseline against which the effects of the Proposed Action were compared.

3.3 Alternatives Eliminated from Further Consideration

The following options were considered as alternatives to the Proposed Action, but were eliminated from more detailed environmental analysis for the reasons listed below. The options range from using a different terminal design, to using a different terminal or development site or airport, to using demand management or different modes of transportation.

3.3.1 Other Configurations within the Terminal Area Envelope

Detailed planning and evaluation of alternatives to redevelop the existing CTB lasted nearly six years. Three terminal configurations—referred to as Concepts A, B and C—were thoroughly investigated during the Phase I planning process. A design team consisting of airport and environmental planners, engineers, architects, and other specialists, prepared conceptual layouts for each terminal configuration. All three configurations were fully-developed and evaluated for their ability to provide the airside, terminal, and landside facilities needed to meet the project's objectives within a given project site.

- Concept A—Reconstruction/Reuse. This concept retains the existing central terminal building and concourse/pier layout, as shown in **Figure 3-6.** It is referred to as the Reconstruction alternative because it entails the complete gut renovation, reconstruction, and expansion of the existing terminal, as well as replacement of the airside concourses. Without such a total reconstruction, the existing terminal cannot be reused and still meet the capacity needs, service needs, and building systems needs for the future. In this concept, the central terminal building would be reconstructed in the same location. The existing three-level terminal building format is retained, with arrivals at the ground level, departures at the middle-level, and support areas on the third floor. The terminal airside apron and taxilanes would be reconfigured within the space available, while the existing CTB frontage roads and parking garage would be rehabilitated and reused to the degree practicable.

- Concept B—Island/Satellite. This concept, as a new facility, consists of a central terminal building for the processing of passengers and baggage, and a remote (island) concourse around which the aircraft would be parked, as shown in **Figure 3-7**. In this concept, the remote concourse is connected to the main terminal by a pedestrian bridge crossing *over* the aircraft taxilanes, and by a tunnel crossing *under* the taxilanes that encloses the baggage conveyor system and utilities.

- Concept C—Finger/Pier Concourses. As shown in **Figure 3-8**, this concept, also as a new facility, uses a concourse/pier layout. However, unlike Concept A, which reuses the existing terminal building, frontage roads, and parking garage, Concept C allows the airside apron, terminal building, landside roadways, and parking garage to be reconfigured and reconstructed as needed to achieve higher level performance measures that cannot be achieved with Concept A. To accomplish this, the central terminal is shifted south towards the Grand Central Parkway, thus creating the necessary apron space for more efficient aircraft taxilanes and parking.

The following paragraphs summarize the comparison of Concepts A, B, and C based on technical, operational, construction schedule and cost, and environmental considerations.

Legend

- At-Grade Roadways
- Elevated Roadways
- Proposed Airside Apron/Parking Area
- Hangars to be Demolished
- Proposed Terminal Building
- Proposed CHRP
- Proposed Garage

0 250 500 Feet

N

Source: Step 2 Report, Prepared by SOM, 29 April 2011

Figure 3-6

Alternative Concept A (Dismissed)

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

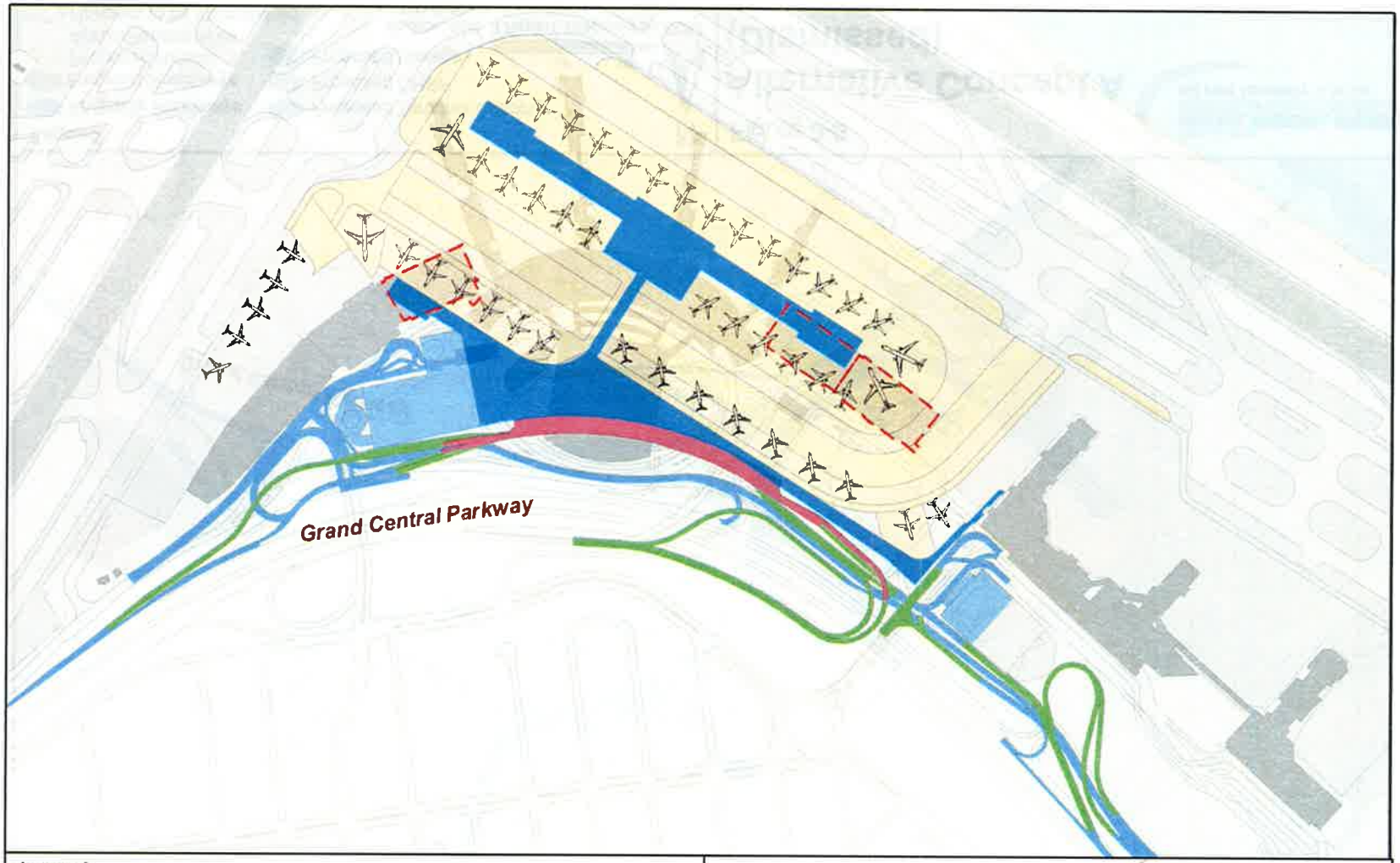

Figure 3-7

Alternative Concept B (Dismissed)

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

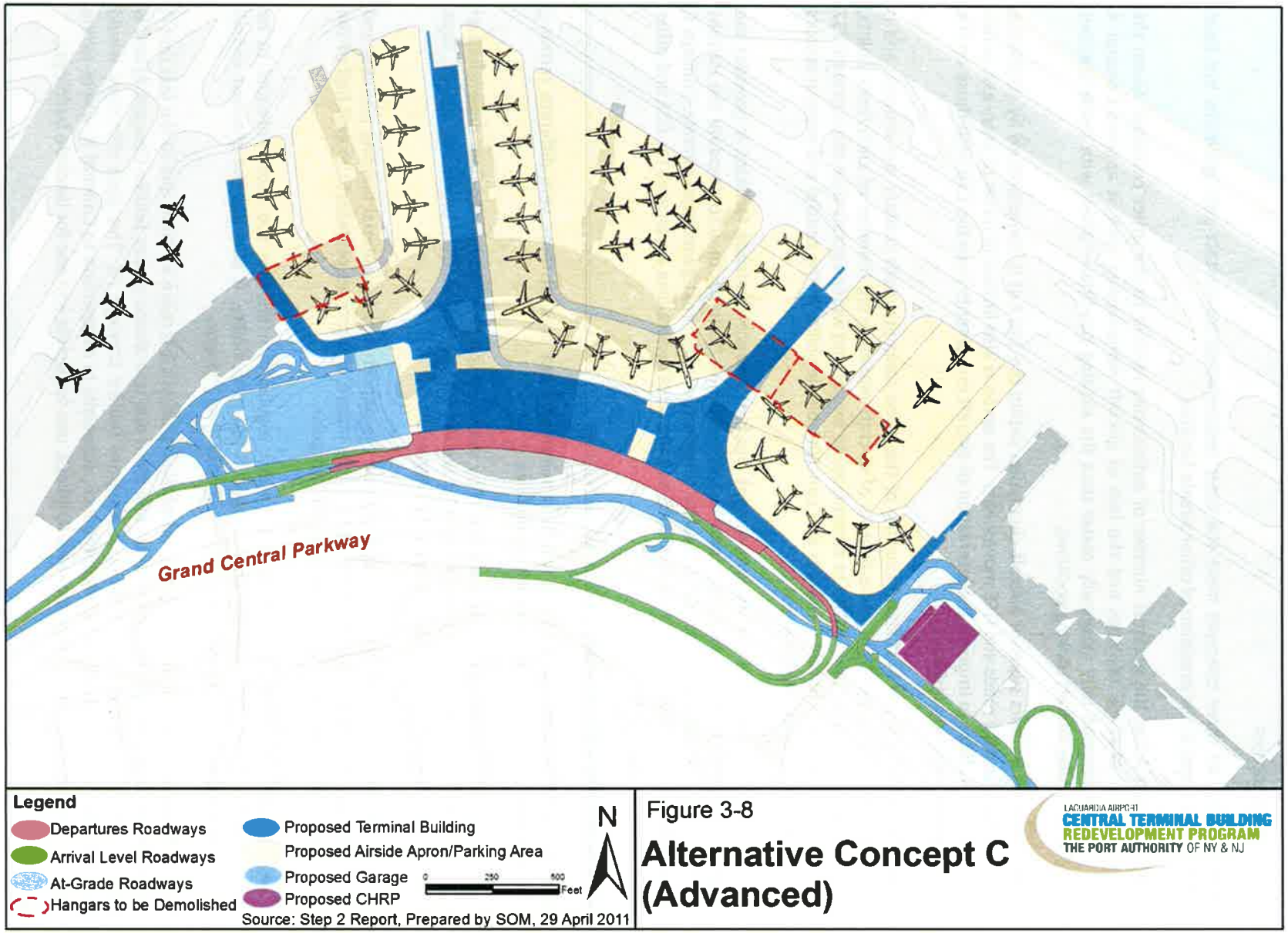

Figure 3-8

Alternative Concept C (Advanced)

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Airside Differentiators

On the airside, all three concepts meet the basic requirements for contact gate positions but have notable differences in the provision of other airside facilities.

- Concept A has the greatest number of deficiencies relative to the other concepts. Given the number of single taxilanes and the lack of aircraft maneuvering area, it appears Concept A would function only marginally better than the existing condition—albeit with more spacious and regular aircraft parking positions.

- Concept B offers superior aircraft circulation within the site but is compromised by conflicting vehicle service roads and GSE movements. The apron is also limited in terms of entry exit points and does little to improve the interaction of aircraft movements from the CTB with those on the airport common taxiways.

- Concept C has the best stand capacity of the three concepts, both contact and remote, and is operationally superior in some aspects of aircraft maneuvering (number of entry/exits points, taxiway throats). The capacity to accommodate longer and wider aircraft than the current B737 design aircraft is notable. There is also considerable flexibility in the central and eastern sectors (the one shared with Terminal C).

Overall, Concept C offers the richest complement and best balance of airside facilities. It provides the largest aircraft parking apron and is the only concept with the flexibility to accommodate the current aircraft parking requirements and the capability to gate the larger next-generation aircraft. Concept C also provides the most RON/hardstand positions and the most general use apron area for GSE and other airport/airline operations.

Terminal Building Differentiators

All three concepts meet the terminal facility requirements but present three very different terminal configurations with varying performance capabilities.

- Concept A would forever be constrained by the structural grid and floor-to-floor dimensions of the existing CTB structure, which impedes the development of modern processing spaces, sight lines, way finding, and building systems integration.

- Concept B, as a new facility, should present the opportunity for optimal building planning and design, but the constraints of the site and the nature of the concept distort the east half of the landside terminal, making it inflexible and irregular.

- Concept C, also a new facility, is the most regular plan and has the most potential to be optimized for contemporary processing and future flexibility. It also has the shortest overall average walking distances and the fewest floor level changes.

Overall, Concept C has the lowest gross terminal floor area, yet it is more efficient due to the fact that it is a single building without duplication of certain plant and operations spaces (unlike Concept B) and is new construction, tailored to the facilities program (unlike Concept A). This area efficiency would translate into ease of operation and maintenance, especially in comparison to Concept B, where airline staff would need to operate in two separate buildings, one for airside and one for landside buildings.

Landside Differentiators

All three concepts can be developed to meet the landside facility requirements, but the locations of the major facilities (roadways, garages, etc.) reflect the differences.

- Concept A retains, refurbishes, and augments the existing two level roadway system. Because the terminal is not moved further south, Concept A has more landside area, which translates into more room to allow for the weaving and circulation of vehicles.

- Concepts B and C provide nearly identical roadway systems with few notable differences between them. The most significant difference is the relationship between the curb frontages and the terminal building at both the arrivals and departures level. While several hundred feet of curb frontage along the east end of Concept B forces passenger service areas to the west end of the building, curb frontages in Concept C are evenly disturbed along the entire face of the building.

Overall, the terminal area roads and the general provision of landside area in Concept A are superior to Concepts B and C, but the parking and future rail provisions of Concepts B and C are superior and more convenient to those of Concept A. Concept C is superior to Concept B due to the closer alignment of the principle frontage roads with the terminal building. On balance, the landside does not appear to determine the relative ranking of the three concepts.

Construction Schedule and Cost Comparison

Using a conservative methodology that assigns industry standard construction durations and uniform costs to different project elements, the duration of the construction period and total project cost for each concept was estimated for assessment and comparison. As shown in **Table 3-1**, Concept C was determined to have the shortest construction duration and lowest total development cost among the three alternatives considered.

Table 3-1: Estimated Construction Schedule and Cost for Preliminary Concepts

	Concept A	Concept B	Concept C
Construction Duration	8-9 years	8-9 years	6-7 years
Estimated Total Cost	$4.37 billion	$4.65 billion	$4.23 billion

Source: *LaGuardia Central Terminal Building Modernization Program, Alternative Concept Development* (PANYNJ/SOM, 2011)

Environmental Impacts

For early phase planning and evaluation purposes, because Concepts A, B, and C occur within a given project site where the same basic facility requirements are met with each concept and virtually no natural resources exist within the almost entirely developed project site, it was assumed that the potential for long-term development impacts on the affected resources would be essentially the same regardless of the concept selected. However, temporary air, noise, and traffic impacts would vary based on the duration of construction phase activities. Therefore, Concept C appeared to be the environmentally-preferable alternative because the evaluation demonstrated that Concept C could be constructed and opened for use in 1 to 2 years less time, thereby reducing the potential for

construction-related air, noise, and water pollution, and traffic impacts, when compared to Concepts A or B.

Summary

After detailed analysis and careful consideration, Concept C was selected as the preferred concept to carry through the Phase II planning processes. Concept C consistently emerged with the most advantages and the fewest disadvantages. It provided a robust, flexible, suitable, and balanced set of facilities best able to serve LaGuardia Airport on opening day and well into the future. No potentially-significant environmental impacts were identified, and it is technologically and economically feasible to implement. Concepts A and B were eliminated from further consideration because they did not perform as well as in comparative analysis and they would take longer and cost more to construct, resulting in 1 to 2 years of additional construction-related effects on the environment. Concept C was further developed into the Proposed Action; therefore, Concept C in its original form was eliminated from further consideration.

3.3.2 Utilization of Alternate Sites within LaGuardia Airport

The CTB serves multiple airlines. While Delta Airlines leases Terminals A, C, and D for their east coast operation, USAirways and WestJet also operate out of Terminal C. In this alternative, forecast passenger demand beyond the capacity of the CTB would be accommodated in the other terminals, either separately or in combination with one another, or in new facilities built in another location on the Airport.

Using a different terminal is not a prudent or feasible alternative because no vacant space or underutilized facilities are available to accommodate unmet needs. As discussed in Chapter 2, Purpose and Need, forecast demand for LaGuardia Airport is 34 MAP. Approximately half of the demand—or 17.5 MAP—has been accounted for and is factored into the terminal space and gate requirements for Terminals A, C, and D. No excess capacity exists in the other terminals. Developing another location on the Airport in which to implement the Proposed Action is likewise not a prudent or feasible alternative. LaGuardia Airport is already land constrained. There is no suitable site with the space available to accommodate the airside, terminal, and landside requirements associated with constructing another terminal building.

For the reasons stated above, utilization of alternate sites within LaGuardia Airport is not a reasonable alternative.

3.3.3 Demand Management

Airport demand management strategies have also been considered but were not carried forward. Demand management, in the aviation context, refers to the collection of administrative and market-based policies designed to maintain efficient operations at congested airports by reducing total demand or shifting demand from peak to off-peak periods.

Due to limited operational capacity in comparison with passenger demand, FAA has imposed operational limits, or slots, at LaGuardia Airport since 1968. The FAA has issued an Order limiting the number of arrivals and departures (slots) at LaGuardia Airport from Monday through Friday between 6:00 am and 9:59 pm and Sunday between 12:00 pm and 9:59 pm. More information about the Order can be found in the Federal Register (docket number FAA-2014-06659).

Any alternative that involves using demand management strategies to reduce passenger demand or to limit projected growth would not meet the Purpose and Need for the CTB Redevelopment Program. Therefore, demand management is not a reasonable alternative to the Proposed Action.

3.3.4 Alternatives to the CTB Redevelopment Program

Constructing a new airport or expanding a different airport, in lieu of the Proposed Action, is not a reasonable solution to the problem. Although several other airports exist in the region, none—individually or collectively—can accommodate the current and projected passenger demands from LaGuardia Airport, thus fulfilling the need to redevelop the CTB.

Use Another Airport

John F. Kennedy International and Newark Liberty International are among the most congested and delayed airports in the U.S., and both are in need of future capacity enhancements to meet their own projected demands. As discussed in Section 3.3.3, the airports are both slot controlled, meaning the number of operations is restricted through regulations. These airports do not have vacant space or underutilized facilities available, particularly during peak periods that could otherwise be used to supplement or replace airline operations at LaGuardia Airport. Both airports are land constrained and neither airport would be easily expanded. Any alternative that involves expanding JFK and/or Newark to supplement or replace airline operations at LaGuardia Airport would have costs and environmental impacts far greater than the Proposed Action.

Teterboro is a small airport used exclusively for business aircraft and general aviation. It does not have the infrastructure or the vacant space needed to support commercial airline operations and it would not be practical to expand the airport to do so. Several other small, public-use airports exist in the region but they are not considered to be viable alternatives for same reason. Stewart International Airport is located too far away for most air travelers who depend on LaGuardia Airport for convenient access to New York City.

Build a New Airport

The alternative to construct an entirely new commercial airport is not a viable solution to satisfy the current or projected capacity deficiency at LaGuardia Airport. New airport development would have costs and environmental impacts of the highest order. The Regional Plan Association, an independent not-for-profit regional planning organization dedicated to the quality of life and economic competitiveness of the Tri-state region, has thoroughly studied this option and determined that there is no appropriate site within 40 miles of Manhattan to locate a new airport.[31] PANYNJ participated in the 2011 study and concurs with their conclusion.

Utilize Other Modes of Transportation

Promoting other modes of transportation to reduce passenger demand at LaGuardia Airport is not a reasonable alternative. These do not meet local aviation needs, nor improve the terminal area facilities. Other modes, including buses and rail, have a complementary role to air travel, not a replacement one. Further, other modes do not provide the fast, flexible, and efficient long-distance transportation the public expects to be provided by LaGuardia Airport.

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[31] Regional Plan Association, *Upgrading to World Class—The Future of the New York Region's Airports, Executive Summary*, January 2011.

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4 Affected Environment

This section briefly describes the project's location and setting beginning with New York City and ending with the project site. This is followed by discussions of the resources potentially impacted by the Proposed Action. The following resources are introduced in this section:

- Traffic and Transportation
- Air Quality
- Coastal Resources
- Compatible Land Use
- U.S. DOT Act, Section 4(f) Resources
- Fish, Wildlife and Plants
- Floodplains
- Historic and Archaeological Resources
- Noise
- Water Resources

The other resource categories typically considered in a NEPA EA are not discussed in this section; however, Chapter 5, Environmental Consequences includes a discussion about all of the resource categories, whether there are impacts in those categories or not.

4.1 Project Location and Setting

New York City is located in downstate New York and consists of five boroughs connected by an expansive network of roadways, bridges, tunnels, and ferries used to cross a series of inland and coastal waterways that make up one of the largest natural harbors in the world. The five boroughs—The Bronx, Brooklyn, Manhattan, Queens, and Staten Island—were consolidated into a single city in 1898. With more than 8 million residents living within 300 square miles, New York is the most populous city in the United States and the most densely populated. A global power city, New York exerts a significant impact upon commerce, finance, media, art, fashion, research, technology, education, and entertainment. For this reason, people from across the U.S. and around the world travel to New York City and most use one of its three major airports.

LaGuardia Airport is located in the northern portion of the Borough of Queens, eight miles east of midtown Manhattan, and is New York City's primary airport for domestic travelers. Queens is the easternmost of the five boroughs, the largest in land area, and the second largest in population. With 2.2 million residents, approximately half of which are foreign born, Queens is one of the most culturally diverse urban areas in the world. Known for tight-knit ethnic communities influenced primarily by Asian and Hispanic cultures, there are residents from over 100 foreign countries speaking over 138 different languages.[32] With the second largest economy of the five boroughs, the diversity of Queens's population is reflected in its employment sectors, which is spread evenly across health care, retail trade, manufacturing, construction, transportation, and film and television production. Queens is well served by all modes of transportation including two of New York City's three major airports—JFK and LaGuardia—for which citywide public transit for arriving and departing passengers is offered.

[32] http://www.newyork.com/ny/nyc/queens/ (retrieved November 3, 2014)

LaGuardia Airport consists of 680 acres bordered by Flushing Bay and Bowery Bay to the north and the Grand Central Parkway to the south. North and east of the Airport, the Riker's Island correctional facility is located across Riker's Island Channel and the College Point neighborhood is across Flushing Bay. South and west of the Airport are the neighborhoods of Astoria (Steinway), Jackson Heights, and East Elmhurst. Surrounding land uses are densely developed with commercial strips and light industrial complexes situated along arterial roadways that pass through established communities and residential areas. **Figure 4-1** is an aerial photograph of LaGuardia Airport and the surrounding area.

The Airport's property is almost entirely built out. Approximately 95 percent of the property is covered by the airfield, buildings, roadways, and parking lots. Vegetation is limited to landscaped and vacant areas consisting of trees, foundation plantings, and turf grasses. Two undeveloped parcels are located on Airport property west of the terminal area—Ingraham's Mountain is vegetated and the Elmjack Little League ball fields are covered with grass and a parking lot. Tidal wetlands are present where some bay areas border the Airport, but there are no wetlands or other water resources located inland.

The project site, bounded by the airfield to the north and the Grand Central Parkway to the south, is similarly developed and covered with buildings and pavement interspersed with landscaped areas consisting of trees, shrubs, and grasses that offer little or no habitat value for any species of concern (see **Figure 4-2**).

4.2 Resources Potentially Affected

FAA Order 5050.4B states that the affected environment section of an EA should succinctly describe only those environmental resources the Proposed Action and its reasonable alternatives are likely to affect. The amount of information on a potentially affected resource should be based on the extent of the expected impact and be commensurate with the importance of the impact. The resources introduced below include traffic and transportation, air quality, coastal resources, compatible land use, Section 4(f) resources, fish, wildlife and plants, floodplains, historic and archaeological resources, noise, and water resources.

4.2.1 Traffic and Transportation

The Proposed Action has the potential to reduce the level of service (LOS) on local roads serving LaGuardia Airport and the surrounding community, more so during the construction phase and less so during the operational phase. On-Airport roadways would be substantially altered, including ramp configurations and connections to the Grand Central Parkway. There would be no permanent changes to off-Airport roadways or local transportation patterns as a result of the project. The assessment of impacts on traffic and transportation is discussed in Section 5.1 and detailed results are provided in **Appendix A.**

On-Airport Roadways

The Airport's internal roadway network includes several one-way loop roads that connect the terminals and parking facilities. Frontage roads to the arrivals and departures levels of the CTB and Terminals C and D allow for passenger drop-off and pick-up. LaGuardia Access Road runs parallel to the Grand Central Parkway to the north and provides access to the Parkway and local roads. Runway Drive curves around the Runway 4 end to connect the main terminals with the Airport facilities on the west side of the property, including the Marine Air Terminal (Terminal A serving the Delta Shuttle).

Legend

Existing Airport Property Line

0 0.25 0.5 Miles

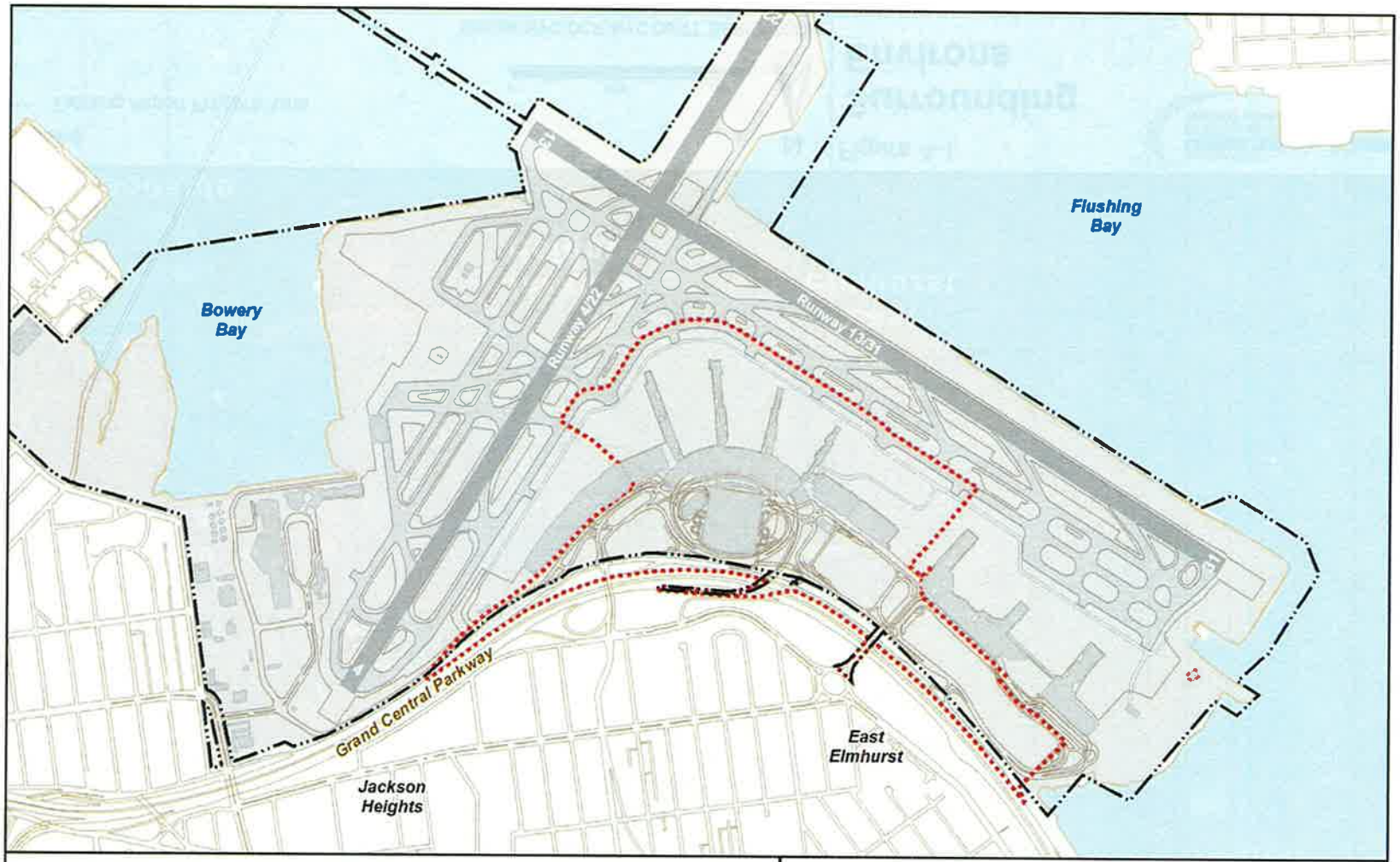
N

Source: NYC DCP, NYC DoITT, ESRI, AECOM

Figure 4-1

Surrounding Environs

LaGuardia Airport Central Terminal Building Redevelopment Program
The Port Authority of NY & NJ



Legend

- Existing Airport Property Line
- Project Limit

0 500 1,000 Feet

N

Source: NYC DCP, NYC DoITT, ESRI, PANYNJ Engineering Dept (Sept 2007), AECOM

Figure 4-2

Project Limits

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
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Grand Central Parkway

The Grand Central Parkway is an eight-lane roadway that handles approximately 180,000 vehicles per day through western Queens.[33] The Parkway runs along the northern part of western Queens, past the southern border of LaGuardia Airport, before turning south to central Queens and intersecting with I-495 (Long Island Expressway). It connects to I-278 (Brooklyn-Queens Expressway) to the west of the Airport and I-678 (Van Wyck Expressway and Whitestone Expressway) to the east via Northern Boulevard.

Eastbound entry to the Airport from the Grand Central Parkway is available via two exit ramps (94th Street and the "flyover"), and there is one exit from the Airport via the loop ramp from the 94th Street bridge (see **Figure 4-3**). Westbound entry to the Airport from the Parkway is available via the LaGuardia Access Road and two ramp connections (near Terminals C/D and the CTB). Airport exits are provided via two on-ramps from the frontage road (near the 94th Street Interchange).

Analysis of the existing conditions on the Parkway near the Airport using the Freeway Evaluation (FREEVAL) model indicate that the eastbound flows are satisfactory during the weekday morning and evening peak periods (LOS C or D), but westbound flows are at a failing LOS at those times (i.e., oversaturated).[34] Eastbound movements reflect recent improvements by NYSDOT to the weaving sections and ramps near 94th Street.

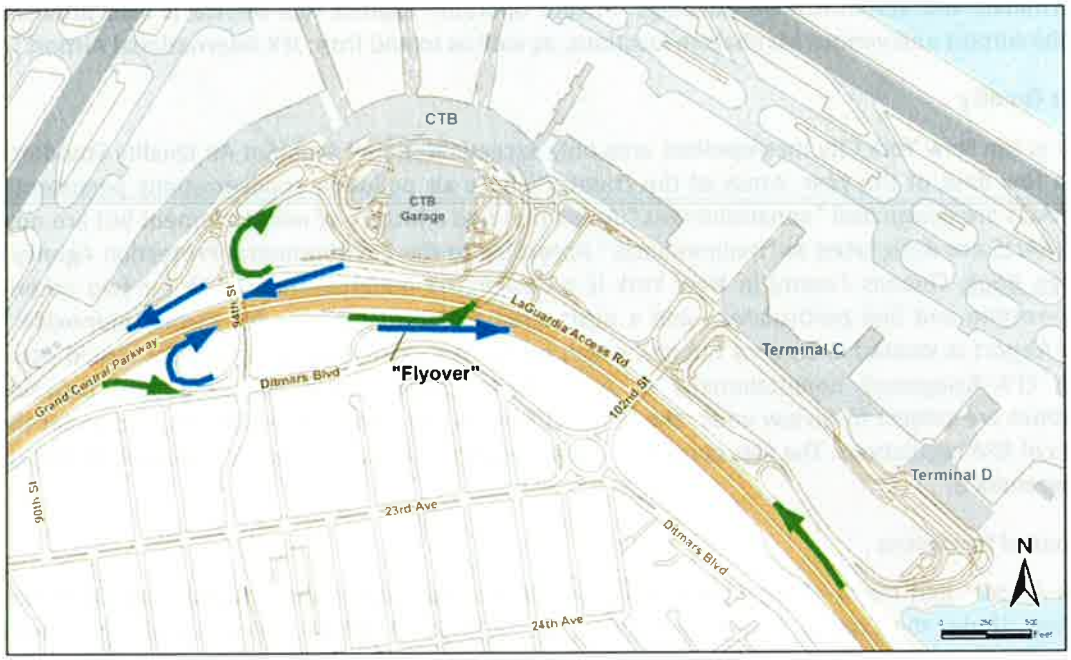

Figure 4-3. Airport Access To/From the Grand Central Parkway

[33] http://www.nycroads.com/roads/grand-central/

[34] FREEVAL is a deterministic traffic model that is the official computational engine for the analysis of freeway facilities in accordance with the procedures of the 2010 *Highway Capacity Manual* (HCM). FREEVAL is supported and maintained by the Transportation Research Board's (TRB) Highway Capacity and Quality of Service (HCQS) Committee.

Local Roads

Connections between the Airport and the communities south of the Grand Central Parkway are via bridges at 82nd, 94th and 102nd Streets over the Parkway, intersecting with Ditmars Boulevard and 23rd Avenue. Ditmars Boulevard is a surface street following the Grand Central Parkway to the south, but elevated significantly above the Parkway. Astoria Boulevard is a principal east-west arterial through the East Elmhurst neighborhood. Analysis of existing intersections in the vicinity of the Airport using data collected in 2012 and the Highway Capacity Manual (HCM) methodology indicate that *most* turning movements operate at LOS "D" or better during weekday morning and evening peak hours.

Since commercial traffic is not allowed on the Grand Central Parkway, all construction vehicles must utilize local roads. Construction vehicles will arrive and depart the site via NYCDOT-established truck routes. In the vicinity of the Airport, Astoria Boulevard serves as a major through truck route and 94th Street; 19th Avenue and a portion of 23rd Avenue and Ditmars Boulevard are also established local truck routes.

Public Transportation

Although there is no direct rail access to LaGuardia Airport, five Metropolitan Transportation Authority (MTA) bus lines serve the Airport. The M60, Q47, Q48, Q72 and new Q70 express service routes connect Airport passengers and employees to Queens and Manhattan. The bus routes include stops at various Airport terminals and administrative buildings. Private operator express bus service is also provided between the Airport and various Manhattan locations, as well as to and from JFK International Airport.

4.2.2 Air Quality

Air quality in the New York City metropolitan area only exceeds National Ambient Air Quality Standards (NAAQS) a few days of the year. Areas of the country where air pollution concentrations persistently exceed NAAQS are designated "nonattainment." Areas that had a history of nonattainment but are now meeting NAAQS are designated as "maintenance." According to the Environmental Protection Agency's (EPA) Green Book, Queens County in New York is a designated nonattainment area for two criteria pollutants—ozone and fine particulates—and a designated maintenance area for carbon monoxide.[35] LaGuardia Airport is located in Queens County, which means project-related air emissions would occur within an EPA-designated nonattainment or maintenance area. These emissions and pollution concentrations are subject to review under the federal Clean Air Act and its amendments, and under the jurisdiction of EPA regulations. The assessment of impacts on the air environment is discussed in Section 5.2 and **Appendix B**.

4.2.3 Coastal Resources

LaGuardia Airport and much of the surrounding area is located within the Coastal Zone Boundary of New York. Under the Coastal Zone Management Act of 1972, all federal actions within the coastal zone must comply with the "enforceable policies" of the New York Coastal Management Program. The New York State Department of State (NYSDOS) administers the program and the process by which the State decides whether a project or action meets its enforceable policies is called a consistency review. In addition, New York City has established a coastal zone under the Local Waterfront Revitalization Program (LWRP). Administered by the NYC Department of City Planning (NYCDCP), the LWRP

[35] EPA list of currently designated nonattainment and maintenance areas for all criteria pollutants as of March 30, 2012.

establishes the City's policies for the development and use of the waterfront and provides the framework for evaluating the consistency of all discretionary actions in the coastal zone.

The Proposed Action involves redeveloping existing built land within the coastal zone. As such, a coastal zone consistency determination is required from the NYSDOS and NYCDCP. The assessment of impacts on the coastal zone is discussed in Section 5.3.

There are no coastal barriers or any areas subject to the Coastal Barriers Resources Act of 1982 or the Coastal Barriers Improvement Act of 1990 in the vicinity of LaGuardia Airport.

4.2.4 Compatible Land Use

The Grand Central Parkway is an eight-lane divided highway separating the Airport from the East Elmhurst and Jackson Heights neighborhoods. Land uses south of the Grand Central Parkway are densely developed and consist mostly of residential areas with retail stores, commercial buildings, and office space concentrated along Ditmars Boulevard, 23rd Avenue, and Astoria Boulevard. Other notable land uses in the vicinity of the project site include Vaughn College of Aeronautics and Technology and Overlook Park.

Airport property is zoned for Manufacturing, Light Industrial (M1-1). Zoning around the Airport is primarily residential and mixed-used development (General Residence, R3-2, and Regional Commercial Center, C4-2). The assessment of impacts on surrounding land uses is discussed in Section 5.4.

4.2.5 U.S. DOT Act, Section 4(f) Resources

The U.S. Department of Transportation Act (U.S. DOT Act) of 1966 included a special provision, Section 4(f), which protects the use of land from publicly-owned parks, recreation areas, wildlife and waterfowl refuge areas of national, state or local significance, and public and private historical sites. The Proposed Action has the potential to directly and/or indirectly affect NYC Parks and Public Lands, as well as historic resources that are eligible for listing on the National Register of Historic Places (NRHP).

NYC Parks and Public Lands near LaGuardia Airport include Overlook Park, located on the south side of the Grand Central Parkway along Ditmars Boulevard between 97th and 100th Streets; Planeview Park, located at 23rd Avenue between 85th Street and Ditmars Boulevard; LaGuardia Landing Lights, which is a park situated in several lots that follow the flight path leading to Runway 4, stretching from 78th Street and 25th Avenue to the Grand Central Parkway; World's Fair Marina, a public boat dock located east of the Airport on the north side of the Parkway; and the Grand Central Parkway Extension, a promenade along the waterfront between World's Fair Marina and the Airport.[36] The Proposed Action avoids the use of land from any of these parks.

Section 4(f) also applies to historic resources of national, state, or local significance. In consultation with the New York State Historic Preservation Office (SHPO), the FAA has determined that five airplane hangars (circa 1940) that are eligible for listing on the NRHP would be adversely affected by the Proposed Action. Hangars 1, 2, and 4 would be directly affected by removal of the buildings, while

[36] The unpaved portion of the Grand Central Parkway right-of-way along the southern boundary of the Airport is under the jurisdiction of the New York City Department of Parks and Recreation (NYCDPR); however, it is not designated nor intended for public access or recreation. The City of New York has reviewed the Proposed Action and has determined that the affected area was originally acquired for "park and parkway purposes," which is distinct from a designation of the area as parkland. The access improvements to and from the Parkway are a legislatively authorized use of the land. See Section 5.5.2 for additional discussion.

Hangars 3 and 5 would be indirectly affected by the removal of adjoining Hangar 1 and obstruction of views from the Grand Central Parkway as a result of construction of the West Garage. Terminal A (the NHRP-listed Marine Air Terminal, circa 1940) is located on the west side of the Airport and is beyond the area of potential effect.

The assessment of impacts on Section 4(f) resources is discussed in Section 5.5 and **Appendix C**.

4.2.6 Fish, Wildlife and Plants

Biotic communities directly affected by the Proposed Action would be limited to urban landscaping located along roadway medians and shoulders that lie between LaGuardia Airport and the Grand Central Parkway. Typical of a busy highway corridor, the landscaped features consists of grass-covered verges interspersed with shrub patches and trees. The grass is mowed regularly and the trees and shrubs are actively managed in order to maintain a safe roadway operating environment and discourage birds. Low habitat value is indicated due to small size, active management, a high degree of fragmentation, close proximity to busy roads, and barrier effects of the roads on wildlife migration.

The landscaped area affected by the Proposed Action is located within the Coastal Zone Boundary of New York, and most of the area is also located within the 100-year (tidal) floodplain. However, the limits of the project site consist only of upland vegetation; there are no wetlands, water resources, or aquatic habitat within the landscaped area. No federal- or state-listed species, or habitat for federal- or state-listed species, would be affected.

The assessment of impacts on fish, wildlife and plants is discussed in Section 5.7, which cross-references other sections of this Final EA as needed to address the presence/absence of biotic communities associated with land uses and cover types related to other resources affected by the Proposed Action, such as coastal resources.

4.2.7 Floodplains

LaGuardia Airport is located on the waterfront of Flushing Bay and Bowery Bay. According to the current Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) and the recently released Preliminary FIRM, the majority of LaGuardia Airport lies within a tidal floodplain, some portions of which are designated a coastal flood zone with velocity hazard (see Figure 5-6).[37] Tidal floodplains consist of areas subject to coastal or tidal flooding by high tides, hurricanes, tropical storms, and steady on-shore winds. Coastal high hazard areas consist of coastal shorelines subject to high velocity wind and wave action in addition to tidal flooding. The 100-year tidal floodplain extends to the southern edge of LaGuardia Road and in some areas south of the Grand Central Parkway. The coastal flood zone generally follows the shoreline, except where it extends within Parking Lot 5 at the eastern side of the Airport.

Pursuant to Executive Order 11988, Floodplain Management, all Federal agencies are required to avoid impacts on floodplains to the degree practicable and minimize impacts that cannot be avoided. The Proposed Action involves redeveloping land within the FEMA 100-year floodplain. Because the vast majority of the Airport's property lies within the floodplain, measures to minimize harm will be included in the project (see Section 2a of EO 11988, Floodplain Management, dated May 24, 2977; 42 FR 26951). Therefore, the layout of the proposed project would be designed to minimize impacts on the floodplain,

[37] Preliminary FIRMs have been developed by FEMA for certain communities in New York and New Jersey affected by Superstorm Sandy.

and the risks associated with flooding, to the greatest extent practicable. The assessment of impacts on floodplains is discussed in Section 5.8.

4.2.8 Historic and Archaeological Resources

Historical and cultural resources affected by the Proposed Action are federally-regulated under the National Historic Preservation Act (NHPA), the Archaeological Resources Protection Act (ARPA), and other applicable laws and regulations intended to protect historic properties. Section 106 of the NHPA requires Federal agencies to take into account the effects of their actions on historic properties, to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment, and include an opportunity for consultation with all interested parties. Historic properties include any prehistoric or historic district or site that is listed or eligible for listing in the National Register of Historic Places. In addition, NYC's Landmarks Preservation Commission (LPC) may designate properties as NYC Landmarks.

Prior to undertaking any airport project or action, the PANYNJ, in consultation with the FAA, must determine if the Proposed Action has the potential to affect historic properties. As the lead federal agency, the FAA is responsible for consulting with the SHPO—in this case, the New York State Office of Parks, Recreation and Historic Preservation (OPRHP)—and for making a determination about the effects of the project on historic properties. The process by which the FAA decides whether a project or action affects historic properties is called a Section 106 review per NHPA.

Two NRHP-listed sites have been identified in the vicinity of the project. The nearest NRHP-listed historic site is Terminal A (the Marine Air Terminal) located approximately one-half mile west of the project site. The property is also an interior and exterior landmark designated by LPC. The other is the Lent Homestead and Cemetery located between 19th Road and 19th Street in East Elmhurst. Both sites are located west of the Proposed Action and beyond the designated area of potential effect (APE). In addition, the LPC-eligible Malcolm X House is located south of the Airport, outside of the APE.

The FAA has determined that five historic airplane hangars (circa 1940) would be adversely affected by the Proposed Action. Hangars 1, 2, and 4 would be directly affected by removal of the buildings, while Hangars 3 and 5 would be indirectly affected by the removal of adjoining Hangar 1 and construction of the West Garage, blocking views from the Grand Central Parkway. These hangars are part of the original Airport and have remained relatively unaltered; therefore, the buildings are eligible for listing in the NRHP. The existing CTB (circa 1964) has been significantly altered over the years and, as a result, the SHPO has determined that the terminal building is not eligible for listing. In addition, according to the New York State Preservation Historical Information Network Exchange (SPHINX) system mapping tool, the western portion of the project site falls within an area of archaeological sensitivity. Supplemental analysis indicates that construction activities would have the potential to disturb intact soil horizons located beneath existing roads in the vicinity of the existing Parking Lot 1.

The assessment of impacts on historic resources is discussed in Section 5.10 and **Appendix D**. Because the Proposed Action would adversely affect NRHP-eligible properties, a Section 4(f) Evaluation must also be prepared. The assessment of impacts on Section 4(f) resources is discussed in Section 5.5 and **Appendix C**.

4.2.9 Noise

Before moving forward with the Proposed Action, analysis must determine if the construction and operation of the project has the potential to cause or contribute to increased noise levels in the vicinity of the Airport. Construction activities could generate noise levels in excess of those typically found in the

project environs. Noise levels at a construction site vary relative to the particular activities in progress, and the potential effects depend in large part on the distance between the source of the noise and a sensitive receptor, such as a church, school, hospital, or residence (see Section 5.13.1.1 and **Appendix E**). After construction, project-induced changes in ambient noise levels may occur due to a) increasing vehicular traffic volumes, and b) the airlines' transition into newer, larger, more efficient, and higher capacity aircraft. Full detailed noise analysis showing that there is no significant impact from aircraft as a result of the Proposed Action can be found in Section 5.13.1.2 and **Appendix E.**

The FAA must adhere to federal regulations for evaluating the compatibility of aircraft noise with land uses surrounding airports. In addition, NYC-specific rules for evaluating the effects of construction noise as well as noise from traffic operations were evaluated. The assessment of project-related noise impacts on the affected environment is discussed in Section 5.13 and **Appendix E.**

4.2.10 Water Resources

The project study area includes surface and groundwater resources. There is also a network of drainage basins, conveyances, and control mechanisms in place to help reduce the risk of flooding while minimizing the effects of airport activities on the quality and quantity of storm runoff. The following paragraphs identify the water resources and management systems affected by the Proposed Action. The assessment of impacts on water resources is discussed in Section 5.16.

Surface Water

LaGuardia Airport is surrounded on three sides by surface waters, including Flushing Bay to the east/northeast, Riker's Island Channel to the north/northwest, and Bowery Bay to the west.[38] These surface water features are adjacent bay areas located off of the main stem of the East River as it flows north of the Airport, eventually discharging into Long Island Sound. Importantly, no surface waters are present within the interior of the Airport or within the project limits.

Flushing Bay is surrounded by a heavily urbanized region containing a very high population density (Borough of Queens) and is fed by Flushing Creek, which defines a heavily urbanized watershed. Flushing Bay is a saline surface water classified in New York State Department of Conservation (NYSDEC) Regulations as a Class I water suitable for secondary contact recreation and fishing.[39] Class I waters are suitable for fish propagation and survival but are the next to last level of classification for saline surface waters, indicative of water quality impairment.

The water quality of Flushing Bay in the vicinity of the Airport is reported by the NYCDEP to be somewhat impaired, although water quality has improved over the last decade or so. The Flushing Bay ecosystem has been degraded as a result of fill activities, bulk-heading, dredging, landfills, sewage discharges and combined sewer overflow (CSO) discharges. In highly modified and developed watersheds such as Flushing Bay, it is presumed that water quality and aquatic habitat characteristics will always be less than optimal due to irreversible changes to the watershed, as suggested by its

[38] Flushing Bay generally includes the sub-waters Riker's Island Channel and Bowery Bay; therefore, the identified classification and description included herein considers these waters as a single, combined resource, as the exact boundaries of these waters relative to each other are somewhat ambiguous.

[39] New York Codes, Rules and Regulations (NYCRR), Chapter X – Division of Water, Subchapter A: General, Article 2: Classes and Standards of Quality and Purity, Part 701: Classifications-Surface Waters and Groundwaters (6 NYCRR § 701.13)

classification as a Class I waterway. Flushing Bay is not designated as a Protected Water under the Protection of Waters Program administered by NYSDEC.[40]

New York State has been delegated by the EPA to implement the federal National Pollutant Discharge Elimination System (NPDES) program through the State Pollutant Discharge Elimination System (SPDES) program administered by NYSDEC. LaGuardia Airport holds a New York SPDES permit for the discharge of stormwater (Permit No. NY 0008133). In addition to regulating stormwater discharges, the SPDES permit requires the Airport to track and report any noncompliance with the permit, such as planned releases and unanticipated releases (spills and leaks).

Groundwater

Groundwater resources in the project study area are part of the Brooklyn-Queens Aquifer System, which is part of the Long Island aquifer system underlying all of Nassau, Suffolk, Kings and Queens Counties, and is listed by the EPA as a Sole Source Aquifer.[41] The upper glacial aquifer is the uppermost hydrogeological unit on Long Island and is found in nearly all of Kings and Queens Counties.[42] Ranging in thickness from 0 to 300 feet below the surface, this aquifer consists mainly of till deposits (clay, silt, sand, gravel, and boulders) along the north shore and outwash deposits (mostly sand, gravel and clay) to the south. The local water table is within the upper glacial aquifer throughout most of Kings and Queens Counties and, according to the U.S. Geological Survey (USGS), the average water-level measurement ranges from 9 to 19 feet below sea level.[43]

The water table beneath LaGuardia Airport is generally near the surface. Soil and ground water data developed for the CTB Redevelopment Program indicates that the depth to water ranges from 3.79 to 10.42 feet below the surface of the project site.[44] Groundwater is not withdrawn or otherwise used for any airport purposes. NYC drinking water is delivered from large upstate reservoirs—some more than 125 miles from the City. There are no public water supply wells or drinking water resources in the vicinity of the Airport. The nearest groundwater supply system is located in southwestern Queens, most of which has not operated in more than 10 years.

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[40]Article 15 pursuant to Chapter V – Resource Management Services, Subchapter D: Water Regulation, Part 608: Use and Protection of Waters (6 NYCRR § 608).

[41]Although the Brooklyn-Queens aquifer is not utilized as the sole source of drinking water for the area, the counties are the recharge zone for the aquifers underlying the southeastern portion of Queens County and the streamflow source zone for aquifers underlying parts of Nassau County. Since Nassau County is under sole source protection, the sole source aquifer designation extends to encompass the Boroughs of Brooklyn and Queens (EPA, Region 2 Water, Brooklyn-Queens Aquifer System Support Document, December 1983).

[42]For the purpose of this EA, the affected environment does not extend to the lower aquifer units (i.e., Jameco, Mogathy, Lloyd Aquifers) because groundwater below the water table would not be affected by the Proposed Action.

[43]Water-Table Altitude in Kings and Queens Counties, New York in March 1997. Fact Sheet FS 134-97 prepared by USGS.

[44] PANYNJ, *Interim Environmental Conditions Report, LaGuardia Airport, Central Terminal Replacement Project*, March 4, 2013.

Stormwater

Runways, taxiways, buildings, aprons, roadways, and parking lots, cover approximately 95 percent of the Airport property. These man-made impervious surfaces generate storm runoff, which is managed by the Airport's drainage system. The drainage system consists of nine drainage basins with two inflow and 17 outfall locations. All outfalls drain into Flushing Bay, Riker's Island Channel, or Bowery Bay. Runoff is collected in seven of the drainage basins and conveyed via underground pipes to outfall locations. No collection system is identified with the two smallest basins, where the northern end of each runway is supported by piers that extend into the Riker's Island Channel.

Water quality best management practices are in place to reduce or prevent pollution of surface and groundwater resources. In compliance with the requirements of the SPDES program, the *LaGuardia Airport Best Management Practices Plan* (BMPP, July 2009) is used by PANYNJ and its tenants and contractors to provide consistent and effective management of stormwater runoff quality.[45] The BMPP describes the drainage system, discusses airport activities and potential pollutant sources, identifies existing stormwater management controls and best management practices (BMPs), and addresses how BMPs are used to reduce or eliminate pollutants from entering the surrounding surface waters.

[45] www.panynj.gov/airports/pdf/LGA-BMPP-2011.pdf

5 Environmental Consequences

5.1 Traffic and Transportation

Traffic impacts on local surface transportation facilities are typically addressed in the Socioeconomic Impacts section (see Section 5.15). However, because this is such an important technical area in this Final EA, it is presented first in a stand-alone section. This summary describes the assumptions, findings, and recommendations related to traffic on surface transportation facilities. For the detailed analysis see **Appendix A: Transportation**.

5.1.1 Transportation Planning Assumptions

As part of the Proposed Action, a variety of improvements and modifications are planned to the vehicular access and internal traffic circulation within LaGuardia Airport. These include the reconfiguration of ramps to and from the Grand Central Parkway and significant modifications to the Airport's roadway system to improve internal traffic circulation and reduce queuing, double-parking, and congestion on Airport premises.

Future increases in Airport passenger traffic are expected to occur over time, regardless of the CTB Redevelopment Program, due to general demand for air travel into New York City. PANYNJ estimates that *without* the CTB Redevelopment Program projected passenger travel at LaGuardia Airport will increase from 23.6 million annual passengers (MAP) in 2010 to 30.1 MAP—an increase of 6.5 MAP—by 2030.

The Proposed Action is projected to result in an additional increase in Airport passenger traffic beyond the 30.1 MAP. PANYNJ estimates that the CTB Redevelopment Program would accommodate an increase in passenger travel at LaGuardia Airport from 30.1 MAP to 34.0 MAP—a change of 3.9 MAP—by 2030. The Proposed Action is not projected to result in any net increase in airport employment. Although some increase in employees is expected to result from enhanced facilities (e.g., increased concession space) at the new terminal, this increase is expected to be offset by new technologies and associated operational efficiencies that reduce existing labor requirements.

Throughout the preparation of this Final EA, the project team coordinated closely with representatives from both the New York State Department of Transportation (NYSDOT; see **Appendix G** for letter from the Region 11 Director dated April 4, 2014) and the New York City Department of Transportation (NYCDOT; see Section A.8 of **Appendix A**) to ensure that the analyses conducted met the technical and procedural expectations of both agencies. The analyses were also conducted in accordance with the guidance in the *New York City Environmental Quality Review (CEQR) Technical Manual*.

The baseline year for the traffic analysis conducted in this Final EA is 2012. As such, the existing conditions analyses were based on data collected in the field in 2012. This data includes peak hour and daily (24-hour) traffic volumes, roadway and intersection lane configurations and geometric parameters, traffic control devices, traffic signal timing parameters, and other data. In selected instances where no 2012 data were available, supplemental traffic volume data were provided by the PANYNJ for the year 2010 and were increased by the appropriate growth factors in the *CEQR Technical Manual* to estimate year 2012 traffic volumes.

The proposed CTB Redevelopment Program is expected to be completed and fully operational by the end of 2021. However, the future analysis year for full operation of the new terminal is 2030, because it is projected to take approximately nine years following the opening of the terminal to fully realize all of

the associated forecast passenger growth. The future analysis period for construction conditions was the fourth quarter of 2015, the period of anticipated peak construction traffic activity.

A comprehensive and detailed discussion of the range of transportation analyses conducted as part of this Final EA is provided in **Appendix A: Transportation**. In short, the primary quantitative analyses include the following:

- **Construction conditions** – The construction conditions analyses examined the operational effects of traffic associated with construction-related vehicles traveling to and from the Airport during the peak period of construction (i.e., the fourth quarter of 2015) at key intersections in the vicinity of the Airport. Construction-related vehicles include both construction personnel traveling to and from the designated contractor parking site via passenger vehicles and shuttle buses, as well as trucks hauling material and equipment to and from the project site via established New York City truck routes. The construction conditions analyses examined traffic conditions during the weekday morning and afternoon peak hours of construction. Based on the anticipated construction shift times, the peak hours for worker-generated vehicle trips (6:00 to 7:00 am and 3:00 to 4:00 pm) would not overlap with the weekday morning and afternoon peak hours for traffic on the local street network (i.e., 7:30 to 8:30 am and 4:00 to 5:00 pm), and would overlap by 15 minutes with the weekday morning peak hour of the Airport (i.e., 6:45 to 7:45 am). The construction analyses include year 2012 existing conditions, year 2015 No-Action Conditions, and year 2015 Proposed Action Conditions.

- **Operation conditions** – The operation conditions analyses examined the operational effects of additional traffic generated by the normal operation of LaGuardia Airport in the year 2030, when passenger forecasts associated with the CTB Redevelopment Program are expected to be fully realized. Traffic conditions on both surface streets and on the Grand Central Parkway are analyzed for the weekday morning and afternoon peak hours. The analyses include year 2012 existing conditions, year 2030 No-Action Conditions (*without* the CTB Redevelopment Program) and year 2030 Proposed Action Conditions (*with* the CTB Redevelopment Program).

5.1.2 Proposed Action

5.1.2.1 Construction

Redevelopment of the CTB is assumed to take place over an eight-year period, beginning in 2014 and continuing through 2021. Construction traffic associated with the Proposed Action would consist of passenger vehicles generated by construction personnel (including laborers, managers, and administrative staff), as well as construction trucks associated with the movement of materials and equipment traveling directly to the CTB construction site via established New York City truck routes.

It is anticipated that daily parking for construction personnel would be accommodated at the Ingraham's Mountain site, a PANYNJ-owned parcel located in the northeast quadrant of the 19th Avenue/45th Street intersection. A portion of the top of Ingraham's Mountain site will be cleared as part of the Runway Safety Area (RSA) Enhancements project, a separate project preceding the redevelopment of the CTB. In order to minimize construction traffic on City streets, all construction personnel parking at Ingraham's Mountain would be transported by a private shuttle bus operator to and from work at the construction site. The shuttle buses would utilize off-Airport roadways (e.g., 45th Street and 19th Avenue), as well as on-Airport roadways (e.g., Bowery Bay Boulevard, Marine Terminal Road, and Runway Drive/LaGuardia Road), to travel between Ingraham's Mountain and the construction site (see **Figure 5-1**).

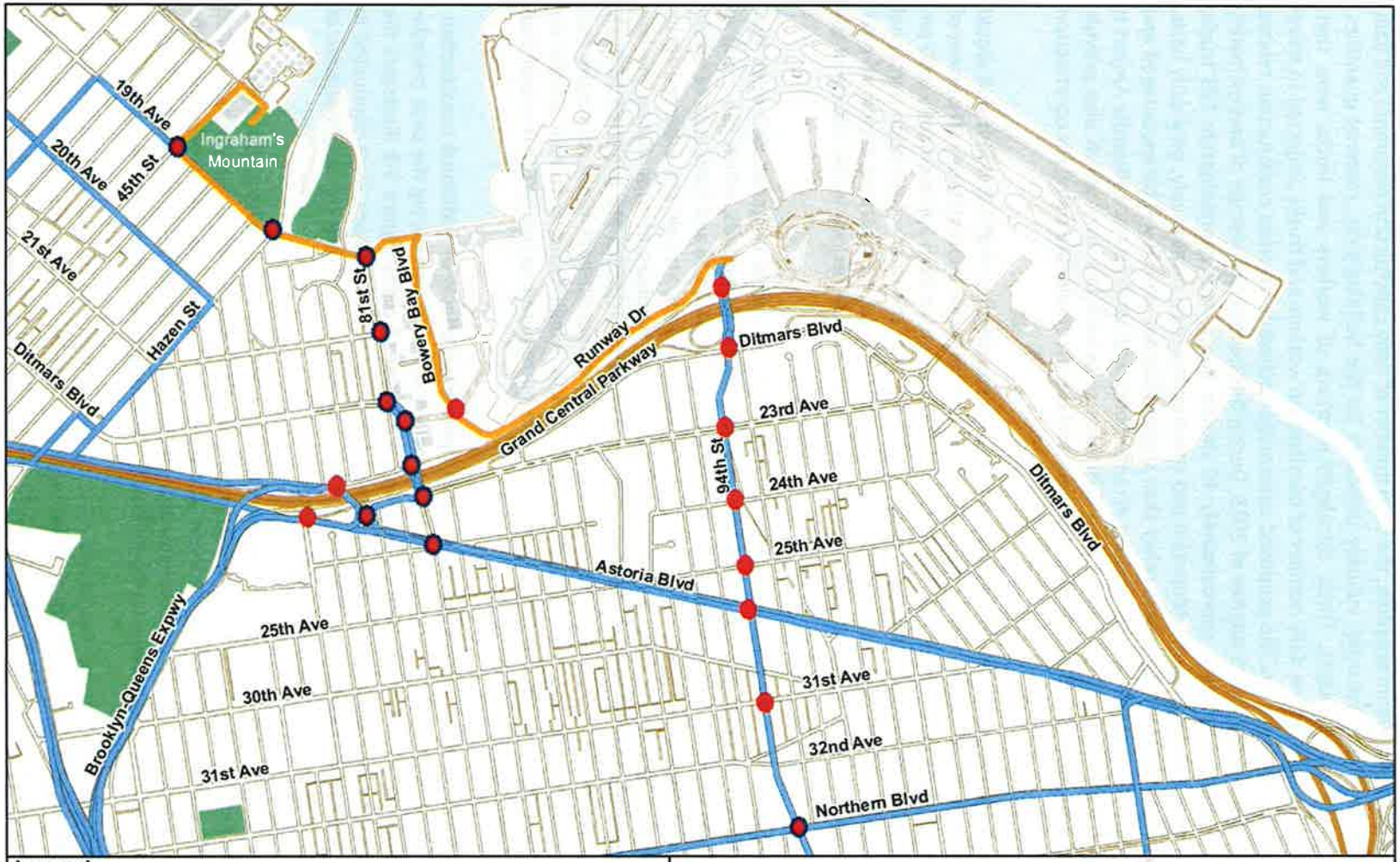

Figure 5-1

Construction Conditions Study Intersections and Traffic Improvements

LAGUARDIA AIRPORT
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REDEVELOPMENT PROGRAM
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For each month of the construction schedule, the total number of daily construction personnel and daily construction trucks were forecast using industry standards for the building sizes, material quantities, man-power rates, and other factors. These calculated numbers of workers and trucks were then aggregated to estimate the average daily number of construction workers and trucks projected to travel to the site in each calendar quarter. The proposed construction schedule assumes construction-related vehicle trips would peak in the fourth quarter of 2015. During this quarter, an average of approximately 704 construction personnel vehicles, approximately 40 shuttle buses, and approximately 128 trucks would travel to and from the Ingraham's Mountain and construction sites, respectively, on a daily basis. For construction personnel, travel by means other than single-occupant vehicle will be encouraged and supported by the PANYNJ through specific contract arrangements with contractors. LaGuardia Airport is served by the M60, Q47, Q48, Q72, and the new Q70 express service bus lines which also provide connections to subway stations in Manhattan and Queens and can accommodate travel for construction personnel.

All construction activities are expected to take place during two construction shifts. The first shift would occur from approximately 7:00 am to approximately 3:00 pm and comprise approximately 90 percent of the total construction personnel workforce. The second shift would occur from approximately 3:00 pm to approximately 11:00 pm and comprise approximately 10 percent of the total construction personnel workforce. Given these construction hours, worker trips would largely be concentrated during off-peak hours and would not represent a substantial increment during peak travel periods in the vicinity of the Airport.

The PANYNJ will coordinate with contractors to establish a daily schedule of goods deliveries that ensures on-time deliveries by minimizing truck travel during peak traffic periods, which can result in delays in transporting materials to and from the site. Construction truck trips to and from the site would generally be made between the hours of 4:00 am and 10:00 pm. Truck arrivals are expected to be generally uniform throughout this time period with slightly higher numbers of trips during the late morning and midday hours (8:00 am to 1:00 pm) when on-site work activities are expected to peak. Some truck deliveries would also be made early in the morning, during off-peak times, to ensure that materials are on-site prior to the start of the first shift. Trucks would typically remain on-site for relatively short durations (one hour or less). All trucks would be required to use NYCDOT-established truck routes (see **Figure 5-1**).

The construction traffic analysis examined the potential operational effects of additional construction-related vehicle trips generated at key intersections in the vicinity of the Airport during the peak calendar quarter of the entire construction duration (i.e., the fourth quarter of 2015). **Figure 5-1** illustrates the study intersections analyzed for construction conditions. All traffic impact analyses were conducted in accordance with the guidance published in the *CEQR Technical Manual*, including the determination of potential significant traffic impacts for each intersection.

The following is a list of the recommended transportation improvements for construction conditions. Because the peak construction period is a temporary condition, these improvements are recommended as temporary measures to reduce delays at these intersections and ensure the most efficient traffic signal operations during periods of peak construction activity. The signal timing adjustments noted below are subject to review and approval by the NYCDOT. The locations are highlighted in **Figure 5-1**.

- **Northern Boulevard/Junction Boulevard** – During the weekday morning peak hour, reallocate one (1) second of green time from the east-west phase to the north-south phase. During the weekday afternoon peak hour, reallocate two (2) seconds of green time from the east-west phase to the north-south phase.

- **Astoria Boulevard North Service Road/79th Street/23rd Avenue** – During the weekday morning peak hour, reallocate five (5) seconds of green time from the northwest-bound phase (i.e., Astoria Boulevard North Service Road) to the northeast-bound phase (i.e., 23rd Avenue).

- **Astoria Boulevard/Astoria Boulevard North Service Road** – During the weekday afternoon peak hour, reallocate seven (7) seconds of green time from the northwest-bound phase to the westbound phase.

- **Astoria Boulevard North/Grand Central Parkway westbound off-ramp/82nd Street/Ditmars Boulevard** – Restripe the westbound approach to create two exclusive right-turn lanes and one shared through/left-turn lane, and install corresponding advance lane use signs. During the weekday afternoon peak hour, reallocate four (4) seconds of green time from the westbound phase to the north-south phase.

- **23rd Avenue/82nd Street** – During the weekday morning peak hour, reallocate nine (9) seconds of green time from the north-south phase, plus one (1) second from the southbound phase, to the east-west phase (i.e., a total of 10 seconds).

- **Astoria Boulevard/82nd Street/24th Avenue** – During the weekday afternoon peak hour, reallocate one (1) second of green time from the east-west phase to the southbound phase.

- **Ditmars Boulevard/Marine Terminal Drive** – During the weekday morning peak hour, reallocate one (1) second of green time from the westbound phase to the north-south phase.

- **Ditmars Boulevard/81st Street** – Restripe the westbound approach to accommodate two exclusive right-turn lanes and one shared through/left-turn lane and install corresponding advance lane use signs. During the weekday afternoon peak hour, reallocate eight (8) seconds of green time from the east-west phase to the southbound phase.

- **21st Avenue/81st Street** – During the weekday morning peak hour, reallocate eight (8) seconds of green time from the eastbound phase to the north-south phase.

- **19th Avenue/Hazen Street** – Install a new traffic signal controller in accordance with NYCDOT design guidance. Eliminate the "48 Hour Parking, Detached Trailers" parking regulation on the north side of 19th Avenue for a distance of approximately 200 feet west of Hazen Street, and restripe a 14-foot exclusive right-turn lane and a 12-foot shared through/left-turn lane on the eastbound approach.[46] During the weekday morning peak hour, reallocate four (4) seconds of green time from the southbound leading phase to the east-west phase. During the weekday afternoon peak hour, reallocate seven (7) seconds of green time from the southbound leading phase and five (5) seconds from the north-south phase to the east-west phase.

- **19th Avenue/45th Street** – Install a traffic signal at the intersection, remove the "48 Hour Parking, Detached Trailers" parking regulation on the east side of 45th Street, and extend the "No Standing Anytime" parking regulation on both sides of 45th Street for approximately 275 feet north of 19th Avenue, to accommodate two lanes on the southbound approach, as well as one northbound receiving lane. In addition, prohibit standing with a "No Standing Anytime"

[46] This regulation change would eliminate curbside parking spaces for approximately four detached trailers. Field observations of existing trailer parking utilization along this curbside revealed approximately one to two trailers present on weekdays. The north curb along 19th Avenue between Hazen Street and 45th Street is largely under-utilized for trailer parking, and sufficient curbside space exists to accommodate the displaced trailers.

parking regulation on the west side of 45th Street for approximately 80 feet south of 19th Avenue, to allow for transition to the southbound through lane on 45th Street and on the south side of 19th Avenue for approximately 25 feet east of 45th Street, to accommodate the turning paths for shuttle buses turning from 45th Street southbound to 19th Avenue eastbound.[47,48]

- **Construction-only access driveway at 19th Avenue/81st Street**[49] – Continue to coordinate with NYCDOT staff concerning the proposed driveway (curb cut) that is currently being designed as part of the RSA Enhancements project. The improvements proposed at this intersection include:
    - Modify the channelization striping along 19th Avenue, west of the proposed driveway, to accommodate an exclusive left-turn lane in the eastbound direction.
    - Prohibit southbound "left-turn out" movements from the driveway onto 81st Street southbound via striping and posted "No Left Turn" signs.
    - Restrict entry into the driveway to authorized construction traffic only via posted "Authorized Vehicles Only: No Public Access" signs, or similar signs as approved by NYCDOT.
    - Institute the use of a construction flagger to accommodate turning movements by construction vehicles during all times that the gate is open.[50] When not in use for construction purposes, the driveway would be gated and the eastbound left-turn movement prohibited using construction barrels or a related device as approved by NYCDOT.

With these improvements in place, subject to review and approval by NYCDOT, no significant traffic impacts are projected to occur in accordance with the *CEQR Technical Manual* criteria. In addition, PANYNJ would implement a traffic monitoring program in coordination with NYCDOT throughout the duration of the construction period. This monitoring program would quantify the volume of construction workers' vehicles parked at the Ingraham's Mountain site and the need for and timing of implementation of the identified improvements. These monitoring efforts should be conducted annually, or at an agreed-upon frequency to be determined as part of on-going coordination efforts between PANYNJ and NYCDOT during the construction period.

Of the 21 study intersections, the overall level-of-service (LOS) under the Proposed Action Conditions would remain the same or improve upon the Future No-Action Condition for 15 intersections. There would be a minor, temporary decrease in LOS at the following six intersections:

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[47] Weekday field observations revealed no (zero) vehicles parked in any of the three locations requiring parking prohibitions. This intersection is located in a low-density industrial area with little on-street parking demand. On-street parking spaces are widely available elsewhere along 45th Street and 19th Avenue, as well as on other City streets in the vicinity.

[48] Traffic signal warrants from the *Manual on Uniform Traffic Control Devices* (MUTCD) were analyzed at a planning-level at this intersection. This analysis indicated that Warrant #3 (Peak Hour Warrant) would be met based on the high volume of projected future traffic on the southbound approach (i.e., 45th Street) during the weekday afternoon construction peak hour and the corresponding high delays that would otherwise be incurred by vehicles under its current stop-controlled configuration.

[49] It should be noted that this driveway will provide for ingress and egress to and from the Airport for construction-related traffic only. It will not provide access to the Airport for the general public.

[50] This intersection was analyzed as a traffic signal-controlled location for capacity analysis purposes, to approximate the operations of a flagger during peak periods.

- **Astoria Boulevard/94th Street** – During the weekday morning peak hour, the overall average delay is projected to increase by 1.7 seconds/vehicle, from 34.7 seconds/vehicle (LOS "C") under Future No-Action Conditions to 36.4 seconds/vehicle (LOS "D") under Proposed Action Conditions. The LOS "C"/"D" threshold for signalized intersections is 35.0 seconds/vehicle.

- **Ditmars Boulevard/Marine Terminal Road** – During the weekday afternoon peak hour, the overall average delay is projected to increase by 4.2 seconds/vehicle, from 17.9 seconds/vehicle (LOS "B") under Future No-Action Conditions to 22.1 seconds/vehicle (LOS "C") under Proposed Action Conditions. The LOS "B"/"C" threshold for signalized intersections is 20.0 seconds/vehicle.

- **21st Avenue/81st Street** – During the weekday morning peak hour, the overall average delay is projected to increase by 18.2 seconds/vehicle, from 22.1 seconds/vehicle (LOS "C") under Future No-Action Conditions to 40.3 seconds/vehicle (LOS "D") under Proposed Action Conditions. The LOS "C"/"D" threshold for signalized intersections is 35.0 seconds/vehicle.

- **19th Avenue/Hazen Street** – During the weekday afternoon peak hour, the overall average delay is projected to increase by 17.7 seconds/vehicle, from 34.4 seconds/vehicle (LOS "C") under Future No-Action Conditions to 52.1 seconds/vehicle (LOS "D") under Proposed Action Conditions. The LOS "C"/"D" threshold for signalized intersections is 35.0 seconds/vehicle.

- **Construction-only access driveway at 19th Avenue/81st Street** – During the weekday morning peak hour, the average delay for westbound movements (81st Street to 19th Avenue) is projected to increase by 34.6 seconds/vehicle, from 5.2 seconds/vehicle (LOS "A") under Future No-Action Conditions to 39.8 seconds/vehicle (LOS "D") under Proposed Action Conditions.

- **19th Avenue/45th Street** – During the weekday morning peak hour, the average delay for westbound movements is projected to increase by 35.7 seconds/vehicle, from 7.5 seconds/vehicle (LOS "A") under Future No-Action Conditions to 43.2 seconds/vehicle (LOS "D") under Proposed Action Conditions. During the weekday afternoon peak hour:

    - The average delay for eastbound movements is projected to increase by 33.5 seconds/vehicle, from 8.2 seconds/vehicle (LOS "A") under Future No-Action Conditions to 41.7 seconds/vehicle (LOS "D") under Proposed Action Conditions.

    - The average delay for westbound movements is projected to increase by 35.4 seconds/vehicle, from 8.2 seconds/vehicle (LOS "A") under Future No-Action Conditions to 43.6 seconds/vehicle (LOS "D") under Proposed Action Conditions.

    - The average delay for southbound left-turn movements is projected to increase by 19.0 seconds/vehicle, from 24.5 seconds/vehicle (LOS "C") under Future No-Action Conditions to 43.5 seconds/vehicle (LOS "D") under Proposed Action Conditions.

5.1.2.2 Operations

The analysis of future traffic operations included conditions on local surface streets surrounding the Airport, as well as on the Grand Central Parkway. In addition, a brief evaluation of impacts to parking, transit, pedestrians and safety was performed.

Surface Street Intersections

The analysis of surface street intersections for both construction and operations conditions was performed in consultation with NYCDOT staff (see correspondence in **Section A.8** of **Appendix A:**

Transportation). This analysis includes year 2012 existing conditions, year 2030 Future No-Action Conditions (*without* the CTB Redevelopment Program) and year 2030 Proposed Action Conditions (*with* the CTB Redevelopment Program) at the intersections shown in **Figure 5-2**.

Existing Conditions

The year 2012 existing conditions analysis forms the basis for all future conditions analyses and was based on observed traffic counts conducted in the field at key intersections in the vicinity of the Airport that are expected to be most affected by additional traffic generated by the Proposed Action. The weekday morning and afternoon peak hours for traffic on the roadway network in the study area were determined to be 7:30 to 8:30 am and 4:00 to 5:00 pm, respectively.[51]

Future No-Action Conditions

The Future No-Action Condition includes anticipated future increases in traffic volumes unrelated to the Proposed Action, including regional background traffic growth, projected growth associated with the 6.5 MAP at LaGuardia Airport by 2030 (unrelated to the CTB Redevelopment Program), and traffic volumes associated with the proposed Willets Point Development District.[52]

In addition, the Future No-Action and Proposed Action traffic analyses include:

- A series of improvements undertaken by NYSDOT involving: a) reconfiguration of the eastbound ramps to and from the Grand Central Parkway in the vicinity of the 94th Street interchange, b) signalization of the Ditmars Boulevard/Grand Central Parkway eastbound on-ramp intersection, c) modification of the lane configurations on the eastbound, westbound, and southbound approaches to the Ditmars Boulevard/94th Street intersection, and d) widening of the 82nd Street westbound off-ramp from the Grand Central Parkway from two to three lanes at its approach to 82nd Street-Ditmars Boulevard. As of August 2014, these improvements have been completed.

- Improvements anticipated to be made to the Bowery Bay Boulevard/Runway Drive/Marine Terminal Road intersection as part of the RSA Enhancements project at LaGuardia Airport to be implemented prior to the peak time period for construction (i.e., the fourth quarter of 2015).[53]

Proposed Action Conditions

The Proposed Action Condition traffic analysis includes the projected future annual passenger increase of 3.9 MAP associated with the proposed CTB Redevelopment Program. This Proposed Action is projected to generate approximately 322 additional vehicle trips (160 inbound trips and 162 outbound trips) during the weekday morning peak hour and approximately 383 additional vehicle trips (190 inbound trips and 193 outbound trips) during the weekday afternoon peak hour.

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[51] These peak hours are for street traffic outside LaGuardia Airport and partially overlap with the identified peak hours for traffic within the Airport (i.e., 6:45 to 7:45 am and 4:45 to 5:45 pm). The 7:30 to 8:30 am and 4:00 to 5:00 pm peak hours represent reasonable worst-case conditions for the off-Airport street system during weekday morning and evening periods.

[52] The Willets Point Development District is a redevelopment effort led by the City of New York that will transform a 23-acre site adjacent to CitiField, currently occupied by auto parts shops, into a mixed used retail, entertainment and housing complex. A school, hotel and open space are also contemplated. The project completed a NEPA Environmental Impact Statement (EIS) in August 2013.

[53] See Section 5.11 (starting page 5-45) and Appendix D of the *LaGuardia Airport Runway Safety Area Enhancements Final Environmental Assessment* dated December 2013 (FONSI signed by FAA on 12/31/2013).

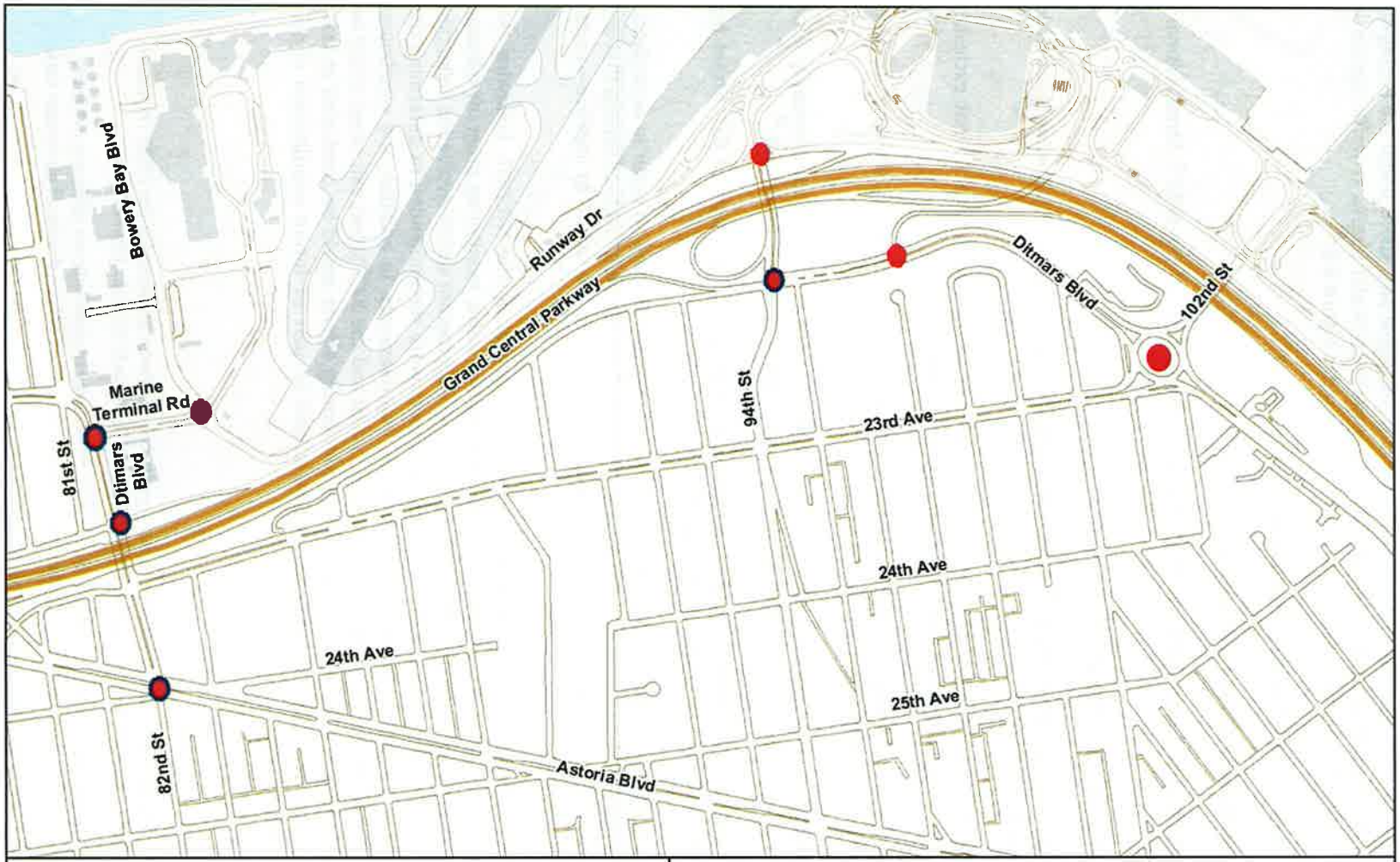

Figure 5-2

Operations Conditions Study Intersections and Traffic Improvements

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

To reduce intersection delays and ensure the most efficient traffic signal operations under the Proposed Action, minor reallocations of the green time displays allocated to particular phases at traffic signals in the area may be required at the following intersections, illustrated in **Figure 5-2**:[54]

- Bowery Bay Boulevard/Runway Drive/Marine Terminal Road
- Ditmars Boulevard/Marine Terminal Road
- Astoria Boulevard North-Grand Central Parkway westbound off-ramp/82nd Street-Ditmars Boulevard
- Astoria Boulevard/82nd Street-24th Avenue

In addition, at the Astoria Boulevard/82nd Street-24th Avenue intersection, the following geometric improvements would be required:

- Restriping of the northbound (24th Avenue) approach to accommodate one 12-foot exclusive left-turn lane and one 12-foot shared through/right-turn lane.
- Changing the "No Parking Anytime" parking regulation to a "No Standing Anytime" parking regulation on the north side of 24th Avenue.
- Implementing a "No Standing Anytime" regulation for 100 feet (i.e., approximately four passenger car lengths) on the south side of 24th Avenue, south of Astoria Boulevard.[55]
- Implementing a "No Standing Anytime" parking regulation on the east side of 82nd Street for approximately 50 feet south of Astoria Boulevard.[56]

With these improvements in place, no significant traffic impacts are projected to occur in accordance with the *CEQR Technical Manual* criteria. Furthermore, the overall intersection levels-of-service that are projected under the Future No-Action Condition are projected to remain the same—or improve—under the Proposed Action Condition.

The improvements noted above are subject to review and approval by the NYCDOT. Following the opening of the new terminal in 2021, PANYNJ would continue the traffic monitoring program initiated during construction, in coordination with NYCDOT. This monitoring program would involve the collection and evaluation of traffic data at locations where improvements were recommended to determine the need for and timing of implementation of the identified improvements. In addition, the westbound Grand Central Parkway between the 94th Street entrance ramp and the 82nd Street exit ramp would be included among the locations to be monitored. These monitoring efforts would be conducted at least annually, or at a frequency and duration to be determined as part of future coordination efforts between PANYNJ and NYCDOT.

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[54] All traffic impact analyses were conducted in accordance with the guidance published in the *CEQR Technical Manual*, including the determination of potential significant traffic impacts for each intersection.

[55] Field observations of parking utilization levels in the vicinity of this intersection indicate sufficient available parking on the local streets south of Astoria Boulevard to accommodate up to four displaced passenger cars.

[56] This section of the street largely overlaps with an existing driveway serving a gas station (i.e., no on-street parking is allowed) so there is effectively no change in parking capacity or utilization as a result of this regulation change.

Grand Central Parkway

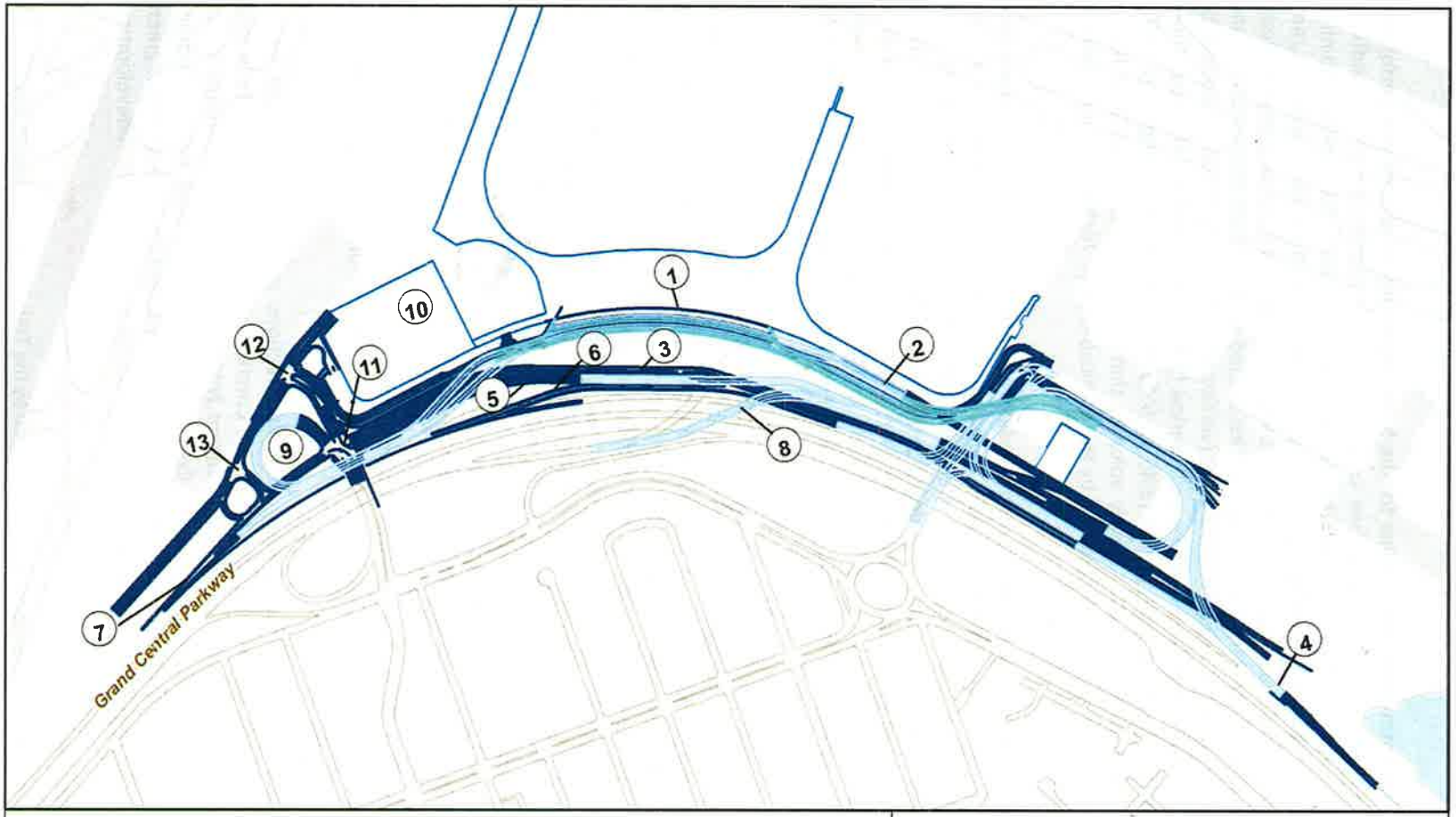
The analysis of the Grand Central Parkway mainline for the future operating conditions was performed in consultation with NYCDOT and NYSDOT staff (see correspondence in **Section A.8** of **Appendix A: Transportation**). Traffic operations analysis was conducted for both directions of the Parkway mainline and associated ramps under year 2012 existing conditions, year 2030 Future No-Action Conditions, and year 2030 Proposed Action Conditions, during both the weekday morning and afternoon peak periods. The traffic operations analysis of the Parkway mainline and associated ramps in both the eastbound and westbound directions was conducted using FREEVAL-2010 (version 2).[57] The analysis was conducted for the peak three hours of a typical weekday morning peak period (5:45 to 8:45 am) and the peak three hours of a typical weekday afternoon peak period (3:45 to 6:45 pm). The existing conditions traffic volumes used in the analysis were year 2012 hourly volumes that were projected from 2010 hourly traffic volumes provided by the PANYNJ and increased by the applicable *CEQR Technical Manual* growth factor to estimate 2012 conditions.

The proposed design of the future roadway geometry under the Future With-Action Condition (see **Figure 5-3**) aims to address existing operational deficiencies on the westbound Parkway, as well as address significant existing and projected on-Airport circulation and traffic operations deficiencies. With respect to the westbound Parkway, the proposed design would generally retain the same basic ramp arrangement on the westbound Parkway: one exit ramp (Exit 7) followed by two consecutive entrance ramps from the reconfigured collector-distributor road and from 94th Street, followed by the exit ramp to 82nd Street. Under the Proposed Action, the spacing between the two entrance ramps would be increased by approximately 210 feet.

With respect to the eastbound Parkway, the proposed roadway geometry builds upon the recent improvements implemented by NYSDOT in the vicinity of 82nd Street and 94th Street. These improvements were initiated independent of any plans for the CTB Redevelopment Program and consisted of the elimination of the weave between the entrance ramp from southbound 94th Street and the exit ramp to the CTB, the consolidation of the entrance ramps from 94th Street and Ditmars Boulevard, the addition of a third lane at the 82nd Street exit ramp, and the addition of a fifth lane on the eastbound Parkway from the gore of these consolidated ramps. Under the Proposed Action, the eastbound Parkway flyover to the CTB would be realigned and reconfigured as a counter-clockwise loop that would extend to the east and merge with other inbound roadways (including the exit ramp from westbound Parkway at Exit 7) to provide access to Terminals C and D on the eastern section of the Airport, to the CTB and the parking garage (West Garage; to be relocated closer to 94th Street) in the central terminal area, to Terminal A on the western section of the Airport. The proposed roadway design would also involve significant on-Airport roadway modifications that would change current traffic patterns, improve on-Airport traffic operations and circulation, and alleviate on-Airport congestion (see description in Section 3.1.3).

Traffic operations on the Grand Central Parkway in both directions under the Proposed Action Conditions were compared with those for Future No-Action Conditions based on impact criteria from the *CEQR Technical Manual* for highway sections and current NYCDOT practices for significant impact determination. Comparisons of the Future No-Action Condition with the Proposed Action Condition analysis results indicate that CEQR impact thresholds would not be exceeded on any Parkway segment in either direction as a result of the 3.9 MAP traffic growth projected in connection with redevelopment of the CTB.

[57] FREEVAL is a deterministic traffic model supported and maintained by the Transportation Research Board's (TRB) Highway Capacity and Quality of Service (HCQS) Subcommittee and is the official computational engine that implements procedures in the 2010 HCM.



Legend

1. CTB Departure Roadway
2. CTB Arrival Roadway
3. Collector-Distributor (C-D) Road
4. Exit 7 (Westbound)
5. Inbound/Recirculation Roadway (Eastbound)
6. C-D Road Entrance Ramp (Westbound)
7. 94th Street Entrance Ramp (Westbound)
8. CTB Eastbound Flyover (Exit 7 Eastbound)
9. Helix Ramp
10. Parking Garage
11. Intersection of Runway Drive/C-D Road
12. Intersection of Runway Drive / 94th Street
13. Intersection of Runway Drive/Helix Ramp Terminus

High Elevated Roads
Elevated Roads
At-Grade Roads

N

0 250 500 Feet

Source: PANYNJ, NYC DCP, NYC DoITT, ESRI, AECOM

Figure 5-3

Proposed Roadway Design

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Parking

There are currently six surface parking lots and a parking garage that serve passengers at LaGuardia Airport and a new parking garage is under construction. The CTB Redevelopment Program will rationalize the proposed parking supply with projected future parking demands within the Airport through a reallocation of parking facilities throughout the Airport. An objective of this rationalization process is to ensure that vehicles generated under the Proposed Action are entirely accommodated on-site in new and/or reconfigured parking facilities at the Airport. Therefore, no off-site demand for parking is expected to occur on city streets in the vicinity of the Airport. Because all parking demand is projected to be accommodated on-site, a parking assessment is not warranted for the Proposed Action.

Transit

LaGuardia Airport is not directly accessible via subway, and no modifications to subway service are proposed under the Proposed Action; however, the terminal and roadway design does not preclude subway access in the future. Several MTA bus lines serve the Airport. Based on the estimated trip generation, the Proposed Action is not projected to increase public bus ridership by more than 200 new person-trips during any one peak hour. Therefore, detailed subway and bus analyses are not warranted for the Proposed Action, as per the *CEQR Technical Manual, Chapter 16, Section 300, Assessment Methods*. It is expected that private bus carriers would continue to serve the Airport under the Proposed Action and provide more frequent service as needed to accommodate the projected increase in passenger demand under both the future No-Action and Proposed Action conditions. These projected increases in private bus traffic are reflected in the vehicle trip generation estimates for the Proposed Action Condition traffic analysis.

Pedestrians

Although an increase in *on-site* (within the Airport) pedestrian activity is expected, the Proposed Action is not projected to generate more than 200 external pedestrian trips at any *off-site* locations (outside the Airport). Therefore, a pedestrian assessment is not warranted for the Proposed Action as per the *CEQR Technical Manual, Chapter 16, Section 300, Assessment Methods*.

Safety Assessment

Crash data compiled by the NYCDOT for the most recent available three-year period (i.e., 2010 to 2012) was reviewed to identify the crash history at the study intersections. The total numbers of crashes at each study intersection were found to be well below the 48-crash per 12-month period CEQR threshold for a "high-crash location." Also, none of the study intersections meet the "high-crash location" *CEQR* threshold of five or more pedestrian/bicyclist crashes during any 12-month period. The NYCDOT data also indicates that there were no fatal crashes at the study intersections during the three-year period. Therefore, none of the study intersections are classified as "high-crash locations" as defined in the *CEQR Technical Manual*.

5.1.3 No-Action Alternative

The Future No-Action Condition traffic analysis identifies how the study area's transportation system is projected to operate in the future horizon year *without* the Proposed Action. The Future No-Action Condition traffic analysis includes anticipated future increases in background traffic volumes, but does not include the traffic generated by—nor the transportation improvements proposed by—the CTB Redevelopment Program.

Without the proposed redevelopment of the CTB, passenger travel at LaGuardia Airport is still projected to continue to increase over time. The PANYNJ estimates that without the CTB Redevelopment Program projected passenger travel at LaGuardia Airport will increase by 6.5 MAP by the year 2030. In addition, without the project there would be no further change to the geometry of the Grand Central Parkway mainline or the associated ramps, nor would there be any improvements made to the on-Airport roadway infrastructure. Therefore, the existing on-Airport roadway network—along with its associated traffic operations and circulation issues—would remain into the future.

Relative to year 2012 existing conditions, the following intersections would experience worsening overall levels-of-service due to increased overall delays under year 2030 Future No-Action Conditions:

- **Astoria Boulevard North/Grand Central Parkway westbound off-ramp/82nd Street/Ditmars Boulevard** –During the weekday afternoon peak hour, the overall average delay is projected to increase by 11.0 seconds/vehicle, from 32.7 seconds/vehicle (LOS "C") under existing conditions to 43.7 seconds/vehicle (LOS "D") under Future No-Action Conditions.

- **Astoria Boulevard/82nd Street/24th Avenue** – During the weekday morning peak hour, the overall average delay is projected to increase by 12.6 seconds/vehicle, from 31.4 seconds/vehicle (LOS "C") under existing conditions to 44.0 seconds/vehicle (LOS "D") under Future No-Action Conditions. During the weekday afternoon peak hour, the overall average delay is projected to increase by 37.3 seconds/vehicle, from 45.3 seconds/vehicle (LOS "D") under existing conditions to 82.6 seconds/vehicle (LOS "F") under Future No-Action Conditions.

- **LaGuardia Access Road/94th Street** – During the weekday morning peak hour, the overall average delay is projected to increase by 49.0 seconds/vehicle, from 27.8 seconds/vehicle (LOS "C") under existing conditions to 76.8 seconds/vehicle (LOS "E") under Future No-Action Conditions. During the weekday afternoon peak hour, the overall average delay is projected to increase by 52.2 seconds/vehicle, from 32.5 seconds/vehicle (LOS "C") under existing conditions to 84.7 seconds/vehicle (LOS "F") under Future No-Action Conditions.

- **Ditmars Boulevard/23rd Avenue/LaGuardia Airport access road (unsignalized rotary intersection)** – During the weekday morning peak hour, the average delay for the southbound through movement leaving the Airport is projected to increase by 13.2 seconds/vehicle, from 34.3 seconds/vehicle (LOS "D") under existing conditions to 47.5 seconds/vehicle (LOS "E") under Future No-Action Conditions. During the weekday afternoon peak hour, the average delay for this same movement is projected to increase by 5.1 seconds/vehicle, from 20.9 seconds/vehicle (LOS "C") under existing conditions to 26.0 seconds/vehicle (LOS "D") under Future No-Action Conditions.

- **Ditmars Boulevard/Marine Terminal Road** – During the weekday afternoon peak hour, the overall average delay is projected to increase by 8.0 seconds/vehicle, from 17.7 seconds/vehicle (LOS "B") under existing conditions to 25.7 seconds/vehicle (LOS "C") under Future No-Action Conditions.

- **Ditmars Boulevard/94th Street** – During the weekday morning peak hour, the overall average delay is projected to increase by 8.1 seconds/vehicle, from 14.2 seconds/vehicle (LOS "B") under existing conditions to 22.3 seconds/vehicle (LOS "C") under Future No-Action Conditions. During the weekday afternoon peak hour, the overall average delay is projected to increase by 10.1

seconds/vehicle, from 17.2 seconds/vehicle (LOS "B") under existing conditions to 27.3 seconds/vehicle (LOS "C") under Future No-Action Conditions.

- **Bowery Bay Boulevard/Runway Drive/Marine Terminal Road** – During the weekday morning peak hour, the overall average delay is projected to increase by 24.8 seconds/vehicle, from 36.3 seconds/vehicle (LOS "D") under existing conditions to 61.1 seconds/vehicle (LOS "E") under Future No-Action Conditions.

5.1.4 Summary of Impacts

A variety of temporary improvements—including a traffic signal installation, a traffic signal controller upgrade, signal timing adjustments, curbside parking prohibitions, lane widening/restriping, and the use of construction flaggers—would be required at a total of 12 intersections to accommodate the increased traffic volumes occurring during construction of the Proposed Action (see Section 5.1.2.1). Those improvements were based on analysis of projected traffic patterns during the peak hours of the peak quarter of construction (the fourth quarter of 2015). Decisions concerning the extent to which these temporary improvements will be implemented, the timing of implementation, and the duration that the improvements will be retained during non-peak periods of construction, fall under the purview of the NYCDOT and will be determined in coordination with NYCDOT's Office of Construction Management and Coordination (OCMC).

With these improvements, the overall intersection levels-of-service that are projected under the Future No-Action Conditions would remain the same—or improve—under the Proposed Action Conditions, with the exception of six intersections (Astoria Boulevard/94th Street, Ditmars Boulevard/Marine Terminal Road, 21st Avenue/81st Street, 19th Avenue/Hazen Street, the construction access driveway/19th Avenue/81st Street, and 19th Avenue/45th Street) where the change does not constitute significant adverse traffic impacts according to *CEQR Technical Manual* criteria.

In the year 2030, with fully realized passenger demand, improvements at four signalized intersections may be required to accommodate the traffic volumes associated with the 3.9 MAP increase. These improvements include minor reallocations of green time at all four intersections, plus lane restriping and curbside parking prohibitions at one of the four intersections. With these improvements in place, no significant traffic impacts are projected to occur in accordance with the *CEQR Technical Manual* criteria. Furthermore, the overall intersections LOS that are projected under the Future No-Action Condition would remain the same—or improve—under the Proposed Action Condition.

Decisions concerning the implementation of any traffic improvements fall under the purview of the NYCDOT. Coordination with the pertinent divisions within NYCDOT (Traffic Planning, Highway Design, Signals, etc.) is on-going and will continue as the project advances to construction. PANYNJ would implement a traffic monitoring program in coordination with NYCDOT throughout the duration of the construction period and continuing after the construction of the new terminal in 2021, as needed. The monitoring program would determine the need for and timing of implementation of the identified improvements.

No significant adverse impacts are projected with respect to off-Airport parking availability, transit facilities, or pedestrian facilities. None of the study intersections are classified as "high-crash locations" as defined in the *CEQR Technical Manual*.

Without the proposed redevelopment of the CTB, passenger travel at LaGuardia Airport is still projected to increase up to 30.1 MAP. Without the Redevelopment Program, there would be no additional change

to the geometry of the Grand Central Parkway mainline or the associated ramps, nor would there be any improvements made to the on-Airport roadway infrastructure. Therefore, the existing on-Airport roadway network—along with its associated traffic operations and circulation issues—would remain into the future. Relative to year 2012 existing conditions, seven intersections would experience worsening overall levels-of-service under year 2030 Future No-Action Conditions.

5.2 Air Quality

The Clean Air Act and its amendments (CAAA) is the comprehensive federal law that regulates air emissions from mobile and stationary sources. This law authorizes the Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants (HAP). Areas of the country where air pollution levels persistently exceed the NAAQS are designated "nonattainment areas." Areas that have a history of nonattainment but are now meeting NAAQS are designated "maintenance areas." According to the EPA's Green Book[58], Queens County in New York is a designated nonattainment area for two criteria pollutants—ozone *and* fine particulates–and a designated maintenance area for carbon monoxide.

LaGuardia Airport is located in Queens County, which means project-related air emissions would occur within EPA-designated nonattainment and maintenance areas. The Proposed Action is not exempt from the Clean Air Act nor is the project presumed to conform[59] to the State Implementation Plan (SIP).[60] Therefore, the EPA's General Conformity Rule (40 CFR Part 93, §93.153)[61] applies to the project and an air quality analysis must be prepared. The purpose of the General Conformity Rule is to ensure that federal activities do not cause or contribute to new violations of the NAAQS, increase the frequency or worsen existing violations of the NAAQS, or delay attainment of the NAAQS.

This report section, supplemented by the analysis and discussion contained in **Appendix B: Air Quality Technical Report**, provides the information, materials, and evidence needed to demonstrate compliance pursuant to the CAAA, EPA regulations, and NEPA.

5.2.1 General Conformity Review

According to the General Conformity Rule, if the total direct and indirect emissions from the Proposed Action do not exceed established screening criteria emission rates known as *de minimis* thresholds, a

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[58] *The Green Book Nonattainment Areas for Criteria Pollutants* (as of July 31, 2013) is available online at http://www.epa.gov/oaqps001/greenbk/.

[59] The FAA has designated a list of actions whose emissions are typically below EPA's thresholds of significance (*de minimis*) for the various criteria pollutants. These actions, known as "presumed to conform actions" typically do not require air emissions analysis. For more information, see Federal Register/Vol. 72, No. 145 [FR Doc. 07-3695 Filed 7-25-07].

[60] Under the Clean Air Act, states must develop SIPs that outline how they will control air pollution in designated nonattainment and maintenance areas. A SIP is a collection of regulations, programs, and policies an individual state will use to attain and maintain the NAAQS.

[61] Under the Clean Air Act (§176(c)(4)) General Conformity Rule, federal agencies must work with state, tribal and local governments in a nonattainment or maintenance area to ensure that federal actions conform to the air quality plans established in the applicable state or tribal implementation plan.

General Conformity Determination[62] is not required. "Direct emissions" occur at the same time and place as the project, such as construction site emissions. "Indirect emissions" are reasonably foreseeable emissions that may occur later in time and/or are farther removed from the project, such as emissions from aircraft operations and vehicular traffic. Per federal guidelines, other emissions at the airport that are not associated with the project are part of the background emissions and are not included in the analysis.

Using forecast airport activity information and appropriate emission factors, emissions inventories were prepared for the Proposed Action and No-Action Alternative (see **Appendix B**). An "emissions inventory" is a database that lists, by source, the amount of air pollutants discharged into the atmosphere of a community during a specified period of time (e.g., tons per year). In evaluating "project-related emissions," the **net** emissions are determined by subtracting future emissions without the project (the No-Action Alternative) from the future emissions with the project (the Proposed Action). If project-related emissions are estimated to exceed the EPA's *de minimis* threshold levels, then a Conformity Determination must be prepared.

5.2.1.1 Emission Reduction Strategies

In accordance with PANYNJ's *Sustainable Infrastructure Guidelines*, the Proposed Action would incorporate a series of measures to reduce project-related emissions during and after construction. This is a normal part of the design process; therefore, these emissions reductions are included in the net emissions for the total direct and indirect emissions for the Proposed Action. For example, during construction, contractors would be required to use ultra-low sulfur diesel (ULSD) fuel; all off-road equipment would be required to be retrofitted with emission control devices using Best Available Technology (BAT); and use of diesel-powered generators would be limited to situations where commercial electric power may not readily be available.

After construction, the Proposed Action also includes component projects designed to reduce emissions from aircraft and ground support equipment (GSE). For example, a 400Hz power unit would be installed at each gate to deliver standby power for aircraft operating systems and pre-conditioned air (PCAir) devices would be installed to provide heated/cooled air as needed to maintain a comfortable cabin temperature between flights. Using 400Hz power and PCAir devices reduces the amount of time aircraft are otherwise required to operate their auxiliary power units (APUs), which burn aircraft fuel and generate exhaust emissions while the aircraft is parked at the gate. In addition, all tenant airlines using the new terminal would be required to use electric bag tractors, belt loaders, and pushback tractors that run on batteries, which require periodic recharging. Unlike conventional GSE which burn gasoline and diesel fuel, it is anticipated that the electric GSE would generate no on-site emissions as they are electrically-powered vehicles.

5.2.1.2 Construction Phase (Direct Emissions)

Construction-related air emissions would be generated by on-road vehicles and non-road equipment. On-road sources of emissions include private automobiles used by construction workers commuting to and from work each day, shuttle buses used to transfer workers between the parking lot and the project site, and contractor vehicles certified to operate on local roadways, such as tractor trailers, cement

[62] A Conformity Determination is the formal process and documentation required when the emissions from the proposed project or action in a non-attainment or maintenance area are at or above *de minimis* levels and are not otherwise exempt or presumed to conform.

mixers, etc. Non-road sources consist of contractor vehicles and equipment used on-site and would include a wide variety of engine types ranging from portable generators to heavy-duty pieces of equipment such as cranes, excavators, asphalt pavers, etc.

Engineering estimates of vehicle traffic and equipment operations were prepared for each component of the construction process (see **Appendix A: Transportation** and **Appendix F: Supporting Data**). Assuming an eight-year construction schedule beginning in 2014 and ending in 2021, EPA-approved simulation software and modeling techniques were used to prepare emissions inventories for each calendar year (see **Appendix B**). The results of the air quality analysis are presented in **Table 5-1: Annual Emissions Inventory—Construction Phase.** As shown, the peak emissions year for all criteria pollutants is Year 2, or 2015, which is consistent with the activities proposed in the construction schedule. As shown in **Table 5-1**, the construction emissions are less than half of the applicable *de minimis* threshold levels; therefore, federal guidelines indicate that no significant air quality impact would occur during the construction period. As discussed in Section 5.20.3, the cumulative air emissions for the Proposed Action and other Airport projects anticipated to be underway at the same time, would also be under the *de minimis* threshold levels.

5.2.1.3 Operations Phase (Indirect Emissions)

After construction, day-to-day airport and airline operations would continue to generate emissions of criteria pollutants. "Mobile source" air pollution is emitted from aircraft, vehicles, and equipment that can be moved from one location to another. Mobile source emissions from airside operations include aircraft engines, aircraft APUs and GSE. On the landside, mobile source emissions are generated by ground access vehicles on the roadways and in parking lots, including personal automobiles and commercial vehicles such as taxis, limousines, shuttle buses, delivery trucks, etc. A "stationary source" of air pollution refers to an emissions source that does not move, also known as a point source. The Airport's central heating and refrigeration plant (CHRP) is a stationary source of emissions that result from heating and cooling the central terminal building.

Emissions inventories for the future year 2030 were prepared for mobile and stationary sources with and without the project (see **Appendix B**). The assessment demonstrates that the emissions resulting from the Proposed Action would be only marginally different, and in most instances less, than the emissions from the No-Action Alternative. This is a reasonable conclusion because, under the Proposed Action, the existing terminal building, airside apron, landside roadways, and parking facilities would be removed and replaced with new facilities that are designed to accommodate forecast passenger activity and vehicular traffic volumes at higher levels of efficiency than would otherwise be achieved if no action is taken. For example:

- The Proposed Action would be designed to accommodate larger aircraft while, at the same time, reducing aircraft congestion and gate-wait delays in and around the aircraft parking apron. Although aircraft emissions would potentially increase due to the use of larger aircraft, in this case, the emissions increase would be offset or minimized by a corresponding decrease in emissions due to the reduction in aircraft taxi time-in-mode.

- The Proposed Action would also be designed to accommodate additional traffic volumes while, at the same time, reducing traffic congestion and delay on the terminal area roadways. As a result, up to 1.1 million additional round trips would be accommodated annually with no appreciable increase in tailpipe emissions.

PANYNJ has evaluated the airside and landside operations with and without the project and identified the benefits of the Proposed Action. These benefits include reduced aircraft congestion and delay on the terminal airside apron, reduced traffic congestion and delay on the terminal area roadways, and reduced use of aircraft APUs and conventional GSE; which, for the purpose of this discussion, translate into reduced fuel consumption and, by extension, fewer air emissions.

Table 5-2 shows that the difference between Proposed Action and No-Action (net) emissions would be below the applicable *de minimis* thresholds (see **Appendix B**). In fact, the Proposed Action would result in a net decrease in emissions of volatile organic compounds (VOCs), carbon monoxide (CO), fine particulate matter (PM_{10} and $PM_{2.5}$) and sulfur dioxide (SO_2), while limiting the net increase of nitrogen oxides (NO_X) emissions (25.17 tons per year) to a level that is well below the NAAQS threshold (100 tons per year). Because the Proposed Action (both construction and operations) would not result in emissions above the applicable *de minimis* thresholds, no further analysis is required under the General Conformity Rule. **Appendix B** provides more detail on the approach, methodology, input data, and results for the emissions inventory analysis.

5.2.2 Traffic Intersection "Hot Spot" Analysis

A dispersion analysis was conducted to determine whether carbon monoxide and particulate matter emissions due to future traffic volumes would result in unacceptably high concentration levels in public areas. The project-level "hot-spot" analysis found that the Proposed Action would not create a new violation of any NAAQS, delay the attainment of any NAAQS, nor increase the frequency or severity of any existing violations of the NAAQS. Similarly, analysis shows no exceedances of the CEQR *Technical Manual* criteria would occur in the vicinity of congested intersections. **Appendix B** provides more detail on the methodology, input data, and results, for the hot spot analysis.

5.2.3 Greenhouse Gas Emissions

Currently, there are no federal standards for reporting greenhouse gas (GHG) emissions from aviation sources, as well as no significance thresholds. As directed by the *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas* (CEQ, February 2010), the focus of this GHG analysis was to only disclose emissions from the Proposed Action.

Most of the EPA tools that are widely used for NEPA study purposes (e.g., NONROAD emission factor model) do not provide emission factors for equivalent emissions of carbon dioxide (CO_2e). The recent EPA inventory report demonstrates that the GHG contribution from methane and nitrous oxide is less than one percent of the total CO_2e for fossil fuel combustion sources.[63] Given such small contributions from other GHG equivalents compared to carbon dioxide, for the purposes of this Final EA, CO_2e levels were predicted in terms of carbon dioxide levels only.

A quantitative analysis of carbon dioxide emissions was conducted for operations under the No Action and Proposed Action Alternatives, focusing on the contributions from aircraft, on-road vehicles, and the CHRP. The greenhouse gas assessment presented in **Table 5-3** demonstrates that implementation of the Proposed Action would not cause an increase in GHG emissions when compared to the No-Action Alternative. In fact, cumulative GHG emissions are predicted to decrease over three percent. Pursuant

[63] EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*, April 15, 2009.

to FAA Order 1050.1E, *Guidance Memo #3*[64] and *CEQR Technical Manual* criteria, no further analysis of GHGs is necessary.

5.2.4 Summary of Impacts

Implementation of the Proposed Action would result in no emissions increase or an emissions increase that is clearly *de minimis*. The air quality assessment (**Appendix B**) demonstrates that the Proposed Action conforms to the New York SIP and the Clean Air Act because the Proposed Action would not exceed the *de minimis* thresholds established by the EPA for the criteria pollutants. In addition, the hot spot analysis found that the Proposed Action would not contribute to new violations of the NAAQS, increase the frequency or severity of existing violations of the NAAQS, or delay attainment of the NAAQS. Consequently, no adverse impact on local or regional air quality is expected to occur as a result of the Proposed Action. No further analysis or reporting is required under the Clean Air Act or NEPA.

5.3 Coastal Resources

Coastal resources include coastal barriers and coastal zones. NEPA regulations that address these coastal resources are discussed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.3.

Coastal barriers are unique landforms that provide protection for diverse aquatic habitats and serve as the mainland's first line of defense against the impacts of severe coastal storms and erosion. Federally-listed coastal barriers are identified in the John H. Chafee Coastal Barrier Resource System (CBRS) and are governed by the Coastal Barrier Resources Act of 1982, as amended. As discussed in Chapter 4, Affected Environment, there are no coastal barriers in the vicinity of LaGuardia Airport. The nearest CBRS unit (NY-60P) is associated with Jamaica Bay, which is located approximately eight miles south of LaGuardia Airport along the southern shore of Long Island.[65] No coastal barriers are affected by the Proposed Action or No-Action Alternatives.

Coastal zones, broadly defined as near-coast waters and the adjacent land areas, form a dynamic interface of land and water of high ecological diversity and critical economic importance. LaGuardia Airport and much of the surrounding area is located within the New York City Coastal Zone and the Proposed Action involves redeveloping Airport property within the city's designated coastal zone management area. The remainder of this section identifies the various laws, regulations, and programs, for the protection of coastal zones; describes the potential impacts on the affected coastal zone; and discusses the process that PANYNJ used to determine that the Proposed Action is consistent with the approved state and local coastal zone management programs.

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[64] FAA Order 1050.1E, Change 1, Guidance Memo #3. To: FAA Lines of Business and Managers with NEPA Responsibilities. From: Julie Marks, Manager, Environmental Policy and Operations, AEE-400. Subject: Considering Greenhouse Gases and Climate Under the National Environmental Policy Act (NEPA): Interim Guidance (January 12, 2012).

[65] Coastal Barrier Resources Act map for New York – Long Island, U.S. Fish and Wildlife Service. Available online at www.fws.gov/cbra/Maps/Locator/NY_Long_Island.pdf.

Table 5-1: Annual Emissions Inventory—Construction Phase

Pollutant	Construction Year Emissions (tons per year)								Maximum	*NAAQS Threshold*	De Minimis?
	2014	2015	2016	2017	2018	2019	2020	2021			
Volatile Organic Compounds (VOC)	0.71	2.71	2.20	1.38	0.79	0.81	0.40	0.19	**2.71**	*50*	**Yes**
Nitrogen Oxides (NO_X)	9.76	34.94	27.42	17.24	9.78	10.35	5.12	2.52	**34.94**	*100*	**Yes**
Carbon Monoxide (CO)	2.98	11.89	9.78	6.57	3.60	3.62	2.12	0.77	**11.89**	*100*	**Yes**
Particulate Matter 10 micrometers (PM_{10})	0.41	1.56	1.23	0.78	0.48	0.49	0.25	0.13	1.56	-	**Exempt**
Particulate Matter 2.5 micrometers ($PM_{2.5}$)	0.38	1.45	1.15	0.73	0.42	0.44	0.23	0.11	**1.45**	*100*	**Yes**
Sulfur Dioxide (SO_2)	0.35	1.23	1.00	0.63	0.30	0.33	0.18	0.07	**1.23**	*100*	**Yes**

Source: EPA MOVES/2010b; EPA NONROAD reference document-provided model emissions factor inputs (Table A-4) for Tier 2 engines, which corresponds to the 2008a version model; AECOM Analysis (2013).

Table 5-2: Annual Emissions Inventory—Operations Phase

Emission Sources	Annual Operations Emissions (tons per year)					
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_2
2030 Proposed Action	164.31	1,692.07	1,371.02	23.75	23.32	168.29
2030 No-Build/No-Action	184.55	1,666.90	1,586.35	27.72	27.34	178.30
Net Emissions	-20.24	25.17	-215.33	-3.97	-4.02	-10.01
NAAQS Threshold	*50*	*100*	*100*	-	*100*	*100*
De Minimis?	**Yes**	**Yes**	**Yes**	**Exempt**	**Yes**	**Yes**

Total emissions may not sum exactly due to rounding.
Source: EDMS/5.1.3; US EPA MOVES/2010b; US EPA AP-42 emission factors; AECOM Analysis (2013).

Table 5-3: Annual Carbon Dioxide Emissions Inventory—Operations Phase

Emissions Source	2030 No-Build/ No Action	2030 Proposed Action	Net Emissions	Percent Change
	Annual Operations Conditions (tons per year)			
Aircraft	396,479.03	382,103.83	-14,375.21	-3.6%
On-Road Vehicles	4,330.00	4,917.30	587.3	13.6%
CHRP	3,358.49	4,719.88	1,361.39	40.5%
Total	**404,167.52**	**391,741.01**	**-12,426.52**	**-3.1%**

The Federal Coastal Zone Management Act (CZMA) of 1972 recognizes the nation's coastal resources and directs coastal states to create Coastal Zone Management Programs (CZMPs). In 1981, New York State adopted the Waterfront Revitalization of Coastal Areas and Inland Waterways Act. This act enables municipalities to adapt statewide policies to local coastal management programs. New York City was the first municipality in the state to do so. The Waterfront Revitalization Program (WRP), adopted in 1982 and amended in 2002, is the City's principal coastal zone management tool. It establishes the City's policies for development and use of the waterfront and provides the framework for evaluating the consistency of local, state, and federal, discretionary actions in the coastal zone.[66]

As shown in **Figure 5-4**, the Coastal Zone Management Area extends landward to encompass the airfield, the central terminal area, and the eastbound and westbound lanes of the Grand Central Parkway. In fact, 99 percent of LaGuardia Airport's property is located within the boundary of the coastal zone. For this reason, PANYNJ has determined that it is not practicable to avoid development within the coastal zone. The Proposed Action and the No-Action Alternatives are the only options evaluated in this Final EA and both alternatives affect the same area of the coastal zone.

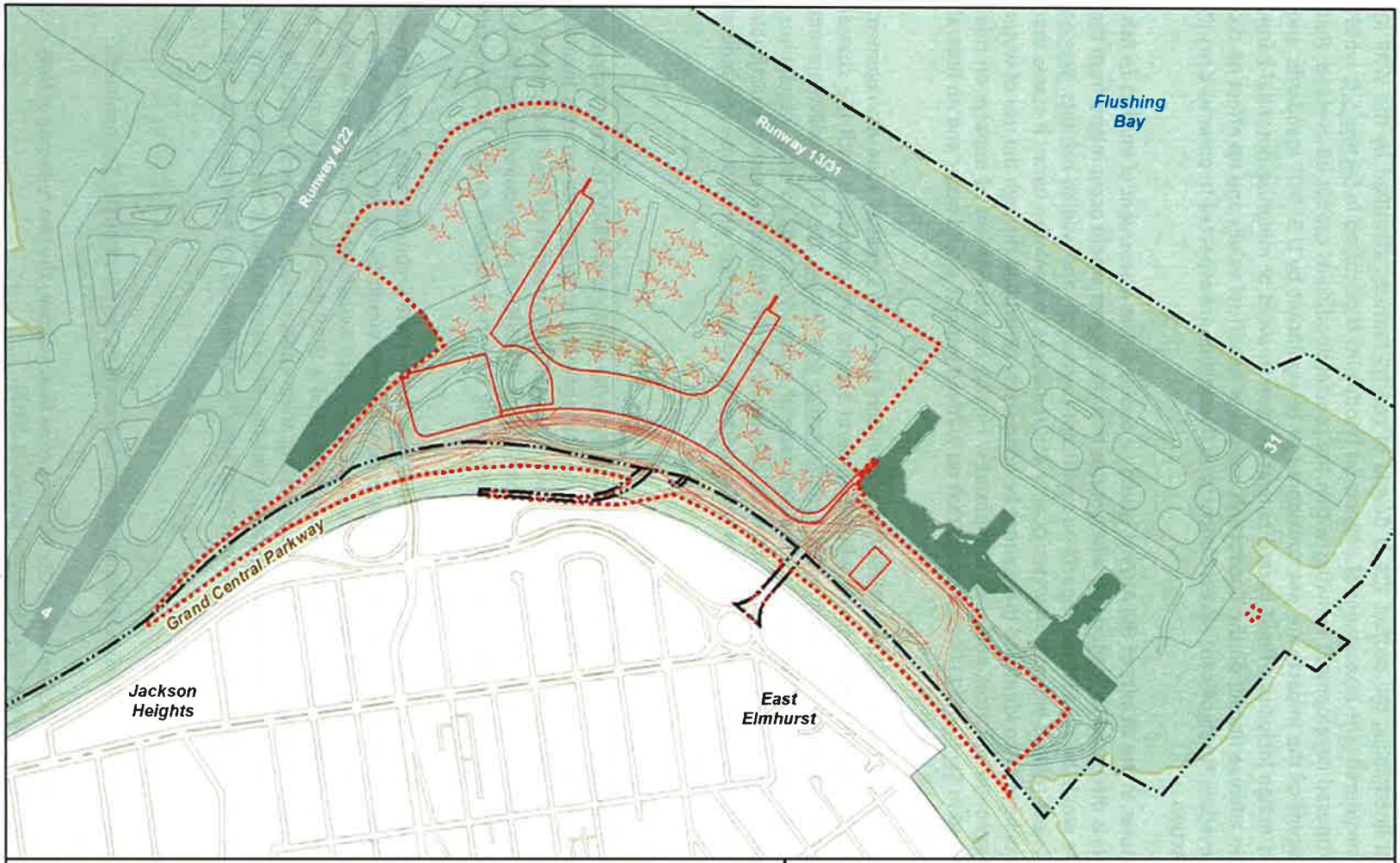
5.3.1 The Proposed Action

Probable impacts on the Coastal Zone Management Area would be limited to the redevelopment of existing facilities and infrastructure. No secondary or induced development has been identified that would cause or contribute to indirect or cumulative effects on the surrounding coastal zone.

The vast majority of the project site (over 99 percent) is located within the coastal zone.[67] The project site consists entirely of uplands (no wetland areas) and is substantially developed with either airport or roadway infrastructure. The site is primarily covered with buildings or pavement, with about 10 percent of the area identified as urban landscaping. Under the Proposed Action, the project site would be reconfigured, but the existing use of the land for transportation purposes would not change.

[66] The WRP is currently in the process of being revised. The New York City Department of City Planning (NYCDCP) is proposing a series of revisions to the WRP in order to proactively advance the long-term goals laid out in *Vision 2020: The New York City Comprehensive Waterfront Plan*, released in 2011. The proposed revisions to the WRP were approved by the City Council on October 30, 2013. The New York State Department of State (NYSDOS) and the U.S. Department of Commerce must also approve the revisions before they go into effect.

[67] The bridges over the Grand Central Parkway encompass approximately 1-acre of Airport property that is outside the coastal zone.



Legend

- Coastal Zone Management Area
- Project Limit
- Proposed Development
- Existing Airport Property Line

0 500 1,000 Feet

N

Source: NYS Dept. of State, NYC DCP, ESRI, AECOM

Figure 5-4

Coastal Zone Management Area

LaGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Except for coastal floodplains, the project site is devoid of coastal features identified by the WRP as resources to be considered. The assessment of impacts on floodplains is discussed in Section 5.8, which states that the proposed development activities within the coastal floodplains cannot be avoided, that the nature and extent of the impacts are not considered to be significant by U.S. DOT standards, and that the Proposed Action includes a flood hazard mitigation plan to avoid or minimize potential harm. There would be no adverse impact on the floodplain's natural or beneficial values and no effect on the 100-year flood elevation. No significant adverse impacts on floodplains are expected to occur as a result of the Proposed Action.

Other coastal features in the vicinity of the Airport would be avoided. The assessment of impacts to fish, wildlife, and plants is discussed in Section 5.7, which states that the project would occur inland from the shoreline, so there would be no adverse impacts on significant coastal fish and wildlife habitats. Section 5.16 addresses project-related impacts on water quality and measures to minimize harm; it states that no adverse impacts have been identified that cannot be adequately controlled through the use of water quality best management practices and control measures. Finally, the assessment of impacts on tidal wetlands is discussed in Section 5.17, which states that no wetland impacts would occur and no federal or state permits would be required.

The New York State Department of State (NYSDOS) administers the state's coastal zone management program and is responsible for determining whether federal actions are consistent with the coastal program. As discussed in Section 1.7, Requested Federal Action and Timing, the CTB Redevelopment Program requires FAA approval—making it a proposed federal action. Pursuant to state regulations, federal actions within the City's coastal zone must be consistent to the maximum extent practicable with the WRP policies, and the City must be given the opportunity to comment on all state and federal projects within its coastal zone.

Coastal Zone Management Consistency Evaluation

The State Coastal Consistency Review process requires that PANYNJ certify to NYSDOS that the Proposed Action is consistent with New York State's coastal zone management program. The process involves completing the state Consistency Assessment Form, including a brief discussion of how the project is consistent with or advances each applicable State Coastal Policy. PANYNJ is also required to notify the New York City Department of City Planning (NYCDCP) in writing that the Proposed Action would occur within the boundary of the WRP.

PANYNJ has reviewed the Proposed Action for compliance with state's coastal zone management program and the City's coastal zone policies, and determined there would be no foreseeable adverse effects on coastal resources. PANYNJ submitted a state Consistency Assessment Form to the NYSDOS along with supporting documentation.[68] PANYNJ also submitted a WRP Consistency Assessment Form and supporting documentation to the NYCDCP requesting their concurrence.[69] In reply, NYSDOS has accepted PANYNJ's negative determination indicating that the Proposed Action is consistent with the approved state and local coastal zone management programs.[70] On this basis, no adverse impacts to the

[68] Letter to Jeffrey Zappieri, NYSDOS Division of Coastal Resources, from Marc Helman, PANYNJ, Environmental Engineering Unit (August 6, 2013).

[69] Letter to Michael Marrella, NYC Department of City Planning, from Marc Helman, The Port Authority of New York and New Jersey, Environmental Engineering Unit (August 6, 2013).

[70] Letter to Marc Helman, PANYNJ Environmental Engineering Unit, from Jeffrey Zappieri, NYSDOS Division of Coastal Resources (November 15, 2013).

coastal resources are anticipated, no mitigation measures are proposed, and no further analysis or consultation is required. Copies of the referenced letters are included in **Appendix G**.

5.3.2 No-Action Alternative

The No-Action Alternative would not avoid undertaking major improvements within the designated Coastal Zone Management Area. As discussed in Section 3.2, No-Build/No-Action Alternative, if the Proposed Action is not implemented, the CTB Redevelopment Program would not go forward. However, PANYNJ would still have to renovate the existing CTB, investing up to $3 billion to modernize the entire facility but without changing the general configuration of the terminal or roadways within the project site.

As stated above, the Proposed Action and the No-Action Alternatives are the only viable options and both alternatives affect the same portion of the coastal zone. Because there are no foreseeable adverse impacts to the coastal zone as a result of the Proposed Action, it is reasonable to conclude that the development effects would not be appreciably different and that the No-Action Alternative would also be consistent with the state and local programs as discussed above. On this basis, there are no foreseeable adverse impacts on the coastal zone resulting from the No-Action Alternative.

5.4 Compatible Land Use

The compatibility of existing and planned land uses in the vicinity of an airport is typically divided between those issues associated with noise impacts and all other land use concerns. NEPA regulations that address compatible land use are discussed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.4.

LaGuardia Airport is bordered by Flushing Bay and Bowery Bay to the north and the Grand Central Parkway to the south. North and east of the Airport water bodies abut the Airport property. The Riker's Island correctional facility is located across Riker's Island Channel and the College Point neighborhood is across Flushing Bay. South and west of the Airport, past the Grand Central Parkway, are the neighborhoods of Astoria (Steinway), Jackson Heights, and East Elmhurst. The Grand Central Parkway is an eight-lane divided highway separating the Airport from the East Elmhurst and Jackson Heights neighborhoods. Land uses south of the Grand Central Parkway are densely developed and consist mostly of residential areas with retail stores, commercial buildings, and office space concentrated along Ditmars Boulevard, 23rd Avenue, and Astoria Boulevard. Other notable land uses in the vicinity of the project site include Vaughn College of Aeronautics and Technology, Overlook Park, and World's Fair Marina (see **Figure 5-5** for Surrounding Land Use).

Airport property is zoned for Manufacturing, Light Industrial (M1-1). Zoning around the Airport is primarily residential and mixed-used development (General Residence, R3-2, and Regional Commercial Center, C4-2).

5.4.1 Proposed Action

Land Use Compatibility and Noise

Under the Proposed Action scenario, upgauging of aircraft is assumed in order to accommodate the full projected increase in passenger demand (to 34 MAP) without exceeding the existing airfield capacity at LaGuardia Airport. The fleet mix change would alter aviation-related noise impacts and affect land uses subject to those impacts. A detailed description of noise impacts can be found in Section 5.13 and **Appendix E**.

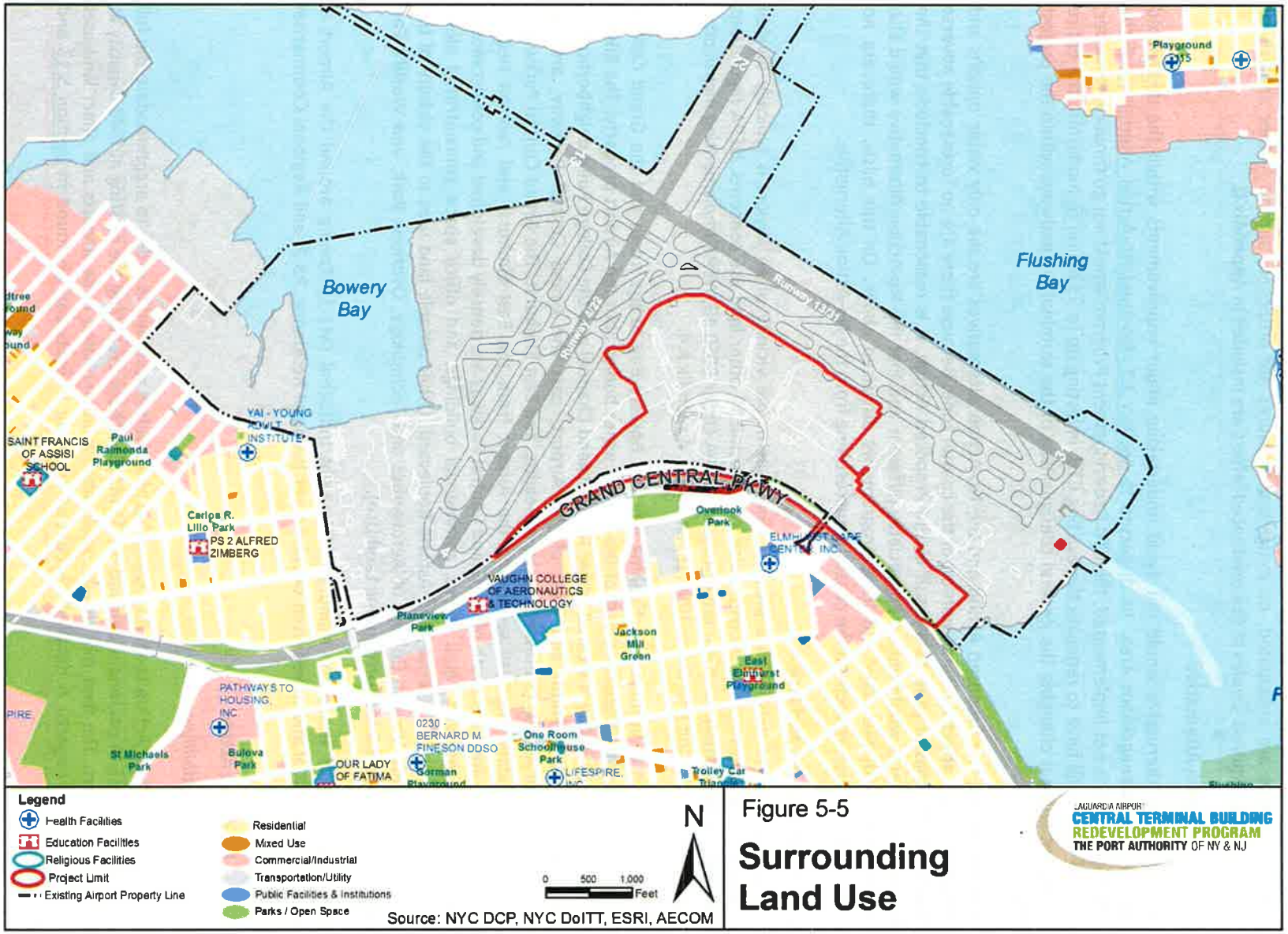


Figure 5-5

Surrounding Land Use

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Land Use Compatibility Not Related to Noise

The Proposed Action would occur within an area primarily on Airport property, with a small portion (7 percent) off of the Airport. The off-Airport portion of the project area is a landscaped section of the Grand Central Parkway, owned by NYC but with some sections under the jurisdiction of NYC's Department of Parks and Recreation (NYCDPR) and some sections within a NYSDOT maintenance right-of-way. To compensate for this encroachment, PANYNJ is committed to allocating funds to NYCDPR for park improvements in the vicinity of the Airport (see letter dated June 2, 2014 in **Appendix G**). LaGuardia Airport is operated by PANYNJ through a lease with the City of New York until the year 2050.

The Proposed Action would occur on existing Airport property except where off-Airport construction is required to improve roadway access to and from the Airport via the Grand Central Parkway and two local roads (94th and 102nd Street bridges). The off-Airport roadway improvements are included in the Proposed Action, located exclusively within existing transportation corridors and rights-of-way, and would be implemented as a joint, regional effort to enhance traffic conditions in the vicinity of the Airport. PANYNJ has consulted with NYCDOT and NYSDOT regarding the design and any potential impacts from the project (see Section A.8 of **Appendix A** for correspondence).

To the extent not already covered in other sections in this Final EA (i.e., floodplains, coastal zones, Section 4(f) properties, etc.), the Proposed Action is compatible with existing and planned land uses in the vicinity of the Airport. Since the Proposed Action would effectively replace similar facilities (i.e., terminal, garage, and roadways), it would be compatible with existing zoning, surrounding area land use plans, and the land uses on the Airport. There would be no changes in land use on or off the Airport and no changes to local zoning plans.

The project is consistent with land use plans and programs for areas on and surrounding the Airport. For example, as discussed in Section 5.3, the Proposed Action is consistent with the Coastal Zone Management Program and the New York City Waterfront Revitalization Program. In addition, as a major public project, the Proposed Action is subject to an assessment of consistency with PlaNYC 2030's sustainability initiatives. PlaNYC 2030 is NYC's plan to achieve a sustainable future and enhance the City's urban environment. The CTB Redevelopment Program at LaGuardia Airport addresses one of the plan's three key challenges for the next 20 years – repairing and maintaining the City's aging infrastructure, including transportation facilities. The 2011 update to *PlaNYC: A Greener, Greater New York* divides goals into ten areas, cross-cutting topics such as public health, natural systems, economic opportunity, and public engagement. An evaluation of the Proposed Action demonstrated it would be consistent with the City's sustainability goals for Transportation, Energy, Air Quality, Solid Waste, and Climate Change and would not conflict with the remaining goals for Housing and Neighborhoods, Parks and Public Space, Brownfields, Waterways, and Water Supply.

As discussed in Section 5.15, the Proposed Action would not move any homes or businesses, divide or disrupt an established community, or interfere with orderly or planned development. Surface transportation patterns would be altered when connections (entrance/egress) between the Airport and the Grand Central Parkway are changed as part of the roadway improvements (see description in Section 5.1, Traffic and Transportation). These changes would require some construction within the landscaped section of the Parkway. The Proposed Action would not create a wildlife hazard as defined in FAA Advisory Circular (AC) 150/5200-33, *Hazardous Wildlife Attractants On or Near Airports*, or otherwise adversely affect safe aircraft operations.

The Proposed Action would be compatible with existing and planned land uses in the vicinity of the Airport.

5.4.2 No-Action Alternative

Under the No-Action Alternative, the existing terminal building would still have to be renovated without changing the general configuration of the buildings or roadways within the project site. As a result, traffic back-ups along the frontage roads may spill onto the ramps of the Grand Central Parkway. There would be no other direct impacts off Airport property. There would be no changes in land use on or off the Airport, no land acquisition, and no changes to local zoning plans. Because the Airport is under operating limitations, the aircraft fleet mix would change to accommodate increased passenger demand (limited to 30.1 MAP by 2030), although due to space limitations around the gates, the size of aircraft would not be as large as under the Proposed Action. There would be a slight incremental increase in the size of noise contours when compared to existing conditions, with or without the project, and additional noise sensitive facilities would be within the day-night average sound level (DNL) 65-70 dB contour; however, the increases would not result in any significant impacts in noise-sensitive land uses around the Airport (see **Appendix E** for detailed analysis). The No-Action Alternative would be compatible with existing and planned land uses in the vicinity of the Airport.

5.5 Department of Transportation Act, Section 4(f)

The U.S. Department of Transportation Act of 1966 (DOT Act) included a special provision, Section 4(f), which regulates the use of land from publically-owned parks, recreation areas, wildlife and waterfowl refuge areas, or public and private historical sites by DOT agencies.

No public parks, recreational lands, open space, or wildlife or waterfowl refuges have been identified within the project construction limits, although some are within the outer limits of the Airport's noise contours. In addition, as discussed in Section 5.10, Historic Resources, several buildings eligible for listing on the National Register of Historic Places (NRHP) are within the project limits. In consultation with the New York State Historic Preservation Office (SHPO), PANYNJ and FAA evaluated alternatives that avoid or minimize impacts to the historic resources. A *Final Section 4(f) Evaluation* has been prepared pursuant to Section 4(f) of the DOT Act (see **Appendix C**).

NEPA regulations that address project-related impacts to Section 4(f) resources are discussed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.6.

5.5.1 Regulatory Framework

Section 4(f) of the DOT Act of 1966 applies to all agencies within the USDOT. The law is codified in 49 U.S.C. Section 303(c) and 23 U.S.C. 138 and is implemented by the USDOT per 23 CFR 774. As is done in FAA Order 1050.1E, this document refers to section 303(c) as "Section 4(f)."

The Section 4(f) requirement states that the proposed use of land from any significant publicly-owned public park, recreation area, wildlife and/or waterfowl refuge, or any significant historic site may not be approved as part of a federally-funded or approved transportation project unless either:

- The lead federal agency determines that there is no feasible and prudent avoidance alternative to the use of land from the property, and the action includes all possible planning to minimize harm to the property resulting from such use; or

- The lead federal agency determines that the use of the Section 4(f) properties, including any measures to minimize harm (such as avoidance, minimization, mitigation, or enhancements measures) committed to by the applicant, would have a *de minimis* impact on the property.

FAA is the lead federal agency for the Proposed Action. Jurisdictional agencies include the NYCDPR, the steward for parks and open space on NYC property, and the New York State Office of Parks, Recreation and Historic Preservation (OPRHP), who oversee historic properties.

5.5.2 Identification of Section 4(f) Resources

The Airport, project site and surrounding area were evaluated to identify any Section 4(f) resources. No wildlife or waterfowl refuges were identified. Public parks and recreational areas and historic sites in the vicinity of the Airport were further evaluated for relevance to DOT Act, Section 4(f).

Public Parks and Recreation Areas

A park or recreation area is afforded federal protection under Section 4(f) if:

1) It is publically-owned;

2) It is open to the public for visitation for more than a select group of the public at any time during normal hours of operation;

3) The primary purpose of the property is recreation; and

4) It is significant as a park or recreation area.

LaGuardia Airport is located immediately adjacent to the Grand Central Parkway, which consists of travel lanes as well as grassy medians and landscaped sections. Due to the proposed roadway improvements, the project limits for the Proposed Action extend south of the Airport property line to encompass an unpaved portion of the Parkway right-of-way. While the unpaved embankment adjacent to the Grand Central Parkway is under the jurisdiction of NYCDPR, it is not designed nor intended for public access or recreation; rather it provides a visual amenity to automobile drivers as they pass by.

NYCDPR has reviewed the Proposed Action and has determined that the affected portion of the Grand Central Parkway right-of-way was originally acquired with legislative direction for "park and parkway purposes," which is distinct from a designation of the area as parkland. The access improvements to and from the Parkway are a legislatively authorized use of the land. On October 8, 2013, staff from PANYNJ met with staff from the New York City Economic Development Corporation (EDC), NYCDPR, and the New York City Law Department. All attendees came to an understanding that there would be impacts to the Grand Central Parkway embankment area as a result of the Proposed Action. It was also acknowledged that the embankment area is not designated a public park or recreation area of local significance and does not qualify for protection under Section 4(f) of the DOT Act (23 CFR Part 774). This understanding was formalized in a letter from NYCDPR dated June 2, 2014 that was subsequently acknowledged and agreed upon by PANYNJ (see **Appendix G**).

The Proposed Action was specifically designed to limit new construction in a manner that minimizes the amount of Parkway right-of-way to be taken for the roadway improvements. Because the Proposed Action would impact up to 2.1 acres of unpaved Parkway right-of-way and result in the loss of trees in the Parkway right-of-way, and acknowledging and respecting NYCDPR's jurisdiction over the property, PANYNJ is committed to allocating funds to NYCDPR for park improvements in the vicinity of the Airport (see letter dated June 2, 2014 in **Appendix G**).[71] A landscape plan to enhance remaining and reclaimed landscape will be developed in coordination with the NYCDPR. No removal of trees would occur without obtaining required NYCDPR Construction and Forestry permits.

[71] Pursuant to Chapter 5 of Title 56 of the Rules of the City of New York (NYCDPR Rules) and Local Law 3 of 2010.

Historic Sites

Based on reconnaissance and intensive field surveys, historic resources were identified within the Area of Potential Effects (APE) for the Proposed Action. The historic properties include two sets of hangars within the Airport property. Hangars 1, 3, and 5 (constructed as a unit) and Hangars 2 and 4 (also constructed as a unit) were all built between 1939 and 1940. These resources were determined to be eligible for listing on the National Register of Historic Places (NRHP) by the New York State Office of Parks, Recreation, and Historic Preservation.

5.5.3 Use of Section 4(f) Resources

A "use" of Section 4(f) property may be a direct use (property is permanently incorporated into the transportation project), a temporary use (property is temporarily occupied in a way that is adverse to the property's purpose), or a constructive use (the project's proximity impacts substantially impair the protected activities, features, or attributes of property).

Direct Use

Hangars 1, 2, and 4 would be removed as part of the Proposed Action to allow for construction of the new terminal building and aircraft apron area.[72] This would result in an Adverse Effect to historic resources (eligible for listing on the NRHP) under Section 106 of the National Historic Preservation Act and a permanent use of Section 4(f) property.

Temporary Use

There would be no temporary occupancy or temporary impacts to Section 4(f) property as a result of the construction of the Proposed Action.

Constructive Use

Analyses of potential constructive use of any property protected by Section 4(f) were performed, based on the proximity impacts to five major features or attributes:

- Noise A detailed analysis of noise impacts from aircraft activity found that three Section 4(f) resources (Main Street Subway Station, Castle Hill Park, and the James A. Bland House Playground) would experience a change in noise levels between the No-Action and Proposed Action alternatives (see **Appendix C** for more detail). The noise increase would not be significant (as defined by the FAA) and the land uses are compatible with the projected noise levels. The Proposed Action would not substantially interfere with the use and enjoyment of any noise-sensitive facility or property protected by Section 4(f).

- Aesthetic Features The Proposed Action would indirectly impact the remaining NRHP-eligible Hangars 3 and 5, through demolition of Hangar 1 and construction of the West Garage such that it would obstruct existing views of Hangars 3 and 5 from the Grand Central Parkway and neighborhoods to the south. However, the hangars are significant for the role they played in aviation history at LaGuardia Airport, not the setting. The setting of the hangars has already been altered over the 70 years of the Airport's operations. The proximity of the Proposed Action and changes in setting would not substantially impair the aesthetic features or attributes of Hangars 3 and 5 or any other property protected by Section 4(f).

[72] Hangars 3 and 5 are not within the project limits and would not be removed as part of the Proposed Action.

- Access The Proposed Action would not result in a restriction of access which would substantially diminish the utility of a significant publicly owned park, recreation area, or a historic site.

- Vibration The vibration impact from construction or operation of the Proposed Action would not substantially impair the use of any Section 4(f) properties (see Section 5.19 for a description of construction-related impacts).

- Ecological Intrusion There are no wildlife or waterfowl refuges adjacent to the Airport; therefore, the ecological intrusion of the Proposed Action would not substantially diminish the value of wildlife habitat in a wildlife and waterfowl refuge.

Proximity impacts do not rise to the level of severity that would substantially impair the protected activities, features, or attributes that qualify the properties for protection under Section 4(f). Therefore, there would be no constructive use of Section 4(f) properties as a result of the Proposed Action.

5.5.4 Avoidance Alternatives and Least Overall Harm Analysis

As noted previously, two historic sites were identified with in the project limits: unit Hangars 1, 3, and 5 and unit Hangars 2 and 4. These resources were determined to be eligible for listing in the NRHP. The PANYNJ undertook a substantial effort to avoid and minimize impacts to Section 4(f) resources as part of the alternatives development process. Early design alternatives were refined based upon stakeholder input and additional planning efforts, resulting in reduced environmental impacts, reduced project costs, and improved functionality. These refinements have been incorporated in the Proposed Action.

Alternatives that avoid these Section 4(f) properties have been evaluated. Six total avoidance alternatives, in addition to the No-Build/No-Action Alternative, were developed. These include the Expand the Program Area Alternative; Reduce the Size of the Project Alternative; Utilize Alternate Sites within LaGuardia Airport Alternative; Use a Different Airport Alternative; Build a Different Airport Alternative; and the Utilize Other Modes of Transportation Alternative. The avoidance alternatives, developed during the Phase I planning phase (described in Chapter 3, Alternatives) were analyzed in accordance with the definition of feasible and prudent avoidance alternative found in 23 CFR 774.17.

The evaluation of these avoidance alternatives resulted in a determination that there is no feasible and prudent avoidance alternative to the use of land from a Section 4(f) property. Therefore, pursuant to 23 CFR 774.3(c), only the alternative that causes the least overall harm to the Section 4(f) property may be approved. Each alternative was weighed against the seven criteria for evaluating least overall harm:

1. The ability to mitigate adverse impacts to each Section 4(f) property;

2. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;

3. The relative significance of each Section 4(f) property;

4. The views of the officials with jurisdiction over each Section 4(f) property;

5. The degree to which each alternative meets the purpose and need for the project;

6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and

7. Substantial differences in cost among the alternatives.

This analysis determined that the Proposed Action would cause Least Overall Harm and is the only alternative to meet the project's Purpose and Need. The detailed analysis can be found in **Appendix C**.

5.5.5 Public Comment/Coordination

A *Final Section 4(f) Evaluation* has been prepared to assess the likely effects of the Proposed Action on Section 4(f) resources located within the project study area, and to evaluate alternatives that avoid or minimize impacts caused by the Proposed Action to those resources (see **Appendix C**). A Draft Section 4(f) Evaluation was circulated with the Draft EA for public review and comment and submitted to the U.S. Department of the Interior (DOI) for review. In a letter dated May 20, 2014, DOI concurred that there is no prudent and feasible alternative to the proposed use of Section 4(f) lands. Comments on the Draft Section 4(f) Evaluation have been addressed and incorporated into the Final Section 4(f) Evaluation. The Final Section 4(f) Evaluation provides a final determination by the FAA and DOI that there are no feasible and prudent avoidance alternatives to the project's use of Section 4(f) resources, all possible planning to minimize harm to the resources has been performed, and unavoidable impacts will be mitigated.

5.5.6 Summary

The Proposed Action is the alternative that meets the project's Purpose and Need and causes the Least Overall Harm. The No-Action Alternative and other avoidance alternatives that were examined would not impact the NRHP-eligible hangars, but would not meet the project's Purpose and Need. All of the other build alternatives analyzed would impact the NRHP-eligible hangars but would not meet the Purpose and Need, and thus were dismissed. Therefore, there is no feasible and prudent alternative to the use of the Section 4(f) resources and the Proposed Action includes all possible planning to minimize harm to the property resulting from such use. The requirements of DOT Act, Section 4(f) have been met.

5.6 Farmlands

The Farmland Protection Policy Act of 1984 (as amended) regulates actions with the potential to convert existing important farmlands to a non-agricultural use. No farmlands are located in the vicinity of LaGuardia Airport.[73] No impacts to farmland would occur as a result of the Proposed Action or No-Action Alternatives.

5.7 Fish, Wildlife and Plants

Biotic resources include all species of fish, wildlife, plants, and their habitats. NEPA regulations that address project-related impacts on biotic resources, including federal- and state-listed endangered and threatened species, are discussed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, Appendix A, Section 8, Fish, Wildlife, and Plants.

As discussed in Chapter 4, Affected Environment, the project site is entirely developed with buildings and pavement interspersed with urban landscaping consisting of trees, shrubs, and grasses. Approximately 90 percent of the project site is covered with impervious surfaces. The remaining landscaped areas, including roadway medians and drainage basins, provide limited habitat value because they are actively maintained using best management practices for minimizing the potential to

[73] Gridded Soil Survey Geographic (gSSURGO) Database for New York, U.S. Department of Agriculture, Natural Resources Soil Conservation Service. Available online at http://datagateway.nrcs.usda.gov/.

attract hazardous wildlife on or near the Airport.[74] No wetlands or coastal resources are located within the project site.

Data Collection and Site Reconnaissance

A preliminary site assessment was performed to verify the presence/absence of biotic resources in the vicinity of the Airport and the project site. Secondary source data and agency resource mapping were used to establish baseline environmental conditions. A biologist inspected the project site on two occasions to verify existing conditions, to validate secondary source data, and to obtain supplemental resource information. The results of the investigation are summarized below. More detailed information is provided in the *Environmental Resource Screening and Assessment Report* prepared by Amy S. Greene Environmental Consultants, Inc. (ASGECI; June 13, 2013).

Federally-Listed Endangered and Threatened Species

The Endangered Species Act (ESA) of 1973, as amended, provides for the protection of certain plants and animals—identified as endangered, threatened or candidate species—and their associated habitats. Federally-listed species and critical habitat are designated by either the U.S. Fish and Wildlife Service (USFWS) or the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). Agency consultation is required if it is determined that the Proposed Action "may affect" listed species or critical habitat.

The presence/absence of federally-listed and candidate species, and critical habitat, in the vicinity of the project site is based on secondary resources, incidental sightings by PANYNJ environmental personnel, a recent Wildlife Hazard Assessment,[75] agency records and consultations, and field assessments performed by ASGECI (May 3 and June 11, 2012). Using the USFWS Information Planning and Consultation System (IPaC), three species were identified as possibly being affected by the Proposed Action. According to the USFWS *Federally-Listed Endangered and Threatened Species and Candidate Species in New York* list, the following species are reported for Queens County, New York:[76]

- Piping plover — *Charadrius melodus* — Threatened
- Roseate tern — *Sterna dougallii dougallii* — Endangered
- Seabeach amaranth — *Amaranthus pumilus* — Threatened

Except for incidental piping plover sightings, no federally-listed or candidate species have been reported at LaGuardia Airport. The piping plover is a small shore bird that nests and feeds in coastal areas. According to the USFWS, piping plovers are found in Suffolk and Nassau County; however, their early successional habitat is only found at the shoreline, on barrier islands, sandy beaches, and dredged material disposal islands. Therefore, occasional sightings at LaGuardia Airport are most likely to coincide with foraging during migratory periods and only along the outer edges of the Airport near the shores of Bowery Bay, Riker's Island Channel, and Flushing Bay. The Proposed Action would not affect (coastal) habitats associated with any of these three species.

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[74] FAA Advisory Circular (AC) 150/5200-33C, *Hazardous Wildlife Attractants On or Near Airports* (December 7, 2012).

[75] Wildlife Hazard Assessment (10/1/2009 – 9/30/2010). Prepared for LaGuardia Airport, Flushing, New York, by USDA-APHIS Wildlife Services (March 3, 2011).

[76] Available online at http://www.fws.gov/northeast/nyfo/es/CoListCurrent.pdf (retrieved July 16, 2012).

A presence/absence review of the project site was conducted by ASGECI using the USFWS Northeast Region New York Field Office guidelines. No federally-listed species or critical habitats are present at the project site. Based on the following screening criteria, formal consultation with USFWS is not warranted:

- There would be no effect to piping plover, roseate tern, or seabeach amaranth.
- There would be no effect to critical habitat for piping plover, roseate tern, or seabeach amaranth.
- A Bald and Golden Eagle Protection Act (BGEPA) permit would not be required.

The Proposed Action does not involve in-water activities or regulated activities adjacent to open water and shoreline habitat; therefore, there would be no adverse impact to fish or other aquatic species. No further analysis or consultation is required.

State-Listed Endangered and Threatened Species

New York State-listed species of animals and plants are protected by the Endangered Species Act and its' implementing Endangered and Threatened Species Regulations.[77] Based on records maintained by the New York Natural Heritage Program (NYNHP), correspondence from the New York State Department of Environmental of Conservation (NYSDEC) indicates there are no records of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of the project site.[78] Field visits conducted by ASGECI confirm that no state-listed species or significant habitats are present within the project site. Furthermore, according to the *Environmental Resource Screening and Assessment*, no state-listed threatened, endangered, or special concern species are documented to breed at LaGuardia Airport, although incidental sightings of some species have been reported. Those species are transient and/or forage in the tidal wetlands, mudflats, and shoreline along the perimeter of the Airport or the open grass adjacent to the runways. The habitat necessary to support the life requirements for the reported state-listed species is not present within the project site.

Migratory Birds

The Snowy Owl (*Bubo scandiacus*) has been observed at the Airport. The species is listed as protected under the Migratory Bird Treaty Act. Since the bird can pose a hazard to aircraft, PANYNJ personnel are allowed to trap and relocate individual species, when identified on-site, as stipulated in the Migratory Bird Depredation Permit from USFWS and the Migratory Bird Depredation License from NYSDEC. There would be no impact to the species as a result of the Proposed Action.

5.7.1 The Proposed Action

Under the Proposed Action, the terminal building, airside apron, landside roadways, and parking garage, would be reconfigured within the project site as shown in **Figure 1-3**. Preliminary engineering estimates indicate that impervious cover within the limits of the project site would increase by no more than four acres, which is less than three percent of the project site and less than one percent of the Airport property.

Probable impacts to biotic resources would be limited to the temporary construction-related effects on local indigenous species of wildlife and plants. No aquatic resources would be affected. Wildlife species

[77] NYCRR, Chapter I – Fish and Wildlife, Subchapter J: Miscellaneous Regulations, Part 182: Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern; Incidental Take Permits (6 NYCRR Part 182).

[78] Letter from Nicholas B. Conrad, NYNHP, to Lynn Brass-Smith, ASGECI (July 13, 2012). See Appendix G.

and their habitat would be displaced by earth disturbance and tree removal associated with construction activities. The affected wildlife would be expected to temporarily relocate to other suitable habitat in the vicinity of the Airport. After construction, trees would be replaced and landscaped areas would be re-established with shrubs and grasses, thereby allowing displaced wildlife to return.

The remainder of this section provides additional information about the potential effects of the Proposed Action on biotic resources associated with the project site, including mitigation measures that can be taken to minimize harm. As discussed previously, the Proposed Action would have no effect on any federal- or state-listed species of fish, wildlife, plants, or critical habitat.

Wildlife

Due to the nature and extent of existing development and the corresponding lack of natural habitat, there have been limited observations of wildlife within the central terminal area or the project site. Various trees, shrubs, and mowed grasses associated with the landscaped medians between the internal and external roadways provide highly fragmented habitat with little or no value. Wildlife documented to occur within the project site are principally avian species (birds) adapted to an urban environment, such as grackles, starlings, pigeons, doves, crows, etc. Based on preliminary plans for the landside elements of the project, reconfiguration of the roadways would result in the redistribution of the surrounding landscaped areas, decreasing the total landscaped area by approximately four acres. The limited wildlife species that do occupy these areas are expected to temporarily relocate to similar habitat during construction and return when the project is complete. New landscaping would comply with the directives set forth in the *LaGuardia Airport Wildlife Hazard Management Plan* (WHMP) instituted in April 2012. Since the project site is located inland and away from the lowland areas of the Airport, there would be no impact to migratory birds or their breeding habitat.

Plants, Including NYC Trees

The project site includes intermittent landscaped areas described as trees, shrubs, and mowed grasses located along the roadways. Reconfiguring the landside roadway network would result in the redistribution of these landscaped areas. The Proposed Action includes a comprehensive landscape architecture plan for the replacement of trees, shrubs, ornamental grass/herbaceous plant masses and lawn. All new trees, shrubs, and other plantings would comply with the PANYNJ Engineering Department's *Aviation Landscape and Sustainable Design Criteria (2011)* and the *LaGuardia Airport Wildlife Hazard Management Plan (2012),* both of which comply with FAA Advisory Circular 150/5200-33C, *Hazardous Wildlife Attractants On or Near Airports*.

The location of the proposed roadways would result in the removal and replacement of trees within the project site. An International Society of Arborists (ISA) Certified Arborist performed a tree survey of the project area on Airport property and along the Grand Central Parkway right-of-way.[79] The survey results indicate there are approximately 270 trees located within the project site. Preliminary engineering estimates indicate approximately 200 trees may require removal (63 of which would be located off Airport property) and the remaining trees would be avoided and protected. Trees located off-Airport property are under NYCDPR jurisdiction. Any development within 50 feet of NYC Trees requires a Forestry Application to be submitted to the NYCDPR and a Construction and Forestry Permit issued by the NYCDPR's Forestry Division. Under the Proposed Action, tree removal cannot be avoided if the project's objectives are to be accomplished; however, the number of trees removed would be minimized to the degree practicable and the adverse effects mitigated as required by NYCDPR.

[79] Field survey dates: September 13, 2012 – October 9, 2012.

The Proposed Action includes provisions for tree protection, removal, and replacement/mitigation. During construction, efforts would be taken to protect trees in the vicinity of construction using special protection practices such as fencing at the primary root zone, pruning, fertilization, irrigation, and supervision by an approved NYCDPR arborist. PANYNJ has committed to develop a plan with NYCDPR to address local impacts to NYC Trees, including provisions for restitution for the loss of trees.[80] In addition, PANYNJ is committed to allocating funds to NYCDPR for park improvements in the vicinity of the Airport (see letter dated June 2, 2014, **Appendix G**). No impacts would occur to any NYC Trees without the applicable NYCDPR Construction and Forestry Permit and mitigation plan approved by NYCDPR.

Summary of Impacts

Probable impacts to biotic resources include the temporary displacement of local indigenous species of wildlife and plants and the permanent loss of up to four acres of urban landscaping with limited habitat value. There would be no adverse effects to any federal- or state-listed species of fish, wildlife, plants, or critical habitat. The Proposed Action includes a comprehensive landscape architecture plan for the replacement of trees, shrubs, and grasses affected by the project. Compliance with NYCDPR permit requirements, including mitigation for NYC Tree removal, provides adequate assurance that the project-related adverse impacts on trees would not be significant.

5.7.2 No-Action Alternative

Under the No-Action Alternative, the existing landside roadways would not be reconfigured and the surrounding landscaped areas would not be altered. There would be no effects to any federal- or state-listed species of fish, wildlife, plants, or critical habitat. The No-Action Alternative avoids the temporary displacement of local indigenous species and habitat and eliminates the need to remove and replace existing trees. PANYNJ would continue to actively manage landscaped areas to reduce hazardous wildlife attractants.

5.8 Floodplains

Floodplains are defined in Executive Order 11988, *Floodplain Management*, as "the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding on any given year" as depicted on approved flood maps prepared by the Federal Emergency Management Agency (FEMA). The term commonly used for this low lying area subject to a one percent chance of flooding is the "100-year floodplain." Pursuant to Executive Order 11988, all Federal agencies are required to avoid impacts on floodplains to the degree practicable and to minimize impacts that cannot be avoided. When it is not practicable to avoid developing within a floodplain, the USDOT Order 5650.2, *Floodplain Management and Protection*, prescribes policies and procedures to implement Executive Order 11988.

Both the Proposed Action and the No-Action alternatives would result in major construction activities within a FEMA-designated floodplain. NEPA regulations that address floodplains are discussed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.9.

No Practicable Alternative

According to the recently released Preliminary Flood Insurance Rate Maps (FIRMs) for LaGuardia Airport and the surrounding area, 85 percent of the Airport property, and 88 percent of the project site, are

[80] Title 56 of the New York City Rules and Regulations, Chapter 5 entitled "Rules Governing Tree Replacement."

located within the limits of the coastal (tidal) floodplain (see **Figure 5-6**).[81] PANYNJ examined alternatives that would locate the Proposed Action outside the floodplain and determined that no practicable alternative exists. As discussed in Section 3.3, Alternatives Eliminated from Further Consideration, there is no vacant space or other suitable property located within or adjacent to the Airport to accommodate the Proposed Action, and there is no practicable alternative that would locate the project elsewhere. The Proposed Action and No-Action alternatives are the only viable options, and both alternatives affect the same flood-prone area of the Airport.

5.8.1 The Proposed Action

Because it is not practical to locate the Proposed Action outside the floodplain, PANYNJ has identified and incorporated flood hazard mitigation strategies into the design of the Proposed Action. These strategies focus on the use of specific design criteria to minimize impacts on human safety and minimize future damages or costs to equipment, facilities, and structures to the degree practicable. Flood hazard mitigation has been a priority for the CTB Redevelopment Program because of the geography of its location with elevations just above sea level. These efforts intensified after Superstorm Sandy in 2012 and the release of revised FEMA flood maps in 2013.[82]

The following documents establish the criteria that would be applicable to the design and construction of the Proposed Action in the floodplain:

- *NYC Building Code Appendix G: Flood-Resistant Construction, 2008*
- *PANYNJ Memorandum, Project Design Evaluation - Climate Change Projections, June 19, 2009*

Compliance with the National Flood Insurance Program (NFIP) is mandatory for all jurisdictions in New York State pursuant to the NYS Environmental Conservation Law. As a result, many of the provisions contained in Appendix G of the NYC Building Code are necessary to meet the federal and state requirements. Appendix G references the current FEMA flood maps and the American Society of Civil Engineers (ASCE) 24 Standard for Flood Resistant Design and Construction.[83] ASCE 24 specifies the minimum requirements and expected performance for the design and construction of buildings and structures in FEMA-designated flood hazard areas. For example, ASCE 24 provides for "dry flood-proofing" critical areas, i.e., those for which a disruption of service would result in significant impacts to facility operations. A dry flood-proofed structure is made watertight below the level that needs flood protection to prevent floodwaters from entering. ASCE 24 also adds a 1-foot "freeboard" to the design flood elevation. Freeboarding is elevating a building's lowest floor above predicted flood elevations to

[81] Preliminary FIRMs dated December 5, 2013.

[82] Prior to Superstorm Sandy (September 2012), FEMA was studying areas of the New York and New Jersey coastlines to update the FIRMs originally developed more than 25 years ago (with some revisions), however the maps have not yet been updated. In order to quickly support reconstruction efforts and ensure current base elevations are used in decision-making, near-term Advisory Base Flood Elevations (ABFE) were developed based on partially completed flood studies. Subsequently FEMA began releasing Preliminary Work Maps for certain communities, which include the full results of the coastal flood study. Preliminary FIRMs are in the process of being released and will be finalized after the public review/appeal process. Communities are encouraged to use the Preliminary FIRMs (where released) as the most recent coastal flood hazard information and the best available data from FEMA.

[83] *ASCE 24: Flood Resistant Design and Construction* is a referenced standard in the *International Building Code (IBC)*. Any building or structure that falls within the scope of the IBC that is proposed in a flood hazard area is to be designed in accordance with ASCE 24. Buildings designed according to ASCE 24 are better able to resist flood loads and flood damage.

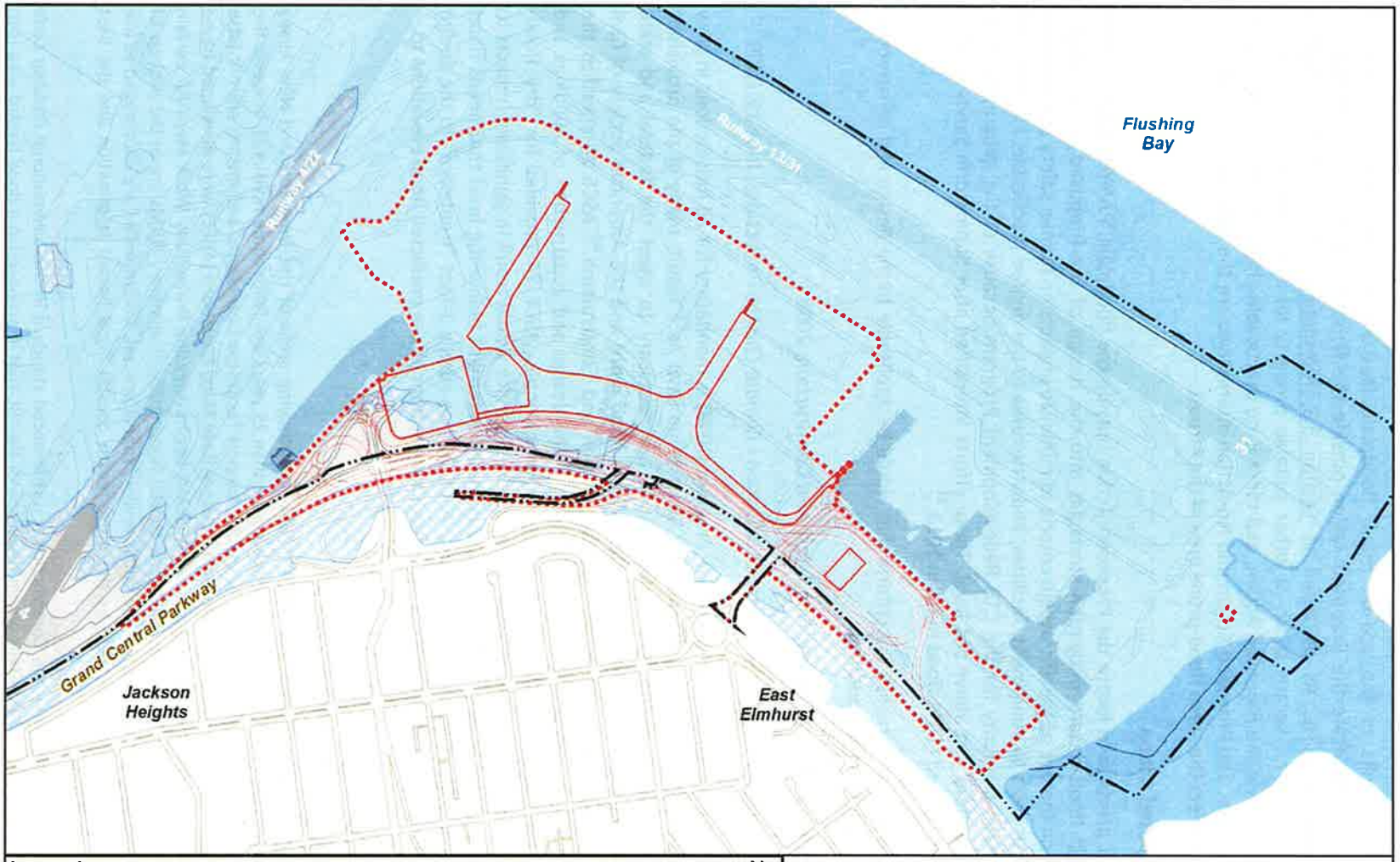

Figure 5-6

Floodplains
(Preliminary Flood Insurance Rate Map)

LaGuardia Airport
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

compensate for unknown variables that could contribute to flood levels greater than predicted, such as high velocity wave action from coastal storm events.

In addition, climate change projections provided to the City of New York by the Columbia Center for Climate Change Systems Research predict that by the 2080's the mean sea level (MSL) elevation is anticipated to increase 18 inches over the current mean high water (MHW) conditions. As an added measure of protection against future coastal flooding, PANYNJ issued a Climate Change Projections Memo in 2009 establishing a policy that all new construction (and major rehabilitation projects) be evaluated based on the predicted MSL elevation. Accordingly, PANYNJ stipulates a design elevation that is 18 inches *over and above* the current 1-foot freeboard elevation required by ASCE 24 (i.e., current FEMA 100-year flood level plus 2.5 feet) for all project elements. Where prohibiting factors preclude the application of these design criteria to all project elements, focus should be centered on critical project elements.

Using the design criteria as described above, a comprehensive flood hazard mitigation plan with freeboard elevations and flood-proofing measures would be implemented to the degree practicable, with special emphasis on critical equipment associated with the terminal building, the Central Heating and Refrigeration Plant (CHRP), the West Garage, and the East Field Lighting Vault.[84] The same measures have already been applied to other projects at LaGuardia Airport, including the East End Substation (EES) and the East Garage. As discussed in Section 5.3, Coastal Resources, the New York State Department of State (NYSDOS) has concurred with PANYNJ's coastal zone consistency determination, which considers potential impacts to the coastal floodplain.

Probable impacts on the floodplain would be limited to the redevelopment of existing facilities and built land; no secondary or induced development has been identified that would cause or contribute to indirect or cumulative effects on the floodplain. Approximately 88 percent of the project site would be located within the 100-year tidal floodplain as delineated in the Preliminary FIRMs released by FEMA in December 2013. Only the extreme eastern portion of the project limits encroaches upon the coastal high hazard area (see **Figure 5-6**) where taxis and passenger vehicles would normally be parked within Parking Lot #5 (and would not normally be parked in the event of a 100-year storm). Some of the proposed roadway reconfiguration and a portion of the West Garage would be located along the southern fringe or outside of the 100-year floodplain.

Land use cover types associated with the Proposed Action were compared to the Existing/No-Build condition. Under the Proposed Action, impervious cover within the 100-year floodplain would increase by approximately four acres and the area displaced by buildings would decrease by approximately four acres. Regardless, the 100-year floodplain surrounding LaGuardia Airport is controlled by coastal storm surges and tidal flooding; therefore, the Proposed Action would have no effect on the FEMA designated 100-year flood elevation.

[84] Functional constraints of the existing landside and airside facilities limited the feasibility of constructing the new terminal at levels above the required elevation established by design criteria. Existing elevations of the runways and taxiways are established and code requirements prohibit sloping towards the terminal above a maximum grade. Similarly, the roadways on the Grand Central Parkway and in front of Terminals C and D are at a fixed elevation and the proposed connecting roadways must meet design criteria for slopes, curves and vertical clearance.

Significant Impact Threshold

When it is not practicable to avoid the floodplain, DOT Order 5650.2 establishes the criteria used to determine if a "significant encroachment" would occur. Based on DOT's policy, a significant encroachment on the floodplain would *not* occur for the following reasons:

- The probability of the loss of human life is low. There are no residences within the floodplain boundary; therefore, the human population would be limited to building occupancy consisting of passengers, visitors, and employees. As previously discussed, all new buildings and facilities would comply with NYC Building Code and life safety requirements, including general provisions for flood hazard design and construction. In addition, coastal storms are predictable, and PANYNJ has the authority to cease operations and to evacuate the Airport in the event of a coastal storm; in which case, access to and egress from the Airport is by roadways located outside the floodplain. In addition, the proposed terminal access roadways would be elevated, so emergency evacuation or recovery efforts would not be impeded.

- The Proposed Action would be designed to avoid or minimize future extensive damage or costs, including damage that would interrupt Airport service. As previously discussed, NYC Building Code and PANYNJ policy prioritize setting the floor elevations and critical equipment higher than the design flood elevation and to dry flood-proof critical areas if it is impracticable to meet the design criteria. The existing airfield and navigational aids are not affected by the Proposed Action, except for the East Field Lighting Vault, which would be constructed at-grade and contained in a dry flood-proofed room because it would be impracticable to elevate the structure or to locate the facility outside the floodplain.

- There would be no notable adverse impacts on the floodplain's natural and beneficial values. Project-related impacts on the floodplain would be limited to the redevelopment of existing facilities and built land. As discussed in other applicable sections of this Final EA, the Proposed Action would have no adverse impacts on biotic communities, coastal resources, water quality, or wetlands.

Buildings located in FEMA designated floodplains must comply with the National Flood Insurance Program, the International Building Code, the American Society of Civil Engineers national reference standards, and with the NYC City Building Code. The Proposed Action includes a flood hazard mitigation plan developed in compliance with applicable federal, state, and local laws and regulations for the protection of floodplains and with the referenced standards for flood resistant design and construction. Compliance with these requirements provides adequate assurance that project-related impacts on the floodplain would be less than significant. No additional mitigation measures are proposed.

5.8.2 No-Action Alternative

The No-Action Alternative would not avoid undertaking major improvements within the floodplain. As discussed in Section 3.2, No-Build/No-Action Alternative, if the Proposed Action is not implemented, PANYNJ would have to renovate the existing CTB, investing up to $3 billion to modernize the entire facility. Because a major renovation would occur within the 100-year floodplain, the same flood-resistant design criteria that apply to the Proposed Action would also apply to the No-Action Alternative.

However, unlike the Proposed Action, which provides new facilities based on mitigation measures for flood hazard design and construction, under the No-Action Alternative the existing facilities would need to be modified or retrofitted to meet the same requirements and it may not be practicable to do so. For

example, without new construction, it would not be possible to raise the lowest floor elevation of the terminal building or practical to relocate critical areas to a higher level. This would result in a greater need for dry flood-proofing critical areas to meet the design criteria.

The No-Action Alternative would not result in a significant encroachment on the floodplain. The probability of the loss of human life would still be low; the newly renovated facilities would be designed to avoid or minimize future extensive damage or costs to the degree practicable; and, there would be no notable adverse effects on the affected floodplain's natural and beneficial values. Because the 100-year floodplain surrounding LaGuardia Airport is controlled by tidal flooding, the No-Action alternative would have no effect on the 100-year flood elevation.

5.9 Hazardous Materials, Pollution Prevention and Solid Waste

Federal actions require consideration of hazardous material, pollution prevention and solid waste impacts in NEPA documentation. Project development should consider the hazardous nature of any materials or wastes to be used, generated, or disturbed by the Proposed Action and incorporate pollution prevention considerations into the Proposed Action. NEPA regulations that address these resources are discussed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.10.

5.9.1 Hazardous Materials

Hazardous substances and other contaminants, including oil and grease, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons, and metals have been identified in soils and groundwater within and around the project site. In addition, asbestos containing materials, lead-containing paint, and universal waste products have been observed in buildings to be removed. There are no National Priorities List (NPL) sites in the vicinity of the project area. There is one de-listed NPL site (Radium Chemical Co.) located within 1.5 miles southwest of the property.[85] Redevelopment of the CTB and ancillary facilities would not increase the quantity of hazardous materials present in the terminals or in the environment or exacerbate existing conditions.

5.9.1.1 Construction

As part of the project, underground storage tanks that contain diesel and gasoline fuel would be removed and replaced with new tanks as needed to meet the project's requirements. During the tank removal process, soils adjacent to the tanks would be tested and disposed of either as solid waste or petroleum contaminated soil in accordance with NYSDEC requirements. High groundwater conditions may be encountered during tank removal that would require dewatering. In addition, dewatering for foundation excavation and during deep foundation construction would be expected. As discussed in Section 5.16, Water Quality, groundwater from the dewatering process would be also tested for pollutant concentration levels, treated if necessary, and disposed of in accordance with NYSDEC requirements.

Asbestos would be encountered in buildings to be removed and may be encountered in other locations such as utility duct banks. Preliminary surveys have been performed, detailed surveys have been and would be completed, and abatement procedures and removal protocols would be implemented prior to any demolition or renovation work. Asbestos waste generated during the abatement process would be

[85] The National Priorities List was established by USEPA in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA or Superfund).

handled and disposed of in accordance with applicable OSHA standards and NYS Department of Labor requirements. Lead-containing paint would also be encountered; although these areas are not required to be abated prior to demolition, OSHA requires localized removal at cut sections when cutting structural steel members. In accordance with EPA's universal waste regulations, items such as light fixtures, polychlorinated biphenyl (PCB) ballasts, thermostats, batteries, and refrigerants would be collected for proper recycling or treatment.

As discussed in Section 5.19, Construction Impacts, the identification, use, handling, storage, and disposal of hazardous substances and contaminated wastes during construction would be performed by qualified contractors in accordance with PANYNJ contract specifications, OSHA standards, and NYSDEC requirements. All necessary permits, certifications, and approvals would be obtained. If off-site disposal of hazardous wastes is necessary, the contractor(s) retained for the project would ultimately select an appropriate disposal site. Possible locations for material disposal include, but are not necessarily limited to, EPA-licensed facilities in Bellmawr, Carteret, Secaucus, Teterboro, or South Kearny, in New Jersey.

Because implementation of the Proposed Action would require the removal and remediation of some hazardous materials from the buildings and subsurface areas, the existing levels of contamination would be reduced or eliminated as a result of the project. These hazardous materials would be properly disposed of, reclaimed, or recycled, as appropriate. Pollution prevention measures identified in Section 5.19, Construction Impacts, would limit the potential for adverse human health or environmental impacts from these materials.

5.9.1.2 Operations

Generally, airport and aircraft operations require the use, handling, and storage of hazardous materials, primarily fuel. Hazardous materials are stored in aboveground storage tanks (ASTs), underground storage tanks (USTs), warehouses, and other storage buildings located on or near Airport property. The ground support for aircraft operations can create the potential for accidental releases of these substances, resulting in the potential for adverse environmental impacts.

Because of the operating limitations, aircraft activity would not change with or without the project—forecast aircraft operations (takeoffs and landings) are the same for both alternatives. However, the Proposed Action would accommodate a greater percentage of larger aircraft when compared to the No-Action Alternative. Larger aircraft have larger engines that would require additional fuel. Although the volume of aircraft fuel required to service larger aircraft would increase incrementally, the increase would be minor when compared to the average daily volume of aircraft fuel distributed at the Airport on a regular basis. PANYNJ has concluded that the potential increase in demand for fuel can be met with existing facilities and storage systems through supply side management. On this basis, the Proposed Action would not cause or contribute to the need for new or expanded facilities to handle or store aircraft fuel.

In addition, PANYNJ's Best Management Practices (BMPs) require facilities with petroleum and/or chemical bulk storage areas to comply with all applicable regulations including those involving releases, handling, and storage. PANYNJ currently has a Spill Prevention Control and Countermeasure (SPCC) Plan for LaGuardia Airport. The plan contains appropriate spill prevention and clean up measures as well as requirements for reporting an unintended release. Tenants that store chemicals also must comply with all applicable regulations and prepare and maintain a SPCC plan that complies with the Airport's plan.

Quantities notwithstanding, there would be no change to fueling operations under the Proposed Action and No-Action Alternative. Aircraft would continue to be serviced at the terminal gate using

conventional equipment and methods.[86] However, as discussed in Section 5.16, Water Quality, the Proposed Action would include stormwater BMPs and control measures that cannot be reasonably accomplished under the No-Action Alternative. These BMPs would be incorporated into the design of the terminal airside apron and include the installation of water quality treatment devices such as subsurface oil/water separators that would allow potential contaminants to be isolated, pumped out, and properly disposed.

The Proposed Action would reduce the airlines' use and storage of hazardous materials and wastes associated with the operation and maintenance of conventional diesel- and gasoline-powered ground service equipment (GSE). By requiring electric bag tractors, belt loaders, and push-back tractors to be used exclusively at the new terminal building, PANYNJ expects that the use, handling, and storage of GSE-related fuel, oil, greases, and other materials associated with conventional GSE would be reduced by approximately half. Because Hangars 2 and 4 are currently used in large part for GSE maintenance and repair, the associated tanks and dedicated storage areas would be removed from the environment.

As discussed earlier, existing ASTs and USTs that contain diesel and gasoline fuel would be removed from the project site and replaced with new tanks as needed to meet the project's requirements. Electrical systems require emergency generators to provide standby/backup loads in the event of a shortage or loss of normal power, while hot-water generating equipment requires dual fuel capability (natural gas/fuel oil). Tanks would be installed as specified to provide fuel oil capacity to support building electrical and mechanical systems. All tanks would be designed for No. 2 fuel oil and equipped with a level/alarm monitoring system that monitors for overfills or leaks.

Based on the combined effects of the measures discussed above, the Proposed Action would result in net positive impacts related to hazardous materials. The No-Action Alternative would result in the existing hazardous materials remaining in their current locations for the foreseeable future.

5.9.2 Solid Waste

The Proposed Action would temporarily increase solid waste quantities during the construction period, after which the quantity and type of solid waste generated and the method of collection and disposal would not be appreciably different than the No-Action Alternative.

5.9.2.1 Construction

Excess soil and construction debris that is not hazardous waste may be disposed of as solid waste. It is assumed that on-road vehicles (trucks) would be used to transport waste to receiving landfills and that the construction contractors would manage the storage, transport, and disposal of construction waste in accordance with applicable federal, state, and New York City requirements. If separate disposal methods are required for larger quantities of material, a disposal facility would be identified that is properly permitted to receive excess soils and/or construction debris. There is sufficient disposal capacity (out-of-state landfills, recycling centers, and incinerators) in the greater New York City metropolitan area to handle the construction waste load from the Proposed Action. No problems are anticipated with respect to meeting applicable federal, state, or NYC requirements for construction waste management or disposal.

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[86] The Program provides underground hydrant fueling pits at each aircraft gate position and distribution lines leading up to but terminating at the limits of the project site. No action would be taken to complete the underground hydrant fuel system, which involves installing a buried fuel transfer line somewhere between the fuel storage facility and the aircraft parking apron.

Soil and construction debris would be reused or recycled to the greatest extent possible. As part of the LEED certification for the new terminal building and PANYNJ's *Sustainable Infrastructure Guidelines*, a construction waste management program would be implemented with a goal of diverting at least 75% of all construction debris from receiving landfills. Lower recycling rates (closer to 50%) are more typical for large construction projects. Materials that can be recycled include: asphalt millings; masonry (in reusable form or as fill); roofing (in reusable form); metals; plastics (numbered containers, bags and sheeting); lumber and plywood (in reusable form); cardboard and paper; appliances and fixtures; and windows and doors.

5.9.2.2 Operations

Municipal solid waste (MSW) generated by the Proposed Action would include residual trash or garbage from the terminal building; very little or no MSW would be generated by the CHRP or the West Garage. Solid wastes generated from terminal services would be collected for disposal by PANYNJ, which has overall management responsibility for LaGuardia Airport. The terminal operator would enable recycling of waste in accordance with PANYNJ's *Sustainable Design Guidelines*. The recycling program would cover wastes from food and beverage services, such as metal cans and plastic/glass bottles, and paper products, such as high-grade office paper, newspapers, magazines, cardboard, etc. MSW generated from current tenant operations in Hangars 1, 2, and 4 would be reduced or eliminated, or otherwise absorbed into the waste stream from the terminal building.

Most of New York City's municipal solid waste is collected and delivered to transfer stations for additional sorting and then transported out of the City. PANYNJ's waste management contractor is responsible for the collection and disposal of solid waste and recyclable materials. Solid waste in New York City is managed in conformance with a 20-year Solid Waste Management Plan (SWMP). The SWMP also mandates that commercial and industrial establishments are subject to recycling requirements. No problems are anticipated with respect to meeting applicable federal, state, or NYC requirements regarding solid waste management or disposal.

5.10 Historical, Architectural, Archaeological, and Cultural Resources

This section addresses the potential effects of the Proposed Action on historic properties.[87] As discussed in Chapter 4, Affected Environment, historic properties affected by the Proposed Action are federally-regulated under the National Historic Preservation Act[88] (NHPA) as well as other applicable laws and regulations intended to protect historic properties that are listed or eligible to be listed on the National Register of Historic Places (NRHP). Pursuant to Section 106 of the NHPA, through consultation with stakeholders, federal agencies must take into account the effects of their actions on eligible or listed historic properties, work together to avoid, minimize, or mitigate adverse effects, and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. The process by which the federal agency decides whether a project or action affects historic properties is called a Section 106 review.

For this project, the FAA consulted with the New York State Historic Preservation Office (SHPO) to determine the effects of the Proposed Action on historic properties and work to avoid or mitigate

[87] "Historic property" in this context applies to any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places maintained by the Secretary of the Interior (National Park Service).

[88] Public Law 89-665; 16 U.S.C. 470 et seq.

adverse effects in compliance with the Section 106 process. As the airport sponsor/applicant for LaGuardia Airport, the PANYNJ completed the cultural resource studies and corresponding investigations. In addition, several governmental and nongovernmental organizations were invited to participate in the 106 process as consulting parties. This section, supplemented by the reports, analyses, and documentation contained in **Appendix D**, provides the materials and information needed to demonstrate the FAA's compliance with Section 106.

Two surveys were performed—one for above ground resources (architecture) and the other for below ground resources (archaeology).

5.10.1 Architecture

Using Section 106 guidelines, a survey of historic buildings was conducted and the results are presented in the *Cultural Resources Technical Memorandum* (Tabachnick, *et al*, July 2013) included in **Appendix D**.

Area of Potential Effect

The area of potential effects (APE) is the geographic area or areas within which the Proposed Action may cause changes in the character or use of historic properties, if any such properties are subsequently identified within the APE. The FAA determined, and the SHPO concurred, that the APE for the Proposed Action encompasses the entire central terminal area of the Airport, from Flushing Bay to the north to the Grand Central Parkway to the south, and from Flushing Bay to the east to Runway 4-22 to the west. The APE for the Proposed Action is shown in **Figure 5-7**.

Resource Identification and Evaluation

Based on the findings presented in the *Cultural Resources Technical Memorandum*, no historic properties listed on the NRHP are located within the APE. Two NRHP-listed sites are located in the vicinity of the Proposed Action but would not be affected by the Proposed Action. The Marine Air Terminal (built 1939) located on the west side of the Airport, and the Lent Homestead and Cemetery (est. 1654-56) located further west of the Airport, are beyond the designated APE. The FAA has determined, and the SHPO has concurred, that the Proposed Action would not affect any NRHP-listed properties.

The Marine Air Terminal is also an interior and exterior landmark designated by the NYC Landmarks Preservation Commission (LPC) and south of the Airport, outside of the APE, is the LPC-eligible Malcom X House (built 1925). There would be no impact to the LPC-designated properties as a result of the Proposed Action.

Five existing aircraft hangars (built 1939-40) meet the age requirements for consideration. Unit Hangars 1, 3, and 5, and unit Hangars 2 and 4, are part of the original LaGuardia Airport and have remained relatively unaltered over the years. All five hangars were evaluated using NRHP eligibility criteria and were recommended as eligible based on their place in aviation history (Criterion A) and as representations of early twentieth century industrial design (Criterion C).[89]According to SHPO, existing Central Terminal Building (circa 1964) does not meet NR-criteria due to major alterations that occurred

[89] Criterion A – Associated with events that have made a significant contribution to the broad patterns of our history; Criterion C – Embodies the distinctive characteristics of a type, period, or method of construction; or represents the work of a master; or possess high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction (National Register Evaluation Criteria, ACHP).

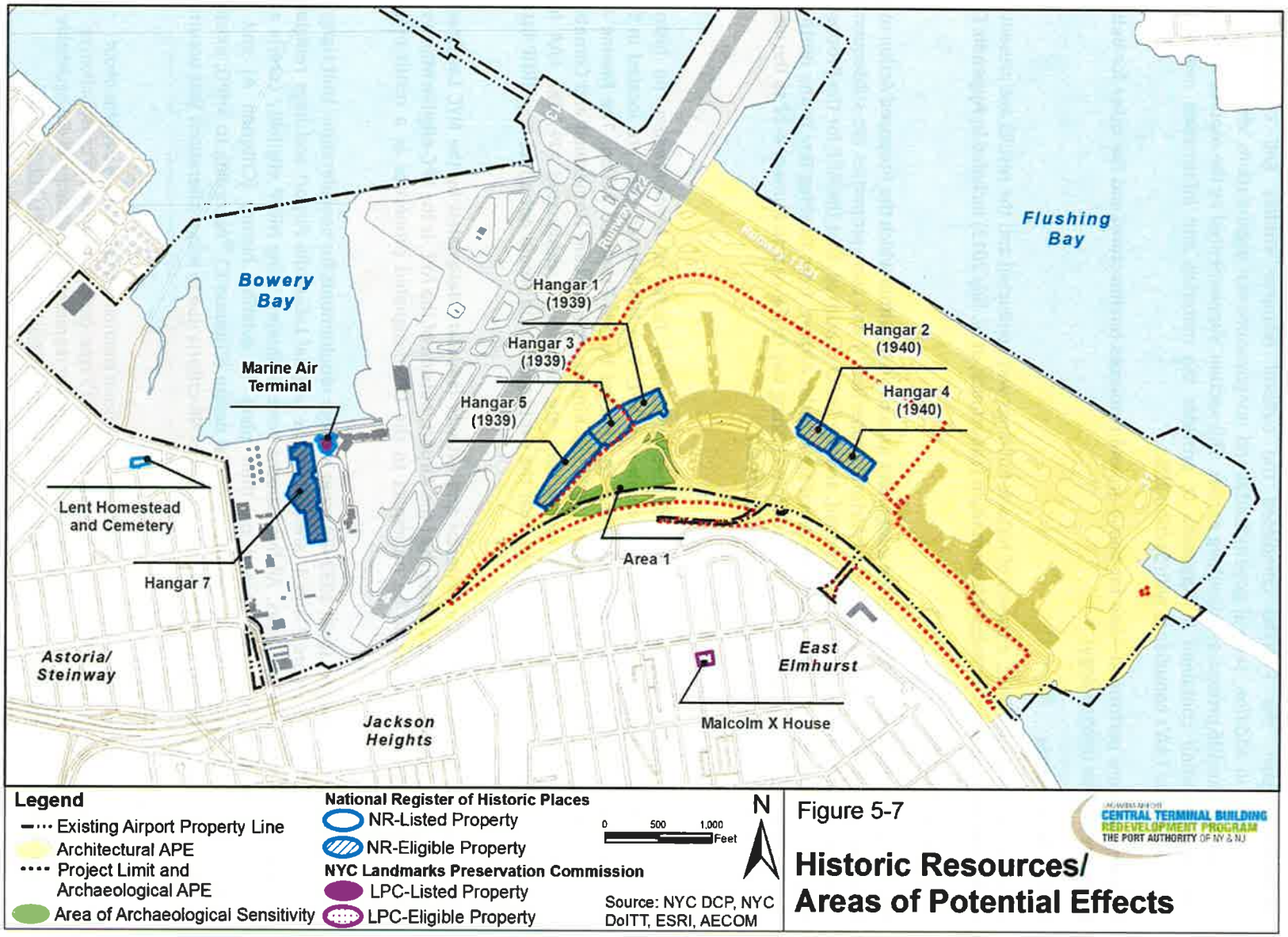

Figure 5-7

CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Historic Resources/ Areas of Potential Effects

in the 1970s and the 1990s.[90] No other potentially-eligible historic properties were identified for further evaluation.

Determination of Eligibility

The Architectural APE has been surveyed for the presence/absence of historic properties. Based on the findings, the FAA has determined, and the SHPO has concurred, that the surviving unit Hangars 1, 3, and 5, and unit Hangars 2 and 4, are eligible for listing in the NRHP as significant historical features of LaGuardia Airport. SHPO has determined that the existing Central Terminal Building is not eligible for listing due to the major alterations to the building over the years.

Finding of Adverse Effect

A finding of adverse effect is made when an action would alter, directly or indirectly, any of the characteristics of a historic property that make it eligible for listing in the National Register of Historic Places. Working closely with the SHPO, the FAA has determined that the Proposed Action would adversely affect unit Hangars 1, 3, and 5, and unit Hangars 2 and 4.[91] Hangars 1, 2, and 4 would be directly affected by demolition; whereas, Hangars 3 and 5 would be indirectly affected by the demolition of the adjoining Hangar 1. In addition, the public's view of Hangars 3 and 5 would be obstructed by construction of the proposed West Garage. No other adverse effects were identified. FAA sent a notice of adverse effect to the ACHP on August 22, 2013 (see **Appendix G**).

Alternatives Evaluation

Federal regulations require agencies to try to find a way to avoid, minimize, or mitigate adverse effects to historic properties. A wide range of avoidance alternatives were considered in an attempt to meet the project's objectives without impacting the NRHP-eligible hangars. These findings are presented in the *Cultural Resources Technical Memorandum* and copies were provided to the FAA, SHPO, ACHP, and other consulting parties (see **Appendix D**). After a thorough review of the alternatives, FAA, SHPO and PANYNJ concluded that no feasible and prudent alternative would avoid demolishing Hangars 1, 2, and 4 (see letter from SHPO dated February 3, 2014; **Appendix G**). The consultation process continued through the public review and comment period for the Draft EA.

Consultation Process

Section 106 consultation is the process of seeking, discussing, and considering the views of other participants, and, where feasible, reaching consensus regarding matters arising during the Section 106 process. As the lead federal agency for this NEPA process, the FAA is responsible for coordination between the Section 106 participants and for working to resolve the adverse effects to the hangars eligible for listing in the NRHP.

PANYNJ responded to SHPO's request for information dated January 3, 2013 via letter dated April 9, 2013, which was accompanied by a copy of the *Description of Buildings to be Removed* (November 20,

[90] Email correspondence from Kathleen Howe, NYS Office of Parks, Recreation, and Historic Preservation, to Alan Tabachnick, AECOM (June 25, 2013).

[91] Written documentation of SHPO's Adverse Effect Finding was provided in a letter dated February 3, 2014 (see **Appendix G**).

2012).[92] Subsequently, a detailed *Cultural Resources Technical Memorandum* was submitted to SHPO. FAA also notified the ACHP about the adverse effects and the ACHP responded that their participation was not needed. In addition, six consulting parties were invited to participate in the Section 106 process: New York Landmarks Conservancy, LPC, Queens Borough President's Office, Municipal Art Society, National Trust for Historic Preservation, and American Airlines.

The first consulting parties meeting was held on September 26, 2013, to discuss the project description, purpose and need, resources involved, the potential for adverse effects, and avoidance alternatives. A second meeting was held on October 29, 2013, where participants viewed the affected hangars and discussed potential mitigation measures. Having reached a conclusion that no feasible alternative would avoid adverse effects to the NRHP-eligible hangars, it was agreed that a draft memorandum of agreement (MOA) should be developed.

After the second meeting, a draft MOA was prepared and distributed to the FAA and SHPO for review and comment. Further negotiation of the MOA and discussion among the Section 106 participants regarding mitigation measures continued through the comment period for the Draft EA. LPC formally deferred to SHPO with regard to treatment of architectural resources in an Environmental Review dated May 20, 2014 (see **Appendix G**).

Memorandum of Agreement

A Final (signed) MOA has been prepared and is included in **Appendix D**. It describes the Proposed Action, including mitigation measures, and contains instructions that the FAA and PANYNJ would follow to ensure the mitigation measures are implemented. The MOA has been signed by the required signatories – FAA, SHPO, and PANYNJ (as the Airport sponsor) – and the three concurring Consulting Parties.[93] An executed MOA verifies that the adverse effects to the historic properties have been resolved and that the Section 106 process is complete.

Mitigation

Because an adverse effect cannot be avoided, the Section 106 participants have identified measures to mitigate the effects of the project. Mitigation is the public benefit that balances the loss (or diminishment) of the historic resource. Under the Proposed Action, the unavoidable adverse effects of demolishing Hangars 1, 2, and 4 would be reduced through standard mitigation measures including photographic documentation and HABS/HAER recordation[94] of Hangars 1, 3, and 5, Hangars 2 and 4, and Hangar 7 (located outside the APE) thereby establishing a permanent public record of all remaining historic buildings on the Airport.

Other mitigation measures were also identified, such as developing an interpretive display illustrating the history of the Airport and the historic hangars, implementing a demolition/construction management plan to ensure that adverse effects to the remaining Hangars 3 and 5 are avoided to the greatest extent practicable during construction, and implementing a maintenance plan to ensure that Hangars 3 and 5 are maintained in a state-of-good-repair for the foreseeable future. As required under

[92] NYSHPO Project Reference: 12PR05127

[93] If an invited consulting party does not concur with the MOA, there is no effect on the validity of the final, fully executed MOA, signed by the required signatories to the agreement (FAA Order 1050.1E, Appendix A.11).

[94] Historic American Buildings Survey (HABS)/Historic American Engineering Record (HAER) recording combines drawings, history, and photography to produce a comprehensive, interdisciplinary record that ranges in scope with a site's level of significance and complexity (National Park Service, 2013).

the Section 106 process, mitigation measures needed to reduce the effects of the Proposed Action have been stipulated in the MOA signed by the Section 106 participants and included in this Final EA.

5.10.2 Archaeology

Using Section 106 guidelines, an archaeological survey was also conducted to identify the presence, potential presence, or absence of archaeological sites within the APE.[95]

Area of Potential Effect

The APE for archaeology is three dimensional. The horizontal APE (labeled 'Project Limit and Archaeological APE' in **Figure 5-7**) represents the total area extent in which impacts to ground surfaces may be anticipated, i.e., the construction limits of disturbance for the entire Program Area. The vertical APE represents the depth below existing grade of all impacts within the horizontal APE. The vertical APE was developed using geotechnical reports of existing soil conditions and preliminary engineering plans for earthwork and grading, trenching for subsurface utilities, and installing deep foundation piles.

Resource Identification and Evaluation

A *Phase IA Archaeological Survey Report* (AECOM, June 2013) was prepared and identified the presence, potential presence, or absence of archaeological sites within the horizontal APE. Based on the initial findings after consulting with FAA and SHPO, an *Addendum to the Phase IA Archaeological Survey Report* (AECOM, August 2013) was prepared to provide subsequent analysis of potential effects to the vertical APE.

According to these reports, large portions of the APE, including most of the north and central portions, consist of made-land created by the infilling of Flushing and Bowery Bays and contain no potential for historic or prehistoric archaeological resources. However, a file search indicated that a smaller portion of the APE falls within a NYS-listed area of archaeological sensitivity.[96] U.S. Geological Survey maps from 1891 indicate that some portions of the APE include areas that were once the shoreline of Flushing Bay and Bowery Bay prior to the infilling that was associated with the earliest development of LaGuardia Airport.

Sensitivity models of the APE identified four areas of archaeological potential. These areas, identified as Areas 1 through 4, consist of filled-land over intact soils where prehistoric or historic surfaces may lay beneath the fill materials. These areas were compared to construction plans, and it was determined that Areas 2, 3, and 4, involve only surficial disturbances (i.e., resurfacing existing roadways and aircraft parking areas); therefore, no additional investigations were recommended for these areas.

Area 1 has been characterized as moderately to highly sensitive for both prehistoric and historic archaeological resources (see **Figure 5-7**). Geotechnical data indicates fill materials across the project site ranging from as little as six feet below existing grade to as much as 17 feet—the average being

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[95] *Phase IA Archaeological Survey Report, LaGuardia Airport Central Terminal Building Redevelopment*, prepared by AECOM, June 2013.

[96] Information concerning eligibility and listing status for the New York State and National Registers of Historic Places, involvement in federal and/or state project reviews, and other historic resources survey data can be found in the State Preservation Historical Information Network Exchange (SPHINX) database. The data captured in SPHINX is based on the most current information retained at the New York State Historic Preservation Office. See more at: www.nysparks.com/shpo/online-tools

approximately 15 feet. The integrity of the underlying surfaces is unknown; in most cases, boring logs record silts or sands. It is in this area of the vertical APE where there may be isolated, intact soil horizons with the potential to contain archaeological deposits.

Mitigation

Consultation with the FAA and the SHPO resulted in the recommendation for archaeological monitoring during construction phase activities. A construction monitoring protocol has been developed and is included as an environmental commitment stipulated in the executed MOA. The protocol requires that a cultural resource consultant be on-site when select earthmoving activities are performed within the area of sensitivity. It outlines the methods to be used during construction and the procedures to follow in accordance with state and federal laws if archaeological resources are discovered. Adherence to the protocol would protect cultural resources that are discovered, assist construction personnel in complying with applicable laws, and expedite the project in the event of a discovery.

Consultation Process

PANYNJ provided FAA and SHPO with a copy of the *Phase 1A Archaeology Survey Report*. In response, the SHPO concurred with the report's recommendations regarding the area of archaeological potential and they requested additional information regarding those portions of the APE where the infilling occurred and where the proposed development would take place. PANYNJ provided an Addendum (August 2013) including a thorough evaluation of the vertical APE. Based on the additional analysis, findings, and recommendations, the FAA, SHPO, and PANYNJ have agreed that archaeological monitoring should be performed when required during select earthwork and excavation within Area 1 only. A monitoring protocol was prepared and became part of the aforementioned MOA between the Section 106 participants. If artifacts are discovered during construction, in accordance with the protocol, PANYNJ would notify the FAA and SHPO and the consultation process would resume in accordance with Section 106 requirements. LPC concurred with the archaeology findings and Draft MOA, including construction monitoring protocol (see Archaeology review findings dated April 28, 2014 in **Appendix G**).

5.10.3 Summary of Impacts

Mitigation measures have been identified and an MOA has been coordinated among federal, state, and local agencies—as well as several governmental and non-governmental organizations and private sector interests—to meet the standards of the Section 106 process. If the Proposed Action is implemented, there would be an adverse effect on the NRHP-eligible Hangars 1, 2, 3, 4, and 5. Existing Hangars 1, 2, and 4 would be directly affected by demolition. In addition, the remaining Hangars 3 and 5 would be indirectly affected by the demolition of Hangar 1, and they would no longer be visible from the Grand Central Parkway or the community south of the Airport. Mitigation strategies that are made binding terms of the MOA include the proper documentation of the NRHP-listed and -eligible hangars and on-site archaeological monitoring during certain construction activities within the archaeologically sensitive area.

If No-Action is taken, the Proposed Action would not be implemented, the NRHP-eligible hangars would not be removed, and the archaeologically-sensitive area would not be disturbed. The No-Action Alternative would have no adverse effect on NRHP-eligible or potentially-eligible resources; therefore, no mitigation measures would be necessary.

5.11 Light Emissions and Visual Effects

This section provides an overview of the analysis of impacts from light emissions and visual effects from the components of the Proposed Action. FAA requirements for addressing light emissions and visual impacts under NEPA are addressed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.12.

5.11.1 Light Emissions

Different types of lighting systems are associated with the airside, terminal, and landside areas of the Program. This section describes the location of light systems, provides information pertaining to their purpose, and considers the extent to which any lighting associated with the Proposed Action would be recognizable to people in the vicinity or whether such lighting might potentially interfere with their normal activities.

Airside Lighting

On the airside, high-mast flood lighting of the aircraft parking apron would increase proportionately with the added size of the apron area, but these emissions would be shielded from the Grand Central Parkway and the community south of the Airport by the replacement terminal building. In-pavement and edge lighting within and around the aircraft parking apron would be replaced-in-kind and the emissions would not be expected to change appreciably. All airfield lighting and signage would comply with FAA standards and specifications for design, installation, and maintenance. No runway lighting would be involved, and there would be no change to lights associated with visual or electronic navigational aids.

Terminal Lighting

All exterior building lighting would be designed to comply with NYC Building Code, applicable industry standards, and *PANYNJ Sustainable Building Guidelines*. Narrow-beam, façade-grazing uplighting would illuminate architectural features of the proposed terminal building. Similar lighting would be integrated with the exterior screens of the proposed West Garage and the Central Heating and Refrigeration Plant (CHRP). The same lighting is already part of the design for unrelated projects under construction in the central terminal area, including the East End Substation (EES) and the East Garage. It is intended that the control of the exterior lighting of all buildings facing the Grand Central Parkway be linked to provide for a unified nighttime appearance, dimmed during late night hours to conserve energy, and complemented by a roadway lighting system using a similar source color.

Landside Lighting

Roadway lighting and other public lighting including surface parking areas, curbs, and sidewalks would be designed to produce quick, accurate, and comfortable seeing at night that would safeguard and facilitate vehicular and pedestrian traffic. All roadway lighting and associated signage would be designed to comply with applicable codes, DOT regulations, and standards, which specify the use of industrial high mast area lamps pointed downward to illuminate only the surfaces below. Although the terminal area roadways would be reconfigured within the project site, there would be no changes to roadways or other public areas beyond the project site. Therefore, the lighting required for roadways and parking would be replaced in-kind and the emissions would not be expected to change.

Relationship to the Community

LaGuardia Airport is located within a densely developed urban area and the Grand Central Parkway provides a wide buffer between the project site and the nearest neighborhoods. The Parkway is an eight-lane divided highway and is illuminated in the area of the Airport, as is the eastbound flyover ramp and the bridges located at 94th Street and 102nd Street. Given the nature and extent of existing development within this area, including existing lighting, it is highly unlikely that airport-related light emissions would affect nearby homes or businesses.

Summary of Impacts

Light emissions from the construction and operation of the Proposed Action would not be expected to cause or contribute to off-site annoyance or present a possible danger to persons living or driving in the vicinity of the Airport. No nighttime construction is planned; however, if nighttime construction were to occur, the light emissions would be temporary. In addition, there are means and methods available to reduce or minimize potential lighting impacts such as shielding or angular adjustment of lights, or alternative placement of lighting sources consistent with operational requirements. After construction, ambient light emissions associated with the operation of the Proposed Action would not be expected to be appreciably different than existing conditions. The Proposed Action would reconfigure the terminal building, airside apron, landside roadways, and parking garage within the project site, while the No-Action Alternative involves rehabilitating and renovating existing facilities without moving their location. In either scenario, the types of lighting systems required for safe and efficient evening and nighttime airport operations and the light emissions they generate would be essentially the same.

The Proposed Action and No-Action Alternative would not be expected to create an annoyance to residents or businesses in the vicinity of the Airport or interfere with their normal activities. No new light emissions would be introduced into a previously unaffected area. Compliance with applicable building codes and highway design standards provides adequate assurance that any potential short-term or long-term impacts associated with project-related lighting would be less than significant. No mitigation measures are proposed.

5.11.2 Visual Impacts

This section examines the visual relationship between the Proposed Action and specific elements of its surroundings, the degree of contrast likely to occur, and whether jurisdictional agencies or the public consider the contrast to be objectionable.

Under the Proposed Action, the existing central terminal building, airside apron, landside roadways, and parking garage, would be reconfigured within the project site. Three existing airline maintenance hangars would be removed and the CHRP would be relocated. The terminal area roadways and connections to the Grand Central Parkway would be reconfigured but no off-site roadways would be affected. The Proposed Action would occur within existing land use and zoning envelopes and would not result in physical changes in urban design beyond the project site. Therefore, assessment of visual impacts is limited to the viewshed from key vantage points located along the south side of the Airport.

The construction and operation of the Proposed Action would be seen by people driving east and west along the Grand Central Parkway, by drivers and pedestrians looking north from Ditmar's Boulevard, and by employees and guests of the LaGuardia Airport Marriott hotel, which is located on north side of Ditmar's Boulevard near the 102nd Street entrance to the Airport. With the exception of Overlook Park along 22nd Drive, and views from multi-story buildings in the vicinity, there are few if any vantage points

of the project site from businesses and residences south of Ditmar's Boulevard west of 94th Street or east of 102nd Street.

Visually distinct landscape units within the viewshed include roadways and ramps associated with the Grand Central Parkway and existing Airport buildings located within the central terminal area. During the construction period, many of these features would change. People in the vicinity would see the existing parking garage and Hangars 1, 2, and 4 being removed to make space for the new three-level terminal building, which would replace the garage as the closest and most prominent Airport feature adjacent to the Grand Central Parkway. There would be no major changes to the Parkway's main line roadways, although the eastbound flyover ramp to the Airport would be realigned to feed into the reconfigured terminal area roadway system. Construction activities would be temporary and the visual impacts during construction would diminish as the project nears completion.

Degree of Contrast

Assessing the degree of contrast using before-and-after images of the project site is highly subjective and would be determined in large part by the community's perception of the project. The current image is a row of aging and obsolete airport buildings separated from the Grand Central Parkway by a large parking garage and several surface parking lots. The proposed image is a row of modern airport buildings with complementary architecture that unifies and organizes the entire Airport campus. The new terminal building would be designed to have a strong civic presence along the Grand Central Parkway and to be in clear line of sight for customers approaching from either direction. The position and placement of the new terminal would permit views to the New York City skyline, underscoring the terminal's role as the principle air gateway to the City and the region. At a Public Open House on December 12, 2012 and Public Information Session and Public Hearing on May 8, 2014, renderings of the proposed terminal were presented and discussed with the public.

The visual impact of the Proposed Action on the viewshed would be determined in large part by the height of the proposed terminal building as well as its relationship to the Grand Central Parkway and the nearby community. Under the No-Action Alternative, the roof elevation would not change, remaining at 72 feet above ground level. Under the Proposed Action, the roof elevation of the new terminal would be the same or higher. The proposed roof elevation depends on the ultimate vertical clearance between the upper-level, departures/ticketing roadway and the canopy over the road. Vertical clearance could range from 20 feet up to 50 feet. Therefore, depending on final design, the height of the proposed terminal would be approximately 70 to 100 feet above ground level.

PANYNJ conducted two comprehensive visual impact assessments of the proposed terminal building—one examines the terminal from the community located on the south side of the Grand Central Parkway, while the other looks at the presence of the terminal from the Parkway. **Figure 5-8, Community Viewshed Impacts**, illustrates the proposed height and setback of the new terminal building in relation to the Grand Central Parkway and the community. As shown, the proposed terminal would be setback 200 feet farther from the Parkway than the existing parking garage. Also, as shown, the proposed terminal and the adjacent West Garage would have a minimal impact on the view from the community when compared to the No-Action Alternative. Using a rendering of the proposed terminal, **Figure 5-9** further demonstrates that the view of the Airport from the community would not be appreciably different with the Proposed Action.

The second study assessed the presence of the proposed terminal from the Grand Central Parkway. Using the architect's rendition of the proposed terminal and West Garage, **Figure 5-10** illustrates a

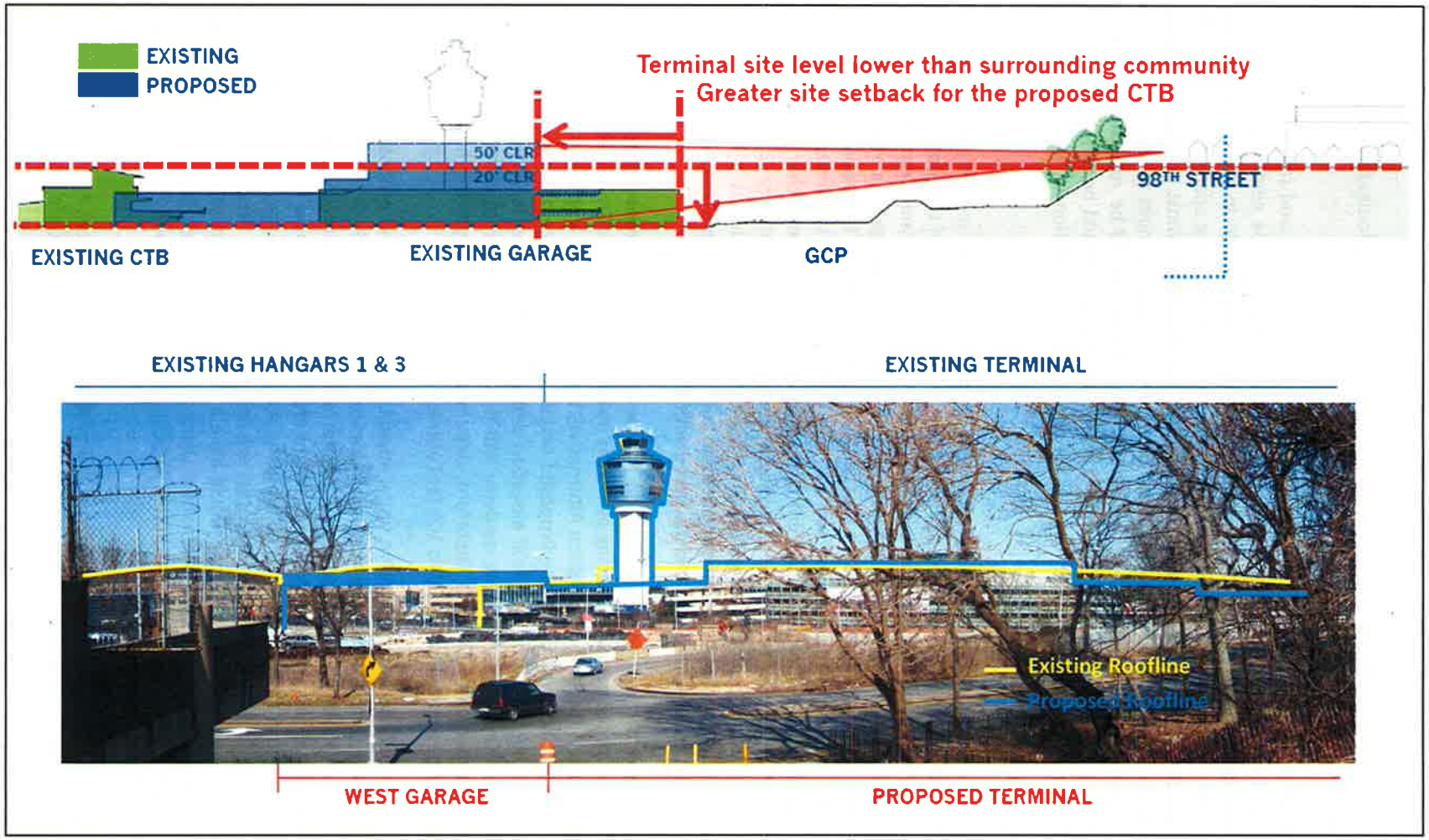

Figure 5-8. Community Viewshed Impacts

Figure 5-9. Community Viewshed Impacts – Views from East Elmhurst

Figure 5-10. View from Grand Central Parkway (Eastbound) with the Proposed Action

Figure 5-11. View from Grand Central Parkway (Westbound) with the Proposed Action

driver's perspective view of the proposed development from an eastbound lane, exiting the Parkway to the Airport, and **Figure 5-11** illustrates a westbound view of the proposed buildings. As shown, visually distinct units within the viewshed would change, but the Proposed Action would have a minimal impact on a driver's view when compared to the No-Action Alternative.

City Environmental Quality Review (CEQR) Screening

According to the *CEQR Technical Manual*, an urban design assessment is needed when the project may have effects on one or more of the elements (arrangement, appearance, and functionality of the built environment) that contribute to the pedestrian experience. Further analysis is needed when the project partially or totally blocks a view corridor or a natural or built visual resource and that resource is rare in the area or considered a defining feature of the neighborhood; or when the project changes urban design features so that the context of a natural or built visual resource is altered.

The Proposed Action would change the look of the Airport, views of which can be observed by pedestrians from the streets south of the Grand Central Parkway. A Community Impact Study analyzed photographs of the existing views from those streets, overlaid with the expected rooflines of the proposed buildings. The Proposed Action would not partially or totally block a view corridor or a natural or built visual resource that is rare in the area or considered a defining feature of the neighborhood (i.e., Flushing Bay), nor would it change urban design features so that the context of a natural or built visual resource is altered. Therefore, further analysis of visual resources would not be required under CEQR.

In addition, a preliminary shadow analysis was performed on the proposed structures (Terminal and West Garage), in accordance with the *CEQR Technical Manual* and found that there would be no incremental shadows cast on sunlight-sensitive resources as a result of the Proposed Action.

Summary

Under the No-Action Alternative, existing light emissions and visual impacts would not change; under the Proposed Action, changes to lighting and visual impacts would not create an annoyance or contrast with the existing environment.

5.12 Natural Resources, Energy Supply and Sustainable Design

The operation of an airport requires energy in the form of electricity, natural gas, aviation fuel, diesel fuel, and gasoline to power, cool, heat, and provide lighting. Energy requirements associated with airport development generally fall into two categories: those for stationary facilities (e.g., terminal buildings) and those for engines (e.g., aircraft, ground service equipment [GSE], and vehicles). Natural resources such as sand, gravel, water, wood, and steel are typically consumed during airport construction projects.

According to FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, the use of natural resources other than for fuel need be examined only if the project or action involves a need for unusual materials or those in short supply. The construction of the Proposed Action would not require any scarce or unusual building materials and the volume of consumable materials would be available from local or regional suppliers. As a result, this analysis focuses on energy demand with and without the Proposed Action.

5.12.1 Construction

During construction, additional gasoline and diesel fuel would be consumed by contractors and their employees traveling to and from the project site as well as the on-road vehicles and non-road construction equipment required to build the project. There would also be a nominal increase in electricity consumed as construction trailers and other stationary facilities would be connected to the Airport's power grid. These increases would be temporary and are expected to diminish as the project nears completion.

As discussed later in this section, the terminal and CHRP would be constructed to achieve a LEED rating (striving for Gold but a minimum acceptable rating of Silver). As part of PANYNJ's sustainability initiatives, during construction, preference would be given to materials and products with a high percentage of recycled content and those that have been harvested, extracted, and manufactured locally.

5.12.2 Operations

Fuel consumption is not expected to be appreciably different with or without the project. If the Proposed Action is implemented, potential increases in fuel consumption associated with the use of larger aircraft and/or additional traffic volumes would be offset by decreases in fuel consumption resulting from efficiencies associated with the airside, terminal, and landside elements of the plan. For example:

- Average daily aircraft fuel (Jet A) consumed by aircraft activity would not increase appreciably because (1) the 34 MAP forecast would be achieved with minimal increase in aircraft operations (takeoffs and landings); (2) the 35-gate plan with dual (two-way) taxilanes reduces aircraft taxi times; and (3) equipping each gate with 400 Hz ground power and pre-conditioned air (PCAir) reduces the use of the aircraft's auxiliary power units (APUs), which also consume aircraft fuel.[97]

- Average daily gasoline and diesel fuel consumed by conventional bag tractors, belt loaders, and push-back tractors would be reduced by approximately half because comparable electric ground support equipment (eGSE) would be used exclusively at the new terminal building, which accounts for half the aircraft parking positions (gates) serviced by these types of equipment.

- Average daily gasoline and diesel fuel consumed by arriving and departing vehicles would not change appreciably due to improved levels of service on the terminal area roadways.

The benefits of the Proposed Action in terms of fuel efficiency are demonstrated in the results of the air quality analysis. As discussed in Section 5.2, Air Quality, there would be no emissions increase or an increase that is clearly *de minimis*. Assuming that engine emissions correspond to fuel consumption, it is reasonable to conclude that any project-related increase/decrease in average daily fuel consumed would be modest when compared to the No-Action Alternative.

The Proposed Action would not cause or contribute to a significant increase in the demand for electricity or natural gas. Consolidated Edison (ConEdison) provides electricity to the Airport using high voltage (feeder) lines leading to two separate substations owned and operated by PANYNJ – the Central Electrical Substation (CES) and the West End Substation (WES). A new East End Substation (EES) is currently under construction (as a separate action) and will replace the aging CES whether or not the Proposed Action is implemented. Capacity of the WES is 12 Megavolt Ampere (MVA) and capacity of the

[97] Aircraft size would increase as result of upgauging, requiring some additional fuel.

new EES is 24 MVA. The total capacity (36 MVA) is capable of meeting the projected overall Airport load of 32 MVA, which PANYNJ has calculated based on existing Airport loading analysis, anticipated load expansion, and a reasonable allowance for an unanticipated peak load increase. PANYNJ has coordinated with ConEdison and determined that there is ample supply and sufficient infrastructure to deliver the energy required to meet the foreseeable needs of the project (see letter dated August 21, 2013 in **Appendix G**). No upstream/off-Airport infrastructure improvements would be required to accommodate the Proposed Action.

Sustainability

With regard to sustainable design, White House Executive Order 13123, *Greening the Government Through Efficient Energy Management*, encourages each federal agency to expand the use of renewable energy in its facilities and for its actions.[98] Further, FAA policy directs a review of a federal action to discern the conservation of resources, use of pollution prevention measures, minimization of aesthetic effects, and address public (both local and traveling) sensitivity to these concerns.

PANYNJ is committed to developing a design for the CTB Redevelopment Program that results in the construction and operation of the Airport in a sustainable manner through conservation of natural resources and protection of the environment. To this end, a *Sustainability Design Plan* has been prepared and would be implemented, as shown in **Table 5-4**. In addition, the requirements of Executive Order No. 111 on energy use and goals of the New York State Climate Action Plan on greenhouse gas reduction and mitigation of environmental impacts have been acknowledged and identified as project goals.

PANYNJ would pursue LEED certification through the U.S. Green Building Council's (USGBC) *Application Guide for Multiple Buildings and On-Campus Projects*. The proposed terminal and CHRP would be registered separately under LEED for New Construction[99] and strive towards a Gold Rating (a Silver Rating must be achieved). The remaining sub-projects, including the West Garage, roadways, and utilities, are not appropriate for LEED certification, but their design and construction would still comply with *PANYNJ's Policy on Sustainable Design* and implementing strategies outlined in *PANYNJ Sustainable Design Project Manual* or *PANYNJ Sustainable Infrastructure Guidelines*. To achieve LEED certification, and to comply with PANYNJ sustainable guidelines as applicable, key design strategies for the Proposed Action include, but are not necessarily limited to, the following:

- Optimized building envelope components, high performance HVAC systems, and building automation and control systems partnered to meet a 30 percent reduction in energy cost as compared to baseline conditions;[100]
- Purchase of green power through Renewable Energy Certificates to meet the LEED goal of providing 35 percent of the project's electricity from renewable sources;

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[98] 64 FR 30851 (June 8, 1999) available online at http://www.gpo.gov/fdsys/pkg/FR-1999-06-08/pdf/99-14633.pdf.

[99] Version 3.0 / 2009

[100] American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2007 Baseline; http://www.ashrae.org/standards-research--technology/standards-interpretations/interpretation-for-standard-90-1-2007

- Water efficient plumbing fixtures, stormwater harvesting, and gray water reuse to reduce potable water for sewage conveyance by 50 percent and potable water use in the building by more than 40 percent; and

- Replacement of the existing non-pervious salt splash pavers with pervious pavement to enhance percolation rates as well as protect the vegetation and lawn areas.

As per PANYNJ policy and guidelines, the Proposed Action would be designed to comply with established environmental goals for emissions reductions, energy and water efficiency, and waste reduction. These environmental goals have targets to be met by 2050 and beyond. In addition, the design and construction of the proposed terminal would be targeted for LEED Gold certification for New Construction. Thus, the Proposed Action would meet PANYNJ's and FAA's goals for promoting sustainable design. Under the No-Action Alternative, the existing CTB and ancillary facilities would be renovated in their existing locations and in compliance PANYNJ sustainability guidelines to the degree practicable. LEED certification for New Construction cannot be achieved without the Proposed Action.

Table 5-4: Sustainable Design Goals

CTB Redevelopment Program	PANYNJ Sustainable Design Project Manual	PANYNJ Sustainable Infrastructure Guidelines	LEED New Construction	Target Achievement Level
Terminal Building	Mandatory	N/A	Registered Project	Gold
Central Heating & Refrigeration Plant (CHRP)	Mandatory	N/A	Registered Project	Gold
West Parking Garage	Mandatory	N/A	Contributes to LEED pursuit for the CTB	Meet PANYNJ Guidelines
Roadways	N/A	Mandatory	N/A	Meet PANYNJ Guidelines
Utilities	N/A	Mandatory	N/A	Meet PANYNJ Guidelines

Source: PANYNJ/SOM (2013).

Note: The terminal and the CHRP will target a Gold rating with a minimum acceptable rating of Silver under either LEED NC v3.0 or LEED NC v4, whichever is current at the time of registration with the Green Building Certification Institute.

5.13 Noise

Airport development actions have the potential to cause or contribute to changes in community noise levels. Changes in aircraft noise may be attributable to differences in aircraft types, approach and/or departure procedures, and the frequency of flights. Ambient noise levels may also be affected by re-aligned airport access roads, increased automobile and truck traffic, and increased vehicle speeds. In addition, construction activities typically generate noise impacts that are short-term or temporary in nature and the effects diminish as the project nears completion.

Pursuant to FAA guidelines for preparing NEPA documents, aircraft noise impacts in the vicinity of airports must be assessed using the Integrated Noise Model (INM).[101] Surface transportation-related

[101] The INM is a quantitative model for predicting aircraft noise exposure around airports and is the responsibility of the FAA's Office of Environment and Energy (AEE-100). INM Version 7.0d is the most recent release.

noise assessments are typically evaluated in accordance with the Federal Highway Administration's (FHWA) *Procedures for Abatement of Highway Traffic Noise and Construction Noise* (23 CFR 772), and the FHWA-approved Roadway Construction Noise Model (RCNM) is used to predict construction noise levels from on-site construction equipment. NEPA regulations that address noise are discussed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.14.

A detailed Noise Technical Report (**Appendix E**) has been prepared and the findings are summarized below. The analysis is divided into the three sources of noise attributable to the Proposed Action—aircraft, on-road vehicles (during construction and subsequent operation of the project), and on-site construction equipment. The report includes detailed discussions about the fundamentals of noise, methodologies for assessing the different types of noise impacts, noise monitoring for determining baseline conditions, the impact analysis and assessment, and mitigation measures to reduce the effects of noise on the surrounding environment.

Aircraft noise received special attention during the preparation of this Final EA. PANYNJ commissioned a stand-alone aircraft noise analysis and assessment of effects that is included as Attachment 1 to **Appendix E**. In addition, on October 27, 2014, PANYNJ announced the award of a contract to conduct formal Airport Noise Compatibility Planning through a Part 150 study for LaGuardia Airport. Since April 2014, PANYNJ has also been collaborating with stakeholders to formulate a formal Aviation Roundtable for airport noise issues in communities surrounding the Airport.

5.13.1 Proposed Action

The noise impact analysis considers the potential changes in noise levels that would be expected to occur as a result of the construction and operation of the Proposed Action.

5.13.1.1 Construction

Construction-related noise would be generated by on-site equipment and by increased traffic (from trucks and construction worker vehicles) using local streets in the vicinity of the Airport.

Construction Equipment

A wide range of construction equipment would be required for demolition and construction phase activities. In order to assess the construction noise impacts from on-site equipment operations, the loudest projected hourly noise level in any given month was predicted by assuming that all likely equipment would be operating within the same hour.[102] These cumulative noise levels were then adjusted based on applicable usage factors. RCNM was used to predict construction noise levels from the on-site construction equipment. Based on the equipment type, the distance between the work zone, and the selected receptor, the RCNM computes the maximum noise (L_{max}) and/or equivalent sound level (L_{eq})[103] at each receptor location. The RCNM does not account for excess ground attenuation or the rate of atmospheric absorption that would help shield the sound made by the construction noise, so the resulting predicted noise levels are higher than would actually be perceived.

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[102] Estimates of construction equipment usage were generated for the CTB Redevelopment Program using preliminary designs and assumptions based on standard industry practices (see **Appendix F**).

[103] L_{eq} is used to describe the sound energy for fluctuating noise heard over a specific time period by averaging these values and representing them as a steady, unchanging sound over that time period.

Predicted levels of construction noise were compared with existing background levels at four noise monitoring sites near the Proposed Action. In accordance with the *CEQR Technical Manual*, typical weekday 24-hour noise monitoring was conducted to determine the existing (baseline) conditions. The selected monitoring sites are listed in **Table 5-5** below and depicted in Figure E-2.1 in **Appendix E.**

Since these selected monitoring sites are the closest noise sensitive receptor locations to the proposed construction activities, the predicted noise impacts are expected to be representative of the worst-case conditions. According to NYSDOT's *Noise Analysis Policy and Procedures*, in New York City an impact to any sensitive receptor from construction noise would only occur when levels are above 85 dB. In *Assessing and Mitigating Noise Impacts* (policy dated February 2, 2001), the NYSDEC identified an increase of 10 dB above background levels as deserving consideration of avoidance and mitigation measures.

Table 5-5: Noise Monitoring Sites (Baseline Conditions)

Site	Location	Land Use	Measured Background (DNL)	Existing CEQR Noise Exposure Classification
M1	Ditmars Blvd. between 93rd St. and 94 St.	Residential	73.2	Marginally Unacceptable
M2	Overlook Park	Park	64.4	Marginally Acceptable
M3	100th St. and Ditmars Blvd	Residential	64.3	
M5	Ditmars Blvd and 81st St. (at Marine Terminal Road)	Residential	72.6	

Notes:

1. Monitoring site M4 is a traffic intersection (94th St. and Ditmars) that was used as a control point; it is *not* a noise sensitive receptor.
2. DNL is the day/night average sound level over a 24-hour period.
3. CEQR Noise Exposure Guidelines are presented in Table E-1.2 in Appendix E.
4. 24-hour noise monitoring was conducted on January 16, 17, 29, and 30, 2013.

Table 5-6 presents the current noise levels and the expected increase in noise levels at each noise sensitive receptor location during the construction period. According to the results of the analysis, the Proposed Action would likely result in noticeable noise increases that range from 5 to 10 dBA above existing background levels at two of the four monitoring sites—M2 and M3. These two sites are located immediately south of the Grand Central Parkway near Ditmars Boulevard, between 98th St and 101st St. The relatively high noise increases would occur during early construction stages (between 2014 and 2017) corresponding with the pile driving activities. The construction equipment noise levels are predicted to be well below the 85 dBA criterion established by NYSDOT in all cases.

Construction activities would require a construction Noise Control Plan (NCP) to minimize construction noise as mandated in Chapter 28, Title 15 of the City of New York Administrative Code, *Citywide Construction Noise Mitigation.* The NCP would incorporate various noise control measures in accordance with the New York City *Citywide Construction Noise Mitigation* policy and to demonstrate compliance with the City's *Noise Control Code* (Local Law No. 113 of 2005) (see Chapter 6, Mitigation). The following noise control measures are recommended to minimize these potentially adverse effects in the community:

Table 5-6: Predicted RCNM Daytime $L_{eq}(1)$ Noise Levels at Select Monitoring Sites

Site	Weekday Peak Hour	Leq Noise Level (dBA)								
		Measured Background L_{eq}	2014	2015	2016	2017	2018	2019	2020	2021
M1 - Ditmars Blvd. between 93rd St. and 94th St.	AM	73	72	70	70	70	64	64	61	59
	Mid Day	73								
	PM	72								
M2 - Overlook Park	AM	65	73	75	75	75	69	69	65	63
	Mid Day	64								
	PM	65								
M3 - 100th St. and Ditmars Blvd.	AM	64	71	74	74	74	68	68	64	62
	Mid Day	66								
	PM	66								
M5 - Ditmars Blvd. and 81st St. at Marine Terminal Rd.	AM	67	62	62	61	62	56	56	53	51
	Mid Day	67								
	PM	64								

Note: Shading indicates time periods when noise from construction equipment expected to exceed background level by 10 dBA or more.

- Reduce the impact sound of the ram hitting the pile cap by placing a resilient pad in the anvil chamber;
- Reduce the discharge sound of the hammer's air exhaust by installing a rectangular steel enclosure lined with acoustically-absorptive material to provide both sound absorption and a limp mass noise barrier;
- Reduce the "ringing" noise of the steel piles by utilizing acoustical paint across the web of each pile at 4 to 6-foot intervals; and
- Prohibit pile driving at night.

Construction Traffic

There would be a temporary increase in truck and vehicle traffic during the construction period. Trucks would be limited to local roads in the vicinity of LaGuardia Airport due to NYCDOT restrictions on the Grand Central Parkway. Due to space limitations within the central terminal area, construction workers would park at Ingraham's Mountain (PANYNJ property located just west of the Airport) and commute to and from the construction site via shuttle buses (see **Figure 5-1**).

Per the *CEQR Technical Manual*, the methodology for predicting future on-road traffic noise levels assumes that existing noise levels are dominated by existing traffic volumes. Changes in future noise levels can be estimated by evaluating the proportional increase in traffic as a result of a given project. A doubling of traffic volume would increase noise levels by approximately 3 dBA (the minimum change in sound level that an average human ear can detect and the equivalent of doubling a sound's intensity). Passenger Car Equivalents (PCE) can be used to create a common unit of measurement for different types of vehicles (cars, trucks, buses, etc.) to conservatively estimate noise from traffic. If the Proposed Action would double PCE traffic and thus result in a 3 dBA increase in noise level, a more detailed analysis should be performed; however, if the increase is less than double the existing PCE, it is assumed that the Proposed Action would not cause a significant adverse vehicular noise impact.

The mid-block PCE volumes along the roadway immediately adjacent to the noise sensitive receptors were calculated for each of the peak traffic periods (morning and afternoon) for which construction traffic was predicted (see traffic analysis in **Appendix A**). The peak period with the highest incremental PCEs was selected for the analysis. The analyses determined that the maximum incremental noise predicted for each roadway link within the project-related traffic network was below 3 dBA in all cases. Therefore, traffic noise impacts from construction of the Proposed Action would not be significant and no mitigation measures related to construction traffic are warranted to comply with CEQR guidelines.

5.13.1.2 Operations

The Proposed Action would accommodate 34 MAP compared to 30.1 MAP for the No-Action Alternative—an incremental increase in passenger demand of 3.9 MAP. As a result, noise may increase due to changes in the aircraft fleet mix and increased vehicular traffic. All other operations at the Airport would remain similar to existing conditions and have no impact on noise.

Aircraft Noise

An aircraft noise analysis was performed using the FAA-required INM, Version 7.0d. The noise contours calculated by the INM for an airport are a function of several factors including the number of aircraft operations during the period evaluated, the types of aircraft flown, the time of day when they are flown,

how frequently each runway is used for arrivals and departures, the routes of flight used to and from the runways, and the operating weight of the aircraft. The noise analysis in **Appendix E** describes the methodology, assumptions, and the detailed results of the aircraft noise analysis that was conducted to assess the effects that the Proposed Action would have on noise exposure in the communities surrounding LaGuardia Airport. The existing noise exposure contours were based on sample radar data compiled from April 2012 through March 2013, as it was the latest data available at the time of analysis.[104] [105] The data reflect the most recent arrival and departure procedures to and from the Airport, including the TNNIS climb departure procedure recently implemented by FAA.

The INM produces day-night average sound level (DNL) noise contours. The DNL metric represents the cumulative noise level in an area over a 24-hour period. Noise produced by all aircraft events during a 24-hour period are added together, with an extra 10 dB weight added to nighttime operations (between 10:00 pm and 6:59 am). If any noise sensitive land uses within the DNL 65 dB noise contour would experience increases in noise of DNL 1.5 dB or greater as a result of the Proposed Action, a significant noise impact would occur.

Aircraft operations (takeoffs and landings) are not expected to change with, or without, the Proposed Action. As previously discussed, slot-controls are in place to help the FAA manage congestion at LaGuardia Airport by limiting the number of takeoffs and landings that may occur per hour. Instead of adding flights, forecast passenger demand would be accommodated through the use of larger aircraft with increased passenger loads ("upgauging"). The existing runway configuration, arrival or departure procedures, and runway use percentages would remain the same. Therefore, the aircraft noise analysis focuses specifically on the aircraft fleet mix change.

DNL noise exposure contours were prepared for the opening year (2021) and the horizon year (2030) for the Proposed Action and No-Action Alternatives (see Attachment 1 of **Appendix E**). The larger aircraft accommodated by the Proposed Action would result in an increase of 0.2 square miles of the DNL 65-70 dB contour between the No-Action and Proposed Action scenarios for 2030 (see **Figure 5-12**). The DNL 65 dB contour for the Proposed Action, compared to the No-Action contour, increases only slightly along the primary approach and departure corridors. Based on this analysis, no areas within the DNL 65 dB contour beyond Airport property would experience an increase in noise of DNL 1.5 dB or greater as a result of the Proposed Action.

The Proposed Action would result in an increase to the number of noise-sensitive land uses located within the DNL 65 dB noise contour (see **Appendix E**, Attachment 1, Table 9); however, there would not be a 1.5 dB increase within the DNL 65 dB noise contour (FAA's threshold of significance) over noise-sensitive land uses (see Section 5.13 and **Appendix E**). The Monsignor McClancy Memorial High School, Our Lady of Fatima School, and Korean Church of Queens, all located within the Jackson Heights and East Elmhurst neighborhoods, would experience a noise increase of 0.5 dB, while all other noise-sensitive land uses would experience an increase of less than 0.5 dB.

Although not required since the noise increase would be less than 1.5 dB, additional analysis to determine the extent of the potential increase in noise was conducted for disclosure purposes only.

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[104] Radar data from PANYNJ's Airport Noise and Operations Management System (ANOMS).

[105] The baseline year (April 2012 to March 2013) ensures the results incorporate the most recent flight procedures implemented for the Airport, but differs from the Vehicle Traffic base year of 2012, which was based on data collected in the field that year.

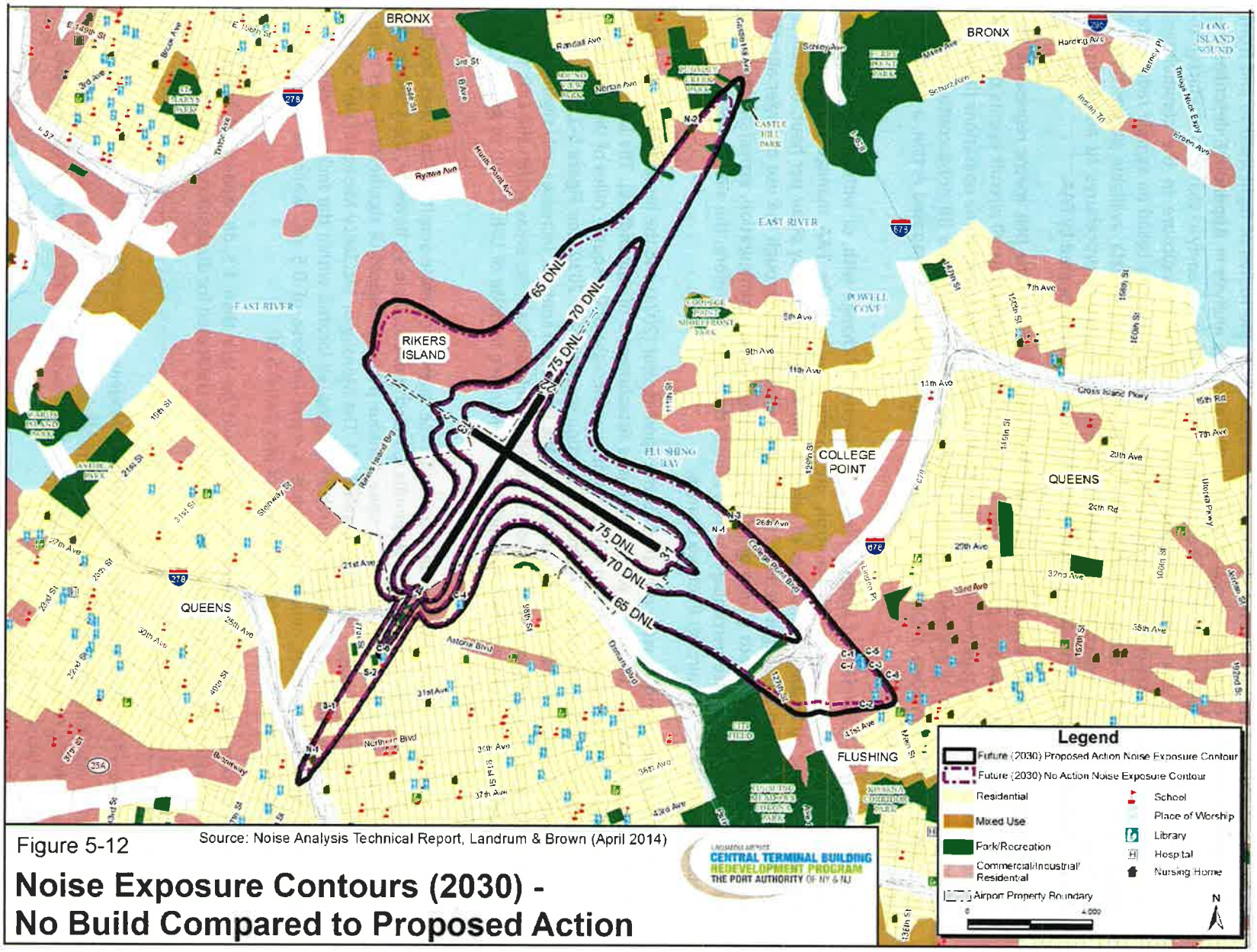

Figure 5-12

Source: Noise Analysis Technical Report, Landrum & Brown (April 2014)

Noise Exposure Contours (2030) - No Build Compared to Proposed Action

LaGuardia Airport
CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

- A review of areas of noise increase less than 1.5 dB within the DNL 65 dB contour for the Proposed Action indicates that there are no areas off-Airport property that would experience a noise increase of 1.0 dB or more.

- A review of areas of noise increase less than 1.0 dB within the DNL 65 dB contour for the Proposed Action indicates a 0.5 dB increase would occur near the south side of the Airport. As shown in **Figure 5-13,** the area of noise increase would occur over neighborhoods within the Jackson Heights and Steinway communities, between the Brooklyn Queens Expressway and the approach end of Runway 4. The area of noise increase occurs over residential areas as well as other types of land uses and includes one place of worship and two schools. No libraries, hospitals, or nursing homes have been identified within the area of noise increase.

- No other communities or neighborhoods within the DNL 65 dB contour located north, east, or west of LaGuardia Airport would be expected to experience a noise increase of 0.5 dB or more.

Per FAA guidance, noise increases below 1.5 dB within the DNL 65 dB contour are not considered significant effects; therefore, the Proposed Action is not expected to result in any significant impacts in noise-sensitive land uses around the Airport.

Traffic Noise

Operational traffic noise impacts were predicted based on PCE comparisons using the same method of proportionate traffic increases estimating future sound levels as construction traffic (see Section 5.13.1.1). The Proposed Action scenario assumes the proposed roadway improvements are made and an additional 3.9 MAP utilize the Airport (beyond the background traffic increase assumed under the No-Action scenario). Analysis of future traffic conditions in the year 2030 under the Proposed Action conditions was performed based on the traffic analysis for forecast passenger demand (see **Appendix A**).

Assuming completion of the CTB Redevelopment Program and realization of the full forecasted passenger levels, the peak hour noise within the project traffic network during operations in the year 2030 is not predicted to be greater than 3 dBA for any study intersection. Therefore, traffic noise impacts from the Proposed Action under the operational condition would not be significant. No mitigation measures related to operational traffic are warranted to comply with CEQR guidelines.

5.13.1.3 Summary of Impacts

The area around LaGuardia Airport has high existing background noise levels. With the exception of pile-driving activities during the first few years of construction, the noise generated during construction activities would not be discernible from the normal background noise levels in the area. Mitigation measures would be implemented and a noise control plan drafted to minimize the potential for adverse effects on the community. The temporary increase in vehicular traffic due to construction traffic would not result in noise impacts to residential or other sensitive land uses due to the distance between the construction site and the receptor. After construction, noise levels from aircraft and vehicular traffic would be expected to increase; however, the noise increase is predicted to be well below the 1.5 dB threshold established by the FAA.

5.13.2 No-Action Alternative

Under the No-Action Alternative, PANYNJ would renovate the existing buildings in their current locations, investing up to $3 billion to modernize the entire facility. Unlike the Proposed Action, the

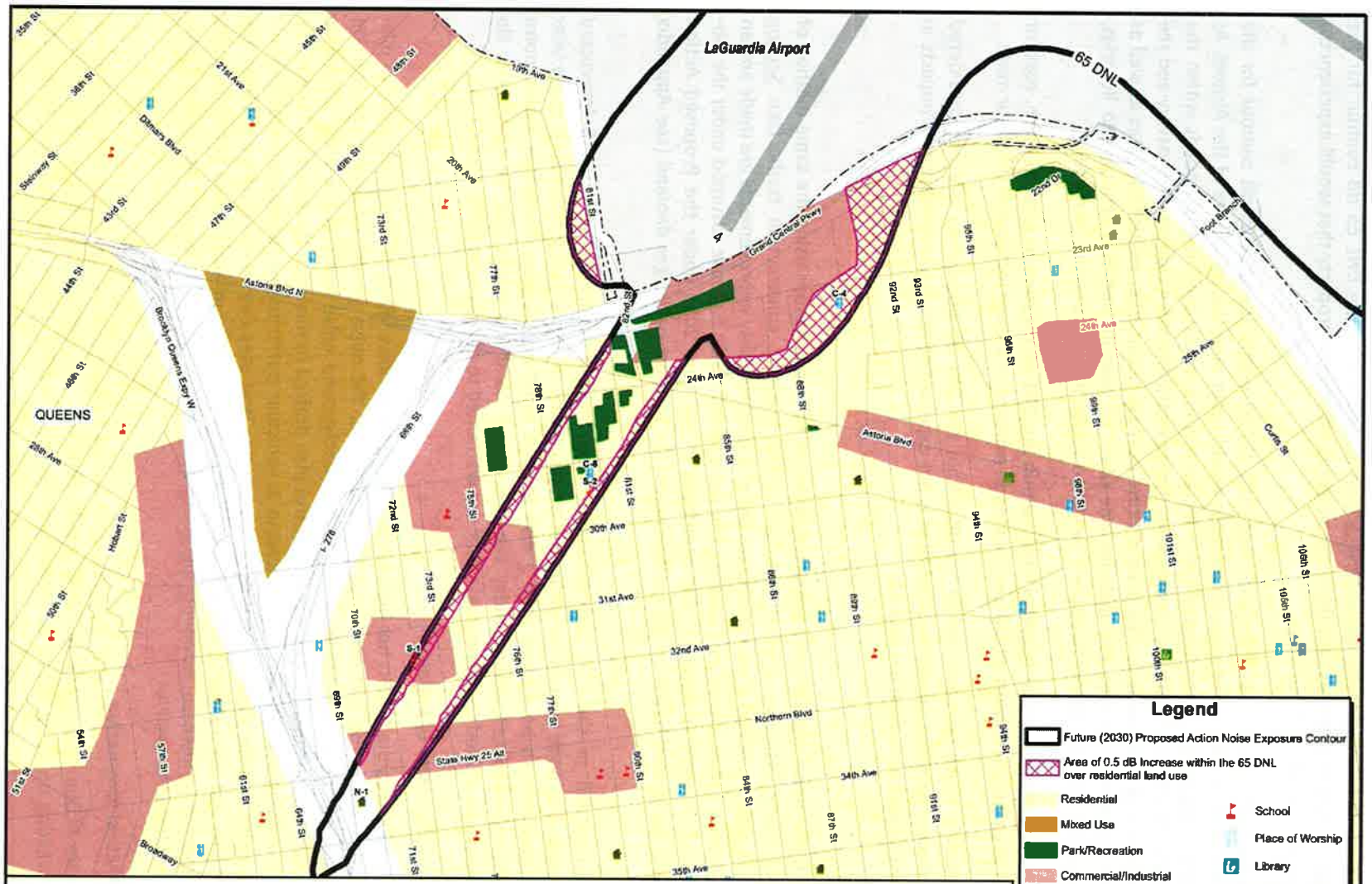

Figure 5-13

Areas of Increased Noise within 65 DNL

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
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Source: Noise Analysis Technical Report, Landrum & Brown (April 2014)

NOTE: There are no 1.5 dB or 1.0 dB increases within the 65 DNL off airport-owned properties.

scope of construction would not include roadway improvements or require pile-driving activities; therefore, it can be assumed that the construction-related noise levels would be consistent with background noise levels and that no adverse noise impacts would occur.

Without the CTB Redevelopment Program, forecasted passengers at LaGuardia Airport would still increase to 30.1 MAP by 2030—a 6.5 MAP increase over the 2010 baseline condition. That increase in demand would be achieved by a modest increase in the number of aircraft operations at the Airport and through upgauging of the fleet mix (although to a lesser degree than the Proposed Action) resulting in a small increase in the size of the noise contours even without the Proposed Action. In addition, passenger vehicle traffic would increase – although the increment would not be noticeable above background growth over that same time period, as described in Section 5.1. Therefore, though there would be an increase in noise in and around LaGuardia Airport under the No-Action Alternative, according to federal guidance, the increase would not result in a significant noise impact to sensitive receptors.

5.14 Secondary (Induced) Impacts

Major airport development proposals often involve the potential for induced or secondary impacts on the surrounding community. Examples of these impacts include: shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity to the extent influenced by airport development. FAA requirements for addressing secondary (induced) impacts under NEPA are addressed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.12.

LaGuardia Airport generates economic activity by supporting employment, contributing to wage earnings, and generating economic activity for the local and regional economy. In 2012, LaGuardia Airport employed more than 8,000 people. According to a recent analysis, the annual economic impact of the Airport accounts for roughly 109,000 job-years and $5.2 billion in salaries and wages, which translates into more than $14.4 billion in sales or other economic activities.[106] Capital development (i.e., construction projects) generates additional income and employment opportunities, albeit on a temporary basis.

Despite the Airport's economic contribution to the community, there is minimal potential for secondary or induced development or growth to occur. With a population of over 2.2 million people living within 23 square miles, Queens is the fourth most densely populated county in the United States. Though air transportation is a key component of the borough economy and a major employer in the neighborhoods around JFK and LaGuardia Airports, no single industry overwhelmingly dominates the Queens economy.[107] Health care and social assistance is also a major employer in Queens and has been steadily growing in recent years. Additionally, two-thirds of all businesses in Queens employ between one and four people, making small businesses an important part of the borough's economic vitality. Due to the large and diverse economy of Queens, the incremental changes associated with the Proposed Action are not likely to contribute to a major shift in local population, income, or employment.

There are also no expected changes in public service demands due to secondary or induced development. LaGuardia Airport is self-sustaining and does not rely on state or local tax dollars. Instead, day-to-day Airport operations are funded in large part by rates and charges paid by the airlines,

[106] PANYNJ Economics Unit Memorandum, "Updated 2012 Aviation Economic Impacts" (revised July 22, 2013).

[107] Queens Economic Development Corporation. For more information, go to http://www.queensny.org/qedc/.

businesses, and passengers that use the Airport. To finance capital needs, PANYNJ is authorized to use the Airport's revenue to issue bonds. Furthermore, the Airport maintains its own police department, provides fire rescue services for all aircraft-related incidents, and provides for its own waste management and disposal. New York City Fire Department currently responds to any non-airfield emergencies at the Airport and has the capacity to serve the new facilities and additional passengers. Existing utilities and service providers (water, electricity, sewer, gas, etc.) are sufficient to meet current and projected demands; therefore, no new or additional off-site utilities would be needed. For these reasons, public service demands are not expected to change with or without the project.

Changes in Business and Economic Activities

Under the Proposed Action, the CTB Redevelopment Program would take approximately eight years to construct and peak employment during that period is projected to require 1,500 full-time local trade workers. The project is expected to cost $3.6 billion, including $2.4 billion for the terminal building and aircraft parking ramp, and $1.2 billion for improving onsite infrastructure and utilities. **Table 5-7** summarizes the expected direct, indirect, and total economic impacts of the project. Direct impacts are the expenditures associated with the construction of the project, such as labor, materials, and supplies. Indirect impacts include the effects of the business transactions as a result of the project, including suppliers purchasing goods and services from contractors and vendors to meet the demand, which would not occur but for the proposed construction project. The secondary (induced) economic impacts are the multiplier or "spin-off" effects of the direct and indirect impacts, i.e., increases in consumer spending by wage earners employed by the construction and support industries. In sum, the Proposed Action is estimated to have an impact of more than $4.2 billion on local and regional economies over the eight-year construction period.

Table 5-7: Program Cost/Economic Impact of the Proposed Action (2014-2021)

Total Program Cost = $3.6 Billion	Direct Impacts	Indirect Impacts	Total Economic Activity
Job-Years	6,270	14,830	$4,255M
Salaries/Wages	$612M	$1,057M	

Source: Derived from PANYNJ Memorandum, The Economics Unit, *Updated 2012 Aviation Economic Impacts*, July 22, 2013.

Under the No-Action Alternative, the Proposed Action would not be implemented. However, as discussed in Section 3.2, No-Build/No Action Alternative, the existing facilities cannot remain in their current condition for an extended period of time. PANYNJ would have no choice but to undertake another terminal modernization project designed to bring the CTB and associated facilities into a state of good repair. Under this alternative (No-Action), the terminal building's infrastructure and all related systems would receive a major overhaul that would cost approximately $3 billion, take up to 10 years to complete, and prolong the life of the CTB in its current layout. As with the Proposed Action, the No-Action Alternative would produce some expected economic benefit (direct and indirect) due to the associated construction activity, though the exact sum of this impact has not been calculated.

The annual economic impact of the Airport to the region can be directly correlated to the number of passengers served. After the construction phase, the incremental increase in passenger activity associated with the Proposed Action would continue to generate economic benefits above those of the No-Action Alternative. Since the annual passenger increase by the year 2030 attributed to the Proposed Action is 3.9 million (or 13 percent) greater than from the No-Action Alternative, the corresponding economic impacts of the Proposed Action would be similarly greater than the No-Action Alternative. As

shown in **Table 5-8**, in the year 2030, the Proposed Action would be expected to result in approximately 16,500 additional job-years, $800 million more in wages, and $2.2 billion in increased sales, when compared to the No-Action Alternative.

Summary of Impacts

With or without the project, LaGuardia Airport would continue to generate economic activity. However, as demonstrated, implementation of the Proposed Action would provide additional economic benefits when compared to the No-Action Alternative. In either scenario, the added benefits would not cause or contribute to significant induced development or create an appreciable change in public service demands.

Table 5-8: Increased Passenger Usage Impacts of Future Build and No-Build Passenger Activity Levels

Impact Category	Economic Impact of 1.0 MAP[1]	2030 Future Conditions	
		No-Build/No-Action 30.1 MAP	Proposed Action 34 MAP
Job Years	4,230	127,323	143,820
Salaries and Wages[2]	$204	$6,140	$6,936
Sales/Economic Activity[2]	$559	$16,826	$19,006

Notes:
[1] Analysis by Landrum & Brown
[2] In millions of dollars
For demonstration purposes, this analysis is based on passenger and visitor activity levels *only*; the Airport's Total Economic Activity would have to also include economic impacts derived from cargo fees and capital development.

5.15 Socioeconomic Impacts, Environmental Justice and Children's Environmental Health and Safety Risks

According to FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.16, the FAA must evaluate proposed airport development actions to determine if they would cause social impacts. To that end, social impacts have been assessed to determine what effect, if any, the Proposed Action would have on the social fabric of the surrounding communities. The types of social impacts typically associated with airport development are:

- Extensive relocation of people's homes or businesses;
- Substantial loss in the community tax base;
- Disruption of local traffic patterns that substantially reduce the levels of service on roads serving the airport and the surrounding communities.

In addition to evaluating potential social impacts on the general population, federal agencies are required to give special attention to the following issues:

- Disproportionate and adverse effects on minority and/or low-income populations
- Environmental health risks and safety risks that may disproportionately affect children

The areas adjacent to the Airport that are most likely to be affected by the Proposed Action include Queens Community Districts 1 and 3. LaGuardia Airport immediately borders Community District 1 to the west, including the neighborhoods of Astoria Heights and Steinway, and Community District 3 to the south, including the neighborhoods of East Elmhurst and Jackson Heights. Due to their close proximity to the Airport and the project site, Districts 1 and 3 and the neighborhoods they represent have the greatest potential to be directly and indirectly affected by the construction and operation phases of the Proposed Action. As discussed in Section 5.13.1.2, some residential areas of the Jackson Heights and Steinway neighborhoods would experience a noise increase of 0.5 dB due to aircraft operations.

Other neighborhoods further from the Airport that would also be affected include, but are not necessarily limited to, the following: College Point, Flushing and Bayside, located east of the Airport across Flushing Bay in Queens Community District 7; and Clason Point and Castle Hill, located north of the Airport across the East River in Bronx Community District 9. These neighborhoods are not likely to be directly affected by near term construction activities; however, portions of these neighborhoods are located within the Airport's DNL 65 dB noise exposure contours. Consequently, like those neighborhoods located south and west of the Airport, some people who live in these neighborhoods to the north and east of the Airport may also be affected by predicted changes in noise levels, although the increase would be less than 0.5 dB in the neighborhoods of College Point, Flushing, Bayside, Clason Point, and Castle Hill.

Relocation of Residences or Businesses in the Community

NEPA requires that the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970 be implemented if displacements would be a direct cause of a proposed federal project or action. An impact is considered adverse under NEPA if people are displaced from their homes, businesses, or farms. The Proposed Action would be located on existing Airport property and along the north side of the Grand Central Parkway right-of-way – all of which is public property designated for either airport or park/parkway purposes. No adverse impact would occur because no homes, businesses, or farms would be displaced by the Proposed Action.

Loss in the Community Tax Base

There would be no adverse effect on city or country tax rolls because no tax revenue is generated from the property to be acquired.

Disruption of Local Traffic Patterns

The Proposed Action and No-Action Alternative have the potential to affect the level of service on local roads serving the Airport and the surrounding communities, more so during the construction phase and less so during the operational phase. As discussed in Section 3.1, Proposed Action Alternative, although the terminal area roadways would be reconfigured, only minor alterations would occur to roadways and related infrastructure outside of the Airport. A detailed traffic analysis has been prepared and the results indicate that under 2030 forecast conditions the Proposed Action would not worsen, and in some instances would improve, levels of service on local roadways when compared to the No-Action Alternative. The assessment of impacts on city streets and intersections, as well as the Grand Central

Parkway, is discussed in Section 5.1, Traffic and Transportation, and more detailed information is provided in **Appendix A: Transportation**.

Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations*, requires all Federal agencies to identify and address disproportionate and adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The Executive Order also directs Federal agencies to incorporate environmental justice into their overall missions by conducting their programs and activities in a manner that provides minority and low-income populations an opportunity to participate in agency programs and activities.

Executive Order 12898 relates to requirements in Title VI of the Civil Rights Act of 1964 (Title VI), NEPA, the Uniform Act, and other applicable statutes and regulations. Title VI of the *Civil Rights Act of 1964* provides that no person will, on the grounds of race, color, religion, sex, national origin, marital status, disability, or family composition, be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under any program of the federal, state, or local government. Title VIII of the *1968 Civil Rights Act* guarantees each person equal opportunity in housing.

U.S. DOT Order 5610.2(a), *Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued to implement Executive Order 12898. U.S. DOT Order 5610.2(a) defines minorities as people who are Black, Hispanic, Asian American, American Indian, or Alaskan Native. Minority populations are defined as "any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity." The U.S. DOT Order defines a low-income population as "any readily identifiable group" of persons whose median household income is at or below the poverty guidelines of the U.S. Department of Health and Human Services, "who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity."

In determining whether a proposed project or activity is in compliance with Executive Order 12898, two factors must be considered. The first is whether the proposal is likely to have adverse effects on minority or low-income populations. The second is to determine whether the adverse impacts are disproportionately high on minority or low-income populations. The U.S. DOT Order defines "adverse effects" as "the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects." The U.S. DOT Order defines "disproportionately high and adverse effects" as those that are "predominately borne by a minority population and/or a low-income population, or will be suffered by the minority population and/or low-income population and [are] appreciably more severe or greater in magnitude than the adverse effect[s] that will be suffered by the non-minority population and/or non-low-income population."

Under the Proposed Action, no private property would be acquired and no businesses or residences would be relocated; therefore, no person would be displaced regardless of their minority or income status.

The Proposed Action would result in an increase to the number of noise-sensitive land uses located within the DNL 65 dB noise contour (see **Appendix E**, Attachment 1, Table 9); however, there would not

be a 1.5 dB increase within the DNL 65 dB noise contour (FAA's threshold of significance) over noise-sensitive land uses (see Section 5.13 and **Appendix E**). The Monsignor McClancy Memorial High School, Our Lady of Fatima School, and Korean Church of Queens, all located within the Jackson Heights and East Elmhurst neighborhoods, would experience a noise increase of 0.5 dB, while all other noise-sensitive land uses would experience an increase of less than 0.5 dB.

Further analysis shows that within the projected DNL 65 dB noise contour of the 2030 No-Action Alternative approximately 87 percent of the population is defined as minority. Similarly, under the Proposed Action, approximately 87 percent of the population within the DNL 65 dB noise contour in 2030 would be minority. Therefore, as demonstrated, the Proposed Action would not disproportionately impact any minority populations.

According to 2010 U.S. Census data, the median household income for the area located in the 2030 No-Build/No-Action DNL 65 dB noise contour is approximately $45,700 per year.[108] The low-income poverty threshold, as established by the U.S. Census Bureau for a one-person household in 2012, is $11,945. A household containing four persons would be considered below the poverty level by the U.S. Census Bureau in 2012 if their household income were less than $23,681. Therefore, no further income analysis will be conducted because the area within the DNL 65 dB noise contour of the 2030 No-Action Alternative does not contain any low-income communities.

Children's Health and Safety Risks

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, directs federal agencies, to the extent permitted by law and appropriate, to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children. Environmental health risks and safety risks include risks to health or to safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use or be exposed to. No environmental health risks or safety risks have been identified in this Final EA that would adversely affect any person of any age; therefore, it is reasonable to assume that there would be no disproportionate effects on children or that any potential effects would be less than significant.

5.16 Water Quality

This section assesses potential water quality impacts to surface water and groundwater resources resulting from the Proposed Action and the No-Action alternatives. NEPA regulations that address issues pertaining to water quality are discussed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.17.

As discussed in Chapter 4, Affected Environment, LaGuardia Airport is located along the waterfront adjacent to Flushing Bay, which generally includes sub-waters known as Riker's Island Channel and Bowery Bay. These water bodies are treated as a single combined resource because the exact boundaries of these waters relative to each other are somewhat ambiguous. The Airport is also located above an EPA-designated sole source aquifer; however, the aquifer is not currently used for drinking water and there are no water supply wells in the vicinity of the Airport. Stormwater runoff from the Airport is discharged into Flushing Bay under a State Pollutant Discharge Elimination System (SPDES)

[108] U.S. Census Bureau, 2011 American Community Survey 1-Year Estimates, computed weighted average of the median household income of Bronx County, and Queens County, New York.

permit issued by NYSDEC (Permit #0008133). Finally, in accordance with the SPDES permit, the *LaGuardia Airport Best Management Practices Plan (July, 2009)* is in place to reduce or prevent pollution of surface and groundwater resources.

5.16.1 Proposed Action

There are no surface water features within the project site. The construction and operation of the Proposed Action would occur within the existing terminal area complex, away from Flushing Bay, and would not require any alteration of navigable waterways. As discussed in other applicable sections in this Final EA, there would be no adverse impacts to wetlands, coastal resources, or aquatic ecosystems. There are no coastal barriers, or wild/scenic rivers, in the vicinity of the Airport. The unavoidable location of the project within a designated flood hazard area is addressed in Section 5.8, Floodplains.

Groundwater Resources

The water table beneath LaGuardia Airport is generally near the surface. Geotechnical reports indicate that the depth to water ranges from 3.79 to 10.42 feet below ground level within the project site. The same reports indicate low levels of petroleum hydrocarbons associated with fuel and oil products, glycols associated with deicing activities, and other trace elements of pollution. Except for temporary effects associated with deep foundation construction, aquifer layers beneath the water table would not be affected.

During construction, any excavated soil that exhibits signs of petroleum contamination (e.g., odor, staining, saturation, etc.) would not be reused and would be tested and then disposed of either as solid waste or petroleum contaminated soil in accordance with NYSDEC requirements. In addition, high groundwater conditions would be factored into the project design. Dewatering for foundation excavation and during deep foundation construction would be performed in compliance with LaGuardia Airport's Long Island Well Permit. Groundwater from the dewatering process would be tested for pollution concentration levels, treated if necessary, and disposed of accordingly. Wastewater that complies with effluent limitations in the SPDES permit would be released into the storm sewer system. If pollution concentrations exceed established threshold levels, the wastewater would either be treated on-site to meet water quality standards or collected and disposed of off-site by a licensed contractor in accordance with PANYNJ contract specifications and NYSDEC requirements, thereby removing petroleum hydrocarbons and other contaminants that would have otherwise continued to affect groundwater quality. These management techniques have been applied to other redevelopment sites at PANYNJ airports and would be applicable to the Proposed Action.

After construction, impervious cover across the project site would increase by approximately four acres, which would potentially increase storm runoff volume by reducing the limited area available for stormwater infiltration and groundwater recharge. To compensate for the predicted (net) increase in storm runoff, drainage swales incorporated into the roadway stormwater management system would allow for the brief and temporary collection and infiltration of stormwater resulting from a moderate 2-year storm event. By design, these vegetated swales rely on the infiltration process, which is when water soaks into the ground and eventually recharges groundwater. Under the Proposed Action, stormwater would enter the swales through cuts in the curb or through catch basins and infiltrate through the grass and soil. Pollutants in the stormwater would be removed by the grass and soil in this infiltration process, thereby helping to protect groundwater resources from contamination.

Stormwater Runoff

Under existing conditions, storm runoff from LaGuardia Airport is captured by a drainage system and discharged into Flushing Bay (see **Figure 5-14**). A dike runs along Runway 13-31, separating the Airport from the adjacent surface waters. As discussed in Chapter 4, Affected Environment, the Airport's drainage system consists of nine basin areas with an infrastructure network that collects and conveys stormwater away from paved and grassy areas by way of two 72-inch gravity flow trunk lines connected to a series of outfall structures. The water is discharged into Flushing Bay, either pumped over the dike or through gravity flow. In the event of an unanticipated spill or release, the pump stations can be shut off to prevent pumping contaminated runoff into Flushing Bay.

Under the Proposed Action, the use and characteristics of the Airport and the project site would not change. LaGuardia Airport consists of 680 acres and approximately 95 percent of the land is covered with impervious surfaces. The large majority of the project site is located within drainage Basin 2, which drains nearly half the Airport property. Generally, stormwater from Basin 2 is collected and pumped over the dike into Flushing Bay at Pump House 1 (Outfall 10), Pump House 2 (Outfall 11), and Pump House 4 (Outfall 13). All the pump houses were recently upgraded with new emergency generators in response to Superstorm Sandy. Stormwater from the Proposed Action would continue to be collected and conveyed via the two 72-inch trunk lines that lead to Pump House 4 (Outfall 13) (see **Figure 5-14**). All approvals for stormwater discharge would come through New York State, as part of the Airport's existing SPDES permit.

There would be no new discharge locations, no additional pump stations, and no stormwater would be diverted to a different watershed or to a previously unaffected basin area. Pump House 4 was recently upgraded and has adequate capacity to accommodate the existing and future needs of the Airport.[109]

Approximately 90 percent of the project site is covered with impervious surfaces. The Proposed Action would simply reconfigure the terminal building, airside apron, landside roadways, parking garage, and utilities within the project site. Preliminary engineering estimates indicate that impervious cover within the limits of the project site would increase by no more than four acres, which is less than three percent of the project site and less than one percent of the Airport site. The resulting increase in storm runoff volume would be managed on-site through project-related improvements to the existing drainage system including best management practices and control measures as needed to permit the Proposed Action to be implemented in compliance with SPDES requirements.

Under the Proposed Action, the Airport's drainage system would be retained to the degree practicable. Existing storm drainage pipes would only be removed to accommodate construction of the terminal building or other permanent airside or landside facilities. New, relocated, or modified drainage structures would be designed to comply with NYSDEC regulatory requirements, existing and relocated storm trunk lines would be interconnected to relieve overloaded conditions, and all storm drain pipes would be checked to verify they can handle existing and proposed peak discharges. In general, the storm sewer system would continue to capture and discharge stormwater as it does currently, regardless of the alternative selected. However, the Proposed Action includes additional means and measures to help

[109] Pump House 4 Upgrades was a state-of-good repair project needed to improve service and reliability of the pump station, which in turn enhanced airport safety and efficiency by reducing the risk of flooding (FAA Categorical Exclusion dated June 7, 2012).

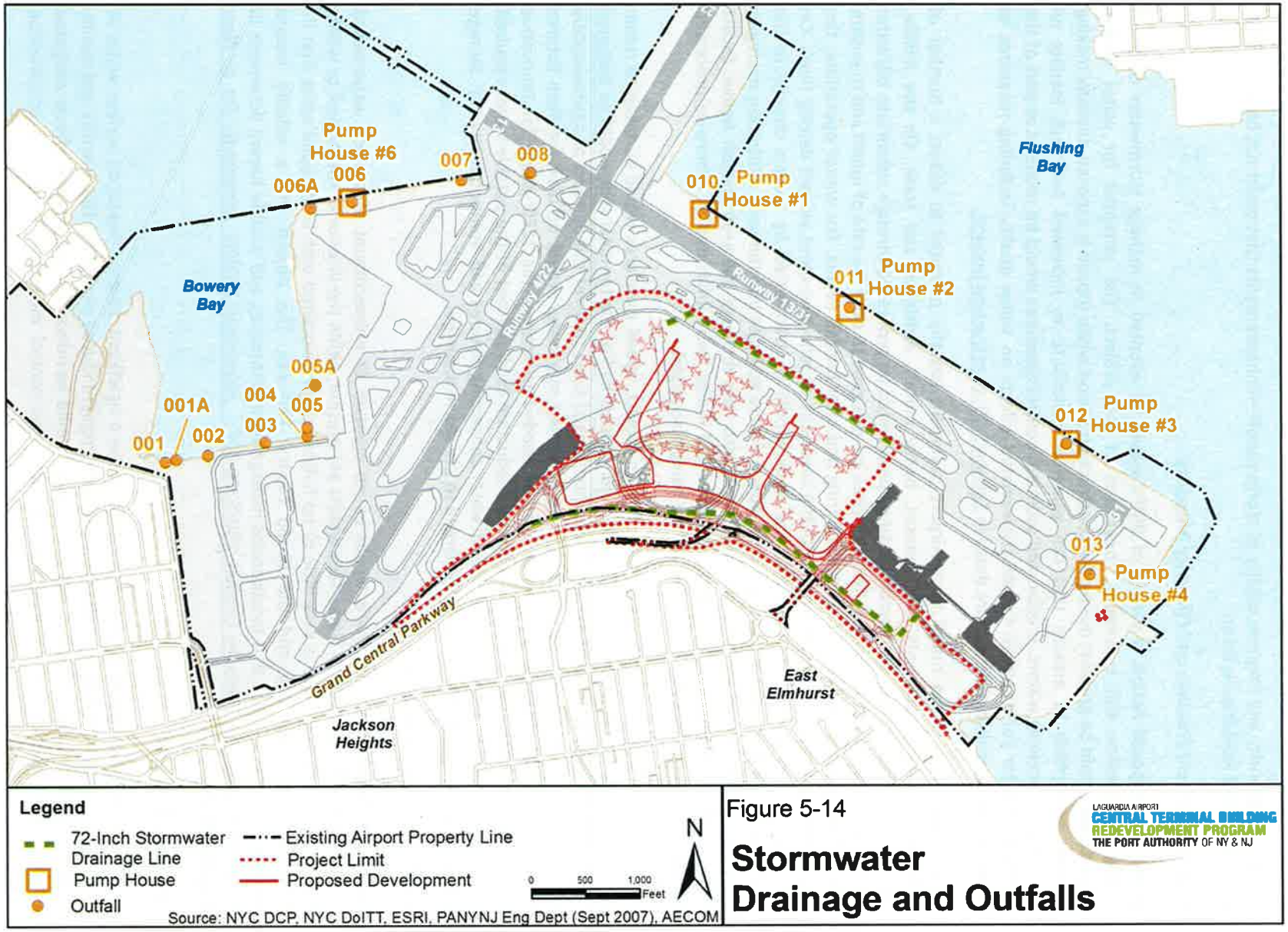

Figure 5-14

Stormwater Drainage and Outfalls

LaGuardia Airport
Central Terminal Building
Redevelopment Program
The Port Authority of NY & NJ

reduce the quantity and improve quality of storm runoff—enhancements that could not be reasonably accomplished if No-Action is taken.

Best Management Practices and Efficiency Measures

Under the Proposed Action, a variety of BMPs would be adopted to manage stormwater collected during construction and subsequent operation of the project. The potential for water quality degradation would be greatest during the construction period when topsoil is exposed, thereby making it more susceptible to erosion that can cause or contribute to increased sediment loading on downstream receiving waters. Erosion and sediment control measures would be required as part of the SPDES permit for construction. Construction-related effects on water quality including measures to minimize harm are discussed in more detail in Section 5.19, Construction Impacts.

After construction, storm runoff from Airport pavement has the potential to collect a number of pollutants including sediments, oils, greases, heavy metals, nutrients, and trash. On the airside, stormwater collected from the aircraft parking apron would be processed through subsurface oil/water separators before being discharged. These devices are designed to slow the rate of runoff and to ensure that pollutants are captured and collected during and after rainfall events. For winter operations, the storm drain system would be designed with the capability of collecting spent aircraft deicing fluids. On the landside, stormwater from the frontage roads would be transferred by leaders directly to the landscaped area which would be sculpted to allow runoff to infiltrate into the soils. Infiltration strategies have high pollutant removal efficiency and would also help recharge the groundwater below. Excess water would be channeled into vegetated swales and drains to be infiltrated or otherwise processed through subsurface oil/water separators before being discharged.

In keeping with the Sustainable Design Plan for the project, added measures would be taken to retain and reuse storm runoff for non-potable water use. At least half of the terminal roof would be designed to channel rainwater to an underground detention tank(s) sized to meet the demand of approximately three weeks of non-potable water supply. The harvested rain water would be used for flush fixtures (toilets) and other potential gray water uses as needed to achieve the LEED credit for Innovative Wastewater Technologies. This credit requires a reduction in 50 percent of the potable water required for sewage conveyance through the use of water conserving fixtures and non-potable water. Storage tank overflow would be filtered and discharged to site storm drainage.

Hazardous Wildlife Attractants

Under the Proposed Action, there would be no creation or enhancement of surface water-based hazardous wildlife attractants. No surface waters are present within the interior of the Airport or within the project limits, and there is very little or no habitat value associated with landscaped areas that lie between Airport property and the Grand Central Parkway. The Airport has a wildlife hazard management plan in place that incorporates management techniques and wildlife hazard deterrents in accordance with FAA Advisory Circular 150/5200-33C: *Hazardous Wildlife Attractants On or Near Airports, as amended.*

Summary of Impacts

The Proposed Action would not be permitted to cause a significant adverse impact on surface water or groundwater resources during or after construction. Project-induced changes in the quantity and quality of storm runoff are likely to occur, but the changes would be minor and the adverse effects mitigated through water quality best management practices and control measures. Temporary construction

impacts notwithstanding, the overall impact on storm runoff would be a positive one due to the installation of new water quality devices and implementation of initiatives to reduce the quantity and improve the quality of runoff by retaining stormwater for infiltration or gray water reuse. Compliance with the proposed stormwater drainage plan, the Airport's Long Island Well Permit, effluent limitations in the SPDES permit, erosion and sediment control measures in the SPDES permit, and the *LaGuardia Airport Best Management Practices Plan,* provides adequate assurance that potential negative impacts on water quality would be less than significant.

5.16.2 No-Action Alternative

Under the No-Action Alternative, existing conditions would remain unchanged. The CTB Redevelopment Program would not be implemented, the central terminal area would not be reconfigured, and the drainage system would not be altered or improved. Instead, the existing CTB and ancillary facilities would be renovated in their existing locations. There would be no increase in impervious surface coverage and no improvements in the quality or quantity of groundwater, storm runoff, or discharges to Flushing Bay. PANYNJ would continue to implement the *LaGuardia Airport Best Management Practices Plan* in accordance with the existing SPDES permit.

5.17 Wetlands

A wetland is a topographically low area that is saturated with water, either permanently or seasonally, and consists of hydric soils capable of supporting aquatic habitat. Wetlands include swamps, marshes and bogs, and they are typically found alongside waterways and in floodplains. According to the EPA, wetlands are part of the foundation of our nation's water resources and are vital to the health of waterways and communities that are downstream. Wetlands feed downstream waters, trap floodwaters, recharge groundwater supplies, remove pollution, and provide fish and wildlife habitat. Wetlands are also economic drivers because of their key role in fishing, hunting, agriculture, and recreation. NEPA regulations that address impacts on wetlands are discussed in FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*, and FAA Order 1050.1E, Change 1, Appendix A.18.

As discussed in Chapter 4, Affected Environment, approximately 95 percent of the Airport's property is covered by the airfield, buildings, roadways, and parking lots. Those few acres of undeveloped Airport property include both upland and lowland wetland cover types. The lowland areas consist of tidal wetlands and open water associated with the shoreline where Flushing Bay borders the Airport; there are no wetlands or other water resources located within the interior of the property. The project site is located inland from the shoreline and is covered with buildings and pavement interspersed with urban landscaping consisting of trees, shrubs, and grasses. There are no wetlands or other water resources located within the project site.

The wetlands nearest to the project site are tidal marsh located along Flushing Bay on the north and east sides of the Airport (see **Figure 5-15**). The Proposed Action avoids a direct impact on the tidal wetland; however, the project's limit of disturbance is in close proximity to a state-regulated *150-foot tidal wetlands adjacent area*. The remainder of this section identifies federal and state laws for the protection of wetlands and adjacent areas, discusses the process used to identify tidal wetlands located on the Airport and near the project site, and explains how PANYNJ determined that there would be no impact on the tidal wetland and no adverse impact on the tidal wetland adjacent area.

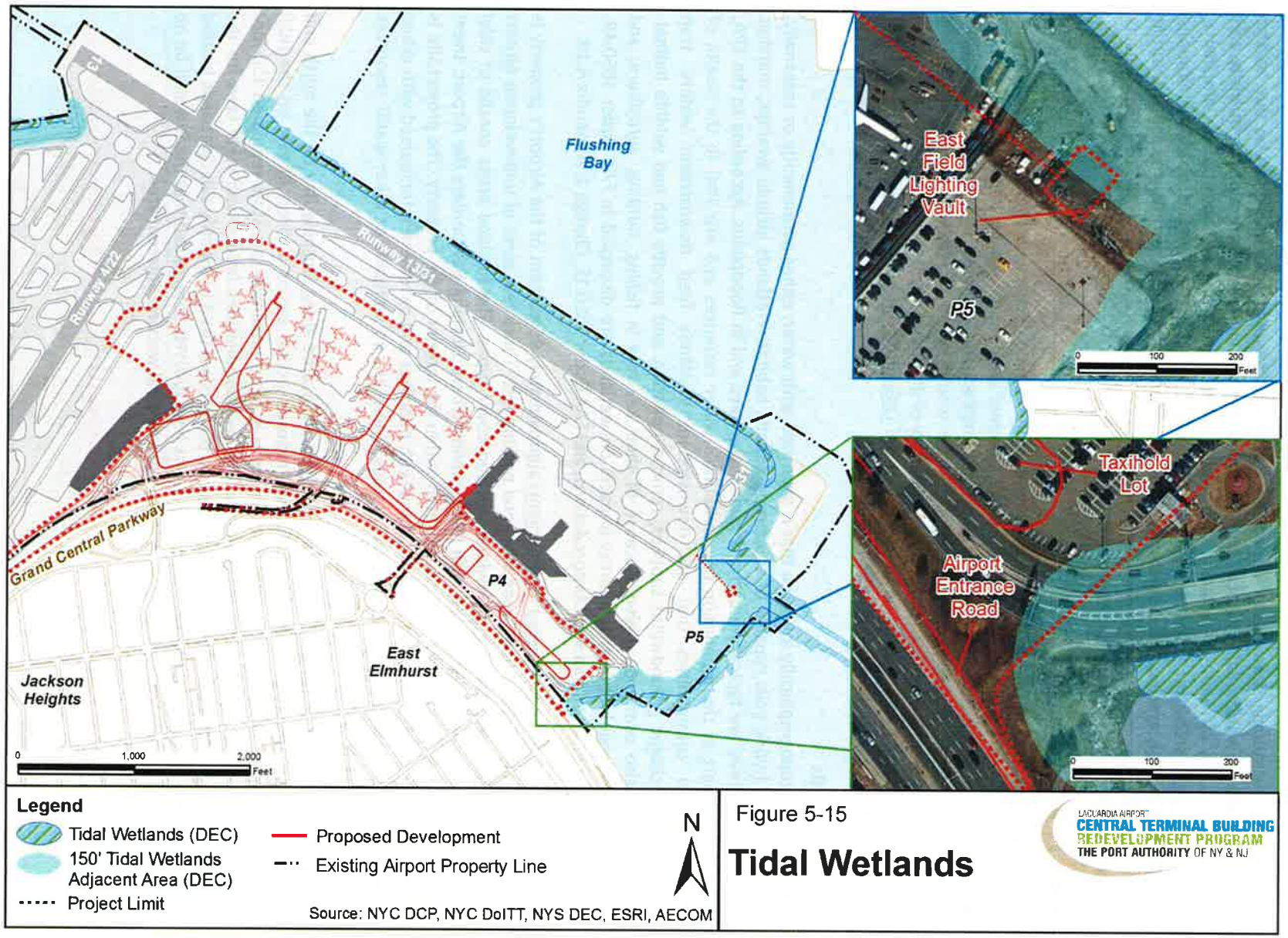

Figure 5-15

Tidal Wetlands

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Wetlands, including freshwater and tidal wetlands, are regulated by the U.S. Army Corps of Engineers (USACE) under the authority of Section 404 of the Clean Water Act.[110] USFWS National Wetlands Inventory (NWI) maps serve as a general planning tool to identify tidal and freshwater wetlands in and around the project area. Determining the exact location and boundary of a regulated wetland area requires a formal delineation according to the methodology contained in the *1987 U.S. Army Corps of Engineers Manual for Delineating Jurisdictional Wetlands* and a jurisdictional determination by the USACE. In New York, wetlands are regulated by the NYSDEC according to the Freshwater Wetlands Act[111] and the Tidal Wetlands Act.[112]

Data Collection and Site Reconnaissance

A preliminary wetland assessment was performed to verify the presence or absence of tidal and freshwater wetlands and adjacent areas in the vicinity of the project site. Secondary source data and agency resource mapping were used to establish baseline environmental conditions. A Professional Wetland Scientist visited the project site on two occasions to verify conditions, to validate secondary source data, and to obtain supplemental resource information. The preliminary findings are summarized below. More detailed information is provided in the *Environmental Resource Screening and Assessment*.[113]

USFWS National Wetlands Inventory mapping, NYSDEC Freshwater Wetland mapping, NYSDEC Tidal Wetland mapping, State Soil Geographic Database (STATSGO) soils mapping, and aerial mapping, were reviewed prior to conducting the field investigation. The USFWS NWI maps identified estuarine wetlands along the north, east, and west perimeter of the Airport. *Estuarine wetlands* are characterized as deepwater tidal habitats with a range of brackish-marine water chemistry and daily tidal cycles. No freshwater wetlands are mapped in the vicinity of the Airport. According to NYSDEC Freshwater Wetlands mapping, the closest mapped freshwater wetlands are located approximately 1.5 miles east of the Airport.

NYSDEC Tidal Wetland Maps depict tidal wetlands located along the perimeter of Airport property and adjacent to Bowery Bay, Riker's Island Channel, and Flushing Bay. This is consistent with the estuarine wetlands identified on the USFWS NWI maps referenced above. Field investigations were performed on May 3, 2012 and June 11, 2012, to verify the presence/absence of wetlands within and adjacent to the Airport. The results of this investigation concur with the NYSDEC mapping, but the Professional Wetland Scientist also observed unmapped intertidal marsh outside of the project limits along eastern and northern property boundaries along Flushing Bay and part of the western property boundary along Bowery Bay.

The preliminary wetland assessment conducted for this Final EA verifies there are no wetlands or other water resources located within the project site. The nearest wetland is a tidal marsh located along the shoreline near the east end of the Airport and within 150 feet of the project's limit of disturbance. At this time, PANYNJ has not requested a Jurisdictional Determination from USACE or a freshwater wetland and tidal wetland verification from the NYSDEC. These regulatory reviews are normally conducted

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[110] Waters of the United States is defined at CFR 328.1.

[111] Article 24 of the Environmental Conservation Law and implementing regulations 6NYCRR Part 663 through 665

[112] Article 25 of the Environmental Conservation Law and implementing Tidal Wetlands Land Use Regulations 6NYCRR Part 661; mapped in the New York State Tidal Wetlands Maps.

[113] Prepared by Amy S. Greene Environmental Consultants, Inc. (June 13, 2013).

during a project's engineering stage, if there would be project-related adverse impacts on NYSDEC-mapped wetlands, or adjacent areas, and if agency permits are required.

5.17.1 Proposed Action

There are no mapped or unmapped wetlands within the project's limit of disturbance; however, tidal wetlands are mapped by the NYSDEC within close proximity to these two elements of the project:

- East Field Lighting Vault — Construct a 4,500 square foot building in a vacant area adjacent to Parking Lot #5
- Relocated Taxi Hold Lot — Re-stripe a portion of Parking Lot #4 (to be used for a taxi hold area) and resurface an existing airport entrance road along the southeast corner of the project site

The NYSDEC regulates *tidal wetland adjacent areas* (land immediately adjacent to a tidal wetland) in accordance with the Tidal Wetlands Act. The width of the adjacent area within the boundaries of New York City is 150 feet.

East Field Lighting Vault

The proposed east field lighting vault is physically located within 150 feet of NYSDEC mapped tidal wetlands; however, the vault would be located on the landward side of a bluff that is at least 10 feet above MSL. The 10-foot elevation level is recognized as a tidal wetland adjacent area limit; therefore, the proposed east field lighting vault would lie outside of the regulated tidal wetland adjacent area. Trenching and installation of underground electric cables between the lighting vault and existing utilities would also occur outside of the tidal wetland adjacent area. Most of the land between the top of the bluff and the proposed east field lighting vault is graded and disturbed. On this basis, the construction and operation of the east field lighting vault would not impact the nearby tidal wetland or adversely impact the tidal wetland adjacent area. No permitting action would be required.

Relocated Taxi Hold Lot

The tidal wetland adjacent area at the extreme southeast corner of the project area encroaches on Parking Lot #4 and the Airport entrance road. Sheet piling forms a barrier between the Airport and offsite tidal wetlands at the southeast end of the property, providing a confining feature that defines the limit of the landward side of the tidal wetland adjacent area.[114] In addition, the proposed activities within this area—milling, resurfacing, and restriping existing pavement—would not adversely impact the tidal wetland adjacent area. Pursuant to NYSDEC regulations, these activities fall under Activity #21–ordinary maintenance and repair—and do not require a tidal wetland permit in the adjacent area, provided the activity remains within the footprint of existing development, which it would. Construction and operation of the relocated taxi hold lot, and resurfacing the Airport entrance road, would not impact the nearby tidal wetland or adversely impact the tidal wetland adjacent area. No permitting action would be required. The natural features of the tidal wetland adjacent area, which includes ornamental plantings and mowed lawn, would remain undisturbed.

[114] Sheet piling is an earth retention and excavation support technique that retains soil, using steel sheet sections with interlocking edges.

Summary

No wetlands are present within the project site. Tidal wetlands are located near the east end of the project site where the Airport borders Flushing Bay; however, the location of the project and the activities they entail would preclude any impacts. Under the Proposed Action, there would be no impact on tidal wetlands and no adverse impact on NYSDEC-regulated tidal wetlands adjacent area. No further investigation, documentation, or agency coordination is needed. No permits are required and no mitigation measures are proposed.

5.17.2 No-Action Alternative

Under the No-Action Alternative, there would be no impact on freshwater or tidal wetlands and no impact on NYSDEC-regulated wetlands adjacent areas.

5.18 Wild and Scenic Rivers

The Wild and Scenic Rivers Act of 1968 serves to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. According to the NYSDEC's listing of Wild, Scenic and Recreational Rivers, there are no designated wild or scenic rivers in the vicinity of LaGuardia Airport.[115] No impacts would occur as a result of the Proposed Action or No-Action Alternatives.

5.19 Construction Impacts

This section discusses the potential for adverse impacts on the environment due to construction. These are impacts caused by and confined to the construction period. Consequently, they are temporary in nature, terminating with the completion of construction activities and restoration of the project site. Many of the specific types of impacts that could occur and the permits or approvals that may be required are covered in the descriptions of the other appropriate impact categories, i.e., traffic, air quality, noise, etc. To avoid repeating information included in the other sections of this chapter, this section summarizes, for each environmental consequence, the impacts related specifically to the construction phase of the Proposed Action as well as the corresponding mitigation measures that could be taken to avoid or minimize environmental harm. Construction-period mitigation measures, if necessary, are also discussed in Chapter 6, Mitigation.

The CTB Redevelopment Program is divided into multiple construction phases that would take approximately eight years to complete, beginning in 2014 and continuing through 2021. More detailed information about the construction phase activities is provided in **Appendix F: Supporting Data**. The Proposed Action is described in Section 3.1, Proposed Action Alternative. The descriptions of the proposed project, the work to be performed, and the estimated quantities provide the foundation for assessing the following construction impacts:

- Construction-related traffic on local roadways
- Air pollution, including engine exhaust emissions and fugitive dust
- Habitat degradation and loss, including tree removal and replacement
- Impacts on historic resources, including buildings and a potential archaeological site
- Demolition and construction waste, including hazardous materials
- Noise pollution, including construction-related traffic and equipment noise

[115] Available online at http://www.dec.ny.gov/permits/32739.html.

- Water pollution, including soil erosion and sedimentation

If the Proposed Action is implemented, the project specifications would follow the provisions of FAA Advisory Circular 150/5370-10F, *Standards for Specifying Construction of Airports*. This Advisory Circular (AC) outlines the FAA's guidelines and specifications for materials and methods used in the construction of airports. The use of this AC is mandatory for all projects funded with federal grant monies through the Airport Improvement Program (AIP) or with revenue from the Passenger Facility Charge (PFC) Program.[116]

In addition, as referenced throughout this section, the Proposed Action would comply with PANYNJ *Sustainable Design Guidelines* to the degree practicable.[117] These guidelines, which include Sustainable Building Guidelines (Part 1, for projects inside the building envelope) and Sustainable Infrastructure Guidelines (Part 2, for projects outside the building envelope), aim to optimize infrastructure project design through sustainable engineering practice, with the goal of cost savings, extending the lifecycle of a project and, in some cases, a reduction in operational costs.

5.19.1 Traffic and Transportation

During the construction period, temporary traffic impacts would be limited to increased traffic volumes on neighborhood roads, which may cause or contribute to increased traffic congestion and increased travel times for drivers—most of which would be expected to occur during off-peak times of the day. There are no proposed road closures, traffic detours, or other foreseeable disruptions of local surface transportation patterns in the community surrounding the Airport. As such, there would be little to no impact to the traveling public and access by emergency vehicles would not be impeded. The Port Authority Police Department would regularly coordinate with the New York City Police and Fire Departments during construction. Traffic impacts during the construction-period are assessed in Section 5.1, Traffic and Transportation, and in **Appendix A: Transportation**. Construction-induced traffic impacts cannot be avoided but the effects would be minimized using temporary measures to reduce delays such as adjusting signal timing at the study intersections, as discussed below.

Construction-Related Vehicles on Local Roadways

Construction activities would generate additional traffic on the local roadways. The incremental increase in traffic volumes associated with the Proposed Action would consist of construction-related vehicles. Construction-related vehicles include both construction workers traveling to and from the designated contractor parking area via passenger vehicles and shuttle buses, as well as trucks hauling material and equipment to and from the construction site via established New York City truck routes. The designated contractor parking area is a site to be developed on Airport property along the north side of 19th Avenue between 45th Street and Hazen Street/Riker's Island Bridge.[118] Workers would be transported to and

[116] See Grant Assurance No. 34, "Policies, Standards, and Specifications," and PFC Assurance No. 9, "Standards and Specifications."

[117] On July 13, 2006, the PANYNJ issued Administrative Instruction 45-2 (AI 45-2) "to reduce adverse environmental impacts of the design, construction, operation and maintenance and occupancy or leasing of new or substantially renovated buildings and facilities, reconstruction projects, and programs." AI 45-2 referenced creation of sustainable design guidelines and an accompanying compliance framework, which were incorporated into the *Sustainable Design Guidelines* (formerly the *Sustainable Design Project Manual*, August 2007).

[118] It is anticipated that daily parking for construction personnel would be accommodated at the Ingraham's Mountain site—a PANYNJ-owned parcel that would be developed for contractor parking associated with the

from the contractor parking area and the construction site using shuttle buses. As shown in **Figure 5-1**, the shuttle buses would use local roadways (e.g., 45th Street and 19th Avenue) to connect to a programmed construction-only access driveway (19th Avenue and 81st Street); the remainder of the shuttle bus route would utilize on-Airport roadways (e.g., Bowery Bay Boulevard, Marine Terminal Road, and Runway Drive/LaGuardia Road). Given the proposed construction shifts (7:00 am to 3:00 pm and 3:00 pm to 11:00 pm), worker trips would be concentrated during off-peak hours and would not represent a substantial increment during peak travel periods in the vicinity of the Airport.

Construction truck trips to and from the site would generally be made between the hours of 4:00 am and 10:00 pm in accordance with an approved materials staging and construction access plan that specifies hours of operation, haul routes, and similar controls. Truck arrivals are expected to be generally uniform throughout this time period with slightly higher numbers of trips during the late morning and midday hours (8:00 am to 1:00 pm) when on-site activities are expected to peak. Some truck deliveries would also be made early in the morning, during off-peak times, to ensure that materials and equipment are on-site prior to the start of the first shift. Trucks would typically remain on-site for relatively short durations (typically one hour or less). All trucks are required to use NYCDOT-established truck routes, as shown in **Figure 5-1**.

To reduce the effects of the proposed project on the local traffic network, the Proposed Action includes a list of temporary transportation improvements during the construction period. As discussed in Section 5.1 and in **Appendix A**, these improvements, at a total of 12 intersections, include a traffic signal installation, a traffic signal controller upgrade, signal timing adjustments, curbside parking prohibitions, lane widening/restriping, and the use of construction flaggers. The improvements would be recommended as temporary measures to reduce delays at the study intersections and ensure the most efficient traffic signal operations during periods of construction activity.[119] The need for and timing of implementation of the improvements would be determined by the evaluation of data collected through a monitoring program by PANYNJ (in coordination with NYCDOT) throughout the construction period. With these improvements in place, no significant construction traffic impacts are projected to occur in accordance with the CEQR *Technical Manual* criteria. Therefore, no additional traffic improvements or mitigation measures are proposed.

5.19.2 Air Quality

Construction activities would have a temporary effect on local air quality. Air pollution during the construction period would be caused primarily by emissions from construction-related vehicles and equipment and by fugitive dust from demolition and construction activities. Construction-related air emissions cannot be avoided but the effects would be minimized using air quality best management practices (BMPs) and control measures to reduce emissions from the construction site to the degree practicable, as discussed below.

Emissions from Vehicles and Equipment

Construction traffic associated with the Proposed Action would consist of on-road vehicles generated by construction personnel (laborers, managers, and administrative staff) and by construction trucks associated with the transport of materials and equipment to and from the construction site via

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LaGuardia Airport RSA Enhancements project, which is separate from and expected to precede the CTB Redevelopment Program.

[119] All transportation improvements on local roadways are subject to review and approval by NYCDOT.

established New York City truck routes. In addition to the tailpipe emissions from construction traffic, exhaust emissions would be generated by diesel-fired engines used to operate non-road machinery and equipment. These construction-induced air emissions are assessed in Section 5.2, Air Quality, and in **Appendix B**.

Emissions from construction vehicles and equipment would be reduced through the use of ultra-low sulfur diesel fuel, by requiring that heavy-duty equipment be retrofitted with best available technology (BAT) devices targeted primarily for particulate matter and secondarily toward the reduction of nitrogen oxides (NO_X), and by minimizing the use of diesel-powered generators when electric power is available at the site. While the air quality analysis demonstrated that emissions from construction vehicles and equipment would not exceed any applicable standard, PANYNJ's *Sustainable Infrastructure Guidelines*[120] contain additional emission reduction strategies that could be implemented, if necessary. For example, trade contractors could be required to submit and comply with an Engine Idling Control Plan that requires operators to turn engines off after a specified period of non-activity.

Fugitive Dust

Construction is a source of dust emissions that could have an impact on air quality. "Dust" is particulate matter (PM), solid particles composed mainly of soil elements. "Fugitive" dust is small airborne PM that becomes suspended in the air and transported by the wind. Building demolition and construction activities which would produce fugitive dust include: land clearing, grading, and excavation with heavy equipment; truck travel into and out of the work area; aggregate storage piles; and loading and unloading demolition debris and building materials.

A wide array of BMPs and control measures are available to help prevent or reduce fugitive dust emissions from construction sites. These generally involve watering exposed soil surfaces, covering trucks transporting dust-producing material entering or leaving the project site, reducing construction vehicle speeds on unpaved surfaces, and using windbreaks or source enclosures to minimize wind erosion. Many situations require one or more methods to be used in combination, and several methods may be used to handle the variety of situations.[121]

The potential for fugitive dust emissions would be greatest during demolition activities, when large concrete structures such as the CTB parking garage are being removed, and during site preparation for the proposed new roadways. Although the exact method or combination of methods for abatement of erosion and emissions has not been determined at this time, at a minimum, contractors would be required to submit a proposed method of erosion and dust control together with a plan for the disposal of waste materials in accordance with FAA's *Standards for Specifying Construction of Airports.*[122]

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[120] PANYNJ, Sustainable Infrastructure Guidelines, IC-4, Utilize Green Construction Equipment (March 23, 2011).

[121] At The World Trade Center Memorial site, where dust prevention is an important aspect of construction, multiple tactics were employed. Stormwater collected in sedimentation tanks at the site is used for controlling fugitive dust. Strategies to minimize pollution include regular sweeping and wetting of dust and dry soils, use of approved sprayed suppression agents, wheel washing in designated truck wash-off areas, as well as wetting and covering of stockpiled materials to prevent erosion, when applicable.

[122] FAA, Standards for Specifying Construction of Airports, Item P-156, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control, AC 150-5370-10A (September 30, 2011).

Additional strategies to minimize air pollution from dust and particulate matter at the construction site are contained in PANYNJ's *Sustainable Infrastructure Guidelines.*[123] Adherence to the aforementioned BMP and control measures would be expected to effectively reduce air pollution during the construction period. No mitigation measures are proposed.

5.19.3 Fish, Wildlife and Plants

Local species of wildlife would be temporarily displaced by earth disturbance and tree removal associated with site preparation such as clearing/grubbing and by earth moving for grading, drainage, etc. After construction, trees would be replaced and landscaped areas would be re-established with shrubs and grasses, thereby allowing displaced wildlife to return. Of the approximately 270 trees located between the Airport and the Grand Central Parkway, it is estimated that approximately 200 would be removed (63 of which would be off Airport property) and that the remaining trees would be avoided and protected. Where NYC Tree Removal cannot be avoided, tree replacement would comply with *NYC Rules Governing Tree Replacement.*[124] No impacts would occur to any NYC Trees without the applicable NYCDPR *Construction and Forestry Permit* and a mitigation plan approved by NYCDPR. In addition, all new or replacement landscaping would be required to comply with FAA standards and practices for wildlife hazard management.[125] For more information, see Section 5.7, Fish, Wildlife and Plants.

5.19.4 Hazardous Materials and Solid Waste

Demolition and construction waste would be generated by the Proposed Action. The majority of the waste material would result from the demolition of the terminal building, parking garage, hangars, roadways, and other paved areas. Prior to demolition, environmental site assessments would be prepared for each structure to determine the presence of asbestos, lead, PCBs, or other hazardous materials.[126] All necessary precautions for the safe removal of hazardous materials and wastes would be coordinated with the appropriate state and local permitting agencies.

All construction waste would be disposed of in accordance with applicable federal, state, and local regulations. Clean construction debris (concrete, asphalt, etc.) may be recycled and used as fill material on the Airport and off-site, as needed, in accordance with present practices. The disposal of demolition and construction debris would be coordinated between PANYNJ, terminal tenants, the construction manager, and licensed waste haulers.

In addition, contaminated soils and/or groundwater may be encountered during excavation and dewatering associated with the installation of utilities, removal of underground storage tanks, and construction of foundations. Construction protocols would be in place to identify and manage the environmental issues that arise due to the discovery of soil and/or groundwater contamination at the construction site.

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[123] PANYNJ, Sustainable Infrastructure Guidelines, IC-1, Minimize Pollution from Construction Activity (March 23, 2011).

[124] Title 56 of the New York City Rules and Regulations, Chapter 5 entitled "Rules Governing Tree Replacement."

[125] FAA Advisory Circular (AC) 150/520-33C, *Hazardous Wildlife Attractants On or Near Airports* (December 7, 2012).

[126] See PANYNJ, Sustainable Infrastructure Guidelines, Appendix 05-Toxic and/or Hazardous Materials (March 23, 2011).

If hazardous materials are expected to be encountered or are otherwise discovered during construction, PANYNJ would implement appropriate safety procedures and remediation strategies as needed to protect human health and the environment. The following preventative measures are appropriate for construction activities associated with each of the hazardous materials identified above.

- Asbestos would be removed from existing buildings prior to any demolition or construction work. Removal protocols, established by PANYNJ, the City, and the State would be followed, thereby minimizing potential risks to human health and the environment. These procedures would also address issues of noise and dust control, and thereby protect the public and workers from exposure to hazardous materials. The asbestos waste generated during the abatement process would be disposed of according to state (NYSDEC) regulatory requirements.

- Materials coated with lead-based paint would be removed from the buildings during demolition and the waste would be recycled or disposed of as appropriate. Construction protocols would ensure that dust is minimized and contained. Workers would be provided with protection from lead dust. Local and state permitting and notification would apply to the removal, transportation, recycling, and/or disposal of lead-containing materials.

- PCB-containing ballasts would be incinerated, recycled or disposed of in an approved landfill, subject to local, state and federal regulations. Transformers containing PCBs would be incinerated or recycled at approved facilities, also subject to local, state, and federal regulations. Incineration and recycling are more protective of the environment.

- Mercury-containing lamps would be removed prior to demolition in accordance with federal and state hazardous waste requirements. Removal protocols would ensure that lamps are protected from breakage and that waste lamps handled by qualified waste handlers and transporters are directed to appropriate recycling or disposal facilities. Mercury and lead in elemental form, such as thermostats, thermometers, switches, and solders, would be removed and disposed of or recycled at approved facilities in accordance with federal and state hazardous waste requirements.

- Construction activities may expose contaminated soils and/or groundwater. Soils from excavation would be tested and disposed of either as solid waste or petroleum contaminated soil in accordance with NYSDEC requirements. Groundwater from the dewatering process would also be tested for pollution concentration levels, treated if necessary, and disposed in accordance with NYSDEC requirements.

As discussed in Section 5.9, Hazardous Materials, Pollution Prevention and Solid Waste, adherence to the aforementioned BMPs and control measures would be expected to effectively reduce potential risks to human health and the environment. No additional mitigation measures are proposed.

5.19.5 Historic Resources

Demolition activities associated with the Proposed Action would have an adverse effect on historic resources, while select earthwork and construction activities might impact an area of potential archaeological sensitivity. For this reason, mitigation measures would be implemented to reduce the effects of the Proposed Action on historic resources at the Airport.

Adverse Effects on Historic Properties

As discussed in Section 5.10, Historic, Architectural, Archaeological and Cultural Resources, and **Appendix D: Evaluation of Historic Resources**, demolition of Hangars of 1, 2, and 4 cannot be avoided; therefore, the adverse effect could be mitigated by recording the NRHP-eligible Hangars 1, 2, 3, 4, and 5, as well as 7, to Level III Historical Architectural Building Survey and Historic American Engineering Record (HABS/HAER) standards of the National Park Service (NPS), which includes photographic documentation and submission into the archives maintained by New York State, developing an interpretive display of the Airport's history to be prominently placed within a public section of the Airport, and maintaining Hangars 3 and 5 in a state-of-good repair for the foreseeable future. In addition, select excavation and trenching activities within a designated area of archaeological sensitivity (in the vicinity of the proposed West Garage) would be performed in accordance with an archaeological monitoring protocol that requires cultural resource staff to be present during specified construction activities and identifies the procedures to be followed if potentially significant archaeological deposits or features are discovered.

Memorandum of Agreement

As discussed in Chapter 6, Mitigation, the nature and extent of the impacts on Hangars 1, 2, 3, 4, and 5, and the mitigation measures to reduce potential harm, have been documented in a Memorandum of Agreement (MOA) signed by PANYNJ, FAA, and the New York State Office of Parks, Recreation, and Historic Preservation, and concurred on by three Consulting Parties. The MOA is a result of the consultation process pursuant to Section 106 of the NHPA (see Section 5.10). A copy of the signed MOA is included in **Appendix D** of this Final EA. This ensures that mitigation measures will be implemented and demolition and construction activities will be carried out in such a manner as to minimize, to the greatest extent possible, the unavoidable adverse effects of the Proposed Action on historic and cultural resources.

5.19.6 Noise

Construction activities would have a temporary effect on ambient noise levels. Noise impacts during the construction period would be caused primarily by construction vehicles and equipment operating at the construction site and to a lesser degree by increased traffic on local roads in the vicinity of the Airport. As discussed below, construction-related noise cannot be avoided, but the effects would be reduced and/or minimized to the degree practicable.

Construction Equipment Noise

Construction activities would generate noise levels in excess of those typically found in the project environs. Typical activities (and sources of noise) would include earthmoving (front loaders, backhoes, tractors, graders, pavers, trucks); materials handling (concrete mixers, concrete pumps, cranes); stationary sources (pumps, generators, compressors); impact equipment (pneumatic wrenches, jackhammers, pile drivers); and other miscellaneous activities and pieces of equipment.

Noise from construction activity differs from noise from other major sources for two reasons. First, it is caused by many different types of vehicles and equipment, as described above. Second, the resulting adverse effects are temporary because the individual activities are relatively short-term, in keeping with the construction schedule. In addition, since construction usually occurs during the day, there is minimal potential for sleep interference.

Construction-related noise levels are assessed in Section 5.13, Noise, and in **Appendix E: Noise Technical Report**. While the analysis demonstrated that noise from construction vehicles and equipment would not exceed any applicable standard, a Noise Control Plan (NCP) would be prepared to minimize construction noise in accordance with New York City rules[127] and to demonstrate compliance with the City's Noise Code.[128] To minimize construction noise, the Noise Code mandates that all construction be conducted in accordance with a noise mitigation plan that specifies the construction activities to be performed and when, lists the different types of construction equipment to be used at the site, and identifies the noise reduction method(s) for reducing the adverse impact of construction noise on the surrounding community. The Noise Code also establishes authorized work hours, sets standards for noise levels created by handling containers and construction material on public streets, and sets forth rules for mitigating noise from different categories of equipment.

The noisiest construction task would be pile driving. A *pile driver* is a mechanical device used to drive piles into soil to provide foundation support for buildings or other structures. The impact of the hammer hitting the pile creates a loud "ringing" sound. Because pile driving would be occurring during the early phases of construction, the following noise control measures are recommended:

- Reduce the impact sound of the ram hitting the pile by placing a resilient pad in the anvil chamber;
- Reduce the discharge sound of the hammer's air exhaust by installing a rectangular steel enclosure lined with acoustically-absorptive material to provide both absorption and a limp mass noise barrier;
- Reduce the "ringing" noise of the steel piles by utilizing acoustical paint across the web of each pile at 4- to 6-foot intervals; and
- Prohibit pile driving at night.

Federal, state, and local rules and regulations for minimizing noise from construction vehicles and equipment provide adequate assurance that the temporary and unavoidable noise levels during construction would be less than significant. Additional strategies to minimize noise from the construction site are contained in PANYNJ's *Sustainable Infrastructure Guidelines.*[129] Adherence to these guidelines would be expected to further reduce noise pollution to the degree practicable.

Traffic Noise

Construction-related traffic noise along local roads in the vicinity of the Airport is discussed in Section 5.13, Noise, and in **Appendix E: Noise Technical Report.** The results of the analysis indicate that the maximum incremental increase in noise predicted for each roadway link is below screening thresholds per the CEQR *Technical Manual*. No mitigation measures are proposed.

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[127] Title 15 Rules of the City of New York–RCNY Chapter 28, Citywide Construction Noise Mitigation.

[128] City of New York Local Law No. 113 of 2005—Noise Control Code.

[129] PANYNJ, Sustainable Infrastructure Guidelines, IC-5, Reduce Noise and Vibration During Construction (March 23, 2011).

5.19.7 Water Resources

The potential for soil erosion and degradation of water quality is greatest during the construction period when topsoil is exposed, thereby making it more susceptible to erosion that can contribute to increased sediment loading on downstream receiving waters. In addition, when stormwater flows over a construction site, it can pick up other pollutants such as debris, chemicals, concrete wash-out, etc., and transport them to nearby water bodies. As discussed in Section 5.16, Water Quality, stormwater runoff from the Airport is discharged into Flushing Bay under a State Pollutant Discharge Elimination System (SPDES) permit issued by the NYSDEC. Compliance with the SPDES permit requires minimal impacts to stormwater from airport activities, including construction.

Stormwater runoff during construction would be covered by the Airport's individual SPDES permit, which requires the implementation of a Stormwater Pollution Prevention Plan (SWPPP) to reduce or prevent stormwater contamination during construction activities, and also requires the submission of a completed Notice of Intent (NOI) advising NYSDEC and the public of PANYNJ's request for additional permit coverage for construction phase activities. Under the SPDES permit process, water quality BMPs would be recommended to deal with sedimentation and erosion control, containment of construction materials (hydraulic fluids, fuel, etc.), washing of construction vehicles, cleaning of concrete mixers, etc. These BMPs would be incorporated into the project's construction documents and become an obligation of the contractor. PANYNJ would monitor compliance with these practices and assure that the stormwater management systems are protected.

All contractors would be required to comply with applicable federal, state, and local laws and regulations, including FAA guidance contained in AC 150/5370-10F, *Standards for Specifying Construction of Airports*, including Item P-156 *Temporary Air and Water Pollution, Soil Erosion and Siltation Control*; AC 150/5320-15A, *Management of Airport Industrial Waste*; and AC 150/5320-5C (including Change 1) *Subsurface Drainage Design*. No construction activity would occur within any regulated wetland or surface water body; no Clean Water Act, Section 404 permit would be required.

5.19.8 Summary of Impacts

Under the Proposed Action, construction activities would cause or contribute to a temporary increase in air, noise, and water pollution, or traffic on local roadways; tree removal and the loss of urban landscaped area; removal of three hangars eligible for listing in the NRHP and excavation of a potential archaeological site; and the need to dispose of hazardous materials and construction waste including contaminated soils and groundwater. Therefore, implementation of the Proposed Action would include various means and measures to minimize the potential for adverse environmental impacts, including, but not necessarily limited to, the following: best management practices and control measures for reducing air, noise and water pollution; temporary improvements to local roadway intersections; an airport-compatible landscape plan including tree replacement; recordation of the NRHP-eligible hangars and cultural resource monitoring during excavation of the potential archaeological site; and, adherence to health and safety plans for the removal and disposal of hazardous waste. Compliance with applicable federal, state, and local rules and regulations, as well as environmental commitments including mitigation measures, best management practices, and PANYNJ sustainability guidelines, would ensure that unavoidable construction impacts are reduced to the degree practicable.

If No-Action is taken, the Proposed Action would not be implemented and the above-listed construction impacts on the environment would not occur. However, as discussed in Section 3.2, No Build/No-Action Alternative, the existing terminal facilities cannot remain in the current condition for an extended period of time. PANYNJ would have no choice but to undertake another terminal modernization program in

order to bring the CTB and ancillary facilities into a state of good repair. Although the larger scale development impacts may be avoided by taking No-Action, some degree of construction impacts, such as increased traffic and traffic-related air and noise pollution, would still be expected to occur.

5.20 Cumulative Impacts

Council on Environmental Quality (CEQ) regulations require that all federal agencies consider the cumulative effects of proposed actions. Cumulative effects are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions." Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. This cumulative impact analysis was conducted to comply with the intent of FAA Order 1050.1E, DOT Order 5610.1C, and the January 1997 CEQ guidance.

The cumulative impacts resulting from the implementation of the Proposed Action have been assessed for projects on and off the Airport. Since the Proposed Action is a major project with environmental consequences due to both construction and the operation of the project, the scope of this analysis is broader than that of a smaller project with fewer effects over a shorter period of time. Accordingly, PANYNJ considers all the projects in geographical or temporal proximity to each other. The geographic boundary of the analysis varies by resource but generally includes the existing Airport property, adjacent properties including Flushing Bay to the north and the Grand Central Parkway to the south, and the Queens neighborhoods of Ditmars/Steinway, Jackson Heights, East Elmhurst, and College Point. The temporal boundary (timeframe) for the analysis also varies by resource but the time limits generally extend five years into the past (2008-2013) and into the future through the aviation activity forecast period (2013-2030).

If the Proposed Action would not cause direct or indirect impacts on a resource, then it may be concluded that it will not contribute to a cumulative impact on the resource. As identified in prior sections of Chapter 5, Environmental Consequences, the Proposed Action is likely to have an adverse, but not significant, effect on the following impact categories:

- Traffic
- Air Quality
- Section 4(f) Resources
- Fish, Wildlife and Plants
- Historic and Cultural Resources
- Noise
- Water Quality

Although these impacts may not be significant themselves, cumulative impacts from one or more projects can result in the degradation of important resources. The other projects included in the analysis occur in the same proximate geographical location as the Proposed Action, and may occur in the past, present, or reasonably foreseeable future.

5.20.1 Past, Present and Reasonably Foreseeable Future Projects

This section identifies the past, on-going, and reasonably foreseeable future projects, within the defined geographic area and timeframe that could affect the same environmental resources as the Proposed Action and result in a larger cumulative effect on these resources.

Past Projects

Airport projects and upgrades to existing facilities necessary for maintaining the Airport in a state-of-good repair are typically excluded from the need for further analysis under NEPA. These projects are by definition minor projects which do not individually or collectively have a significant impact on the environment; therefore, no further analysis is required for categorically excluded projects. Over the past five years, FAA has allowed for categorical exclusion after review of the following projects at the Airport:

- Perimeter Fence Strengthening (categorical exclusion or "CATEX" signed 07/30/2007)
- Rehabilitation of CTB Concourse Alleyway Pavements (CATEX signed 04/21/2011)
- Vaughn College Soundproofing (CATEX signed 07/21/2010)[130]
- Rehabilitation of Taxiways R, S, P, and G (CATEX signed 06/07/2012)

The only major development projects at LaGuardia Airport in recent years were the new *Airport Traffic Control Tower (ATCT)* and the *Police Emergency Garage/Emergency Fire Pump Station*. PANYNJ prepared EAs for both projects and the FAA issued a Finding of No Significant Impact (FONSI) for each of them.

- *Air Traffic Control Tower Replacement*: This FAA-sponsored project resulted in a new Airport Traffic Control Tower (ATCT) and an administrative base building to replace the previous ATCT (built 1964).[131] Project-related environmental impacts addressed in the EA include changes to the visual setting and the need to demolish a historically-important, but not significant, building on the Airport. FAA commissioned the new ATCT in 2010.
- *Police Emergency Garage/Emergency Fire Pump Station*: PANYNJ undertook the following miscellaneous projects to upgrade, replace, or improve existing operating systems: a new Police Emergency Garage, a new Emergency Fire Pump Station, and Roadway Improvements West of the CTB.[132] No adverse impacts to the affected environment were identified in the EA that was prepared for these projects.

One off-Airport project within close proximity to LaGuardia was recently completed:

- *NYSDOT Grand Central Parkway/94th Street Interchange Improvements*: This state highway project implemented operational and capacity improvements by eliminating the weaving section between the eastbound entrance ramp from 94th Street/Ditmars Boulevard and the Exit 7 ramp to LaGuardia Airport. The project included resurfacing existing pavements and improving

[130] The completed project entailed the soundproofing of various rooms used for instructional purposes at Vaughn College of Aeronautics and Technology located south of LaGuardia Airport. The soundproofing work consisted of replacing and/or upgrading the windows and doors, adding mass to the walls and roofs as needed to decrease the transmission of noise from airport operations, and installing central air conditioning in the affected areas. The work required limited on-road construction equipment. The school is also performing some interior renovations on the main building.

[131] *Environmental Assessment Re-Evaluation for the LaGuardia Airport Air Traffic Control Tower Replacement Project* (FAA, September 2004) based on the Finding of No Significant Impact and Final Environmental Assessment (FAA, October 1996).

[132] Environmental Evaluation Form C (Short Environmental Assessment) for Upgrades and Replacements at LaGuardia Airport (PANYNJ, 2002); FONSI signed February 2002; Written Re-Evaluation prepared in July 2006.

signage. Project-related environmental impacts included, but were not necessarily limited to, temporary construction impacts. NYSDOT prepared an EA for this project and no significant impacts were identified.

Ongoing Projects

Six categorical exclusion projects are currently underway at LaGuardia Airport and one more significant project is under construction:

- Fillet Improvements (Taxiways AA, BB, and CY) (CATEX signed 08/16/2010)
- Terminal D Extension for Inline Baggage Handling System (CATEX signed 12/15/2011)
- Delta C/D Connector Bridge (CATEX signed 03/10/2010)
- Bollard Protection Terminal Frontages (CATEX signed 10/14/2009)
- Rehabilitation of Taxiways A, M, ZA, and B (CATEX signed 06/07/2012)
- Pump House 4 Upgrades (CATEX 06/07/2012)
- *East End Substation/East Garage*: This project involves the construction and operation of a new electrical substation within Parking Lot 4 in front of Terminal C, including the installation of buried duct banks for commercial electric service feeder lines (provided by ConEdison) underneath the Grand Central Parkway.[133] The project also involves the development of a parking garage for passengers using Terminals C and D. Project-related impacts on the affected environment include, but are not necessarily limited to, temporary construction impacts such as air, noise, and water pollution, and earth disturbance/tree removal along landscaped sections of the Grand Central Parkway. A FONSI was signed by FAA in February 2013 and construction is scheduled to be complete in 2015.

One off-Airport project within close proximity to LaGuardia is also under construction:

- *North Shore Marine Transfer Station:* The NYC Department of Sanitation is re-opening a closed facility located approximately two miles east of LaGuardia Airport along the North Shore of Flushing Bay in College Point, Queens Borough.[134] New construction includes a fully enclosed building designed for the transfer of municipal solid waste from collection vehicles into sealed, leak-proof containers for export by barge and rail. The transfer station is under construction and scheduled to be complete by the end of 2014.

Reasonably Foreseeable Projects

Within the next five years, in addition to the CTB Redevelopment Program, PANYNJ plans to undertake several state-of-good repair projects at LaGuardia Airport, as well as the *Runway Safety Area (RSA) Enhancements* project. The anticipated projects include the following:

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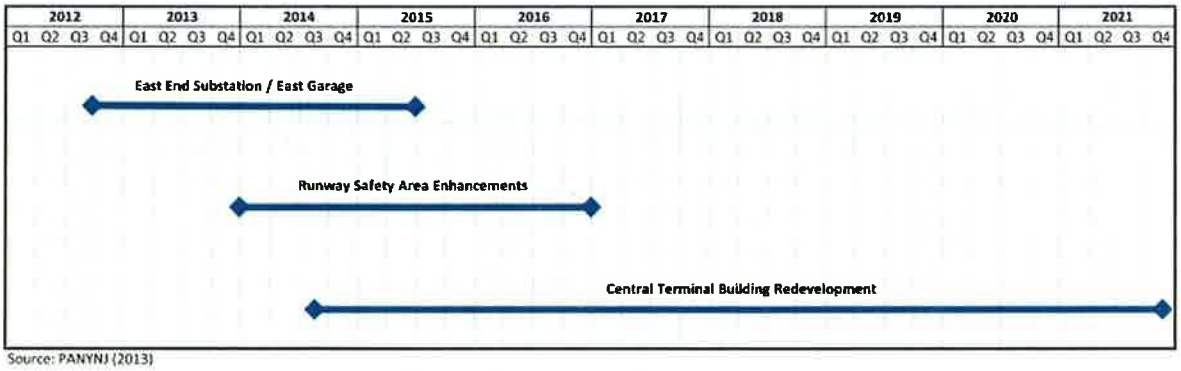
[133] Final Environmental Assessment for the East End Substation and East Garage at LaGuardia Airport (PANYNJ, February 2013); FONSI signed February 5, 2013.

[134] Solid Waste Management Plan, Final Environmental Impact Statement (NYC Department of Sanitation, April 2005).

- Runway Deck Structural Rehabilitation
- Taxiway Paving and Lighting Rehabilitations
- East End Road Pavement Rehabilitation
- Taxiway Rehabilitation (ZA, A, B, west of Runway 4-22)
- Barrier Replacement (3 locations)
- Runway 13-31 Rehabilitation
- *Runway Safety Area (RSA) Enhancements*: PANYNJ has prepared a separate EA for this project.[135] The proposal is to: improve the RSA at the Runway 4 and Runway 31 ends by extending the existing decks further into Flushing Bay, construct a new section of restricted vehicle service road (RSVR) south of the Runway 22 end, and establish a construction staging area at Ingraham's Mountain to support the development of the RSA and RSVR project elements.[136] FAA signed the FONSI on December 31, 2013 and construction was initiated in 2014 and is expected to conclude in 2016, with the RSA portion completed by the end of 2015.

Figure 5-16 shows the proposed construction schedule for projects at the Airport, including the *East End Substation/East Garage*, the *RSA Enhancements*, and the *CTB Redevelopment Program*. No other major Airport development projects are planned or proposed at this time.



Source: PANYNJ (2013)

Figure 5-16. Cumulative Construction Schedule for Major Projects at LaGuardia Airport

On October 20, 2014, New York State Governor Andrew Cuomo announced a design competition for John F. Kennedy International and LaGuardia Airports. Submissions are expected to be due in early 2015. Currently, it is not possible to assess the impact of any submitted design concept to the Proposed Action. To the extent any design submissions are further advanced and are determined to impact the CTB Redevelopment project or other program elements, an appropriate analysis and review will be undertaken at that time.

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[135] LaGuardia Airport Runway Safety Area Enhancements, Final Environmental Assessment (PANYNJ, December 2013).

[136] At the completion of the proposed RSA Enhancements project, the construction staging area (referred to as the Ingraham's Mountain site) would continue to be used for contractor parking in support of the proposed CTB Redevelopment Program.

Finally, the following off-Airport projects may have the potential to affect environmental resources also affected by the Proposed Action.

- *Environmental Dredging of Flushing Bay*: NYCDEP is proposing to dredge approximately 16.8 acres of Flushing Bay near two combined sewer overflow (CSO) outfalls located east of the Airport, near the World's Fair Marina.[137] The proposed project is needed to remove accumulated sediment mounds exposed at low tide and to reduce associated nuisance odors. The dredging project also includes the removal of deteriorated timber piles and the restoration of wetlands along the shoreline to further improve the aesthetics of the bay. The project is planned to be initiated in 2014 and completed by 2016.

- *Willets Point Redevelopment*: The Office of the Deputy Mayor for Economic Development acting as lead agency proposes to rezone, create an urban renewal area, and implement the Willets Point Development Plan in Willets, Queens.[138] The proposed plan's main goal is to transform a largely underutilized site with substandard conditions and substantial environmental degradation into a lively, mixed-use, sustainable community and regional destination. The approximately 61-acre Willets Point Development District would be redeveloped with residential, retail, hotel, convention center, entertainment, commercial office, community facility, open space, and parking uses at a cost of approximately $3 billion. In addition, the proposed plan would connect the Van Wyck Expressway with the District. Although groundbreaking has occurred for off-site infrastructure improvements, other aspects of the project have been delayed pending additional environmental reviews. A Notice of Completion per CEQR was issued by the Office of the Deputy Mayor for Economic Development on August 9, 2013. According to the recently completed *Final Supplemental Environmental Impact Statement*, the District would be redeveloped in several phases over a period of approximately 19 years.

- *National Tennis Center Strategic Vision Project*: NYCDPR, in coordination with the U.S. Tennis Association National Tennis Center (NTC), proposes to improve and expand the facilities at the NTC located in Flushing Meadows in Corona Park, Queens.[139] The 41-acre NTC is one of the world's largest public recreation tennis facilities and is host to the U.S. Open. The proposed project would improve the NTC site plan, circulation, amenities, and landscaping, and would include construction of two new stadiums to replace the two existing stadiums (Stadiums 2 and 3) as well as possible improvements to Arthur Ashe Stadium (Stadium 1). A Notice of Completion per CEQR was issued by the NYC Department of Parks and Recreation on May 10, 2013. If implemented, the project is expected to be completed by 2019.

The following sections discuss the results of the cumulative effects analysis for the Proposed Action on each affected environmental resource in turn.

5.20.2 Traffic and Transportation

The assessment of project-related impacts on traffic and transportation is discussed in Section 5.1 and **Appendix A**. The traffic analyses conducted for this project were conducted in accordance with the

[137] For more information: www.nyc.gov/html/dep/html/environmental_reviews/flushing_bay_environmental_dredging.shtml

[138] For more Information: www.nycedc.com/project/willets-point-development

[139] For more information: www.nycgovparks.org/park-features/fmcp/usta-ntc-strategic-vision-project

guidelines and methodologies described in the *New York City Environmental Quality Review (CEQR) Technical Manual*. In accordance with CEQR guidelines, all traffic analyses—including those conducted for year 2015 construction conditions and year 2030 operation conditions—are cumulative in nature, in that they reflect both projected future traffic volumes associated with future regional growth over time and other planned and approved development projects, as well as planned transportation improvements for the Proposed Action that are anticipated to be in place by the projected future horizon year(s).

Specifically, all traffic volumes used in future conditions analyses are established from a baseline of existing (field-observed) traffic volumes. Once these baseline traffic volumes are established, future traffic volumes are projected from the baseline volumes to reflect cumulative future traffic growth from a variety of contributing factors, including:

- Incremental traffic volumes associated with regional background growth that is anticipated to occur over time;
- Incremental traffic volumes projected to be generated by the construction and operation of other planned or approved development projects through the future horizon years;
- Incremental traffic volumes associated with project passenger growth at LaGuardia Airport without the Proposed Action;
- Incremental traffic volumes as a direct result of the Proposed Action, including construction vehicles for peak year construction conditions (2015) and project-induced traffic for year 2030 operation conditions.

The sum of the traffic increases associated with the individual factors described above and the existing baseline traffic volumes yields the projected future cumulative traffic volumes. Furthermore, all future conditions traffic analyses also include planned transportation improvements that are anticipated to be in place through each of the horizon years (i.e., year 2015 for construction conditions and year 2030 for operation conditions). These improvements include the recent work by NYSDOT on lanes and ramps to and from the Grand Central Parkway in the vicinity of 82nd Street and 94th Street, as well as future improvements to the Bowery Bay Boulevard/Runway Drive/Marine Terminal Road intersection as part of the RSA Enhancements project at the Airport.

Construction Traffic Analysis

The construction conditions traffic analyses identify how the study area's transportation system is projected to operate in the fourth quarter of 2015 – the peak time period for construction activity at the CTB – accounting for the cumulative effects of construction traffic generated by the CTB, background traffic growth, and traffic generated by other projects planned for the study area. Both the future No-Action and Proposed Action Construction analyses include the NYSDOT improvements to the Grand Central Parkway in the vicinity of 82nd Street and 94th Street, as well as projected future traffic volumes associated with construction of the *Willets Point Redevelopment* and the *RSA Enhancements* project at LaGuardia Airport. In addition, between 2012 and 2015, it is expected that existing traffic volumes in the study area will increase due to regional growth over time. In order to forecast future traffic demands, a compounded annual growth rate of 1.51 percent was calculated through the 2015 horizon year and applied to the existing traffic volumes, in accordance with the growth rate recommendations for Queens described in the *CEQR Technical Manual*.

The traffic volumes associated with construction of the *Willets Point Redevelopment* and *RSA Enhancements* projects were then added to the baseline volumes, compounded with the regional growth factor, to yield the adjusted volumes for the future No-Action traffic volumes. The future Proposed Action Construction condition analyses builds upon the No-Action traffic volumes by adding the incremental vehicular traffic generated by trucks and construction personnel attributable the proposed redevelopment of the CTB.

The results of the traffic analyses for construction conditions indicate that a variety of transportation system improvements may be necessary to provide for acceptable traffic operations, and would be implemented as indicated by traffic monitoring throughout the construction period. These improvements could include a traffic signal installation, a traffic signal controller upgrade, signal timing adjustments, curbside parking prohibitions, lane widening/restriping, and instituting the use of construction flaggers.

Operations Traffic Analysis

With or without the Proposed Action, passenger travel at LaGuardia Airport is projected to continue to increase over time. PANYNJ estimates that, without the CTB Redevelopment Program, projected passenger travel at LaGuardia Airport would increase by 6.5 MAP by 2030. Therefore, the projected increase in vehicular traffic associated with this background passenger growth of 6.5 MAP was included in the year 2030 future No-Action (and Proposed Action) traffic volumes.

The operations traffic analyses accounts for the cumulative effects of background traffic growth and other projects planned in the study area up to the design year of 2030. As noted previously, the proposed redevelopment of LaGuardia Airport is anticipated to be fully completed and operational by 2021. However, because it is projected to take approximately nine years following the opening of the CTB to fully realize all of the forecast passenger growth associated with the redevelopment, the future study year for the future No-Action and Proposed Action conditions traffic analyses is 2030. Therefore, future conditions operations analyses included traffic increases as a result of projects anticipated to be completed by the year 2030, as well as traffic growth projections to the year 2030.

The operations analyses include analyzing the effects of a series of recent or planned improvements in the vicinity of the Airport. Recent NYSDOT improvements include the reconfiguration of the eastbound ramps to and from the Grand Central Parkway in the vicinity of the 94th Street interchange, signalization of the Ditmars Boulevard/Grand Central Parkway eastbound on-ramp intersection, modification of the land configurations on the eastbound, westbound, and southbound approaches to the Ditmars Boulevard/94th Street intersection, and widening of the 82nd Street westbound off-ramp from the Parkway from two to three lanes at its approach to 82nd Street-Ditmars Boulevard. In addition, anticipated improvements to the Bowery Bay Boulevard/Runway Drive/Marine Terminal Road intersection as part of the RSA Enhancements project were included in all year 2030 future conditions traffic analyses (i.e., No-Action and Proposed Action conditions).

The *Willets Point Redevelopment* project, with a mix of residential, retail, office, community facility and institutional uses, and the *National Tennis Center Strategic Vision Project*, an expansion of an existing recreational use, are expected to be fully developed by the 2030 horizon year for the Proposed Action. Traffic volumes associated with the *Willets Point Redevelopment* project were also included in the year 2030 No-Action and Proposed Action conditions analyses. The projected increase in attendance at the annual U.S. Open tennis tournament as a result of the *NTC Strategic Vision Project* is expected to have a negligible effect on the traffic analysis for the Proposed Action. The tournament constitutes a special

event condition (i.e., operating only two weeks of the year) and is not projected to generate a significant volume of traffic to the west, through the traffic study area.

In addition, between 2012 and 2030, it is expected that existing traffic volumes in the study area will increase due to regional growth over time. In order to forecast future traffic demands without the Proposed Action, a total growth rate of 5.91 percent was calculated for the 2030 horizon year and applied to the existing traffic volumes, in accordance with the growth rate recommendations for Queens described in the *CEQR Technical Manual*.

The traffic volumes associated with the 6.5 MAP growth at LaGuardia Airport, as well as the *Willets Point Redevelopment* project, were added to these adjusted volumes to arrive at the year 2030 future No-Action condition traffic volumes.

The future Proposed Action condition traffic analysis identifies how the study area's transportation system would operate in the 2030 horizon year with the addition of vehicular traffic generated by the Proposed Action (i.e., an additional 3.9 MAP). As part of the proposed improvements to LaGuardia Airport, background traffic patterns at the study intersections can be expected to be different due to the proposed roadway and ramp reconfigurations. As such, the future Proposed Action traffic volumes accounted for the reassignment of traffic associated with these planned modifications to the roadway and ramp network. The projected peak hour vehicle trips associated with the Proposed Action (i.e., 3.9 MAP) were added to the reassigned future No-Action condition traffic volumes to arrive at projected future Proposed Action condition traffic volumes.

The results of the traffic analyses for the operation condition indicate that re-timing of traffic signals at several public street intersections in the vicinity of LaGuardia Airport may be necessary to ensure acceptable traffic operations according to *CEQR Technical Manual* guidelines. These intersections are:

- Bowery Bay Boulevard/Runway Drive/Marine Terminal Road
- Ditmars Boulevard/Marine Terminal Road
- Astoria Boulevard North-Grand Central Parkway westbound off-ramp/82nd Street-Ditmars Boulevard
- Astoria Boulevard/82nd Street-24th Avenue

In addition, restriping of the Astoria Boulevard/82nd Street-24th Avenue intersection and various parking restrictions along portions of 24th Avenue and 82nd Street are recommended. Traffic improvements would be coordinated with NYCDOT and implemented as indicated by traffic monitoring.

5.20.3 Air Quality

The Proposed Action would occur within an EPA-designated nonattainment/maintenance area; therefore, the air emissions resulting from the construction and operation of the Proposed Action are subject to review under the EPA's Clean Air Act. The full assessment of project-related impacts on air quality is discussed in Section 5.2 and **Appendix B**.

Construction Phase

Under the Proposed Action, construction-related air emissions would be generated by on-road vehicles and non-road equipment. Emission inventories have been prepared for each construction year,

beginning in 2014 and concluding in 2021. According to **Table 5-1**, the peak emissions year for all criteria pollutants is Year 2, or 2015, and the emissions are less than half the applicable *de minimis* thresholds; therefore, no significant air quality impacts would result from the construction of the Proposed Action.

If the Proposed Action is constructed, two other PANYNJ construction projects at LaGuardia Airport are expected to contribute to additional air emissions:

- *East End Substation/East Garage (under construction)*
- *Runway Safety Area Enhancements (under construction)*

PANYNJ has quantified the emissions from both of these construction projects as well, and the results are presented in **Tables 5-9** and **5-10**, respectively. As shown, the construction-related air emissions for each project are clearly *de minimis* (and there are zero emissions associated with the operations phase of either project). By definition, incremental impacts that are so small as to be *de minimis* do not contribute to significant impacts. Nevertheless, if all three airport construction projects were to be considered together, the combined emissions during the peak emissions year for each criteria pollutant would still be substantially less than the *de minimis* threshold levels.[140] Therefore, it is reasonable to conclude that the incremental increase in construction-related air emissions attributable to the Proposed Action would not contribute to a significant adverse impact on the air environment.

Table 5-9: Construction Emissions for the East End Substation/East Garage (tons per year)

Pollutant	2012	2013	2014	2015	2016
Carbon Monoxide (CO)	6.35	9.39	11.9	1.95	--
Nitrogen Oxides (NO_X)	18.9	30.4	31.2	4.45	--
Particulate Matter 10 micrometers (PM_{10})	0.64	1.06	1.08	0.16	--
Particulate Matter 10 micrometers ($PM_{2.5}$)	0.62	1.02	1.03	0.15	--
Volatile Organic Compounds	0.95	1.71	1.71	0.29	--

Source: PANYNJ *East End Substation and East Garage at LaGuardia Airport, Environmental Assessment/Finding of No Significant Impact* (February 2013).
Note: *De minimis* levels for CO, NO_X, and $PM_{2.5}$ are 100 tpy; and 50 tpy for VOCs.

[140] Accumulating total air emissions from independent construction projects at LaGuardia Airport is for demonstration only; under the EPA's General Conformity Rule, individual projects that have been determined to have *de minimis* emissions do not contribute to significant impacts.

Table 5-10: Construction Emissions for the RSA Enhancements (tons per year)

Pollutant	2012	2013	2014	2015	2016
Carbon Monoxide (CO)	--	0.37	29.9	22.4	9.87
Nitrogen Oxides (NO_X)	--	0.29	31.5	22.3	9.94
Particulate Matter 10 micrometers (PM_{10})	--	1.06	24.3	10.4	8.46
Particulate Matter 10 micrometers ($PM_{2.5}$)	--	0.12	4.21	2.21	1.39
Sulfur Dioxide (SO_2)		<0.01	0.10	0.06	0.03
Volatile Organic Compounds	--	0.03	3.16	2.43	1.33

Source: PANYNJ *LaGuardia Airport Runway Safety Area Enhancements, Final Environmental Assessment* (December 2013)
Note: *De minimis* levels for CO, NO_X, SO_2, and $PM_{2.5}$ are 100 tpy; and 50 tpy for VOCs.

Other major construction projects in the vicinity of the Airport that are proposed to be underway at approximately the same time include:

- *Environmental Dredging of Flushing Bay*
- *Willets Point Redevelopment*
- *National Tennis Center Strategic Vision Project*

All three projects have been evaluated by the respective City agencies and determined to have no significant adverse air quality impacts. Construction of the *NYSDOT 94th Street Interchange Improvements* along the Grand Central Parkway was recently completed, and construction of the *North Shore Marine Transfer Station* in College Point is expected to be complete soon; no incremental emissions would result from those projects.

Operations Phase

After construction, day-to-day airport and airline operations would continue to generate emissions of criteria pollutants. Emissions inventories were prepared for the future year 2030 for mobile and stationary sources with and without the project. The assessment demonstrates that the emissions resulting from the Proposed Action would be only marginally different, and in most cases less, than the emissions from the No-Action Alternative. Because the Proposed Action would result in no emissions increase or an increase that is clearly *de minimis*, it can be concluded that the incremental emissions resulting from the future operation of the Proposed Action would not contribute to a significant adverse impact on the air environment.

5.20.4 Coastal Resources and Floodplains

The area affected by the Proposed Action is located within the Coastal Zone of New York, which includes the FEMA-designated 100-year tidal floodplain. PANYNJ has determined that the Proposed Action is consistent with the State's Coastal Management Program (CMP) and the Local Waterfront Revitalization Program (WRP), and the NYS Department of State has concurred with PANYNJ's consistency determination. No adverse impacts to coastal resources would occur as a result of the Proposed Action;

therefore, it would not contribute to cumulative impacts on the resource. Other major development projects affecting coastal areas in the vicinity of the airport include:

- *North Shore Marine Transfer Station (substantially complete)*
- *East End Substation/East Garage (under construction)*
- *Runway Safety Area Enhancements (under construction)*
- *Environmental Dredging of Flushing Bay (proposed)*

These projects have also been evaluated by the NYSDOS and determined to not result in potential significant adverse impacts to coastal resources. Development actions along the City's waterfront are strictly regulated. Compliance with applicable state and local coastal policies and programs for the protection of coastal resources provides adequate assurance that no significant individual or cumulative impacts would occur.

5.20.5 Fish, Wildlife and Plants

During construction, local species of wildlife would be temporarily displaced by earth disturbance and tree removal associated with site preparation activities. After construction, trees would be replaced and landscaped areas would be re-established in accordance with *New York City Rules Governing Tree Replacement* and FAA Advisory Circular 150/5200-33C, *Hazardous Wildlife Attractants On or Near Airports*. No federal- or state-listed species of fish, wildlife, plants, or critical habitat would be affected by the project.

Impacts to Upland Habitats

As discussed in Section 5.7, the Proposed Action would result in the net loss of approximately four acres of urban landscaping located between the Airport and the Grand Central Parkway, which accounts for less than three percent of the project site and less than one percent of the Airport site. The various trees, shrubs, and mowed grasses associated with the landscaped medians between the roadways provide highly fragmented habitat with little or no value. Other listed projects affecting upland habitats on or near LaGuardia Airport include:

- *East End Substation/East Garage*: Less than one acre of upland vegetation will be disturbed during construction of a buried utility ductbank crossing the Grand Central Parkway. The construction impacts are localized, temporary, and minor, and the site will be restored to its original condition at the completion of the project. As part of the project, 32 trees will be removed in compliance with a NYCDPR *Construction and Forestry Permit* including mitigation pursuant to *NYC Rules Governing Tree Replacement.*

- *Runway Safety Area (RSA) Enhancements*: According to the Final EA for this project, approximately nine acres of upland habitat, including numerous trees, would be removed for site preparation and development of the Ingraham's Mountain Construction Staging Area. The remaining upland habitat within perimeter areas of the same property would be left undisturbed, along with the associated vegetation at Ingraham's Mountain, during and after construction.

Upland habitats located on and in the vicinity of the Airport consist of trees, shrubs, and turf grasses that are either maintained as urban landscaping or left untended within small parcels of open space and undeveloped land. These areas support a limited variety of common wildlife species that have adapted

to the surrounding developed urban community. PANYNJ has conducted natural resource assessments for all three Airport projects discussed above, and no potential for significant impacts to upland resources has been identified. Furthermore, no other off-Airport project has been identified as having a potentially significant impact on upland resources. Therefore, the Proposed Action, including mitigation for tree removal, would not be expected to cause or contribute to significant adverse impacts to upland species or habitats.

5.20.6 DOT Act, Section 4(f)

As discussed in Section 5.5 of this Final EA, the Proposed Action would not impact any publicly-owned park, recreation area, or wildlife or waterfowl refuge area of national, state or local significance. However, the Proposed Action would require the use of historic resources, which are also regulated under Section 4(f) of the DOT Act. The assessment of cumulative impacts on historic resources is discussed in the following section. If the Proposed Action would not cause or contribute to a significant adverse impact on historic resources, then it is reasonable to conclude that there would be no significant cumulative impacts on Section 4(f) resources.

5.20.7 Historic Resources

The FAA has determined that the Proposed Action, including the demolition of Hangars 1, 2 and 4, which are eligible for listing on the NRHP, would adversely affect historic resources at LaGuardia Airport. The assessment of project-related impacts on historic resources is discussed in Section 5.10 and **Appendix D** in this Final EA.

Improvements and changes to LaGuardia Airport over the past 73 years of operation have been necessary to achieve and maintain the highest levels of airport safety and efficiency while keeping pace with changes in the U.S. airline industry, such as increasing passenger volumes, larger aircraft, new technologies, and more stringent federal regulations. As older buildings face the challenge of age and obsolescence, PANYNJ and FAA are under pressure to provide new facilities within the limited space available. As decades have passed, in order to accommodate the growing demand for passenger terminals and support facilities, buildings have been removed from LaGuardia Airport.

Today, the remaining original airport buildings include Hangars 1, 3, and 5; Hangars 2 and 4; Hangar 7; and the Marine Air Terminal (Terminal A)—all of which were constructed between 1939 and 1940. Of these remaining buildings, the Proposed Action would directly impact Hangars 1, 2, and 4, which would indirectly impact the remaining Hangars 3 and 5. There would be no direct or indirect adverse effects to the Marine Air Terminal—located on the west side of the Airport. There are no other ongoing or reasonably foreseeable projects or impacts to consider.

PANYNJ and FAA have strived to balance the need for new facilities at LaGuardia Airport with the need to preserve its historic resources. For example, the Marine Air Terminal has been designated a New York City Landmark (Landmarks Preservation Commission, 1980), and it is listed on the National Register of Historic Places (National Register, 1982). When the FAA removed the second generation Airport Traffic Control Tower, mitigation measures included HABS/HAER recordation as well as a booklet that chronicles LaGuardia Airport's history and accomplishments with photographs of original buildings, vintage aircraft, key persons, and important events created collaboratively by the FAA and PANYNJ (FAA, 2011).

When an adverse effect to historic properties cannot be avoided, the Section 106 participants identify measures to mitigate the individual and cumulative effects of the project. Mitigation is the public

benefit that balances the loss (or diminishment) of the historic resource. Under the Proposed Action, the unavoidable adverse effects of removing NRHP-eligible Hangars 1, 2, and 4 would be reduced through standard mitigation measures, including photographic documentation and HABS/HAER recordation of Hangars 1, 3, and 5, Hangars 2 and 4, and Hangar 7, thereby establishing a permanent public record of all six airport buildings. Under the Section 106 process, mitigation measures needed to reduce the effects of the Proposed Action to a level of non-significance are stipulated in the signed MOA included in **Appendix D** of this Final EA.

Compliance with the Section 106 process, including an executed MOA, provides adequate assurance that the incremental adverse effects of the Proposed Action have been considered and that the Proposed Action, with mitigation measures, would not cause or contribute to a significant adverse cumulative impact on historic resources at the Airport.

5.20.8 Noise

The assessment of project-related noise impacts on the surrounding community is discussed in Section 5.13 and **Appendix E** in this Final EA.

Construction Phase

Cumulative noise impacts during construction may result from two conditions:

- Multiple construction activities occurring simultaneously in proximity to the same noise receptor, such that the total construction noise level from the multiple sources exceeds the impact threshold.

- Multiple construction activities occurring during non-overlapping but consecutive time periods proximate to the same noise receptor.

Regarding the second condition, the cumulative effect is an extension of the exposure period of an activity as it relates to sensitive sites. For example, one project may allow pile driving at night while another allows pile driving during the day, thereby exposing the receiver to an extended period of noise. Alternatively, one project may result in pile driving from January to March, while another project may result in pile driving from March or April to May, thereby also extending the period of exposure.

As discussed in Section 5.19, Construction Impacts, the CTB Redevelopment Program is divided into multiple construction phases that would take approximately eight years to complete, beginning in 2014 and continuing through 2021. Heavy construction work is expected to occur on weekdays between the hours of 7:00 am and 3:00 pm. Minimal work would occur between 3:00 pm to 11:00 pm, and mainly involves accepting materials deliveries. No construction work is expected to occur late at night or on weekends.

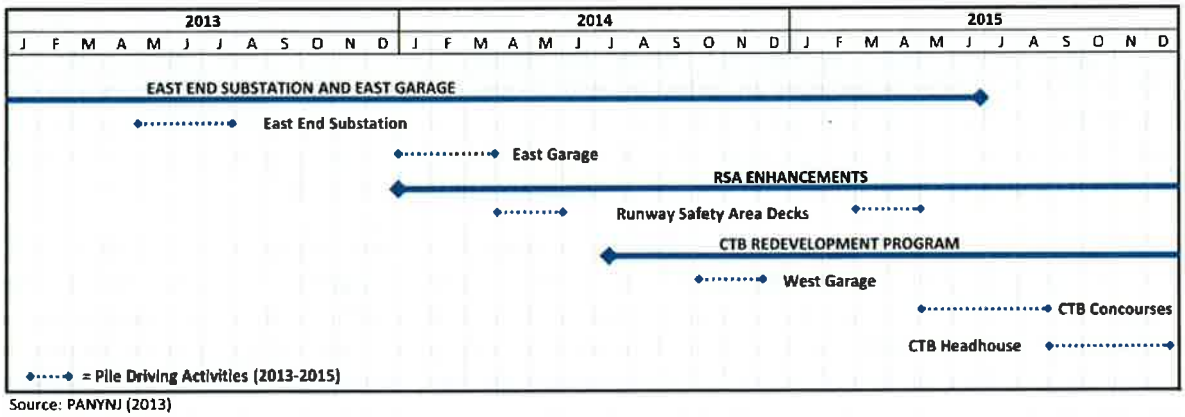
During construction of the Proposed Action, pile driving is anticipated to be the worst-case noise activity. The highest noise levels would occur during the early construction phases (between 2014 and 2017) corresponding with the pile driving activities. A construction noise analysis was performed (see **Appendix E**), and it was determined that distance from residences would attenuate noise from the construction site, including pile driving, to levels that are well below established noise thresholds for construction phase activities.

At the Airport, two reasonably foreseeable projects may be under construction at the same time as the Proposed Action. However, because pile-driving for the *East End Substation/East Garage* is already

underway and will have already been completed, only one other project would potentially involve pile-driving during construction of the Proposed Action.

- *Runway Safety Area Enhancements:* This PANYNJ project involves placing additional piles in the water to support the deck extensions further into Flushing Bay. As part of implementation of the project, there would be a temporary and localized increase in noise during pile-driving activities. No pile driving is associated with construction of the other elements of this project – site preparation for the Ingraham's Mountain Construction Staging Area and construction related to the realignment of Runway Drive and the RVSR. A construction noise analysis was performed for the *RSA Enhancements* project; no significant noise impacts are anticipated.

As shown in **Figure 5-17**, pile driving for the Proposed Action and for the proposed *RSA Enhancements* project would be staggered such that there do not appear to be any instances where the separate and distinct programs (CTB and RSA) are performing pile driving operations concurrently or continuously. RSA deck construction is expected to occur from April to May of 2014 and from March to April of 2015. During this time, there would be no pile driving from the proposed CTB Redevelopment Program. Pile driving associated with construction of the proposed West Garage is expected to occur between October and November 2014, which would not overlap with pile driving associated with the RSA deck extensions. All other pile driving activities associated with the Proposed Action would not be expected to begin until after scheduled completion of the RSA deck extensions (April 2015). The extended time periods of pile driving activities from multiple individual projects would not cause a significant noise impact. Further, as pile driving for the Proposed Action and for the RSA deck extensions would be proximate to different noise receptors, a cumulative noise impact is not expected to result from the non-overlapping pile driving activities.



Source: PANYNJ (2013)

Figure 5-17. On-Airport Construction Projects with Pile-Driving Activities

As part of the *RSA Enhancements* project, peak construction of the Ingraham's Mountain Construction Staging Area would occur from January 2014 to June 2014, which would be complete or nearly complete prior to implementing the Proposed Action. Construction related to the realignment of Runway Drive and the RVSR would commence in June 2014 with peak construction anticipated in September and October 2014. As previously stated, no pile driving is associated with site preparation for the Ingraham's Mountain Construction Staging Area or construction of Runway Drive and the RVSR.

No off-Airport projects are scheduled to be under construction at the same time and in approximately the same location as the Proposed Action. The *94th Street Interchange Improvements* is currently under

construction and scheduled to be complete before the Proposed Action would begin. Other nearby projects in Queens Borough, including the *North Shore Marine Transfer Station, Environmental Dredging of Flushing Bay, Willets Point Redevelopment*, and the *National Tennis Center Strategic Vision Project*, may be underway at the same time as the CTB Redevelopment Program but those projects are located further away. The distance between these simultaneous projects translates to no cumulative impact to the noise receptors that would be affected by construction noise resulting from the Proposed Action.

Operations Phase

The potential for project related noise impacts on the surrounding community is discussed in Section 5.13 and **Appendix E**. An aircraft noise analysis was conducted and the results indicate that the Proposed Action would result in a minor, but not significant, increase in noise levels in the vicinity of the airport. The changes would not begin to occur until after 2021 and would not reach predicted levels until 2030. The noise analysis was prepared using FAA-required methodology and the most current input data available from the Airport and the FAA, including aircraft operations forecasts, aircraft types, day-night distributions, runway use percentages, and flight tracks based on the latest published arrival and departures procedures.

Past, ongoing, and reasonably foreseeable future projects and/or actions were considered to determine if there is potential for cumulative exposure of individuals to aircraft noise in areas surrounding the Airport. The only major development projects at LaGuardia Airport in recent years were two infrastructure projects—the new *Airport Traffic Control Tower (ATCT)* and the *Police Emergency Garage/Emergency Fire Pump Station*—and neither project had any effect on the airport noise exposure contours. The *East End Substation/East Garage* project currently under construction is another Airport infrastructure project that will have no effect on Airport noise. In the future, if the *Runway Safety Area Enhancements* project is implemented, there would be no effect on aircraft noise because there would no change to runway length, touchdown points, or aircraft operations. Finally, no off-Airport projects—past, present or future—would have any effect on aircraft operations or noise levels in the vicinity of the Airport. On this basis, it can be concluded that no past, on-going, or reasonably foreseeable project undertaken by PANYNJ would combine with the noise impacts of the Proposed Action to result in significant cumulative noise impacts for the operations phases of these projects.

Other federal actions involving airspace and air traffic control also have the potential to affect noise levels in the community. For this reason, the aircraft noise analysis (**Appendix E**) focuses on how the Proposed Action would change the cumulative noise exposure of individuals to aircraft noise in areas surrounding the Airport. For example, the FAA recently implemented a departure procedure known as the TNNIS (pronounced "tennis") climb.[141] To ensure that the most recent flight procedures have been considered, flights tracks used for the aircraft noise analysis of existing and future conditions include the use of the TNNIS climb departure procedure, and the results indicate that, as defined by federal guidelines and requirements, no significant noise impacts would occur. No other changes to flight procedures are proposed at this time. In the future, no significant changes to flight track locations or track dispersions are expected to occur between operations years 2021 and 2030 as a result of the Proposed Action.

[141] The FAA conducted an environmental review pursuant to NEPA and determined that the use of this procedure will not produce significant environmental impacts and issued a Categorical Exclusion (October 2012).

5.20.9 Water Quality

As discussed in Chapter 4, Affected Environment, LaGuardia Airport is surrounded on three sides by surface waters associated with Flushing Bay; however, no surface waters are present within the project site. For this reason, incremental effects would be limited to potential changes in the quantity and quality of storm runoff during and after construction, and the effects are expected to be minor.

Construction Phase

Past and ongoing projects undertaken by PANYNJ at LaGuardia Airport may have had temporary construction-period effects, but have not adversely affected water quality in the long term. No other past or ongoing construction projects in the cumulative impacts study area are known to have had an adverse impact on water resources associated with Flushing Bay. Two reasonably foreseeable actions that could affect water quality during construction of the Proposed Action include:

- *Runway Safety Area Enhancements at LaGuardia Airport*. This PANYNJ project involves placing additional piles in the water to support the deck extensions further into Flushing Bay. If constructed, there would be a localized and temporary increase in suspended sediment levels during pile-driving. No long-term impacts or changes are expected to occur after the construction period.

- *Environmental Dredging of Flushing Bay*. This project, to be undertaken by NYCDEP, would also result in temporary increases in suspended sediment levels during dredging operations, but is anticipated to have only localized, temporary, and minor adverse effects on water quality. BMPs and restrictions required by the U.S. Army Corps of Engineer permits would ensure water quality is maintained. The dredging project is intended to improve overall water quality within the area after construction is complete.

The assessment of impacts on water resources is discussed in Section 5.16, Water Quality and Section 5.19, Construction Impacts. The Proposed Action does not involve in-water construction like the projects listed above; therefore, potential impacts on Flushing Bay would be limited to storm runoff from the construction site. Storm runoff during construction would be regulated by the NYSDEC under the SPDES program, which mandates implementation of a Storm Water Pollution Prevention Plan (SWPPP) to prevent storm water contamination during the construction period. The SWPPP would describe all the construction site operator's activities to prevent storm water contamination, control sedimentation and erosion, and comply with the SPDES permit. Compliance with the SPDES permit, including the SWPPP for construction, provides adequate assurance that the Proposed Action would avoid or minimize incremental increases in storm runoff pollution and that the limited discharges of sediment from the construction site would not cause or contribute to a significant adverse impact on the receiving waters associated with Flushing Bay.

Operations Phase

The Proposed Action, when considered with other past, present, and reasonably foreseeable actions, would not have a significant adverse impact on surface waters adjacent to the Airport. As discussed in Section 5.16, the overall impact on storm runoff is expected to be a positive one due to the installation of new water quality devices and the implementation of BMPs and control measures to reduce the quantity and improve the quality of storm runoff from the Airport.

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6 Mitigation

This chapter identifies the mitigation measures PANYNJ proposes to reduce or minimize the environmental impacts identified in this Final EA. The following explanations describe each measure's benefits by noting how the measure would avoid or reduce the adverse environmental effects.

6.1 Traffic Levels-of-Service

As per *CEQR Technical Manual* criteria and NYCDOT guidelines, improvements and changes needed to maintain or improve traffic levels-of-service during and after construction are included in the design of the Proposed Action. As discussed in Section 5.1, Traffic and Transportation, and in **Appendix A**, these improvements at a total of 12 intersections—including a traffic signal installation, a traffic signal controller upgrade, signal timing adjustments, curbside parking prohibitions, lane widening/restriping, and the use of construction flaggers—are recommended as temporary measures to reduce delays at the study intersections and to ensure the most efficient traffic signal operations during periods of construction activity. With these improvements in place, no significant construction traffic impacts as defined by *CEQR Technical Manual* criteria are projected to occur. After construction, minor reallocations of green time at three signalized intersections – coupled with lane restriping, curbside parking prohibitions, and minor reallocations of green time at a fourth intersection – would be required to accommodate traffic volumes associated with the Proposed Action. All transportation improvements on local roadways are subject to review and approval by NYCDOT. PANYNJ would implement a traffic monitoring program in coordination with NYCDOT throughout the duration of the construction period and continuing after the construction of the new terminal in 2021, as needed. The monitoring program would determine the need for and timing of implementation of the identified improvements. With these improvements and monitoring program in place, no significant traffic impacts are projected to occur in accordance with the *CEQR Technical Manual* criteria. No additional traffic improvements or mitigation measures are proposed.

6.2 Air Pollution

To reduce the potential for adverse effects on air quality, the following best management practices, control measures, and emission reduction strategies are included in the design of the Proposed Action:

- During construction, in accordance with PANYNJ's *Sustainable Infrastructure Guidelines,* contractors would be required to implement the following recommended strategies to minimize all airborne pollutants generated by diesel powered vehicles and equipment:
  - Use ultra-low sulfur diesel fuel in all diesel-powered construction equipment
  - Use diesel equipment retrofitted with emission control devices using Best Available Technology (BAT) targeted primarily for reducing particulate matter (PM) and secondarily for the reduction of nitrogen oxides (NO_X)
  - Limit idling times on diesel engines to three minutes
  - Use electric power in lieu of diesel powered generators when electric power is available at the site
- In addition, the following component projects/actions would be implemented to reduce emissions from aircraft auxiliary power units (APUs) and ground support equipment (GSE):
  - Install 400Hz ground power and pre-conditioned air (PCAir) units at each gate position
  - Require exclusive use of electric bag tractors, belt loaders and push-back tractors at each gate position

As discussed in Section 5.2, Air Quality and **Appendix B**, the Proposed Action is designed to reduce aircraft congestion and delay on the terminal apron and traffic congestion and delay on the terminal area roadways, thereby reducing fuel consumption and, by extension, air pollution. In addition, the strategies listed above are included in the design of the Proposed Action in an effort to further reduce emissions to the degree practicable. As a result, the Proposed Action would result in no emissions increase or an increase that is clearly *de minimis.* No additional mitigation measures are proposed.

6.3 Impacts on Section 4(f) Resources

Of the resources protected by Section 4(f) of the U.S. DOT Act, only historic properties have been identified as affected by the Proposed Action. Adverse effects to historic properties and mitigation measures needed to resolve adverse effects are addressed separately in Section 6.7.

6.4 Tree Removal and Replacement

Where NYC Tree removal cannot be avoided, tree replacement would comply with a NYCDPR *Construction and Forestry Permit* and a mitigation plan approved by NYCDPR. As discussed in Section 5.7, Fish, Wildlife and Plants, the number of trees needed to replace the trees approved for removal would be determined in consultation with NYCDPR and in accordance with *NYC Rules Governing Tree Replacement.* PANYNJ has committed to develop a plan with NYCDPR to address local impacts to NYC Trees, including provisions for restitution for the loss of those trees (see letter dated June 2, 2014 in **Appendix G**).

6.5 Floodplain Development

Where development within the coastal floodplain cannot be avoided, the Proposed Action would comply with federal, state, and local laws and regulations for the protection of floodplains as well as the referenced standards for flood resistant design and construction to the degree practicable. As discussed in Section 5.8, Floodplains, the Proposed Action includes a flood hazard mitigation plan developed in accordance with the National Flood Insurance Program, the International Building Code, the American Society of Civil Engineers national reference standards, and the New York City Building Code. Adherence to these requirements provides adequate assurance that project-related development impacts on the tidal floodplain would be less than significant. No additional mitigation measures are proposed.

6.6 Hazardous Materials and Pollution Prevention

Where hazardous materials and waste cannot be avoided, PANYNJ would implement appropriate safety procedures and remediation strategies as needed to protect human health and the environment. As discussed in Section 5.9, Hazardous Materials, Pollution Prevention and Solid Waste, these procedures would include removal protocols for regulated hazardous substances including, but not necessarily limited to, the following: contaminated soils and/or groundwater; asbestos containing materials; lead-containing paint; and universal wastes such as light fixtures, PCB ballasts, thermostats, batteries, refrigerants, etc.

After construction, PANYNJ would update the *Spill Prevention Control and Countermeasures (SPCC) Plan for LaGuardia Airport.* The current SPCC plan would be revised to reflect changes in the use, handling, and storage of hazardous materials and wastes associated with day-to-day operation and maintenance of the Proposed Action.

6.7 Adverse Effects to Historic Properties

Where adverse impacts to historic properties cannot be avoided, implementation of the Proposed Action would include the following mitigation measures as stipulated in the signed Memorandum of

Agreement that was developed by the FAA in consultation with SHPO, PANYNJ, and other Consulting Parties:

- Recordation. Level III Historical Architectural Building Survey/Historic American Engineering Record (HABS/HAER) recordation of Hangars 1, 3, and 5, Hangars 2 and 4, and Hangar 7.
- Archaeological Monitoring of Areas of Sensitivity. Construction phase monitoring of select earthwork and excavation in the vicinity of the West Garage in accordance with a monitoring protocol approved by SHPO.
- Demolition/Construction Management Plan. Implementation of procedures to ensure that potential adverse effects to Hangars 3 and 5 are avoided to the greatest extent practicable during all phases of demolition and construction associated with the Proposed Action.
- Maintenance Plan. Implementation of procedures to ensure that Hangars 3 and 5 are maintained in a state of good repair for the foreseeable future.
- Interpretive Display on the History of LaGuardia Airport. Preparation of a public display illustrating the significance of the 1939 and 1964 Central Terminal Buildings and Hangars 1, 2, 3, 4, 5 and 7.

As discussed in Section 5.10, Historical, Architectural, Archaeological, and Cultural Resources, a copy of the signed Memorandum of Agreement is included with **Appendix D**. A fully executed Memorandum of Agreement verifies that the unavoidable adverse effects to historic properties have been resolved and that the Section 106 process is complete.

6.8 Noise

Though construction equipment noise levels are expected to be well below applicable significance thresholds, PANYNJ would require the contractor to prepare a Construction Noise Mitigation Plan, which would include various noise control measures and alternatives for contractors to continue their important construction tasks while having less noise impact on the surrounding environment. As discussed in Section 5.13, Noise and **Appendix E**, the highest noise levels would be associated with pile-driving activities; therefore, the following pile-driving noise attenuation measures are recommended:

- Reduce the impact sound of the ram hitting the pile cap by placing a resilient pad in the anvil chamber;
- Reduce the discharge sound of the hammer's air exhaust by installing a rectangular steel enclosure lined with acoustically-absorptive material to provide both sound absorption and a limp mass noise barrier;
- Reduce the "ringing" noise of the steel piles by utilizing acoustical paint across the web of each pile at 4- to 6-foot intervals; and
- Prohibit pile driving at night.

Additional strategies to reduce noise and vibration during construction are provided in PANYNJ's *Sustainable Infrastructure Guidelines*. They include:

- Require all debris conveyors and containers to be lined or covered with sound absorbing materials;
- Require all pneumatic support equipment to have intake and exhaust mufflers recommended by the manufacturer;
- Require all impact devices to be equipped with acoustically attenuating shields or shrouds recommended by the manufacturer;
- Require all internal combustion equipment to have mufflers and shield paneling recommended by the manufacturer;
- Require idling time for both on-road and off-road equipment and vehicles to be limited to 3 minutes;
- Minimize the use of equipment that generates more than 80 db(A) of noise, and use such equipment only during daylight hours (i.e. not at night in residential areas);
- Limit vibration resulting from construction equipment when work is close to tunnels, utilities or other sensitive structures and closely monitor peak particle velocity compliance through seismograph readings;
- Utilize an approved sound level meter for self-monitoring and proactively correct conditions where the noise generated by specific pieces of equipment exceeds allowable levels; and
- Utilize noise barriers to contain noise where practicable.

After construction, no additional noise mitigation measures are proposed.

6.9 Water Quality

Construction activities would comply with applicable NYSDEC water quality standards and permit requirements including preparing a Storm Water Pollution Prevention Plan (SWPPP) and filing a Notice of Intent. In accordance with the airport's State Pollutant Discharge Elimination System (SPDES) permit, PANYNJ would implement appropriate water quality measures to minimize erosion and sedimentation during construction as described in the *LaGuardia Airport Best Management Practices Plan*. These measures include, but are not necessarily limited to, the following:

- Prepare spill prevention and erosion control plans;
- Stabilize construction entrances;
- Install slope drains;
- Install inlet filters at all drainage inlet structures;
- Use perimeter erosion and sedimentation controls consisting of staked hay bales, filter fence, and silt fence;
- Use water or suppressing agents to control dust; and
- Sweep clean paved construction roads at the end of each day.

After construction, all the improvements and changes needed for airport operations to comply with applicable NYSDEC water quality standards and permit requirements are included in the design of the Proposed Action. As discussed in Section 5.16, Water Quality, the overall impact on storm runoff would be a positive one due the installation of manufactured treatment devices, bio-filtration swales, and a system to harvest rainwater for beneficial re-use—BMPs that are not in place today and could not be reasonably implemented without new construction, for example:

- Subsurface oil/water separators would be installed to slow the rate of runoff from the aircraft park apron and to ensure that pollutants are captured and collected during and after rainfall events;
- A deicing containment system would be installed as part of the apron storm drainage to allow spent aircraft deicing fluid to be isolated, pumped out, and properly disposed, preventing the discharge of contaminants to surrounding waters;
- Vegetative swales would be designed to channel storm runoff away from the roadways and parking lots to be infiltrated or otherwise processed through oil/water separator before being discharged.

In addition, the *Sustainable Design Plan* identifies water efficiency measures to be incorporated into the design of the new terminal building. For instance, the terminal roof would be designed to collect and store rainwater for graywater applications (i.e., flush fixtures, landscape irrigation, etc.).

In sum, the Proposed Action includes more than adequate means and measures to reduce the quantity and to improve the quality of storm runoff during and after construction, and sustainability measures are also included in the design of the new terminal in order to achieve the benefits of green building and LEED certification. With these provisions in place, no additional mitigation measures are needed to reduce the impacts of the Proposed Action below applicable significance thresholds.

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7 Public Involvement

In accordance with NEPA and the CEQ regulations, PANYNJ has and will continue to involve the public in the decision-making process for this Proposed Action. PANYNJ is committed to ensuring that stakeholders are informed about the CTB Redevelopment Program and its benefits and potential impacts. The Draft EA's public review and comment period also served the public involvement requirements of the special purpose laws triggered by the Proposed Action – U.S. DOT Act of 1966 Section 4(f), Section 106 of the National Historic Preservation Act, and Executive Order 11988, *Floodplain Management*.

Scoping and Agency Consultation

Efforts to address the redevelopment of the Central Terminal Building date back to 2004. Senior management from the Airport and Aviation Headquarters at PANYNJ has worked closely with the Airport tenants and the local community on the development of the terminal plan. The plan has evolved significantly since that time and their input at every stage of development of the plan has helped to shape and improve the final proposal.

During that time staff held multiple briefing and workshops for the Queens Borough President, federal, state and local elected officials, the surrounding Community Boards, the Queens Borough President's Aviation Advisory Council, NYCEDC and other City agencies, as well as a variety of community and business groups and civic associations. In addition, PANYNJ met frequently with the air carriers and other Airport tenants. They conducted airside and landside tours for the aforementioned groups, and included information about the planning project on PANYNJ's website.

In 2004, PANYNJ sought FAA approval to use Passenger Facility Charge (PFC) fees to fund the Feasibility Study for the CTB. This required a presentation to the air carriers, as well as a formal notification in the Federal Register and other local notifications seeking public comment. Six years later, PANYNJ sought to use additional PFCs for the Planning and Engineering Study for the CTB. Staff conducted two formal presentations for the carriers, and published the PFC application on the PANYNJ website seeking public comment.

PANYNJ has continued to perform outreach to the community as part of the EA process. A project website has been in place since 2012. Ongoing communication and stakeholder involvement is planned throughout the construction period.

As part of the planning process for the CTB Redevelopment EA, PANYNJ has met with many State and local agencies and presented the progress to-date on the Program and NEPA process, and discussed the agencies' concerns. Those agencies included the following:

- NYC Department of Transportation, Division of Traffic Planning
- New York State Department of Transportation
- Metropolitan Transportation Authority
- NYC Department of Parks and Recreation
- NYC Economic Development Corporation
- NYC Mayor's Office of Environmental Coordination

Section 106 Consultation

Section 106 of the National Historic Preservation Act requires that the lead agency seek input from Consulting Parties. As part of that process, FAA invited six organizations with interest in the history of the local area and aviation to participate in multiple meetings. The parties were sent the *Cultural Resources Technical Memorandum*. The first Consulting Parties meeting was held on September 26, 2013 at PANYNJ offices in Manhattan (225 Park Avenue South) and attended by representatives from PANYNJ, FAA, SHPO, New York Landmarks Conservancy, and the Queens Borough President's Office. At that meeting a presentation describing the Proposed Action and Purpose and Need was given and a discussion of the adverse impacts to the historic hangars was initiated. A second meeting was held on October 29, 2013 at LaGuardia Airport, attended by representatives from PANYNJ, FAA, SHPO and the Municipal Art Society. Participants were given a tour of the NRHP-eligible hangars. Afterwards, mitigation options were discussed. Having reached a conclusion that no feasible alternative would avoid impacts to the historic resources, it was agreed that a memorandum of agreement (MOA) should be developed. Further negotiation of the MOA and discussion among the Section 106 participants regarding mitigation measures continued through the comment period for the Draft EA. A Final MOA has been signed by the required signatories and concurring consulting parties (see **Appendix D**), indicating that the Section 106 process is complete.

Public Comment

A website has been established to introduce the Program and keep the public updated on its progress (http://www.panynj.gov/lgactb). The public can email questions about the Program at any time to lgactb@panynj.gov. In addition, there were two opportunities for in-person public input – the Public Information Open House and the Public Information Session/Public Hearing.

The Public Information Open House was held on December 12, 2012 at the LaGuardia Airport Marriott (located across from the Airport at 102-05 Ditmars Boulevard) to introduce the Central Terminal Building Redevelopment Program and Environmental Assessment. The meeting took place from 3:00 pm to 5:00 pm and 6:00 pm to 8:00 pm to allow ample opportunity for interested parties to attend. Email and/or hard copy letters of invitation were sent to over 260 individuals and organizations and notices were placed in 10 local newspapers. PANYNJ and consultant staff was available to present the need for and considerations in the development of plans to improve LaGuardia Airport. A series of story boards were on display that addressed the following topics: Welcome, History of the CTB, Airport Community and Context, Purpose and Need, Concepts for Redevelopment, Environmental Assessment Process, and Next Steps. A total of 51 people were in attendance. The presentation materials and detailed summary of the open house can be found in **Appendix H**.

The Public Information Session and Public Hearing were held at the LaGuardia Airport Marriott on May 8, 2014. Email and/or hard copy letters of invitation were sent to over 800 individuals and organizations and notices were placed in 13 local newspapers. A total of 53 people were in attendance, between the two sessions. At the Public Information Session (3:00 pm to 6:00 pm), PANYNJ staff were available to answer questions regarding the CTB Redevelopment Program and the Draft EA. At the Public Hearing (from 7:00 pm to 9:00 pm), individuals were given the opportunity publicly comment on the Draft EA and comments were recorded by a stenographer. The Hearing Officer described the regulatory background and hearing guidelines. PANYNJ gave a brief presentation on the CTB Redevelopment Program and Draft EA findings. Only one individual (representing the Global Gateway Alliance) gave testimony at the hearing. The presentation materials and hearing transcript can be found in **Appendix H**.

The Draft EA and Draft DOT Section 4(f) Evaluation were available for public comment for 45 days from April 9 to May 23, 2014. An announcement was printed in the *Daily News (Queens edition), Newsday, Queens Chronicle, Queens Gazette, Queens Times Ledger, Queens Ledger, El Especialito, The National Herald, Sing Tao Daily, Queens Courier, Queens Tribune, Newark Star Ledger, and Bergen Record* newspapers. The document was available at the PANYNJ's Administration Building at LaGuardia Airport, PANYNJ's office in Manhattan (225 Park Avenue South) and two branches of the Queens Borough Public Library (35-81 81st Street in Jackson Heights and 41-17 Main Street in Flushing). In addition, the Draft EA was posted on the PANYNJ website (http://www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessment.pdf). The public was able to provide comments on the Draft EA by submitting comment cards, emails or other written testimony throughout the public comment period. On May 18, 2014, approximately 1,200 comment cards were distributed at Flushing Meadow Park. The Draft EA's public review and comment period served as the public involvement requirements of the special purpose laws triggered by the Proposed Action – U.S. DOT Act of 1966 Section 4(f), Section 106 of the National Historic Preservation Act, and Executive Order 11988, *Floodplain Management*.

All comments received during the public comment period are compiled in **Appendix H** along with a response, as appropriate. All comments have been addressed in this Final EA.

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10 Glossary of Terms

100-year floodplain — An area of land that would be inundated by a flood having a one percent chance of occurring in any given year. Also referred to as the base or 100-year flood.

500-year floodplain — An area of land that would be inundated by a flood having a 0.2 percent chance of occurring in any given year.

A

Above Ground Level (AGL) — An altitude measured with respect to the underlying ground surface.

Advisory Base Flood Elevation (ABFE) — Refers to the recommended elevation of the lowest floor of a building. ABFEs are based on Federal Emergency Management Agency (FEMA) coastal studies that were completed before Superstorm Sandy. The ABFE provides a better picture of current flood risk than existing Flood Insurance Rate Maps (FIRMS).

Advisory Circulars — The Advisory Circular (AC) provides a single, uniform, agency-wide system that the Federal Aviation Administration (FAA) uses to deliver advisory material to FAA customers, industry, the aviation community, and the public. They do not create or change a regulatory requirement.

Air Traffic Control Tower (ATCT) — An elevated facility located at a position on the airport which offers a 360° view of all parts of the airfield and aircraft movement areas.

Air Quality Emissions — Ambient air pollutant concentrations and emissions, their temporal and spatial distribution, and their relationship to health-based standards and criteria.

Air Quality Standard — A legal requirement for air quality, usually expressed in terms of maximum allowable pollutant concentration, averaged over a specified time interval.

Airport Capacity — The capacity of an airport is the number of passengers or aircraft operations that can be accommodated in a specified time period. It is usually determined by the capacity of the runways, which is defined as the number of aircraft operations that can land and take off in an hour.

Airport Capital Improvement Plan — An internal FAA document that serves as the primary planning tool for identifying and prioritizing critical airport development and associated capital needs for the National Airspace System.

Airport Layout Plan (ALP) — A scaled drawing of existing and proposed land and facilities necessary for the operation and development of the airport. The ALP shows boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes, the location and nature of existing and proposed airport facilities and structures, and the location on the airport of existing and proposed non-aviation areas and improvements thereon. The ALP requires FAA approval.

Airside — The part of an airport used by aircraft for loading and unloading and takeoffs and landings.

Airspace — Airspace refers to the air available for aircraft to fly. The FAA designed and implemented the New York/New Jersey/Philadelphia metropolitan air traffic control services over 8,000 flights a day.

Ambient — Concentration of a pollutant in the ambient air that can be sensed or measured at a monitoring site, and usually expressed as mass or volume of pollutant in a given volume of air.

Ambient, or Background, Noise Level — The level of noise that is all encompassing within a given environment for which a single source cannot be determined. It is usually a composite of sounds from many and varied sources near and far from the receiver.

Americans with Disabilities Act (ADA) — A landmark law that protects the civil rights of persons with disabilities. It prohibits discrimination on the basis of disability in employment, state and local government services, transportation, public accommodations, commercial facilities, and telecommunications.

Apron — The defined area of the airport provided for the stationing of aircraft for the enplaning and deplaning of passengers, the loading or unloading of cargo, and parking.

Aquatic — Of, or relating to, being in water.

Aquifer — Rock or sediment that is saturated with water and sufficiently permeable to transmit economically significant quantities of water to wells and springs.

Archaeological Resources Protection Act (ARPA) — An act passed in 1979 to protect archaeological resources and sites on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals for the present and future benefit of the American people.

Area of Potential Effects (APE) — The geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.

Arrival — The act of an aircraft approaching and landing at an airport.

Attainment Area — An area that meets all of the National Ambient Air Quality Standards (NAAQS) for a particular pollutant (see NAAQS).

Avian — Of, or relating to, birds.

B

Best Management Practices (BMPs) — Operating procedures or treatment systems intended to manage the flow of water and prevent water pollution. Stormwater BMPs typically control both the quantity and quality of runoff, preventing increases in flooding or pollution due to the construction or operation of any new development. Street sweeping and detailed emergency response plans are examples of procedural BMPs, while infiltration basins, detention ponds, and oil/water separators are examples of structural BMPs.

Best Management Practices Plan (BMPP) — The LaGuardia Airport Best Management Practices Plan (BMPP, July 2009) is used by PANYNJ and its tenants and contractors to provide consistent and effective management of stormwater runoff quality.

Brooklyn-Queens Aquifer System — Part of the Long Island aquifer system underlying all of Nassau, Suffolk, Kings and Queens Counties and listed by the EPA as a Sole Source Aquifer.

Bypass Lane — A road lane that allows vehicles to go around other stopped vehicles picking up or dropping off passengers on a curbside lane or maneuvering in and out of the curbside lane.

C

Carbon Monoxide (CO) — A colorless, odorless toxic gas produced by the incomplete combustion of organic materials used as fuels.

Central Heating and Refrigeration Plant (CHRP) — A stand-alone structure that houses chillers, hot water generators and other equipment serving the Central Terminal Building.

Central Terminal Building (CTB) — The largest and central terminal at LaGuardia Airport, also known as Terminal B, accommodating the processes and services necessary for the enplaning and deplaning of airline passengers.

City Environmental Quality Review (CEQR) — CEQR is New York City's process for implementing the State Environmental Quality Review Act, and cannot be less stringent that its state counterpart. CEQR adapts and refines the state rules to take into account the special circumstances of New York City.

Clean Air Act (CAA) — The federal law regulating air quality, passed in 1967, required that air quality criteria necessary to protect the public health and welfare be developed. The Clean Air Act Amendments (CAAA) of 1990 represents the fifth major upgrade of clean air legislation. Among other things, the CAA has added requirements for federal actions to conform to State Implementation Plans (SIPs), expanded the list of hazardous air pollutants from eight to 189, and strengthened the operation permit program.

Clean Water Act (CWA) — Act that establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Enacted in 1948 as the Federal Water Pollution Control Act, it was significantly reorganized and expanded in 1972 with additional amendments in 1977.

Coastal Zone Management Act (CZMA) — Administered by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, and provides for management of the nation's coastal resources, including the Great Lakes, and balances economic development with environmental conservation.

Coastal Zone Management Program (CZMP) — The National Coastal Zone Management Program is a voluntary partnership between the federal government and U.S. coastal and Great Lake states authorized by the Coastal Zone Management Act of 1972. It provides the basis for protecting, restoring and responsibly developing the nation's important and diverse coastal communities and resources.

Code of Federal Regulations (CFR) — A compilation of the general and permanent rules of the executive departments and agencies of the federal government as published in the Federal Register. The code is divided into 50 titles that cover the broad areas subject to federal regulation.

Combined Sewer Outflow (CSO) — The discharge from a combined sewer system that is caused by snowmelt or storm water runoff.

Concourse — The portion of a terminal that contains the aircraft gate holdrooms, related concessions, restrooms and services, and the circulation corridors needed for access.

Conformity — The process of meeting Section 176(c)(1) of the Clean Air Act Amendments that requires Federal Actions to conform to the State Implementation Plan for air quality.

Construction Staging Area — A designated area where vehicles, supplies, and construction equipment are positioned for access and use to a construction site.

Council on Environmental Quality (CEQ) — Coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives. CEQ was established within the Executive Office of the President by Congress as part of NEPA. Additional responsibilities were provided by the Environmental Quality Act of 1970.

Criteria Pollutants — The six pollutants listed in the Clean Air Act that are regulated by the U.S. Environmental Protection Agency through the National Ambient Air Quality Standards (NAAQS) because of their health and/or environmental effects. The criteria pollutants are nitrogen dioxide, sulfur dioxide, carbon monoxide, ozone, particulate matter, and lead.

Cumulative Impacts — Defined in 40 CFR Section 1508.7 as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions."

Curbside/Terminal Curb/Curb Frontage — The portion of the airport terminal dedicated to the safe and efficient transfer of people between the terminal and cars, buses, taxis, and other vehicles.

D

Day-Night Average Sound Level (DNL) — A noise measure used to describe the average sound level over a 24-hour period, typically an average day over the course of a year. In computing DNL, an extra weight of 10 decibels is assigned to noise occurring between the hours of 10 PM and 7 AM to account for increased annoyance when ambient noise levels are lower and people are trying to sleep. DNL may be determined for individual locations or expressed in noise contours.

De minimis — So small as to be negligible or insignificant.

Decibel (dB) — A measure of sound, in terms of its pressure or energy. The decibel scale is logarithmic. For example, if two sound sources each produce 100 dB and they are operated together, they produce only 103 dB; not 200 dB as might be expected. The A-weighted scale (expressed as dBA) is the relative loudness of sound as perceived by the human ear.

Deicing — Melting or keeping free of ice. In aviation, deicing refers to melting and removing ice in order to prevent unsafe conditions on airplanes and on other airport surfaces and vehicles, including runways, taxiways, apron areas, and ground service vehicles and equipment.

Delay — The difference, in minutes, between the scheduled time and actual time of an aircraft arrival or departure. For airport planning purposes, it is often expressed as an annual average delay per aircraft operation (in minutes).

Demand —The number of persons, aircraft, or vehicles who want to use a facility.

Departure — The act of an aircraft taking flight and leaving an airport.

Deplanement — Any passenger getting off an arriving aircraft at an airport. Can be a terminating or connecting passenger. Also applies to freight shipments.

Direct Impacts — The physical effects of a proposed project that would occur in the same place as the project at the time when the project is completed.

Discharge — Any addition, direct or indirect, of oil and/or hazardous material to surface water, groundwater, the sewer system, ground surface, or subsurface.

E

Ecosystem — An ecological community, together with its environment, functioning as a unit.

Effluent — Water discharged, either as surface water or groundwater, from a potential source of pollutants such as a septic system or wastewater treatment facility.

Electric Ground Service Equipment (eGSE) — Equipment used to service aircraft, including baggage tugs, belt loaders, pushback tractors, fuel trucks, and water trucks, which run on electric rather than diesel or petrol for environmental reasons. Recharging stations at the gate supply the energy for the equipment.

Emission Factor — The rate at which a pollutant is emitted into the atmosphere by a source.

Emission Inventory — A complete list of sources and rates of pollutant emissions within a specific area and time interval.

Endangered Species — An "Endangered" species is one that is in danger of extinction throughout all or a significant portion of its range.

Endangered Species Act (ESA) — Passed in 1973, the Endangered Species Act is designed to protect and recover imperiled species and the ecosystems they depend on. It is administered by the U.S. Fish and Wildlife Service and the Commerce Department's National Marine Fisheries Service (NMFS).

Enplanement — The boarding of a passenger, or item of cargo, freight, or mail onto an aircraft at an airport.

Environmental Assessment (EA) — A concise document that looks at the expected environmental effects of a proposed action

Environmental Impact Statement (EIS) — A document with the primary purpose of being an "action-forcing tool" to ensure federal government programs and actions meet the National Environmental Policy Act's goals and policies. The EIS requires the sponsor of a project to critically assess the relative environmental impacts of no actions, the proposed action, and any feasible and reasonable alternatives.

Environmental Justice — The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies.

Environmental Justice Population — Minority, Hispanic, and low income populations that may be in the area of a Proposed Action. The Environmental Justice analysis determines if any minority, Hispanic, and low income populations are present; and if those populations will be subject to disproportionate high and adverse impacts as a result of the Proposed Action, when compared to the impacts to non-minority populations.

Environmental Protection Agency (EPA) — The United States Environmental Protection Agency, established in 1970 to consolidate in one agency a variety of federal research, monitoring, standard-setting and enforcement activities to ensure environmental protection for the American people.

Equivalent Noise Level (Leq) — Leq is a cumulative level of a steady tone that provides an equivalent amount of sound energy for any specific period.

Estuarine — Relating to, formed in, or found in an estuary. Specific to wetlands, the estuarine wetland system consists of deepwater tidal habitats and adjacent tidal wetlands that are usually semi-enclosed by land but have open, partly obstructed, or sporadic access to the open ocean, in which ocean water is at least occasionally diluted by freshwater runoff from the land.

Executive Order (EO) — A presidential policy directive that implements or interprets a federal statute, a constitutional provision, or a treaty.

F

Federal Action — An action initiated by a Federal agency that has effects that may be major and potentially subject to Federal control and responsibility.

Federal Aviation Administration (FAA) — The FAA constructs, operates, and maintains the National Airspace System and the facilities which are a part of the system; allocates and regulates the use of the airspace; ensures adequate separation between aircraft operating in controlled airspace; and through research and development programs, provides new systems and equipment to improve utilization of the nation's airspace.

Federal Emergency Management Agency (FEMA) — The Federal Emergency Management Agency coordinates the federal government's role in preparing for and responding to natural or man-made, including acts of terror. FEMA became part of the Department of Homeland Security on March 1, 2003.

Finding of No Significant Impacts (FONSI) — A document issued when environmental analysis and interagency review during the NEPA process find a project to have no significant impacts on the quality of the environment. The FONSI document supplements the Final EA which has been modified to reflect all applicable comments and responses.

Flight Procedures — Flight procedures are established routes that pilots must use to depart or approach an airport.

Fugitive Dust — Fugitive dust is particulate matter that becomes airborne and has the potential to adversely affect human health or the environment. The most common forms of particulate matter are known as PM10 (particulate matter with a diameter of 10 microns or less) and PM2.5 (particulate matter with a diameter of 2.5 microns or less).

Flood Insurance Rate Map (FIRM) — The official map of a community prepared by FEMA that identifies special hazards and risk areas applicable to the community.

Floodplain — The lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year (i.e., the area that would be inundated by a 100-year flood).

G

Greenhouse Gas — Any gas that absorbs infrared radiation in the atmosphere, contributing to the greenhouse effect – the process that warms the Earth's surface. Greenhouse gases are both naturally occurring and manmade, and include carbon dioxide, methane, nitrous oxide, ozone, chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride.

Ground Support Equipment (GSE) — GSE is the equipment used to service aircraft between flights. GSE frequently includes equipment to provide ground power operations, aircraft mobility, and loading cargo and passengers.

Ground Transportation — A variety of transportation modes including public transit, chartered buses, taxis, rental cars, shuttles and vans that facilitate movement of passengers to and from the airport.

Groundwater — Water below the earth's surface in the zone of saturation.

Groundwater Recharge — Groundwater recharge refers to the addition of surface water to subsurface groundwater by infiltration through permeable soils.

H

Habitat — The environment occupied by individuals of a particular species, population, or community.

Hazardous Air Pollutants — Those pollutants that cause or may cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental and ecological effects. EPA is required to control 187 hazardous air pollutants. Examples of toxic air pollutants include benzene,

which is found in gasoline; perchlorethlyene, which is emitted from some dry cleaning facilities; and methylene chloride, which is used as a solvent and paint stripper by a number of industries.

Hazardous Material — Any substance in whatever form which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious, or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or the environment when improperly stored, treated, transported, disposed of, used, or otherwise managed.

Head-of-Stand — Roadway used for baggage claim and other airport vehicles. It is the road closest to the concourse; the nose of a parked aircraft faces the head-of-stand.

Headhouse — Part of airport passenger terminal providing accommodations for persons waiting to depart airport or passengers arriving and waiting for baggage.

Heating, Ventilation and Air Conditioning (HVAC) — Systems used to provide thermal comfort and ventilation for building interiors.

High Occupancy Vehicle (HOV) — High occupancy vehicle carrying a required minimum number of passengers, usually two.

Highway Capacity Manual (HCM) — A manual produced by the Transportation Research Board that details methodologies for analyzing roadways and intersections and is the standard for roadway analysis both in the United States and in many other nations.

Holdrooms — Seating area for passengers waiting to board departing aircraft.

Hub — An airport having a high percentage of connecting flights.

Hydrocarbons — Compounds of hydrogen and carbon including methane and ethane. Gases that are generated by unburned and wasted fuel and come from incomplete combustion of fossil fuels and from evaporation of liquid fuels.

I

Impervious Surface — Relating to hydrology. A surface through which precipitation cannot penetrate, causing direct runoff or perching (examples include asphalt paving, roofs, and densely compacted gravel).

Indirect Impacts — The consequences of a project's direct impacts. These impacts are generally not quantifiable and may occur over a larger area or a longer time frame.

Intertidal — Of or existing in the area between the high tide mark and the low tide mark.

J

John F. Kennedy International Airport (JFK) — One of the five PANYNJ airports, JFK is located on Jamaica Bay in the southeastern section of Queens County, New York City, 15 miles from midtown Manhattan.

L

LaGuardia Airport (LGA) — One of the five PANYNJ airports, LaGuardia is located in the borough of Queens, New York City, bordering on Flushing Bay and Bowery Bay, 8 miles from midtown Manhattan.

Landside — Areas of an airport to which passengers and members of the non-traveling public have free access. Also used to refer to ground access facilities, and portions of the terminal related to check-in, baggage claim and other functions outside of the secured portion of the terminal.

LEED — Leadership in Energy and Environmental Design. LEED is a program that provides third-party verification of green buildings.

Level of Service (LOS) — A qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers, with LOS "A" being the best rating, and LOS "F" being the worst. Generally describes conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience and safety.

Low Income — Department of Transportation (DOT) Order 5610.2(a) defines a "low-income population" as "any readily identifiable group" of persons whose median household income is at or below the poverty guidelines of the United States Department of Health and Human Services.

M

Maintenance Area — Any geographic area of the U.S. that had been previously designated by USEPA as a nonattainment area pursuant to the Clean Air Act Amendments of 1990 and subsequently redesignated to attainment.

Mean Sea Level (MSL) — The average height of the surface of the sea for all stages of the tide; used as a reference for elevations.

Mechanical, Electrical and Plumbing (MEP) — The mechanical, electrical, and plumbing operations necessary to maintain indoor facilities.

Metropolitan Transportation Authority (MTA) — The mass transit agency serving 15.1 million people in New York City, Long Island, southeastern New York State and Connecticut.

Million Annual Passengers (MAP) — The number of passengers enplaned and deplaned annually at the airport.

Minority — According to the 2000 U.S. Census, a minority person is defined as an individual who is a member of one of the following population groups: Black or African American; American Indian and

Alaska Native; Asian; Native Hawaiian; Other Pacific Islander; some other race alone; and two or more races.

Mitigation — Actions that avoid, minimize, or compensate for potential adverse impacts.

Modification of Standard (MOS) — Any approved non-conformance to FAA standards, other than dimensional standards for Runway Safety Areas (RSAs), applicable to an airport design, construction, or equipment procurement project that is necessary to accommodate an unusual local condition for a specific project on a case-by-case basis while maintaining an acceptable level of safety.

N

National Ambient Air Quality Standard (NAAQS) — Air quality standards established by USEPA to protect human health (primary standards) and to protect property and aesthetics (secondary standards).

National Environmental Policy Act of 1969, as amended (NEPA) — The Federal legislation that requires an interdisciplinary approach in planning and decision-making for federal-aid actions. The Act includes requirements for the contents of Environmental Assessments. The interdisciplinary study approach includes the analysis of potential impacts to the natural, social, and economic environment.

National Historic Preservation Act (NHPA) — The NHPA enacted in 1966 established the framework that focused local, state, and national efforts on the common goal of preserving the historic buildings, structures and objects.

National Marine Fisheries Service (NMFS) — Under the National Oceanic and Atmospheric Administration, the National Marine Fisheries Service is the federal agency, a division of the Department of Commerce, responsible for the stewardship of the nation's living marine resources and their habitat. It is responsible for the management, conservation and protection of living marine resources within the United States' Exclusive Economic Zone (water three to 200 miles offshore).

National Pollutant Discharge Elimination System (NPDES) — Permit program authorized under the Clean Water Act that controls water pollution by regulating point sources that discharge pollutants into waters of the United States. In 1975, the EPA authorized New York State to implement the NPDES program, which it does with its State Pollutant Discharge Elimination System (SPDES) program (see SPDES).

National Priorities List (NPL) —CERCLA, as amended, requires that the statutory criteria provided by the Hazard Ranking Screening (HRS) be used to prepare a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. This list, the NPL, serves as an information and management tool and is part of the Superfund cleanup process.

National Register of Historic Places (NRHP) — The official list of the nation's historic places worthy of preservation. Authorized under the National Historic Preservation Act of 1966, it is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources.

National Wetlands Inventory (NWI) — A series of topical maps that show wetlands and deepwater habitats. The goal of the NWI is to provide current geospatially-referenced information on the status, extent, characteristics, and functions of wetland, riparian, deepwater, and related aquatic habitats in priority areas, in order to promote the understanding and conservation of these resources.

Newark Liberty International Airport (EWR) — One of the five PANYNJ airports, located partly in Newark and partly in Elizabeth, NJ, 14 miles from Manhattan.

Nitrogen Oxides (NOx) — Poisonous and highly reactive gases produced when fuel is burned at high temperatures, causing some of the ambient nitrogen in the air to burn also.

Noise Contour — Lines on a map that connect points of equal noise exposure.

Noise Exposure — The cumulative sound energy affecting a person over a specified period of time.

Noise-Sensitive Sites — An area where noise interferes with normal activities associated with its use. Normally, noise-sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites.

Nonattainment Area — Any geographic area of the U.S. that is in violation of any NAAQS and therefore has been designated by USEPA as non-attainment pursuant to the Clean Air Act (as amended in 1990).

Notice of Intent (NOI) — A Notice of Intent is a public notice that an environmental impact statement will be prepared and considered for a project. In brief, it describes the proposed action and possible alternatives, the proposed agency's scoping process and the contact information for the agency in charge who can answer questions about the proposed action and the environmental impact statement.

O

Occupational Safety and Health Administration (OSHA) — Congress created the Occupational Safety and Health Administration with the passage of the Occupational Safety and Health Act of 1970 to assure safe and healthful working conditions for employees by setting and enforcing standards and providing training, outreach education and assistance.

Operation — A takeoff or landing by an aircraft. The arrival and subsequent departure of one aircraft is counted as two operations.

Ozone (O3) — A colorless, toxic gas formed by the photochemical reactions in the atmosphere of VOCs with nitrogen oxides.

P

Passenger Car Equivalent (PCE) — A unit of measurement recommended by the CEQR Technical Manual to conservatively estimate impacts from vehicular traffic that relates the impact different types of vehicles (heavy equipment, delivery trucks, concrete trucks, etc.) have compared to a single car.

Passenger Facility Charges (PFCs) — A fee collected by airlines on behalf of the FAA for every enplaned passenger at commercial airports controlled by public agencies. Revenues from this source are used to fund FAA-approved projects that enhance safety, security, or capacity; reduce noise; or increase air carrier competition.

Pile drivers — Large pieces of equipment used to drive piles or foundation supports into the ground.

$PM_{2.5}$ — Particulate matter that is made up of small solid particles and liquid droplets (aerosols), in which particles are 2.5 micrometers or less in diameter.

PM_{10} — Particulate matter that is made up of small solid particles and liquid droplets (aerosols), in which particles are 10 micrometers or less in diameter.

Point-of-Use — The aircraft receives power from the terminal building connecting to the aircraft via a small transformer on the loading bridge (the point-of-use). The power is converted from 60Hz to 400Hz.

Pollutant — Substance in air, water, or soil that can cause disease or harm to the environment.

Pollution — Change in the physical, chemical, radiological, or biological quality of a resource (air, land, or water), caused by people or due to human activities, that is injurious to existing, intended, or potential uses of the resource.

Polychlorinated Biphenyls (PCBs)— Man-made organic chemicals that have a range of toxicity, demonstrated to cause cancer, as well as a variety of other adverse health effects on the immune system, reproductive system, nervous system, and endocrine system. PCBs were domestically manufactured from 1929 until their manufacture was banned in 1979.

Potable Water —Water suitable for drinking.

Project Area —The area that would be physically altered by construction of the Proposed Action.

Proposed Action – The actions, or set of actions, proposed by an airport sponsor.

R

Release — Spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing of a regulated substance into the environment.

Remain Overnight (RON) — Aircraft parked overnight at the airport, either at the gate, remote parking stand, or hangar. Airlines take advantage of RON to perform maintenance or cleaning of the aircraft, or to have aircraft available on-airport for early morning departures.

Restricted Vehicle Service Road (RVSR) — A road used only by authorized airport vehicles for servicing aircraft.

Runoff — The portion of rainfall, melted snow, or other precipitation that flows across the ground surface to a drain, sewer, stream, lake, pond or river.

Runway — A defined rectangular area on an airport prepared for the landing and takeoff run of aircraft along its length. Runways are normally numbered in relation to their magnetic direction rounded off to the nearest 10 degrees in the direction of aircraft travel, e.g., Runway 4, Runway 31.

Runway Safety Area (RSA) — The RSA is intended to provide a measure of safety in the event of an aircraft's excursion from the runway by significantly reducing the extent of personal injury and aircraft damage during overruns, undershoots and veer-offs.

Runway Use — Runway use (or, runway utilization) refers to the frequency (expressed as a percent) with which aircraft utilize each runway during the course of a year, as dictated or permitted by wind, weather, aircraft weight, air traffic control, and according to established, voluntary noise abatement procedures.

S

Sediment — Fragmental mineral particles from soil and rock materials created by the process of erosion and transported by water, wind, ice, and gravity.

Section 106 — Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity comment.

Section 4(f) — Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966 which established the requirement for consideration of park and recreational lands, wildlife and waterfowl refugees, and historic sites in transportation project development.

Soil — Unconsolidated mineral and organic material that supports, or is capable of supporting, plants, and which has recognizable properties due to the integrated effect of climate and living matter acting upon parent material, as conditioned by relief over time.

Sole Source Aquifer — An aquifer designated by USEPA as the sole or principal source of drinking water for an area pursuant to Section 1424(e) of the Federal Safe Drinking Water Act, as amended. USEPA defines a sole or principal source aquifer as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas can have no alternative drinking water source(s) that could physically, legally, and economically supply all those who depend upon the aquifer for drinking water.

Spill Prevention Control and Countermeasures (SPCC) — Regulations applied to those businesses that exceed certain designated oil storage capacities, in order to prevent oil from entering navigable waters through the prevention, control, and mitigation of oil spills.

State Historic Preservation Office (SHPO) — New York's State Historic Preservation Office (SHPO) helps communities identify, evaluate, preserve, and revitalize their historic, archaeological, and cultural resources. The SHPO administers programs authorized by both the National Historic Preservation Act of 1966 and the New York State Historic Preservation Act of 1980.

State Implementation Plan (SIP) — The strategy to be used by a state to control air pollution in order that NAAQS violations will be eliminated.

State Pollutant Discharge Elimination System (SPDES) — A state's permit program, authorized under the Clean Water Act through the Environmental Protection Agency's National Pollutant Discharge Elimination System program, to control water pollution by regulating point sources that discharge pollutants into waters of the United States. An organization's SPDES permit would include requirements to regulate discharge, such as developing a Stormwater Pollution Prevention Plan and/or implementing BMPs.

State Preservation Historical Information Network Exchange (SPHINX) — An information system that tracks survey data on more than 250,000 properties in the state allowing users search for information on historic resources in specific municipalities.

Stewart International Airport (SWF) — One of the five PANYNJ airports, Stewart International is located in the Hudson Valley, 60 miles north of New York City.

Stormwater Pollution Prevention Plan (SWPPP) — A plan that identifies controls (such as BMPs) that will be put in place to minimize negative impacts caused by stormwater runoff to the environment. Developing a SWPPP is often a requirement under an organization's NPDES/SPDES permit.

Stormwater Runoff — The portion of precipitation that flows over land areas toward stream channels, lakes, or other water bodies.

Study Area — The area that is being studied in the Draft EA for potential impacts that would result from the No-Action Alternative and the Proposed Action.

Sulfur Dioxide (SO_2) — Sulfur dioxide is a corrosive gas produced mainly from the burning of fuels containing sulfur compounds.

Surface Water — Water that is open to the atmosphere and subject to runoff. All waters other than groundwater, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, coastal waters, and vernal pools.

Sustainability — Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

T

Tail-of-Stand — Roadway used for baggage claim and other airport vehicles. It is the road farthest from the concourse; the tail-of-stand is behind the tail of a parked aircraft.

Taxilane — A taxiway designed for low speed and precise taxiing. Taxilanes are usually, but not always, located outside the movement area, providing access from taxiways (usually an apron taxiway) to aircraft parking positions and other terminal areas.

Taxiway — A defined path within the airport established for the taxiing of aircraft and intended to provide a link between one part of the airport and another.

Terminal Area Forecast (TAF) — The Terminal Area Forecast is the official forecast of aviation activity at FAA facilities. These forecasts are prepared to meet the budget and planning needs of FAA and provide information for use by state and local authorities, the aviation industry, and the public.

Terminal — A building designed to serve as the interface between the aircraft and ground transportation facilities. The part of the airport including passenger check in, security, concessions and gates for boarding aircraft.

Teterboro Airport (TEB) — One of the five PANYNJ airports, the oldest operating airport in the New York and New Jersey metropolitan area, designated as a reliever airport.

Threatened Species — An animal or plant species that is likely to become endangered within the foreseeable future.

Transportation Security Administration (TSA) — Federal agency created following 9/11 to strengthen the security of the nation's transportation system. TSA secures the nation's airports and screens all commercial airline passengers and baggage.

Triturator — An apparatus or building for lavatory waste disposal.

U

Upgauging — Airline industry shift to using larger aircraft in their fleet.

Upland — Any area that has sufficiently dry conditions that indicators of hydrophytic vegetation, hydric soils, and/or wetland hydrology are lacking. Any area that is neither a wetland, a deepwater aquatic habitat, nor other special aquatic site.

U.S. Fish and Wildlife Service (USFWS) — A federal bureau within the Department of the Interior charged with conserving, protecting and enhancing fish, wildlife and plants and their habitats for the benefit of the American people.

V

Vegetation — Plant life or total plant cover.

Visual Guidance Docking System (VGDS) — A stand guidance system that gives information to a pilot attempting to park an aircraft at an airport stand, usually via visual methods. This allows the pilot to remain clear of obstructions and ensures the jetways can reach the aircraft.

Volatile Organic Compounds (VOCs) — VOCs are a general class of compounds containing various levels of hydrogen and carbon that are chemically active in the atmosphere. VOCs are created when fuels or organic materials are burned or evaporate into the atmosphere. Most hydrocarbons are presumed to be VOCs in the regulatory context, unless specified otherwise by USEPA.

W

Waterfront Revitalization Program (WRP) — New York City policies regulating the development and use of waterfront areas.

Watershed — The contributing region or area from which surface runoff from precipitation flows into a stream or body of surface water.

Wetland — Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wingspan — On a fixed-wing aircraft, the span or straight-line distance between one wingtip and the other, including projecting ailerons (the hinged "little wings" attached to the trailing edge of each wing of a fixed-wing aircraft).

Z

Zoning — The designation that a municipality gives to land that controls the type, size, lot coverage, and other characteristics of the site.

Central Terminal Building Redevelopment Program at LaGuardia Airport

Final Environmental Assessment and Section 4(f) Evaluation

Volume II – Appendices

Prepared for
U.S. Department of Transportation
Federal Aviation Administration

Sponsored by
Port Authority of NY & NJ

AECOM

November 2014

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Central Terminal Building Redevelopment Program at LaGuardia Airport

Final Environmental Assessment Appendix A – Transportation

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APPENDIX A: TRANSPORTATION

Under the National Environmental Policy Act (NEPA), disruptions of local traffic patterns are considered Social Impacts and require consultation with local transportation officials to evaluate significance. For LaGuardia Airport, located in the Borough of Queens, New York, the 2012 edition of the *City Environmental Quality Review (CEQR) Technical Manual* provides evaluation criteria for impacts to traffic and transportation from both operations and construction.

According to the *CEQR Technical Manual*, interrelationships between the key technical areas of the transportation system – traffic, transit, pedestrians, and parking – should be taken into account in any assessment. Furthermore, the individual technical areas should be separately assessed to determine whether a project has the potential to adversely and significantly affect a specific area of the transportation system. The *CEQR Technical Manual* states that a preliminary trip generation assessment should be prepared to determine whether a quantified analysis of any technical areas of the transportation system is necessary. Except in unusual circumstances, a further quantified analysis would typically not be needed for a technical area if the proposed development would result in fewer than the following increments:

- 50 peak hour vehicle trips;
- 200 peak hour subway/rail or bus transit riders; or
- 200 peak hour pedestrian trips.

The *CEQR Technical Manual* also states that if the threshold for traffic is not surpassed, it is likely that further parking assessment is also not needed.

The Proposed Action—redevelopment of the Central Terminal Building (CTB) at LaGuardia Airport (LGA)—is anticipated to add more than 50 new vehicle trips during the typical weekday AM and PM peak hours. As such, further preliminary traffic analyses are required in order to assess whether potentially significant adverse impacts are expected to occur. The redevelopment is not expected to add more than 200 new peak hour public transit riders, nor more than 200 new pedestrian trips (off Airport premises). Therefore, no further transit or pedestrian analyses are required.

A.1 Traffic: Surface Street Intersections

To determine the potential for the Proposed Action to result in significant adverse impacts to transportation conditions, screening analyses were performed pursuant to the methodologies identified in the *CEQR Technical Manual*. This section examines potential future traffic conditions associated with the proposed redevelopment of the CTB at LaGuardia Airport ("the Proposed Action").

The Proposed Action involves the redevelopment of the CTB at LaGuardia Airport to address existing deficiencies in airside, terminal, and landside operations. As part of the Proposed Action, a variety of improvements and modifications are planned to the vehicular access and internal traffic circulation within LaGuardia Airport. These include the reconfiguration of ramps to and from Grand Central Parkway and modifications to the Airport's roadway system to improve internal traffic circulation and reduce queuing, double-parking and congestion on Airport premises. The design also includes provisions for a rail right-of-way, though new rail facilities will not be constructed nor considered as part of the Future No-Action or Future With-Action Conditions. The Proposed Action would not result in any

net increase in airport employment. Although some increase in employees is expected to result from enhanced facilities (e.g., increased concession space) at the CTB, this increase is expected to be offset by new technologies and associated operational efficiencies that reduce existing labor requirements.

The proposed CTB redevelopment is expected to be completed and fully operational by the end of 2021. However, the future analysis year is 2030, because it is projected to take approximately nine years following opening of the CTB to fully realize all of the forecast passenger growth associated with the new CTB. Therefore, all No-Action and With-Action traffic analyses described herein are based on a future analysis year of 2030.

As shown in **Table A.1-1** below and discussed in detail later in this chapter, under year 2030 With-Action conditions, the proposed redevelopment project is projected to generate approximately 322 vehicle trips during the weekday AM peak hour of local street traffic (7:30 to 8:30 AM) and approximately 383 vehicle trips during the weekday PM peak hour of local street traffic (4:00 to 5:00 PM). Because these numbers of vehicle trips are above the 50 vehicle trips/peak hour threshold for a further analysis in the *CEQR Technical Manual*, a detailed traffic analysis is provided for both time periods.

Table A.1-1: Estimated Vehicle Trip Generation Characteristics for Year 2030 With-Action Condition

Proposed Action	Weekday AM Peak Hour (7:30 to 8:30 AM)			Weekday PM Peak Hour (4:00 to 5:00 PM)		
	Total Trips	Inbound Trips	Outbound Trips	Total Trips	Inbound Trips	Outbound Trips
Redevelopment of the CTB at LaGuardia Airport	322	160	162	383	190	193

The following section describes year 2012 existing traffic conditions in the study area. Year 2030 Future No-Action Conditions are described next. The changes in vehicular traffic resulting from the proposed redevelopment project are then estimated and added to the planned future With-Action condition roadway network to project forecast year 2030 Future With-Action traffic conditions.

A.1.1 Existing Conditions

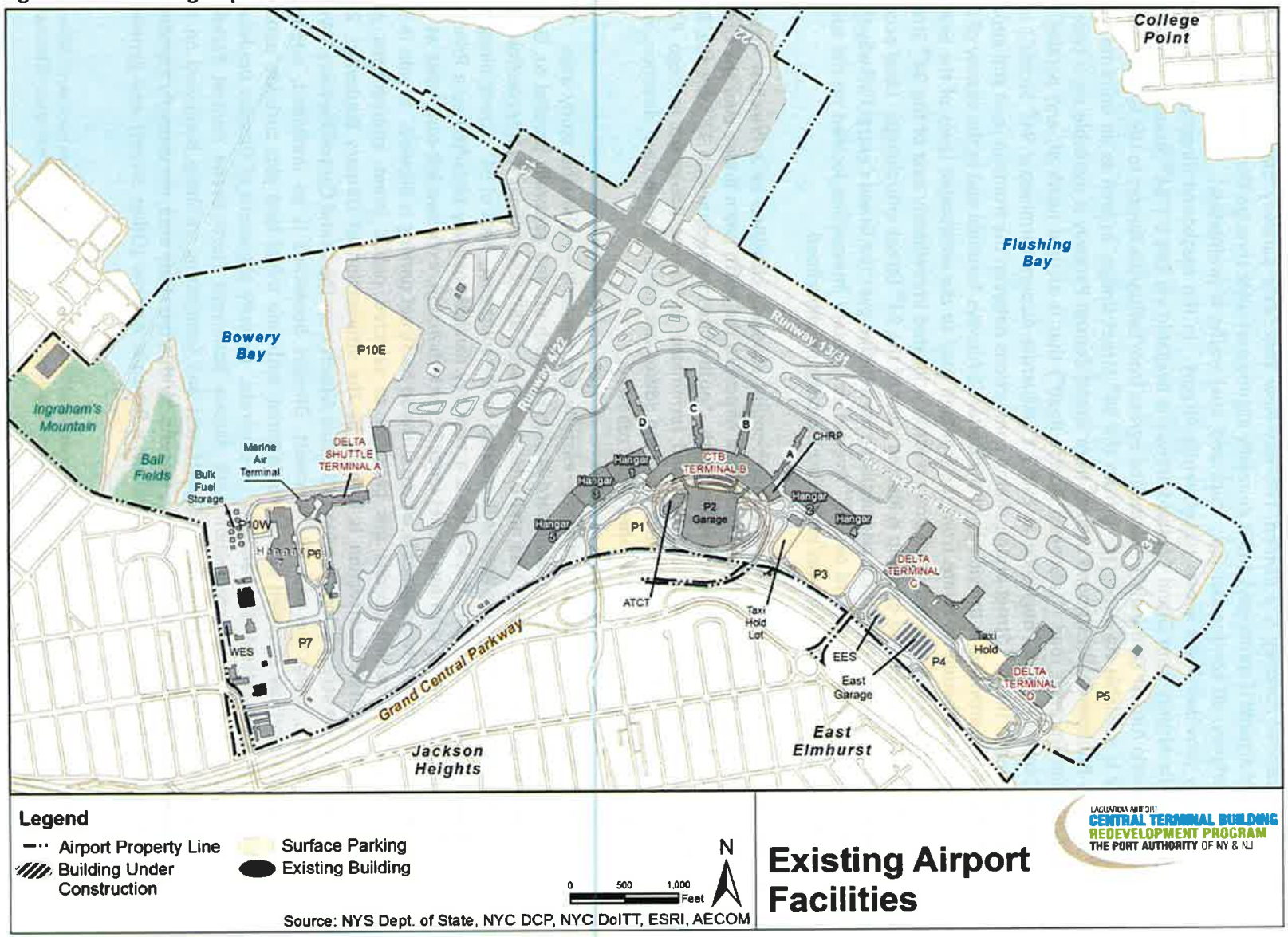
A.1.1.1 Existing Airport Configuration

Figure A.1-1 illustrates the existing facilities at LaGuardia Airport, including the location of the CTB with respect to other terminals, hangars, and parking facilities.

A.1.1.2 Street Network

The physical and operational characteristics of the major streets comprising the roadway network within the study area are described as follows:

Figure A.1-1: Existing Airport Facilities



- *Grand Central Parkway* is a divided, two-way New York State parkway that is classified as a Principal Arterial (Expressway) and is generally aligned east-west through the project study area. As a parkway, all commercial (i.e., truck and bus) traffic is prohibited.[1] The Grand Central Parkway provides direct access to LaGuardia Airport. In the eastbound direction, ingress to LaGuardia Airport from Grand Central Parkway is available via Exit 6 ("94th Street") and Exit 7 ("LaGuardia Airport Terminals"). Eastbound egress from LaGuardia Airport to the Grand Central Parkway is available via a loop ramp from the 94th Street bridge, as well as an on-ramp from Ditmars Boulevard. Westbound ingress from Grand Central Parkway is available via a two- to three-lane frontage road ("LaGuardia Access Road") that is aligned north of, and parallel to, Grand Central Parkway beginning at Exit 7 ("LaGuardia Airport Terminals / 94th Street") and terminating at the 94th Street bridge. Ramp connections between the frontage road and airport terminals are provided in the vicinity of the Delta/US Airways Terminal and in the vicinity of the CTB. Two westbound on-ramps from the frontage road to the westbound lanes of the Grand Central Parkway are also provided: one on-ramp is located immediately east of the 94th Street interchange and a second on-ramp is located west of the 94th Street interchange. Local access to and from LaGuardia Airport is also available via a bridge over the Grand Central Parkway that connects to Ditmars Boulevard and 23rd Avenue via a rotary intersection located on the south side of the Grand Central Parkway in the East Elmhurst neighborhood.

- *94th Street* is an undivided two-way (north-south) roadway classified as a Principal Arterial (Other Street). It extends between LaGuardia Airport to the north (via a bridge over the Grand Central Parkway) and 32nd Avenue to the south. South of its intersection with 32nd Avenue, 94th Street continues as Junction Boulevard and terminates at Queens Boulevard in Rego Park, Queens. In the study area, 94th Street accommodates one travel lane in each direction, with curbside parking allowed on both sides of the roadway.

- *Ditmars Boulevard* has two alignments—easterly and westerly—within the study area. The easterly alignment of Ditmars Boulevard is aligned south of, and generally parallel to, Grand Central Parkway in the study area and extends between 86th Street (near its intersection with 23rd Avenue) to the west and Astoria Boulevard to the southeast. East of 94th Street, along the easterly alignment, Ditmars Boulevard is a two-way divided roadway classified as a Principal Arterial (Other Street), with two travel lanes in each direction, exclusive left-turn lanes at key intersections, and limited segments where curbside on-street parking is allowed. Breaks in the raised concrete median divider are provided at selected public street intersections and driveways. A rotary intersection is formed by the intersection of Ditmars Boulevard, 23rd Avenue, and the access bridge serving LaGuardia Airport over the Grand Central Parkway. West of 94th Street, along the easterly alignment, Ditmars Boulevard is an undivided, one-way eastbound roadway classified as a Minor Arterial, with one travel lane plus curbside parking allowed on both sides of the roadway. A separate, westerly alignment of Ditmars Boulevard extends west from the intersection with Astoria Boulevard North-Grand Central Parkway westbound off-ramp, continuing west/northwest and terminating at Shore Boulevard on the northeast side of Astoria Park in Astoria, Queens. Within the study area, the westerly alignment is a divided two-way roadway classified as a Principal Arterial (Other Street) and generally

[1] An exception to this vehicle prohibition exists in both directions on the portion of the Grand Central Parkway between the Robert F. Kennedy (Triborough) Bridge and the western leg of the Brooklyn-Queens Expressway. Single-unit vehicles with no more than three axles and ten tires may operate in both directions.

accommodates two travel lanes in each direction and limited curbside parking along both sides of the roadway. However, the one-block segment of Ditmars Boulevard between Astoria Boulevard North-Grand Central Parkway westbound off-ramp and Marine Terminal Road within the study area accommodates three lanes in each direction with no curbside parking allowed. Direct access to LaGuardia Airport is provided via the Ditmars Boulevard/Marine Terminal Road intersection.

- *23rd Avenue* is an east-west roadway that extends between Astoria Boulevard to the west and Ditmars Boulevard to the east. Between Astoria Boulevard and 82nd Street, 23rd Avenue is an undivided one-way eastbound roadway classified as a Local Street, and accommodates two travel lanes with curbside parking allowed on the south side between 80th and 82nd Streets. Between 82nd Street and Ditmars Boulevard, 23rd Avenue is a two-way divided roadway classified as a Minor Arterial, and accommodates two travel lanes in each direction with curbside parking allowed on both sides of the roadway. Breaks in the raised concrete median divider are provided at selected public street intersections and driveways.

- *Astoria Boulevard* is a two-way, east-west, divided roadway classified as a Principal Arterial (Other Street) within the study area. Astoria Boulevard extends from the Whitestone Expressway/Northern Boulevard/Grand Central Parkway interchange to the west, and continues through the study area as a two-way roadway with three travel lanes in each direction and curbside parking allowed on both sides of the roadway. Breaks in the raised concrete median divider, along with exclusive left-turn lanes, are provided at major public street intersections. At 80th Street, near the westerly limits of the study area, the directional travel lanes on Astoria Boulevard split, and the roadway operates as an elevated service road for the Grand Central Parkway, with the westbound lanes aligned on the north side of the Grand Central Parkway and the eastbound lanes aligned on the south side.

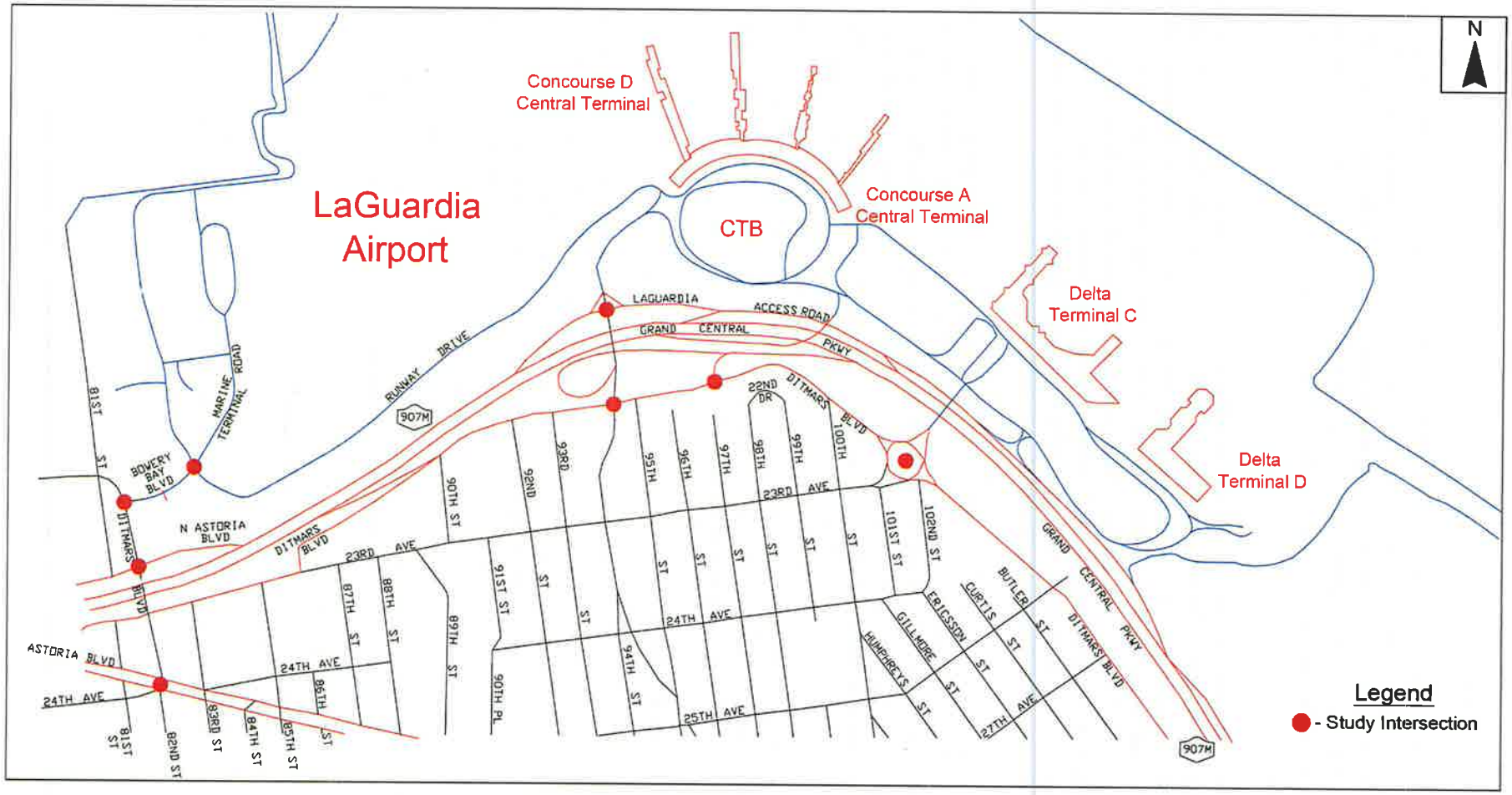
A.1.1.3 Study Area Intersections

The traffic study area was selected to include the intersections most likely to be used by the project-generated vehicles traveling to and from the airport. As shown in **Figure A.1-2**, the study area was defined to include eight (8) key study intersections that have the potential to experience changes in traffic operations as a result of the Proposed Action. Outside of this identified study area, project-generated traffic volumes would be more dispersed and, therefore, the effects of project-generated traffic would be less significant. These study intersections are as follows:

- Bowery Bay Boulevard / Runway Drive / Marine Terminal Road (signalized);
- Ditmars Boulevard / Marine Terminal Road (signalized);
- Astoria Boulevard North-Grand Central Parkway westbound off-ramp / 82nd Street-Ditmars Boulevard (signalized);
- Astoria Boulevard / 82nd Street-24th Avenue (signalized);
- LaGuardia Access Road / 94th Street (signalized);
- Ditmars Boulevard / 94th Street (signalized);
- Ditmars Boulevard / Grand Central Parkway eastbound on-ramp (unsignalized); and
- Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (unsignalized rotary).

A comprehensive data collection effort was undertaken at all of the study intersections listed above to obtain the necessary data required for the traffic operations analysis.

Figure A.1-2: Study Area Intersections: Operation Condition



A.1.1.4 Traffic Data Collection

The peak months for passenger activity at LaGuardia Airport are June, July, and August, with August representing the peak month of the year. However, the *CEQR Technical Manual* recommends that traffic data not be collected on city streets during the summer months (i.e., late-June through mid-September) because this period coincides with the Department of Education's summer vacation period and traffic volumes on city streets are generally lower during this time. In addition, a review of historical passenger data for LaGuardia Airport published by the Port Authority of New York & New Jersey (i.e., the "PANYNJ") in the annual *Airport Traffic Reports* for the 10-year period between 2002 and 2011 indicated that the number of average daily passengers was only 1.7 percent higher, on average, in August than in June. Therefore, June was selected as the study month, and traffic data were collected in the field at all of the study intersections in early June 2012, when schools were in session, in accordance with *CEQR Technical Manual* guidance.

The traffic-data collection effort included one-, two-, and three-day manual turning movement and vehicle classification counts, supplemented by 14-day Automatic Traffic Recorder (ATR) counts. In addition, a comprehensive inventory of the physical and operational characteristics of each study intersection was conducted in the field.

A.1.1.5 Manual Turning Movement and Vehicle Classification Counts

Manual turning movement and vehicle classification counts were collected at each of the study intersections from Tuesday, June 12 to Thursday, June 14, 2012. These counts were performed for 15-minute intervals over 3.5 hours during the weekday morning (5:30 to 9:00 AM) and afternoon (2:30 PM to 6:00 PM) peak periods, with the exception of the two unsignalized study intersections which were counted at 15-minute intervals over two-hour periods: 7:00 to 9:00 AM and 4:00 to 6:00 PM. All vehicles were classified as autos, trucks, or buses during the counts. At two of the study intersections—Ditmars Boulevard/94th Street and Ditmars Boulevard/Marine Terminal Road—all vehicles were further classified into the following categories for potential air quality analysis purposes: autos, sport-utility vehicles (SUVs), taxis, light-duty trucks, heavy-duty gasoline-powered trucks/buses, and heavy-duty diesel-powered trucks/buses. Based on the count data, the weekday AM and PM peak hours for traffic on the roadway network in the study area were determined to be the following:

- Weekday AM Peak Hour: 7:30 AM to 8:30 AM
- Weekday PM Peak Hour: 4:00 PM to 5:00 PM

It should be noted that the weekday AM and PM peak hours noted above for *street traffic outside LaGuardia Airport* partially overlap with the identified peak hours for *traffic within the Airport* (i.e., 6:45 to 7:45 AM and 4:45 to 5:45 PM). However, the 7:30 to 8:30 AM and 4:00 to 5:00 PM peak hours represent reasonable worst-case conditions for the off-airport street system during weekday morning and evening periods. **Figures A.1-3** and **A.1-4** show the turning-movement volumes at all of the study intersections during the weekday AM and PM peak hours, respectively, under year 2012 existing conditions.

Figure A.1-3: Year 2012 Existing Turning Movement Volumes, Operation Condition, Weekday AM Peak Hour (7:30 to 8:30 AM)

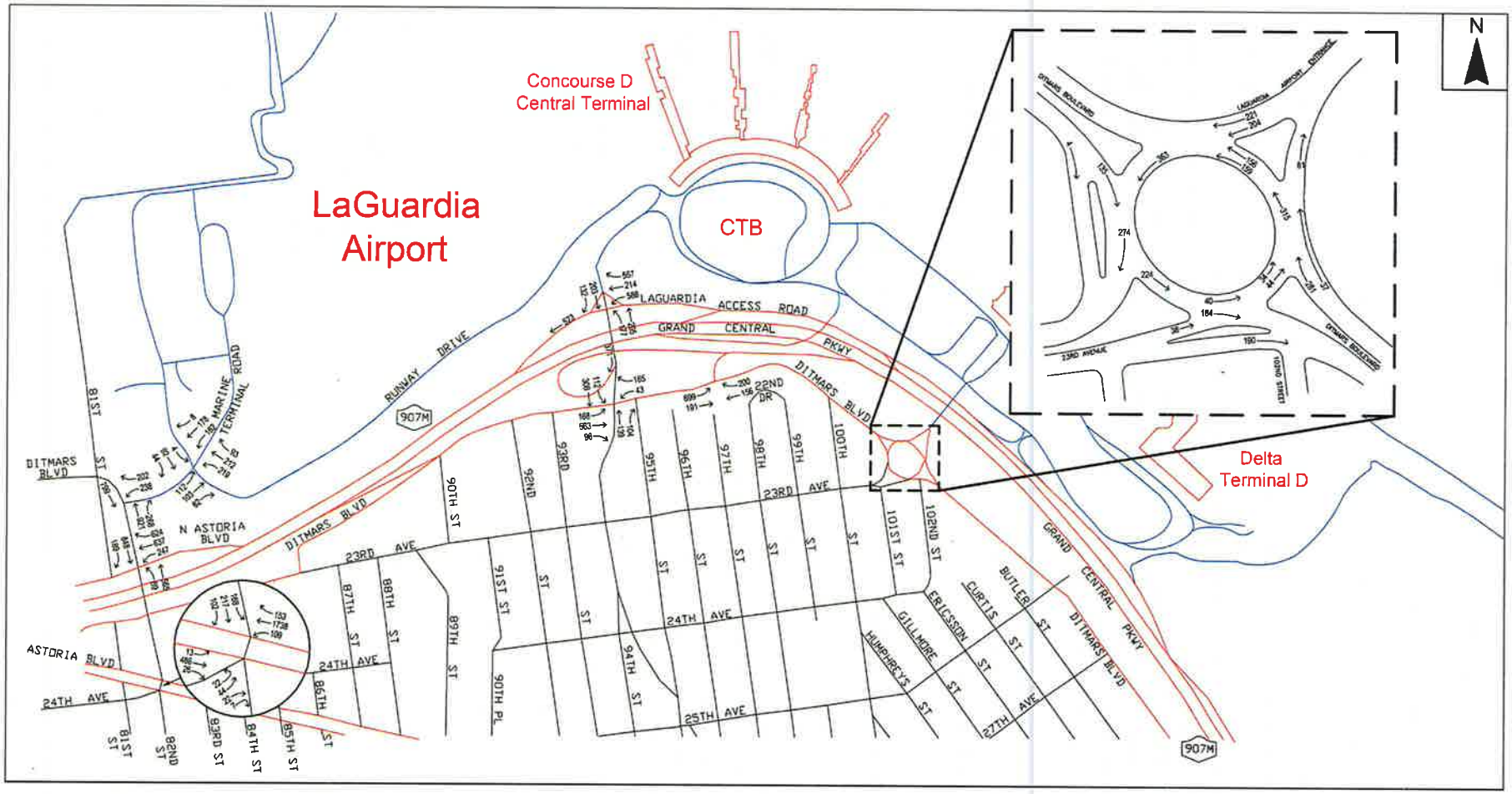
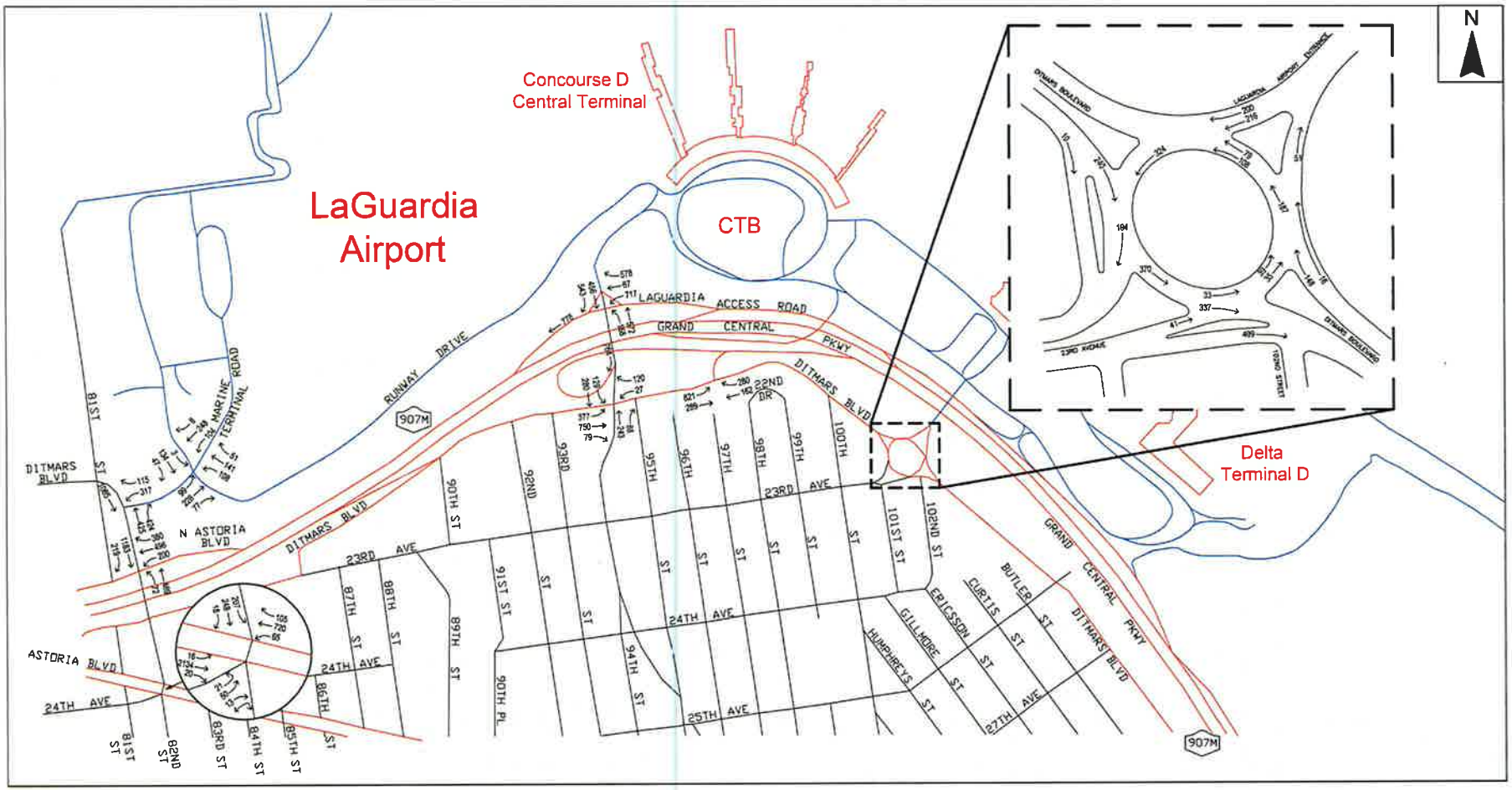


Figure A.1-4: Year 2012 Existing Turning Movement Volumes, Operation Condition, Weekday PM Peak Hour (4:00 to 5:00 PM)



A.1.1.6 ATR Counts

For a period of 14 days—from June 9 to June 22, 2012—ATR counts were conducted continuously at 15-minute intervals at the following locations:

- Ditmars Boulevard / 94th Street – north (north of the access ramp on bridge) and west legs
- 23rd Avenue / 94th Street – south and east legs
- Astoria Boulevard / 94th Street – north, south, east and west legs
- Astoria Boulevard / 77th Street – west leg
- Astoria Boulevard North / 79th Street – east leg
- 23rd Avenue / 82nd Street – south and east legs
- Ditmars Boulevard / Marine Terminal Road – south and east legs
- Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (rotary intersection) – north, south, east and west legs
- Astoria Boulevard between 78th and 79th Streets (on the overpass) – northbound approach
- 31st Avenue / 94th Street – eastbound and westbound approaches
- Northern Boulevard / 94th Street – eastbound and westbound approaches
- Astoria Boulevard / 82nd Street – all approaches

The ATR count data results indicated that the peak hour turning movement counts adequately reflected average weekday peak hour traffic conditions.

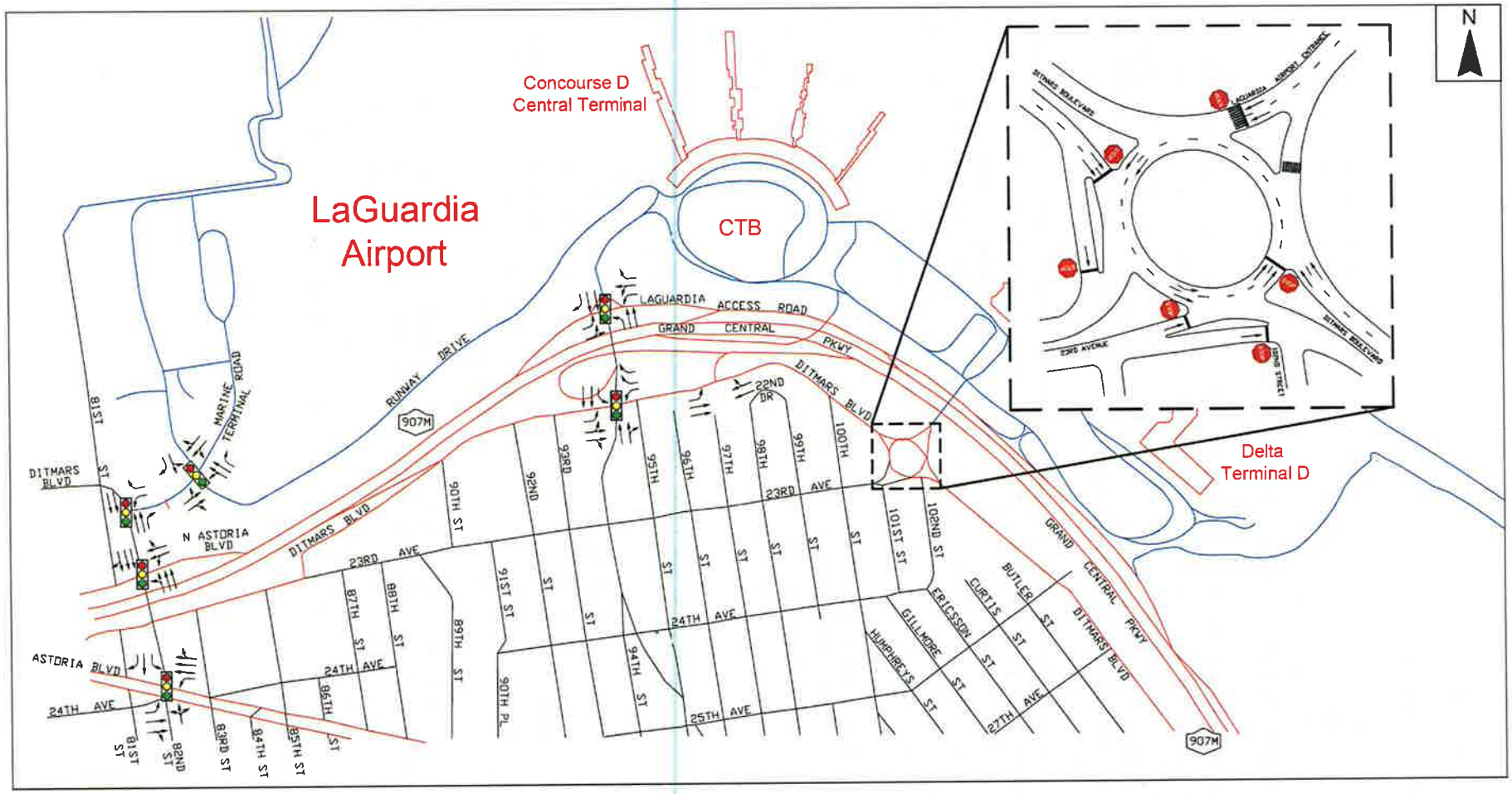
A.1.1.7 Intersection Inventory

The physical and operational characteristics of all study intersections were inventoried in the field. This inventory specifically included:

- Street directions;
- Number, configuration, and widths of lanes;
- Type of intersection traffic control;
- Signal timing and phasing sequences as observed in the field;
- Crosswalk locations;
- Curbside parking regulations;
- Turning restrictions and prohibitions; and
- Bus stop locations.

Figure A.1-5 shows the existing lane configurations and traffic control devices at the study intersections. Official signal timings were provided by the New York City Department of Transportation (NYCDOT) for all of the signalized intersections, and were used in all intersection capacity analyses.

Figure A.1-5: Existing Lane Configurations and Traffic Control Devices



A.1.1.8 Operations Analysis

The traffic operations analyses for the study area intersections are based on the methodologies described in the *2000 Highway Capacity Manual (HCM)* and were conducted using *Highway Capacity Software (HCS+) Release 5.4*. The official traffic signal phasing sequences and timing plans obtained from NYCDOT were used in the analysis of all of the signalized study intersections.

For signalized intersections, the *HCM* methodology calculates a volume-to-capacity (v/c) ratio for each approach or lane group. The v/c ratio represents the ratio of traffic volumes on the approach to the approach's vehicle-carrying capacity. At v/c ratios between 0.95 and 1.00, traffic volumes approach capacity and delays to motorists could become substantial. Volume-to-capacity ratios exceeding 1.00 indicate saturated conditions, typically characterized by long delays and building queues.

The *HCM* methodology also expresses the quality of flow for an approach or lane group in terms of level-of-service (LOS), a measure based on the average control delay that motorists experience when traveling through the intersection. Control delay includes delays associated with acceleration, deceleration, and queue move-up time, in addition to stopped delay at the intersection. For signalized intersections, LOS ranges on a letter-grade scale from "A" (average control delays of 10 seconds or less per vehicle) to "F" (average control delays exceeding 80 seconds per vehicle).

For unsignalized two-way stop-controlled intersections, the *HCM* methodology assumes that major-street through and right-turning traffic is unaffected by turning movements from the minor street. Left-turns from the major street are assumed to be affected by the opposing (oncoming) major-street traffic flow. Minor-street traffic movements are affected by all of the conflicting higher-priority movements described above.

As with signalized intersections, the *HCM* methodology for two-way stop-controlled intersections expresses the quality of flow in terms of both v/c ratio and a letter-grade LOS, with LOS based on the average control delay experienced by motorists making left-turns from the major street or turns from the minor-street approach. However, the relationships between delay and LOS for two-way stop-controlled intersections are different from those for signalized intersections, primarily because motorists expect different levels of performance from these two types of intersections. For unsignalized two-way stop-controlled intersections, LOS ranges from "A" (average control delays of 10 seconds or less per vehicle) to "F" (average control delays exceeding 50 seconds per vehicle).

Table A.1-2 shows the relationships between average control delay and LOS for signalized and unsignalized intersections using the *HCM* methodologies. Levels-of-service "A", "B" and "C" generally represent extremely favorable to fair levels of traffic flow. At LOS "D", delays increase and the influence of congestion becomes noticeable. LOS "E" is considered to be the limit of acceptable delay for most motorists. LOS "F" is considered to be unacceptable to most motorists, with traffic flow at, or exceeding, the capacity of the roadway.

Table A.1-2: Level-of-Service Criteria for Signalized and Unsignalized Intersections

Level-of-Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	Average Control Delay (seconds per vehicle)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Source: *2000 Highway Capacity Manual.*

Using the existing turning movement volumes shown in **Figures A.1-3** and **A.1-4**, traffic operations analyses were conducted for each of the study intersections for the weekday AM and PM peak hours. It should be noted that the following refinements to the existing conditions traffic operations analyses were made based on the data collected and field observations:

- **Astoria Boulevard North-Grand Central Parkway westbound off-ramp / 82nd Street-Ditmars Boulevard** – During the weekday AM and PM peak hours, field observations revealed cycle failures (volume-to-capacity ratios > 1.00) and excessive delay (LOS "F") for vehicles making northbound left-turns from 82nd Street onto Astoria Boulevard North. Drivers making this movement were observed using all of the yellow interval and part of the all-red interval to complete their turns. Therefore, for northbound left-turn movements at this intersection during the weekday AM and PM peak hours, the base saturation flow rate was increased from 1900 passenger cars per hour of green per lane (pcphgpl) to 2050 pcphgpl. In addition, during the weekday AM peak hour, the extension of effective green was increased from two seconds to three seconds to reflect drivers using the yellow and all-red intervals, and the start-up lost time for this movement was decreased from two seconds to one second.

- **LaGuardia Access Road / 94th Street** – During the weekday PM peak hour, field observations revealed cycle failures (volume-to-capacity ratios > 1.00) for vehicles making westbound left-turns from the LaGuardia Access Road onto 94th Street. Drivers making this movement were observed using all of the yellow interval and part of the all-red interval to complete their turns. Therefore, for westbound left-turn movements at this intersection during the weekday PM peak hour, the extension of effective green was increased from two seconds to three seconds to reflect drivers using the yellow and all-red intervals, and the base saturation flow rate was increased from 1900 pcphgpl to 2000 pcphgpl. In addition, the start-up lost time was decreased from two seconds to one second. The westbound right-turn and southbound right-turn movements are channelized out of the traffic signal operation and, therefore, were analyzed as stop-controlled movements.

In addition, a series of improvements involving the eastbound ramps to and from the Grand Central Parkway in the vicinity of the 94th Street interchange were underway at the time of the counts. These improvements include the following:

- **Relocation of the eastbound off-ramp to Ditmars Boulevard/94th Street** – The eastbound off-ramp to Ditmars Boulevard, west of 94th Street, is being relocated further to the west on the Grand Central Parkway mainline. This improvement increases the spacing distance between the off-ramp's connection to Ditmars Boulevard and the intersection of Ditmars Boulevard with 94th Street. The greater separation between these two points allows drivers more distance to maneuver into the proper lanes along Ditmars Boulevard on the eastbound approach to 94th Street. In addition, relocation of the off-ramp further to the west also reduces the propensity for queue spillback from the Ditmars Boulevard/94th Street traffic signal onto the Grand Central Parkway mainline.

- **Reconfiguration of the eastbound on-ramp from 94th Street** – This improvement eliminates a short weaving section on the eastbound Grand Central Parkway mainline between the 94th Street on-ramp and the off-ramp to the CTB. The improvement eliminates the weaving conflicts that occur between motorists entering the eastbound Grand Central Parkway via 94th Street and motorists exiting the eastbound Grand Central Parkway destined for the CTB, thereby improving traffic operations on the eastbound Grand Central Parkway mainline. The improvement involves reconstructing the eastbound loop ramp from 94th Street such that this ramp first joins the Ditmars Boulevard on-ramp (east of 94th Street) as a separate lane. Both lanes then connect to the eastbound lanes of the Grand Central Parkway as a merge.

It should be noted that these improvements did not materially alter basic traffic patterns on local streets in the vicinity of the interchange—relative to pre-construction conditions—because the numbers and configurations of the lanes at the LaGuardia Access Road/94th Street and Ditmars Boulevard/94th Street intersections were maintained during construction. The purposes of the 94th Street interchange improvements are to improve safety and operations along the Grand Central Parkway mainline by eliminating weaving, and to streamline the movement of vehicles among the Grand Central Parkway, LaGuardia Airport, and local streets (i.e., Ditmars Boulevard) by increasing maneuver and storage distances, rather than to change traffic patterns on local streets.

Table A.1-3 shows the results of the traffic operations analyses, including volume-to-capacity (v/c) ratios, average control delays, and corresponding levels-of-service. The table highlights (with shading) those intersection movements that operate at LOS "E" or "F" or have a high v/c ratio (0.90 and above), and are therefore considered to be congested.

Table A.1-3: Year 2012 Levels-of-Service, Existing Traffic Conditions

Intersection	Approach	Movement	Weekday AM Peak Hour (7:30 to 8:30 AM)			Weekday PM Peak Hour (4:00 to 5:00 PM)		
			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS
SIGNALIZED INTERSECTIONS								
Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	EB	LTR	0.58	40.0	D	0.91	58.3	E
	WB	LTR	0.58	31.7	C	0.51	30.3	C
	NB	DefL	0.90	61.8	E	0.45	32.7	C
		T	0.63	37.4	D	0.48	32.6	C
		R	0.12	5.8	A	0.07	5.5	A
	SB	LT	0.37	29.5	C	0.35	29.0	C
		R	0.09	10.2	B	0.08	10.1	B
	Overall		**0.70**	**36.3**	**D**	**0.60**	**38.8**	**D**
Ditmars Boulevard / Marine Terminal Road	WB	L	0.63	33.7	C	0.83	44.2	D
		R	0.53	30.5	C	0.35	26.7	C
	NB	T	0.59	13.0	B	0.26	9.3	A
		R	0.35	10.8	B	0.57	14.2	B
	SB	T	0.48	11.4	B	0.57	12.6	B
	Overall		**0.60**	**15.8**	**B**	**0.66**	**17.7**	**B**
Astoria Boulevard North / Grand Central Parkway westbound off-ramp / 82nd Street / Ditmars Boulevard	WB (off-ramp)	LTR	1.02	50.2	D	0.72	20.2	C
	NB	DefL	1.04	128.3	F	1.05	140.8	F
		LT	0.49	22.1	C	0.44	21.3	C
	SB	TR	0.75	27.0	C	0.96	40.3	D
	Overall		**1.03**	**39.7**	**D**	**0.86**	**32.7**	**C**
Astoria Boulevard / 82nd Street / 24th Avenue	EB	L	0.27	31.8	C	0.18	20.7	C
		TR	0.53	26.2	C	1.03	52.4	D
	WB	L	0.32	24.2	C	0.53	57.1	E
		TR	0.86	21.9	C	0.39	14.5	B
	NB (24th Ave.)	L	0.38	52.8	D	0.68	75.6	E
		TR	0.23	49.5	D	0.22	54.3	D
	SB	L	0.54	48.4	D	0.74	57.4	E
		T	0.90	74.7	E	0.82	63.6	E
		R	0.66	56.3	E	0.17	40.8	D
	Overall		**0.80**	**31.4**	**C**	**0.88**	**45.3**	**D**
LaGuardia Access Road / 94th Street	WB	L	1.04	66.3	E	1.05	64.8	E
		LT	0.37	15.5	B	0.12	13.0	B
		R	0.66	15.5	C	0.98	45.8	E
	NB	L	0.47	14.4	B	0.52	16.5	B
		T	0.26	10.2	B	0.48	12.2	B
	SB	T	0.20	9.7	A	0.33	10.7	B
		R	0.31	13.4	B	0.77	23.0	C
	Overall		*	**27.8**	**C**	*	**32.5**	**C**
Ditmars Boulevard / 94th Street	EB	L	0.30	14.7	B	0.74	23.8	C
		TR	0.60	17.5	B	0.72	19.9	B
	WB	L	0.38	20.5	C	0.32	20.4	C
		R	0.19	13.4	B	0.14	13.0	B
	NB	TR	0.27	10.3	B	0.31	10.6	B
	SB	L	0.36	12.6	B	0.41	13.8	B
		T	0.26	10.1	B	0.21	9.8	A
	Overall		**0.46**	**14.2**	**B**	**0.55**	**17.2**	**B**
UNSIGNALIZED INTERSECTIONS								
Ditmars Boulevard / Grand Central Parkway eastbound on-ramp	EB	L	0.73	16.4	C	0.98	47.1	E
Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (rotary intersection)	A. SWB (Airport access road)	WB-L	0.12	7.6	A	0.10	7.8	A
		SB-T	0.70	34.3	D	0.53	20.9	C
		SB-R	0.31	11.2	B	0.24	10.0	A
	B. EB (23rd Ave.)	R	0.21	10.6	B	0.35	11.6	B
	C. EB (23rd Ave. bypass)	R	0.01	10.1	B	0.02	9.6	A
	D. SEB (Ditmars Blvd. bypass)	R	0.25	10.1	B	0.64	16.5	C
	E. SEB (Ditmars Blvd.)	EB-L	0.05	7.5	A	0.02	7.3	A
		NB-T	0.09	12.6	B	0.14	13.9	B
	F. NB (circulatory roadway)	NB-L	0.10	11.6	B	0.06	9.9	A
		NB-T	0.11	13.4	B	0.08	10.4	B

Notes:

v/c = volume-to-capacity ratio; LOS = Level-of-Service

NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; SEB = Southeastbound, SWB = Southwestbound

L = Left-Turn; T = Through; R = Right-Turn;

LT = Left-Turn/Through; TR = Through/Right-Turn; LR = Left-Turn/Right-Turn; LTR = Left-Turn/Through/Right-Turn

Average Control Delay shown in units of seconds/vehicle

* = Overall v/c ratio not calculated by HCS for this intersection.

As shown in **Table A.1-3**, all of the lane groups at all of the study intersections currently operate at LOS "D" or better (delays of 55 seconds per vehicle or less for signalized intersections and delays of 35 seconds or less for unsignalized intersections) during the weekday AM and PM peak hours, with the exception of the following locations:

- **Bowery Bay Boulevard / Runway Drive / Marine Terminal Road** – During the weekday AM peak hour, northbound left-turn movements experience delays corresponding to LOS "E" and operate near capacity. During the weekday PM peak hour, the eastbound approach operates near capacity with delays corresponding to LOS "E". The intersection as a whole operates at LOS "D" overall during the weekday AM and PM peak hours.

- **Astoria Boulevard North-Grand Central Parkway westbound off-ramp / 82nd Street-Ditmars Boulevard** – During the weekday AM peak hour, the westbound approach (the off-ramp from the westbound Grand Central Parkway) operates near capacity. During the weekday AM and PM peak hours, northbound left-turn movements from 82nd Street onto Astoria Boulevard North operate over capacity with delays corresponding to LOS "F". During the weekday PM peak hour, the southbound approach operates near capacity. The intersection as a whole operates at LOS "D" overall during the weekday AM peak hour and LOS "C" overall during the weekday PM peak hour.

- **Astoria Boulevard / 82nd Street-24th Avenue –** During the weekday AM peak hour, the southbound through and right-turn lanes operate at LOS "E", with the southbound through lane operating near capacity. During the weekday PM peak hour, eastbound through and right-turn movements operate over capacity and the westbound left-turn lane operates at LOS "E". Also during the weekday PM peak hour, left-turn movements from the northbound (24th Avenue) approach, the southbound left-turn lane, and the southbound through lane operate at LOS "E". The intersection as a whole operates at LOS "C" overall during the weekday AM peak hour and at LOS "D" overall during the weekday PM peak hour.

- **LaGuardia Access Road / 94th Street –** During both the weekday AM and PM peak hours, the westbound left-turn movement operates over capacity with delays corresponding to LOS "E". During the weekday PM peak hour, the stop-controlled westbound right-turn movement is projected to operate near capacity at LOS "E". The intersection as a whole operates at LOS "C" overall during the weekday AM and PM peak hours.

- **Ditmars Boulevard/Grand Central Parkway eastbound on-ramp –** During the weekday PM peak hour, eastbound left-turn movements operate near capacity with delays corresponding to LOS "E" under an unsignalized configuration.

A.1.2 Future No-Action Condition

The Future No-Action Condition traffic analysis identifies how the study area's transportation system is projected to operate in the future horizon year *without* the Proposed Action. As such, the Future No-Action Condition traffic analysis includes anticipated future increases in background traffic volumes, but does not include traffic generated by the proposed CTB redevelopment project. As noted previously, the proposed redevelopment of the CTB is anticipated to be fully completed and operational by the end of 2021. However, because it is projected to take approximately nine years following opening of the

CTB to fully realize all of the forecast passenger growth associated with the new CTB, the future study year for the Future No-Action (and With-Action) Conditions traffic analyses is 2030.

With or without the proposed redevelopment of the CTB, passenger travel at LaGuardia Airport is projected to continue to increase over time. The PANYNJ estimates that—without the CTB redevelopment project—projected passenger travel at LaGuardia Airport will increase by 6.5 million annual passengers (MAP) by 2030. Therefore, the projected increase in vehicular traffic associated with the background passenger growth (6.5 MAP) anticipated at LaGuardia Airport by the 2030 planning horizon was included in the year 2030 Future No-Action traffic volumes. **Table A.1-4** illustrates the projected weekday AM and PM peak hour trip generation characteristics for LaGuardia Airport associated with the growth attributable to an additional 6.5 MAP under future No-Action conditions.

Figures A.1-6 and A.1-7 show the inbound and outbound vehicle trip distributions, respectively, for the Proposed Action during the weekday AM peak hour. Similarly, **Figures A.1-8 and A.1-9** show the inbound and outbound vehicle trip distributions, respectively, for the Proposed Action during the weekday PM peak hour. These distributions were developed based on existing origin-destination data for LaGuardia Airport, provided by the PANYNJ.

Table A.1-4: Travel Demand Assumptions and Estimated Trip Generation Characteristics for 6.5 MAP Background Growth at LGA

Incremental New Annual Passengers (Arrivals plus Departures) =	6,500,000													
Percentage of Annual Passengers during Peak Non-Summer Month (June)[1] =	8.99%													
New Monthly Passengers during Peak Non-Summer Month (June) =	584,350													
Average Daily Passengers on a Typical Mid-week Day (Tuesday through Thursday) during Peak Non-Summer Month (June)[2] =	20,374													
Off-Airport Street Peak Hour[3] =	WEEKDAY AM PEAK HOUR (7:30 to 8:30 AM)							WEEKDAY PM PEAK HOUR (4:00 to 5:00 PM)						
Peak Hour Percentage of Daily Trips[4] =	4.67%							6.04%						
Percentage of Connecting Passengers (Internal Trips)[5] =	5%							5%						
Peak Hour External Person-Trips =	904							1,169						
Mode Split[6]	Person-Trips	Vehicle Occupancy	Vehicle-Trips	Directional Distribution[15]		Inbound Trips	Outbound Trips	Person-Trips	Vehicle Occupancy	Vehicle-Trips	Directional Distribution[15]		Inbound Trips	Outbound Trips
				% In	% Out						% In	% Out		
Drove alone and parked = 4.6%	42	1.00	42	49.5%	50.5%	21	21	54	1.00	54	49.4%	50.6%	27	27
Passenger in Car (Dropped-Off/Picked-Up)[7] = 20.8%	188	2.09	180	50.0%	50.0%	90	90	243	2.84	171	50.0%	50.0%	86	86
Rental Car[8] = 5.0%	45	2.44	19	49.5%	50.5%	9	9	58	2.38	25	49.4%	50.6%	12	12
Taxi[9,16] = 40.8%	369	2.42	190	49.5%	50.5%	94	96	477	2.34	255	49.4%	50.6%	126	129
Limo/Town Car Service[10] = 15.0%	136	2.46	55	49.5%	50.5%	27	28	175	2.43	72	49.4%	50.6%	36	37
SuperShuttle/Shared Ride Service[11] = 3.1%	28	2.39	12	49.5%	50.5%	6	6	36	2.33	16	49.4%	50.6%	8	8
Public Bus[12] = 3.7%	33	54.00	1	49.5%	50.5%	0	0	43	54.00	1	49.4%	50.6%	0	0
NY Airport Bus from Manhattan[11] = 1.3%	12	2.39	5	49.5%	50.5%	2	2	15	2.33	7	49.4%	50.6%	3	3
NY Airport Service Bus to JFK/LGA[11] = 1.2%	11	2.39	5	49.5%	50.5%	2	2	14	2.33	6	49.4%	50.6%	3	3
Chartered Tour/Bus[11] = 0.5%	5	2.39	2	49.5%	50.5%	1	1	6	2.33	3	49.4%	50.6%	1	1
Hotel/Motel Shuttle/Van[13] = 0.5%	5	1.80	3	49.5%	50.5%	1	1	6	2.81	2	49.4%	50.6%	1	1
Off-Airport Parking Company Shuttle/Van[13] = 1.8%	16	1.80	9	49.5%	50.5%	4	5	21	2.81	7	49.4%	50.6%	4	4
Other[14] = 1.7%	15	1.00	15	49.5%	50.5%	8	8	20	1.00	20	49.4%	50.6%	10	10
TOTAL = 100.0%	904		536			266	270	1,169		637			316	321

Notes:

1 = Percentage of annual visitors during peak non-summer month based on domestic and international passenger counts at LaGuardia Airport as published in the 2002 through 2011 *Airport Traffic Reports* by the Port Authority.

2 = Adjustment factor of 1.046 applied to reflect higher average Tuesday-through-Thursday passenger volume relative to average daily passenger volume. Based on ATR data collected by the Port Authority at 25 locations at LaGuardia Airport in 2010.

3 = Based on traffic counts conducted by AECOM at off-airport study intersections in June 2012.

4 = Peak hour percentage of daily trips based on ATR data collected by the Port Authority at 25 locations at LaGuardia Airport in 2010.

5 = Conservative estimate of connecting passengers at LaGuardia Airport based on data published in the 2002 through 2011 *Airport Traffic Reports* by the Port Authority.

6 = Mode split based on year 2010 mode split data from annual passenger surveys at LaGuardia Airport provided by the Port Authority.

7 = Vehicle occupancies for Passenger in Car (Dropped-off/Picked-up) based on vehicle occupancies obtained from frontage dwell-time surveys of Privately-Owned Passenger Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate includes only passengers (does not include driver).

8 = Vehicle occupancies for Rental Car estimated based on average vehicle occupancies obtained from frontage dwell-time surveys of Taxis and For-Hire Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate obtained from taxis and for-hire vehicles does not include driver.

9 = Vehicle occupancies for Taxi estimated based on vehicle occupancies obtained from frontage dwell-time surveys of Taxis conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

10 = Vehicle occupancies for Limo/Town Car Service estimated based on vehicle occupancies obtained from frontage dwell-time surveys of For-Hire Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

11 = Vehicle occupancies for SuperShuttle/Shared Ride Service, NY Airport Bus from Manhattan, NY Airport Service Bus to JFK/LGA, and Chartered Tour Bus based on vehicle occupancies obtained from frontage dwell-time surveys of Off-Airport Vans and Buses conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

12 = Vehicle occupancies for Public Bus based on New York City Transit guideline capacities for a 40-foot standard bus, as per the January 2012 edition of the *CEQR Technical Manual, Section 352.2.2 Analysis of Bus Load Levels*, p. 16-42.

13 = Vehicle occupancies for Hotel/Motel Shuttle/Van and Off-Airport Parking Company Shuttle/Van based on vehicle occupancies obtained from frontage dwell-time surveys of Courtesy Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

14 = Vehicle occupancy assumed to be 1.00 person/vehicle for "Other" trip types (i.e., all single-occupant passenger cars) to ensure a conservative traffic analysis.

15 = Directional distribution based on trip origin and destination data provided by the Port Authority 05-10-2011.

16 = Vehicle-trip calculations for taxis include a 75-percent "taxi overlap credit" for an intermodal facility, as per the January 2012 edition of the *CEQR Technical Manual, Section 313.1 Traffic*, p. 16-11 (i.e., 75-percent of taxi trip ends include passengers).

Figure A.1-6: Estimated No-Action Vehicle Trip Distribution Pattern: Weekday AM Peak Hour – Inbound Trips

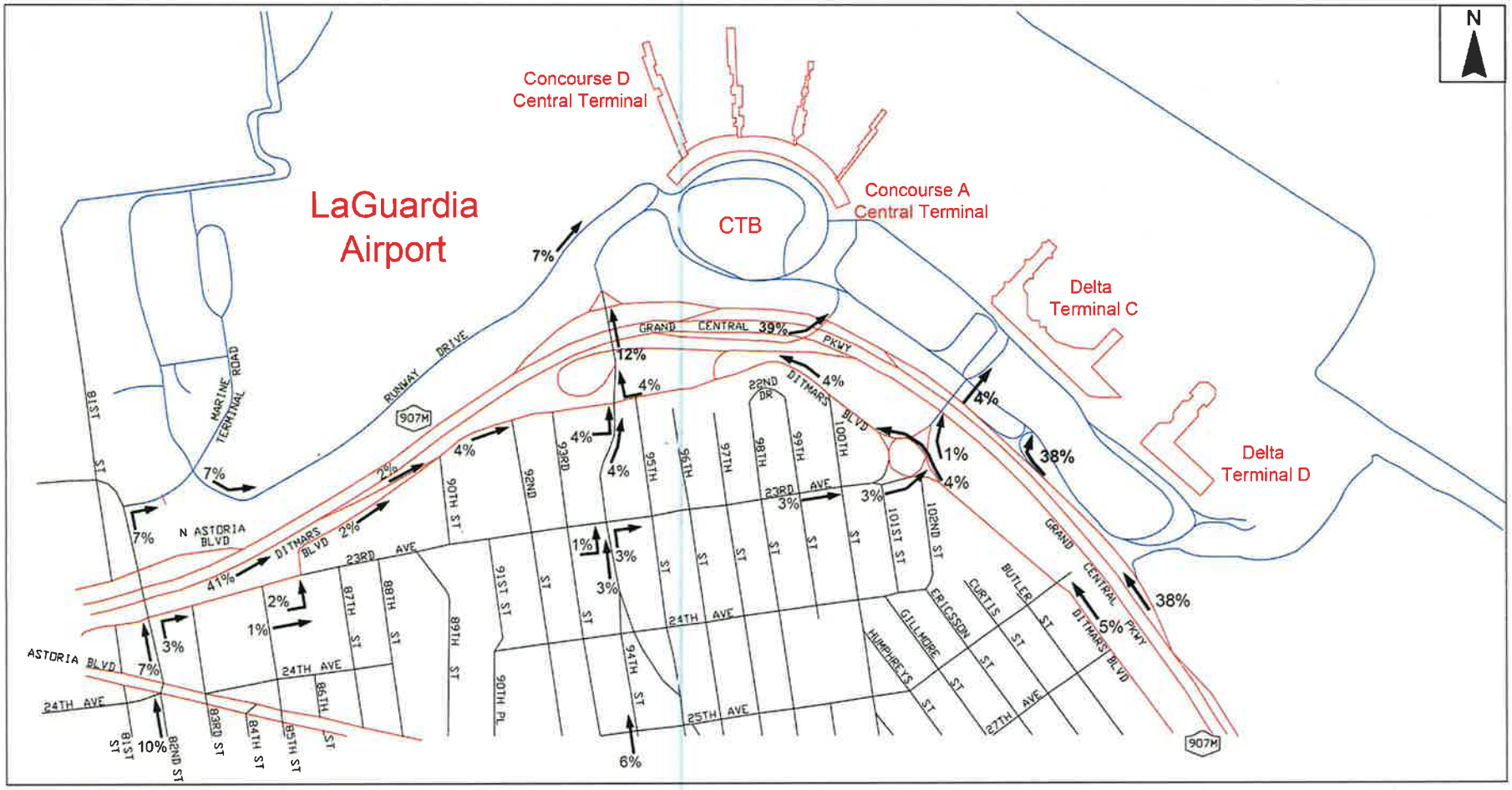


Figure A.1-7: Estimated No-Action Vehicle Trip Distribution Pattern: Weekday AM Peak Hour – Outbound Trips

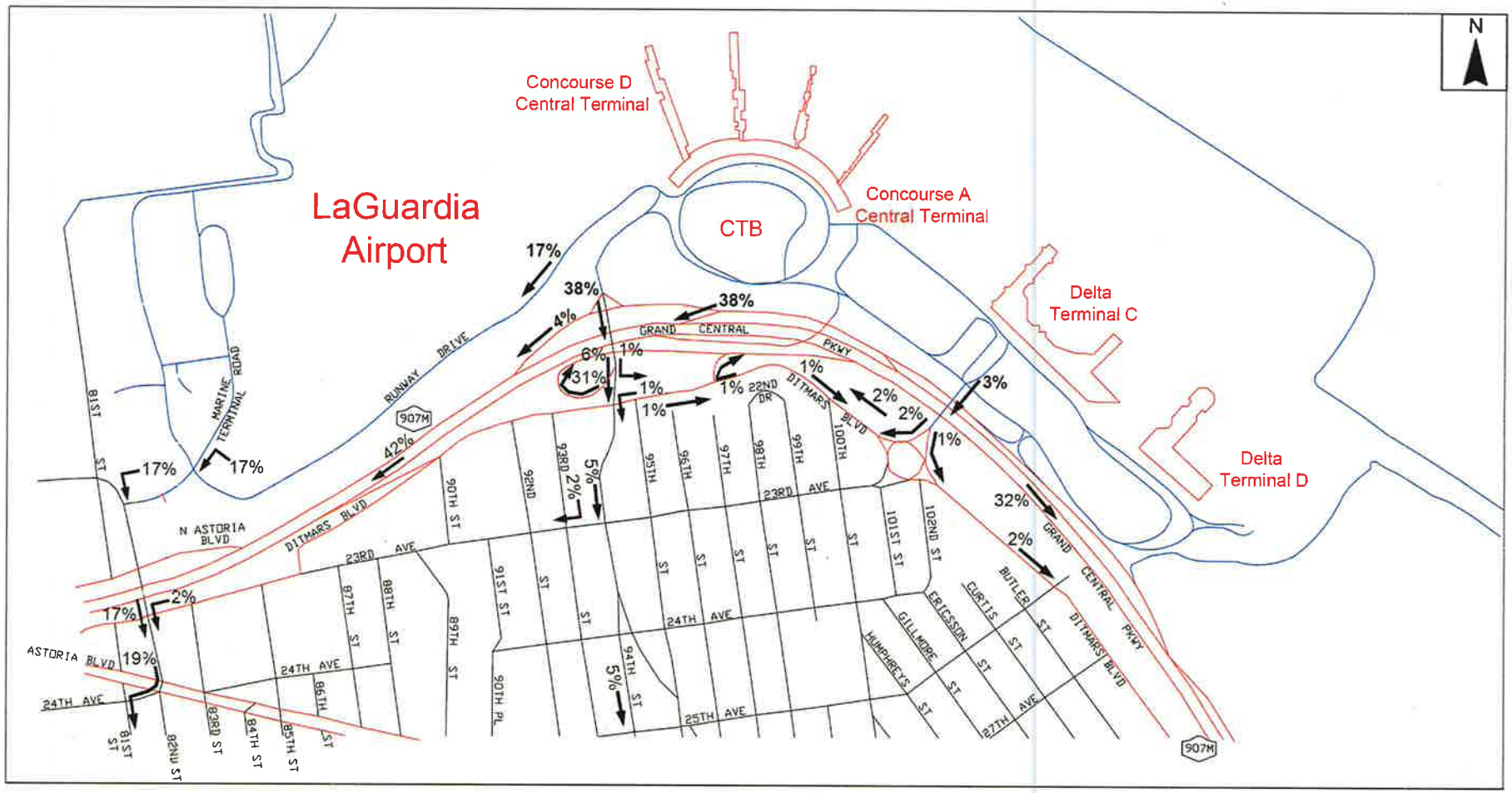


Figure A.1-8: Estimated No-Action Vehicle Trip Distribution Pattern: Weekday PM Peak Hour – Inbound Trips

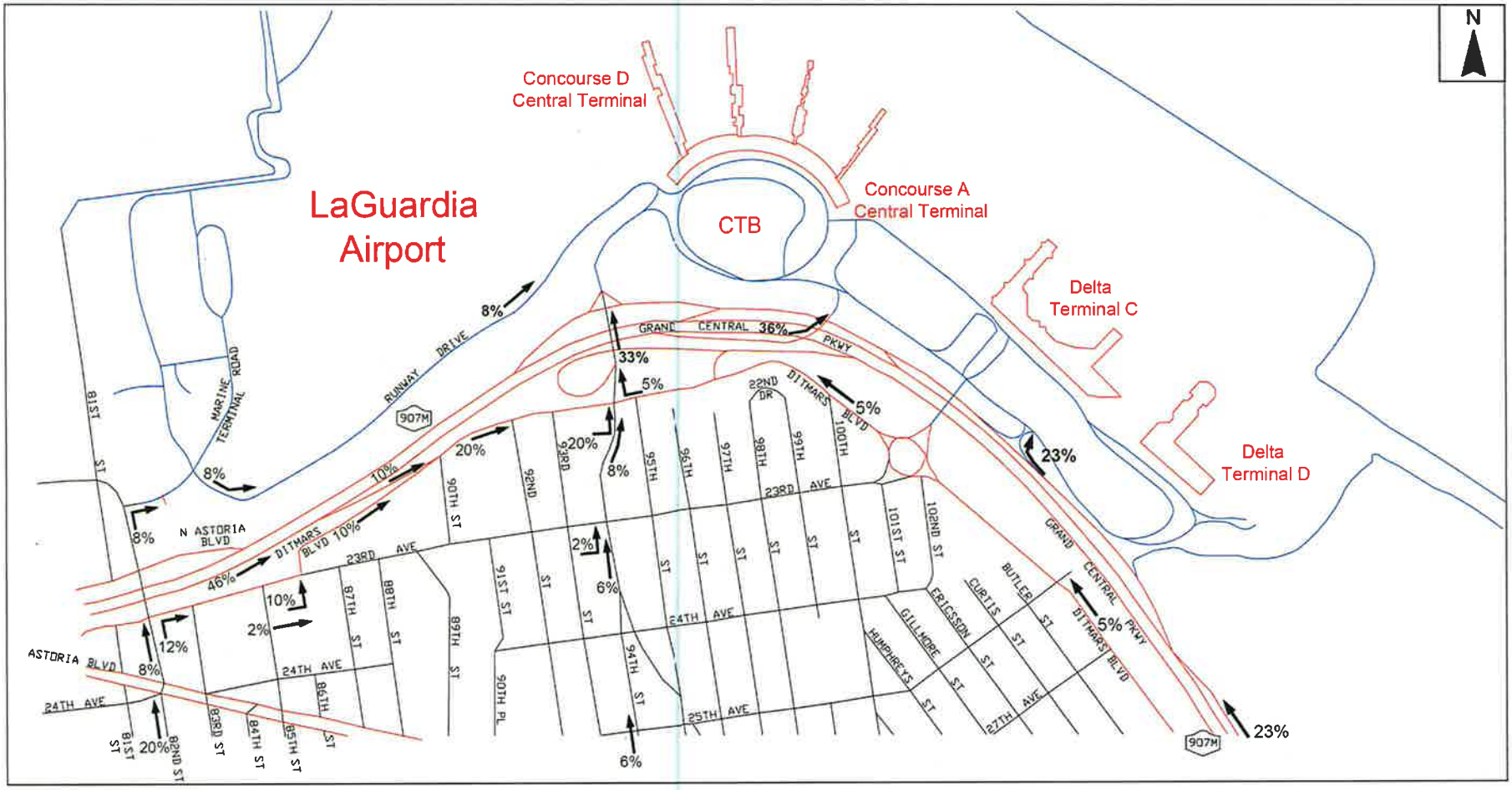
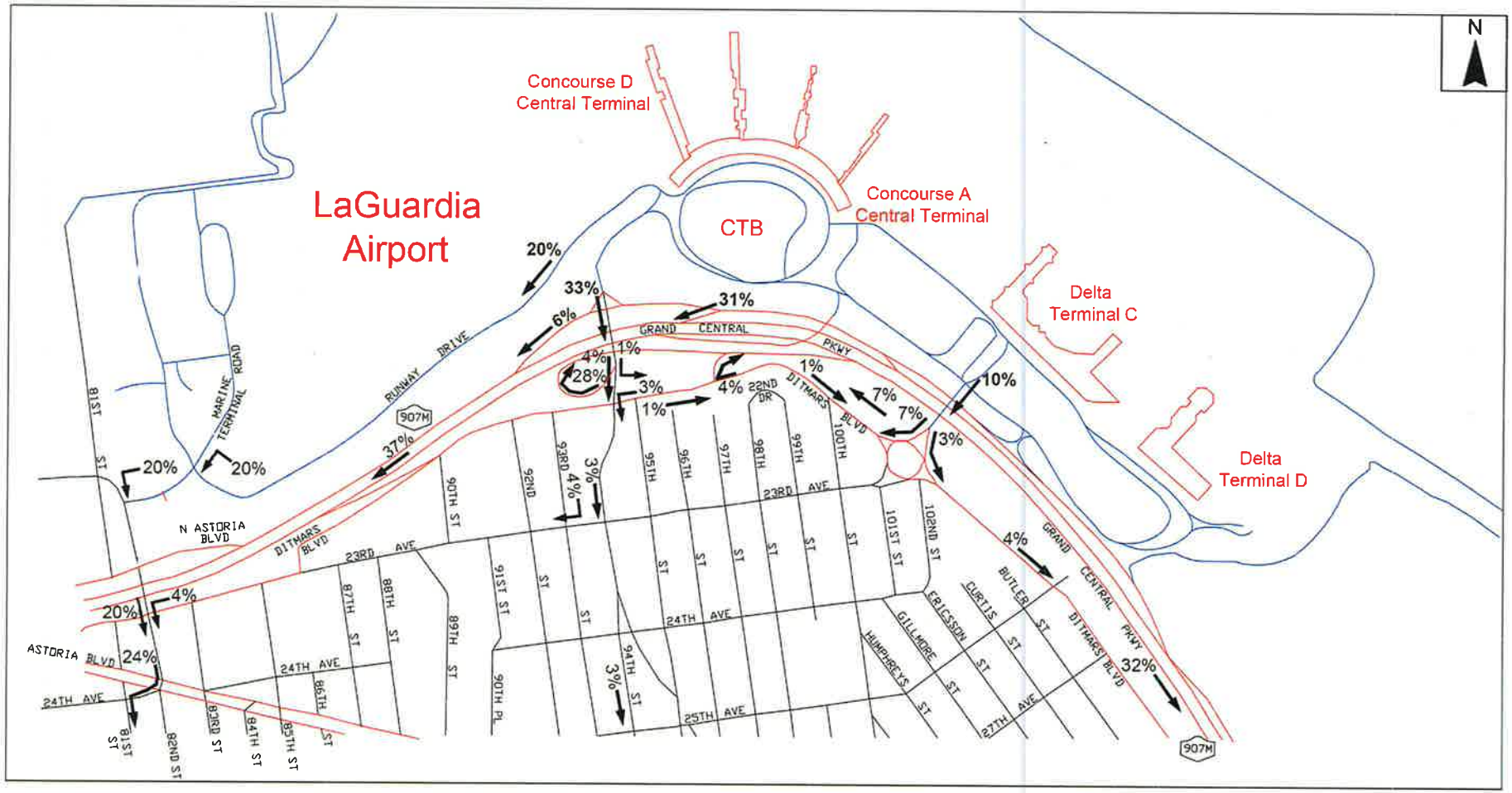


Figure A.1-9: Estimated No-Action Vehicle Trip Distribution Pattern: Weekday PM Peak Hour – Outbound Trips



The future No-Action conditions analyses reflect the following improvements, all of which are currently in place at the time of this writing (May 2014):

1) **Installation of a traffic signal at the Ditmars Boulevard/Grand Central Parkway eastbound on-ramp intersection.** This improvement increases capacity and reduces delays for eastbound vehicles turning left from Ditmars Boulevard onto the on-ramp to Grand Central Parkway eastbound. This increase in capacity is achieved by stopping on-coming westbound traffic along Ditmars Boulevard within the traffic signal cycle to provide a protected left-turn phase (i.e., green arrow) for eastbound left-turning traffic.

2) **Modification of the lane configurations on the eastbound, westbound, and southbound approaches to the Ditmars Boulevard/94th Street intersection.** This improvement provides for reduced delays and more efficient traffic signal operations at the intersection.

3) **Widening of the 82nd Street westbound off-ramp from the Grand Central Parkway from two to three lanes at its approach to 82nd Street-Ditmars Boulevard.** This improvement provides for greater capacity and reduced delays at the intersection for vehicles exiting the westbound Grand Central Parkway via the 82nd Street off-ramp.

In addition, in the future, as part of the Runway Safety Area Enhancements (RSA Enhancements) project at LaGuardia Airport, the following change to the existing roadway geometry will be made:

- **Bowery Bay Boulevard / Runway Drive / Marine Terminal Road** – The geometry on the northbound and southbound approaches to this signalized intersection will be modified. This intersection is located on PANYNJ property. The northbound approach currently accommodates one shared through/left-turn lane, one exclusive through lane, and one exclusive right-turn lane. The configuration on the northbound approach will be modified to accommodate one shared through/left-turn lane and one shared through/right-turn lane. The southbound approach currently accommodates one shared through/left-turn lane and one exclusive right-turn lane. The configuration on the southbound approach will be modified to accommodate one shared through/left-turn lane and one shared through/right-turn lane.

The improvements described above were included in all year 2030 future conditions traffic analyses (i.e., Future No-Action and Future With-Action).

In addition to the improvements noted above, staff from the New York City Department of Transportation (NYCDOT) and the New York City Department of City Planning (NYCDCP) were contacted to identify any significant planned future developments or transportation-improvement projects anticipated to occur within the study area between 2012 and 2030. Based on conversations with staff at these agencies, the following projects are anticipated to occur in the study area by 2030:

- **Willets Point Development District** – This project is located adjacent to CitiField in an area generally bounded by 126th Street to the west, Roosevelt Avenue to the south, the Van Wyck Expressway and an undeveloped parcel owned by the Metropolitan Transportation Authority (MTA) to the east, and Northern Boulevard to the north. The proposed project will include a mix of residential, retail, office, community facility and institutional uses. Transportation-related information and incremental traffic volume projections for this project were obtained from Chapter 17: Traffic and Parking, and Appendix "E": Traffic Volume Networks, in the *Willets Point*

Development Plan FGEIS, dated September 2008. For purposes of this study, Willets Point is expected to be fully developed by 2018 and therefore was included in the 2030 horizon year analyses for the CTB.

- **East Elmhurst Rezoning** – The Queens Office of the Department of City Planning has initiated a rezoning for East Elmhurst in response to requests from elected officials, local civic groups, and the Land Use Committee of Community Board 3 to apply contextual zoning designations that more closely reflect the established built context and land use patterns. The project also examines the need to update commercial overlay zoning along the south side of Roosevelt Avenue in Community District 4. The goals of the project are to: a) protect neighborhood character and reinforce existing development patterns, b) strengthen the character of Astoria Boulevard and encourage mixed-use development, and c) prevent encroachment into residential areas by reducing the depth of commercial overlays and match land use patterns with commercial overlays. The study area, south of LaGuardia Airport, is generally bounded by Grand Central Parkway to the north and east, 32nd Avenue to the south, and to the west by a line beginning at 91st Street and moving northwesterly to 80th Street where it meets the Grand Central Parkway. The project involves four "projected" development sites (targeted for imminent development activity) and nine "potential" development sites (targeted for potential future development). The completion year for the proposed rezoning actions was 2013.

  Trip generation estimates for this project were not available from the Queens Office of the NYCDCP. Therefore, detailed trip generation projection were prepared for the four projected development sites using standard *CEQR Technical Manual* assumptions to estimate the number of projected net incremental vehicle-trips generated by the rezoning actions on these sites during the weekday AM and PM peak hours. Based on the proposed rezoning actions, each of the four projected development sites are anticipated to generate less than 10 net incremental vehicle-trips during the weekday AM and PM peak hours. Given the relatively low magnitude of vehicle-trips generated by the projected development sites during the weekday AM and PM peak hours, these sites were not modeled separately in the traffic projections, but considered as part of the background growth percentage applied globally to all traffic volumes in the study area. This is consistent with the expectations of NYCDCP staff.

In addition, during the 2012 to 2030 period, it is expected that existing traffic volumes in the study area will increase due to regional growth over time. In order to forecast future traffic demands without the proposed project, a compounded total growth rate of 5.91 percent was calculated for the 2030 horizon year[2] and applied to the existing traffic volumes, in accordance with the growth rate recommendations for Queens described in the *CEQR Technical Manual*. Next, the traffic volumes associated with the 6.5 MAP growth at LaGuardia Airport, as well as those associated with the Willets Point Development District, described above, were added to the adjusted volumes. The resulting year 2030 Future No-Action Condition traffic volumes are shown in **Figures A.1-10** and **A.1-11** for the weekday AM and PM peak hours, respectively.

[2] A compounded total growth rate of 5.91% was calculated based on a 0.50% annual growth rate from 2012 to 2017, plus a 0.25% annual growth rate from 2017 to 2030, in accordance with *CEQR Technical Manual* guidelines.

Figure A.1-10: Year 2030 No-Action Turning Movement Volumes, Operation Condition, Weekday AM Peak Hour (7:30 to 8:30 AM)

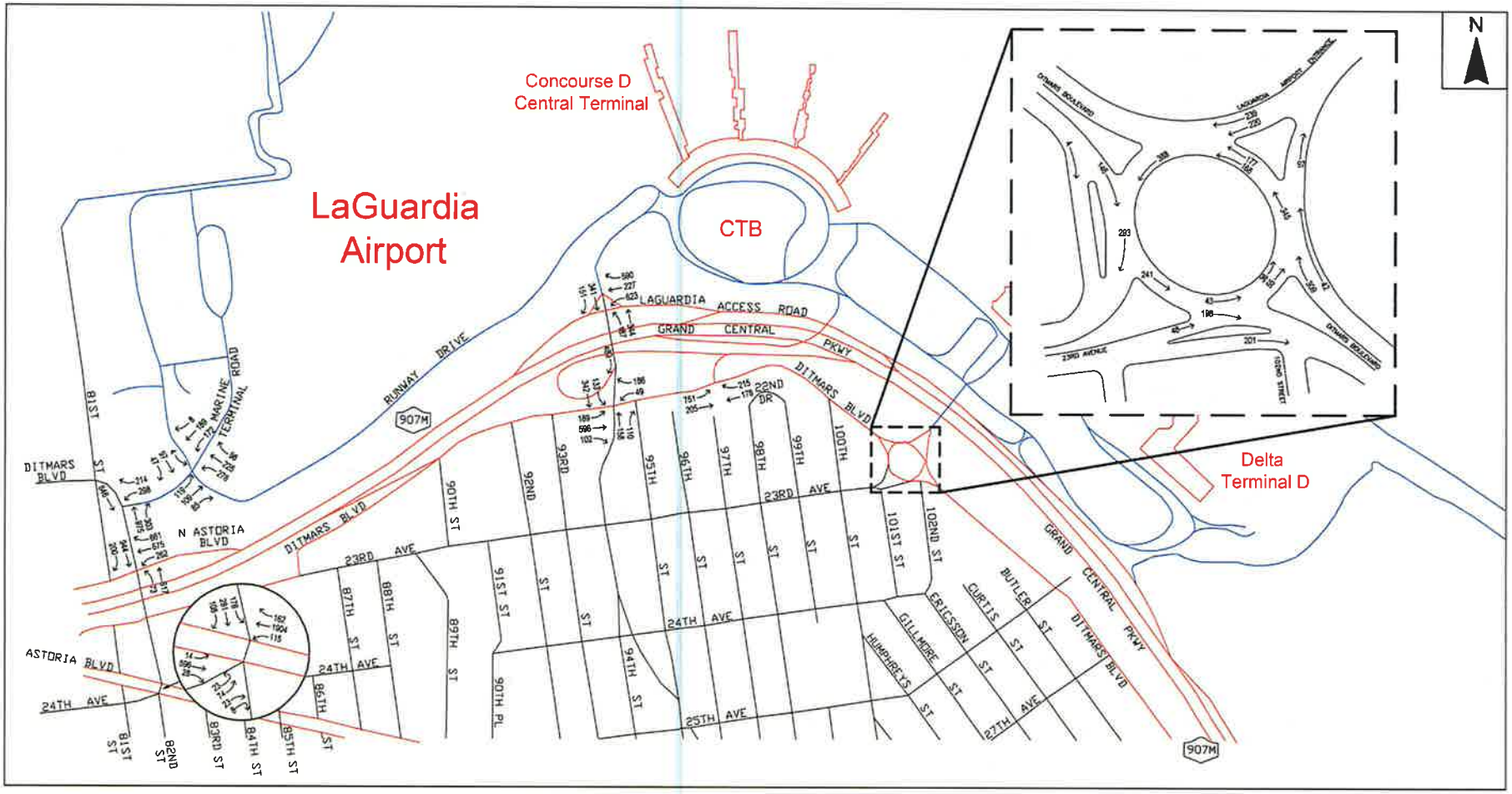


Figure A.1-11: Year 2030 No-Action Turning Movement Volumes, Operation Condition, Weekday PM Peak Hour (4:00 to 5:00 PM)

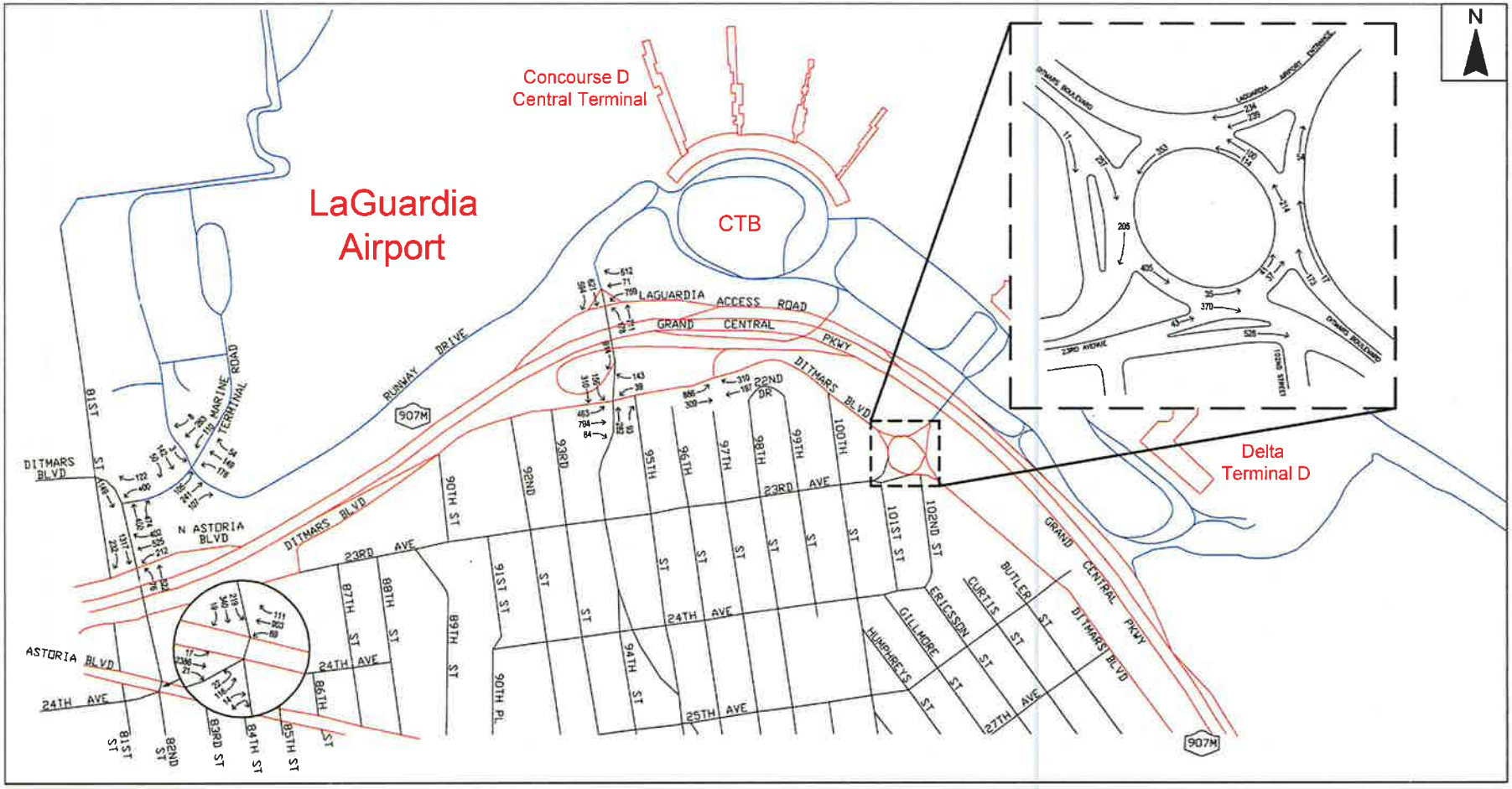


Table A.1-5: Year 2030 Levels-of-Service, Future No-Action Traffic Conditions

Intersection	Approach	Movement	Weekday AM Peak Hour (7:30 to 8:30 AM)			Weekday PM Peak Hour (4:00 to 5:00 PM)		
			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS
SIGNALIZED INTERSECTIONS								
Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	EB	LTR	0.66	42.2	D	1.04	87.1	F
	WB	LTR	0.61	32.5	C	0.54	30.8	C
	NB	DefL	1.19	145.6	F	0.76	47.8	D
		TR	0.91	59.5	E	0.63	37.1	D
	SB	LTR	0.33	27.9	C	0.30	27.5	C
	Overall		**0.84**	**61.1**	**E**	**0.75**	**53.0**	**D**
Ditmars Boulevard / Marine Terminal Road	WB	L	0.79	41.9	D	1.04	84.1	F
		R	0.56	31.4	C	0.37	27.0	C
	NB	T	0.62	13.6	B	0.27	9.4	A
		R	0.40	11.4	B	0.64	15.9	B
	SB	T	0.51	11.8	B	0.61	13.1	B
	Overall		**0.68**	**17.5**	**B**	**0.78**	**25.7**	**C**
Astoria Boulevard North / Grand Central Parkway westbound off-ramp / 82nd Street / Ditmars Boulevard	WB (off-ramp)	LT	0.63	18.3	B	0.49	15.9	B
		R	0.94	41.8	D	0.57	18.8	B
	NB	DefL	1.30	223.8	F	1.10	155.9	F
		LT	0.54	22.8	C	0.49	22.0	C
	SB	TR	0.83	29.8	C	1.05	64.9	E
	Overall		**1.10**	**32.9**	**C**	**0.80**	**43.7**	**D**
Astoria Boulevard / 82nd Street / 24th Avenue	EB	L	0.28	32.8	C	0.26	24.6	C
		TR	0.65	28.9	C	1.15	98.6	F
	WB	L	0.39	29.4	C	0.56	59.9	E
		TR	0.94	28.2	C	0.48	15.7	B
	NB (24th Ave.)	L	0.55	59.1	E	1.31	235.3	F
		TR	0.24	49.9	D	0.23	54.7	D
	SB	L	0.58	49.5	D	0.78	60.7	E
		T	1.17	149.0	F	1.12	132.1	F
		R	0.69	58.6	E	0.18	41.1	D
	Overall		**0.94**	**44.0**	**D**	**1.08**	**82.6**	**F**
LaGuardia Access Road / 94th Street	WB	L	1.46	250.1	F	1.48	257.6	F
		LT	0.52	31.2	C	0.17	25.3	C
		R	0.72	17.7	C	1.13	93.3	F
	NB	L	0.34	13.6	B	0.34	17.7	B
		T	0.23	8.2	A	0.46	10.3	B
	SB	T	0.45	24.2	C	0.61	27.0	C
		R	0.37	14.5	B	0.86	31.2	D
	Overall		*	76.8	E	*	84.7	F
Ditmars Boulevard / 94th Street	EB	L	0.31	20.3	C	0.84	36.8	D
		TR	0.54	22.7	C	0.65	24.6	C
	WB	L	0.46	30.6	C	0.57	43.4	D
		R	0.13	7.1	A	0.10	6.9	A
	NB	TR	0.52	31.0	C	0.61	32.7	C
	SB	L	0.31	33.6	C	0.33	33.9	C
		T	0.48	16.7	B	0.37	15.0	B
	Overall		**0.51**	**22.3**	**C**	**0.66**	**27.3**	**C**
Ditmars Boulevard / Grand Central Parkway eastbound on-ramp (with traffic signal installation)	EB	L	0.81	11.3	B	1.06	61.5	E
		T	0.07	0.0	A	0.10	0.1	A
	WB	TR	0.23	8.6	A	0.36	9.7	A
	Overall		**0.72**	**8.7**	**A**	**1.09**	**31.5**	**C**
UNSIGNALIZED INTERSECTIONS								
Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (rotary intersection)	A. SWB (Airport access road)	WB-L	0.12	7.6	A	0.11	7.8	A
		SB-T	0.81	47.5	E	0.63	26.0	D
		SB-R	0.35	11.7	B	0.29	10.6	B
	B. EB (23rd Ave.)	R	0.23	10.8	B	0.38	12.1	B
	C. EB (23rd Ave. bypass)	R	0.01	10.2	B	0.02	9.7	A
	D. SEB (Ditmars Blvd. bypass)	R	0.26	10.3	B	0.69	18.6	C
	E. SEB (Ditmars Blvd.)	EB-L	0.05	7.5	A	0.03	7.3	A
		NB-T	0.12	13.1	B	0.16	14.6	B
	F. NB (circulatory roadway)	NB-L	0.11	12.1	B	0.07	10.2	B
		NB-T	0.15	14.3	B	0.09	11.1	B

Notes:

v/c = volume-to-capacity ratio; LOS = Level-of-Service

NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; SEB = Southeastbound, SWB = Southwestbound

L = Left-Turn; T = Through; R = Right-Turn;

LT = Left-Turn/Through; TR = Through/Right-Turn; LR = Left-Turn/Right-Turn; LTR = Left-Turn/Through/Right-Turn

Average Control Delay shown in units of seconds/vehicle

* = Overall v/c ratio not calculated by HCS for this intersection.

A.1.2.1 Operations Analysis

Using the Future No-Action Condition traffic volumes shown in **Figures A.1-10** and **A.1-11**, intersection operations analyses were conducted using the *HCM* methodologies. As shown in **Table A.1-5**, all of the lane groups at all of the study intersections are projected to operate at a LOS "D" or better (delays of 55 seconds per vehicle or less for signalized intersections and delays of 35 seconds or less for unsignalized intersections) during the weekday AM and PM peak hours, with exception of the following locations:

- **Bowery Bay Boulevard / Runway Drive / Marine Terminal Road** – During the weekday AM peak hour, northbound left-turn movements are projected to experience delays corresponding to LOS "F" and operate over capacity, and northbound through and right-turn movements are projected to operate near capacity with delays corresponding to LOS "E". During the weekday PM peak hour, the eastbound approach is projected to operate over capacity with delays corresponding to LOS "F". The intersection as a whole is projected to continue to operate at LOS "E" overall during the weekday AM peak hour and LOS "D" overall during the weekday PM peak hour.

- **Ditmars Boulevard/Marine Terminal Road** – During the weekday PM peak hour, westbound left-turn movements are projected to operate over capacity with delays corresponding to LOS "F". The intersection as a whole is projected to operate at LOS "B" overall during the weekday AM peak hour and at LOS "C" overall during the weekday PM peak hour.

- **Astoria Boulevard North-Grand Central Parkway westbound off-ramp / 82nd Street-Ditmars Boulevard** – During the weekday AM peak hour, right-turn movements from the westbound approach (the off-ramp from the westbound Grand Central Parkway) are projected to operate over capacity. During the weekday AM and PM peak hours, northbound left-turn movements from 82nd Street onto Astoria Boulevard North are projected to continue to operate over capacity with delays corresponding to LOS "F". During the weekday PM peak hour, the southbound approach is projected to operate over capacity with delays corresponding to LOS "E". The intersection as a whole is projected to operate at LOS "C" during the weekday AM peak hour and at LOS "D" overall during the weekday PM peak hour.

- **Astoria Boulevard / 82nd Street-24th Avenue** – During the weekday AM peak hour, westbound through and right-turn movements are projected to operate near capacity. In addition, left-turn movements from the northbound (24th Avenue) approach and the southbound right-turn lane are projected to operate at LOS "E" during the weekday AM peak hour. The southbound through lane is projected to operate over capacity at LOS "F" during the weekday AM peak hour. During the weekday PM peak hour, eastbound through and right-turn movements are projected to operate at LOS "F" and to continue to operate over capacity. In addition, the westbound left-turn lane is projected to continue to operate at LOS "E" during the weekday PM peak hour. Left-turn movements from the northbound (24th Avenue) approach are projected to operate over capacity and to operate at LOS "F" during the weekday PM peak hour. The southbound left-turn lane is projected to continue to operate at LOS "E" and the southbound through lane is projected to operate over capacity at LOS "F" during the weekday PM peak hour. The intersection as a whole is projected to operate at LOS "D" overall during the weekday AM peak hour and at LOS "F" overall during the weekday PM peak hour.

- **LaGuardia Access Road / 94th Street –** During both the weekday AM and PM peak hours, the westbound left-turn movement is projected to operate over capacity with delays corresponding to LOS "F". During the weekday PM peak hour, the stop-controlled westbound right-turn movement is projected to operate over capacity and at LOS "F". The intersection as a whole is projected to operate at LOS "E" overall during the weekday AM peak hour and at LOS "F" overall during the weekday PM peak hour.

- **Ditmars Boulevard/Grand Central Parkway eastbound on-ramp –** During the weekday PM peak hour, with the official signal timing parameters in place, the eastbound left-turn movement is projected to operate over capacity with delays corresponding to LOS "E" and the intersection as a whole is projected to operate over capacity.

- **Ditmars Boulevard/23rd Avenue/LaGuardia Airport access roadway –** During the weekday AM peak hour, southbound through movements are projected to operate with delays corresponding to LOS "E".

A.1.3 Future With-Action Condition

The Future With-Action Condition traffic analysis identifies how the study area's transportation system will operate in the 2030 horizon year with the addition of vehicular traffic generated by the added 3.9 MAP resulting from the proposed redevelopment of the CTB at LaGuardia Airport. In this analysis, the projected weekday AM and PM peak hour vehicle trips associated with the proposed project were added to the respective Future No-Action Condition traffic volumes to arrive at projected Future With-Action Condition traffic volumes.

A.1.3.1 Design Features of Alternative SK02

With respect to on-airport roadways and intersections, Alternative SK02 provides a mostly counter-clockwise circulation roadway network that includes CTB arrival and departure roadways, a westbound collector-distributor (C-D) road, and individual eastbound and westbound recirculation roadways, with U-turns allowed for egress and recirculation at the reconfigured 94th Street interchange with the Grand Central Parkway (GCP). (The C-D road connects to the westbound GCP mainline and also feeds the 94th Street entrance ramp.) On-airport overpass roadways are provided at 102nd Street and at 94th Street. A two-tiered helix ramp at 94th Street provides access to eastbound and westbound GCP, Runway Drive and the relocated CTB parking garage immediately east of 94th Street.

Alternative SK02 features three at-grade intersections in the vicinity of the 94th Street interchange:

- LaGuardia Access Road / 94th Street (reconfigured recirculation/C-D Road),
- Runway Drive / 94th Street, and
- Runway Drive / 94th Street helix ramp terminus.

The intersection of LaGuardia Access Road/94th Street intersection will remain signalized but with a reconfiguration of the roadway geometry and traffic signal operation as part of the roadway improvements under Alternative SK02. The westbound approach will accommodate one exclusive left-turn lane and one shared through/left-turn lane. The northbound approach to this intersection will accommodate two exclusive left-turn lanes, one exclusive through lane, and one exclusive right-turn lane. The southbound approach will accommodate two exclusive left-turn lanes and two exclusive through lanes (one lane from Runway Drive and one lane from the helix ramp). In addition, the helix ramp provides for two southbound right-turn lanes at this intersection that will also operate under traffic signal control.

The specific signal phasing and timing parameters for the LaGuardia Access Road/94th Street intersection are under development by the Port Authority. For purposes of this EA, the traffic signal was assumed to operate under the following four-phase configuration: 1) a westbound phase with overlapping northbound right-turns, 2) a northbound-only phase with protected left-turns, 3) a northbound and southbound through and right-turning phase, and 4) a southbound-only phase with protected left-turns. Also, the timing for each phase was assumed based on projected future traffic volumes.

In addition, pedestrian access to and from the airport in the vicinity of the LaGuardia Access Road/94th Street intersection will be provided via a sidewalk on the east side of 94th Street. The existing sidewalk on the west side of 94th Street, north of Ditmars Boulevard, will be eliminated and no pedestrian access will be provided in this location. This configuration will eliminate conflicts between pedestrians and

vehicles using the on-ramp (loop ramp) between southbound 94th Street and the eastbound lanes of the GCP.

With respect to the eastbound GCP, Alternative SK02 builds upon the recent GCP improvements in the vicinity of 94th Street. These improvements consist of the elimination of the weave between the entrance ramp from southbound 94th Street and the exit ramp to the LGA CTB, the consolidation of the entrance ramps from 94th Street and Ditmars Boulevard, and the addition of a fifth lane on eastbound GCP from the gore of these consolidated ramps. The eastbound GCP flyover to the CTB is realigned and reconfigured as a counter-clockwise loop that extends to the east and merges with other inbound roadways (including the exit ramp from westbound GCP at Exit 7) to provide access to Terminals C and D on the eastern section of the airport, to the CTB (Terminal B) and the CTB parking garage relocated closer to 94th Street, and Terminal A.

With respect to the westbound GCP, Alternative SK02 generally retains the same basic ramp arrangement on the westbound GCP: one exit ramp from the GCP (Exit 7) followed by two consecutive entrance ramps to the GCP from the reconfigured C-D Road and 94th Street, followed by the exit ramp to 82nd Street. Under Alternative SK02, the spacing between the two entrance ramps was increased by approximately 210 feet, and the 82nd Street exit ramp was widened from two to three lanes. Alternative SK02 involves significant on-airport roadway modifications that would change current traffic patterns and improve on-airport traffic operations.

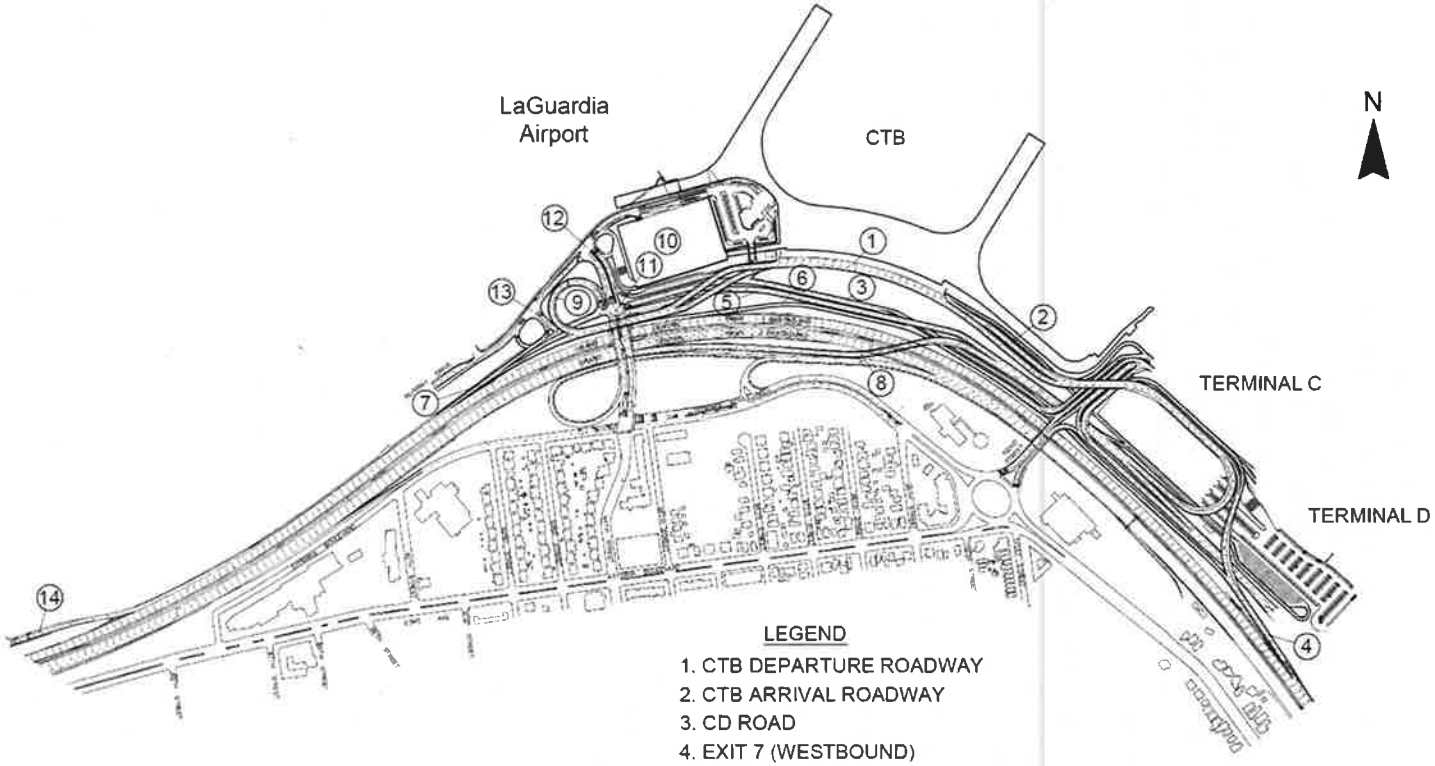
The traffic volumes on the individual GCP entrance ramps would be influenced by changes in the on-airport roadway configuration. New traffic patterns are expected as a result of the reconfiguration of the service road as a recirculation/C-D road, the new CTB parking garage, the reconfiguration of the 94th Street intersection, the creation of two new T-intersections along Runway Drive, and the creation of a two-tiered helix ramp on the northwest quadrant of the 94th Street interchange with the GCP. As a result of these design features, a slightly higher proportion of on-airport traffic exiting to the westbound GCP is expected to use the 94th Street entrance ramp, especially during the weekday AM peak period. The westbound GCP mainline between Exit 7 and the entrance ramp from 94th Street would continue to operate with four basic lanes (i.e., east of the five-lane weaving section between 82nd Street exit ramp and the 94th Street entrance ramp). **Figure A.1-12** illustrates the geometric configuration of the Airport's roadway system under the Proposed Action[3].

As noted above, baseline traffic patterns are expected to be different under the Future With-Action Condition due to the roadway reconfigurations proposed as part of the CTB redevelopment project. As such, the Future With-Action traffic volumes accounted for the local reassignment of baseline traffic in connection with planned roadway modifications. This reassignment included existing traffic volumes as well as projected future volumes associated with both the Willets Point Development project and the projected 6.5 MAP increase at LaGuardia Airport.

Intersection operations analyses were then repeated for both analysis peak hours using the projected Future With-Action Condition traffic volumes in order to evaluate the performance of the transportation system including vehicular traffic associated with the proposed CTB redevelopment project. The results of the Future No-Action and With-Action Conditions analyses were then compared in accordance with *CEQR Technical Manual* criteria to identify any critical changes in projected traffic operations associated with the proposed project.

[3] Design alternative SK02.

Figure A.1-12: Geometric Configuration of Airport Roadways under Proposed Action (Alternative SK02)



LEGEND

1. CTB DEPARTURE ROADWAY
2. CTB ARRIVAL ROADWAY
3. CD ROAD
4. EXIT 7 (WESTBOUND)
5. INBOUND / RECIRCULATION ROADWAY (EASTBOUND)
6. CD ROAD ENTRANCE RAMP (WESTBOUND)
7. 94TH STREET ENTRANCE RAMP (WESTBOUND)
8. CTB EASTBOUND FLYOVER (EXIT 7 EASTBOUND)
9. HELIX RAMP
10. PARKING GARAGE
11. INTERSECTION OF RUNWAY DRIVE / CD ROAD
12. INTERSECTION OF RUNWAY DRIVE / 94TH STREET
13. INTERSECTION OF RUNWAY DRIVE / HELIX RAMP TERMINUS
14. 82ND STREET EXIT RAMP (EXIT 5 WESTBOUND)

PROGRESS PRINT
BUILD ALTERNATIVE SK-02
NOT TO SCALE

A.1.3.2 Trip Generation Estimate

Based on the projected annual increase in passengers as part of the CTB redevelopment project (i.e., 3.9 MAP), trip generation estimates were prepared using data from the following sources collected for, or by, the PANYNJ:

- Annual *Airport Traffic Reports* for LaGuardia Airport produced by the PANYNJ from 2002 through 2011;
- Automatic Traffic Recorder (ATR) count data for LaGuardia Airport collected by the PANYNJ in 2010;
- Mode split data for LaGuardia Airport collected by the PANYNJ in 2010; and
- Vehicle occupancy data obtained from dwell-time surveys conducted by the PANYNJ in 2010.

Table A.1-6 presents the travel demand assumptions and resulting weekday AM and PM peak hour trip generation estimates for the Proposed Action. As shown in **Table A.1-6,** the Proposed Action is estimated to generate 322 total vehicle trips (i.e., 160 inbound trips and 162 outbound trips) during the weekday AM peak hour, and 383 total vehicle trips (i.e., 190 inbound trips and 193 outbound trips) during the weekday PM peak hour.

A.1.3.3 Trip Distribution

All trip distributions for the Proposed Action were developed based on origin-destination data for LaGuardia Airport provided by the PANYNJ, and refined based on the proposed roadway configuration for Alternative SK02. **Figures A.1-13 and A.1-14** show the inbound and outbound vehicle trip distributions, respectively, for the drive-and-park trips under the Proposed Action during the weekday AM peak hour. **Figures A.1-15 and A.1-16** show the inbound and outbound vehicle trip distributions, respectively, for the drive-and-park trips under the Proposed Action during the weekday PM peak hour.

Similarly, **Figures A.1-17 and A.1-18** show the inbound and outbound vehicle trip distributions, respectively, for the pick-up/drop-off trips under the Proposed Action during the weekday AM peak hour. **Figures A.1-19 and A.1-20** show the inbound and outbound vehicle trip distributions, respectively, for the pick-up/drop-off trips under the Proposed Action during the weekday PM peak hour.

A.1.3.4 Trip Assignment

Based on the trip generation and trip distribution estimates described above, traffic assignments were prepared for both analysis peak hours. These trips were assigned to the most direct and logical routes through the study area based on the proposed roadway/ramp configuration with the CTB redevelopment program in place[4]. **Figures A.1-21** and **A.1-22** show the results of the assignment of incremental project-generated traffic at the study intersections, and the associated turning movement volumes for the weekday AM and PM peak hours, based on the estimated trip distribution patterns shown in **Figures A.1-13** through **A.1-20**. **Figures A.1-23** and **A.1-24** show the resulting total traffic volumes under the year 2030 Future With-Action Condition for both analysis peak hours.

[4] Design alternative SK02.

Table A.1-6: Travel Demand Assumptions and Estimated Trip Generation Characteristics for the Proposed Action (3.9 MAP)

Incremental New Annual Passengers (Arrivals plus Departures) =	3,900,000													
Percentage of Annual Passengers during Peak Non-Summer Month (June)[1] =	8.99%													
New Monthly Passengers during Peak Non-Summer Month (June) =	350,610													
Average Daily Passengers on a Typical Mid-week Day (Tuesday through Thursday) during Peak Non-Summer Month (June)[2] =	12,225													
Off-Airport Street Peak Hour[3] =	**WEEKDAY AM PEAK HOUR (7:30 to 8:30 AM)**							**WEEKDAY PM PEAK HOUR (4:00 to 5:00 PM)**						
Peak Hour Percentage of Daily Trips[4] =	4.67%							6.04%						
Percentage of Connecting Passengers (Internal Trips)[5] =	5%							5%						
Peak Hour External Person-Trips =	542							701						
Mode Split[6]	**Person-Trips**	**Vehicle Occupancy**	**Vehicle-Trips**	**Directional Distribution[15]**		**Inbound Trips**	**Outbound Trips**	**Person-Trips**	**Vehicle Occupancy**	**Vehicle-Trips**	**Directional Distribution[15]**		**Inbound Trips**	**Outbound Trips**
				% In	**% Out**						**% In**	**% Out**		
Drove alone and parked = 4.6%	25	1.00	25	49.5%	50.5%	12	13	32	1.00	32	49.4%	50.6%	16	16
Passenger in Car (Dropped-Off/Picked-Up)[7] = 20.8%	113	2.09	108	50.0%	50.0%	54	54	146	2.84	103	50.0%	50.0%	51	51
Rental Car[8] = 5.0%	27	2.44	11	49.5%	50.5%	6	6	35	2.38	15	49.4%	50.6%	7	7
Taxi[9,16] = 40.8%	221	2.42	114	49.5%	50.5%	57	58	286	2.34	153	49.4%	50.6%	76	77
Limo/Town Car Service[10] = 15.0%	81	2.46	33	49.5%	50.5%	16	17	105	2.43	43	49.4%	50.6%	21	22
SuperShuttle/Shared Ride Service[11] = 3.1%	17	2.39	7	49.5%	50.5%	3	4	22	2.33	9	49.4%	50.6%	5	5
Public Bus[12] = 3.7%	20	54.00	0	49.5%	50.5%	0	0	26	54.00	0	49.4%	50.6%	0	0
NY Airport Bus from Manhattan[11] = 1.3%	7	2.39	3	49.5%	50.5%	1	1	9	2.33	4	49.4%	50.6%	2	2
NY Airport Service Bus to JFK/LGA[11] = 1.2%	7	2.39	3	49.5%	50.5%	1	1	8	2.33	4	49.4%	50.6%	2	2
Chartered Tour/Bus[11] = 0.5%	3	2.39	1	49.5%	50.5%	1	1	4	2.33	2	49.4%	50.6%	1	1
Hotel/Motel Shuttle/Van[13] = 0.5%	3	1.80	2	49.5%	50.5%	1	1	4	2.81	1	49.4%	50.6%	1	1
Off-Airport Parking Company Shuttle/Van[13] = 1.8%	10	1.80	5	49.5%	50.5%	3	3	13	2.81	4	49.4%	50.6%	2	2
Other[14] = 1.7%	9	1.00	9	49.5%	50.5%	5	5	12	1.00	12	49.4%	50.6%	6	6
TOTAL = 100.0%	**542**		**322**			**160**	**162**	**701**		**382**			**190**	**193**

Notes:

1 = Percentage of annual visitors during peak non-summer month based on domestic and international passenger counts at LaGuardia Airport as published in the 2002 through 2011 *Airport Traffic Reports* by the Port Authority.

2 = Adjustment factor of 1.046 applied to reflect higher average Tuesday-through-Thursday passenger volume relative to average daily passenger volume. Based on ATR data collected by the Port Authority at 25 locations at LaGuardia Airport in 2010.

3 = Based on traffic counts conducted by AECOM at off-airport study intersections in June 2012.

4 = Peak hour percentage of daily trips based on ATR data collected by the Port Authority at 25 locations at LaGuardia Airport in 2010.

5 = Conservative estimate of connecting passengers at LaGuardia Airport based on data published in the 2002 through 2011 *Airport Traffic Reports* by the Port Authority.

6 = Mode split based on year 2010 mode split data from annual passenger surveys at LaGuardia Airport provided by the Port Authority.

7 = Vehicle occupancies for Passenger in Car (Dropped-off/Picked-up) based on vehicle occupancies obtained from frontage dwell-time surveys of Privately-Owned Passenger Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate includes only passengers (does not include driver).

8 = Vehicle occupancies for Rental Car estimated based on average vehicle occupancies obtained from frontage dwell-time surveys of Taxis and For-Hire Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate obtained from taxis and for-hire vehicles does not include driver.

9 = Vehicle occupancies for Taxi estimated based on vehicle occupancies obtained from frontage dwell-time surveys of Taxis conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

10 = Vehicle occupancies for Limo/Town Car Service estimated based on vehicle occupancies obtained from frontage dwell-time surveys of For-Hire Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

11 = Vehicle occupancies for SuperShuttle/Shared Ride Service, NY Airport Bus from Manhattan, NY Airport Service Bus to JFK/LGA, and Chartered Tour Bus based on vehicle occupancies obtained from frontage dwell-time surveys of Off-Airport Vans and Buses conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

12 = Vehicle occupancies for Public Bus based on New York City Transit guideline capacities for a 40-foot standard bus, as per the January 2012 edition of the *CEQR Technical Manual, Section 352.2.2 Analysis of Bus Load Levels*, p. 16-42.

13 = Vehicle occupancies for Hotel/Motel Shuttle/Van and Off-Airport Parking Company Shuttle/Van based on vehicle occupancies obtained from frontage dwell-time surveys of Courtesy Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

14 = Vehicle occupancy assumed to be 1.00 person/vehicle for "Other" trip types (i.e., all single-occupant passenger cars) to ensure a conservative traffic analysis.

15 = Directional distribution based on trip origin and destination data provided by the Port Authority 05-10-2011.

16 = Vehicle-trip calculations for taxis include a 75-percent "taxi overlap credit" for an intermodal facility, as per the January 2012 edition of the *CEQR Technical Manual, Section 313.1 Traffic*, p. 16-11 (i.e., 75-percent of taxi trip ends include passengers).

Figure A.1-13: Estimated With-Action Vehicle Trip Distribution Pattern for Drive-and-Park Trips: Weekday AM Peak Hour – Inbound Trips

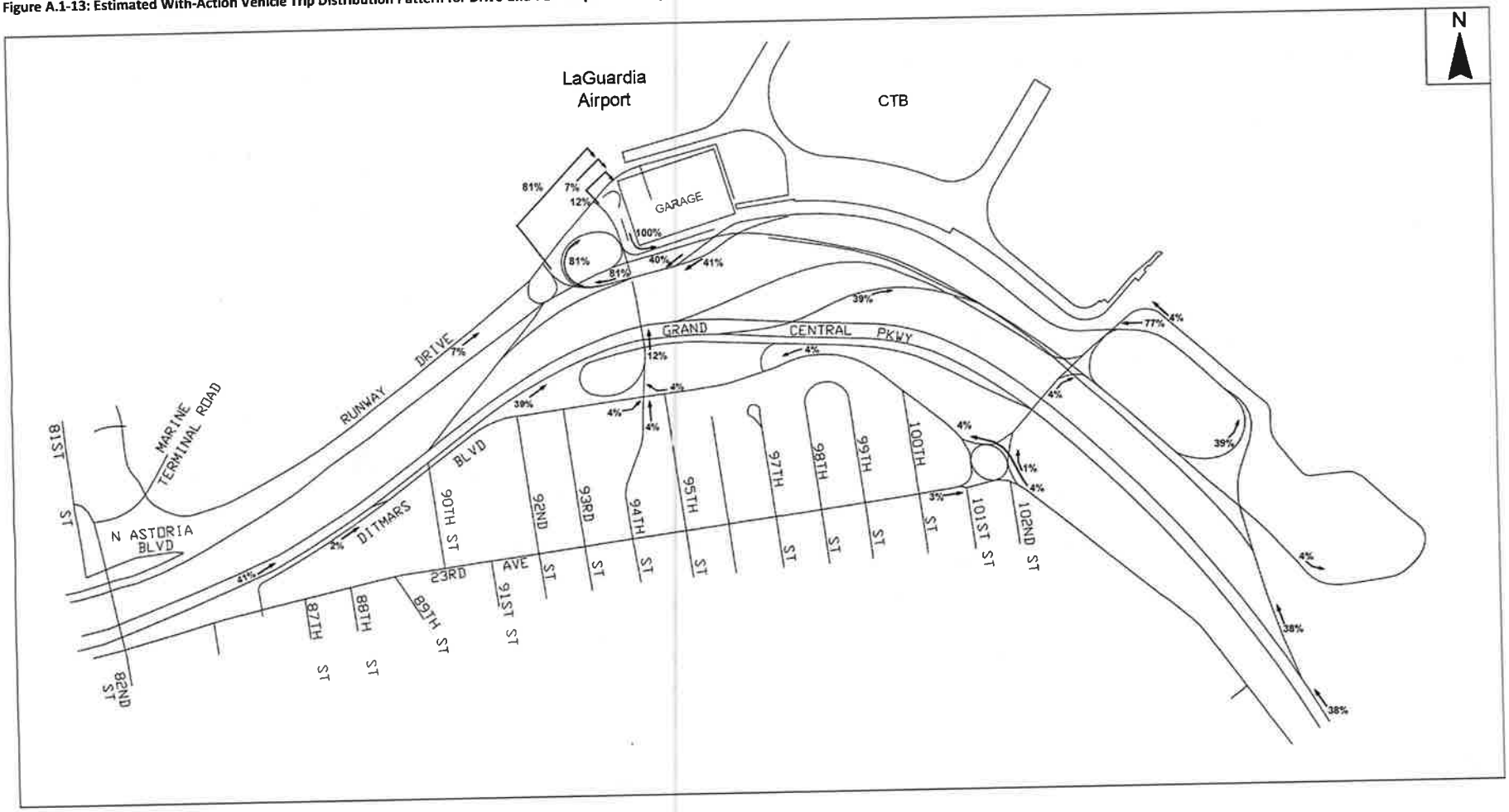


Figure A.1-14: Estimated With-Action Vehicle Trip Distribution Pattern for Drive-and-Park Trips: Weekday AM Peak Hour – Outbound Trips

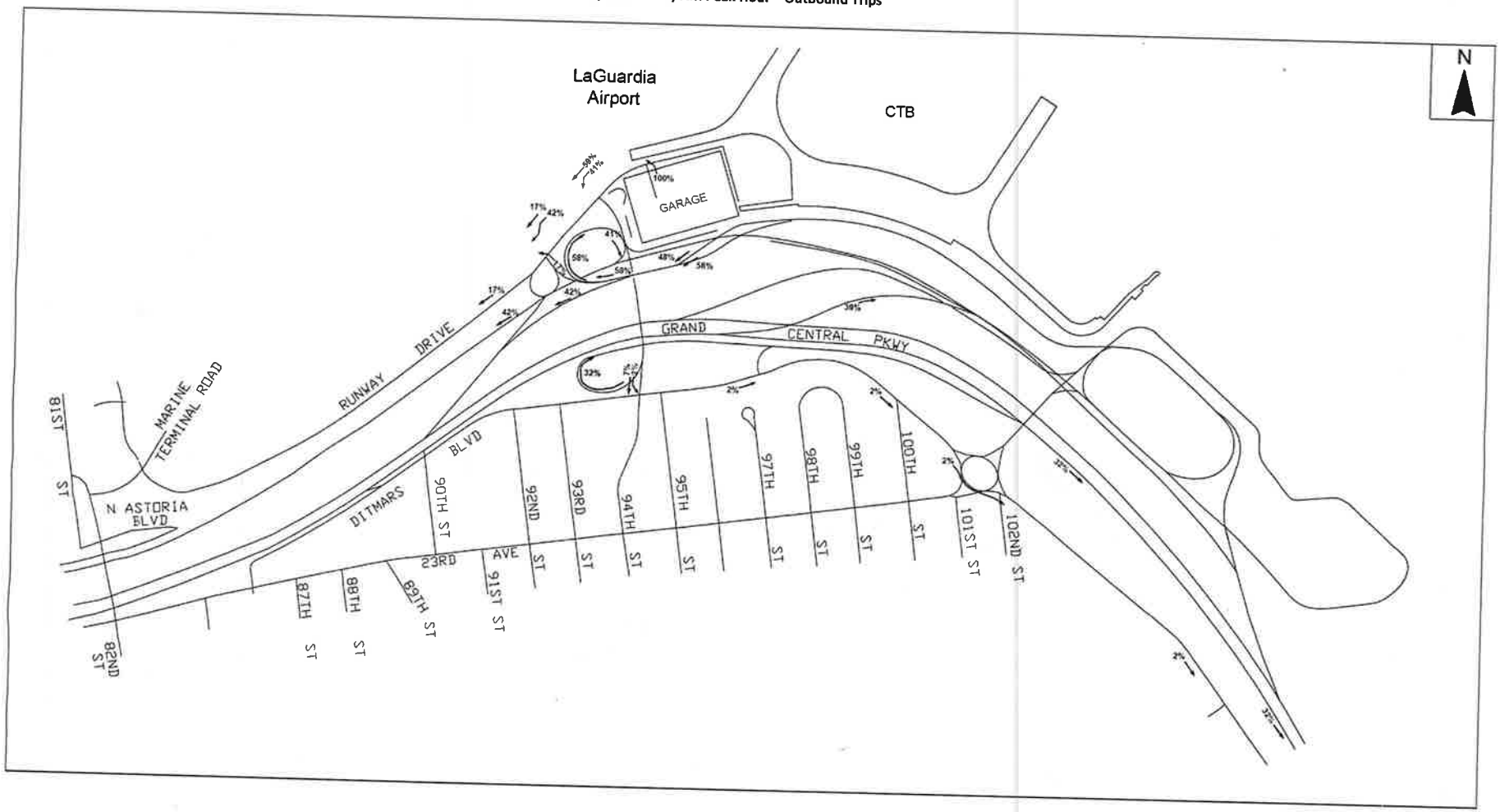


Figure A.1-15: Estimated With-Action Vehicle Trip Distribution Pattern for Drive-and-Park Trips: Weekday PM Peak Hour – Inbound Trips

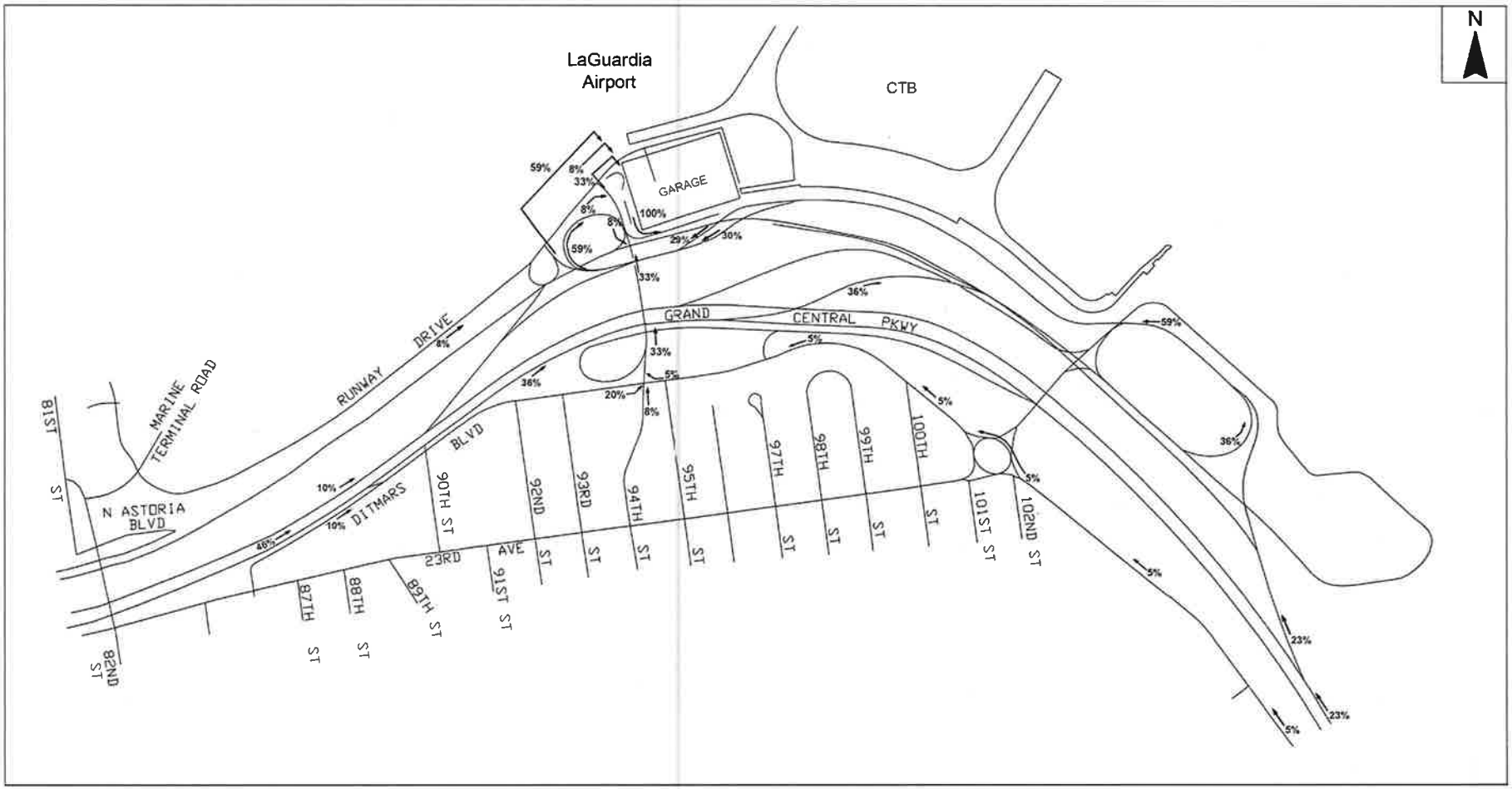


Figure A.1-16: Estimated With-Action Vehicle Trip Distribution Pattern for Drive-and-Park Trips: Weekday PM Peak Hour – Outbound Trips

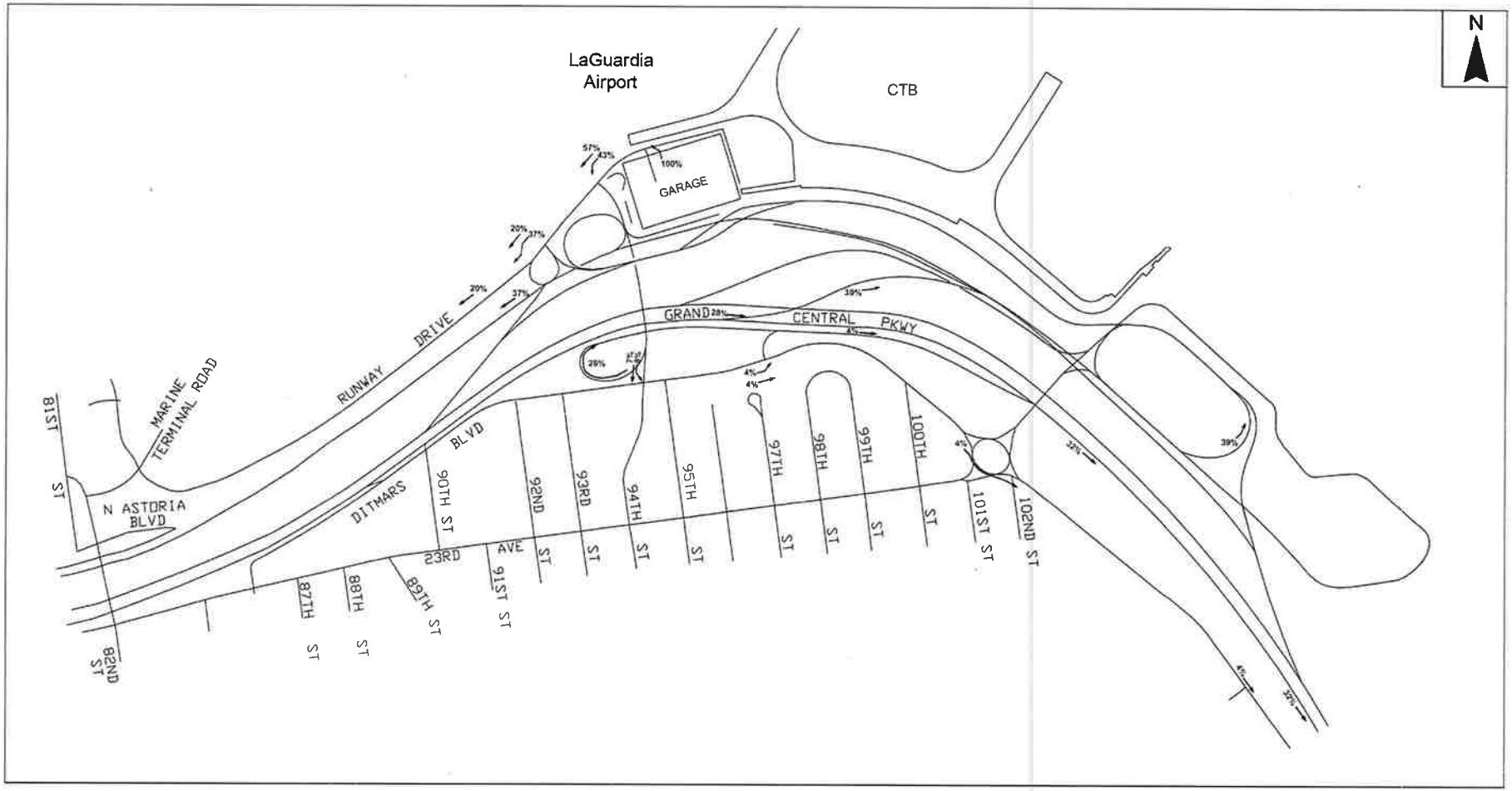


Figure A.1-17: Estimated With-Action Vehicle Trip Distribution Pattern for Drop-Off/Pick-Up Trips: Weekday AM Peak Hour – Inbound Trips

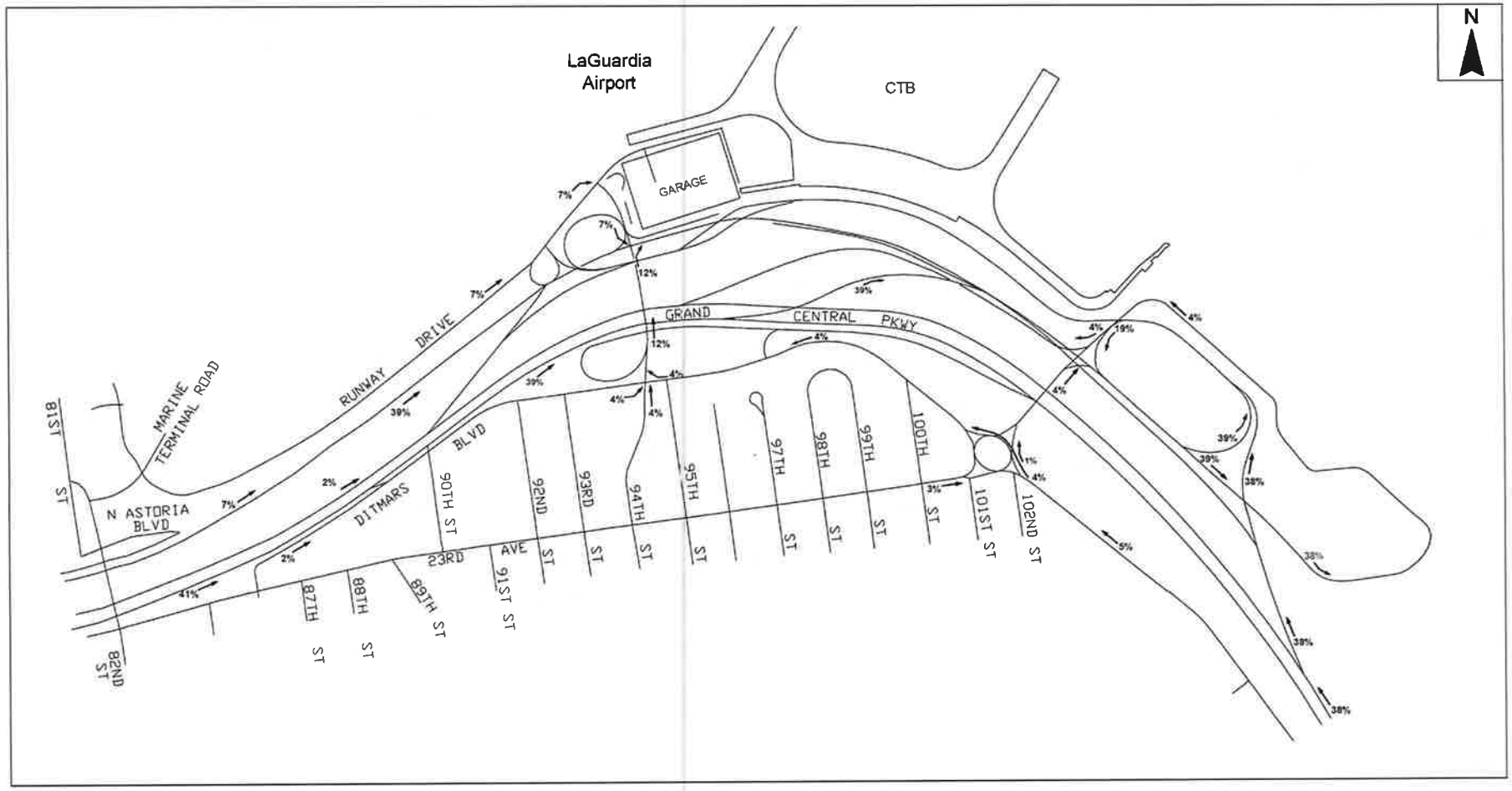


Figure A.1-18: Estimated With-Action Vehicle Trip Distribution Pattern for Drop-Off/Pick-Up Trips: Weekday AM Peak Hour – Outbound Trips

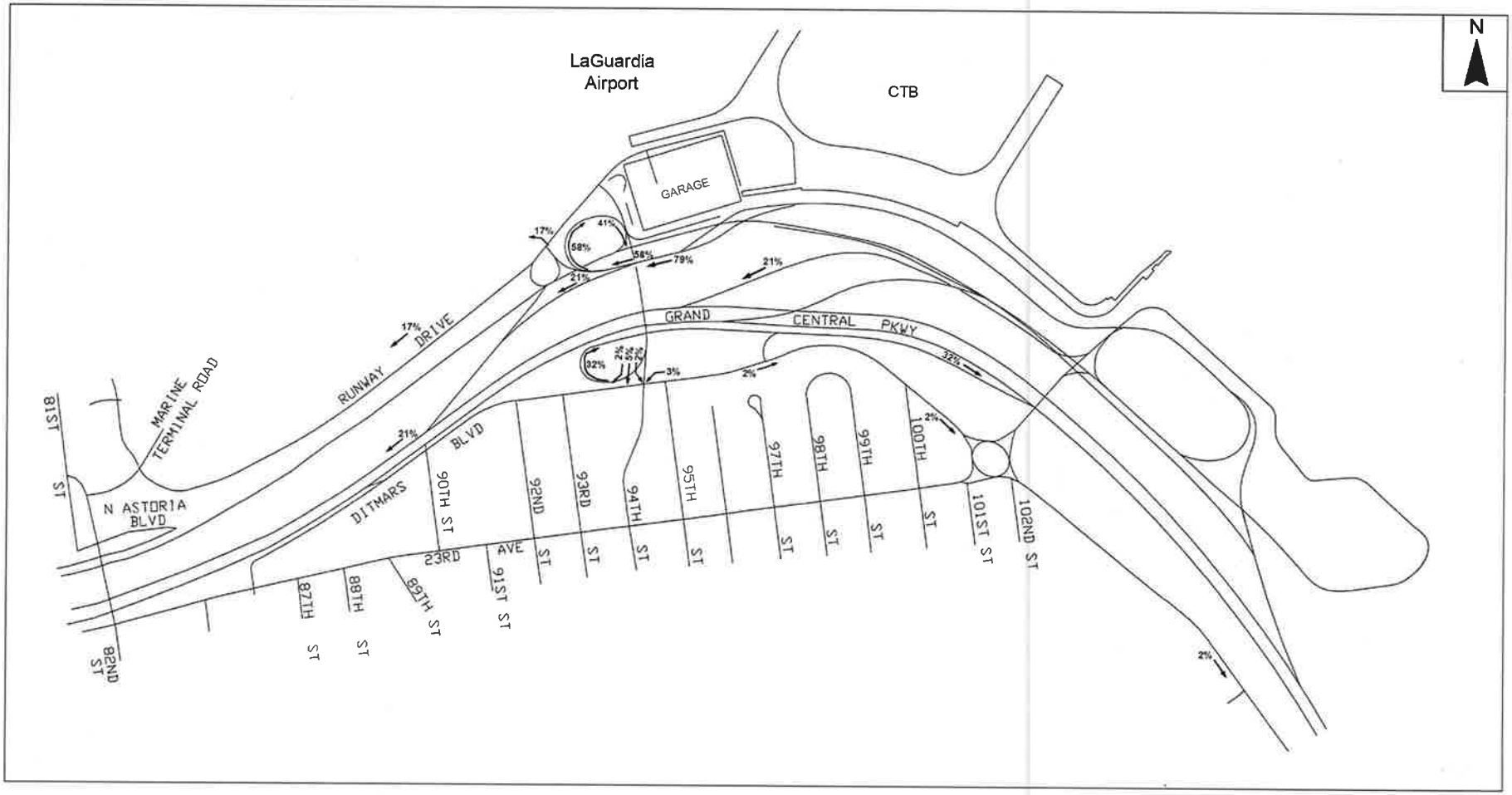


Figure A.1-19: Estimated With-Action Vehicle Trip Distribution Pattern for Drop-Off/Pick-Up Trips: Weekday PM Peak Hour – Inbound Trips

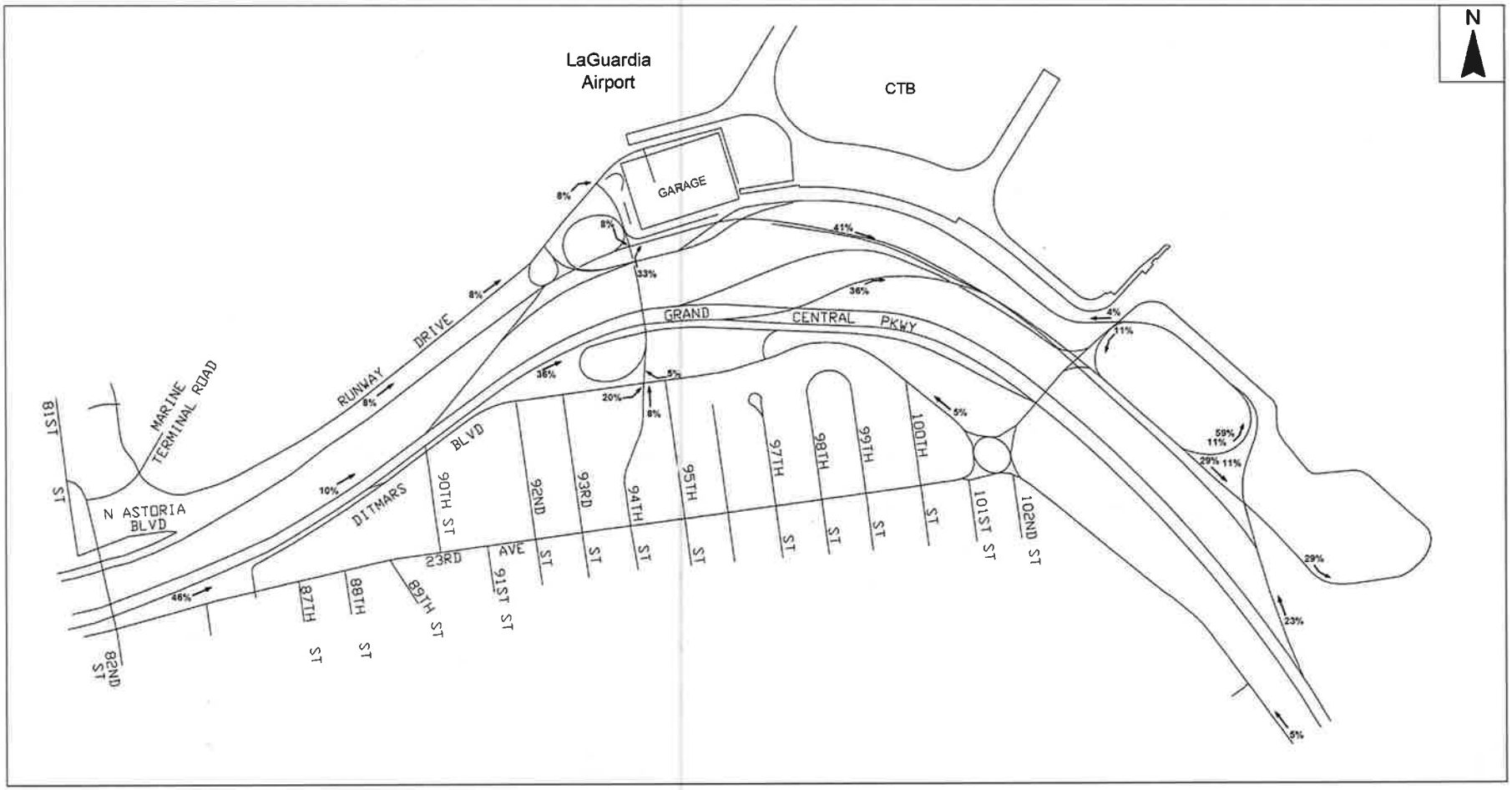


Figure A.1-20: Estimated With-Action Vehicle Trip Distribution Pattern for Drop-Off/Pick-Up Trips: Weekday PM Peak Hour – Outbound Trips

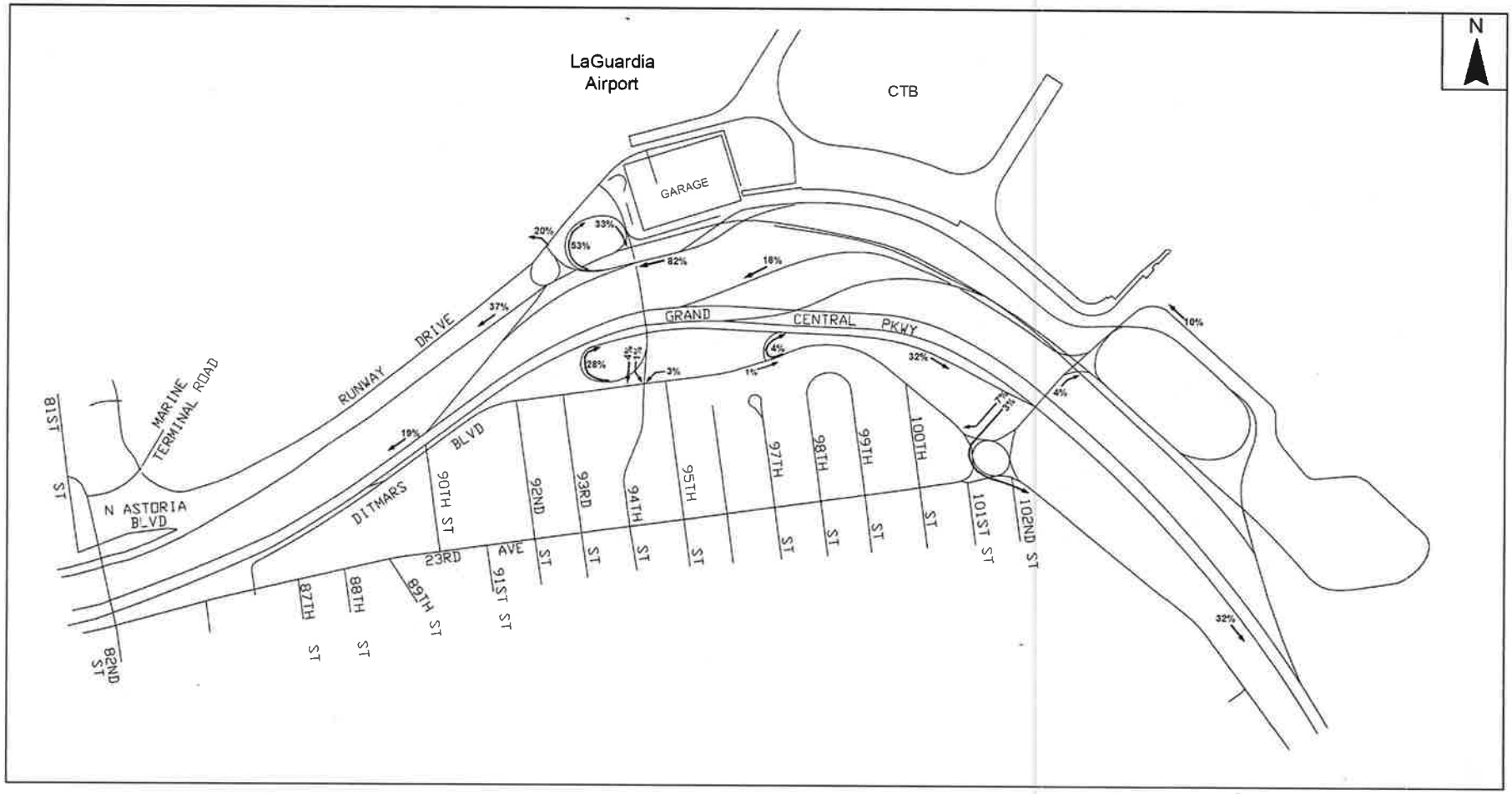


Figure A.1-21: Project-Generated Turning Movement Volumes, Operation Condition, Weekday AM Peak Hour (7:30 to 8:30 AM)

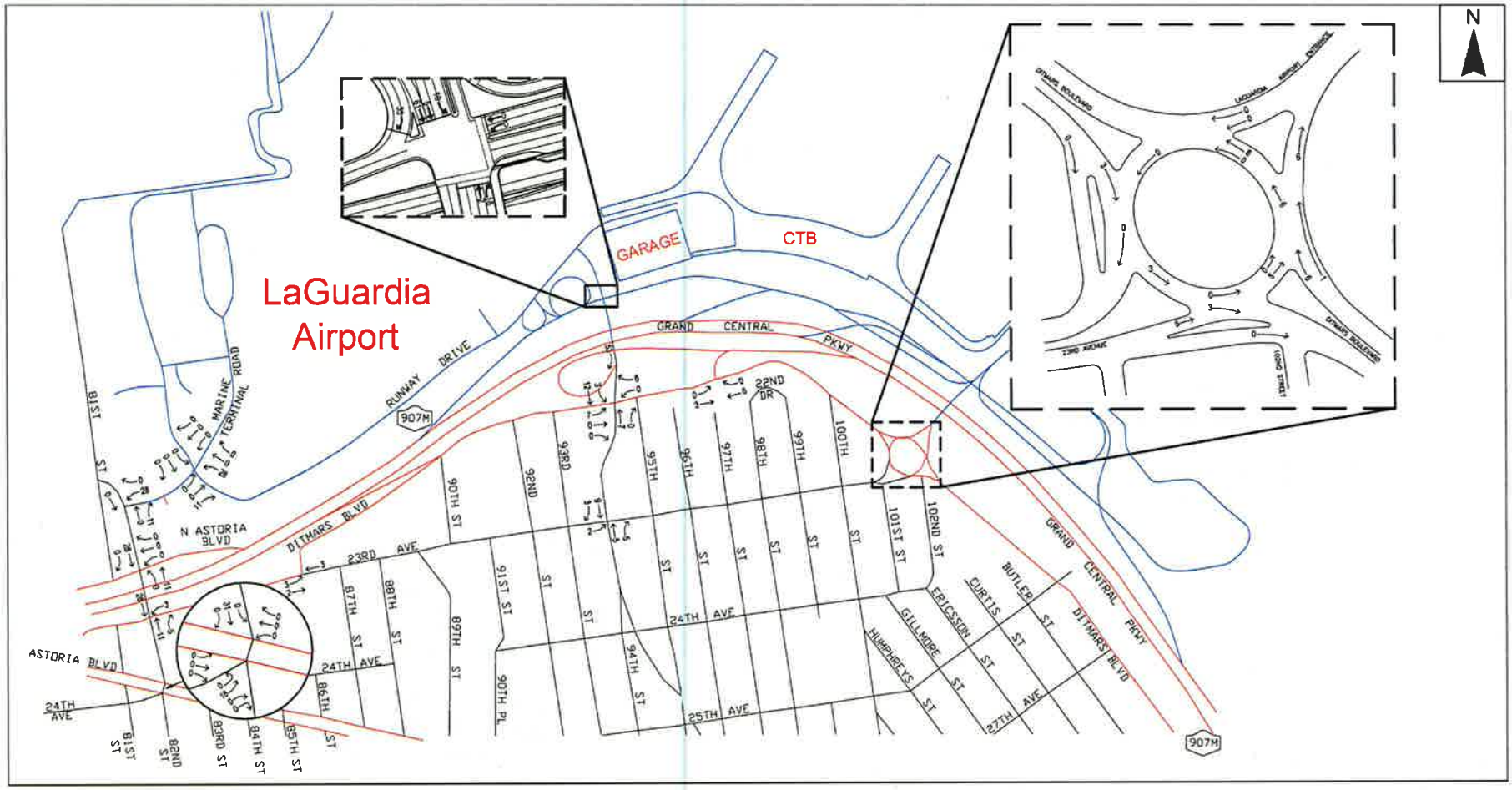


Figure A.1-22: Project-Generated Turning Movement Volumes, Operation Condition, Weekday PM Peak Hour (4:00 to 5:00 PM)

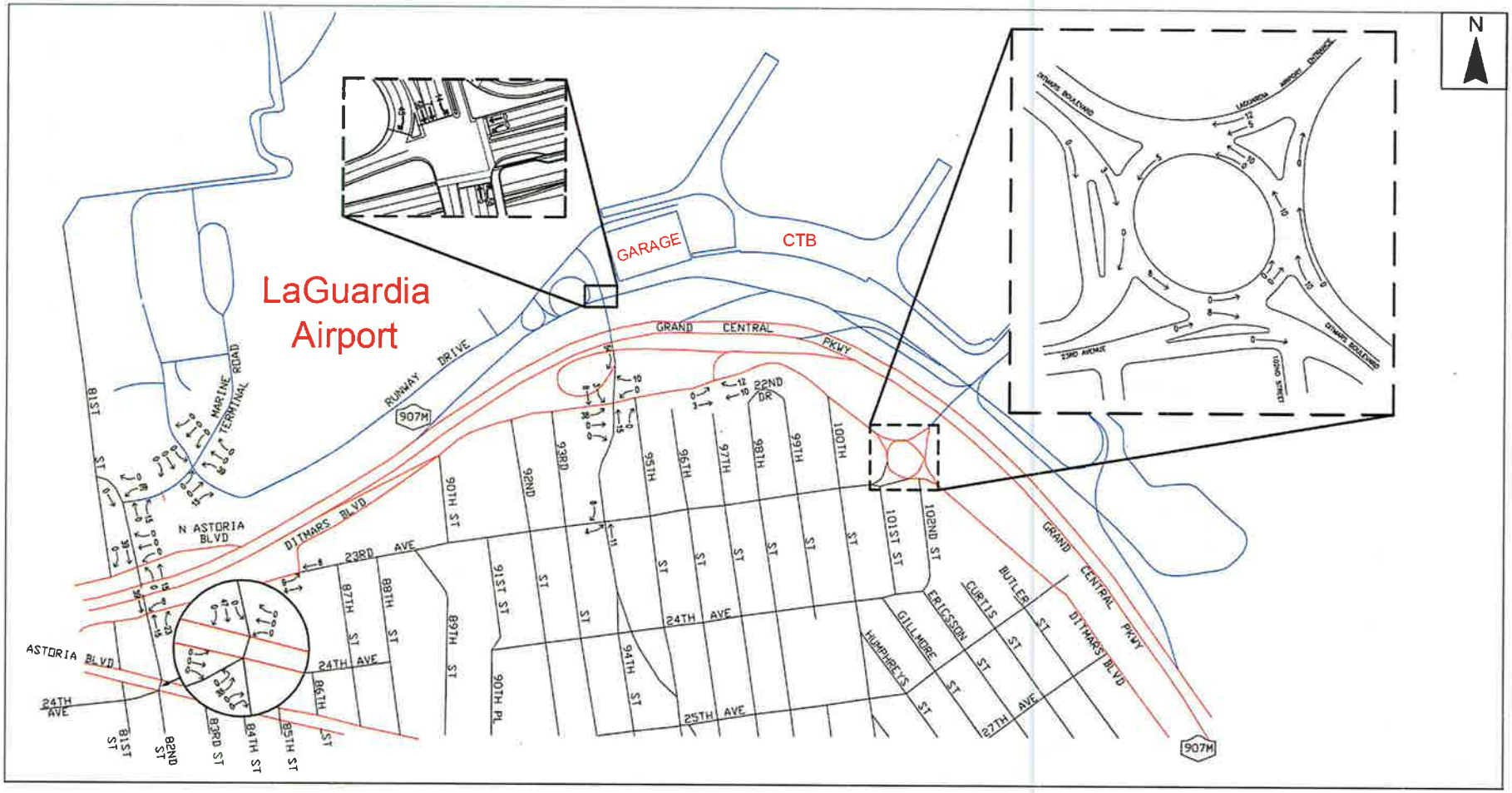


Figure A.1-23: Year 2030 With-Action Turning Movement Volumes, Operation Condition, Weekday AM Peak Hour (7:30 to 8:30 AM)

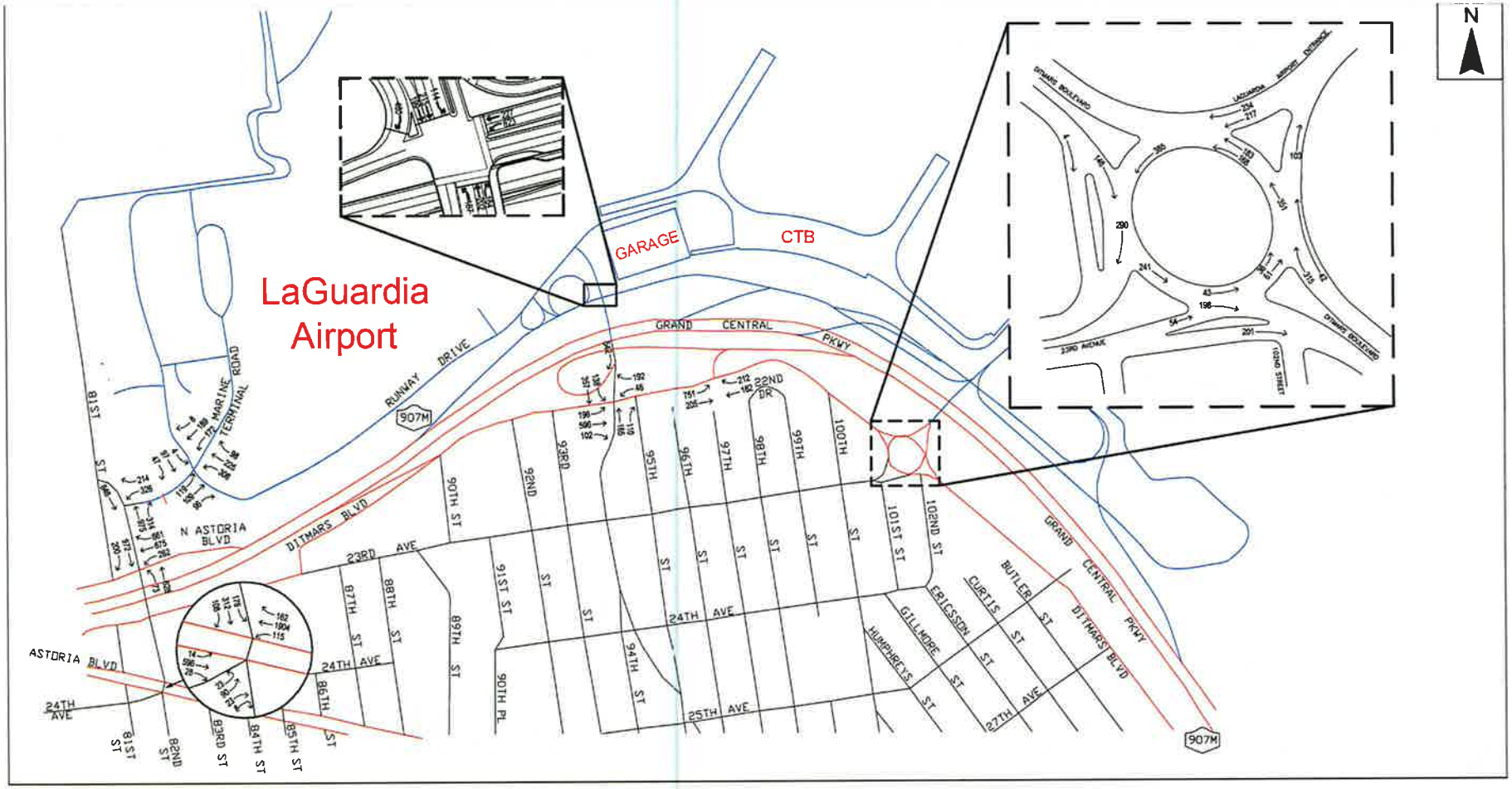
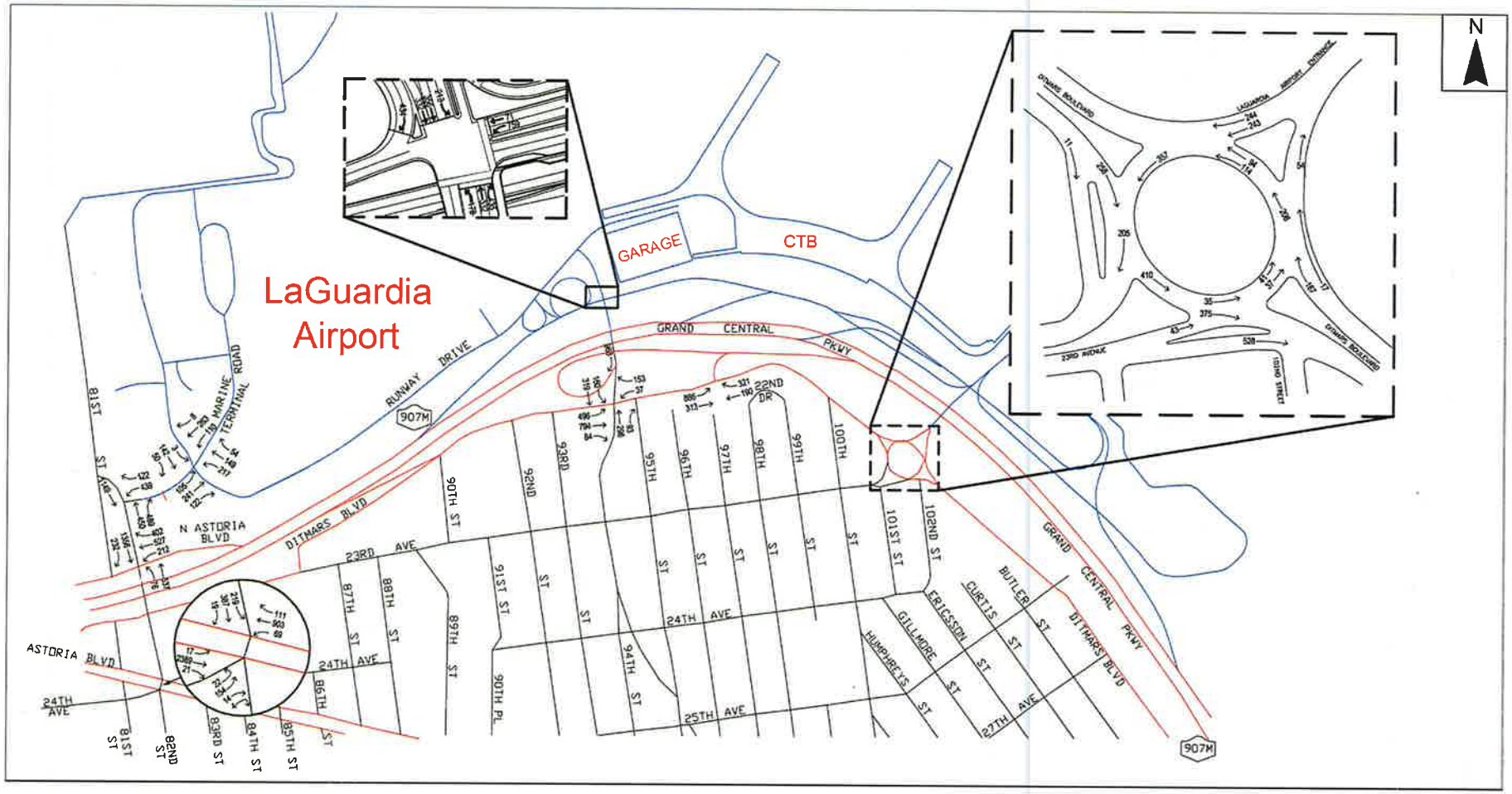


Figure A.1-24: Year 2030 With-Action Turning Movement Volumes, Operation Condition, Weekday PM Peak Hour (4:00 to 5:00 PM)



A.1.3.5 Operations Analysis

Using the Future With-Action Condition traffic volumes shown in **Figures A.1-23** and **A.1-24**, intersection operations analyses were conducted using the *HCM* methodologies. To reduce delays at the study intersections and ensure the most efficient traffic signal operations, improvements at several intersections would be required as described below. These improvements are subject to review and approval by the New York City Department of Transportation (NYCDOT).

- **Bowery Bay Boulevard / Runway Drive / Marine Terminal Road** – During the weekday AM peak hour, a reallocation of three (3) seconds of green time from the westbound phase to the northbound/southbound phase. During the weekday PM peak hour, a reallocation of five (5) seconds of green time from the westbound phase, with one (1) second to the eastbound phase and four (4) seconds to the northbound/southbound phase.

- **Ditmars Boulevard / Marine Terminal Road** – During the weekday AM peak hour, a reallocation of one (1) second of green time from the northbound/southbound phase to the eastbound/westbound phase. During the weekday PM peak hour, a reallocation of three (3) seconds of green time from the northbound/southbound phase to the eastbound/westbound phase.

- **Astoria Boulevard North-Grand Central Parkway westbound off-ramp / 82nd Street-Ditmars Boulevard** – During the weekday PM peak hour, a reallocation of one (1) second of green time from the eastbound/westbound phase to the northbound/southbound phase.

- **Astoria Boulevard / 82nd Street-24th Avenue** – Restripe the northbound (24th Avenue) approach to accommodate one 12-foot exclusive left-turn lane, and one 12-foot shared through/right-turn lane. Change the "No Parking Anytime" parking regulation to a "No Standing Anytime" parking regulation on the north side of 24th Avenue. This parking regulation change does not result in any effective change to the parking capacity or utilization in the area because no (zero) vehicles were observed to be standing in this location on a typical weekday. Implement a "No Standing Anytime" regulation for 100 feet (i.e., approximately four passenger car lengths) on the south side of 24th Avenue, south of Astoria Boulevard. Field observations of parking utilization levels in the vicinity of this intersection indicate sufficient available parking on the local streets south of Astoria Boulevard to accommodate up to four displaced passenger cars. Implement a "No Standing Anytime" parking regulation on the east side of 82nd Street for approximately 50 feet south of Astoria Boulevard. This parking regulation change largely overlaps with an existing driveway serving a gas station (i.e., no on-street parking is allowed) so there is effectively no change in parking capacity or utilization as a result of this regulation change. During the weekday AM peak hour, a reallocation of three (3) seconds of green time from the eastbound/westbound phase to the southbound phase.

Table A.1-7 compares the weekday AM and PM peak hour intersection capacity analysis results under the Future No-Action condition with those under the Future With-Action condition including the improvements noted above. As shown in **Table A.1-7**, with these improvements in place, no significant traffic impacts are projected to occur in accordance with the *CEQR Technical Manual* criteria.

In addition, it is recommended that the Port Authority implement a traffic monitoring program in coordination with NYCDOT following the opening of the new CTB in 2021. This monitoring program

should commence when the CTB is fully constructed and operational and would involve the collection and evaluation of traffic data at locations where improvements were recommended to determine the need for, and timing of, implementation of the identified improvements. These monitoring efforts should be conducted annually, or at an agreed-upon frequency to be determined as part of future coordination efforts between the Port Authority and NYCDOT.

A.1.4 Conclusion

In conclusion, this section presented an analysis of the effects of additional vehicle trips projected to be generated by the proposed redevelopment of the CTB at LaGuardia Airport during the weekday AM and PM peak hours of the public roadway network in the vicinity of the Airport. The results of this analysis indicate that, with improvements at the four intersections noted above, the additional trips generated by the proposed CTB redevelopment can be accommodated on the roadway network during the weekday AM and PM peak hours without significant traffic impacts according to *CEQR Technical Manual* criteria.

Table A.1-7: Year 2030 Levels-of-Service, Comparison of Future No-Action and With-Action Traffic Conditions with Improvements

Intersection	Approach	Movement	Weekday AM Peak Hour (7:30 to 8:30 AM)								Weekday PM Peak Hour (4:00 to 5:00 PM)							
			No-Action			With-Action			Change in Delay	Impact?	No-Action			With-Action			Change in Delay	Impact?
			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS		
SIGNALIZED INTERSECTIONS																		
Bowery Bay Boulevard / Runway Drive / Marine Terminal Road[1]	EB	LTR	0.66	42.2	D	0.68	43.1	D	0.9		1.04	87.1	F	1.04	84.5	F	-2.6	
	WB	LTR	0.61	32.5	C	0.68	36.5	D	4.0		0.54	30.8	C	0.64	36.9	D	6.1	
	NB	DefL	1.19	145.6	F	1.19	141.9	F	-3.7		0.76	47.8	D	0.82	49.5	D	1.7	
		TR	0.91	59.5	E	0.83	46.0	D	-13.5		0.63	37.1	D	0.56	31.4	C	-5.7	
	SB	LTR	0.33	27.9	C	0.30	25.4	C	-2.5		0.30	27.5	C	0.26	24.3	C	-3.2	
	Overall		**0.84**	**61.1**	**E**	**0.89**	**60.2**	**E**	**-0.9**		**0.75**	**53.0**	**D**	**0.82**	**53.0**	**D**	**0.0**	
Ditmars Boulevard / Marine Terminal Road[1]	WB	L	0.79	41.9	D	0.84	44.7	D	2.8		1.04	84.1	F	1.03	77.1	E	-7.0	
		R	0.56	31.4	C	0.54	30.1	C	-1.3		0.37	27.0	C	0.33	24.2	C	-2.8	
	NB	T	0.62	13.6	B	0.64	14.3	B	0.7		0.27	9.4	A	0.29	11.0	B	1.6	
		R	0.40	11.4	B	0.43	12.3	B	0.9		0.64	15.9	B	0.70	19.7	B	3.8	
	SB	T	0.51	11.8	B	0.52	12.4	B	0.6		0.61	13.1	B	0.64	15.5	B	2.4	
	Overall		**0.68**	**17.5**	**B**	**0.71**	**18.5**	**B**	**1.0**		**0.78**	**25.7**	**C**	**0.83**	**27.0**	**C**	**1.3**	
Astoria Boulevard North / Grand Central Parkway westbound off-ramp / 82nd Street / Ditmars Boulevard[1]	WB (off-ramp)	LT	0.63	18.3	B	0.63	18.3	B	0.0		0.49	15.9	B	0.50	16.7	B	0.8	
		R	0.94	41.8	D	0.94	41.8	D	0.0		0.57	18.8	B	0.59	19.8	B	1.0	
	NB	DefL	1.30	223.8	F	1.30	223.8	F	0.0		1.10	155.9	F	1.10	155.4	F	-0.5	
		LT	0.54	22.8	C	0.55	22.9	C	0.1		0.49	22.0	C	0.49	21.4	C	-0.6	
	SB	TR	0.83	29.8	C	0.85	30.8	C	1.0		1.05	64.9	E	1.05	62.4	E	-2.5	
	Overall		**1.10**	**32.9**	**C**	**1.10**	**33.2**	**C**	**0.3**		**0.80**	**43.7**	**D**	**0.82**	**42.8**	**D**	**-0.9**	
Astoria Boulevard / 82nd Street / 24th Avenue[1]	EB	L	0.28	32.8	C	0.28	34.6	C	1.8		0.26	24.6	C	0.26	24.6	C	0.0	
		TR	0.65	28.9	C	0.69	32.0	C	3.1		1.15	98.6	F	1.15	98.6	F	0.0	
	WB	L	0.39	29.4	C	0.42	32.9	C	3.5		0.56	59.9	E	0.56	59.9	E	0.0	
		TR	0.94	28.2	C	0.99	39.0	D	10.8		0.46	15.7	B	0.48	15.7	B	0.0	
	NB (24th Ave.)	L	0.55	59.1	E	0.57	58.9	E	-0.2		1.31	235.3	F	1.29	221.7	F	-13.6	
		TR	0.24	49.9	D	0.19	48.1	D	-1.8		0.23	54.7	D	0.18	52.6	D	-2.1	
	SB	L	0.58	49.5	D	0.51	44.9	D	-4.6		0.78	60.7	E	0.78	60.7	E	0.0	
		T	1.17	149.0	F	1.16	141.3	F	-7.7		1.12	132.1	F	1.13	134.1	F	2.0	
		R	0.69	58.6	E	0.61	50.7	D	-7.9		0.18	41.1	D	0.18	41.1	D	0.0	
	Overall		**0.94**	**44.0**	**D**	**0.97**	**50.3**	**D**	**6.3**		**1.08**	**82.6**	**F**	**1.08**	**82.9**	**F**	**0.3**	
LaGuardia Access Road / 94th Street	WB	L	1.46	250.1	F	1.00	63.4	E	-186.7		1.48	257.6	F	1.22	141.0	F	-116.6	
		LT	0.52	31.2	C	0.36	21.7	C	-9.5		0.17	25.3	C	0.11	18.5	B	-6.8	
		R	0.72	17.7	C	-	-	-	-		1.13	93.3	F	-	-	-	-	
	NB	L	0.34	13.6	B	0.52	42.7	D	29.1		0.34	17.7	B	0.55	44.7	D	27.0	
		T	0.23	8.2	A	0.46	27.4	C	19.2		0.46	10.3	B	0.76	37.9	D	27.6	
		R	-	-	-	0.19	3.6	A	-		-	-	-	0.50	6.1	A	-	
	SB	L	-	-	-	0.31	37.3	D	-		-	-	-	0.59	42.9	D	-	
		T	0.45	24.2	C	0.42	25.0	C	0.8		0.61	27.0	D	0.66	30.9	C	3.9	
		R	0.37	14.5	B	-	-	-	-		0.86	31.2	D	-	-	-	-	
	SB Ramp	T	-	-	-	0.39	24.4	C	-		-	-	-	0.63	29.3	C	-	
		R	-	-	-	0.60	27.5	C	-		-	-	-	0.55	25.7	C	-	
	Overall		*	**76.8**	**E**	*	**28.5**	**C**	**-48.3**		*	**84.7**	**F**	*	**48.8**	**D**	**-35.9**	
Ditmars Boulevard / 94th Street[1]	EB	L	0.31	20.3	C	0.33	20.5	C	0.2		0.84	36.8	D	0.93	38.5	D	1.7	
		TR	0.54	22.7	C	0.54	22.7	C	0.0		0.65	24.6	C	0.73	19.4	B	-5.2	
	WB	L	0.46	30.6	C	0.44	29.3	C	-1.3		0.57	43.4	D	0.43	24.7	C	-18.7	
		R	0.13	7.1	A	0.13	7.1	A	0.0		0.10	6.9	A	0.17	12.6	B	5.7	
	NB	TR	0.52	31.0	C	0.53	31.3	C	0.3		0.61	32.7	C	0.37	10.0	A	-22.7	
	SB	L	0.31	33.6	C	0.32	33.8	C	0.2		0.33	33.9	C	0.56	18.6	B	-15.3	
		T	0.48	16.7	B	0.50	17.1	B	0.4		0.37	15.0	B	0.24	8.9	A	-6.1	
	Overall		**0.51**	**22.3**	**C**	**0.52**	**22.3**	**C**	**0.0**		**0.66**	**27.3**	**C**	**0.73**	**20.6**	**C**	**-6.7**	
Ditmars Boulevard / Grand Central Parkway eastbound on-ramp	EB	L	0.81	11.3	B	0.81	11.4	B	0.1		1.06	61.5	E	1.06	62.4	E	0.9	
		T	0.07	0.0	A	0.07	0.0	A	0.0		0.10	0.1	A	0.10	0.1	A	0.0	
	WB	TR	0.23	8.6	A	0.23	8.6	A	0.0		0.36	9.7	A	0.36	9.7	A	0.0	
	Overall		**0.72**	**8.7**	**A**	0.72	8.8	**A**	0.1		1.09	31.5	**C**	1.10	31.8	**C**	**0.3**	
UNSIGNALIZED INTERSECTIONS																		
Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (rotary intersection)	A. SWB (Airport access road)	WB-L	0.12	7.6	A	0.12	7.6	A	0.0		0.11	7.8	A	0.11	7.8	A	0.0	
		SB-T	0.81	47.5	E	0.81	47.2	E	-0.3		0.63	26.0	D	0.63	25.9	D	-0.1	
		SB-R	0.35	11.7	B	0.34	11.8	B	0.1		0.29	10.6	B	0.30	10.6	B	0.0	
	B. EB (23rd Ave.)	R	0.23	10.8	B	0.23	10.8	B	0.0		0.38	12.1	B	0.38	12.2	B	0.1	
	C. EB (23rd Ave. bypass)	R	0.01	10.2	B	0.01	10.2	B	0.0		0.02	9.7	A	0.02	9.7	A	0.0	
	D. SEB (Ditmars Blvd. bypass)	R	0.26	10.3	B	0.26	10.3	B	0.0		0.69	18.6	C	0.69	18.8	C	0.2	
	E. SEB (Ditmars Blvd.)	EB-L	0.05	7.5	A	0.05	7.5	A	0.0		0.03	7.3	A	0.03	7.3	A	0.0	
		NB-T	0.12	13.1	B	0.13	13.3	B	0.2		0.16	14.6	B	0.16	14.7	B	0.1	
	F. NB (circulatory roadway)	NB-L	0.11	12.1	B	0.11	12.2	B	0.1		0.07	10.2	B	0.07	10.1	B	-0.1	
		NB-T	0.15	14.3	B	0.17	14.7	B	0.4		0.09	11.1	B	0.09	11.0	B	-0.1	

Notes:
v/c = volume-to-capacity ratio; LOS = Level-of-Service
NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; SEB = Southeastbound, SWB = Southwestbound
L = Left-Turn; T = Through; R = Right-Turn;
LT = Left-Turn/Through; TR = Through/Right-Turn, LR = Left-Turn/Right-Turn; LTR = Left-Turn/Through/Right-Turn
Average Control Delay shown in units of seconds/vehicle
* = Overall v/c ratio not calculated by HCS for this intersection.
1 = Improvement proposed at this intersection.

A.2 Traffic: Grand Central Parkway

This section presents the results of the traffic operations analysis conducted for both directions of the Grand Central Parkway (GCP) mainline and associated ramps under year 2012 existing conditions, year 2030 Future No-Action Conditions, and year 2030 Future With-Action Conditions, during both the weekday AM and PM peak periods.

A.2.1 Analysis Methodology

The traffic operations analysis of the GCP mainline and associated ramps was conducted using FREEVAL-2010 (version 2), updated January 4, 2013. FREEVAL is a deterministic traffic model supported and maintained by the Transportation Research Board's (TRB) Highway Capacity and Quality of Service (HCQS) Committee and is the official computational engine that implements procedures in Chapters 10 and 25 of the 2010 *Highway Capacity Manual* (HCM).

A.2.2 Study Segments and Time Periods

Figures A.2-1 and A.2-2 show the eastbound and westbound facility diagrams, respectively, with the required FREEVAL segmentation. The analyzed GCP section is approximately 2.7 miles long and extends from the 49th Street Bridge to the Ditmars Boulevard off-ramp (Exit 8) in the eastbound direction, and from the pedestrian bridge overpass located east of Exit 7 to the 49th Street Bridge in the westbound direction. The GCP facility analysis was performed separately for the eastbound and westbound directions. The analysis was conducted for the peak three hours of a typical weekday morning peak period (5:45 to 8:45 AM) and the peak three hours of a typical weekday evening peak period (3:45 to 6:45 PM).

A.2.3 Year 2012 Existing Conditions Analysis

A.2.3.1 Existing Traffic Volumes

The existing conditions traffic volumes used in the analysis were year 2012 hourly volumes. These year 2012 volumes were derived from baseline year 2010 traffic volumes provided by the PANYNJ. **Figures A.2-3 to A.2-5** show the hourly flow maps for the weekday AM peak period (5:45 to 8:45 AM) under baseline year 2012 conditions. Similarly, **Figures A.2-6 to A.2-8** show the hourly flow maps for the weekday PM peak period (3:45 to 6:45 PM) under baseline year 2012 conditions. The year 2012 existing conditions traffic volumes used in the operations analysis were obtained by increasing baseline year 2010 volumes by the applicable annual growth rate of 0.5 percent, and compounded over two years (i.e., 1.0 percent total growth), as per *CEQR Technical Manual* guidelines. **Tables A.2-1 and A.2-2** show the calculation of the year 2012 existing traffic volumes in the eastbound direction, for the weekday AM and PM peak periods, respectively. Similarly, **Tables A.2-3 and A.2-4** show the calculation of year 2012 existing traffic volumes in the westbound direction, for the weekday AM and PM peak periods, respectively.

Figure A.2-1: Grand Central Parkway Facility Diagram, Eastbound Direction, Existing Conditions

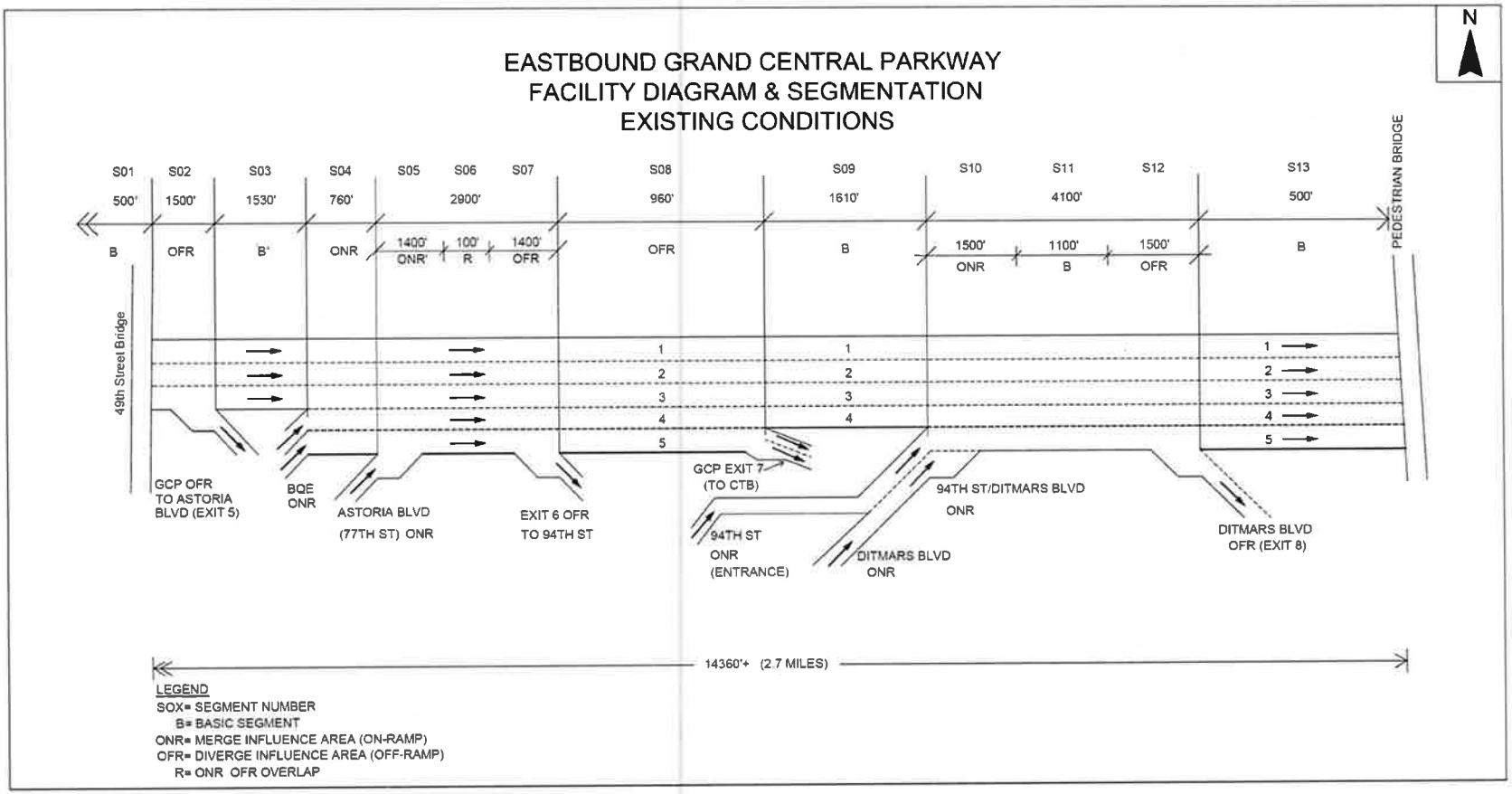


Figure A.2-2: Grand Central Parkway Facility Diagram, Westbound Direction, Existing Conditions

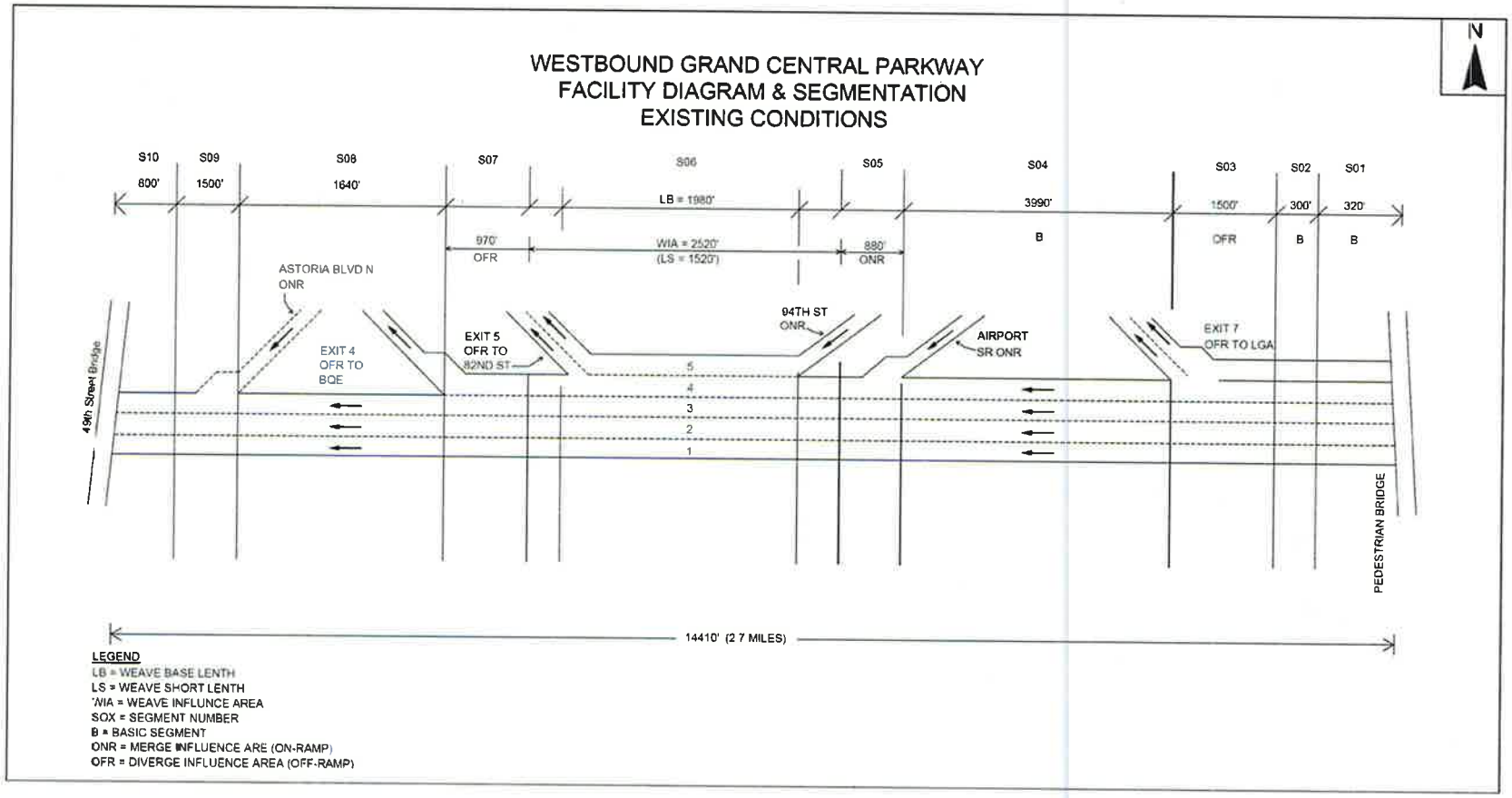


Figure A.2-3: Year 2012 Flow Map for Grand Central Parkway, Weekday 5:45 to 6:45 AM

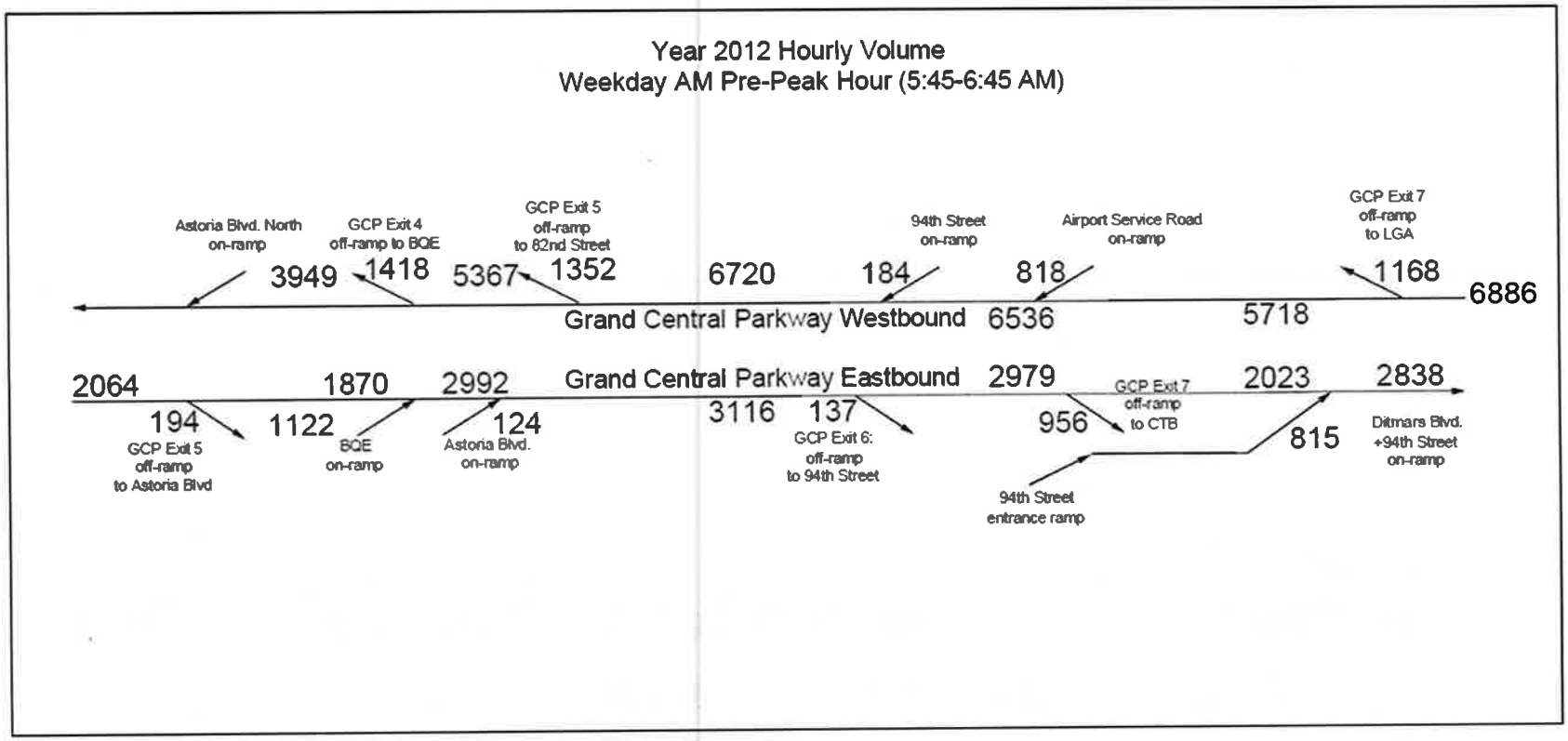


Figure A.2-4: Year 2012 Flow Map for Grand Central Parkway, Weekday 6:45 to 7:45 AM

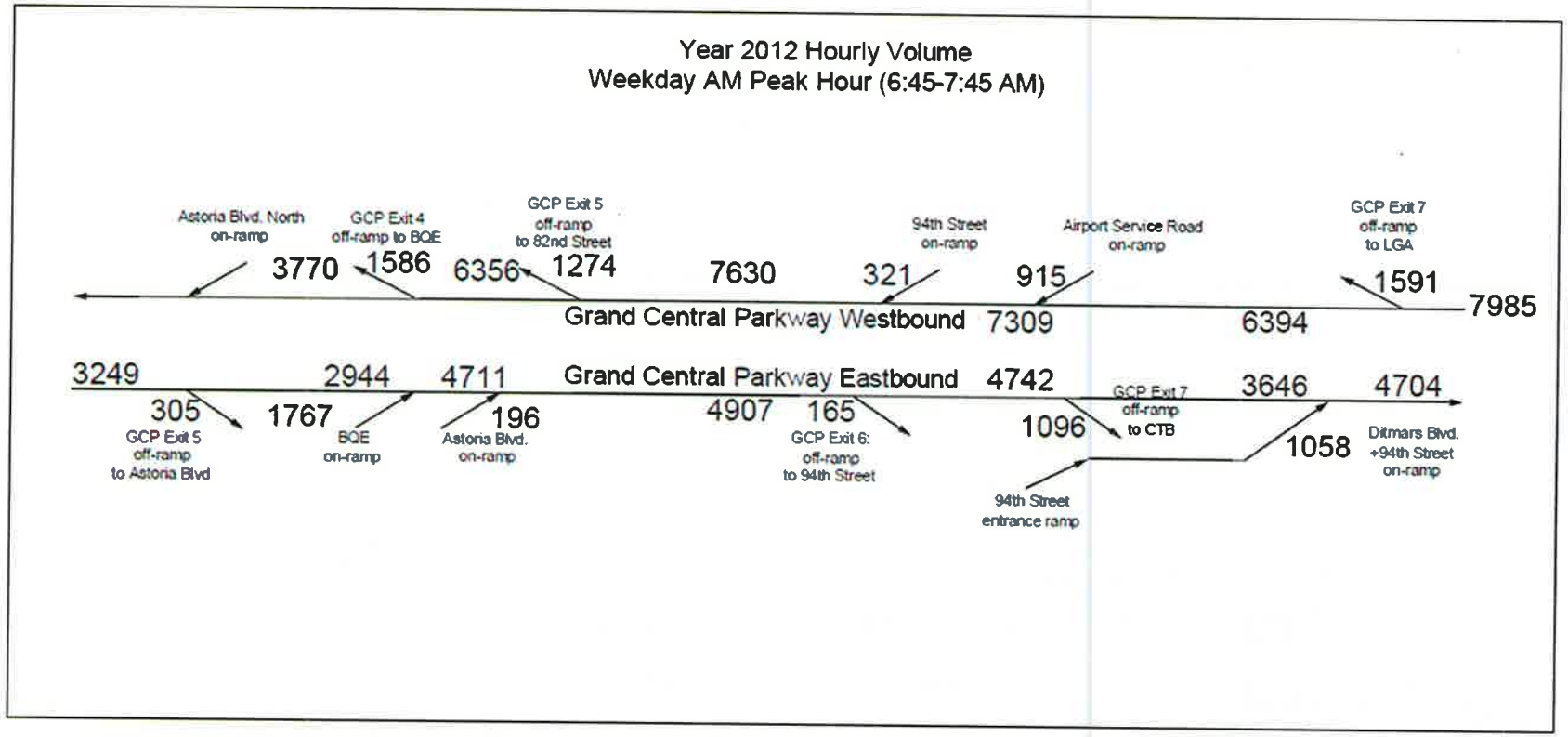


Figure A.2-5: Year 2012 Flow Map for Grand Central Parkway, Weekday 7:45 to 8:45 AM

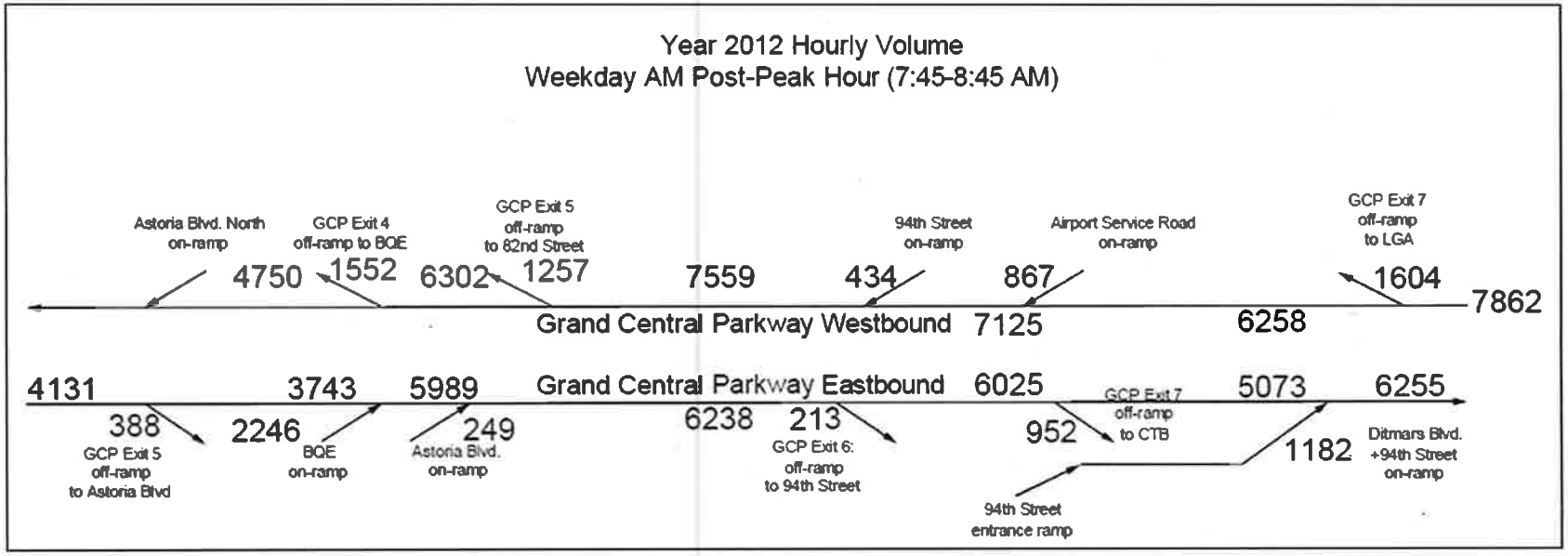


Figure A.2-6: Year 2012 Flow Map for Grand Central Parkway, Weekday 3:45 to 4:45 PM

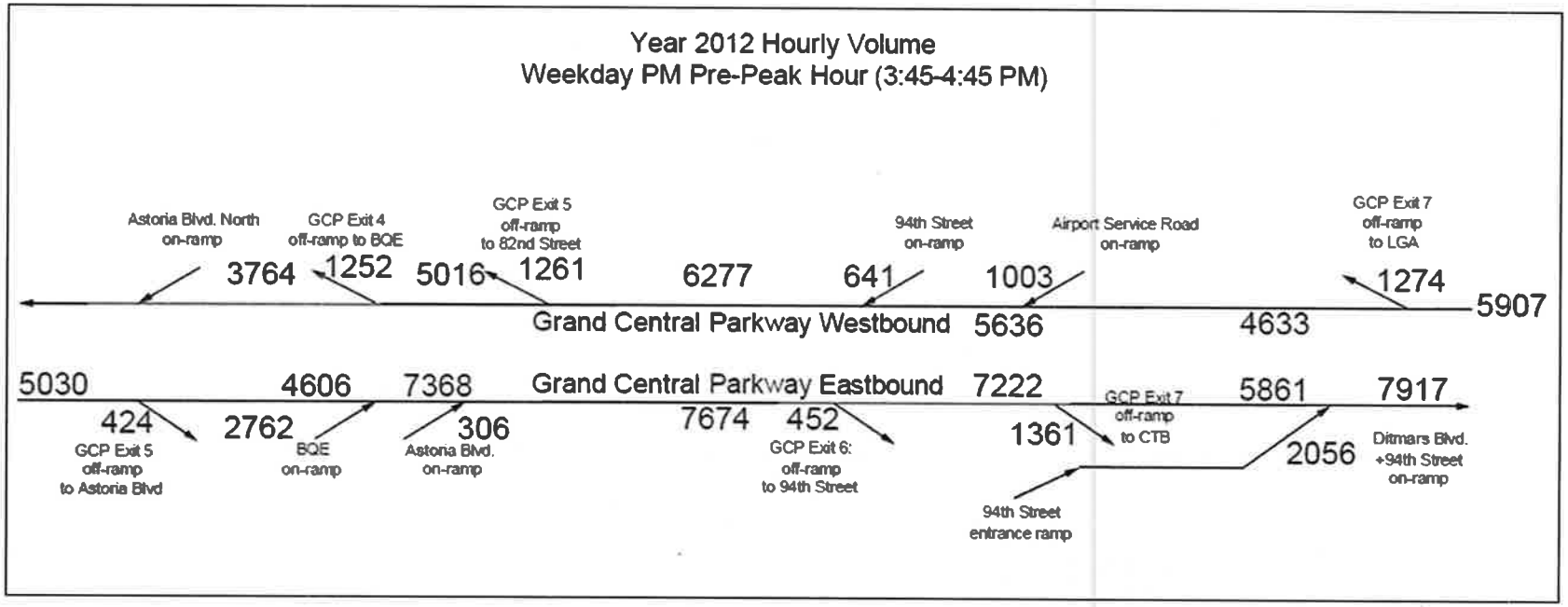


Figure A.2-7: Year 2012 Flow Map for Grand Central Parkway, Weekday 4:45 to 5:45 PM

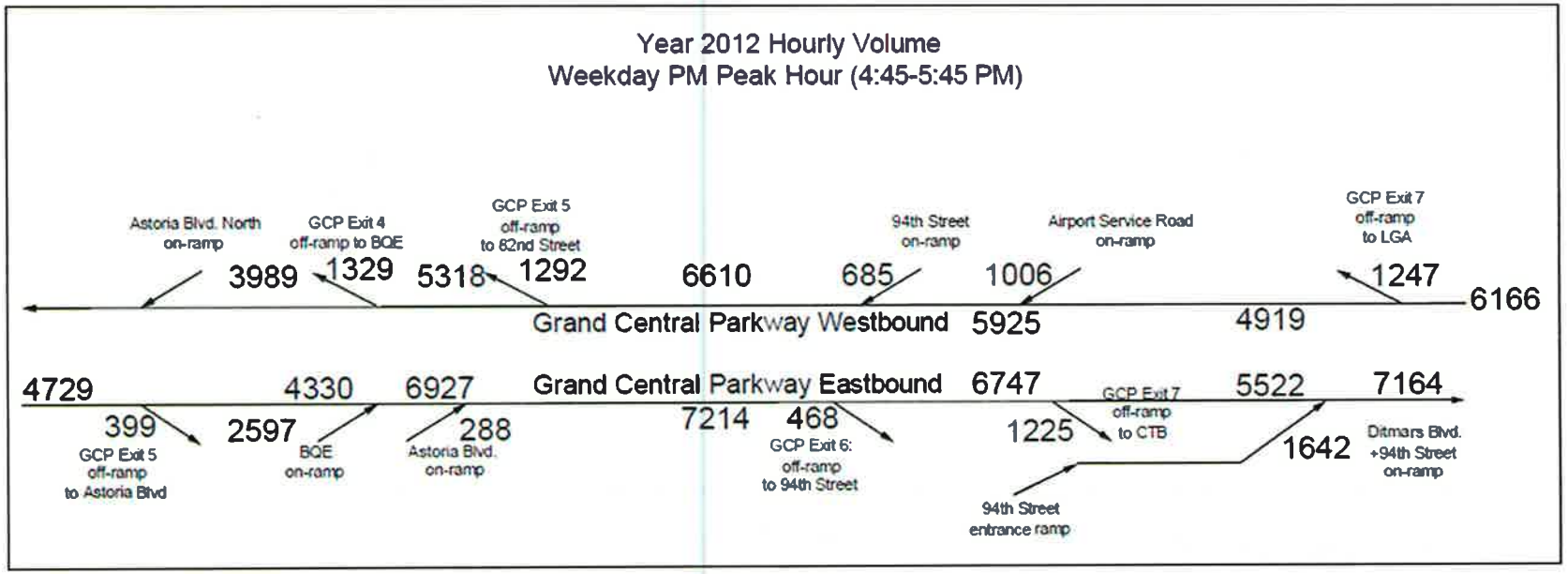


Figure A.2-8: Year 2012 Flow Map for Grand Central Parkway, Weekday 5:45 to 6:45 PM

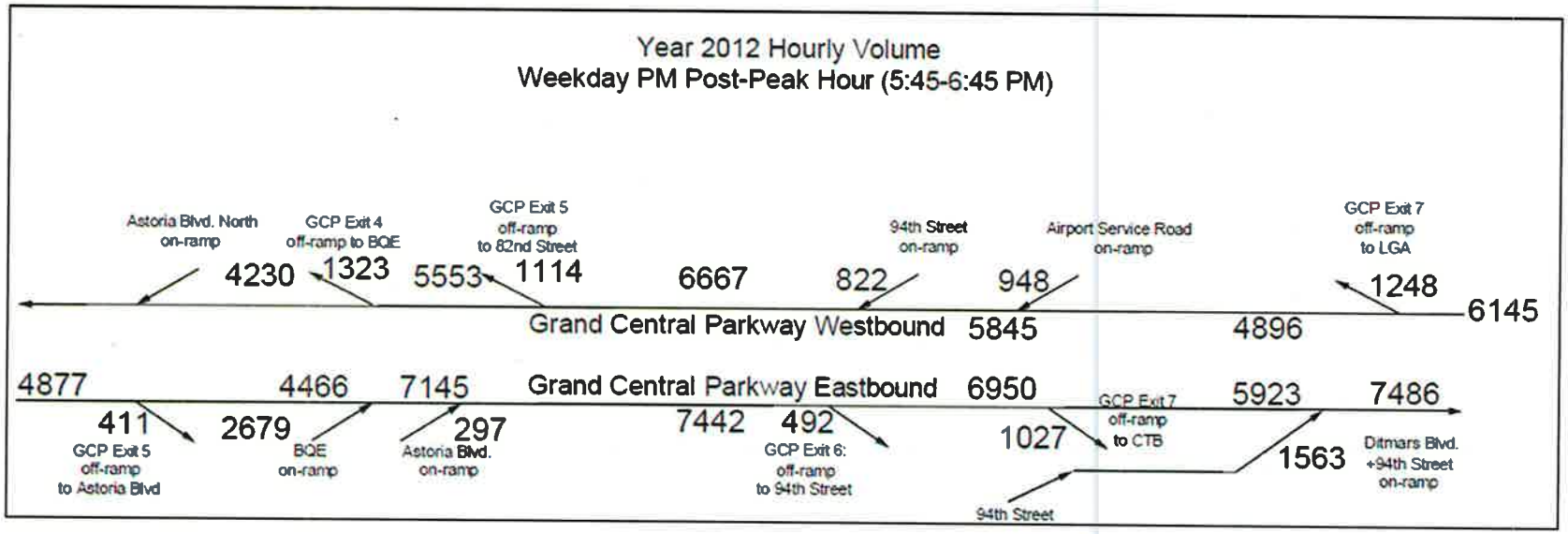


Table A.2-1: Grand Central Parkway Volume Calculation Summary, Eastbound Direction: Weekday AM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Hourly Volume[1]
5:45-6:45 AM		
Mainline west of Exit 5	2044	2064
Exit 5 off-ramp to Astoria Blvd	192	194
Mainline east of Exit 5	1852	1871
BQE on-ramp	1111	1122
Mainline east of BQE on-ramp	2963	2993
Astoria Blvd on-ramp	123	124
Mainline east of Astoria Blvd on-ramp	3086	3117
Exit 6 off-ramp to 94th Street	136	137
Mainline east of off-ramp to 94th Street	2950	2980
Exit 7 off-ramp to CTB	947	956
Mainline east of Exit 7 off-ramp to CTB	2003	2023
94 Street + Ditmars Blvd on-ramp	807	815
Mainline east of Ditmars Blvd. on-ramp	2810	2838
6:45-7:45 AM		
Mainline west of Exit 5	3217	3249
Exit 5 off-ramp to Astoria Blvd	302	305
Mainline east of Exit 5	2915	2944
BQE on-ramp	1749	1766
Mainline east of BQE on-ramp	4664	4711
Astoria Blvd on-ramp	194	196
Mainline east of Astoria Blvd on-ramp	4858	4907
Exit 6 off-ramp to 94th Street	163	165
Mainline east of off-ramp to 94th Street	4695	4742
Exit 7 off-ramp to CTB	1085	1096
Mainline east of Exit 7 off-ramp to CTB	3610	3646
94 Street + Ditmars Blvd on-ramp	1048	1058
Mainline east of Ditmars Blvd. on-ramp	4658	4705
7:45-8:45 AM		
Mainline west of Exit 5	4090	4131
Exit 5 off-ramp to Astoria Blvd	384	388
Mainline east of Exit 5	3706	3743
BQE on-ramp	2224	2246
Mainline east of BQE on-ramp	5930	5989
Astoria Blvd on-ramp	247	249
Mainline east of Astoria Blvd on-ramp	6177	6239
Exit 6 off-ramp to 94th Street	211	213
Mainline east of off-ramp to 94th Street	5966	6026
Exit 7 off-ramp to CTB	943	952
Mainline east of Exit 7 off-ramp to CTB	5023	5073
94 Street + Ditmars Blvd on-ramp	1170	1182
Mainline east of Ditmars Blvd. on-ramp	6193	6255

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

Note: All vehicles rounded to the nearest one (1) vehicle.

Table A.2-2: Grand Central Parkway Volume Calculation Summary, Eastbound Direction: Weekday PM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Hourly Volume[1]
3:45-4:45 PM		
Mainline west of Exit 5	4980	5030
Exit 5 off-ramp to Astoria Blvd	420	424
Mainline east of Exit 5	4560	4606
BQE on-ramp	2735	2762
Mainline east of BQE on-ramp	7295	7368
Astoria Blvd on-ramp	303	306
Mainline east of Astoria Blvd on-ramp	7598	7674
Exit 6 off-ramp to 94th Street	448	452
Mainline east of off-ramp to 94th Street	7150	7222
Exit 7 off-ramp to CTB	1348	1361
Mainline east of Exit 7 off-ramp to CTB	5802	5860
94 Street + Ditmars Blvd on-ramp	2036	2056
Mainline east of Ditmars Blvd. on-ramp	7838	7916
4:45-5:45 PM		
Mainline west of Exit 5	4682	4729
Exit 5 off-ramp to Astoria Blvd	395	399
Mainline east of Exit 5	4287	4330
BQE on-ramp	2571	2597
Mainline east of BQE on-ramp	6858	6927
Astoria Blvd on-ramp	285	288
Mainline east of Astoria Blvd on-ramp	7143	7214
Exit 6 off-ramp to 94th Street	463	468
Mainline east of off-ramp to 94th Street	6680	6747
Exit 7 off-ramp to CTB	1213	1225
Mainline east of Exit 7 off-ramp to CTB	5467	5522
94 Street + Ditmars Blvd on-ramp	1626	1642
Mainline east of Ditmars Blvd. on-ramp	7093	7164
5:45-6:45 PM		
Mainline west of Exit 5	4829	4877
Exit 5 off-ramp to Astoria Blvd	407	411
Mainline east of Exit 5	4422	4466
BQE on-ramp	2652	2679
Mainline east of BQE on-ramp	7074	7145
Astoria Blvd on-ramp	294	297
Mainline east of Astoria Blvd on-ramp	7368	7442
Exit 6 off-ramp to 94th Street	487	492
Mainline east of off-ramp to 94th Street	6881	6950
Exit 7 off-ramp to CTB	1017	1027
Mainline east of Exit 7 off-ramp to CTB	5864	5923
94 Street + Ditmars Blvd on-ramp	1548	1563
Mainline east of Ditmars Blvd. on-ramp	7412	7486

1. Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

Note: All vehicles rounded to the nearest one (1) vehicle.

Table A.2-3: Grand Central Parkway Volume Calculation Summary, Westbound Direction: Weekday AM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Hourly Volume[1]
5:45-6:45 AM		
Mainline east of Exit 7	6818	6886
Exit 7 off-ramp to LGA	1157	1169
Mainline west of Exit 7 off-ramp to LGA	5661	5718
Airport service road on-ramp	810	818
Mainline west of airport service road on-ramp	6471	6536
94th Street on-ramp	182	184
Mainline west of 94th Street on-ramp	6653	6720
Exit 5 (82nd Street) off-ramp	1339	1352
Mainline west of Exit 5 (82nd Street) off-ramp	5314	5367
Exit 4 (BQE) off-ramp	1404	1418
Mainline west of Exit 4 (BQE) off-ramp	3910	3949
6:45-7:45 AM		
Mainline east of Exit 7	7906	7985
Exit 7 off-ramp to LGA	1575	1591
Mainline west of Exit 7 off-ramp to LGA	6331	6394
Airport service road on-ramp	906	915
Mainline west of airport service road on-ramp	7237	7309
94th Street on-ramp	318	321
Mainline west of 94th Street on-ramp	7555	7631
Exit 5 (82nd Street) off-ramp	1261	1274
Mainline west of Exit 5 (82nd Street) off-ramp	6294	6357
Exit 4 (BQE) off-ramp	1570	1586
Mainline west of Exit 4 (BQE) off-ramp	4724	4771
7:45-8:45 AM		
Mainline east of Exit 7	7784	7862
Exit 7 off-ramp to LGA	1588	1604
Mainline west of Exit 7 off-ramp to LGA	6196	6258
Airport service road on-ramp	858	867
Mainline west of airport service road on-ramp	7054	7125
94th Street on-ramp	430	434
Mainline west of 94th Street on-ramp	7484	7559
Exit 5 (82nd Street) off-ramp	1245	1257
Mainline west of Exit 5 (82nd Street) off-ramp	6239	6301
Exit 4 (BQE) off-ramp	1537	1552
Mainline west of Exit 4 (BQE) off-ramp	4702	4749

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

Note: All vehicles rounded to the nearest one (1) vehicle.

Table A.2-4: Grand Central Parkway Volume Calculation Summary, Westbound Direction: Weekday PM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Hourly Volume[1]
3:45-4:45 PM		
Mainline east of Exit 7	5849	5907
Exit 7 off-ramp to LGA	1262	1275
Mainline west of Exit 7 off-ramp to LGA	4587	4633
Airport service road on-ramp	993	1003
Mainline west of airport service road on-ramp	5580	5636
94th Street on-ramp	635	641
Mainline west of 94th Street on-ramp	6215	6277
Exit 5 (82nd Street) off-ramp	1249	1261
Mainline west of Exit 5 (82nd Street) off-ramp	4966	5016
Exit 4 (BQE) off-ramp	1240	1252
Mainline west of Exit 4 (BQE) off-ramp	3726	3763
4:45-5:45 PM		
Mainline east of Exit 7	6105	6166
Exit 7 off-ramp to LGA	1235	1247
Mainline west of Exit 7 off-ramp to LGA	4870	4919
Airport service road on-ramp	996	1006
Mainline west of airport service road on-ramp	5866	5925
94th Street on-ramp	678	685
Mainline west of 94th Street on-ramp	6544	6609
Exit 5 (82nd Street) off-ramp	1279	1292
Mainline west of Exit 5 (82nd Street) off-ramp	5265	5318
Exit 4 (BQE) off-ramp	1316	1329
Mainline west of Exit 4 (BQE) off-ramp	3949	3988
5:45-6:45 PM		
Mainline east of Exit 7	6084	6145
Exit 7 off-ramp to LGA	1236	1248
Mainline west of Exit 7 off-ramp to LGA	4848	4896
Airport service road on-ramp	939	948
Mainline west of airport service road on-ramp	5787	5845
94th Street on-ramp	814	822
Mainline west of 94th Street on-ramp	6601	6667
Exit 5 (82nd Street) off-ramp	1103	1114
Mainline west of Exit 5 (82nd Street) off-ramp	5498	5553
Exit 4 (BQE) off-ramp	1310	1323
Mainline west of Exit 4 (BQE) off-ramp	4188	4230

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

Note: All vehicles rounded to the nearest one (1) vehicle.

A.2.3.2 Existing Roadway Geometry

Existing conditions geometric data, also provided by the PANYNJ, were used in the analysis. In the eastbound direction, the year 2012 existing conditions analyses reflect improvements implemented to the GCP ramps in the vicinity of 94th Street. These improvements include the elimination of the eastbound weaving section on the GCP mainline at 94th Street through consolidation of the 94th Street entrance ramp with the Ditmars Boulevard entrance ramp, and the reconfiguration of the Ditmars Boulevard ramp as a single two-lane on-ramp. The improvements also reflect a one-lane addition along the eastbound GCP mainline from the Ditmars Boulevard on-ramp to the east.

A.2.3.3 Existing Traffic Operations

Freeway facility level-of-service (LOS) is based on the weighted average density for all segments within the defined facility. Weighting is done on the basis of segment length and the number of lanes in each segment. The *HCM* LOS criteria—for both the facility as a whole and for individual segments—are shown in **Table A.2-5**. These are the same criteria used for basic freeway segments. LOS "F" is defined as a case in which any component segment of the freeway facility exceeds a demand-to-capacity (d/c) ratio of 1.00, or the average density exceeds 45 passenger cars per mile per lane (pc/mi/ln).

Table A.2-5: Level-of-Service Criteria for Freeway Facilities and Segments

Level-of-Service	Density (pc/mi/ln)
A	≤11
B	>11-18
C	>18-26
D	> 26-35
E	> 35-45
F	> 45 or any component d/c ratio > 1.00

The year 2012 existing conditions FREEVAL models for each direction (i.e., eastbound and westbound) were developed based on the data described above, and calibrated based on field observations conducted in 2012. Calibration of the FREEVAL models in each direction was conducted by replicating observed travel times for the facility as a whole, as well as speeds on individual segments.

FREEVAL generates average measures of effectiveness (MOEs) for the facility overall and individual segments for the three-hour analysis period. The program also computes, for each of the twelve 15-minute periods of the three-hour analysis, MOEs for the individual eastbound and westbound GCP facilities and individual segments. The reported busiest 15-minute period MOES (density, speed, travel time) were compared with the average of the twelve period MOEs. The busiest 15-minute period is generally identified as the period during which the facility average density is the highest, the speed is the lowest and the time to traverse the analyzed facility is the longest as result of the traffic flow profile created by the facility's mainline, ramps, and weaving sections' traffic demand. The average and busiest 15-minute MOEs resulting from the year 2012 existing conditions FREEVAL analyses in the eastbound direction are summarized in **Tables A.2-6 and A.2-7** for the typical weekday AM and PM three-hour peak periods, respectively. Similarly, **Tables A.2-8 and A.2-9** summarize the MOEs from the

year 2012 existing conditions FREEVAL analyses in the westbound direction for the typical weekday AM and PM three-hour peak periods, respectively. These tables that identify the peak 15 minutes for the eastbound and westbound facilities show the analysis results, by direction, at both the segment and facility levels in terms of the MOEs below:

- Volume-to-capacity ratio (v/c);
- Demand-to-capacity ratio (d/c);
- Density (passenger cars per mile per lane [pc/mi/ln]),
- Space mean speed (miles per hour [mph]),and
- Level-of-service (LOS).

Further, at the facility level, the average and busiest 15-minute period travel time results were compared with the free-flow travel times. The results of the year 2012 existing conditions traffic operations analyses are summarized as follows:

- Eastbound Direction – During the peak 15 minutes of the weekday AM peak period, all eastbound segments on the GCP operate at LOS "C" or better in a globally undersaturated flow regime, and the facility as a whole operates at LOS "C". During the peak 15 minutes of the weekday PM peak period, all eastbound segments on the GCP operate at LOS "D" or better in a globally undersaturated flow regime, and the facility as a whole operates at LOS "D" or better.

- Westbound Direction – During the peak 15 minutes of the weekday AM peak period, the individual mainline segments located upstream of the exit ramp to 82nd Street operate at LOS "F" in an oversaturated flow regime, stemming from the operation of the weaving section, between 94th Street entrance ramp and 82nd Street exit ramp, identified as the facility's active bottleneck. (Field observations and the FREEVAL analysis also identified the mainline segment between the entrance ramps from the Service Road and 94th Street adjacent to and upstream of the weaving section as a hidden bottleneck.) All other segments downstream of the bottleneck operate at LOS "D" or better during the peak 15 minutes of the weekday AM peak period. During the peak 15 minutes of the weekday PM peak period, individual segments from Exit 7 to the 82nd Street off-ramp operate at LOS "F" in an oversaturated flow regime. All other segments operate at LOS "C" or better during the peak 15 minutes of the weekday PM peak period. As a result of these oversaturated conditions, the facility as a whole operates at LOS "E" during the peak 15 minutes of the weekday AM peak period, and at LOS "F" during the peak 15 minutes of the weekday PM peak period. However, these average LOS designations in the westbound direction are of limited use because breakdowns exist in one or more segments of westbound GCP as indicated in the Freeway Facilities chapters of the 2010 *Highway Capacity Manual*.

Table A.2-6: Year 2012 Existing Conditions, Grand Central Parkway Traffic Operations Summary, Eastbound Direction, Weekday AM Peak Period

Segment Level Measures of Effectiveness (MOEs)

	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: w/o GCP OFR to Astoria Blvd	500	0.66	0.66	57.1	55.7	18.4	25.9	C	N/A	Globally Undersaturated
2	Diverge: OFR to Astoria Blvd Influence Area	1,500	0.66	0.66	55.3	55.2	19.0	22.0	C	N/A	
3	Basic Segment: Astoria Blvd OFR and BQE ONR	1,530	0.60	0.60	57.6	56.4	16.5	23.3	C	N/A	
4	Merge: BQE ONR Influence Area	760	0.57	0.57	59.6	59.4	15.3	20.8	C	N/A	
5	Merge: ONR from Astoria Blvd (Influence Area)	1,400	0.59	0.59	56.0	55.1	17.0	14.1	B	N/A	
6	ONR-OFR Influence Area Overlap	100	0.59	0.59	56.0	55.1	17.0	25.0	C	N/A	
7	Diverge: OFR to 94th St (Exit 6) Influence Area	1,400	0.59	0.59	58.4	57.8	16.3	25.0	C	N/A	
8	Diverge: OFR to CTB (Exit 7) Influence Area	960	0.57	0.57	59.8	59.7	15.3	20.8	C	N/A	
9	Basic Segment: Between Exit 7 and 94th St + Ditmars Blvd ONR	1,610	0.60	0.60	57.6	56.5	15.5	23.1	C	N/A	
10	Merge: 94th St ONR + Ditmars Blvd ONR Infl. Areas	1,500	0.59	0.59	59.8	59.7	15.4	21.6	C	N/A	
11	Basic Segment: e/o 94th St + Ditmars Blvd ONR	1,100	0.57	0.57	58.0	57.1	15.9	22.6	C	N/A	
12	Exit 8 Influence Area Ditmars Blvd OFR*	1,500	0.58	0.58	57.9	56.9	15.9	22.6	C	N/A	
13	Basic Segment: e/o Exit 8 Ditmars Blvd OFR	500	0.58	0.58	57.9	56.9	15.9	22.6	C	N/A	
All EB Segments		14,360									

Facility Level Measures of Effectiveness (MOEs)

EB GCP (49th Street Bridge to Ditmars Boulevard OFR)	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS (8:15-8:30 AM)		Travel Time (min)		
				Average (5:45-8:45 AM)	Busiest Period (8:15-8:30 AM)	Average (5:45-8:45 AM)	Busiest Period (8:15-8:30 AM)	Density	Demand	60 mph Free Flow	Average (5:45-8:45 AM)	Busiest Period (8:15-8:30 AM)
	2.7	0.66	0.66	57.9	57.2	16.2	22.7	C	N/A	2.7	2.8	2.9

* Modeled as basic segment (no OFR volumes)

Table A.2-7: Year 2012 Existing Conditions, Grand Central Parkway Traffic Operations Summary, Eastbound Direction, Weekday PM Peak Period

Segment Level Measures of Effectiveness (MOEs)

	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: w/o GCP OFR to Astoria Blvd	500	0.78	0.78	54.4	53.9	29.9	31.6	D	N/A	Globally Undersaturated
2	Diverge: OFR to Astoria Blvd Influence Area	1,500	0.78	0.78	55.1	55.1	29.5	25.6	C	N/A	
3	Basic Segment: Astoria Blvd OFR and BQE ONR	1,530	0.72	0.72	55.4	54.9	26.9	28.4	D	N/A	
4	Merge: BQE ONR Influence Area	760	0.68	0.68	59.3	59.2	24.1	25.2	C	N/A	
5	Merge: ONR from Astoria Blvd (Influence Area)	1,400	0.71	0.71	54.6	54.4	27.3	16.4	B	N/A	
6	ONR-OFR Influence Area Overlap	100	0.71	0.71	54.6	54.4	27.3	31.1	D	N/A	
7	Diverge: OFR to 94th St (Exit 6) Influence Area	1,400	0.71	0.71	57.2	57.1	26.0	31.1	D	N/A	
8	Diverge: OFR to CTB (Exit 7) Influence Area	960	0.67	0.67	59.6	59.6	23.4	24.5	C	N/A	
9	Basic Segment: Between Exit 7 and 94th St + Ditmars Blvd ONR	1,610	0.69	0.69	55.7	55.4	25.9	27.0	D	N/A	
10	Merge: 94th St ONR + Ditmars Blvd ONR Infl. Areas	1,500	0.76	0.76	59.7	59.6	25.2	27.7	D	N/A	
11	Basic Segment: e/o 94th St + Ditmars Blvd ONR	1,100	0.73	0.73	56.0	55.2	26.8	29.9	D	N/A	
12	Exit 8 Influence Area Ditmars Blvd OFR*	1,500	0.74	0.74	55.8	54.9	26.9	30.1	D	N/A	
13	Basic Segment: e/o Exit 8 Ditmars Blvd OFR	500	0.73	0.73	56.0	55.2	26.8	29.9	D	N/A	
All EB Segments		14,360									

Facility Level Measures of Effectiveness (MOEs)

EB GCP (49th Street Bridge to Ditmars Boulevard OFR)	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS (3:45-4:00 PM)		Travel Time (min)		
				Average (3:45-6:45 PM)	Busiest Period (3:45-4:00 PM)	Average (3:45-6:45 PM)	Busiest Period (3:45-4:00 PM)	Density	Demand	60 mph Free Flow	Average (3:45-6:45 PM)	Busiest Period (3:45-4:00 PM)
	2.7	0.78	0.78	56.6	56.2	26.4	28.2	D	N/A	2.7	2.9	2.9

* Modeled as basic segment (no OFR volumes)

Table A.2-8: Year 2012 Existing Conditions, Grand Central Parkway Traffic Operations Summary, Westbound Direction, Weekday AM Peak Period

Segment Level Measures of Effectiveness (MOEs)											
Segment		Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: e/o GCP OFR to LGA (Exit 7)	320	0.79	0.79	32.6	17.5	46.6	85.4***	F		Oversaturated (from 5th 15-minute period)
2	Basic Segment: e/o GCP OFR to LGA (Exit 7)	300	0.71	0.71	30.0	15.5	50.5	96.3***	F		
3	Diverge: OFR to LGA (Exit 7) Influence Area	1,500	0.71	0.71	27.9	15.4	54.4	96.8***	F		
4	Basic Segment: OFR (Exit 7) - Airport SR ONR	3,980	0.73	0.73	24.1	15.7	62.9	95.5***	F		
5	Merge: Airport SR ONR Influence Area	880	0.83	0.83	27.4	20.3	63.3	85.5***	F		
6	Weave: 94th St ONR-82nd St OFR (Exit 5) Influence Area	2,520	1.00	1.10	43.0	42.6	34.0	36.7	E	F	
7	Diverge: OFR (Exit 4) to BQE Influence Area	970	0.94	0.94	59.0	59.0	25.2	25.8	C		OFR queue backing at times onto GCP mainline and associated effects not explicitly modeled in HCM.
8	Basic Segment: OFR (Exit 4) - Astoria Blvd N. ONR	1,640	0.74	0.74	59.9	59.9	24.8	25.7	C		Undersaturated
9	Merge: Astoria Blvd N. ONR Influence Area*	1,500	0.82	0.82	53.7	53.5	27.6	28.8	D		
10	Basic Segment: w/o Astoria Blvd N. ONR	800	0.82	0.82	53.7	53.5	27.6	28.8	D		
All WB Segments		14,410									

Facility Level Measures of Effectiveness (MOEs)												
	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Travel Time (min)		
				Average	Busiest Period	Average	Busiest Period	Density	Demand	60 mph Free Flow	Average	Busiest Period
WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	2.7	1.00	1.10	33.6	24.0	44.9	63.7****	F****	F****	2.7	4.7	6.6

* Westbound weave between 94th Street entrance ramp and 82nd Street exit ramp: Active Bottleneck with demand to capacity (d/c) ratio > 1.00 and demand-based LOS "F".

** If "Significant Impact?" cell is blank, there is no segment impact.

*** The density results for this segment reflect the limitations of the FREEVAL model in modelling interacting queues on oversaturated freeway segments.

**** When breakdowns exist in one or more segments, the average LOS is of limited use.

N/A: Not Applicable; Allowable density increment and impact criteria apply to individual segments not the freeway facility.

Table A.2-9: Year 2012 Existing Conditions, Grand Central Parkway Traffic Operations Summary, Westbound Direction, Weekday PM Peak Period

Segment Level Measures of Effectiveness (MOEs)											
	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: e/o GCP OFR to LGA (Exit 7)	320	0.61	0.61	56.1	56.0	21.7	21.9	C		Oversaturated (from 5th 15-minute period)
2	Basic Segment: e/o GCP OFR to LGA (Exit 7)	300	0.55	0.55	57.6	57.6	21.1	21.3	C		
3	Diverge: OFR to LGA (Exit 7) Influence Area	1,500	0.55	0.55	59.4	59.4	20.4	20.7	C		
4	Basic Segment: OFR (Exit 7) - Airport SR ONR	3,980	0.55	0.55	41.4	19.8	29.1	60.3***	F		
5	Merge: Airport SR ONR Influence Area	880	0.66	0.66	23.1	13.6	62.8	102.2***	F		
6	Weave: 94th St ONR-82nd St OFR (Exit 5) Influence Area	2,520	1.00	1.08	42.1	41.7	30.9	31.7	D	F	
7	Diverge: OFR (Exit 4) to BQE Influence Area	970	0.69	0.69	58.9	58.9	22.4	21.2	C		OFR queue backing at times onto GCP mainline and associated effects not explicitly modeled in HCM.
8	Basic Segment: OFR (Exit 4) - Astoria Blvd N. ONR	1,640	0.63	0.63	59.9	59.9	22.2	20.8	C		Undersaturated
9	Merge: Astoria Blvd N. ONR Influence Area*	1,500	0.70	0.70	55.1	55.9	24.1	22.3	C		
10	Basic Segment: w/o Astoria Blvd N. ONR	800	0.63	0.63	59.2	59.4	22.5	21.0	C		
All WB Segments		14,410									

Facility Level Measures of Effectiveness (MOEs)													
WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Travel Time (min)		
				Average	Busiest Period	Average	Busiest Period	Density	Demand	60 mph Free Flow	Average	Busiest Period
	2.7	1.00	1.08	45.1	32.1	28.3	39****	E	F****	2.7	3.6	5.1

* Westbound weave between 94th Street entrance ramp and 82nd Street exit ramp: Active Bottleneck with demand to capacity (d/c) ratio > 1.00 and demand-based LOS "F".

** If "Significant Impact?" cell is blank, there is no segment impact.

*** The density results for this segment reflect the limitations of the FREEVAL model in modelling interacting queues on oversaturated freeway segments.

**** When breakdowns exist in one or more segments, the average LOS is of limited use.

N/A: Not Applicable; Allowable density increment and impact criteria apply to individual segments not the freeway facility.

A.2.4 Future Year 2030 No-Action Condition Analysis

The Future No-Action Condition traffic analysis identifies how the GCP is projected to operate in the future horizon year *without* the Proposed Action. As such, the Future No-Action Condition traffic analysis includes anticipated future increases in background traffic volumes, but does not include traffic generated by the proposed CTB redevelopment program. As noted previously, the future study year for the Future No-Action (and With-Action) Conditions traffic analyses is 2030.

With or without the proposed redevelopment of the CTB, passenger travel at LaGuardia Airport is projected to continue to increase over time. The PANYNJ estimates that—*without* the CTB redevelopment project—projected passenger travel at LaGuardia Airport will increase by 6.5 MAP by 2030. Therefore, the projected increase in vehicular traffic associated with the background passenger growth (6.5 MAP) anticipated at LaGuardia Airport by the 2030 planning horizon was included in the year 2030 Future No-Action Condition traffic volumes. In addition, a compounded annual growth rate of 5.91 percent was calculated for the 2030 horizon year[5] and applied to the existing traffic volumes, in accordance with the growth rate recommendations for Queens described in the *CEQR Technical Manual.* Projected traffic volumes along the GCP associated with the planned Willets Point Development District were also included in the year 2030 Future No-Action Condition traffic volumes.

A.2.4.1 No-Action Traffic Volumes

Tables A.2-10 and **A.2-11** show the calculation of the projected year 2030 No-Action traffic volumes in the eastbound direction, during the weekday AM and PM peak periods, respectively. Similarly, **Tables A.2-12** and **A.2-13** show the calculation of the projected year 2030 No-Action traffic volumes in the westbound direction, during the weekday AM and PM peak periods, respectively. As shown in these tables, the projected year 2030 No-Action traffic volumes were developed by increasing the year 2012 existing traffic volumes by the applicable background growth rate for Queens specified in the *CEQR Technical Manual* over 18 years (i.e., 2012 to 2030), and adding the Willets Point development traffic volumes ("soft sites"), as well as the traffic volumes associated with background traffic growth of 6.5 million annual air passengers (MAP) at LaGuardia Airport (without improvement of the CTB). These traffic volumes were then converted to 15-minute flow rates (expressed as "vehicles per hour"), as required for the FREEVAL model.

A.2.4.2 No-Action Roadway Geometry

No changes to the geometry of the GCP mainline or associated ramps within the study section were assumed for purposes the No-Action conditions analyses. Therefore, the No-Action analyses assumed the same geometric conditions as the existing conditions analyses.

[5] A compounded total growth rate of 5.91% was calculated based on a 0.50% annual growth rate from 2012 to 2017, plus a 0.25% annual growth rate from 2017 to 2030, in accordance with *CEQR Technical Manual* guidelines.

Table A.2-10: Year 2030 No-Action Condition, Grand Central Parkway Volume Calculation Summary, Eastbound, Weekday AM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Growth Increment[1]	2012 Hourly Volume[1]	2030 Growth Increment[2]	2030 Baseline Total Hourly Volume	Willets Point Trips	6.5 MAAP[3] Trips	2030 No-Action Total Hourly Volume
5:45-6:45 AM								
Mainline west of Exit 5	2044	20	2064	122	2186	268	60	2514
Exit 5 off-ramp to Astoria Blvd	192	2	194	11	205	0	0	205
Mainline east of Exit 5	1852	19	1871	111	1981	268	60	2309
BQE on-ramp	1111	11	1122	66	1188	0	35	1223
Mainline east of BQE on-ramp	2963	30	2993	177	3169	268	95	3532
Astoria Blvd on-ramp	123	1	124	7	132	0	4	136
Mainline east of Astoria Blvd on-ramp	3086	31	3117	184	3301	268	99	3668
Exit 6 off-ramp to 94th Street	136	1	137	8	145	0	5	150
Mainline east of off-ramp to 94th Street	2950	30	2980	176	3156	268	94	3518
Exit 7 off-ramp to CTB	947	9	956	57	1013	0	94	1107
Mainline east of Exit 7 off-ramp to CTB	2003	20	2023	120	2143	268	0	2411
94 Street + Ditmars Blvd on-ramp	807	8	815	48	863	21	79	963
Mainline east of Ditmars Blvd. on-ramp	2810	28	2838	168	3006	289	79	3374
6:45-7:45 AM								
Mainline west of Exit 5	3217	32	3249	192	3441	294	66	3801
Exit 5 off-ramp to Astoria Blvd	302	3	305	18	323	0	0	323
Mainline east of Exit 5	2915	29	2944	174	3118	294	66	3478
BQE on-ramp	1749	17	1766	104	1871	0	39	1910
Mainline east of BQE on-ramp	4664	47	4711	278	4989	294	105	5388
Astoria Blvd on-ramp	194	2	196	12	208	0	4	212
Mainline east of Astoria Blvd on-ramp	4858	49	4907	290	5197	294	109	5600
Exit 6 off-ramp to 94th Street	163	2	165	10	174	0	5	179
Mainline east of off-ramp to 94th Street	4695	47	4742	280	5022	294	104	5420
Exit 7 off-ramp to CTB	1085	11	1096	65	1161	0	104	1265
Mainline east of Exit 7 off-ramp to CTB	3610	36	3646	215	3862	294	0	4156
94 Street + Ditmars Blvd on-ramp	1048	10	1058	63	1121	23	87	1231
Mainline east of Ditmars Blvd. on-ramp	4658	47	4705	278	4983	317	87	5387
7:45-8:45 AM								
Mainline west of Exit 5	4090	41	4131	244	4375	294	66	4735
Exit 5 off-ramp to Astoria Blvd	384	4	388	23	411	0	0	411
Mainline east of Exit 5	3706	37	3743	221	3964	294	66	4324
BQE on-ramp	2224	22	2246	133	2379	0	39	2418
Mainline east of BQE on-ramp	5930	59	5989	354	6343	294	105	6742
Astoria Blvd on-ramp	247	2	249	15	264	0	4	268
Mainline east of Astoria Blvd on-ramp	6177	62	6239	369	6607	294	109	7010
Exit 6 off-ramp to 94th Street	211	2	213	13	226	0	5	231
Mainline east of off-ramp to 94th Street	5966	60	6026	356	6382	294	104	6780
Exit 7 off-ramp to CTB	943	9	952	56	1009	0	104	1113
Mainline east of Exit 7 off-ramp to CTB	5023	50	5073	300	5373	294	0	5667
94 Street + Ditmars Blvd on-ramp	1170	12	1182	70	1252	23	87	1362
Mainline east of Ditmars Blvd. on-ramp	6193	62	6255	370	6625	317	87	7029

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

2: Accounts for 5.91% growth from 2012 to 2030 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 to 5, and 0.25% growth rate thereafter, as per *CEQR Technical Manual*.

3: MAAP = Million Annual Air Passengers

Note: All vehicles rounded to the nearest one (1) vehicle.

Table A.2-11: Year 2030 No-Action Condition, Grand Central Parkway Volume Calculation Summary, Eastbound, Weekday PM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Hourly Volume[1]	2030 Growth Increment[2]	2030 Baseline Total Hourly Volume	Willets Point Trips	6.5 MAAP[3] Trips	2030 No-Action Total Hourly Volume
3:45-4:45 PM							
Mainline west of Exit 5	4980	5030	297	5327	302	87	5716
Exit 5 off-ramp to Astoria Blvd	420	424	25	449	0	0	449
Mainline east of Exit 5	4560	4606	272	4878	302	87	5267
BQE on-ramp	2735	2762	163	2926	0	52	2978
Mainline east of BQE on-ramp	7295	7368	435	7803	302	139	8244
Astoria Blvd on-ramp	303	306	18	324	0	6	330
Mainline east of Astoria Blvd on-ramp	7598	7674	454	8128	302	145	8575
Exit 6 off-ramp to 94th Street	448	452	27	479	0	32	511
Mainline east of off-ramp to 94th Street	7150	7222	427	7648	302	113	8063
Exit 7 off-ramp to CTB	1348	1361	80	1442	0	113	1555
Mainline east of Exit 7 off-ramp to CTB	5802	5860	346	6206	302	0	6508
94 Street + Ditmars Blvd on-ramp	2036	2056	122	2178	32	103	2313
Mainline east of Ditmars Blvd. on-ramp	7838	7916	468	8384	334	103	8821
4:45-5:45 PM							
Mainline west of Exit 5	4682	4729	279	5008	302	87	5397
Exit 5 off-ramp to Astoria Blvd	395	399	24	423	0	0	423
Mainline east of Exit 5	4287	4330	256	4586	302	87	4975
BQE on-ramp	2571	2597	153	2750	0	52	2802
Mainline east of BQE on-ramp	6858	6927	409	7336	302	139	7777
Astoria Blvd on-ramp	285	288	17	305	0	6	311
Mainline east of Astoria Blvd on-ramp	7143	7214	426	7641	302	145	8088
Exit 6 off-ramp to 94th Street	463	468	28	495	0	32	527
Mainline east of off-ramp to 94th Street	6680	6747	399	7146	302	113	7561
Exit 7 off-ramp to CTB	1213	1225	72	1298	0	113	1411
Mainline east of Exit 7 off-ramp to CTB	5467	5522	326	5848	302	0	6150
94 Street + Ditmars Blvd on-ramp	1626	1642	97	1739	32	103	1874
Mainline east of Ditmars Blvd. on-ramp	7093	7164	423	7587	334	103	8024
5:45-6:45 PM							
Mainline west of Exit 5	4829	4877	288	5166	287	83	5536
Exit 5 off-ramp to Astoria Blvd	407	411	24	435	0	0	435
Mainline east of Exit 5	4422	4466	264	4730	287	83	5100
BQE on-ramp	2652	2679	158	2837	0	49	2886
Mainline east of BQE on-ramp	7074	7145	422	7567	287	132	7986
Astoria Blvd on-ramp	294	297	18	314	0	6	320
Mainline east of Astoria Blvd on-ramp	7368	7442	440	7881	287	138	8306
Exit 6 off-ramp to 94th Street	487	492	29	521	0	30	551
Mainline east of off-ramp to 94th Street	6881	6950	411	7361	287	108	7756
Exit 7 off-ramp to CTB	1017	1027	61	1088	0	107	1195
Mainline east of Exit 7 off-ramp to CTB	5864	5923	350	6273	287	1	6561
94 Street + Ditmars Blvd on-ramp	1548	1563	92	1656	30	98	1784
Mainline east of Ditmars Blvd. on-ramp	7412	7486	442	7929	317	99	8345

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

2: Accounts for 5.91% growth from 2012 to 2030 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 to 5, and 0.25% growth rate thereafter, as per *CEQR Technical Manual*.

3: MAAP = Million Annual Air Passengers

Note: All vehicles rounded to the nearest one (1) vehicle.

Table A.2-12: Year 2030 No-Action Condition, Grand Central Parkway Volume Calculation Summary, Westbound, Weekday AM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Growth Increment[1]	2012 Hourly Volume[1]	2030 Growth Increment[2]	2030 Baseline Total Hourly Volume	Willets Point Trips	6.5 MAAP[3] Trips	2030 No-Action Total Hourly Volume
5:45-6:45 AM								
Mainline east of Exit 7	6818	68	6886	407	7293	164	92	7549
Exit 7 off-ramp to LGA	1157	12	1169	69	1238	29	92	1359
Mainline west of Exit 7 off-ramp to LGA	5661	57	5718	338	6056	135	0	6191
Airport service road on-ramp	810	8	818	48	866	0	93	959
Mainline west of airport service road on-ramp	6471	65	6536	386	6922	135	93	7150
94th Street on-ramp	182	2	184	11	195	0	10	205
Mainline west of 94th Street on-ramp	6653	67	6720	397	7117	135	103	7355
Exit 5 (82nd Street) off-ramp	1339	13	1352	80	1432	0	0	1432
Mainline west of Exit 5 (82nd Street) off-ramp	5314	53	5367	317	5684	135	103	5922
Exit 4 (BQE) off-ramp	1404	14	1418	84	1502	0	25	1527
Mainline west of Exit 4 (BQE) off-ramp	3910	39	3949	233	4182	135	78	4395
6:45-7:45 AM								
Mainline east of Exit 7	7906	79	7985	472	8457	180	101	8738
Exit 7 off-ramp to LGA	1575	16	1591	94	1685	32	101	1818
Mainline west of Exit 7 off-ramp to LGA	6331	63	6394	378	6772	148	0	6920
Airport service road on-ramp	906	9	915	54	969	0	102	1071
Mainline west of airport service road on-ramp	7237	72	7309	432	7741	148	102	7991
94th Street on-ramp	318	3	321	19	340	0	11	351
Mainline west of 94th Street on-ramp	7555	76	7631	451	8082	148	113	8343
Exit 5 (82nd Street) off-ramp	1261	13	1274	75	1349	0	0	1349
Mainline west of Exit 5 (82nd Street) off-ramp	6294	63	6357	376	6733	148	113	6994
Exit 4 (BQE) off-ramp	1570	16	1586	94	1679	0	28	1707
Mainline west of Exit 4 (BQE) off-ramp	4724	47	4771	282	5053	148	85	5286
7:45-8:45								
Mainline east of Exit 7	7784	78	7862	465	8326	178	100	8604
Exit 7 off-ramp to LGA	1588	16	1604	95	1699	32	100	1831
Mainline west of Exit 7 off-ramp to LGA	6196	62	6258	370	6628	146	0	6774
Airport service road on-ramp	858	9	867	51	918	0	102	1020
Mainline west of airport service road on-ramp	7054	71	7125	421	7546	146	102	7794
94th Street on-ramp	430	4	434	26	460	0	11	471
Mainline west of 94th Street on-ramp	7484	75	7559	447	8006	146	113	8265
Exit 5 (82nd Street) off-ramp	1245	12	1257	74	1332	0	0	1332
Mainline west of Exit 5 (82nd Street) off-ramp	6239	62	6301	372	6674	146	113	6933
Exit 4 (BQE) off-ramp	1537	15	1552	92	1644	0	28	1672
Mainline west of Exit 4 (BQE) off-ramp	4702	47	4749	281	5030	146	85	5261

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

2: Accounts for 5.91% growth from 2012 to 2030 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 to 5, and 0.25% growth rate thereafter, as per *CEQR Technical Manual*.

3: MAAP = Million Annual Air Passengers

Note: All vehicles rounded to the nearest one (1) vehicle.

Table A.2-13: Year 2030 No-Action Condition, Grand Central Parkway Volume Calculation Summary, Westbound, Weekday PM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Growth Increment[1]	2012 Hourly Volume[1]	2030 Growth Increment[2]	2030 Baseline Total Hourly Volume	Willets Point Trips	6.5 MAAP[3] Trips	2030 No-Action Total Hourly Volume
3:45-4:45								
Mainline east of Exit 7	5849	58	5907	349	6257	561	73	6891
Exit 7 off-ramp to LGA	1262	13	1275	75	1350	22	73	1445
Mainline west of Exit 7 off-ramp to LGA	4587	46	4633	274	4907	539	0	5446
Airport service road on-ramp	993	10	1003	59	1062	0	100	1162
Mainline west of airport service road on-ramp	5580	56	5636	333	5969	539	100	6608
94th Street on-ramp	635	6	641	38	679	0	19	698
Mainline west of 94th Street on-ramp	6215	62	6277	371	6648	539	119	7306
Exit 5 (82nd Street) off-ramp	1249	12	1261	75	1336	0	0	1336
Mainline west of Exit 5 (82nd Street) off-ramp	4966	50	5016	296	5312	539	119	5970
Exit 4 (BQE) off-ramp	1240	12	1252	74	1326	0	30	1356
Mainline west of Exit 4 (BQE) off-ramp	3726	37	3763	222	3986	539	89	4614
4:45-5:45								
Mainline east of Exit 7	6105	61	6166	364	6530	561	73	7164
Exit 7 off-ramp to LGA	1235	12	1247	74	1321	22	73	1416
Mainline west of Exit 7 off-ramp to LGA	4870	49	4919	291	5209	539	0	5748
Airport service road on-ramp	996	10	1006	59	1065	0	100	1165
Mainline west of airport service road on-ramp	5866	59	5925	350	6275	539	100	6914
94th Street on-ramp	678	7	685	40	725	0	19	744
Mainline west of 94th Street on-ramp	6544	65	6609	391	7000	539	119	7658
Exit 5 (82nd Street) off-ramp	1279	13	1292	76	1368	0	0	1368
Mainline west of Exit 5 (82nd Street) off-ramp	5265	53	5318	314	5632	539	119	6290
Exit 4 (BQE) off-ramp	1316	13	1329	79	1408	0	30	1438
Mainline west of Exit 4 (BQE) off-ramp	3949	39	3988	236	4224	539	89	4852
5:45-6:45								
Mainline east of Exit 7	6084	61	6145	363	6508	533	69	7110
Exit 7 off-ramp to LGA	1236	12	1248	74	1322	21	69	1412
Mainline west of Exit 7 off-ramp to LGA	4848	48	4896	289	5186	512	0	5698
Airport service road on-ramp	939	9	948	56	1004	0	95	1099
Mainline west of airport service road on-ramp	5787	58	5845	345	6190	512	95	6797
94th Street on-ramp	814	8	822	49	871	0	18	889
Mainline west of 94th Street on-ramp	6601	66	6667	394	7061	512	113	7686
Exit 5 (82nd Street) off-ramp	1103	11	1114	66	1180	0	0	1180
Mainline west of Exit 5 (82nd Street) off-ramp	5498	55	5553	328	5881	512	113	6506
Exit 4 (BQE) off-ramp	1310	13	1323	78	1401	0	29	1430
Mainline west of Exit 4 (BQE) off-ramp	4188	42	4230	250	4480	512	84	5076

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

2: Accounts for 5.91% growth from 2012 to 2030 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 to 5, and 0.25% growth rate thereafter, as per *CEQR Technical Manual*.

3: MAAP = Million Annual Air Passengers

Note: All vehicles rounded to the nearest one (1) vehicle.

A.2.4.3 No-Action Traffic Operations

The projected MOEs resulting from the year 2030 No-Action conditions FREEVAL analyses in the eastbound direction are summarized in **Tables A.2-14** and **A.2-15** for the typical weekday AM and PM peak periods, respectively. Similarly, **Tables A.2-16** and **A.2-17** summarize the projected MOEs from the Future No-Action Condition FREEVAL analyses in the westbound direction for the typical weekday AM and PM peak periods, respectively.

The results of the projected Future No-Action Condition traffic operations analyses are summarized as follows:

- Eastbound Direction – During the peak 15 minutes of the weekday AM peak period, all eastbound segments on the GCP are projected to operate at LOS "D" or better in a globally undersaturated flow regime, and the facility as a whole is projected to continue to operate at LOS "C". During the peak 15 minutes of the weekday PM peak period, all eastbound segments on the GCP are projected to operate at LOS "E" or better in a globally undersaturated flow regime, and the facility as a whole is projected to continue to operate at LOS "D" or better.

- Westbound Direction – Under the No-Action condition, the 82nd Street exit ramp from the westbound GCP to Ditmars Boulevard was widened from two to three lanes, thereby increasing the off-ramp capacity and reducing queuing conditions observed in the existing condition. (This widening improvement is currently in place.) During the peak 15 minutes of the weekday AM and PM peak periods, as a result of capacity improvements on the 82nd Street off-ramp, the weaving section between the 94th on-ramp and the 82nd Street off-ramp would operate near capacity in an undersaturated flow regime. All westbound segments of the GCP are projected to operate at LOS "E" or better.

Table A.2-14: Year 2030 No-Action Conditions, Grand Central Parkway Traffic Operations Summary, Eastbound, Weekday AM Peak Period

Segment Level Measures of Effectiveness (MOEs)										
	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: w/o GCP OFR to Astoria Blvd	500	0.75	0.75	56.1	54.3	21.9	30.3	D	N/A	Globally Undersaturated
2	Diverge: OFR to Astoria Blvd Influence Area	1,500	0.75	0.75	55.3	55.1	22.2	24.8	C	N/A	
3	Basic Segment: Astoria Blvd OFR and BQE ONR	1,530	0.69	0.69	56.8	55.3	19.8	27.3	D	N/A	
4	Merge: BQE ONR Influence Area	760	0.64	0.64	59.5	59.3	17.5	23.5	C	N/A	
5	Merge: ONR from Astoria Blvd (Influence Area)	1,400	0.66	0.66	55.6	54.7	19.5	15.4	B	N/A	
6	ONR-OFR Influence Area Overlap	100	0.66	0.66	55.6	54.7	19.5	28.0	C	N/A	
7	Diverge: OFR to 94th St (Exit 6) Influence Area	1,400	0.66	0.66	58.1	57.6	18.7	28.0	C	N/A	
8	Diverge: OFR to CTB (Exit 7) influence Area	960	0.64	0.64	59.7	59.7	17.5	23.4	C	N/A	
9	Basic Segment: Between Exit 7 and 94th St + Ditmars Blvd ONR	1,610	0.67	0.67	57.0	55.6	17.9	26.2	D	N/A	
10	Merge: 94th St ONR + Ditmars Blvd ONR Infl. Areas	1,500	0.66	0.66	59.8	59.6	17.6	24.2	C	N/A	
11	Basic Segment: e/o 94th St + Ditmars Blvd ONR	1,100	0.64	0.64	57.5	56.4	18.3	25.6	C	N/A	
12	Exit 8 Influence Area Ditmars Blvd OFR*	1,500	0.65	0.65	57.3	56.2	18.4	25.7	C	N/A	
13	Basic Segment: e/o Exit 8 Ditmars Blvd OFR	500	0.65	0.65	57.3	56.2	18.4	25.7	C	N/A	
All EB Segments		14,360									

Facility Level Measures of Effectiveness (MOEs)												
	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS (8:15-8:30 AM)		Travel Time (min)		
				Average (5:45-8:45 AM)	Busiest Period (8:15-8:30 AM)	Average (5:45-8:45 AM)	Busiest Period (8:15-8:30 AM)	Density	Demand	60 mph Free Flow	Average (5:45-8:45 AM)	Busiest Period (8:15-8:30 AM)
EB GCP (49th Street Bridge to Ditmars Boulevard OFR)	2.7	0.75	0.75	57.5	56.7	18.7	25.8	C	N/A	2.7	2.8	2.9

* Modeled as basic segment (no OFR volumes)

Table A.2-15: Year 2030 No-Action Conditions, Grand Central Parkway Traffic Operations Summary, Eastbound, Weekday PM Peak Period

Segment Level Measures of Effectiveness (MOEs)

	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: w/o GCP OFR to Astoria Blvd	500	0.89	0.89	52.5	51.7	35.2	37.4	E	N/A	Globally Undersaturated
2	Diverge: OFR to Astoria Blvd Influence Area	1,500	0.89	0.89	54.9	54.8	33.7	28.5	D	N/A	
3	Basic Segment: Astoria Blvd OFR and BQE ONR	1,530	0.82	0.82	53.8	53.2	31.7	33.6	D	N/A	
4	Merge: BQE ONR Influence Area	760	0.76	0.76	59.0	58.9	27.1	28.3	D	N/A	
5	Merge: ONR from Astoria Blvd (Influence Area)	1,400	0.79	0.79	54.0	53.8	30.8	17.9	B	N/A	
6	ONR-OFR Influence Area Overlap	100	0.79	0.79	54.0	53.8	30.8	34.8	D	N/A	
7	Diverge: OFR to 94th St (Exit 6) Influence Area	1,400	0.79	0.79	56.8	56.7	29.3	34.8	D	N/A	
8	Diverge: OFR to CTB (Exit 7) Influence Area	960	0.74	0.74	59.5	59.5	26.2	27.3	D	N/A	
9	Basic Segment: Between Exit 7 and 94th St + Ditmars Blvd ONR	1,610	0.77	0.77	54.6	54.2	29.3	30.6	D	N/A	
10	Merge: 94th St ONR + Ditmars Blvd ONR Infl. Areas	1,500	0.84	0.84	59.5	59.0	28.2	31.2	D	N/A	
11	Basic Segment: e/o 94th St + Ditmars Blvd ONR	1,100	0.82	0.82	55.0	54.0	30.5	34.1	D	N/A	
12	Exit 8 Influence Area Ditmars Blvd OFR*	1,500	0.82	0.82	54.7	53.6	30.7	34.3	D	N/A	
13	Basic Segment: e/o Exit 8 Ditmars Blvd OFR	500	0.82	0.82	55.0	54.0	30.5	34.1	D	N/A	
All EB Segments		14,360									

Facility Level Measures of Effectiveness (MOEs)

EB GCP (49th Street Bridge to Ditmars Boulevard OFR)	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS (3:45-4:00 PM)		Travel Time (min)		
				Average (3:45-6:45 PM)	Busiest Period (3:45-4:00 PM)	Average (3:45-6:45 PM)	Busiest Period (3:45-4:00 PM)	Density	Demand	60 mph Free Flow	Average (3:45-6:45 PM)	Busiest Period (3:45-4:00 PM)
	2.7	0.89	0.89	55.9	55.4	29.9	32.1	D	N/A	2.7	2.9	3.0

* Modeled as basic segment (no OFR volumes)

Table A.2-16: Year 2030 No-Action Conditions, Grand Central Parkway Traffic Operations Summary, Westbound, Weekday AM Peak Period

Segment Level Measures of Effectiveness (MOEs)											
Segment		Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: e/o GCP OFR to LGA (Exit 7)	320	0.87	0.87	52.0	50.5	31.9	35.6	E	N/A	Globally Undersaturated
2	Basic Segment: e/o GCP OFR to LGA (Exit 7)	300	0.78	0.78	55.2	54.3	30.1	33.1	D	N/A	
3	Diverge: OFR to LGA (Exit 7) Influence Area	1,500	0.78	0.78	58.9	58.7	28.2	30.6	D	N/A	
4	Basic Segment: OFR (Exit 7) - Airport SR ONR	3,980	0.79	0.79	59.8	59.2	27.7	30.5	D	N/A	
5	Merge: Airport SR ONR Influence Area	880	0.90	0.90	53.3	51.9	35.9	24.8	C	N/A	
6	Weave: 94th St ONR-82nd St OFR (Exit 5) Influence Area	2,520	0.98	0.98	41.0	40.3	38.9	43.2	E	N/A	
7	Diverge: OFR (Exit 4) to BQE Influence Area	970	0.89	0.89	58.9	58.8	28.1	31.2	D	N/A	
8	Basic Segment: OFR (Exit 4) - Astoria Blvd N. ONR	1,640	0.82	0.82	59.5	58.6	27.9	32.1	D	N/A	
9	Merge: Astoria Blvd N. ONR Influence Area*	1,500	0.91	0.91	51.8	49.3	32.1	38.1	E	N/A	
10	Basic Segment: w/o Astoria Blvd N. ONR	800	0.91	0.91	51.8	49.3	32.1	38.1	E	N/A	
All WB Segments		14,410									

Facility Level Measures of Effectiveness (MOEs)												
	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Travel Time (min)		
				Average	Busiest Period	Average	Busiest Period	Density	Demand	60 mph Free Flow	Average	Busiest Period
WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	2.7	0.98	0.98	52.8	51.9	31.4	35.1	E	N/A	2.7	3.1	3.1

N/A: Not Applicable.

Table A.2-17: Year 2030 No-Action Conditions, Grand Central Parkway Traffic Operations Summary, Westbound, Weekday PM Peak Period

Segment Level Measures of Effectiveness (MOEs)											
	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: e/o GCP OFR to LGA (Exit 7)	320	0.71	0.71	54.7	54.2	25.8	27.0	D	N/A	Globally Undersaturated
2	Basic Segment: e/o GCP OFR to LGA (Exit 7)	300	0.64	0.64	56.8	56.5	24.9	25.9	C	N/A	
3	Diverge: OFR to LGA (Exit 7) Influence Area	1,500	0.64	0.64	59.2	59.2	23.8	24.7	C	N/A	
4	Basic Segment: OFR (Exit 7) - Airport SR ONR	3,980	0.64	0.64	60.0	60.0	23.5	24.4	C	N/A	
5	Merge: Airport SR ONR Influence Area	880	0.77	0.77	54.2	54.0	31.3	29.0	D	N/A	
6	Weave: 94th St ONR-82nd St OFR (Exit 5) Influence Area	2,520	0.90	0.90	40.6	40.5	37.2	38.6	E	N/A	
7	Diverge: OFR (Exit 4) to BQE Influence Area	970	0.80	0.80	58.9	58.8	26.6	28.2	D	N/A	
8	Basic Segment: OFR (Exit 4) - Astoria Blvd N. ONR	1,640	0.76	0.76	59.8	59.6	27.0	29.2	D	N/A	
9	Merge: Astoria Blvd N. ONR Influence Area[a]	1,500	0.84	0.84	52.6	51.3	30.7	33.9	D	N/A	
10	Basic Segment: w/o Astoria Blvd N. ONR	800	0.76	0.76	58.9	58.6	27.5	29.7	D	N/A	
All WB Segments		14,410									

Facility Level Measures of Effectiveness (MOEs)													
WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Travel Time (min)		
				Average	Busiest Period	Average	Busiest Period	Density	Demand	60 mph Free Flow	Average	Busiest Period
	2.7	0.90	0.90	53.1	52.9	28.3	29.7	D	N/A	2.7	3	3.0

N/A: Not Applicable.

A.2.5 Future Year 2030 With-Action Condition Analysis

Analyses for the Future With-Action Condition include the addition of traffic volumes for the incremental 3.9 MAP growth associated with the redevelopment of the CTB in the 2030 horizon year. This section presents the results of the FREEVAL facility analysis for the GCP for the 2030 With-Action Condition and the results of a significant traffic impact assessment for the selected With-Action design alternative (Alternative SK02).

The GCP facility analysis for the With-Action Condition was performed separately for the eastbound and westbound directions, for three hours of the morning (5:45 to 8:45 AM) and the evening (3:45 to 6:45 PM) peak periods. The Future With-Action Condition analysis results for the GCP in the eastbound direction reflect the improved 2012 existing geometry (which was also used for the Future No-Action Condition analysis), as well as improvements to the GCP in the westbound direction under the With-Action design alternative (Alternative SK02).

A.2.5.1 With-Action Traffic Volumes

Tables A.2-18 and **A.2-19** show the calculation of the projected Future With-Action Condition traffic volumes in the eastbound direction, during the weekday AM and PM peak hours, respectively. Similarly, **Tables A.2-20** and **A.2-21** show the calculation of the projected Future With-Action Condition traffic volumes in the westbound direction, during the weekday AM and PM peak hours, respectively. As shown in these tables, the projected Future With-Action Condition traffic volumes were developed by superimposing the 3.9 MAP traffic increment associated with improvement of the CTB on the Future No-Action Condition traffic volumes.

A.2.5.2 With-Action Roadway Geometry

The proposed design of the future roadway geometry under the Future With-Action Condition (Alternative SK02) aims to address existing operational deficiencies on the westbound GCP. Under the Future With-Action Condition, the length of the mainline segment between the entrance ramps from the Service Road and 94th Street, adjacent to the weaving section and identified as a hidden bottleneck was increased by approximately 210 feet. The facility diagrams and segmentation used for the FREEVAL analysis are shown in **Figure A.2-9**.

A.2.5.3 With-Action Traffic Operations

The projected MOEs resulting from the Future With-Action Condition FREEVAL analyses in the eastbound direction are summarized in **Tables A.2-22** and **A.2-23** for the typical weekday AM and PM peak periods, respectively. Similarly, **Tables A.2-24** and **A.2-25** summarize the projected MOEs from the Future With-Action Condition FREEVAL analyses in the westbound direction for the typical weekday AM and PM peak periods, respectively.

Table A.2-18: Year 2030 With-Action Condition, Grand Central Parkway Volume Calculation Summary, Eastbound, Weekday AM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Growth Increment[1]	2012 Hourly Volume[1]	2030 Growth Increment[2]	2030 Baseline Total Hourly Volume	Willets Point Trips	6.5 MAAP[3] Trips	2030 No-Action Total Hourly Volume	3.9 MAAP[3] Trips	2030 With-Action Total Hourly Volume
5:45-6:45										
Mainline west of Exit 5	2044	20	2064	122	2186	268	60	2514	35	2550
Exit 5 off-ramp to Astoria Blvd	192	2	194	11	205	0	0	205	0	205
Mainline east of Exit 5	1852	19	1871	111	1981	268	60	2309	35	2345
BQE on-ramp	1111	11	1122	66	1188	0	35	1223	22	1245
Mainline east of BQE on-ramp	2963	30	2993	177	3169	268	95	3532	57	3590
Astoria Blvd on-ramp	123	1	124	7	132	0	4	136	3	138
Mainline east of Astoria Blvd on-ramp	3086	31	3117	184	3301	268	99	3668	60	3728
Exit 6 off-ramp to 94th Street	136	1	137	8	145	0	5	150	4	154
Mainline east of off-ramp to 94th Street	2950	30	2980	176	3156	268	94	3518	56	3574
Exit 7 off-ramp to CTB	947	9	956	57	1013	0	94	1107	56	1163
Mainline east of Exit 7 off-ramp to CTB	2003	20	2023	120	2143	268	0	2411	0	2411
94 Street + Ditmars Blvd on-ramp	807	8	815	48	863	21	79	963	47	1011
Mainline east of Ditmars Blvd. on-ramp	2810	28	2838	168	3006	289	79	3374	47	3421
6:45-7:45										
Mainline west of Exit 5	3217	32	3249	192	3441	294	66	3801	39	3840
Exit 5 off-ramp to Astoria Blvd	302	3	305	18	323	0	0	323	0	323
Mainline east of Exit 5	2915	29	2944	174	3118	294	66	3478	39	3517
BQE on-ramp	1749	17	1766	104	1871	0	39	1910	24	1934
Mainline east of BQE on-ramp	4664	47	4711	278	4989	294	105	5388	63	5451
Astoria Blvd on-ramp	194	2	196	12	208	0	4	212	3	215
Mainline east of Astoria Blvd on-ramp	4858	49	4907	290	5197	294	109	5600	66	5666
Exit 6 off-ramp to 94th Street	163	2	165	10	174	0	5	179	4	183
Mainline east of off-ramp to 94th Street	4695	47	4742	280	5022	294	104	5420	62	5482
Exit 7 off-ramp to CTB	1085	11	1096	65	1161	0	104	1265	62	1327
Mainline east of Exit 7 off-ramp to CTB	3610	36	3646	215	3862	294	0	4156	0	4156
94 Street + Ditmars Blvd on-ramp	1048	10	1058	63	1121	23	87	1231	52	1283
Mainline east of Ditmars Blvd. on-ramp	4658	47	4705	278	4983	317	87	5387	52	5439
7:45-8:45										
Mainline west of Exit 5	4090	41	4131	244	4375	294	66	4735	39	4774
Exit 5 off-ramp to Astoria Blvd	384	4	388	23	411	0	0	411	0	411
Mainline east of Exit 5	3706	37	3743	221	3964	294	66	4324	39	4363
BQE on-ramp	2224	22	2246	133	2379	0	39	2418	24	2442
Mainline east of BQE on-ramp	5930	59	5989	354	6343	294	105	6742	63	6805
Astoria Blvd on-ramp	247	2	249	15	264	0	4	268	3	271
Mainline east of Astoria Blvd on-ramp	6177	62	6239	369	6607	294	109	7010	66	7076
Exit 6 off-ramp to 94th Street	211	2	213	13	226	0	5	231	4	235
Mainline east of off-ramp to 94th Street	5966	60	6026	356	6382	294	104	6780	62	6842
Exit 7 off-ramp to CTB	943	9	952	56	1009	0	104	1113	62	1175
Mainline east of Exit 7 off-ramp to CTB	5023	50	5073	300	5373	294	0	5667	0	5667
94 Street + Ditmars Blvd on-ramp	1170	12	1182	70	1252	23	87	1362	52	1414
Mainline east of Ditmars Blvd. on-ramp	6193	62	6255	370	6625	317	87	7029	52	7081

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

2: Accounts for 5.91% growth from 2012 to 2030 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 to 5, and 0.25% growth rate thereafter, as per *CEQR Technical Manual*.

3: MAAP = Million Annual Air Passengers

Note: All vehicles rounded to the nearest one (1) vehicle.

Table A.2-19: Year 2030 With-Action Condition, Grand Central Parkway Volume Calculation Summary, Eastbound, Weekday PM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Hourly Volume[1]	2030 Growth Increment[2]	2030 Baseline Total Hourly Volume	Willets Point Trips	6.5 MAAP[3] Trips	2030 No-Action Total Hourly Volume	3.9 MAAP[3] Trips	2030 With-Action Total Hourly Volume
4:45-5:45									
Mainline west of Exit 5	4980	5030	297	5327	302	87	5716	52	5768
Exit 5 off-ramp to Astoria Blvd	420	424	25	449	0	0	449	0	449
Mainline east of Exit 5	4560	4606	272	4878	302	87	5267	52	5319
BQE on-ramp	2735	2762	163	2926	0	52	2978	31	3009
Mainline east of BQE on-ramp	7295	7368	435	7803	302	139	8244	83	8327
Astoria Blvd on-ramp	303	306	18	324	0	6	330	4	334
Mainline east of Astoria Blvd on-ramp	7598	7674	454	8128	302	145	8575	87	8662
Exit 6 off-ramp to 94th Street	448	452	27	479	0	32	511	19	530
Mainline east of off-ramp to 94th Street	7150	7222	427	7648	302	113	8063	68	8131
Exit 7 off-ramp to CTB	1348	1361	80	1442	0	113	1555	68	1623
Mainline east of Exit 7 off-ramp to CTB	5802	5860	346	6206	302	0	6508	0	6508
94 Street + Ditmars Blvd on-ramp	2036	2056	122	2178	32	103	2313	62	2375
Mainline east of Ditmars Blvd. on-ramp	7838	7916	468	8384	334	103	8821	62	8883
4:45-5:45									
Mainline west of Exit 5	4682	4729	279	5008	302	87	5397	52	5449
Exit 5 off-ramp to Astoria Blvd	395	399	24	423	0	0	423	0	423
Mainline east of Exit 5	4287	4330	256	4586	302	87	4975	52	5027
BQE on-ramp	2571	2597	153	2750	0	52	2802	31	2833
Mainline east of BQE on-ramp	6858	6927	409	7336	302	139	7777	83	7860
Astoria Blvd on-ramp	285	288	17	305	0	6	311	4	315
Mainline east of Astoria Blvd on-ramp	7143	7214	426	7641	302	145	8088	87	8175
Exit 6 off-ramp to 94th Street	463	468	28	495	0	32	527	19	546
Mainline east of off-ramp to 94th Street	6680	6747	399	7146	302	113	7561	68	7629
Exit 7 off-ramp to CTB	1213	1225	72	1298	0	113	1411	68	1479
Mainline east of Exit 7 off-ramp to CTB	5467	5522	326	5848	302	0	6150	0	6150
94 Street + Ditmars Blvd on-ramp	1626	1642	97	1739	32	103	1874	62	1936
Mainline east of Ditmars Blvd. on-ramp	7093	7164	423	7587	334	103	8024	62	8086
5:45-6:45									
Mainline west of Exit 5	4829	4877	288	5166	287	83	5536	49	5585
Exit 5 off-ramp to Astoria Blvd	407	411	24	435	0	0	435	0	435
Mainline east of Exit 5	4422	4466	264	4730	287	83	5100	49	5150
BQE on-ramp	2652	2679	158	2837	0	49	2886	29	2915
Mainline east of BQE on-ramp	7074	7145	422	7567	287	132	7986	79	8065
Astoria Blvd on-ramp	294	297	18	314	0	6	320	4	324
Mainline east of Astoria Blvd on-ramp	7368	7442	440	7881	287	138	8306	83	8389
Exit 6 off-ramp to 94th Street	487	492	29	521	0	30	551	18	569
Mainline east of off-ramp to 94th Street	6881	6950	411	7361	287	108	7756	65	7820
Exit 7 off-ramp to CTB	1017	1027	61	1088	0	107	1195	65	1259
Mainline east of Exit 7 off-ramp to CTB	5864	5923	350	6273	287	1	6561	0	6561
94 Street + Ditmars Blvd on-ramp	1548	1563	92	1656	30	98	1784	59	1843
Mainline east of Ditmars Blvd. on-ramp	7412	7486	442	7929	317	99	8345	59	8403

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

2: Accounts for 5.91% growth from 2012 to 2030 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 to 5, and 0.25% growth rate thereafter, as per *CEQR Technical Manual*.

3: MAAP = Million Annual Air Passengers

Note: All vehicles rounded to the nearest one (1) vehicle.

Table A.2-20: Year 2030 With-Action Condition, Grand Central Parkway Volume Calculation Summary, Westbound, Weekday AM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Growth Increment[1]	2012 Hourly Volume[1]	2030 Growth Increment[2]	2030 Baseline Total Hourly Volume	Willets Point Trips	6.5 MAAP[3] Trips	2030 No-Action Total Hourly Volume	3.9 MAAP[3] Trips	2030 With-Action Total Hourly Volume
5:45-6:45										
Mainline east of Exit 7	6818	68	6886	407	7293	164	92	7549	56	7605
Exit 7 off-ramp to LGA	1157	12	1169	69	1238	29	92	1359	56	1414
Mainline west of Exit 7 off-ramp to LGA	5661	57	5718	338	6056	135	0	6191	0	6191
Airport service road on-ramp	810	8	818	48	866	0	93	959	56	1015
Mainline west of airport service road on-ramp	6471	65	6536	386	6922	135	93	7150	56	7205
94th Street on-ramp	182	2	184	11	195	0	10	205	6	211
Mainline west of 94th Street on-ramp	6653	67	6720	397	7117	135	103	7355	62	7417
Exit 5 (82nd Street) off-ramp	1339	13	1352	80	1432	0	0	1432	0	1432
Mainline west of Exit 5 (82nd Street) off-ramp	5314	53	5367	317	5684	135	103	5922	62	5984
Exit 4 (BQE) off-ramp	1404	14	1418	84	1502	0	25	1527	15	1542
Mainline west of Exit 4 (BQE) off-ramp	3910	39	3949	233	4182	135	78	4395	46	4442
6:45-7:45										
Mainline east of Exit 7	7906	79	7985	472	8457	180	101	8738	61	8799
Exit 7 off-ramp to LGA	1575	16	1591	94	1685	32	101	1818	61	1879
Mainline west of Exit 7 off-ramp to LGA	6331	63	6394	378	6772	148	0	6920	0	6920
Airport service road on-ramp	906	9	915	54	969	0	102	1071	61	1132
Mainline west of airport service road on-ramp	7237	72	7309	432	7741	148	102	7991	61	8052
94th Street on-ramp	318	3	321	19	340	0	11	351	7	358
Mainline west of 94th Street on-ramp	7555	76	7631	451	8082	148	113	8343	68	8411
Exit 5 (82nd Street) off-ramp	1261	13	1274	75	1349	0	0	1349	0	1349
Mainline west of Exit 5 (82nd Street) off-ramp	6294	63	6357	376	6733	148	113	6994	68	7062
Exit 4 (BQE) off-ramp	1570	16	1586	94	1679	0	28	1707	17	1724
Mainline west of Exit 4 (BQE) off-ramp	4724	47	4771	282	5053	148	85	5286	51	5337
7:45-8:45										
Mainline east of Exit 7	7784	78	7862	465	8326	178	100	8604	61	8665
Exit 7 off-ramp to LGA	1588	16	1604	95	1699	32	100	1831	61	1892
Mainline west of Exit 7 off-ramp to LGA	6196	62	6258	370	6628	146	0	6774	0	6774
Airport service road on-ramp	858	9	867	51	918	0	102	1020	61	1081
Mainline west of airport service road on-ramp	7054	71	7125	421	7546	146	102	7794	61	7855
94th Street on-ramp	430	4	434	26	460	0	11	471	7	478
Mainline west of 94th Street on-ramp	7484	75	7559	447	8006	146	113	8265	68	8333
Exit 5 (82nd Street) off-ramp	1245	12	1257	74	1332	0	0	1332	0	1332
Mainline west of Exit 5 (82nd Street) off-ramp	6239	62	6301	372	6674	146	113	6933	68	7001
Exit 4 (BQE) off-ramp	1537	15	1552	92	1644	0	28	1672	17	1689
Mainline west of Exit 4 (BQE) off-ramp	4702	47	4749	281	5030	146	85	5261	51	5312

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

2: Accounts for 5.91% growth from 2012 to 2030 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 to 5, and 0.25% growth rate thereafter, as per *CEQR Technical Manual*.

3: MAAP = Million Annual Air Passengers

Table A.2-21: Year 2030 With-Action Condition, Grand Central Parkway Volume Calculation Summary, Westbound, Weekday PM Peak Period

Segment Types & Time Periods	2010 Hourly Volumes	2012 Growth Increment[1]	2012 Hourly Volume[1]	2030 Growth Increment[2]	2030 Baseline Total Hourly Volume	Willets Point Trips	6.5 MAAP[3] Trips	2030 No-Action Total Hourly Volume	3.9 MAAP[3] Trips	2030 With-Action Total Hourly Volume
3:45-4:45										
Mainline east of Exit 7	5849	58	5907	349	6257	561	73	6891	44	6935
Exit 7 off-ramp to LGA	1262	13	1275	75	1350	22	73	1445	44	1489
Mainline west of Exit 7 off-ramp to LGA	4587	46	4633	274	4907	539	0	5446	0	5446
Airport service road on-ramp	993	10	1003	59	1062	0	100	1162	60	1222
Mainline west of airport service road on-ramp	5580	56	5636	333	5969	539	100	6608	60	6668
94th Street on-ramp	635	6	641	38	679	0	19	698	11	709
Mainline west of 94th Street on-ramp	6215	62	6277	371	6648	539	119	7306	71	7377
Exit 5 (82nd Street) off-ramp	1249	12	1261	75	1336	0	0	1336	0	1336
Mainline west of Exit 5 (82nd Street) off-ramp	4966	50	5016	296	5312	539	119	5970	71	6041
Exit 4 (BQE) off-ramp	1240	12	1252	74	1326	0	30	1356	17	1373
Mainline west of Exit 4 (BQE) off-ramp	3726	37	3763	222	3986	539	89	4614	54	4668
4:45-5:45										
Mainline east of Exit 7	6105	61	6166	364	6530	561	73	7164	44	7208
Exit 7 off-ramp to LGA	1235	12	1247	74	1321	22	73	1416	44	1460
Mainline west of Exit 7 off-ramp to LGA	4870	49	4919	291	5209	539	0	5748	0	5748
Airport service road on-ramp	996	10	1006	59	1065	0	100	1165	60	1225
Mainline west of airport service road on-ramp	5866	59	5925	350	6275	539	100	6914	60	6974
94th Street on-ramp	678	7	685	40	725	0	19	744	11	755
Mainline west of 94th Street on-ramp	6544	65	6609	391	7000	539	119	7658	71	7729
Exit 5 (82nd Street) off-ramp	1279	13	1292	76	1368	0	0	1368	0	1368
Mainline west of Exit 5 (82nd Street) off-ramp	5265	53	5318	314	5632	539	119	6290	71	6361
Exit 4 (BQE) off-ramp	1316	13	1329	79	1408	0	30	1438	17	1455
Mainline west of Exit 4 (BQE) off-ramp	3949	39	3988	236	4224	539	89	4852	54	4906
5:45-6:45										
Mainline east of Exit 7	6084	61	6145	363	6508	533	69	7110	42	7152
Exit 7 off-ramp to LGA	1236	12	1248	74	1322	21	69	1412	42	1454
Mainline west of Exit 7 off-ramp to LGA	4848	48	4896	289	5186	512	0	5698	0	5698
Airport service road on-ramp	939	9	948	56	1004	0	95	1099	57	1156
Mainline west of airport service road on-ramp	5787	58	5845	345	6190	512	95	6797	57	6854
94th Street on-ramp	814	8	822	49	871	0	18	889	10	899
Mainline west of 94th Street on-ramp	6601	66	6667	394	7061	512	113	7686	67	7753
Exit 5 (82nd Street) off-ramp	1103	11	1114	66	1180	0	0	1180	0	1180
Mainline west of Exit 5 (82nd Street) off-ramp	5498	55	5553	328	5881	512	113	6506	67	6574
Exit 4 (BQE) off-ramp	1310	13	1323	78	1401	0	29	1430	16	1446
Mainline west of Exit 4 (BQE) off-ramp	4188	42	4230	250	4480	512	84	5076	51	5127

1: Accounts for 1.00% growth from 2010 to 2012 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 and 2, as per *CEQR Technical Manual*.

2: Accounts for 5.91% growth from 2012 to 2030 as per *CEQR Technical Manual*. This reflects compounded annual growth rate of 0.5% for years 1 to 5, and 0.25% growth rate thereafter, as per *CEQR Technical Manual*.

3: MAAP = Million Annual Air Passengers

Table A.2-22: Year 2030 With-Action Conditions, Grand Central Parkway Traffic Operations Summary, Eastbound, Weekday AM Peak Period

Segment Level Measures of Effectiveness (MOEs)

	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: w/o GCP OFR to Astoria Blvd	500	0.76	0.76	56.1	54.2	22.1	30.6	D	N/A	Globally Undersaturated
2	Diverge: OFR to Astoria Blvd Influence Area	1,500	0.76	0.76	55.3	55.1	22.4	25.0	C	N/A	
3	Basic Segment: Astoria Blvd OFR and BQE ONR	1,530	0.70	0.70	56.7	55.2	20.0	27.6	D	N/A	
4	Merge: BQE ONR Influence Area	760	0.64	0.64	59.5	59.2	17.8	23.7	C	N/A	
5	Merge: ONR from Astoria Blvd (Influence Area)	1,400	0.67	0.67	55.6	54.7	19.8	15.5	B	N/A	
6	ONR-OFR Influence Area Overlap	100	0.67	0.67	55.6	54.7	19.8	28.3	D	N/A	
7	Diverge: OFR to 94th St (Exit 6) Influence Area	1,400	0.67	0.67	58.1	57.6	18.9	28.3	D	N/A	
8	Diverge: OFR to CTB (Exit 7) Influence Area	960	0.64	0.64	59.7	59.6	17.7	23.6	C	N/A	
9	Basic Segment: Between Exit 7 and 94th St + Ditmars Blvd ONR	1,610	0.67	0.67	57.0	55.6	17.9	26.2	D	N/A	
10	Merge: 94th St ONR + Ditmars Blvd ONR Infl. Areas	1,500	0.67	0.67	59.8	59.6	17.8	24.4	C	N/A	
11	Basic Segment: e/o 94th St + Ditmars Blvd ONR	1,100	0.65	0.65	57.4	56.3	18.5	25.8	C	N/A	
12	Exit 8 Influence Area Ditmars Blvd OFR*	1,500	0.65	0.65	57.3	56.1	18.6	25.9	C	N/A	
13	Basic Segment: e/o Exit 8 Ditmars Blvd OFR	500	0.65	0.65	57.3	56.1	18.6	25.9	C	N/A	
All EB Segments		14,360									

Facility Level Measures of Effectiveness (MOEs)

EB GCP (49th Street Bridge to Ditmars Boulevard OFR)	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS (8:15-8:30 AM)		Travel Time (min)		
				Average (5:45-8:45 AM)	Busiest Period (8:15-8:30 AM)	Average (5:45-8:45 AM)	Busiest Period (8:15-8:30 AM)	Density	Demand	60 mph Free Flow	Average (5:45-8:45 AM)	Busiest Period (8:15-8:30 AM)
	2.7	0.76	0.76	57.5	56.7	18.9	26.0	C	N/A	2.7	2.8	2.9

* Modeled as basic segment (no OFR volumes)

Table A.2-23: Year 2030 With-Action Conditions, Grand Central Parkway Traffic Operations Summary, Eastbound, Weekday PM Peak Period

Segment Level Measures of Effectiveness (MOEs)

	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: w/o GCP OFR to Astoria Blvd	500	0.89	0.89	52.3	51.5	35.7	37.9	E	N/A	Globally Undersaturated
2	Diverge: OFR to Astoria Blvd Influence Area	1,500	0.89	0.89	54.9	54.8	34.0	28.7	D	N/A	
3	Basic Segment: Astoria Blvd OFR and BQE ONR	1,530	0.82	0.82	53.7	53.0	32.1	34.0	D	N/A	
4	Merge: BQE ONR Influence Area	760	0.77	0.77	59.0	58.9	27.4	28.6	D	N/A	
5	Merge: ONR from Astoria Blvd (Influence Area)	1,400	0.80	0.80	54.0	53.7	31.2	18.0	B	N/A	
6	ONR-OFR Influence Area Overlap	100	0.80	0.80	54.0	53.7	31.2	35.2	E	N/A	
7	Diverge: OFR to 94th St (Exit 6) Influence Area	1,400	0.80	0.80	56.8	56.7	29.6	35.2	E	N/A	
8	Diverge: OFR to CTB (Exit 7) Influence Area	960	0.75	0.75	59.5	59.5	26.4	27.6	D	N/A	
9	Basic Segment: Between Exit 7 and 94th St + Ditmars Blvd ONR	1,610	0.77	0.77	54.6	54.2	29.3	30.6	D	N/A	
10	Merge: 94th St ONR + Ditmars Blvd ONR Inf. Areas	1,500	0.85	0.85	59.5	58.9	28.5	31.4	D	N/A	
11	Basic Segment: e/o 94th St + Ditmars Blvd ONR	1,100	0.82	0.82	54.9	53.9	30.8	34.3	D	N/A	
12	Exit 8 Influence Area Ditmars Blvd OFR*	1,500	0.83	0.83	54.6	53.5	31.0	34.6	D	N/A	
13	Basic Segment: e/o Exit 8 Ditmars Blvd OFR	500	0.82	0.82	54.9	53.9	30.8	34.3	D	N/A	
All EB Segments		14,360									

Facility Level Measures of Effectiveness (MOEs)

EB GCP (49th Street Bridge to Ditmars Boulevard OFR)	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS (3:45-4:00 PM)		Travel Time (min)		
				Average (3:45-6:45 PM)	Busiest Period (3:45-4:00 PM)	Average (3:45-6:45 PM)	Busiest Period (3:45-4:00 PM)	Density	Demand	60 mph Free Flow	Average (3:45-6:45 PM)	Busiest Period (3:45-4:00 PM)
	2.7	0.89	0.89	55.8	55.3	30.2	32.3	D	N/A	2.7	2.9	3.0

* Modeled as basic segment (no OFR volumes)

Table A.2-24: Year 2030 With-Action Conditions, Grand Central Parkway Traffic Operations Summary, Westbound, Weekday AM Peak Period

Segment Level Measures of Effectiveness (MOEs)

	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: e/o GCP OFR to LGA (Exit 7)	320	0.87	0.87	51.9	50.3	32.2	35.9	E	N/A	Globally Undersaturated
2	Basic Segment: e/o GCP OFR to LGA (Exit 7)	300	0.79	0.79	55.1	54.2	30.3	33.4	D	N/A	
3	Diverge: OFR to LGA (Exit 7) Influence Area	1,500	0.79	0.79	58.9	58.6	28.4	30.9	D	N/A	
4	Basic Segment: OFR (Exit 7) - Airport SR ONR	3,770	0.79	0.79	59.8	59.2	27.7	30.5	D	N/A	
5	Merge: Airport SR ONR Influence Area	1,090	0.91	0.91	53.4	52.0	36.1	23.2	C	N/A	
6	Weave: 94th St ONR-82nd St OFR (Exit 5) Influence Area	2,520	0.99	0.99	40.9	40.2	39.4	43.6	E	N/A	
7	Diverge: OFR (Exit 4) to BQE Influence Area	970	0.90	0.90	58.9	58.8	28.4	31.5	D	N/A	
8	Basic Segment: OFR (Exit 4) - Astoria Blvd N. ONR	1,640	0.82	0.82	59.5	58.4	28.2	32.5	D	N/A	
9	Merge: Astoria Blvd N. ONR Influence Area	1,500	0.92	0.92	51.6	49.0	32.5	38.7	E	N/A	
10	Basic Segment: w/o Astoria Blvd N. ONR	800	0.92	0.92	51.6	49.0	32.5	38.7	E	N/A	
All WB GCP Segments		14,410									

Facility Level Measures of Effectiveness (MOEs)

WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Travel Time (min)		
				Average	Busiest Period	Average	Busiest Period	Density	Demand	60 mph Free Flow	Average	Busiest Period
	2.7	0.99	0.99	52.7	51.7	31.8	35.5	E	N/A	2.7	3.1	3.1

N/A: Not Applicable.

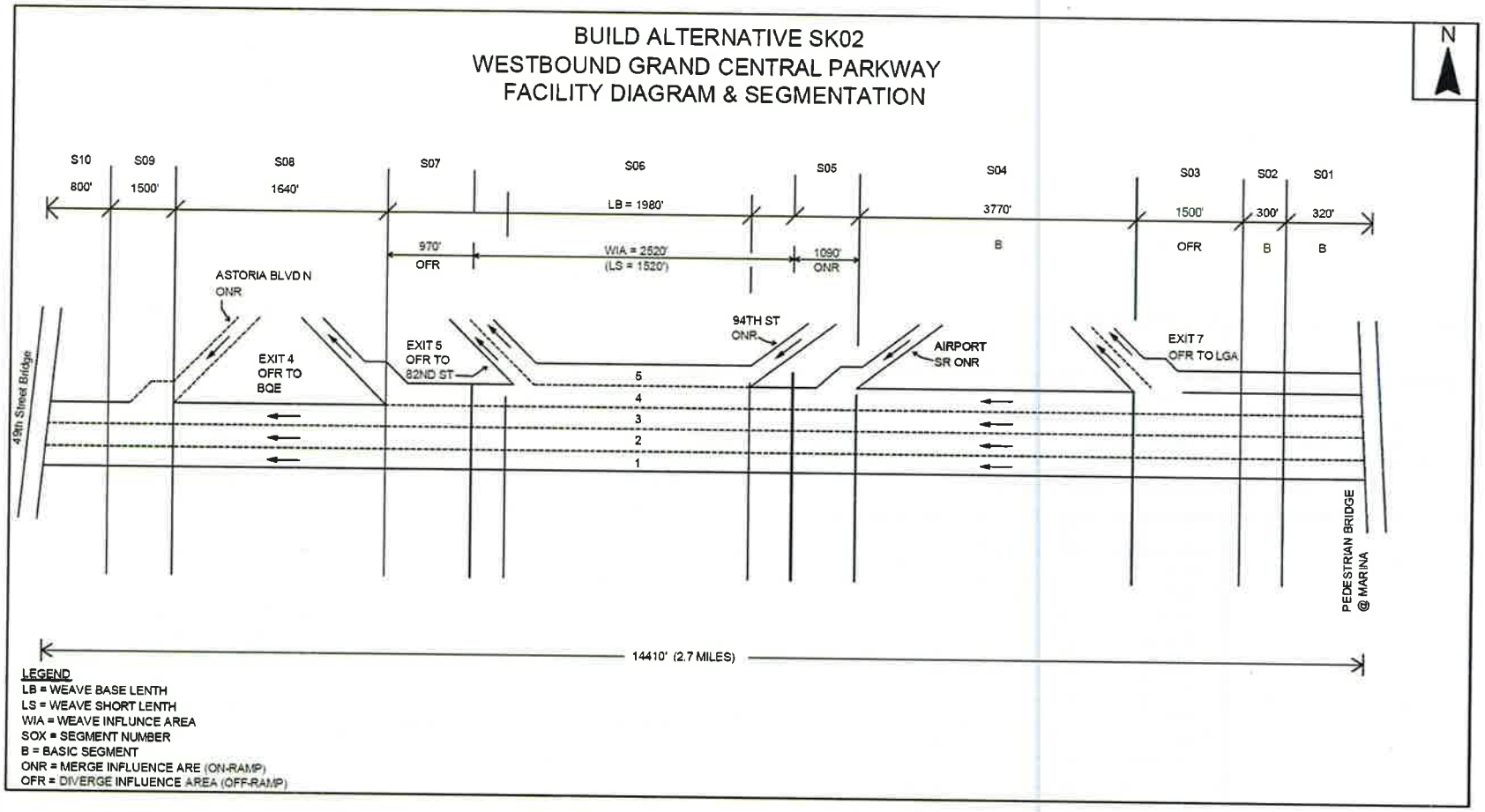
Table A.2-25: Year 2030 With-Action Conditions, Grand Central Parkway Traffic Operations Summary, Westbound, Weekday PM Peak Period

Segment Level Measures of Effectiveness (MOEs)											
	Segment	Length (ft)	v/c Ratio	d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Traffic Flow Regime/Remarks
					Average	Busiest Period	Average	Busiest Period	Density	Demand	
1	Basic Segment: e/o GCP OFR to LGA (Exit 7)	320	0.71	0.71	54.6	54.1	26.0	27.2	D	N/A	Globally Undersaturated
2	Basic Segment: e/o GCP OFR to LGA (Exit 7)	300	0.64	0.64	56.7	56.5	25.0	26.1	D	N/A	
3	Diverge: OFR to LGA (Exit 7) Influence Area	1,500	0.64	0.64	59.2	59.2	24.0	24.9	C	N/A	
4	Basic Segment: OFR (Exit 7) - Airport SR ONR	3,770	0.64	0.64	60.0	60.0	23.5	24.4	C	N/A	
5	Merge: Airport SR ONR Influence Area	1,090	0.78	0.78	54.3	54.1	31.5	27.4	C	N/A	
6	Weave: 94th St ONR-82nd St OFR (Exit 5) Influence Area	2,520	0.91	0.91	40.4	40.4	37.7	39.1	E	N/A	
7	Diverge: OFR (Exit 4) to BQE Influence Area	970	0.81	0.81	58.8	58.8	26.9	28.5	D	N/A	
8	Basic Segment: OFR (Exit 4) - Astoria Blvd N. ONR	1,640	0.76	0.76	59.8	59.6	27.3	29.5	D	N/A	
9	Merge: Astoria Blvd N. ONR Influence Area*	1,500	0.85	0.85	52.4	51.0	31.1	34.4	D	N/A	
10	Basic Segment: w/o Astoria Blvd N. ONR	800	0.76	0.76	58.8	58.6	27.8	30.0	D	N/A	
All WB Segments		14,410									

Facility Level Measures of Effectiveness (MOEs)												
	Length (miles)	Maximum v/c Ratio	Maximum d/c Ratio	Speed (mph)		Density (pc/mi/ln)		Busiest Period LOS		Travel Time (min)		
				Average	Busiest Period	Average	Busiest Period	Density	Demand	60 mph Free Flow	Average	Busiest Period
WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	2.7	0.91	0.91	52.9	52.8	28.6	30.1	D	N/A	2.7	3.0	3.1

N/A: Not Applicable.

Figure A.2-9: Grand Central Parkway Facility Diagram for Alternative SK02, Westbound Direction



The results of the projected Future With-Action Condition traffic operations analyses are summarized as follows:

- Eastbound Direction – The geometry of the eastbound GCP in the study corridor is the same under Future No-Action and With-Action volume conditions (Build Alternative SK02 was developed for the westbound direction). During the peak 15 minutes of the weekday AM peak period, with the 3.9 MAP volume increment, all eastbound segments on the GCP are projected to operate at LOS "D" or better in a globally undersaturated flow regime, and the facility as a whole is projected to continue to operate at LOS "C". During the peak 15 minutes of the weekday PM peak period, all eastbound segments on the GCP are projected to operate at LOS "E" or better in a globally undersaturated flow regime, and the facility as a whole is projected to continue to operate at LOS "D" or better.

- Westbound Direction – Alternative SK02 generally retains the same basic ramp arrangement on the westbound GCP: one exit ramp from the GCP (Exit 7) followed by two consecutive entrance ramps to the GCP from the reconfigured C-D Road and 94th Street, followed by the exit ramp to 82nd Street. Under Alternative SK02, the spacing between the two entrance ramps was increased by approximately 210 feet, and the 82nd Street exit ramp was widened from two to three lanes. During the peak 15 minutes of the weekday AM and PM peak periods, mainly as a result of capacity improvements on the 82nd Street off-ramp, all westbound segments of the GCP are projected to operate at LOS "E" or better.

A.2.5.4 Impact Assessment and Conclusions

Traffic operations for Future With-Action Conditions were compared with those for Future No-Action Conditions based on impact criteria from the *CEQR Technical Manual* for highway sections and current NYCDOT practices for significant impact determination. *CEQR* significant impact criteria for freeway facilities are summarized as follows:

- For sections operating under the No-Action condition at LOS "A" through "C", With-Action densities shall be no worse than 30.5 pc/mi/ln (mid-LOS "D")
- For sections operating under the No-Action condition at LOS "D", "E", and "F", allowable density increases under the With-Action condition shall not exceed densities of 5.0, 4.0 and 3.0 pc/mi/ln, respectively.

Tables A.2-26 through **A.2-29** compare—for the busiest weekday AM and PM periods—traffic densities and levels-of-service for individual segments of the GCP in both directions under the Future With-Action Condition with those under the Future No-Action Condition, based on CEQR's allowable density increments. Comparisons of the Future No-Action Condition with the Future With-Action Condition analysis results indicate that CEQR impact thresholds would not be exceeded on any GCP segment in either direction. Therefore, no significant adverse traffic impacts on the GCP facility, in either direction, are projected to result from the 3.9 MAP traffic growth expected as a result of the redevelopment of the CTB. However, it is recommended that the Port Authority include the westbound Grand Central Parkway between the 94th Street entrance ramp and the 82nd Street exit ramp among the locations to be monitored as discussed in Section A.1.3.5. These monitoring efforts should be conducted annually, or at an agreed-upon frequency to be determined as part of future coordination efforts between the Port Authority and NYCDOT.

Table A.2-26: Comparison of Year 2030 No-Action and With-Action Conditions, Grand Central Parkway Traffic Operations Summary, Eastbound Direction, Weekday AM Peak Period

Segment Level								
Segment		Length (ft)	No-Build No-Action Busiest Period		Allowable Density Increment	SK02 With-Action Buisest Period		Significant Impact?*
			Density (pc/mi/ln)	LOS		Density (pc/mi/ln)	LOS	
1	Basic Segment: w/o GCP OFR to Astoria Blvd	500	30.3	D	5.0	30.6	D	
2	Diverge: OFR to Astoria Blvd Influence Area	1,500	24.8	C	5.7	25.0	C	
3	Basic Segment: Astoria Blvd OFR and BQE ONR	1,530	27.3	D	5.0	27.6	D	
4	Merge: BQE ONR Influence Area	760	23.5	C	7.0	23.7	C	
5	Merge: ONR from Astoria Blvd (Influence Area)	1,400	15.4	B	15.1	15.5	B	
6	ONR-OFR Influence Area Overlap	100	28.0	C	2.5	28.3	D	
7	Diverge: OFR to 94th St (Exit 6) Influence Area	1,400	28.0	C	2.5	28.3	D	
8	Diverge: OFR to CTB (Exit 7) Influence Area	960	23.4	C	7.1	23.6	C	
9	Basic Segment:	1,610	26.2	D	5.0	26.2	D	
10	Merge: 94th St ONR + Ditmars Blvd ONR Infl. Areas	1,500	24.2	C	6.3	24.4	C	
11	Basic Segment: e/o 94th St + Ditmars Blvd ONR	1,100	25.6	C	4.9	25.8	C	
12	Exit 8 Influence Area Ditmars Blvd OFR	1,500	25.7	C	4.8	25.9	C	
13	Basic Segment: e/o Exit 8 Ditmars Blvd OFR	500	25.7	C	4.8	25.9	C	
All EB Segments		14,360						

Facility Level							
	Length (miles)	No-Build No-Action Busiest Period (8:15-8:30 AM)		Allowable Density Increment	SK02 With-Action Busiest Period (8:15-8:30 AM)		Significant Impact?**
		Density	LOS		Density	LOS	
WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	2.7	25.8	C	N/A	26.0	C	N/A

* If "Significant Impact?" cell is blank, there is no impact.

N/A: Not Applicable; Allowable density increment and impact criteria apply to individual segments rather than the freeway facility.

Table A.2-27: Comparison of Year 2030 No-Action and With-Action Conditions, Grand Central Parkway Traffic Operations Summary, Eastbound Direction, Weekday PM Peak Period

Segment Level

	Segment	Length (ft)	No-Build No-Action Busiest Period		Allowable Density Increment	SK02 With-Action Buisest Period		Significant Impact?*
			Density (pc/mi/ln)	LOS		Density (pc/mi/ln)	LOS	
1	Basic Segment: w/o GCP OFR to Astoria Blvd	500	37.4	E	4.0	37.9	E	
2	Diverge: OFR to Astoria Blvd Influence Area	1,500	28.5	D	5.0	28.7	D	
3	Basic Segment: Astoria Blvd OFR and BQE ONR	1,530	33.6	D	5.0	34.0	D	
4	Merge: BQE ONR Influence Area	760	28.3	D	5.0	28.6	D	
5	Merge: ONR from Astoria Blvd (Influence Area)	1,400	17.9	B	12.6	18.0	B	
6	ONR-OFR Influence Area Overlap	100	34.8	D	5.0	35.2	E	
7	Diverge: OFR to 94th St (Exit 6) Influence Area	1,400	34.8	D	5.0	35.2	E	
8	Diverge: OFR to CTB (Exit 7) Influence Area	960	27.3	D	5.0	27.6	D	
9	Basic Segment:	1,610	30.6	D	5.0	30.6	D	
10	Merge: 94th St ONR + Ditmars Blvd ONR Infl. Areas	1,500	31.2	D	5.0	31.4	D	
11	Basic Segment: e/o 94th St + Ditmars Blvd ONR	1,100	34.1	D	5.0	34.3	D	
12	Exit 8 Influence Area Ditmars Blvd OFR	1,500	34.3	D	5.0	34.6	D	
13	Basic Segment: e/o Exit 8 Ditmars Blvd OFR	500	34.1	D	5.0	34.3	D	
All EB Segments		14,360						

Facility Level

WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	Length (miles)	No-Build No-Action Busiest Period (3:45-4:00 PM)		Allowable Density Increment	SK02 With-Action Busiest Period (3:45-4:00 PM)		Significant Impact?**
		Density	LOS		Density	LOS	
	2.7	32.1	D	N/A	32.3	D	N/A

* If "Significant Impact?" cell is blank, there is no impact.

N/A: Not Applicable; Allowable density increment and impact criteria apply to individual segments rather than the freeway facility.

Table A.2-28: Comparison of Year 2030 No-Action and With-Action Conditions, Grand Central Parkway Traffic Operations Summary, Westbound Direction, Weekday AM Peak Period

Segment Level									
	Segment	No-Build No-ActionBuisest Period			Allowable Density Increment	SK02 With-Action Buisest Period			Significant Impact?*
		Length (ft)	Density (pc/mi/ln)	LOS		Length (ft)	Density (pc/mi/ln)	LOS	
1	Basic Segment: e/o GCP OFR to LGA (Exit 7)	320	35.6	E	4.0	320	35.9	E	
2	Basic Segment: e/o GCP OFR to LGA (Exit 7)	300	33.1	D	5.0	300	33.4	D	
3	Diverge: OFR to LGA (Exit 7) Influence Area	1,500	30.6	D	5.0	1,500	30.9	D	
4	Basic Segment: OFR (Exit 7) - Airport SR ONR	3,980	30.5	D	5.0	3,770	30.5	D	
5	Merge: Airport SR ONR Influence Area	880	24.8	C	5.7	1,090	23.2	C	
6	Weave: 94th St ONR-82nd St OFR (Exit 5) Influence Area	2,520	43.2	E	4.0	2,520	43.6	E	
7	Diverge: OFR (Exit 4) to BQE Influence Area	970	31.2	D	5.0	970	31.5	D	
8	Basic Segment: OFR (Exit 4) - Astoria Blvd N. ONR	1,640	32.1	D	5.0	1,640	32.5	D	
9	Merge: Astoria Blvd N. ONR Influence Area	1,500	38.1	E	4.0	1,500	38.7	D	
10	Basic Segment: w/o Astoria Blvd N. ONR	800	38.1	E	4.0	800	38.7	D	
All WB Segments		14,410				14,410			

Facility Level								
WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	No-Build No-ActionBuisest Period			Allowable Density Increment	SK02 With-Action Buisest Period			Significant Impact?**
	Length (miles)	Density (pc/mi/ln)	LOS		Length (miles)	Density (pc/mi/ln)	LOS	
	2.7	35.1	E	N/A	2.7	35.5	E	N/A

* If "Significant Impact?" cell is blank, there is no segment impact.

** N/A: Not Applicable; Allowable density increment and impact criteria apply to individual segments not the freeway facility.

Table A.2-29: Comparison of Year 2030 No-Action and With-Action Conditions, Grand Central Parkway Traffic Operations Summary, Westbound Direction, Weekday PM Peak Period

Segment Level									
Segment		No-Build No-ActionBuisest Period			Allowable Density Increment	SK02 With-Action Buisest Period			Significant Impact?*
		Length (ft)	Density (pc/mi/ln)	LOS		Length (ft)	Density (pc/mi/ln)	LOS	
1	Basic Segment: e/o GCP OFR to LGA (Exit 7)	320	27.0	D	5.0	320	27.2	D	
2	Basic Segment: e/o GCP OFR to LGA (Exit 7)	300	25.9	C	4.6	300	26.1	D	
3	Diverge: OFR to LGA (Exit 7) Influence Area	1,500	24.7	C	5.8	1,500	24.9	C	
4	Basic Segment: OFR (Exit 7) - Airport SR ONR	3,980	24.4	C	6.1	3,770	24.4	C	
5	Merge: Airport SR ONR Influence Area	880	29.0	D	5.0	1,090	27.4	D	
6	Weave: 94th St ONR-82nd St OFR (Exit 5) Influence Area	2,520	38.6	E	4.0	2,520	39.1	E	
7	Diverge: OFR (Exit 4) to BQE Influence Area	970	28.2	D	5.0	970	28.5	D	
8	Basic Segment: OFR (Exit 4) - Astoria Blvd N. ONR	1,640	29.2	D	5.0	1,640	29.5	D	
9	Merge: Astoria Blvd N. ONR Influence Area	1,500	33.9	D	5.0	1,500	34.4	D	
10	Basic Segment: w/o Astoria Blvd N. ONR	800	29.7	D	5.0	800	30.0	D	
All WB Segments		14,410				14,410			

Facility Level								
WB GCP (Ditmars Boulevard OFR to 49th Street Bridge)	No-Build No-ActionBuisest Period			Allowable Density Increment	SK02 With-Action Buisest Period			Significant Impact?**
	Length (miles)	Density (pc/mi/ln)	LOS		Length (miles)	Density (pc/mi/ln)	LOS	
	2.7	29.7	D	N/A	2.7	30.1	D	N/A

* If "Significant Impact?" cell is blank, there is no segment impact.

** N/A: Not Applicable; Allowable density increment and impact criteria apply to individual segments not the freeway facility.

A.3 Parking

As per the *CEQR Technical Manual, Chapter 16, Section 313.4. Parking*, a parking analysis may be needed if a quantified traffic analysis is necessary based on the initial screening analyses. Both the PANYNJ and the Federal Aviation Administration (FAA) widely recognize that there is no existing parking deficiency at LaGuardia Airport, and this is not expected to change with the projected increase in passengers through the 2030 horizon year. The PANYNJ estimates that the existing parking garage is largely underutilized, with utilization rates not exceeding approximately 70 percent under typical conditions. Furthermore, mode split surveys conducted by the PANYNJ in 2010 indicate that fewer than five percent of the passengers arriving at the airport drive-and-park; the majority of passengers are dropped-off, take a taxi or livery car, or take private or public transit.

Several trends have also materialized at LaGuardia Airport over the last 15 to 20 years to consistently reduce parking demand over time. These trends include: A) an increase in the percentage of connecting passengers at the airport and a corresponding decrease in the percentage of outgoing travelers who park-and-fly, and B) a reduction in the percentage of business travelers (who are more apt drive and park) in favor of families and other recreational travelers (who are more apt to be dropped-off/picked-up, and have higher auto occupancies).

The LaGuardia Airport CTB redevelopment project will rationalize the proposed parking supply with projected future parking demands within the Airport through a spatial reallocation of parking supply throughout the facility. An objective of this rationalization process is to ensure that vehicles generated under the Proposed Action (those belonging to both employees and airport customers) are entirely accommodated on-site in new and/or reconfigured parking facilities at the airport. Therefore, no off-site demand for parking is expected to occur on city streets in the vicinity of the airport. Because all parking demand is projected to be accommodated on-site, a parking assessment is not warranted for the Proposed Action.

A.4 Transit

LaGuardia Airport is not directly accessible via subway, and no modifications to subway service are proposed under the Action condition. Therefore, detailed subway analyses are not warranted for the Proposed Action.

As per the *CEQR Technical Manual, Chapter 16, Section 300. Assessment Methods*, quantified analysis for bus transit would typically not be needed if the proposed development would result in fewer than 200 peak hour (public) bus trips. It is expected that private bus carriers will continue to serve the airport under the Proposed Action, as well as provide more frequent service to accommodate the projected increase in passenger demand under both the future No-Action and With-Action conditions. These projected increases in private bus traffic are reflected in the vehicle trip generation estimates for the future With-Action condition traffic analysis. With respect to public bus service, based on the estimated trip generation, the Proposed Action is not projected to increase public bus ridership by more than 200 new person-trips during any one peak hour. Therefore, according to *CEQR* guidelines, detailed bus analyses are not warranted for the Proposed Action.

A.5 Pedestrians

As per the *CEQR Technical Manual, Chapter 16, Section 300. Assessment Methods*, quantified analysis for pedestrians would typically not be needed if the proposed development would result in fewer than 200 peak hour pedestrian trips. Although an increase in *on-site* (within the airport) pedestrian activity is expected, the Proposed Action is not projected to generate more than 200 external pedestrian trips at any *off-site* locations (outside the airport). Therefore, a pedestrian assessment is not warranted for the Proposed Action.

A.6 Safety Assessment

The *CEQR Technical Manual* defines a "high crash location" as any location with 48 or more total reportable and non-reportable crashes, or five or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available. Crash data compiled by the NYCDOT for the most recent available three-year period (i.e., 2010 to 2012) was reviewed to identify the crash history at 21 of the 22 study intersections. For the remaining intersection—Bowery Bay Boulevard/Runway Drive/Marine Terminal Road, which is on Port Authority property—crash data for 2010 to 2012 was provided by Port Authority Traffic Engineering. The data is summarized in **Tables A.6-1 through A.6-3**. **Table A.6-1** summarizes the total crashes at the study intersections, as well as the number of pedestrian, bicyclist, and fatal crashes. **Table A.6-2** provides a year-by-year summary of the crashes at each study intersection. **Table A.6-3** summarizes the numbers of pedestrian and bicyclist crashes, by year, at the study intersections.

Table A.6-1: Summary of Crash Data for 2010 to 2012[1]

Intersection	Total Crashes	Pedestrian Crashes	Bicyclist Crashes	Fatal Crashes
LaGuardia Access Road / 94th Street	1	0	0	0
Ditmars Boulevard / 94th Street	30	3	1	0
23rd Avenue / 94th Street	22	2	0	0
24th Avenue / 94th Street	6	0	0	0
25th Avenue / 94th Street	8	1	0	0
Astoria Boulevard / 94th Street	30	6	3	0
31st Avenue / 94th Street	8	2	1	0
Northern Boulevard / 94th Street-Junction Boulevard	29	5	0	0
Astoria Boulevard / 77th Street	10	0	0	0
Astoria Boulevard North / 23rd Avenue	0	0	0	0
Astoria Boulevard North / 79th Street	18	0	0	0
Astoria Boulevard North / 82nd Street / Ditmars Boulevard	93	1	0	0
23rd Avenue / 82nd Street	46	0	0	0
Astoria Boulevard / 82nd Street / 24th Avenue	18	2	0	0
Ditmars Boulevard / Marine Terminal Road	0	0	0	0
Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	22	1	0	0
Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (rotary intersection)	9	1	1	0
Ditmars Boulevard/GCP eastbound on-ramp (near 97th Street)	0	0	0	0
Ditmars Boulevard/81st Street	4	0	0	0
21st Street/81st Street	2	0	0	0
19th Avenue/Hazen Street	5	0	0	0
19th Avenue/45th Avenue	1	0	0	0
Totals =	**362**	**24**	**6**	**0**

Source: New York State Department of Motor Vehicles and New York City Department of Transportation (2010-2012) and Port Authority Traffic Engineering (2010-2012).
1 = Data for the Bowery Bay Boulevard/Runway Drive/Marine Terminal Road intersection, on Port Authority property, was provided by Port Authority Traffic Engineering. All other data was provided by NYCDOT.

As shown in **Table A.6-1**, the NYCDOT data indicates that there were no fatal crashes at the study intersections during the three-year period between 2010 and 2012. The intersection with the highest number of crashes was the Astoria Boulevard North / 82nd Street / Ditmars Boulevard intersection, with 93 crashes over the three-year period, although the 48-crash *CEQR* threshold was not exceeded during any 12-month period. There were no more than 46 total crashes during the three-year period at any other study intersection. Therefore, the total numbers of crashes at each study intersection are well below the 48-crash per 12-month period *CEQR* threshold for a "high-crash location." **Table A.6-2** summarizes the total number of crashes, year by year, at each intersection.

Table A.6-2: Summary of Crash Data by Year for 2010 to 2012[1]

Intersection	Total Crashes	2010 Crashes	2011 Crashes	2012 Crashes
LaGuardia Access Road / 94th Street	1	0	1	0
Ditmars Boulevard / 94th Street	30	10	12	8
23rd Avenue / 94th Street	22	8	8	6
24th Avenue / 94th Street	6	3	1	2
25th Avenue / 94th Street	8	3	3	2
Astoria Boulevard / 94th Street	30	7	13	10
31st Avenue / 94th Street	8	5	2	1
Northern Boulevard / 94th Street-Junction Boulevard	29	12	6	11
Astoria Boulevard / 77th Street	10	7	1	2
Astoria Boulevard North / 23rd Avenue	0	0	0	0
Astoria Boulevard North / 79th Street	18	9	4	5
Astoria Boulevard North / 82nd Street / Ditmars Boulevard	93	27	36	30
23rd Avenue / 82nd Street	46	12	18	16
Astoria Boulevard / 82nd Street / 24th Avenue	18	9	3	6
Ditmars Boulevard / Marine Terminal Road	0	0	0	0
Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	22	8	7	7
Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (rotary intersection)	9	2	6	1
Ditmars Boulevard/GCP eastbound on-ramp (near 97th Street)	0	0	0	0
Ditmars Boulevard/81st Street	4	0	2	2
21st Street/81st Street	2	0	0	2
19th Avenue/Hazen Street	5	3	1	1
19th Avenue/45th Avenue	1	1	0	0
Totals =	**362**	**126**	**124**	**112**

Source: New York State Department of Motor Vehicles and New York City Department of Transportation (2010-2012) and Port Authority Traffic Engineering (2010-2012).
1 = Data for the Bowery Bay Boulevard/Runway Drive/Marine Terminal Road intersection, on Port Authority property, was provided by Port Authority Traffic Engineering. All other data was provided by NYCDOT.

A detailed review of the crash data was also conducted to determine the number of pedestrian and bicyclist crashes per year. **Table A.6-3** summarizes the numbers of pedestrian and bicyclist crashes occurring at each year, at each study intersection, for the duration of the most recent available three-year period.

Table A.6-3: Summary of NYCDOT Pedestrian and Bicyclist Crash Data by Year[1]

Intersection	Total Ped Crashes	Total Bike Crashes	2010 Ped Crashes	2010 Bike Crashes	2011 Ped Crashes	2011 Bike Crashes	2012 Ped Crashes	2012 Bike Crashes
LaGuardia Access Road / 94th Street	0	0	0	0	0	0	0	0
Ditmars Boulevard / 94th Street	3	1	1	0	1	1	1	0
23rd Avenue / 94th Street	2	0	0	0	1	0	1	0
24th Avenue / 94th Street	0	0	0	0	0	0	0	0
25th Avenue / 94th Street	1	0	0	0	0	0	1	0
Astoria Boulevard / 94th Street	6	3	4	0	1	1	1	2
31st Avenue / 94th Street	2	1	2	0	0	1	0	0
Northern Boulevard / 94th Street-Junction Boulevard	5	0	2	0	1	0	2	0
Astoria Boulevard / 77th Street	0	0	0	0	0	0	0	0
Astoria Boulevard North / 23rd Avenue	0	0	0	0	0	0	0	0
Astoria Boulevard North / 79th Street	0	0	0	0	0	0	0	0
Astoria Boulevard North / 82nd Street / Ditmars Boulevard	1	0	0	0	0	0	1	0
23rd Avenue / 82nd Street	0	0	0	0	0	0	0	0
Astoria Boulevard / 82nd Street / 24th Avenue	2	0	1	0	1	0	0	0
Ditmars Boulevard / Marine Terminal Road	0	0	0	0	0	0	0	0
Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	1	0	1	0	0	0	0	0
Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (rotary intersection)	1	1	0	0	1	1	0	0
Ditmars Boulevard/GCP eastbound on-ramp (near 97th Street)	0	0	0	0	0	0	0	0
Ditmars Boulevard/81st Street	0	0	0	0	0	0	0	0
21st Street/81st Street	0	0	0	0	0	0	0	0
19th Avenue/Hazen Street	0	0	0	0	0	0	0	0
19th Avenue/45th Avenue	0	0	0	0	0	0	0	0
Totals =	**24**	**6**	**11**	**0**	**6**	**4**	**7**	**2**

Sources: New York State Department of Motor Vehicles and New York City Department of Transportation (2010-2012) and Port Authority Traffic Engineering (2010-2012).
1 = Data for the Bowery Bay Boulevard/Runway Drive/Marine Terminal Road intersection, on Port Authority property, was provided by Port Authority Traffic Engineering. All other data was provided by NYCDOT.

As shown in **Table A.6-3**, there were a total of 24 pedestrian crashes for the most recent available three-year period. There were eleven pedestrian crashes in 2010, six crashes in 2011, and seven crashes in 2012. Over the three-year period, there were a total of six pedestrian crashes at the Astoria Boulevard / 94th Street intersection (including four pedestrian crashes in 2010) and five pedestrian crashes at the Northern Boulevard/94th Street-Junction Boulevard intersection. All other intersections had three or fewer total pedestrian crashes over the three-year period, and no more than two pedestrian crashes in any one year. Twelve of the 22 study intersections did not have any pedestrian crashes reported. There were a total of six bicyclist crashes as shown in **Table A.6-3**. There were no bicyclist crashes reported in 2010, four crashes in 2011, and two crashes in 2012. Three bicyclist crashes were reported at the intersection of Astoria Boulevard/94th Street during the three-year study period, including two in 2012. All other intersections had no more than one bicyclist crash in any one year. Eighteen of the 22 intersections did not have any bicyclist crashes reported. None of the study intersections meet the "high-crash location" *CEQR* threshold of five or more pedestrian/bicyclist crashes during any 12-month period.

Based on the findings noted above, none of the study intersections are classified as "high-crash locations" as defined in the *CEQR Technical Manual*.

A.7 Construction Traffic

This section describes the effects of construction generated vehicle trips to and from the CTB site during the typical construction peak hours. Construction at LaGuardia Airport is assumed to take place over an eight-year period, beginning in 2014 and continuing through 2021. The CTB construction site would generate trips by workers traveling to/from the construction site, as well as truck trips associated with the movement of materials and equipment. Based on the anticipated construction shift times, the peak hours for worker-generated vehicle trips would not overlap with the weekday AM and PM peak hours for traffic on the local street network (i.e., 7:30 to 8:30 AM and 4:00 to 5:00 PM), and would overlap by 15 minutes with the weekday AM peak hour of the Airport (i.e., 6:45 to 7:45 AM). The construction traffic analysis examined the potential operational effects of additional construction-related vehicle trips generated on the roadway system as a result of construction activities during the peak calendar quarter of the entire construction duration (i.e., the fourth quarter of 2015).

A.7.1 Construction Parking and Travel Plan

Construction traffic associated with the Proposed Action will consist of passenger vehicles generated by construction personnel traveling to and from the planned parking site on Ingraham's Mountain—a PANYNJ-owned parcel located in the northeast quadrant of the 19th Avenue/45th Street intersection—as well as construction trucks (e.g., delivery trucks, concrete mixers, construction equipment, etc.) traveling directly to the CTB construction site via designated New York City truck routes, and private shuttle buses. It is anticipated that all daily parking for construction personnel would be accommodated at the Ingraham's Mountain site. In the morning, all construction personnel that park at Ingraham's Mountain will be transported by a private shuttle bus operator to work at the CTB construction site. In the evening, all construction personnel will depart the CTB construction site via shuttle bus and return to Ingraham's Mountain. The shuttle buses will utilize off-airport roadways (e.g., Berrian Boulevard, 45th Street, and 19th Avenue), as well as on-airport roadways (e.g., Bowery Bay Boulevard, Marine Terminal Road, and Runway Drive/LaGuardia Road), to travel between Ingraham's Mountain and the CTB.

A.7.2 Construction Trip Generation

A.7.2.1 Average Daily Construction Trips per Calendar Quarter

For each month of the construction schedule, the total numbers of daily construction personnel (including laborers, managers, and administrative staff) and daily construction trucks were forecast based on building sizes, material quantities, man-power rates, and other factors. These calculated numbers of workers and trucks were then aggregated to estimate the average daily number of construction workers and trucks (expressed as "Passenger Car Equivalents," or PCEs) projected to travel to the site in each calendar quarter. The resultant estimate of the average daily numbers of construction workers and truck PCEs, for each calendar quarter over the eight-year construction period is summarized in **Table A.7-1** below. An average PCE value of 2.0, corresponding to a 3-axle truck, was used for the purposes of these calculations.

Table A.7-1: Estimated Average Daily Number of Construction Workers and Construction Truck PCEs On-Site, Per Calendar Quarter

YEAR	2014				2015				2016				2017			
Quarter	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*
Workers	270	282	308	416	554	822	1206	1408	1497	1463	1278	1144	1183	1313	1420	1253
Truck (PCEs)	31	103	48	78	166	327	318	257	161	97	109	263	116	100	59	53
TOTAL	**301**	**385**	**356**	**494**	**720**	**1149**	**1524**	**1665**	**1658**	**1560**	**1387**	**1407**	**1299**	**1413**	**1479**	**1306**
YEAR	**2018**				**2019**				**2020**				**2021**			
Quarter	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*	*4th*
Workers	1010	496	290	201	153	159	196	290	358	345	273	133	34	18	15	0
Truck (PCEs)	189	149	177	116	137	201	188	41	41	52	33	33	32	110	105	0
TOTAL	**1199**	**645**	**467**	**317**	**290**	**360**	**384**	**331**	**399**	**397**	**306**	**166**	**66**	**128**	**120**	**0**

PCE = Passenger Car Equivalents

As shown in **Table A.7-1**, the proposed construction schedule assumes construction activities and construction trips would peak in the fourth quarter of 2015 with 1,665 total PCE vehicle trips. To ensure a conservative and reasonable worst-case analysis of potential construction traffic associated with the CTB redevelopment, this peak quarter of construction activity was used as the basis for estimating peak hour construction traffic volumes.

A.7.2.2 Peak Hour Construction Trips during the Peak Quarter

As shown in **Table A.7-1**, the PANYNJ estimates that the total volume of construction-related traffic—including both trucks and construction personnel (i.e., laborers, managers, and administrative staff)—would peak during the fourth quarter of 2015. During this period, an average of approximately 1,408 construction personnel and an average of approximately 128 trucks would be on-site daily during this quarter.

During construction, travel to and from the site by means other than single-occupant vehicle will be encouraged and supported by the PANYNJ. LaGuardia Airport is served by the M60, Q47, Q48, Q70 and Q72 bus lines which also provide connections to subway stations in Manhattan and Queens. Based on

discussions with PANYNJ planning and construction staff, an average auto-occupancy rate of 1.50 and an auto mode share of 75 percent was assumed for construction personnel. The remaining 25 percent of construction personnel were projected to arrive and depart via city bus (i.e., the M60, Q48, Q70 or Q72).

Based on discussions with PANYNJ construction staff, all construction activities are expected to take place during two construction shifts. The first shift would occur from approximately 7:00 AM to approximately 3:00 PM and comprise approximately 90 percent of the total construction personnel workforce. The second shift would occur from approximately 3:00 PM to approximately 11:00 PM and comprise approximately 10 percent of the total construction personnel workforce. The majority of the construction personnel travel (approximately 80 percent) in the first shift would typically take place during the hour immediately before the start of the shift and the hour immediately after the end of the shift, with the remaining travel occurring before and after these times due to the slight variations in the particular schedules and work activities of the various trades.

Based on discussions with PANYNJ staff, the agency will coordinate with contractors to establish a daily schedule of goods deliveries that ensures on-time deliveries by minimizing truck travel during peak traffic periods, which can result in delays in transporting materials to and from the site. Construction truck trips to and from the site would generally be made between the hours of 4:00 AM and 10:00 PM. Truck arrivals are expected to be generally uniform throughout this time period with slightly higher numbers of trips during the midday hours (8:00 AM to 1:00 PM) when on-site work activities are expected to peak. Some truck deliveries would also be made early in the morning, during off-peak times, to ensure that materials are on-site prior to the start of the first shift. Trucks would typically remain on-site for relatively short durations (typically one hour or less).

Table A.7-2 shows the numbers of construction personnel-related auto trips, as well as construction truck trips, during the peak construction quarter. The estimated daily vehicle trips were distributed to various hours of the day based on the projected work shift allocations and arrival/departure patterns of construction trucks, as described above.

Based on these assumptions, the peak hour construction traffic was estimated for the peak construction period. The total vehicle trips per hour are shown in **Table A.7-2** along with passenger-car equivalent (PCE) values, which are based on 1.0 PCE per auto, 1.5 PCEs per shuttle bus, and 2.0 PCEs per truck.

A.7.3 Construction Trip Distribution

Figure A.7-1 shows the estimated distribution for construction personnel-related auto trips during the weekday AM and PM peak hours. The trip distribution for construction personnel shown in **Figure A.7-1** was estimated based on an analysis of 2010 Census data performed by the NY Building Congress showing home origins and work destinations for construction personnel working in Queens.

Figure A.7-2 shows the estimated distribution of construction truck trips during the weekday AM and PM peak hours. The vehicle trip distribution for construction trucks shown in **Figure A.7-2** was estimated based on the locations of NYCDOT "local" and "through" truck routes in the vicinity of LaGuardia Airport—including Astoria Boulevard and 94th Street-Junction Boulevard—and the locations of major expressways throughout Queens, including the Long Island Expressway, the Brooklyn-Queens Expressway, and the Van Wyck Expressway, which are expected to serve as the primary "through" truck routes to and from the CTB.

Table A.7-2: Estimated Peak Hour Construction Trip Generation Characteristics for CTB Redevelopment during Peak Construction Quarter (Fourth Quarter of 2015)

Average Daily Number of Construction Personnel during Peak Construction Quarter[1] = 1,408 Personnel in peak quarter

Percentage of Daily Construction Personnel Working First Shift[1] = 90%
Percentage of Daily Construction Personnel Working Second Shift[1] = 10%
Construction Personnel Auto-Occupancy[2] = 1.50
Construction Personnel Auto Mode Split[2] = 75%
Construction Personnel Transit Mode Split[2] = 25%

Average Daily Number of Construction Personnel Driving during Peak Construction Period[1] = 704

PCE for shuttle buses with 2 axles[3] = 1.5 passenger car equivalents/bus
Estimated passenger capacity per shuttle bus = 54 passengers/bus

Average Number of Daily Trucks during Peak Construction Period[4] = 128 trucks in peak quarter
PCE for construction trucks[3] = 2.0 passenger car equivalents/truck

Hour of Day	Tempora Distributions[1]						Auto Trips (Personnel): 1st Shift			Auto Trips (Personnel): 2nd Shift			Shuttle Bus Trips (Personnel): 1st Shift			Shuttle Bus Trips (Personnel): 2nd Shift			Truck Trips			Truck and Bus (PCE) Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	Auto/ Bus IN: 1st Shift	Auto/ Bus OUT: 1st Shift	Auto/ Bus IN: 2nd Shift	Auto/ Bus OUT: 2nd Shift	Truck IN	Truck OUT	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
12-1AM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-2 AM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-3AM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-4AM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5AM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5-6AM	10%	0%	0%	0%	5%	5%	64	0	64	0	0	0	2	2	4	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
6-7AM	80%	0%	0%	0%	5%	5%	507	0	507	0	0	0	14	14	28	0	0	0	6	6	12	33	33	66	527	20	547	540	33	573
7-8AM	10%	0%	0%	0%	5%	5%	63	0	63	0	0	0	2	2	4	0	0	0	6	6	12	15	15	30	71	8	79	78	15	93
8-9AM	0%	0%	0%	0%	6%	6%	0	0	0	0	0	0	0	0	0	0	0	0	8	8	16	16	16	32	8	8	16	16	16	32
9-10AM	0%	0%	0%	0%	7%	7%	0	0	0	0	0	0	0	0	0	0	0	0	10	10	20	20	20	40	10	10	20	20	20	40
10-11AM	0%	0%	0%	0%	7%	7%	0	0	0	0	0	0	0	0	0	0	0	0	10	10	20	20	20	40	10	10	20	20	20	40
11AM-12PM	0%	0%	0%	0%	7%	7%	0	0	0	0	0	0	0	0	0	0	0	0	10	10	20	20	20	40	10	10	20	20	20	40
12-1PM	0%	0%	0%	0%	7%	7%	0	0	0	0	0	0	0	0	0	0	0	0	10	10	20	20	20	40	10	10	20	20	20	40
1-2PM	0%	0%	0%	0%	6%	6%	0	0	0	0	0	0	0	0	0	0	0	0	8	8	16	16	16	32	8	8	16	16	16	32
2-3PM	0%	10%	100%	0%	5%	5%	0	64	64	70	0	70	2	2	4	2	2	4	6	6	12	18	18	36	80	74	154	88	82	170
3-4PM	0%	80%	0%	0%	5%	5%	0	507	507	0	0	0	14	14	28	0	0	0	6	6	12	33	33	66	20	527	547	33	540	573
4-5PM	0%	10%	0%	0%	5%	5%	0	63	63	0	0	0	2	2	4	0	0	0	6	6	12	15	15	30	8	71	79	15	78	93
5-6PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
6-7PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
7-8PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
8-9PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
9-10PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
10-11PM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
11PM-12AM	0%	0%	0%	100%	0%	0%	0	0	0	0	70	70	0	0	0	2	2	4	0	0	0	3	3	6	2	72	74	3	73	76
TOTAL =	100%	100%	100%	100%	100%	100%	634	634	1,268	70	70	140	36	36	72	4	4	8	128	128	256	316	316	632	872	872	1,744	1,020	1,020	2,040

Note:
1 = From Port Authority planning and construction staff estimates.
2 = Estimated based on discussions with Port Authority planning and construction staff.
3 = Based on *CEQR Technical Manual*, Table 16-3, page 16-11.
4 = Based on *LGA_TrucksByMonth_Table_27Dec2012Rev* document prepared by AECOM. This document contains detailed construction truck projections, by month, over the course of the entire construction schedule.

Figure A.7-1: Estimated Trip Distribution Pattern for Construction Personnel

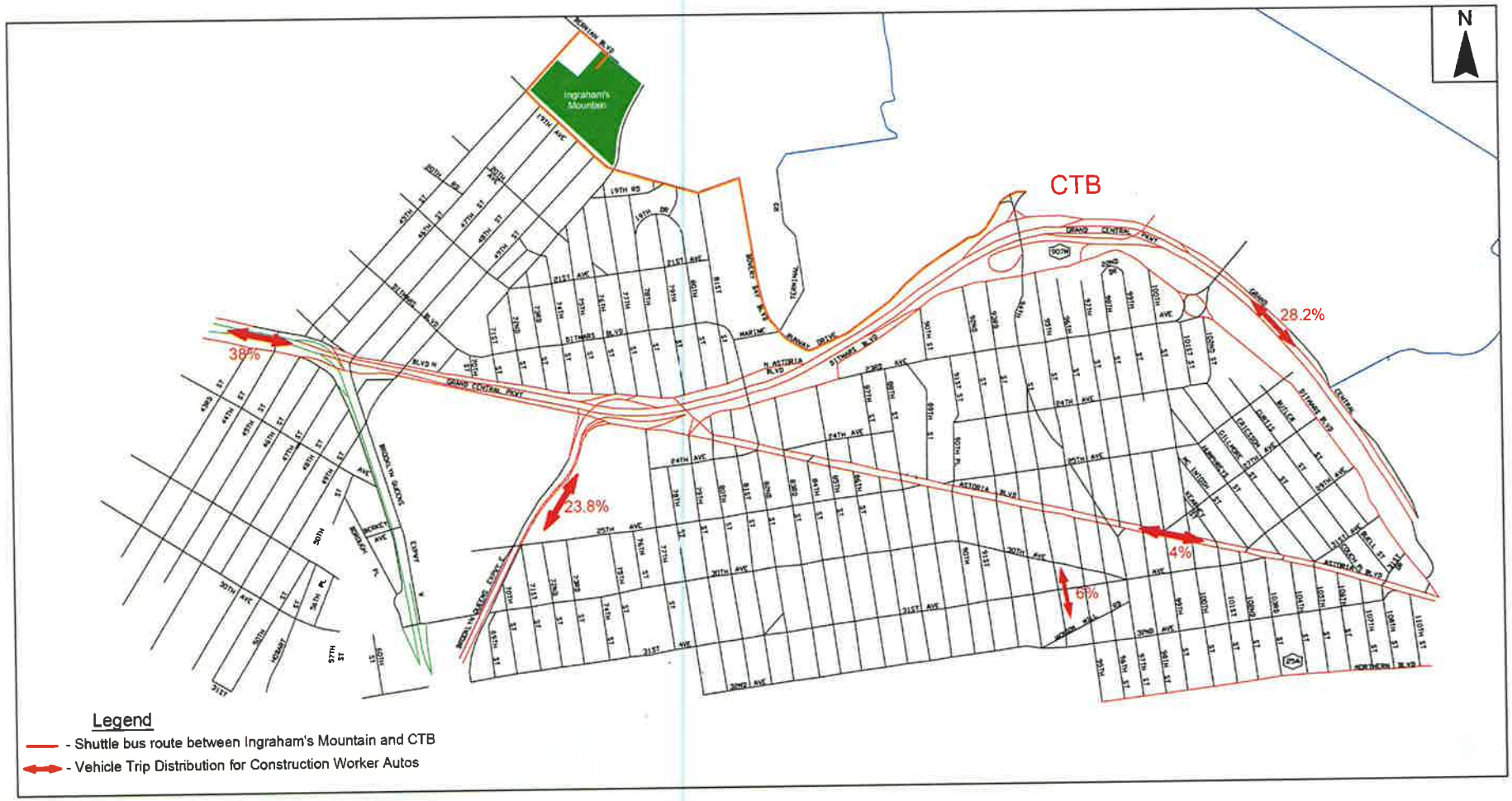
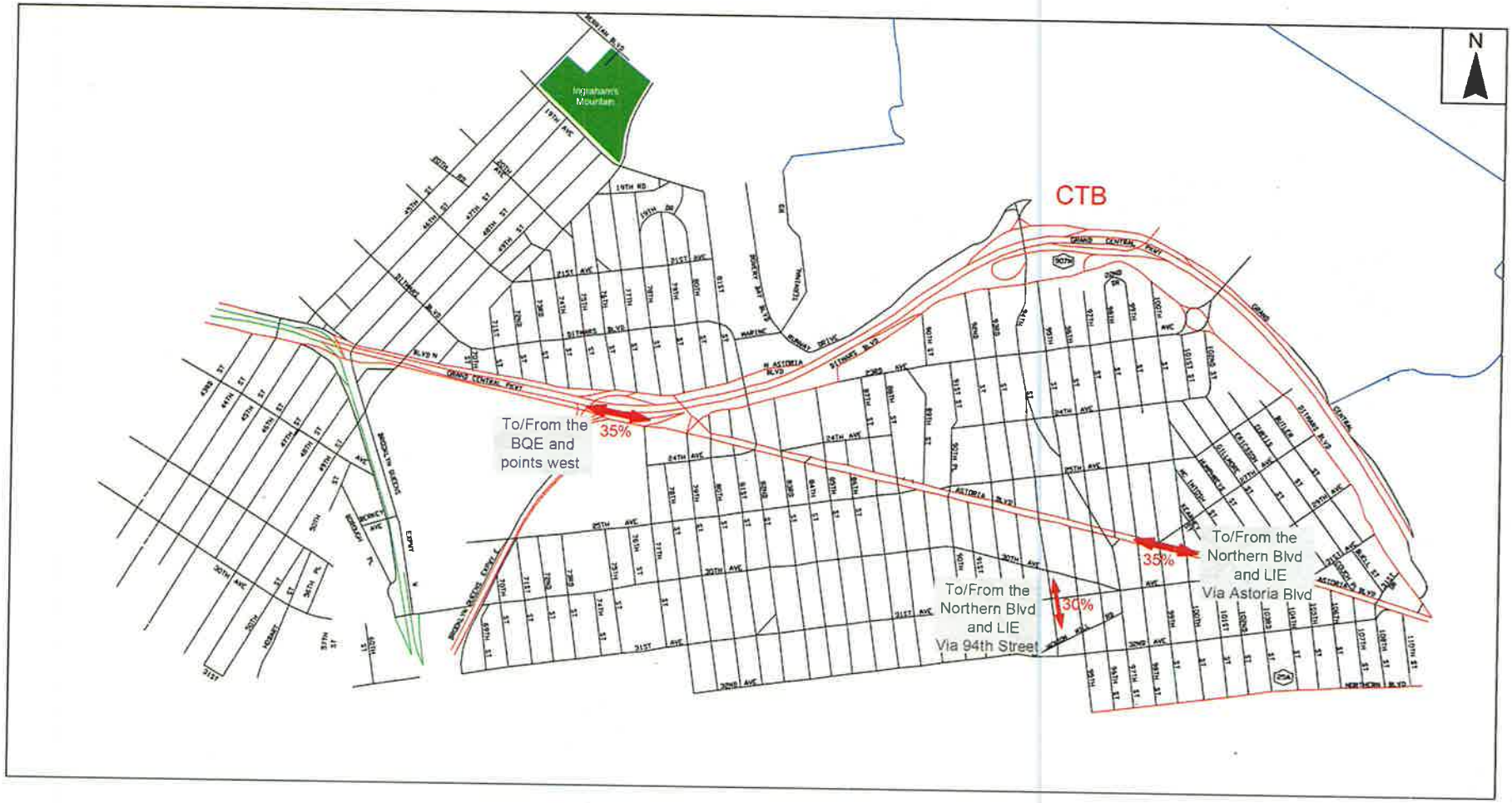


Figure A.7-2: Estimated Trip Distribution Pattern for Construction Trucks



A.7.4 Construction Trip Assignment

Figures A.7-3 and A.7-4 show the assignments of construction-related vehicle trips to the roadway network in the vicinity of LaGuardia Airport. The results of the construction trip assignment indicate that more than 50 PCE trips are projected to be generated through several key intersections in the vicinity of LaGuardia Airport as a result of construction-generated traffic associated with the Proposed Action. Therefore, in accordance with the *CEQR Technical Manual,* a more detailed traffic analysis is warranted. Based on the result of the traffic assignments, as well as discussions with PANYNJ and NYCDOT staff, the following 20 intersections were studied, as shown in **Figure A.7-5**:

- LaGuardia Access Road / 94th Street
- Ditmars Boulevard / 94th Street
- 23rd Avenue / 94th Street
- 24th Avenue / 94th Street
- 25th Avenue / 94th Street
- Astoria Boulevard / 94th Street
- 31st Avenue / 94th Street
- Northern Boulevard / Junction Boulevard
- Astoria Boulevard / 77th Street
- Astoria Boulevard North Service Road / 79th Street / 23rd Avenue
- Astoria Boulevard / Astoria Boulevard North Service Road
- Astoria Boulevard North / 82nd Street / Ditmars Boulevard
- 23rd Avenue / 82nd Street
- Astoria Boulevard / 82nd Street / 24th Avenue
- Ditmars Boulevard / Marine Terminal Road
- Bowery Bay Boulevard / Runway Drive / Marine Terminal Road
- Ditmars Boulevard / 81st Street
- 21st Avenue / 81st Street
- 19th Avenue / Hazen Street
- 19th Avenue / 45th Street

All of the intersections listed above are signalized except for the 19th Avenue/45th Street intersection which is stop-controlled on the northbound and southbound approaches.

Figure A.7-3: CTB Construction Traffic Assignments, Construction Condition, Weekday AM Peak Hour (6:00 to 7:00 AM)

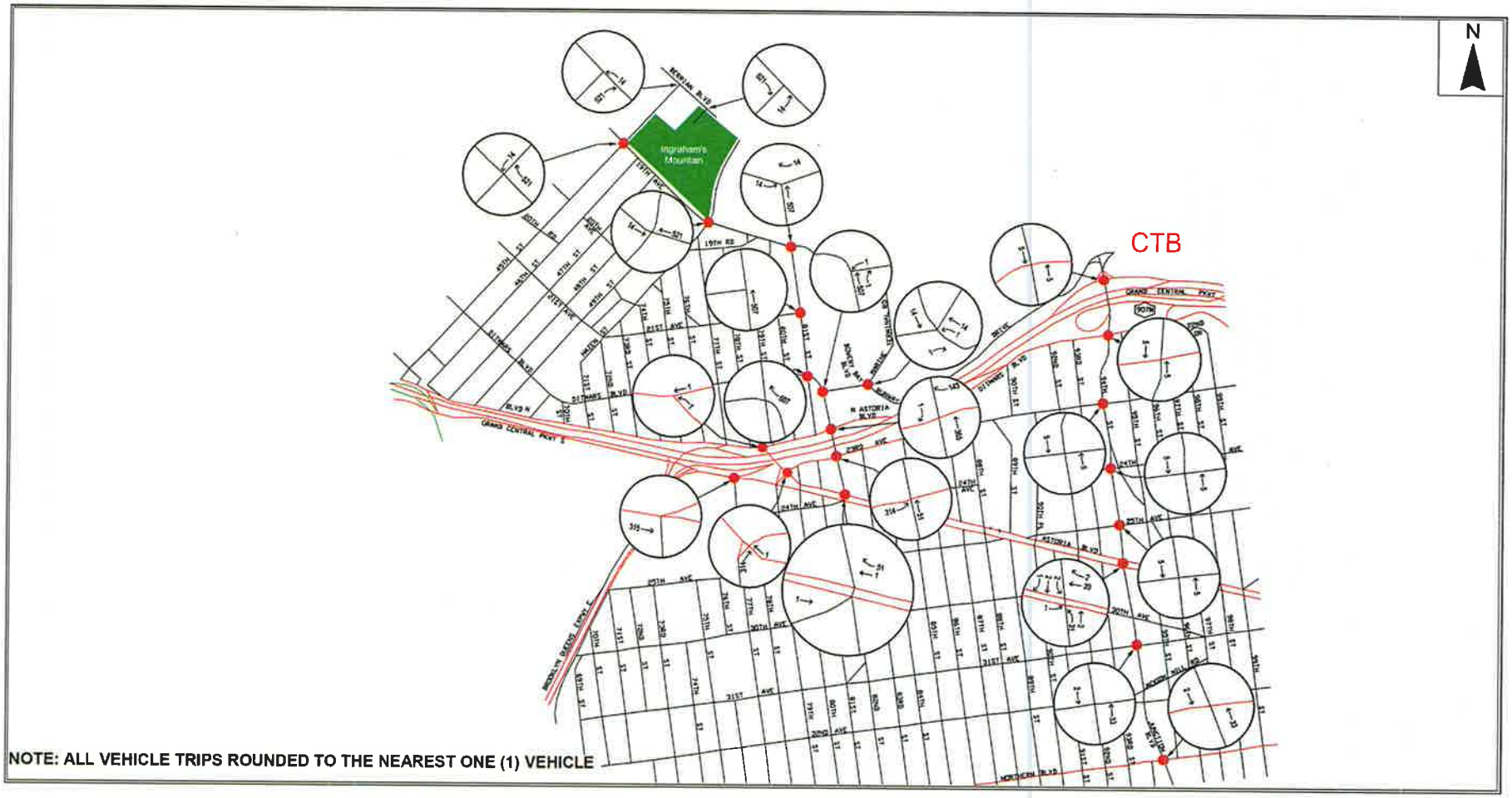


Figure A.7-4: CTB Construction Traffic Assignments, Construction Condition, Weekday PM Peak Hour (3:00 to 4:00 PM)

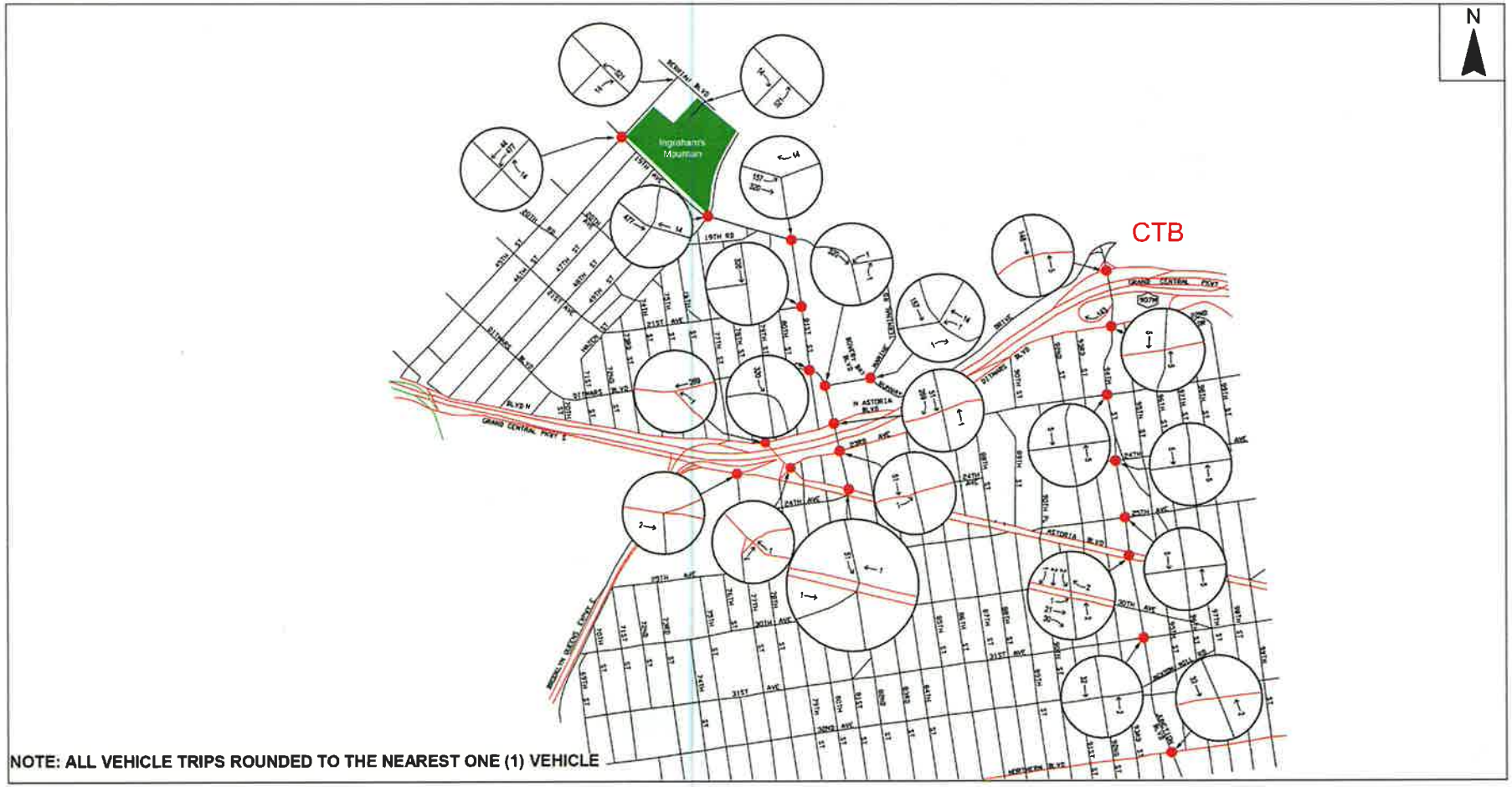
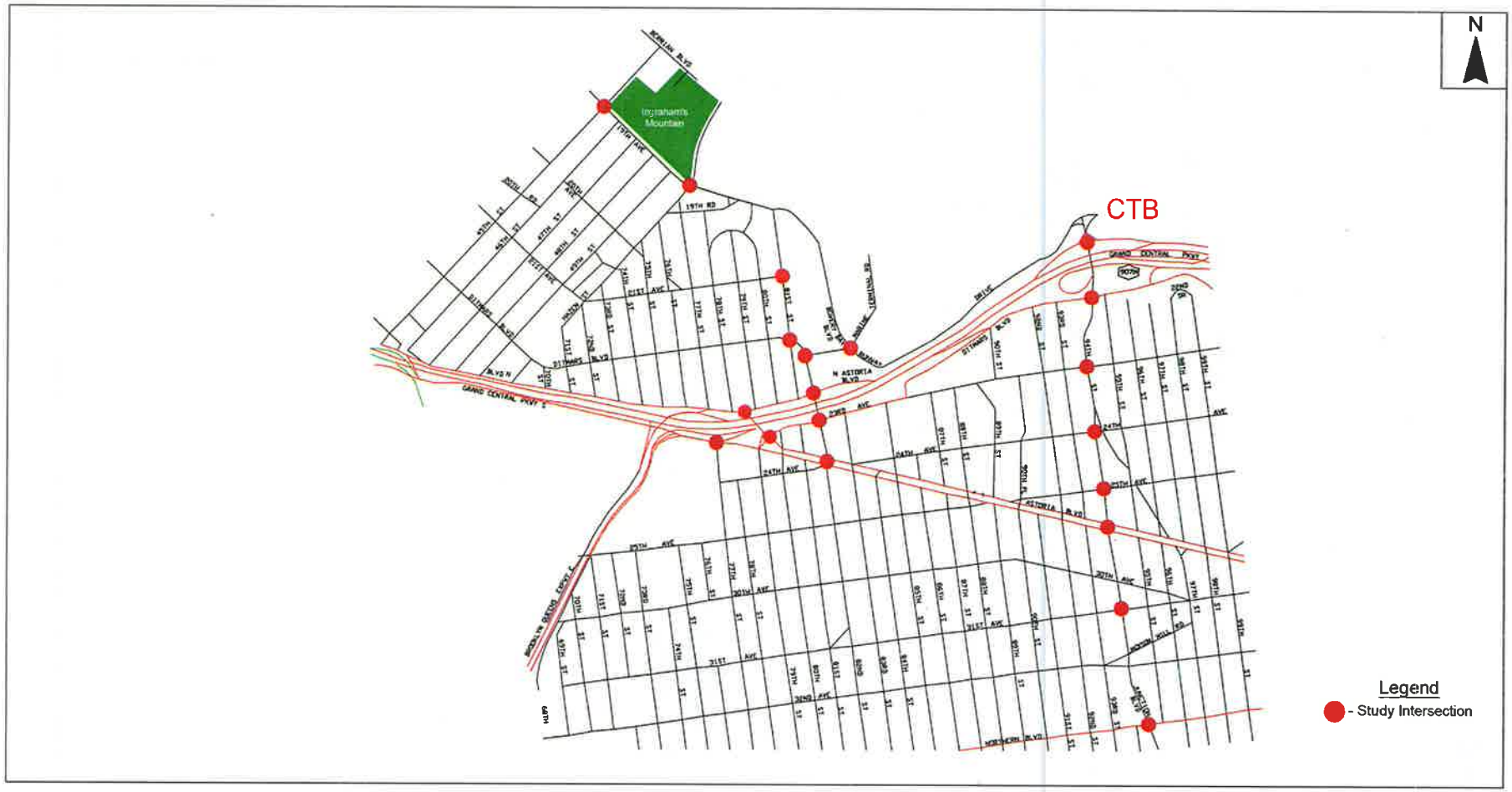


Figure A.7-5: Study Area Intersections: Construction Condition



A.7.5 Data Collection and Summary

Based on the traffic count data collected in June 2012, manual turning movement volumes were summarized for each of the study intersections during the weekday AM and PM peak hours of construction (i.e., 6:00 to 7:00 AM and 3:00 to 4:00 PM). **Figures A.7-6 and A.7-7** show the turning-movement volumes at all of the construction study intersections during the weekday AM and PM construction peak hours, respectively, under year 2012 existing conditions.

The physical and operational characteristics of all the construction study intersections were also inventoried in the field. This inventory specifically included:

- Street directions;
- Number, configuration, and widths of lanes;
- Type of intersection traffic control;
- Signal timing and phasing sequences as observed in the field;
- Crosswalk locations;
- Curbside parking regulations;
- Turning restrictions and prohibitions; and
- Bus stop locations.

Figure A.7-8 shows the existing lane configurations and traffic control devices at the study intersections. Official signal timings were provided by the New York City Department of Transportation (NYCDOT) for all of the signalized intersections, and were used in all intersection capacity analyses.

Figure A.7-6: Year 2012 Existing Turning Movement Volumes, Construction Condition, Weekday AM Peak Hour (6:00 to 7:00 AM)

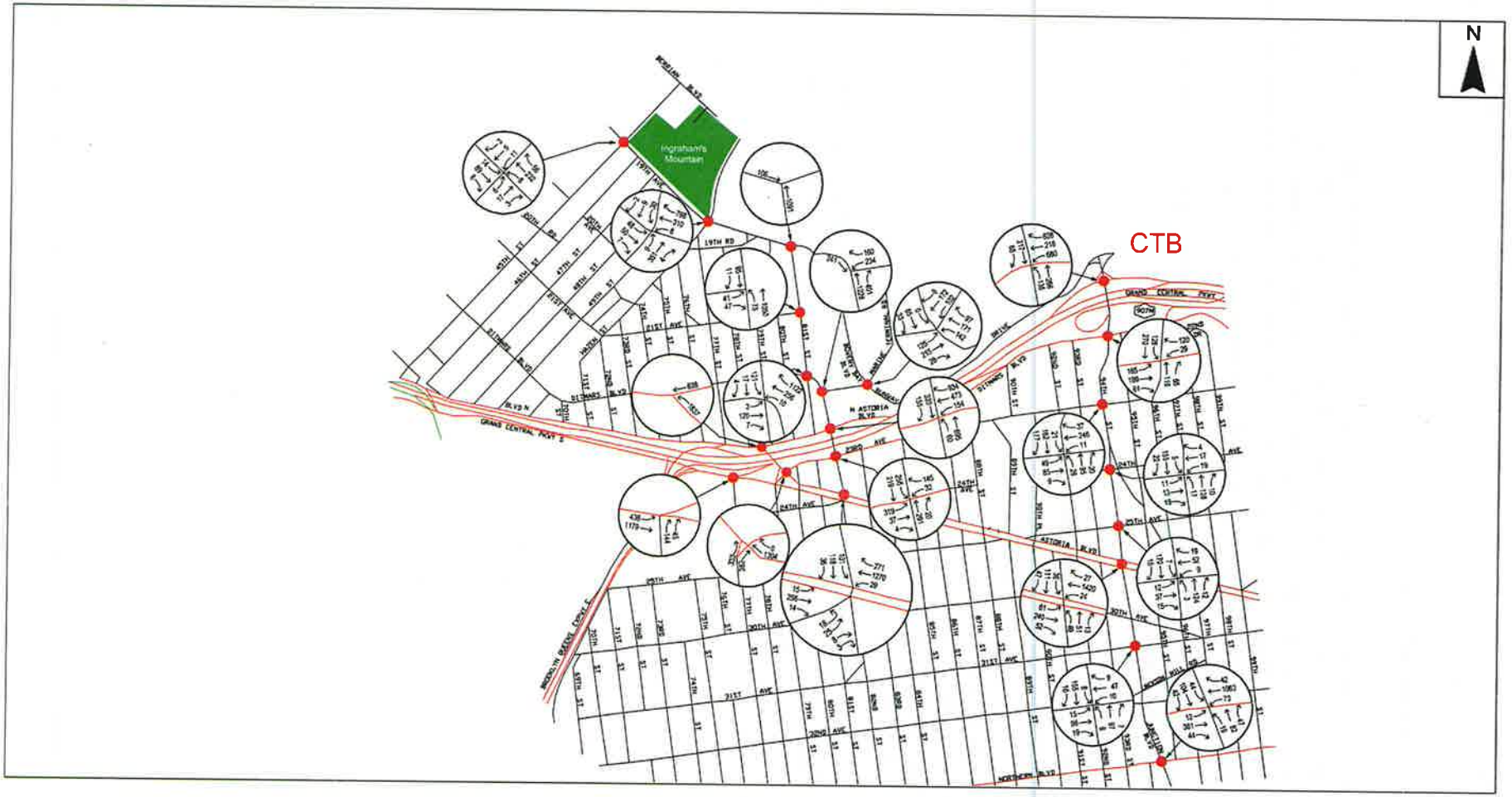


Figure A.7-7: Year 2012 Existing Turning Movement Volumes, Construction Condition, Weekday PM Peak Hour (3:00 to 4:00 PM)

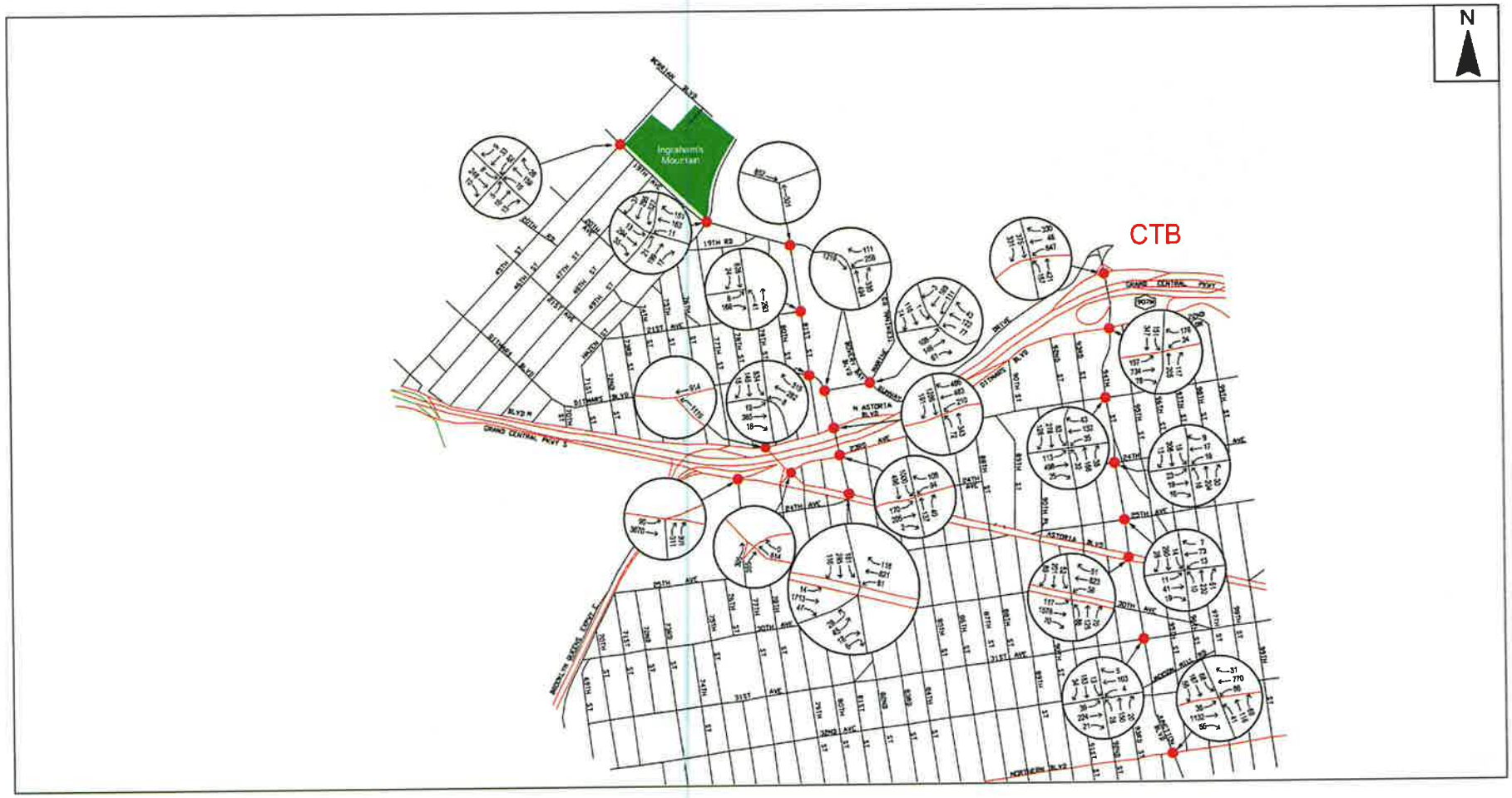
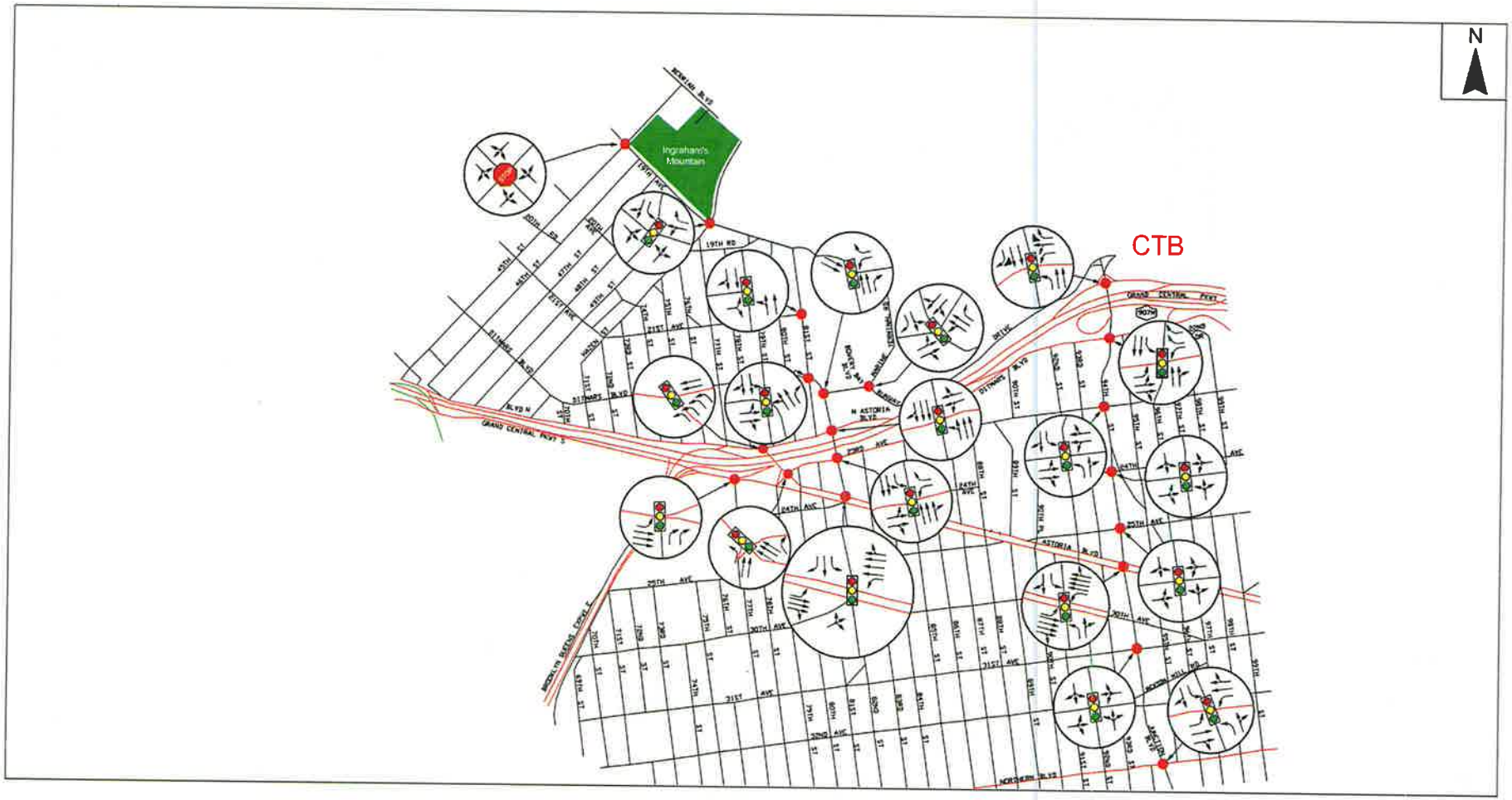


Figure A.7-8: Existing Lane Configurations and Traffic Control Devices, Construction Study Intersections



A.7.6 Operations Analyses

A.7.6.1 Existing Conditions

The traffic operations analyses for the study area intersections are based on the methodologies described in the *2000 Highway Capacity Manual (HCM)* and were conducted using *Highway Capacity Software (HCS+) Release 5.4*. The official traffic signal phasing sequences and timing plans obtained from NYCDOT were used in the analysis of all of the signalized study intersections. Using the existing turning movement volumes shown in **Figures A.7-6 and A.7-7**, traffic operations analyses were conducted for each of the study intersections for the weekday AM and PM construction peak hours. The capacity adjustments shown in **Table A.7-3** were made to the existing conditions traffic operations analyses based on the data collected and field observations:

Table A.7-3: Existing Conditions Intersection Capacity Adjustments

Intersection	Weekday Peak Hour	Capacity Adjustments
94 Street/LaGuardia Access Rd-Grand Central Parkway North	AM	Westbound left-turn: start-up lost time = 1.0 second, extension of effective green time = 3.0 seconds, base saturation flow rate = 2050 pcphgpl.
	PM	Westbound left-turn: start-up lost time = 1.0 second, extension of effective green time = 3.0 seconds, base saturation flow rate = 2050 pcphgpl.
Astoria Boulevard North/82 Street-Ditmars Boulevard	AM	Westbound approach: start-up lost time = 1.0 second, extension of effective green time = 3.0 seconds
	PM	Northbound left-turn: start-up lost time = 1.0 second, extension of effective green time = 3.0 seconds, base saturation flow rate = 2050 pcphgpl,
77th Street/Astoria Boulevard	PM	Eastbound through: start-up lost time = 1.0 second, extension of effective green time = 3.0 seconds, base saturation flow rate = 2050 pcphgpl.
Ditmars Boulevard/81st Street	PM	Southbound approach: start-up lost time = 1.0 second, extension of effective green time = 3.0 seconds, base saturation flow rate = 2050 pcphgpl.
19th Avenue/Hazen Street	AM	Northbound approach: start-up lost time = 1.0 second, extension of effective green time = 3.0 seconds.
	PM	Eastbound approach: start-up lost time = 1.0 second, extension of effective green time = 3.0 seconds, base saturation flow rate = 2050 pcphgpl.

pcphgpl = passenger cars per hour green per lane

Table A.7-4 shows the results of the traffic operations analyses, including volume-to-capacity (v/c) ratios, average control delays, and corresponding levels-of-service. The table highlights (with shading) those intersection movements that operate at LOS "E" or "F" or have a high v/c ratio (0.90 and above), and are therefore considered to be congested.

Table A.7-4: Year 2012 Levels-of-Service, Existing Traffic Conditions, Construction Peak Hours

Intersection	Approach	Movement	Weekday AM Construction Peak Hour (6:00 to 7:00 AM)			Weekday PM Construction Peak Hour (3:00 to 4:00 PM)		
			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS
SIGNALIZED INTERSECTIONS								
LaGuardia Access Road / 94th Street	WB	L	1.05	64.3	E	1.05	63.5	E
		LT	0.55	18.1	B	0.12	12.9	B
		R	0.68	16.1	C	0.47	12.4	B
	NB	L	0.39	13.0	B	0.48	15.3	B
		T	0.24	10.1	B	0.39	11.3	B
	SB	T	0.20	9.7	A	0.29	10.3	B
		R	0.16	12.8	B	0.51	14.1	B
	Overall		*	32.2	C	*	26.6	C
Ditmars Boulevard / 94th Street	EB	L	0.34	15.3	B	0.41	16.5	B
		TR	0.30	14.3	B	0.79	22.6	C
	WB	L	0.15	13.8	B	0.39	23.4	C
		R	0.20	13.5	B	0.27	14.1	B
	NB	TR	0.20	9.9	A	0.32	10.8	B
	SB	L	0.42	13.8	B	0.52	17.0	B
		T	0.25	10.2	B	0.33	10.8	B
	Overall		0.38	12.7	B	0.64	16.9	B
23rd Avenue / 94th Street	EB	LTR	0.36	17.6	B	1.04	63.7	E
	WB	LTR	0.49	18.4	B	0.49	19.3	B
	NB	L	0.08	7.8	A	0.11	8.1	A
		TR	0.26	9.1	A	0.36	10.1	B
	SB	L	0.05	7.3	A	0.15	8.1	A
		TR	0.56	12.9	B	0.62	14.0	B
	Overall		0.53	14.8	B	0.78	34.7	C
24th Avenue / 94th Street	EB	LTR	0.17	15.8	B	0.18	15.9	B
	WB	LTR	0.18	15.8	B	0.15	15.5	B
	NB	LTR	0.30	9.3	A	0.39	10.2	B
	SB	LTR	0.28	9.0	A	0.54	12.2	B
	Overall		0.25	10.6	B	0.40	12.0	B
25th Avenue / 94th Street	EB	LTR	0.25	16.6	B	0.22	16.3	B
	WB	LTR	0.29	17.1	B	0.28	16.9	B
	NB	LTR	0.18	8.2	A	0.39	10.1	B
	SB	LTR	0.34	9.6	A	0.49	11.5	B
	Overall		0.32	11.8	B	0.41	12.1	B
Astoria Boulevard / 94th Street	EB	L	0.26	37.1	D	0.27	16.7	B
		TR	0.24	20.1	C	-	-	-
		T	-	-	-	0.85	28.2	C
		R	-	-	-	0.17	19.8	B
	WB	L	0.09	10.5	B	0.26	35.9	D
		T	0.95	36.6	D	-	-	-
		R	0.07	18.4	B	-	-	-
		TR	-	-	-	0.40	22.3	C
	NB	L	0.24	33.3	C	0.66	55.6	E
		TR	0.23	32.4	C	0.64	43.6	D
	SB	L	0.15	31.2	C	0.30	34.9	C
		TR	0.42	35.6	D	0.64	41.5	D
	Overall		0.73	33.3	C	0.75	29.7	C
31st Avenue / 94th Street	EB	LTR	0.21	11.9	B	0.63	18.5	B
	WB	LTR	0.21	12.0	B	0.22	11.9	B
	NB	LTR	0.25	12.3	B	0.36	13.7	B
	SB	LTR	0.41	14.4	B	0.49	25.5	C
	Overall		0.31	13.0	B	0.56	15.8	B
Northern Boulevard / Junction Boulevard	EB	L	0.08	16.1	B	0.12	13.7	B
		TR	0.31	15.1	B	0.77	17.9	B
	WB	L	0.18	9.6	A	0.34	24.9	C
		TR	0.81	19.3	B	0.57	19.1	B
	NB	L	0.27	41.5	D	0.50	55.2	E
		TR	0.57	48.0	D	0.89	78.0	E
	SB	L	0.28	40.6	D	0.59	57.3	E
		TR	0.55	45.7	D	0.77	57.8	E
	Overall		0.64	23.1	C	0.75	28.2	C

Notes:

v/c = volume-to-capacity ratio; LOS = Level-of-Service

NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; NEB = Northeastbound, NWB = Northwestbound

L = Left-Turn; T = Through; R = Right-Turn;

LT = Left-Turn/Through; TR = Through/Right-Turn; LR = Left-Turn/Right-Turn; LTR = Left-Turn/Through/Right-Turn

Average Control Delay shown in units of seconds/vehicle

* = Overall v/c ratio not calculated by HCS for this intersection.

Table A.7-4: Year 2012 Levels-of-Service, Existing Traffic Conditions, Construction Peak Hours, cont'd.

Intersection	Approach	Movement	Weekday AM Construction Peak Hour (6:00 to 7:00 AM)			Weekday PM Construction Peak Hour (3:00 to 4:00 PM)		
			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS
SIGNALIZED INTERSECTIONS								
Astoria Boulevard / 77th Street	EB	T (to GCP on-ramp)	0.42	10.7	B	0.10	7.6	A
		T (to Astoria Blvd.)	0.46	10.5	B	1.05	49.6	D
	NB	R (to GCP on-ramp)	0.44	40.2	D	0.84	57.8	E
		R (to Astoria Blvd.)	0.18	35.8	D	1.02	97.2	F
	Overall		0.45	14.1	B	1.04	52.9	D
Astoria Boulevard North Service Road / 79th Street/23rd Avenue	NEB	T	0.49	39.7	D	0.45	39.0	D
	NWB	T	0.60	5.6	A	0.28	3.8	A
	Overall		0.57	12.2	B	0.33	14.9	B
Astoria Boulevard/Astoria Boulevard North Service Road	WB	T	0.62	36.0	D	0.84	44.8	D
	NWB	L	0.50	9.5	A	0.34	8.3	A
	Overall		0.54	17.2	B	0.52	24.7	C
Astoria Boulevard North / Grand Central Parkway westbound off-ramp / 82nd Street / Ditmars Boulevard	WB	LTR	1.05	56.3	E	0.99	41.5	D
	NB	DefL	-	-	-	1.05	141.5	F
		T	-	-	-	0.29	19.5	B
		LT	0.61	23.8	C	-	-	-
	SB	TR	0.35	20.1	C	0.87	31.5	C
	Overall		0.86	40.7	D	1.01	37.2	D
23rd Avenue / 82nd Street	EB	LTR	0.54	32.2	C	0.59	33.2	C
	WB	L	0.40	37.9	D	0.93	95.4	F
		R	0.63	39.8	D	0.35	31.1	C
	NB	TR	0.18	12.1	B	0.11	11.5	B
	SB	L	0.45	10.9	B	0.98	42.4	D
		LT	0.15	6.5	A	0.55	10.8	B
	Overall		0.70	20.4	C	0.97	33.0	C
Astoria Boulevard / 82nd Street / 24th Avenue	EB	L	0.27	31.8	C	0.16	20.1	C
		TR	0.26	21.7	C	0.95	33.9	C
	WB	L	0.07	14.6	B	0.37	46.6	D
		TR	0.90	24.4	C	0.38	14.3	B
	NB (24th Ave.)	L	0.23	48.9	D	0.61	71.2	E
		TR	0.09	46.7	D	0.31	57.9	E
	SB	L	0.43	45.8	D	0.60	50.2	D
		T	0.49	47.1	D	1.04	105.5	F
		R	0.22	41.9	D	0.66	56.9	E
	Overall		0.70	27.2	C	0.86	39.3	D
Ditmars Boulevard / Marine Terminal Road	WB	L	0.73	38.5	D	0.78	41.8	D
		R	0.53	30.8	C	0.34	26.5	C
	NB	T	0.84	19.5	B	0.30	9.7	A
		R	0.53	13.6	B	0.44	12.1	B
	SB	T	0.16	8.6	A	0.71	15.2	B
	Overall		0.80	20.6	C	0.73	17.6	B
Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	EB	LTR	0.78	46.7	D	0.56	39.6	D
	WB	LTR	0.38	28.1	C	0.38	28.2	C
	NB	DefL	0.59	36.5	D	0.33	29.5	C
		T	0.56	34.5	C	0.39	30.7	C
		R	0.14	6.0	A	0.05	5.4	A
	SB	LT	0.29	28.2	C	0.29	28.0	C
		R	0.05	9.9	A	0.10	10.2	B
	Overall		0.56	33.7	C	0.43	29.7	C
Ditmars Boulevard / 81st Street	EB	LTR	0.09	7.3	A	0.27	8.5	A
	WB	LT	0.15	7.7	A	0.19	7.9	A
		R	1.05	55.1	E	0.35	8.4	A
	SB	LTR	0.28	26.3	C	1.05	74.5	E
	Overall		0.19	39.4	D	0.53	40.1	D
21st Avenue / 81st Street	EB	LR	0.23	21.3	C	0.42	24.4	C
	NB	LT	0.83	22.6	C	0.28	12.0	B
	SB	TR	0.09	10.4	B	0.50	14.4	B
	Overall		0.59	21.4	C	0.47	15.2	B
19th Avenue / Hazen Street	EB	LTR	0.29	14.5	B	1.05	94.0	F
	WB	LT	0.43	15.7	B	0.66	42.3	D
		R	0.89	23.7	C	0.22	9.7	A
	NB	LTR	1.03	85.0	F	0.61	31.4	C
	SB	L	0.15	21.6	C	0.70	13.5	B
		TR	0.03	16.5	B	0.33	6.3	A
	Overall		0.93	34.1	C	0.87	33.2	C
UNSIGNALIZED INTERSECTIONS								
19th Avenue / 45th Street	EB	LTR	0.02	8.1	A	0.01	8.2	A
	WB	LTR	0.01	7.5	A	0.02	8.2	A
	NB	LTR	0.12	15.0	B	0.11	14.9	B
	SB	LTR	0.08	14.3	B	0.44	21.7	C

Notes:

v/c = volume-to-capacity ratio; LOS = Level-of-Service

NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; NEB = Northeastbound, NWB = Northwestbound

L = Left-Turn; T = Through; R = Right-Turn;

LT = Left-Turn/Through; TR = Through/Right-Turn; LR = Left-Turn/Right-Turn, LTR = Left-Turn/Through/Right-Turn

Average Control Delay shown in units of seconds/vehicle

* = Overall v/c ratio not calculated by HCS for this intersection

As shown in **Table A.7-4**, all of the lane groups at all of the study intersections currently operate at LOS "D" or better (delays of 55 seconds per vehicle or less for signalized intersections and delays of 35 seconds or less for unsignalized intersections) during the weekday AM and PM peak hours for construction, with the exception of the following locations:

- **LaGuardia Access Road / 94th Street** – During both the weekday AM and PM peak hours, the westbound left-turn movement currently operates over capacity with delays corresponding to LOS "E". The intersection as a whole currently operates at LOS "C" overall during the weekday AM and PM peak hours.

- **23rd Avenue/94th Street** – During the weekday PM peak hour, the eastbound approach currently operates over capacity with delays corresponding to LOS "E". The intersection as a whole currently operates at LOS "B" overall during the weekday AM peak hour and at LOS "C" overall during the weekday PM peak hour.

- **Astoria Boulevard/94th Street** – During the weekday AM peak hour, westbound through movements operate near capacity. During the weekday PM peak hour, northbound left-turn movements currently operate with delays corresponding to LOS "E". The intersection as a whole currently operates at LOS "C" overall during the weekday AM and PM peak hours.

- **Northern Boulevard/Junction Boulevard** – During the weekday PM peak hour, all movements on the northbound and southbound approaches currently operate with delays corresponding to LOS "E". The intersection as a whole currently operates at LOS "C" overall during the weekday AM and PM peak hours.

- **Astoria Boulevard/77th Street** – During the weekday PM peak hour, eastbound through movements to Astoria Boulevard operate over capacity. Also during the weekday PM peak hour, northbound right-turn movements to the Grand Central Parkway on-ramp currently operate at LOS "E" and northbound right-turn movements to Astoria Boulevard currently operate over capacity at LOS "F". The intersection as a whole currently operates at LOS "B" overall during the weekday AM peak hour and at LOS "D" overall during the weekday PM peak hour.

- **Astoria Boulevard North-Grand Central Parkway westbound off-ramp/82nd Street-Ditmars Boulevard** – During the weekday AM peak hour, the westbound approach (i.e., the off-ramp from the westbound Grand Central Parkway) currently operates over capacity with delays corresponding to LOS "E". During the weekday PM peak hour, northbound left-turn movements from 82nd Street onto Astoria Boulevard North currently operate over capacity with delays corresponding to LOS "F". The intersection as a whole currently operates at LOS "D" overall during the weekday AM and PM peak hours.

- **23rd Avenue/82nd Street** – During the weekday PM peak hour, vehicles in the westbound left-turn lane currently operate near capacity with delays corresponding to LOS "F" and vehicles in the southbound left-turn lane operate near capacity. The intersection as a whole currently operates at LOS "C" overall during the weekday AM and PM peak hours.

- **Astoria Boulevard / 82nd Street-24th Avenue** – During the weekday AM peak hour, westbound through and right-turn movements operate near capacity. During the weekday PM peak hour, eastbound through and right-turn movements operate near capacity. Also during the weekday PM peak hour, the northbound (24th Avenue) approach and the southbound right-turn lane currently operate with delays corresponding to LOS "E", and the southbound through lane currently operates over capacity with delays corresponding to LOS "F". The intersection as a whole currently operates at LOS "C" overall during the weekday AM peak hour and at LOS "D" overall during the weekday PM peak hour.

- **Ditmars Boulevard/81st Street** – During the weekday AM peak hour, westbound right-turn movements operate over capacity with delays corresponding to LOS "E". During the weekday PM peak hour, vehicles on the southbound approach currently operate over capacity at LOS "E". The intersection as a whole currently operates at LOS "D" overall during the weekday AM and PM peak hours.

- **19th Avenue/Hazen Street** – During the weekday AM peak hour, the northbound approach currently operates over capacity at LOS "F". During the weekday PM peak hour, the eastbound approach currently operates over capacity at LOS "F". The intersection as a whole currently operates at LOS "C" overall during the weekday AM and PM peak hours.

A.7.6.2 Future Without Construction Conditions

The future Without Construction condition traffic analysis identifies how the study area's transportation system is projected to operate in 2015 *without* the construction traffic associated with the Proposed Action.

The future Without Construction condition analyses include projected future traffic volumes associated with the construction of the Runway Safety Area Enhancements (RSA Enhancements) project at LaGuardia Airport. It should also be noted that the RSA project includes construction of a new Airport access driveway for construction traffic at the 19th Avenue/81st Street intersection that will operate under flagger-control. The channelization striping along 19th Avenue will also be modified west of the proposed driveway to accommodate an exclusive left-turn lane in the eastbound direction. "Left-turn out" movements from the driveway onto 81st Street southbound will be prohibited via striping and posted "No Left-Turn" signs. Entry into the driveway will be restricted to authorized construction traffic only via posted "Authorized Vehicles Only: No Public Access" signs, or similar signs as approved by NYCDOT. A flagger will be employed to accommodate turning movements by construction vehicles during all times that the driveway is open. When not in use for construction purposes, the driveway will be gated and the eastbound left-turn movement will be prohibited using construction barrels or a related device as approved by NYCDOT. The design of the proposed driveway (curb cut) and the implementation of a flagger for traffic control purposes at the driveway require further coordination with NYCDOT staff. For capacity analysis purposes, this intersection was analyzed as a traffic signal-controlled location under both No-Action and With-Action conditions to approximate the operations of a flagger during peak periods.

In addition to traffic associated with the RSA project, it is expected that existing traffic volumes in the study area will increase due to regional growth between 2012 and 2015. In order to forecast future traffic demands without the proposed project, a compounded total growth rate of 1.51 percent was

calculated for the 2015 horizon year[6] and applied to the existing traffic volumes, in accordance with the growth rate recommendations for Queens described in the *CEQR Technical Manual*. Next, the traffic volumes associated with the planned RSA Enhancements project were added to the adjusted volumes. The resulting year 2015 future Without Construction condition traffic volumes are shown in **Figures A.7-9 and A.7-10** for the weekday AM and PM construction peak hours, respectively. Using these traffic volumes, intersection operations analyses were conducted using the *HCM* methodologies. As shown in **Table A.7-5**, all of the lane groups at all of the study intersections are projected to operate at a LOS "D" or better (delays of 55 seconds per vehicle or less for signalized intersections and delays of 35 seconds or less for unsignalized intersections) during the weekday AM and PM peak hours, with exception of the following locations:

- **LaGuardia Access Road / 94th Street –** During both the weekday AM and PM peak hours, the westbound left-turn movement is projected to operate over capacity with delays corresponding to LOS "F" with the current signal timing plan in place. The intersection as a whole is projected to operate at LOS "F" overall during the weekday AM peak hour and to operate at LOS "E" overall during the weekday PM peak hour with the current signal timing plan in place.

- **23rd Avenue/94th Street** – During the weekday PM peak hour, the eastbound approach is projected to continue to operate over capacity with delays corresponding to LOS "E". The intersection as a whole is projected to continue to operate at LOS "B" overall during the weekday AM peak hour and to operate at LOS "D" overall during the weekday PM peak hour.

- **Astoria Boulevard/94th Street** – During the weekday AM peak hour, westbound through movements are projected to continue to operate near capacity. During the weekday PM peak hour, northbound left-turn movements are projected to continue to operate with delays corresponding to LOS "E". The intersection as a whole is projected to continue to operate at LOS "C" overall during the weekday AM and PM peak hours.

- **Northern Boulevard/Junction Boulevard** – During the weekday PM peak hour, northbound left-turning vehicles are projected to continue to operate with delays corresponding to LOS "E" and the northbound through and right-turning vehicles are projected to operate near capacity with delays corresponding to LOS "F". In addition, all movements on the southbound approach are projected to continue to operate with delays corresponding to LOS "E" during the weekday PM peak hour. The intersection as a whole is projected to continue to operate at LOS "C" overall during the weekday AM and PM peak hours.

- **Astoria Boulevard/77th Street** – During the weekday PM peak hour, eastbound through movements to Astoria Boulevard are projected to operate over capacity with delays corresponding to LOS "E". Also during the weekday PM peak hour, northbound right-turn movements to the Grand Central Parkway on-ramp are projected to continue to operate at LOS "E" and northbound right-turn movements to Astoria Boulevard are projected to continue to operate over capacity at LOS "F". The intersection as a whole is projected to continue to operate at LOS "B" overall during the weekday AM peak hour and to operate at LOS "E" overall during the weekday PM peak hour.

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[6] A compounded total growth rate of 1.51% was calculated based on a 0.50% annual growth rate from 2012 to 2015, in accordance with *CEQR Technical Manual* guidelines.

Figure A.7-9: Year 2015 Future Without Construction Turning Movement Volumes, Weekday AM Peak Hour (6:00 to 7:00 AM)

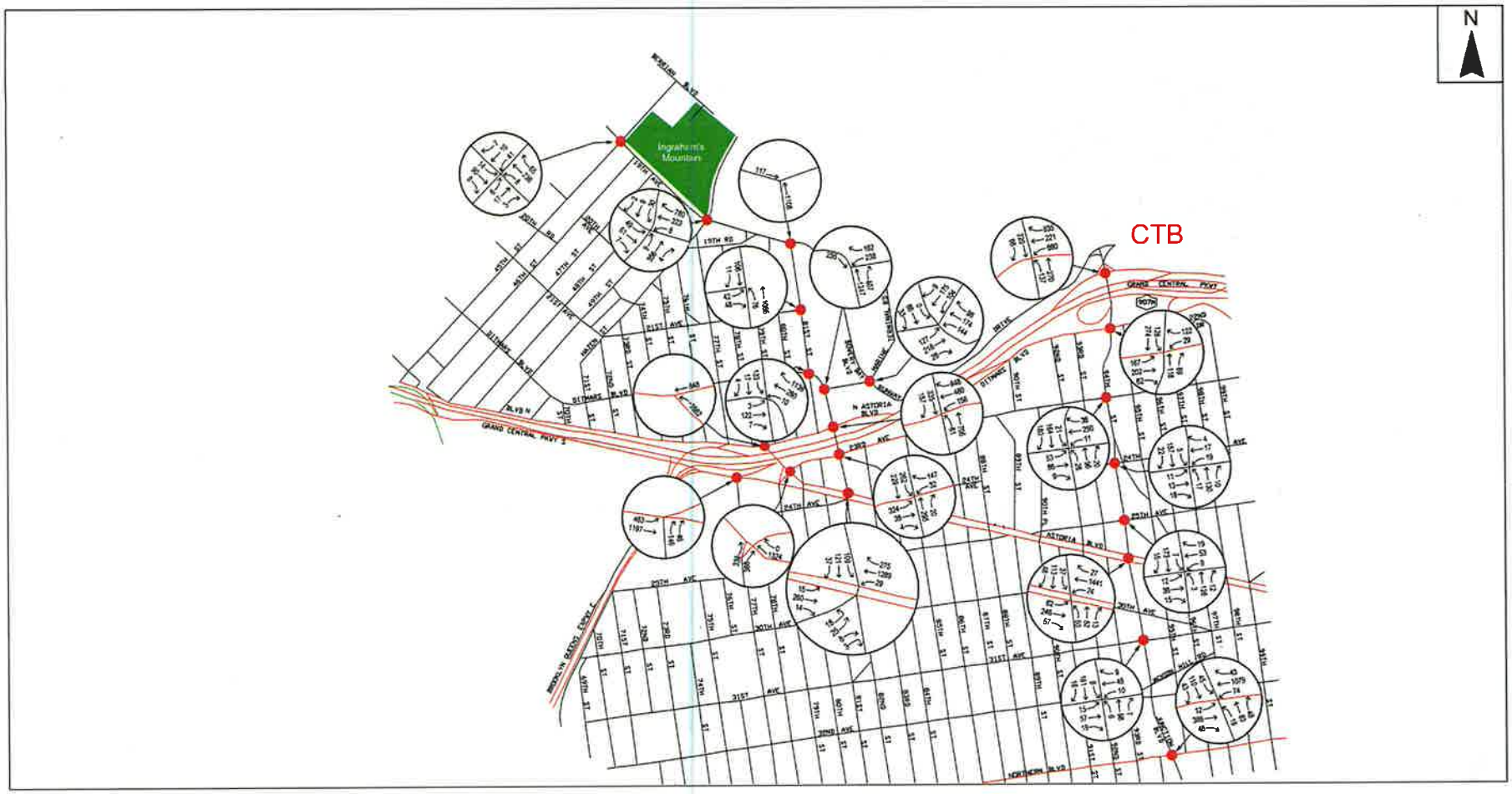


Figure A.7-10: Year 2015 Future Without Construction Turning Movement Volumes, Weekday PM Peak Hour (3:00 to 4:00 PM)

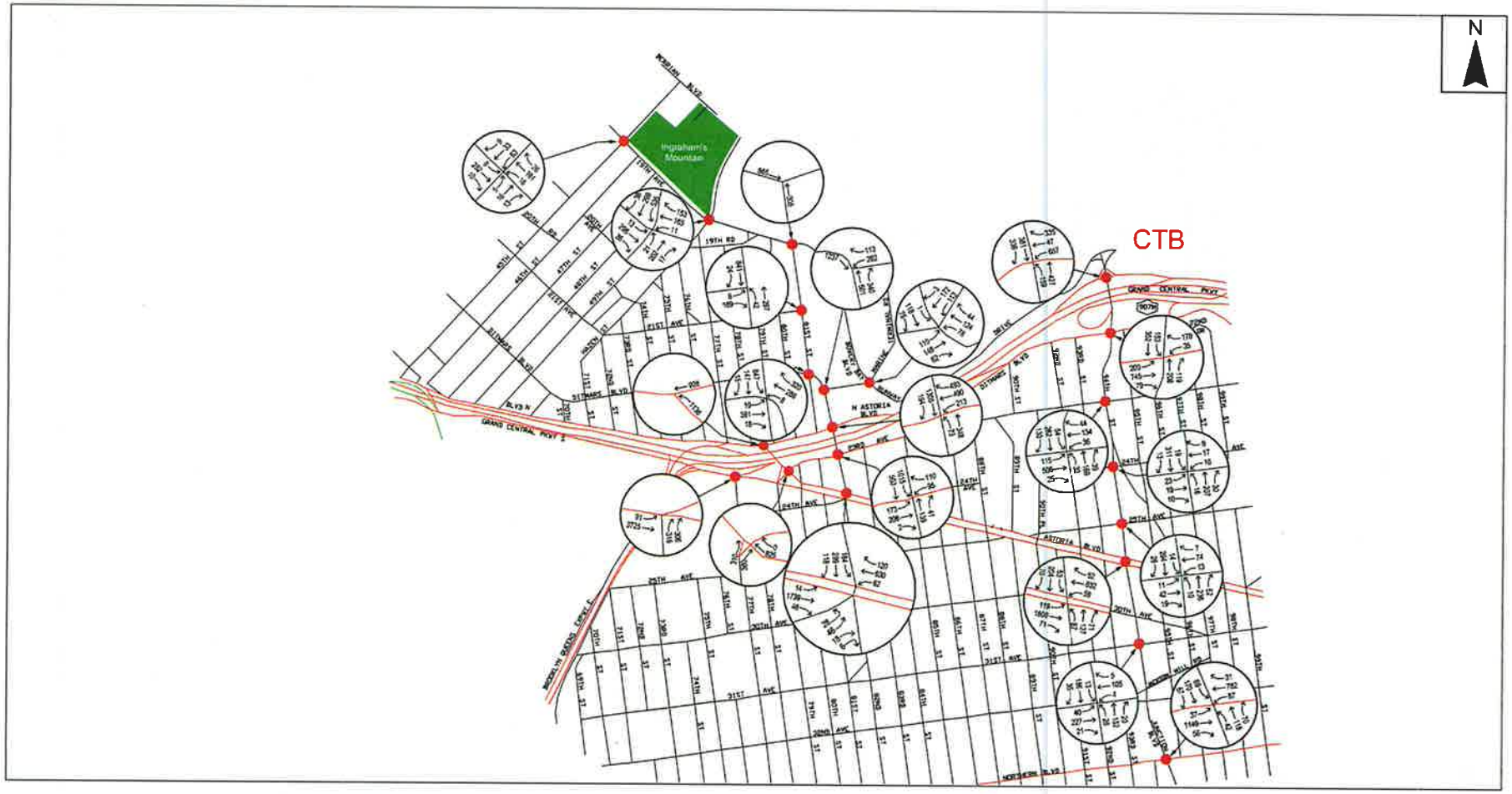


Table A.7-5: Year 2015 Levels-of-Service, Future Without Construction Conditions, Construction Peak Hours

Intersection	Approach	Movement	Weekday AM Construction Peak Hour (6:00 to 7:00 AM)			Weekday PM Construction Peak Hour (3:00 to 4:00 PM)		
			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS
SIGNALIZED INTERSECTIONS								
LaGuardia Access Road / 94th Street	WB	L	1.42	230.2	F	1.42	229.4	F
		LT	0.73	38.3	D	0.16	25.2	C
		R	0.69	16.4	C	0.48	12.5	B
	NB	L	0.24	9.4	A	0.28	11.8	B
		T	0.18	7.9	A	0.30	8.8	A
	SB	T	0.28	22.0	C	0.39	23.4	C
		R	0.17	12.9	B	0.52	14.3	B
	Overall		*	83.4	F	*	74.9	E
Ditmars Boulevard / 94th Street	EB	L	0.32	20.6	C	0.39	21.8	C
		TR	0.29	19.6	B	0.68	25.6	C
	WB	L	0.15	18.9	B	0.51	38.5	D
		R	0.12	7.1	A	0.16	7.4	A
	NB	TR	0.37	28.6	C	0.57	32.2	C
	SB	L	0.37	34.9	C	0.36	34.6	C
		T	0.48	17.2	B	0.55	18.5	B
	Overall		0.41	20.9	C	0.61	24.3	C
23rd Avenue / 94th Street	EB	LTR	0.38	17.9	B	1.06	69.2	E
	WB	LTR	0.49	18.5	B	0.50	19.6	B
	NB	L	0.08	7.8	A	0.11	8.2	A
		TR	0.26	9.2	A	0.37	10.2	B
	SB	L	0.05	7.3	A	0.15	8.1	A
		TR	0.57	13.1	B	0.63	14.2	B
	Overall		0.54	15.0	B	0.79	37.1	D
24th Avenue / 94th Street	EB	LTR	0.17	15.8	B	0.18	15.9	B
	WB	LTR	0.18	15.8	B	0.15	15.5	B
	NB	LTR	0.30	9.4	A	0.40	10.3	B
	SB	LTR	0.28	9.0	A	0.55	12.3	B
	Overall		0.25	10.6	B	0.41	12.1	B
25th Avenue / 94th Street	EB	LTR	0.25	16.7	B	0.22	16.3	B
	WB	LTR	0.29	17.2	B	0.28	16.9	B
	NB	LTR	0.19	8.2	A	0.40	10.2	B
	SB	LTR	0.34	9.7	A	0.50	11.6	B
	Overall		0.32	11.9	B	0.42	12.2	B
Astoria Boulevard / 94th Street	EB	L	0.27	37.8	D	0.28	17.1	B
		TR	0.24	20.2	C	-	-	-
		T	-	-	-	0.86	28.9	C
		R	-	-	-	0.17	19.8	B
	WB	L	0.10	10.6	B	0.27	36.4	D
		T	0.96	38.7	D	-	-	-
		R	0.07	18.4	B	-	-	-
		TR	-	-	-	0.41	22.3	C
	NB	L	0.25	33.5	C	0.69	58.2	E
		TR	0.23	32.4	C	0.65	44.2	D
	SB	L	0.16	31.2	C	0.31	35.2	D
		TR	0.43	35.8	D	0.65	42.0	D
	Overall		0.73	34.7	C	0.76	30.3	C
31st Avenue / 94th Street	EB	LTR	0.21	11.9	B	0.64	18.8	B
	WB	LTR	0.21	12.1	B	0.22	12.0	B
	NB	LTR	0.25	12.4	B	0.37	13.7	B
	SB	LTR	0.43	14.6	B	0.50	15.7	B
	Overall		0.32	13.1	B	0.57	15.9	B
Northern Boulevard / Junction Boulevard	EB	L	0.08	16.6	B	0.12	14.0	B
		TR	0.31	15.2	B	0.78	18.3	B
	WB	L	0.19	9.8	A	0.35	26.1	C
		TR	0.82	19.8	B	0.57	19.3	B
	NB	L	0.28	42.0	D	0.51	56.9	E
		TR	0.58	48.4	D	0.90	80.8	F
	SB	L	0.29	41.0	D	0.61	58.7	E
		TR	0.57	46.6	D	0.79	59.2	E
	Overall		0.65	23.6	C	0.78	28.9	C
Astoria Boulevard / 77th Street	EB	T (to GCP on-ramp)	0.44	11.1	B	0.10	7.6	A
		T (to Astoria Blvd.)	0.47	10.6	B	1.06	55.4	E
	NB	R (to GCP on-ramp)	0.45	40.4	D	0.85	59.1	E
		R (to Astoria Blvd.)	0.19	35.9	D	1.03	101.9	F
	Overall		0.46	14.2	B	1.06	58.1	E

Notes:
v/c = volume-to-capacity ratio; LOS = Level-of-Service
NB = Northbound; SB = Southbound; EB = Eastbound, WB = Westbound; NEB = Northeastbound, NWB = Northwestbound
L = Left-Turn; T = Through; R = Right-Turn;
LT = Left-Turn/Through; TR = Through/Right-Turn; LR = Left-Turn/Right-Turn; LTR = Left-Turn/Through/Right-Turn
Average Control Delay shown in units of seconds/vehicle
* = Overall v/c ratio not calculated by HCS for this intersection

Table A.7-5: Year 2015 Levels-of-Service, Future Without Construction Conditions, Construction Peak Hours, cont'd.

Intersection	Approach	Movement	Weekday AM Construction Peak Hour (6:00 to 7:00 AM)			Weekday PM Construction Peak Hour (3:00 to 4:00 PM)		
			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS
SIGNALIZED INTERSECTIONS								
Astoria Boulevard North Service Road / 79th Street/23rd Avenue	NEB	T	0.50	39.6	D	0.45	39.1	D
	NWB	T	0.61	5.7	A	0.29	3.6	A
	Overall		**0.58**	**12.3**	**B**	**0.34**	**14.9**	**B**
Astoria Boulevard/Astoria Boulevard North Service Road	WB	T	0.63	36.3	D	0.86	45.7	D
	NWB	L	0.51	9.6	A	0.35	8.3	A
	Overall		**0.55**	**17.3**	**B**	**0.53**	**25.1**	**C**
Astoria Boulevard North / Grand Central Parkway westbound off-ramp / 82nd Street / Ditmars Boulevard	WB	LT	0.42	13.9	B	0.46	15.5	B
		R	1.35	180.4	F	1.10	66.1	F
	NB	DefL	-	-	-	1.00	145.2	F
		T	-	-	-	0.29	19.5	B
		LT	0.63	24.1	C	-	-	-
	SB	TR	0.36	20.2	C	0.88	32.3	C
	Overall		**1.03**	**72.5**	**E**	**1.08**	**42.3**	**D**
23rd Avenue / 82nd Street	EB	LTR	0.55	32.3	C	0.60	33.4	C
	WB	L	0.40	38.4	D	**0.96**	**103.5**	F
		R	0.64	40.1	D	0.36	31.2	C
	NB	TR	0.19	12.1	B	0.11	11.5	B
	SB	L	0.46	11.2	B	1.00	47.0	D
		LT	0.15	6.5	A	0.56	10.9	B
	Overall		**0.72**	**20.5**	**C**	**0.99**	**35.3**	**D**
Astoria Boulevard / 82nd Street / 24th Avenue	EB	L	0.27	31.8	C	0.16	20.3	C
		TR	0.27	21.8	C	0.96	36.1	D
	WB	L	0.07	14.6	B	0.38	47.6	D
		TR	0.91	25.5	C	0.38	14.4	B
	NB (24th Ave.)	L	0.23	48.9	D	0.62	71.6	E
		TR	0.09	46.7	D	0.31	57.9	E
	SB	L	0.46	46.8	D	0.61	50.6	D
		T	0.50	47.5	D	1.05	109.6	F
		R	0.23	42.0	D	0.67	57.7	E
	Overall		**0.71**	**28.1**	**C**	**0.88**	**40.9**	**D**
Ditmars Boulevard / Marine Terminal Road	WB	L	0.74	39.2	D	0.79	42.7	D
		R	0.53	30.9	C	0.34	26.6	C
	NB	T	0.85	20.2	C	0.31	9.7	A
		R	0.54	13.8	B	0.44	12.2	B
	SB	T	0.17	8.7	A	0.72	15.5	B
	Overall		**0.81**	**21.0**	**C**	**0.74**	**17.9**	**B**
Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	EB	LTR	0.79	47.2	D	0.57	39.7	D
	WB	LTR	0.38	28.2	C	0.39	28.3	C
	NB	DefL	0.60	36.9	D	0.34	29.7	C
		T	0.57	34.9	C	0.40	30.9	C
		R	0.14	6.0	A	0.05	5.4	A
	SB	LT	0.30	26.2	C	0.29	28.1	C
		R	0.05	9.9	A	0.10	10.2	B
	Overall		**0.56**	**34.0**	**C**	**0.44**	**29.8**	**C**
Ditmars Boulevard / 81st Street	EB	LTR	0.09	7.3	A	0.27	8.5	A
	WB	LT	0.16	7.7	A	0.19	7.9	A
		R	1.39	199.2	F	0.38	8.7	A
	SB	LTR	0.30	26.5	C	1.07	80.1	F
	Overall		**0.20**	**134.4**	**F**	**0.53**	**42.5**	**D**
21st Avenue / 81st Street	EB	LR	0.23	21.4	C	0.43	24.6	C
	NB	LT	0.85	23.5	C	0.28	12.1	B
	SB	TR	0.10	10.5	B	0.51	14.4	B
	Overall		**0.60**	**22.1**	**C**	**0.47**	**15.3**	**B**
19th Avenue / Hazen Street	EB	LTR	0.33	15.0	B	1.07	99.9	F
	WB	LT	0.44	16.0	B	0.67	42.8	D
		R	0.91	25.3	C	0.22	9.7	A
	NB	LTR	1.04	89.1	F	0.61	31.6	C
	SB	L	0.15	21.5	C	0.71	13.9	B
		TR	0.03	16.5	B	0.33	6.4	A
	Overall		**0.94**	**35.6**	**D**	**0.88**	**34.4**	**C**
UNSIGNALIZED INTERSECTION								
19th Avenue / 45th Street	EB	LTR	0.02	8.2	A	0.01	8.2	A
	WB	LTR	0.01	7.5	A	0.02	8.2	A
	NB	LTR	0.13	15.3	C	0.11	15.0	C
	SB	LTR	0.28	17.2	C	0.45	22.2	C
UNSIGNALIZED FLAGGER CONTROLLED INTERSECTION								
LGA New Access / 19th Avenue-81st Street1	EB	L	0.00	0.0	A	0.00	0.0	A
		T	0.11	0.0	A	0.57	0.5	A
	WB	TR	0.71	5.2	A	0.21	1.8	A
	SB	R	0.18	39.8	D	0.00	39.2	D

Notes:
v/c = volume-to-capacity ratio; LOS = Level-of-Service
NB = Northbound; SB = Southbound; EB = Eastbound, WB = Westbound, NEB = Northeastbound, NWB = Northwestbound
L = Left-Turn; T = Through; R = Right-Turn;
LT = Left-Turn/Through; TR = Through/Right-Turn; LR = Left-Turn/Right-Turn; LTR = Left-Turn/Through/Right-Turn
Average Control Delay shown in units of seconds/vehicle
* = Overall v/c ratio not calculated by HCS for this intersection

- **Astoria Boulevard North-Grand Central Parkway westbound off-ramp/82nd Street-Ditmars Boulevard** – During the weekday AM and PM peak hours, westbound right-turns (i.e., on the off-ramp from the westbound Grand Central Parkway) are projected to operate over capacity with delays corresponding to LOS "F". During the weekday PM peak hour, northbound left-turn movements from 82nd Street onto Astoria Boulevard North are projected to continue to operate over capacity with delays corresponding to LOS "F". The intersection as a whole is projected to continue to operate at LOS "E" overall during the weekday AM peak hour and at LOS "D" overall during the weekday PM peak hour.

- **23rd Avenue/82nd Street** – During the weekday PM peak hour, vehicles in the westbound left-turn lane are projected to continue to operate near capacity with delays corresponding to LOS "F" and southbound left-turns are projected to operate at capacity. The intersection as a whole is projected to continue to operate at LOS "C" overall during the weekday AM peak hour and at LOS "D" overall during the weekday PM peak hour.

- **Astoria Boulevard / 82nd Street-24th Avenue** – During the weekday AM peak hour, westbound through and right-turn movements are projected to continue to operate near capacity. During the weekday PM peak hour, eastbound through and right-turn movements are projected to continue to operate near capacity. Also during the weekday PM peak hour, the northbound (24th Avenue) approach and the southbound right-turn lane are projected to continue to operate with delays corresponding to LOS "E", and the southbound through lane is projected to continue to operate over capacity with delays corresponding to LOS "F". The intersection as a whole is projected to continue to operate at LOS "C" overall during the weekday AM peak hour and at LOS "D" overall during the weekday PM peak hour.

- **Ditmars Boulevard/81st Street** – During the weekday AM peak hour, vehicles in the westbound right-turn lane are projected to operate over capacity at LOS "F". During the weekday PM peak hour, vehicles on the southbound approach are projected to operate over capacity at LOS "F". The intersection as a whole is projected to operate at LOS "F" overall during the weekday AM peak hour and to continue to operate at LOS "D" overall during the weekday PM peak hour.

- **19th Avenue/Hazen Street** – During the weekday AM peak hour, the westbound right-turn movement is projected to operate near capacity, and the northbound approach is projected to continue to operate over capacity at LOS "F". During the weekday PM peak hour, the eastbound approach is projected to continue to operate over capacity at LOS "F". The intersection as a whole is projected to operate at LOS "D" overall during the weekday peak hour and at LOS "C" overall during the weekday PM peak hour.

A.7.6.3 Future With Construction Condition

The Future With Construction condition traffic analysis identifies how the study area's transportation system will operate in the 2015 horizon year with the addition of:

1) Vehicular traffic generated by construction activities associated with the proposed redevelopment of the CTB, and

2) Transportation improvements that are planned to be implemented in conjunction with construction.

In this analysis, the projected weekday AM and PM peak hour construction vehicle trips associated with the proposed project (shown in **Figures A.7-3 and A.7-4)** were added to the respective future Without Construction condition traffic volumes (shown in **Figures A.7-9 and A.7-10)** to arrive at projected future With Construction condition traffic volumes (shown in **Figures A.7-11 and A.7-12)**.

Intersection operations analyses were then repeated for both analysis peak hours using the projected future With Construction condition traffic volumes shown in **Figures A.7-11 and A.7-12** in order to evaluate the performance of the transportation system including construction traffic associated with the proposed CTB redevelopment project. The results of the future Without Construction and With Construction conditions analyses were then compared in accordance with *CEQR Technical Manual* criteria to identify any critical changes in projected traffic operations associated with construction of the proposed project, as well as the transportation improvements that would be required to ensure acceptable traffic operations with the addition of construction traffic during peak construction time periods.

The following is a list of the recommended transportation improvements for the With Construction condition. These improvements are recommended as temporary measures to reduce delays at these intersections and ensure the most efficient traffic operations during periods of peak construction activity. The improvements noted below are subject to review and approval by the New York City Department of Transportation (NYCDOT).

- **Northern Boulevard/Junction Boulevard** – During the weekday AM peak hour, reallocate one (1) second of green time from the east-west phase to the north-south phase. During the weekday PM peak hour, reallocate two (2) seconds of green time from the east-west phase to the north-south phase.

- **Astoria Boulevard North Service Road/79th Street/23rd Avenue** – During the weekday AM peak hour, reallocate five (5) seconds of green time from the northwest-bound phase (i.e., Astoria Boulevard North Service Road) to the northeast-bound phase (i.e., 23rd Avenue).

- **Astoria Boulevard/Astoria Boulevard North Service Road** – During the weekday PM peak hour, reallocate seven (7) seconds of green time from the northwest-bound phase to the westbound phase.

- **Astoria Boulevard North-Grand Central Parkway westbound off-ramp/82nd Street-Ditmars Boulevard** – Restripe the westbound approach to create two exclusive right-turn lanes and one shared through/left-turn lane, and install corresponding advance lane use signs. During the weekday afternoon peak hour, reallocate four (4) seconds of green time from the westbound phase to the north-south phase.

- **23rd Avenue/82nd Street** – During the weekday AM peak hour, reallocate nine (9) seconds of green time from the north-south phase, plus one (1) second from the southbound phase, to the east-west phase (i.e., a total of 10 seconds).

Figure A.7-11: Year 2015 Future With Construction Turning Movement Volumes, Weekday AM Peak Hour (6:00 to 7:00 AM)

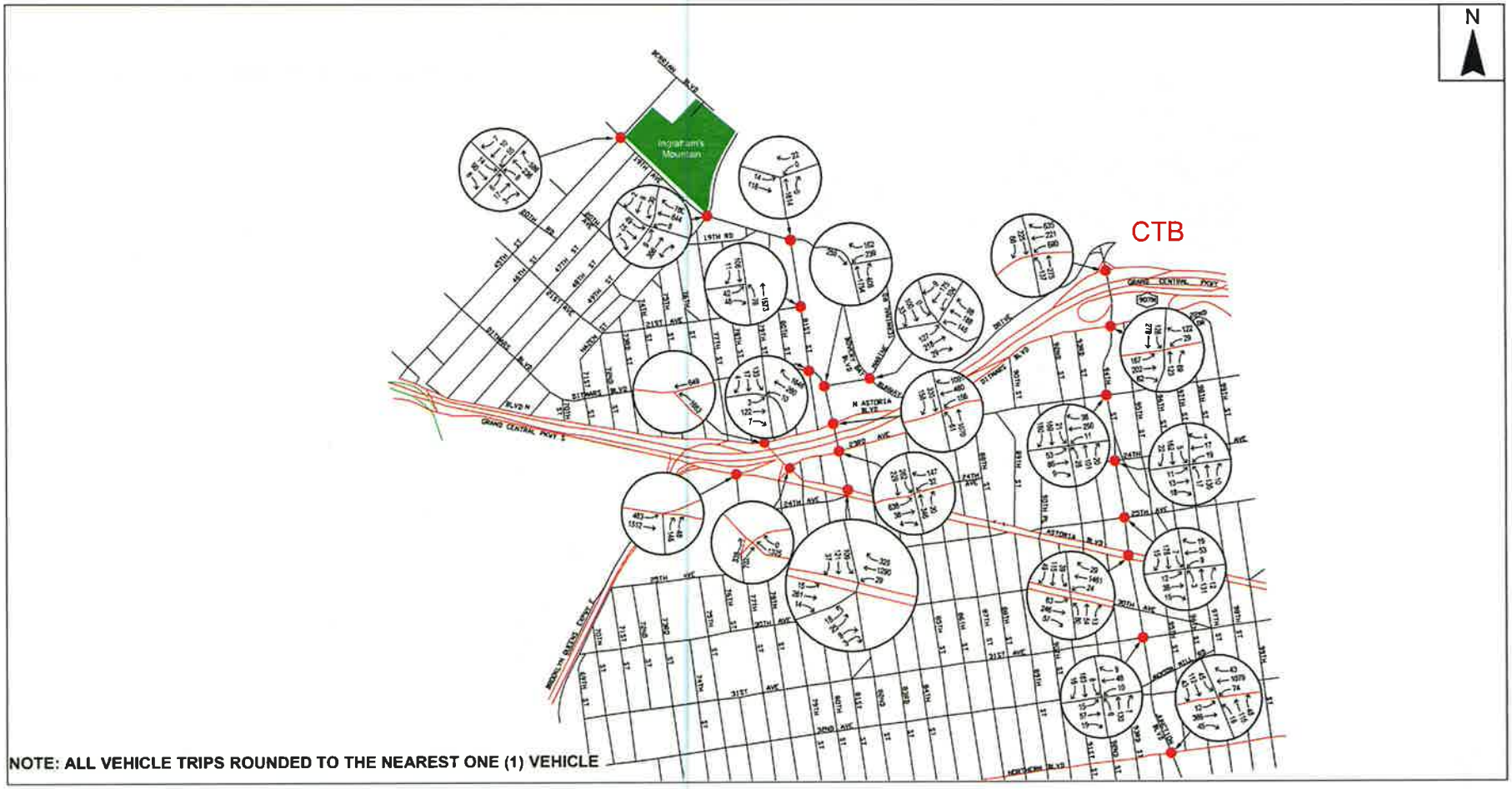
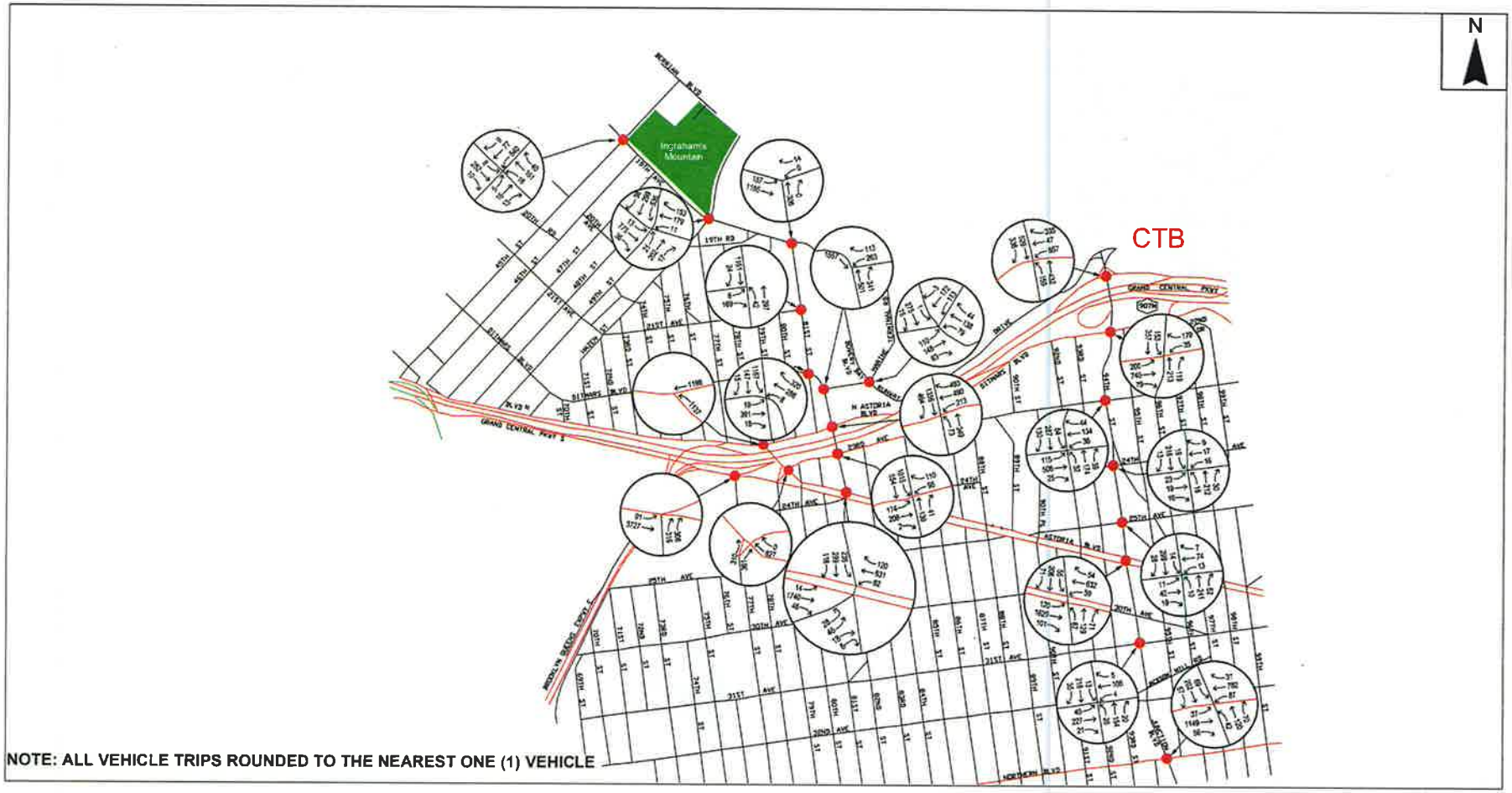


Figure A.7-12: Year 2015 Future With Construction Turning Movement Volumes, Weekday PM Peak Hour (3:00 to 4:00 PM)



- **Astoria Boulevard/82nd Street/24th Avenue** – During the weekday PM peak hour, reallocate one (1) second of green time from the east-west phase to the southbound phase.

- **Ditmars Boulevard/Marine Terminal Road** – During the weekday AM peak hour, reallocate one (1) second of green time from the westbound phase to the north-south phase.

- **Ditmars Boulevard/81st Street** – Restripe the westbound approach to accommodate two exclusive right-turn lanes and one shared through/left-turn lane, and install corresponding advance lane use signs. During the weekday PM peak hour, reallocate eight (8) seconds of green time from the east-west phase to the southbound phase.

- **21st Avenue/81st Street** – During the weekday AM peak hour, reallocate eight (8) seconds of green time from the eastbound phase to the north-south phase.

- **19th Avenue/Hazen Street** – Install a new traffic signal controller in accordance with NYCDOT design guidance. Eliminate the "48 Hour Parking, Detached Trailers" parking regulation on the north side of 19th Avenue for a distance of approximately 200 feet west of Hazen Street, and re-stripe a 14-foot exclusive right-turn lane and a 12-foot shared through/left-turn lane on the eastbound approach. This regulation change would eliminate curbside parking spaces for approximately four detached trailers. Field observations of existing trailer parking utilization along this curbside revealed approximately one to two trailers present on weekdays. The north curb along 19th Avenue between Hazen Street and 45th Street is largely under-utilized for trailer parking, and sufficient curbside space exists to accommodate the displaced trailers. During the weekday AM peak hour, reallocate four (4) seconds of green time from the southbound leading phase to the east-west phase. During the weekday PM peak hour, reallocate seven (7) seconds of green time from the southbound leading phase and five (5) seconds from the north-south phase to the east-west phase.

- **19th Avenue/45th Street** – Install a traffic signal at the intersection. Remove the "48 Hour Parking, Detached Trailers" parking regulation the east side of 45th Street, and extend the "No Standing Anytime" parking regulation on both sides of 45th Street, for approximately 275 feet north of 19th Avenue, to accommodate two lanes on the southbound approach, as well as one northbound receiving lane. Prohibit standing with a "No Standing Anytime" parking regulation on the west side of 45th Street, for approximately 80 feet south of 19th Avenue, to allow for transition to the southbound through lane on 45th Street. In addition, prohibit standing with a "No Standing Anytime" parking regulation on the south side of 19th Avenue, for approximately 25 feet east of 45th Street, to accommodate the turning paths for shuttle buses turning from 45th Street southbound to 19th Avenue eastbound. Weekday field observations revealed no (zero) vehicles parked in any of the three locations noted above. This intersection is located in a low-density industrial area with little on-street parking demand. On-street parking spaces are widely available elsewhere along 45th Street and 19th Avenue, as well as other city streets in the vicinity. It should be noted traffic signal warrants from the *Manual on Uniform Traffic Control Devices* (MUTCD) were analyzed at a planning-level at this intersection. This analysis indicated that Warrant #3 (Peak Hour Warrant) would be met based on the high volume of projected future traffic on the southbound approach (i.e., 45th Street) during the weekday PM construction peak

hour and the corresponding high delays that would otherwise be incurred by vehicles under its current stop-controlled configuration.

- **Construction-only access driveway at 19th Avenue/81st Street**[7] – Continue to coordinate with NYCDOT staff concerning the proposed driveway (curb cut) that is currently being designed for implementation as part of the Runway Safety Area (RSA) Enhancements project.

Table A.7-6 compares the weekday AM and PM peak hour intersection capacity analysis results for the Future Without Construction Condition with those under the Future With Construction Condition with the transportation improvements noted above. As noted in **Table A.7-6**, with these improvements in place, no significant traffic impacts are projected to occur in accordance with the *CEQR Technical Manual* criteria.

In addition, it is recommended that the Port Authority implement a traffic monitoring program in coordination with NYCDOT throughout the duration of the construction period. This monitoring program would quantify the volume of construction workers' vehicles parked at the Ingraham's Mountain site and the need for, and timing of, implementation of the identified improvements. These monitoring efforts should be conducted annually, or at an agreed-upon frequency to be determined as part of on-going coordination efforts between the Port Authority and NYCDOT during the construction period.

A.7.6.4 Conclusion

In conclusion, this section presented an analysis of the effects of additional vehicle trips projected to be generated in the vicinity of LaGuardia Airport by construction activities at the CTB during the weekday AM and PM peak hours for construction (i.e., 6:00 to 7:00 AM and 3:00 to 4:00 PM). The results of this analysis indicate that—with the improvements described above—the additional trips generated by the proposed CTB redevelopment can be accommodated on the roadway network during the weekday AM and PM construction peak hours without significant traffic impacts according to *CEQR Technical Manual* criteria.

[7] It should be noted that this driveway will provide for ingress and egress to and from the Airport only for construction-related traffic. It will not provide access to the Airport for the general public. This improvement is currently being coordinated with NYCDOT staff as part of the Runway Safety Area (RSA) Enhancements Project.

Table A.7-6: Comparison of Year 2015 Levels-of-Service, Future Without Construction and With Construction Conditions, Construction Peak Hours – with improvements

Intersection	Approach	Movement	Weekday AM Construction Peak Hour (6:00 to 7:00 AM)								Weekday PM Construction Peak Hour (3:00 to 4:00 PM)							
			Without Construction			With Construction			Change in Delay	Impact?	Without Construction			With Construction			Change in Delay	Impact?
			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS		
SIGNALIZED INTERSECTIONS																		
LaGuardia Access Road / 94th Street	WB	L	1.42	230.2	F	1.42	230.2	F	0.0		1.42	229.4	F	1.42	229.4	F	0.0	
		LT	0.73	38.3	D	0.73	38.3	D	0.0		0.16	25.2	C	0.16	25.2	C	0.0	
		R	0.69	16.4	B	0.69	16.5	B	0.1		0.48	12.5	B	0.48	12.6	B	0.1	
	NB	L	0.24	9.4	A	0.24	9.5	A	0.1		0.28	11.8	B	0.31	15.3	B	3.5	
		T	0.18	7.9	A	0.19	7.9	A	0.0		0.30	8.8	A	0.31	8.8	A	0.0	
	SB	T	0.28	22.0	C	0.29	22.1	C	0.1		0.39	23.4	C	0.55	25.8	C	2.4	
		R	0.17	12.9	B	0.17	12.9	B	0.0		0.52	14.3	B	0.52	14.3	B	0.0	
	Overall		*	83.4	F	*	83.2	F	-0.3		*	74.9	E	*	72.5	E	-2.4	
Ditmars Boulevard / 94th Street	EB	L	0.32	20.6	C	0.32	20.5	C	-0.1		0.39	21.8	C	0.39	21.8	C	0.0	
		LTR	0.29	19.6	B	0.26	19.2	B	-0.4		0.68	25.6	C	0.68	25.6	C	0.0	
	WB	L	0.15	18.9	B	0.15	18.9	B	0.0		0.51	38.5	D	0.51	38.5	D	0.0	
		R	0.12	7.1	A	0.12	7.1	A	0.0		0.16	7.4	A	0.16	7.4	A	0.0	
	NB	TR	0.37	28.6	C	0.38	28.8	C	0.2		0.57	32.2	C	0.58	32.4	C	0.2	
	SB	L	0.37	34.9	C	0.34	34.2	C	-0.7		0.36	34.6	C	0.36	34.6	C	0.0	
		T	0.48	17.2	B	0.44	16.3	B	-0.9		0.55	18.5	B	0.56	18.7	B	0.2	
	Overall		0.41	20.9	C	0.39	20.6	C	-0.3		0.61	24.3	C	0.61	24.3	C	0.0	
23rd Avenue / 94th Street	EB	LTR	0.38	17.9	B	0.38	17.9	B	0.0		1.06	69.2	E	1.06	69.2	E	0.0	
	WB	LTR	0.49	18.5	B	0.49	18.5	B	0.0		0.50	19.6	B	0.50	19.6	B	0.0	
	NB	L	0.08	7.8	A	0.08	7.8	A	0.0		0.11	8.2	A	0.12	8.2	A	0.0	
		TR	0.26	9.2	A	0.27	9.3	A	0.1		0.37	10.2	B	0.38	10.3	B	0.1	
	SB	L	0.05	7.3	A	0.05	7.3	A	0.0		0.15	8.1	A	0.15	8.2	A	0.1	
		TR	0.57	13.1	B	0.58	13.2	B	0.1		0.63	14.2	B	0.64	14.3	B	0.1	
	Overall		0.54	15.0	B	0.55	15.0	B	0.0		0.79	37.1	D	0.80	37.1	D	0.0	
24th Avenue / 94th Street	EB	LTR	0.17	15.8	B	0.17	15.8	B	0.0		0.18	15.9	B	0.18	15.9	B	0.0	
	WB	LTR	0.18	15.8	B	0.18	15.8	B	0.0		0.15	15.5	B	0.15	15.5	B	0.0	
	NB	LTR	0.30	9.4	A	0.31	9.5	A	0.1		0.40	10.3	B	0.40	10.4	B	0.1	
	SB	LTR	0.28	9.0	A	0.29	9.1	A	0.1		0.55	12.3	B	0.55	12.4	B	0.1	
	Overall		0.25	10.6	B	0.26	10.7	B	0.1		0.41	12.1	B	0.41	12.2	B	0.1	
25th Avenue / 94th Street	EB	LTR	0.25	16.7	B	0.25	16.7	B	0.0		0.22	16.3	B	0.22	16.3	B	0.0	
	WB	LTR	0.29	17.2	B	0.29	17.2	B	0.0		0.28	16.9	B	0.28	16.9	B	0.0	
	NB	LTR	0.19	8.2	A	0.19	8.3	A	0.1		0.40	10.2	B	0.41	10.3	B	0.1	
	SB	LTR	0.34	9.7	A	0.35	9.8	A	0.1		0.50	11.6	B	0.51	11.7	B	0.1	
	Overall		0.32	11.9	B	0.33	11.9	B	0.0		0.42	12.2	B	0.42	12.3	B	0.1	
Astoria Boulevard / 94th Street	EB	L	0.27	37.8	D	0.27	38.3	D	0.5		0.28	17.1	B	0.28	17.2	B	0.1	
		TR	0.24	20.2	C	0.24	20.2	C	0.0		-	-	-	-	-	-	-	
		T	-	-	-	-	-	-	-		0.86	28.9	C	0.87	29.5	C	0.6	
		R	-	-	-	-	-	-	-		0.17	19.8	B	0.25	20.9	C	1.1	
	WB	L	0.10	10.6	B	0.10	10.6	B	0.0		0.27	36.4	D	0.27	36.7	D	0.3	
		T	0.96	38.7	D	0.97	41.1	D	2.4		-	-	-	-	-	-	-	
		R	0.07	18.4	B	0.07	18.5	B	0.1		-	-	-	-	-	-	-	
		TR	-	-	-	-	-	-	-		0.41	22.3	C	0.41	22.4	C	0.1	
	NB	L	0.25	33.5	C	0.40	37.6	D	4.1		0.69	58.2	E	0.69	59.3	E	1.1	
		TR	0.23	32.4	C	0.24	32.5	C	0.1		0.65	44.2	D	0.65	44.5	D	0.3	
	SB	L	0.16	31.2	C	0.17	31.4	C	0.2		0.31	35.2	D	0.32	35.6	D	0.4	
		TR	0.43	35.8	D	0.44	36.0	D	0.2		0.65	42.0	D	0.65	42.2	D	0.2	
	Overall		0.73	34.7	C	0.73	36.4	D	1.7		0.76	30.3	C	0.76	30.6	C	0.3	
31st Avenue / 94th Street	EB	LTR	0.21	11.9	B	0.21	11.9	B	0.0		0.64	18.8	B	0.64	18.8	B	0.0	
	WB	LTR	0.21	12.1	B	0.21	12.1	B	0.0		0.22	12.0	B	0.22	12.0	B	0.0	
	NB	LTR	0.25	12.4	B	0.32	13.1	B	0.7		0.37	13.7	B	0.37	13.8	B	0.1	
	SB	LTR	0.43	14.6	B	0.43	14.7	B	0.1		0.50	15.7	B	0.55	16.7	B	1.0	
	Overall		0.32	13.1	B	0.32	13.3	B	0.2		0.57	15.9	B	0.60	16.3	B	0.4	
Northern Boulevard / Junction Boulevard[1]	EB	L	0.08	16.6	B	0.08	17.8	B	1.2		0.12	14.0	B	0.12	15.4	B	1.4	
		TR	0.31	15.2	B	0.32	15.8	B	0.6		0.78	18.3	B	0.81	20.8	C	2.5	
	WB	L	0.19	9.8	A	0.19	10.3	B	0.5		0.35	26.1	C	0.37	29.6	C	3.5	
		TR	0.82	19.8	B	0.83	21.2	C	1.4		0.57	19.3	B	0.59	20.8	C	1.5	
	NB	L	0.28	42.0	D	0.26	40.6	D	-1.4		0.51	56.9	E	0.53	57.3	E	0.4	
		TR	0.58	48.4	D	0.69	53.0	D	4.6		0.90	80.8	F	0.85	69.0	E	-11.8	
	SB	L	0.29	41.0	D	0.32	41.6	D	0.6		0.61	58.7	E	0.55	52.1	D	-6.6	
		TR	0.57	46.6	D	0.56	45.2	D	-1.4		0.79	59.2	E	0.82	59.2	E	0.0	
	Overall		0.65	23.6	C	0.66	25.2	C	1.6		0.78	28.9	C	0.82	29.9	C	1.0	
Astoria Boulevard / 77th Street	EB	T (to GCP on-ramp)	0.44	11.1	B	0.44	11.1	B	0.0		0.10	7.6	A	0.10	7.6	A	0.0	
		T (to Astoria Blvd.)	0.47	10.6	B	0.59	12.3	B	1.7		1.06	55.4	E	1.06	55.6	E	0.2	
	NB	R (to GCP on-ramp)	0.45	40.4	D	0.45	40.4	D	0.0		0.85	59.1	E	0.85	59.1	E	0.0	
		R (to Astoria Blvd.)	0.19	35.9	D	0.19	35.9	D	0.0		1.03	101.9	F	1.03	101.9	F	0.0	
	Overall		0.46	14.2	B	0.55	14.9	B	0.7		1.06	58.1	E	1.06	58.3	E	0.2	

Notes:

v/c = volume-to-capacity ratio; LOS = Level-of-Service

NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; NEB = Northeastbound, NWB = Northwestbound

L = Left-Turn; T = Through, R = Right-Turn;

LT = Left-Turn/Through; TR = Through/Right-Turn; LR = Left-Turn/Right-Turn; LTR = Left-Turn/Through/Right-Turn

Average Control Delay shown in units of seconds/vehicle

* = Overall v/c ratio not calculated by HCS for this intersection.

1 = Improvement proposed at this intersection

Table A.7-6: Comparison of Year 2015 Levels-of-Service, Future Without Construction and With Construction Conditions, Construction Peak Hours -- with Improvements, cont'd.

Intersection	Approach	Movement	Weekday AM Construction Peak Hour (6:00 to 7:00 AM)								Weekday PM Construction Peak Hour (3:00 to 4:00 PM)							
			Without Construction			With Construction					Without Construction			With Construction				
			v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS	Change in Delay	Impact?	v/c	Average Control Delay	LOS	v/c	Average Control Delay	LOS	Change in Delay	Impact?
[redacted] SIGNALIZED INTERSECTIONS																		
Astoria Boulevard North Service Road / 79th Street / 23rd Avenue[1]	NEB	T	0.50	39.6	D	0.77	43.9	D	4.1		0.45	39.1	D	0.46	39.1	D	0.0	
	NWB	T	0.61	5.7	A	0.65	9.0	A	3.3		0.29	3.8	A	0.29	3.8	A	0.0	
	Overall		**0.58**	**12.3**	**B**	**0.69**	**19.5**	**B**	**7.2**		**0.34**	**14.9**	**B**	**0.34**	**14.9**	**B**	**0.0**	
Astoria Boulevard/Astoria Boulevard North Service Road[1]	WB	T	0.63	36.3	D	0.63	36.3	D	0.0		0.86	45.7	D	0.94	49.2	D	3.5	
	NWB	L	0.51	9.6	A	0.51	9.6	A	0.0		0.35	8.3	A	0.39	12.7	B	4.4	
	Overall		**0.55**	**17.3**	**B**	**0.55**	**17.3**	**B**	**0.0**		**0.63**	**25.1**	**C**	**0.62**	**31.4**	**C**	**6.3**	
Astoria Boulevard North / Grand Central Parkway westbound off-ramp / 82nd Street / Ditmars Boulevard[1]	WB	LT	0.42	13.9	B	0.78	23.5	C	9.6		0.46	15.5	B	0.94	42.1	D	26.6	
		R	1.35	188.4	F	0.89	29.6	C	-158.8		1.10	86.1	F	0.69	22.8	C	-63.3	
	NB	DefL	-	-	-	-	-	-	-		1.06	145.2	F	1.06	143.2	F	-2.0	
		T	-	-	-	-	-	-	-		0.29	19.5	B	0.26	16.7	B	-2.8	
		LT	0.63	24.1	C	0.89	33.1	C	9.0		-	-	-	-	-	-	-	
	SB	TR	0.36	20.2	C	0.36	20.2	C	0.0		0.88	32.3	C	0.99	44.3	D	12.0	
	Overall		**1.03**	**72.5**	**E**	**0.89**	**28.4**	**C**	**-44.1**		**1.06**	**42.3**	**D**	**1.00**	**38.7**	**D**	**-3.6**	
23rd Avenue / 82nd Street[1]	EB	LTR	0.55	32.3	C	0.69	28.2	C	-4.1		0.60	33.4	C	0.60	33.5	C	0.1	
	WB	L	0.40	38.4	D	0.51	40.7	D	2.3		0.96	103.5	F	0.96	103.5	F	0.0	
		R	0.64	40.1	D	0.44	25.2	C	-14.9		0.36	31.2	C	0.36	31.2	C	0.0	
	NB	TR	0.19	12.1	B	0.27	17.9	B	5.8		0.11	11.5	B	0.11	11.5	B	0.0	
	SB	L	0.46	11.2	B	0.56	21.3	C	10.1		1.00	47.0	D	1.00	47.0	D	0.0	
		LT	0.15	6.5	A	0.19	11.2	B	4.7		0.56	10.9	B	0.61	12.0	B	1.1	
	Overall		**0.72**	**20.5**	**C**	**0.87**	**22.6**	**C**	**2.1**		**0.99**	**35.3**	**D**	**0.99**	**35.1**	**D**	**-0.2**	
Astoria Boulevard / 82nd Street / 24th Avenue[1]	EB	L	0.27	31.8	C	0.27	31.8	C	0.0		0.16	20.3	C	0.17	21.0	C	0.7	
		TR	0.27	21.8	C	0.27	21.8	C	0.0		0.96	36.1	D	0.98	40.3	D	4.2	
	WB	L	0.07	14.6	B	0.07	14.7	B	0.1		0.38	47.6	D	0.38	48.5	D	0.9	
		TR	0.91	25.5	C	0.96	30.7	C	5.2		0.38	14.4	B	0.39	15.0	B	0.6	
	NB (24th Ave.)	L	0.23	48.9	D	0.23	48.9	D	0.0		0.62	71.8	E	0.62	71.8	E	0.0	
		TR	0.09	46.7	D	0.09	46.7	D	0.0		0.31	57.9	E	0.31	57.9	E	0.0	
	SB	L	0.46	46.8	D	0.46	46.8	D	0.0		0.61	50.6	D	0.71	54.6	D	4.0	
		T	0.50	47.5	D	0.50	47.5	D	0.0		1.06	109.6	F	1.01	96.3	F	-13.3	
		R	0.23	42.0	D	0.23	42.0	D	0.0		0.67	57.7	E	0.65	54.9	D	-2.8	
	Overall		**0.71**	**28.1**	**C**	**0.74**	**31.8**	**C**	**3.7**		**0.88**	**40.9**	**D**	**0.87**	**42.3**	**D**	**1.4**	
Ditmars Boulevard / Marine Terminal Road[1]	WB	L	0.74	39.2	D	0.77	42.4	D	3.2		0.79	42.7	D	0.79	42.8	D	0.1	
		R	0.53	30.9	C	0.56	32.4	C	1.5		0.34	26.6	C	0.34	26.6	C	0.0	
	NB	T	0.85	20.2	C	1.02	42.0	D	21.8		0.31	9.7	A	0.31	9.7	A	0.0	
		R	0.54	13.8	B	0.53	13.1	B	-0.7		0.44	12.2	B	0.45	12.3	B	0.1	
	SB	T	0.17	8.7	A	0.17	8.2	A	-0.5		0.72	15.5	B	0.90	23.6	C	8.1	
	Overall		**0.81**	**21.0**	**C**	**0.94**	**34.7**	**C**	**13.7**		**0.74**	**17.9**	**B**	**0.86**	**22.1**	**C**	**4.2**	
Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	EB	LTR	0.79	47.2	D	0.79	47.4	D	0.2		0.57	39.7	D	0.57	39.8	D	0.1	
	WB	LTR	0.38	28.2	C	0.38	28.2	C	0.0		0.39	28.3	C	0.39	28.3	C	0.0	
	NB	DefL	0.60	36.9	D	0.62	38.0	D	1.1		0.34	29.7	C	0.57	40.7	D	11.0	
		T	0.57	34.9	C	0.61	36.4	D	1.5		0.40	30.9	C	0.45	32.0	C	1.1	
		R	0.14	6.0	A	0.14	6.0	A	0.0		0.05	5.4	A	0.05	5.4	A	0.0	
	SB	LT	0.30	28.2	C	0.35	29.1	C	0.9		0.29	28.1	C	0.67	37.7	D	9.6	
		R	0.05	9.9	A	0.05	9.9	A	0.0		0.10	10.2	B	0.10	10.2	B	0.0	
	Overall		**0.56**	**34.0**	**C**	**0.57**	**34.4**	**C**	**0.4**		**0.44**	**29.8**	**C**	**0.54**	**32.8**	**C**	**3.0**	
Ditmars Boulevard / 81st Street[1]	EB	LTR	0.09	7.3	A	0.09	7.3	A	0.0		0.27	8.5	A	0.32	12.8	B	4.3	
	WB	LT	0.16	7.7	A	0.28	8.9	A	1.2		0.19	7.9	A	0.40	14.3	B	6.4	
		R	1.39	199.2	F	1.14	85.4	F	-113.8		0.38	8.7	A	0.21	6.9	A	-1.8	
	SB	LTR	0.30	26.5	C	0.30	26.5	C	0.0		1.07	80.1	F	1.08	75.5	E	-4.6	
	Overall		**0.20**	**134.4**	**F**	**0.29**	**66.1**	**E**	**-68.3**		**0.53**	**42.5**	**D**	**0.69**	**46.2**	**D**	**3.7**	
21st Avenue / 81st Street[1]	EB	LR	0.23	21.4	C	0.31	28.5	C	7.1		0.43	24.6	C	0.43	24.6	C	0.0	
	NB	LT	0.85	23.5	C	1.02	43.8	D	20.3		0.28	12.1	B	0.31	12.4	B	0.3	
	SB	TR	0.10	10.5	B	0.09	6.9	A	-3.6		0.51	14.4	B	0.69	17.7	B	3.3	
	Overall		**0.60**	**22.1**	**C**	**0.81**	**40.3**	**D**	**18.2**		**0.47**	**15.3**	**B**	**0.58**	**17.4**	**B**	**2.1**	
19th Avenue / Hazen Street[1]	EB	LTR	0.33	15.0	B	-	-	-			1.07	99.9	F	-	-	-	-	
		LT	-	-	-	0.80	40.7	D	-		-	-	-	1.12	98.7	F	-	
		R	-	-	-	0.03	9.6	A	-		-	-	-	0.15	21.2	C	-	
	WB	LT	0.44	16.0	B	0.91	31.3	C	15.3		0.67	42.6	D	0.77	44.6	D	1.8	
		R	0.91	25.3	C	0.91	25.0	C	-0.3		0.22	9.7	A	0.20	7.3	A	-2.4	
	NB	LTR	1.04	89.1	F	1.04	89.1	F	0.0		0.61	31.6	C	0.74	42.4	D	10.8	
	SB	L	0.15	21.5	C	0.21	25.3	C	3.8		0.71	13.9	B	0.94	40.8	D	26.9	
		TR	0.03	16.5	B	0.04	19.1	B	2.6		0.33	6.4	A	0.41	12.8	B	6.4	
	Overall		**0.94**	**35.6**	**D**	**0.94**	**38.8**	**D**	**3.2**		**0.88**	**34.4**	**C**	**0.99**	**52.1**	**D**	**17.7**	
19th Avenue / 45th Street[1]	EB	LTR	0.02	8.2	A	0.20	9.2	A	1.0		0.01	8.2	A	0.73	41.7	D	33.5	
	WB	LTR	0.01	7.5	A	0.98	43.2	D	35.7		0.02	8.2	A	0.74	43.6	D	35.4	
	NB	LTR	0.13	15.5	C	0.25	34.9	C	19.4		0.11	15.9	C	0.19	30.9	C	15.9	
	SB	LTR	0.28	17.3	C	-	-	-	-		0.52	24.5	C	-	-	-	-	
		DefL	-	-	-	0.31	25.9	C	-		-	-	-	0.99	43.5	D	-	
		TR	-	-	-	0.06	22.8	C	-		-	-	-	0.13	6.1	A	-	
	Overall		*	*	*	**0.83**	36.7	**D**	-		*	*	*	**0.93**	**40.2**	**D**	-	
[redacted] UNSIGNALIZED FLAGGER[redacted]LED INTERSECTION																		
LGA New Access / 19th Avenue-81st Street[1]	EB	L	0.00	0.0	A	0.14	1.9	A	1.9		0.00	0.0	A	0.46	0.7	A	0.7	
		T	0.11	0.0	A	0.11	0.0	A	0.0		0.57	0.5	A	0.78	2.7	A	2.2	
	WB	TR	0.71	5.2	A	1.03	39.8	D	34.6		0.21	1.8	A	0.21	1.8	A	0.0	
	SB	R	0.18	39.8	D	0.50	44.2	D	4.4		0.00	39.2	D	0.37	43.2	D	4.0	

Notes:
v/c = volume-to-capacity ratio; LOS = Level-of-Service
NB = Northbound; SB = Southbound; EB = Eastbound; WB = Westbound; NEB = Northeastbound, NWB = Northwestbound
L = Left-Turn; T = Through; R = Right-Turn;
LT = Left-Turn/Through; TR = Through/Right-Turn; LR = Left-Turn/Right-Turn; LTR = Left-Turn/Through/Right-Turn
Average Control Delay shown in units of seconds/vehicle
* = Overall v/c ratio not calculated by HCS for this intersection.
1 = Improvement proposed at this intersection.

A.8 Agency Correspondence

See attached pages for Final Transportation Planning Assumptions Memorandum and Comments from NYCDOT.

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Technical Memorandum

LaGuardia Airport Central Terminal Building Redevelopment Environmental Assessment

Date: June 25, 2012 (updated May 15, 2013)

Subject: Transportation Planning Assumptions

Prepared by: Atma Sookram, AICP, PP, PTP
Matt Lorenz, PE, PTOE

This technical memorandum presents AECOM's transportation planning assumptions for the proposed LaGuardia Airport (LGA) Central Terminal Building (CTB) Redevelopment Environmental Assessment (EA) in Queens, NY, and reflects NYCDOT comments received to date. This memorandum documents (based on our preliminary assessment) the proposed level of assessment that will be provided for each of the four transportation elements—Traffic, Parking, Transit, and Pedestrian—as well as Construction Traffic, in the environmental assessment for the proposed project. In addition, this memorandum documents our proposed scope of work for an operational analysis of the Grand Central Parkway (GCP) in the vicinity of LGA. This analysis is being conducted for the EA in collaboration with the Port Authority of NY & NJ (the "Port Authority") and the New York State Department of Transportation (NYSDOT). Our assessment was performed according to the Level 1 screening assessment criteria presented in the 2012 *CEQR Technical Manual*. Also included as part of this memo are the findings of our assignment of incremental site-generated traffic throughout the study area.

BACKGROUND

The Proposed Action

The proposed Action involves the redevelopment of the CTB at LaGuardia Airport to address existing deficiencies in airside, terminal, and landside operations. While the construction of the terminal building is projected to be completed in 2022, the full demand, under the With-Action condition is not projected to materialize until 2030. Therefore, the proposed Build year for the EA is 2030.

With or without the proposed redevelopment of the CTB, passenger travel at LaGuardia Airport is projected to continue to increase over time. The Port Authority of NY & NJ ("the Port Authority") estimates that—without the CTB redevelopment project—projected passenger travel at LaGuardia Airport will increase by 6.5 million annual air passengers (MAAP) through the year 2030. In addition, as a result of the redevelopment improvements under the proposed Action, the CTB is projected to

accommodate an *additional* increment of 3.9 MAAP. Therefore, the 3.9 MAAP represents the Future With-Action increment over the Future No-Action condition.

As part of the proposed Action, a variety of improvements and modifications are planned to the vehicular access and internal traffic circulation within LaGuardia Airport. These include the reconfiguration of ramps to and from Grand Central Parkway and modifications to on-site circulation patterns. The design also includes provisions for a rail right-of-way, though new rail facilities will not be constructed nor considered as part of the Future No-Action or Future Action conditions.

Site Description and Vehicular Access Configuration

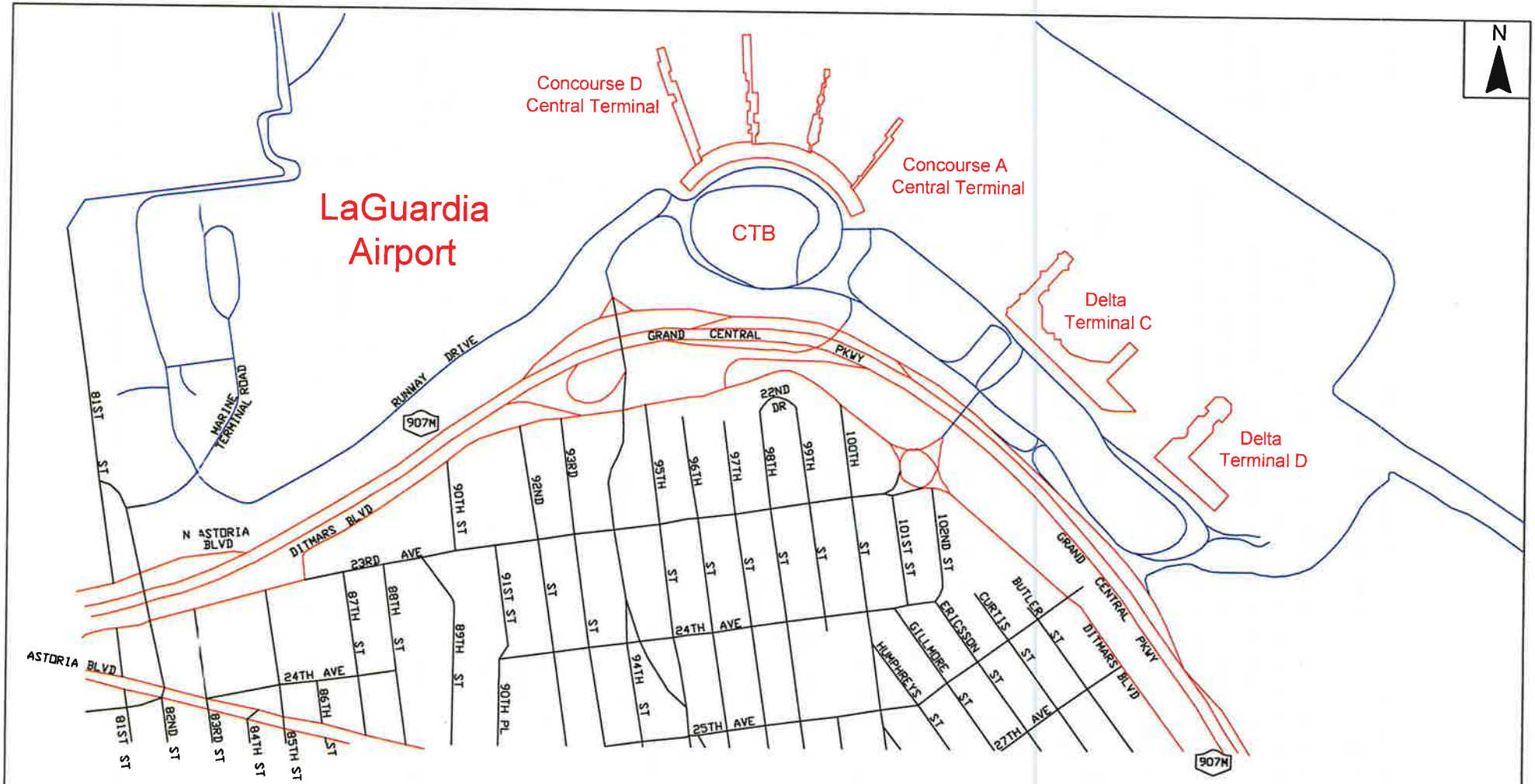
As shown in **Figure 1**, LaGuardia Airport is located north of the Grand Central Parkway and east of 81st Street in Queens, along the waterfront between Bowery Bay and Flushing Bay.

Eastbound ingress to LaGuardia Airport from Grand Central Parkway is available via Exit 6 ("94th Street") and Exit 7 ("LaGuardia Airport Terminals"). Eastbound egress from LaGuardia Airport to the Grand Central Parkway is available via a loop ramp from the 94th Street bridge.

Westbound ingress from Grand Central Parkway is available via a two/three-lane frontage road ("LaGuardia Access Road") that is aligned north of, and parallel to, Grand Central Parkway beginning at Exit 7 ("LaGuardia Airport Terminals / 94th Street") and terminating at the 94th Street bridge. Ramp connections between the frontage road and airport terminals are provided in the vicinity of Delta Terminals C and D and in the vicinity of the CTB. Two westbound on-ramps from the frontage road to the westbound lanes of the Grand Central Parkway are also provided: one on-ramp is located immediately east of the 94th Street interchange and a second on-ramp is located at the 94th Street interchange.

Local access to and from LaGuardia Airport is also available via a bridge over the Grand Central Parkway that connects to Ditmars Boulevard and 23rd Avenue via a rotary intersection located in the East Elmhurst neighborhood on the south side of the Grand Central Parkway. To the west of the rotary an eastbound on-ramp connects Ditmars Boulevard to the eastbound lanes of Grand Central Parkway.

LaGuardia Airport is also served by five MTA bus lines: the M60, Q33, Q47, Q48 and Q72. The M60 provides service between Morningside Heights in Manhattan and all terminals at LaGuardia Airport. The M60 operates via 125th Street, the Robert F. Kennedy (Triboro) Bridge, and Astoria Boulevard. The Q33 provides service between Jackson Heights and the Delta and Central terminals, primarily via 82nd and 83rd Streets. The Q47 provides service between Glendale and the Marine Air Terminal of LaGuardia Airport. The Q48 provides service between Flushing and all terminals at LaGuardia Airport, primarily via 108th Street and Roosevelt Avenue. The Q72 provides service between Rego Park and the Central and Delta Terminals at LaGuardia Airport, primarily via Junction Boulevard. Private operator express bus service is also provided between the LaGuardia Airport and various Manhattan locations, as well as to and from the John F. Kennedy (JFK) International Airport. No direct subway service is provided to LaGuardia Airport.



AECOM

LaGuardia Airport CTB Redevelopment
Environmental Assessment
Queens, New York

Site Vicinity Map
Figure 1

TRAFFIC

Trip Generation

Based on the projected increase in passengers (3.9 MAAP) as part of the CTB redevelopment project, trip generation estimates were prepared using data from the following sources collected for, or by, the Port Authority:

- Annual *Airport Traffic Reports* for LaGuardia Airport (years 2002 through 2011);
- Automatic Traffic Recorder (ATR) count data for LaGuardia Airport collected in 2011; and
- Mode split data for LaGuardia Airport from 2010.

Table 1 presents the travel demand assumptions and resulting weekday AM and PM peak hour trip generation estimates for the proposed Action. As shown in **Table 1,** the proposed Action is estimated to generate 160 inbound trips and 162 outbound trips during the weekday AM peak hour, and 190 inbound trips and 193 outbound trips during the weekday PM peak hour.

Vehicle Trip Distribution

Figures 2 and 3 show the inbound and outbound vehicle trip distributions for the weekday AM peak hour, respectively, for the proposed Action. Similarly, **Figures 4 and 5** show the inbound and outbound vehicle trip distributions for the weekday PM peak hour, respectively, for the proposed Action. These distributions were developed based on origin-destination data collected by the Port Authority as part of the LGA CTB redevelopment program.

Vehicle Trip Assignment

Based on the trip generation and trip distribution described above, initial traffic assignments were prepared for the weekday AM and PM peak hours. **Figures 6 and 7** show the resulting assignments of the incremental site-generated turning movement volumes projected during the weekday AM and PM peak hours at intersections in the vicinity of LaGuardia Airport.

Proposed Study Intersections

As shown in **Figures 6 and 7**, the results of the trip assignments indicate that more than 50 vehicle trips are projected to be generated through several key intersections in the vicinity of LaGuardia Airport as a result of the proposed Action. Therefore, in accordance with the 2012 *CEQR Technical Manual,* a more detailed traffic analysis is warranted. Based on the results of the traffic assignments and our familiarity with the roadway network in the vicinity of the airport, we recommend the following eight (8) intersections be studied, as shown in **Figure 8**:

- Bowery Bay Boulevard / Runway Drive / Marine Terminal Road
- Ditmars Boulevard / Marine Terminal Road
- Ditmars Boulevard / Grand Central Parkway westbound off-ramp / Astoria Boulevard North
- Astoria Boulevard / 82nd Street
- LaGuardia Access Road / 94th Street
- Ditmars Boulevard / 94th Street
- Ditmars Boulevard / Grand Central Parkway eastbound on-ramp
- Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (rotary intersection)

Table 1. Travel Demand Assumptions and Estimated Trip Generation Characteristics for CTB (3.9 MAAP for "Action" Condition)
LaGuardia Airport Redevelopment EA

Incremental New Annual Passengers (Arrivals plus Departures) =	3,900,000
Percentage of Annual Passengers during Peak Non-Summer Month (June)[1] =	8.99%
New Monthly Passengers during Peak Non-Summer Month (June) =	350,610
Average Daily Passengers on a Typical Mid-week Day (Tuesday through Thursday) during Peak Non-Summer Month (June)[2] =	12,225

	WEEKDAY AM PEAK HOUR (7:30 to 8:30 AM)	WEEKDAY PM PEAK HOUR (4:00 to 5:00 PM)
Off-Airport Street Peak Hour[3] =		
Peak Hour Percentage of Daily Trips[4] =	4.67%	6.04%
Percentage of Connecting Passengers (Internal Trips)[5] =	5%	5%
Peak Hour External Person-Trips =	542	701

Mode Split[6]		Person-Trips	Vehicle Occupancy	Vehicle-Trips	Directional Distribution[15]		Inbound Trips	Outbound Trips	Person-Trips	Vehicle Occupancy	Vehicle-Trips	Directional Distribution[15]		Inbound Trips	Outbound Trips
					% In	% Out						% In	% Out		
Drove alone and parked =	4.6%	25	1.00	25	49.5%	50.5%	12	13	32	1.00	32	49.4%	50.6%	16	16
Passenger in Car (Dropped-Off/Picked-Up)[7] =	20.8%	113	2.09	108	50.0%	50.0%	54	54	146	2.84	103	50.0%	50.0%	51	51
Rental Car[8] =	5.0%	27	2.44	11	49.5%	50.5%	6	6	35	2.38	15	49.4%	50.6%	7	7
Taxi[9,16] =	40.8%	221	2.42	114	49.5%	50.5%	57	58	286	2.34	153	49.4%	50.6%	76	77
Limo/Town Car Service[10] =	15.0%	81	2.46	33	49.5%	50.5%	16	17	105	2.43	43	49.4%	50.6%	21	22
SuperShuttle/Shared Ride Service[11] =	3.1%	17	2.39	7	49.5%	50.5%	3	4	22	2.33	9	49.4%	50.6%	5	5
Public Bus[12] =	3.7%	20	54.00	0	49.5%	50.5%	0	0	26	54.00	0	49.4%	50.6%	0	0
NY Airport Bus from Manhattan[11] =	1.3%	7	2.39	3	49.5%	50.5%	1	1	9	2.33	4	49.4%	50.6%	2	2
NY Airport Service Bus to JFK/LGA[11] =	1.2%	7	2.39	3	49.5%	50.5%	1	1	8	2.33	4	49.4%	50.6%	2	2
Chartered Tour/Bus[11] =	0.5%	3	2.39	1	49.5%	50.5%	1	1	4	2.33	2	49.4%	50.6%	1	1
Hotel/Motel Shuttle/Van[13] =	0.5%	3	1.80	2	49.5%	50.5%	1	1	4	2.81	1	49.4%	50.6%	1	1
Off-Airport Parking Company Shuttle/Van[13] =	1.8%	10	1.80	5	49.5%	50.5%	3	3	13	2.81	4	49.4%	50.6%	2	2
Other[14] =	1.7%	9	1.00	9	49.5%	50.5%	5	5	12	1.00	12	49.4%	50.6%	6	6
TOTAL =	**100.0%**	**542**		**322**			**160**	**162**	**701**		**382**			**190**	**193**

Notes:

1 = Percentage of annual visitors during peak non-summer month based on domestic and international passenger counts at LaGuardia Airport as published in the 2002 through 2011 *Airport Traffic Reports* by the Port Authority.

2 = Adjustment factor of 1.046 applied to reflect higher average Tuesday-through-Thursday passenger volume relative to average daily passenger volume. Based on ATR data collected by the Port Authority at 25 locations at LaGuardia Airport in 2010.

3 = Based on traffic counts conducted by AECOM at off-airport study intersections in June 2012.

4 = Peak hour percentage of daily trips based on ATR data collected by the Port Authority at 25 locations at LaGuardia Airport in 2010.

5 = Conservative estimate of connecting passengers at LaGuardia Airport based on data published in the 2002 through 2011 *Airport Traffic Reports* by the Port Authority.

6 = Mode split based on year 2010 mode split data from annual passenger surveys at LaGuardia Airport provided by the Port Authority.

7 = Vehicle occupancies for Passenger in Car (Dropped-off/Picked-up) based on vehicle occupancies obtained from frontage dwell-time surveys of Privately-Owned Passenger Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate includes only passengers (does not include driver).

8 = Vehicle occupancies for Rental Car estimated based on average vehicle occupancies obtained from frontage dwell-time surveys of Taxis and For-Hire Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate obtained from taxis and for-hire vehicles does not include driver.

9 = Vehicle occupancies for Taxi estimated based on vehicle occupancies obtained from frontage dwell-time surveys of Taxis conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver

10 = Vehicle occupancies for Limo/Town Car Service estimated based on vehicle occupancies obtained from frontage dwell-time surveys of For-Hire Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

11 = Vehicle occupancies for SuperShuttle/Shared Ride Service, NY Airport Bus from Manhattan, NY Airport Service Bus to JFK/LGA, and Chartered Tour Bus based on vehicle occupancies obtained from frontage dwell-time surveys of Off-Airport Vans and Buses conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

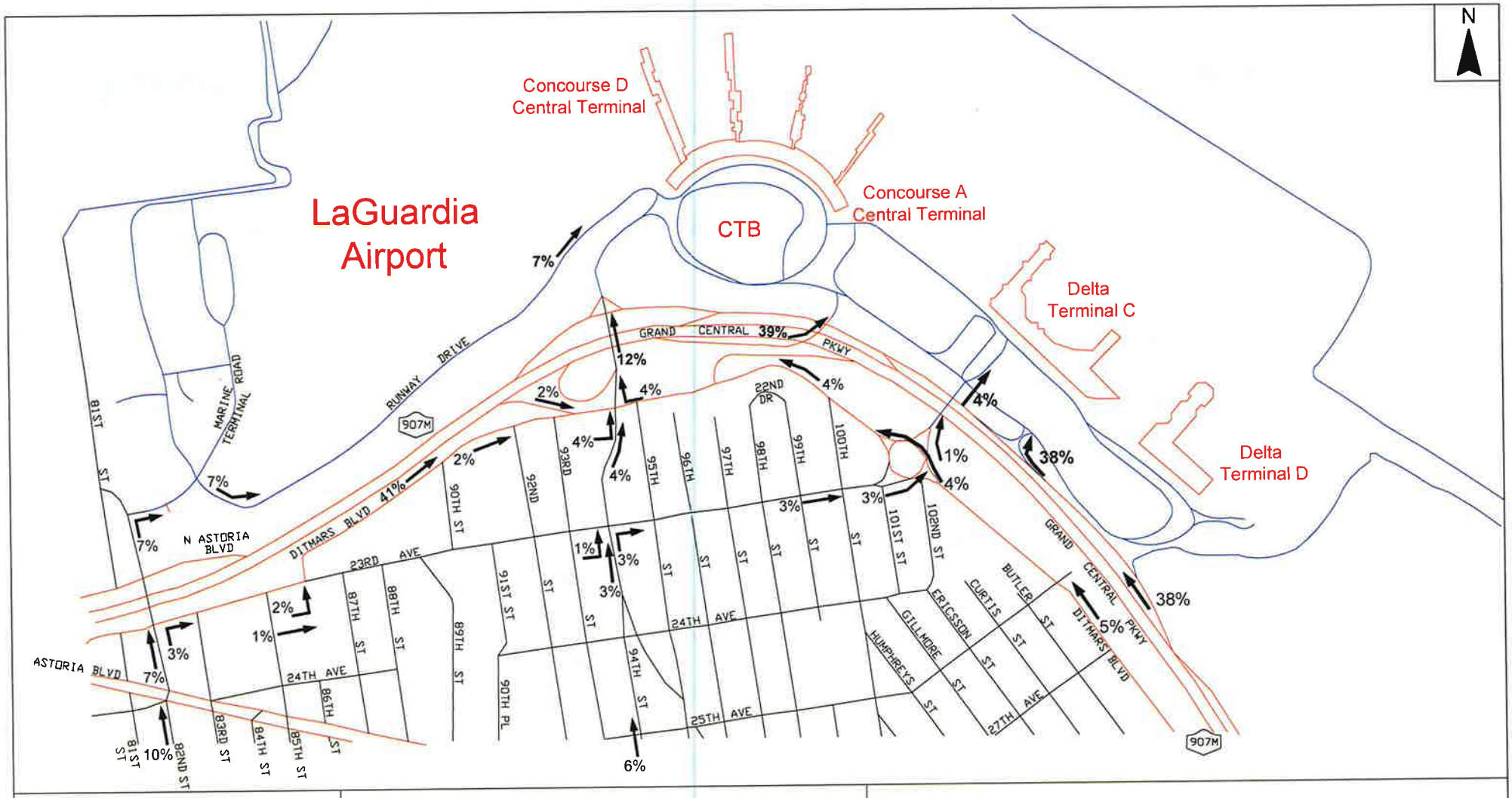
12 = Vehicle occupancies for Public Bus based on New York City Transit guideline capacities for a 40-foot standard bus, as per the January 2012 edition of the *CEQR Technical Manual, Section 352.2.2 Analysis of Bus Load Levels*, p. 16-42.

13 = Vehicle occupancies for Hotel/Motel Shuttle/Van and Off-Airport Parking Company Shuttle/Van based on vehicle occupancies obtained from frontage dwell-time surveys of Courtesy Vehicles conducted at LaGuardia Airport by the Port Authority. Applied vehicle occupancy rate does not include driver.

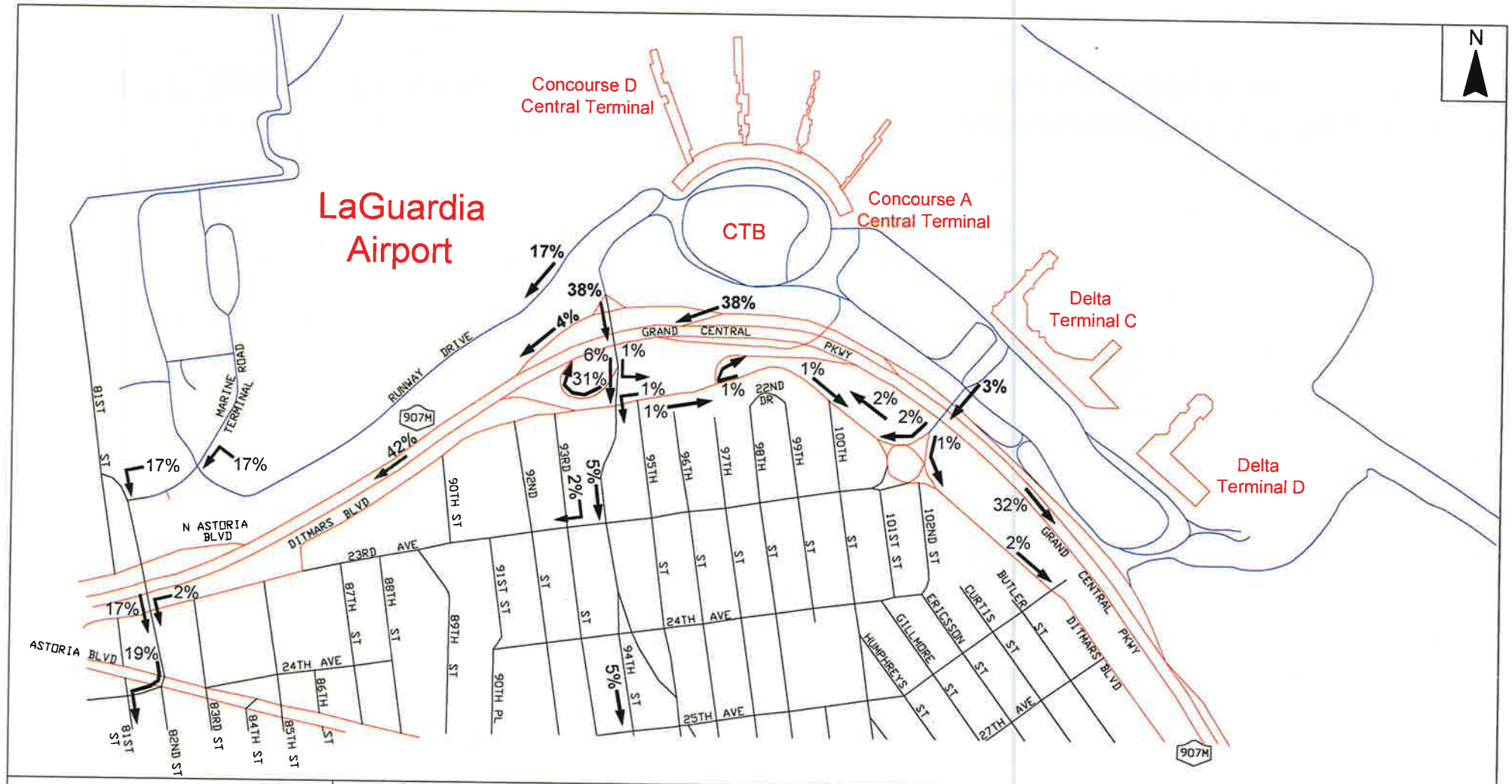
14 = Vehicle occupancy assumed to be 1.00 person/vehicle for "Other" trip types (i.e., all single-occupant passenger cars) to ensure a conservative traffic analysis

15 = Directional distribution based on trip origin and destination data provided by the Port Authority 05-10-2011.

16 = Vehicle-trip calculations for taxis include a 75-percent "taxi overlap credit" for an intermodal facility, as per the January 2012 edition of the *CEQR Technical Manual, Section 313.1 Traffic*, p. 16-11 (i.e., 75-percent of taxi trip ends include passengers).



AECOM	LaGuardia Airport CTB Redevelopment Environmental Assessment Queens, New York	Estimated Inbound Trip Distribution Pattern Weekday AM Peak Hour (7:30-8:30 AM) Figure 2



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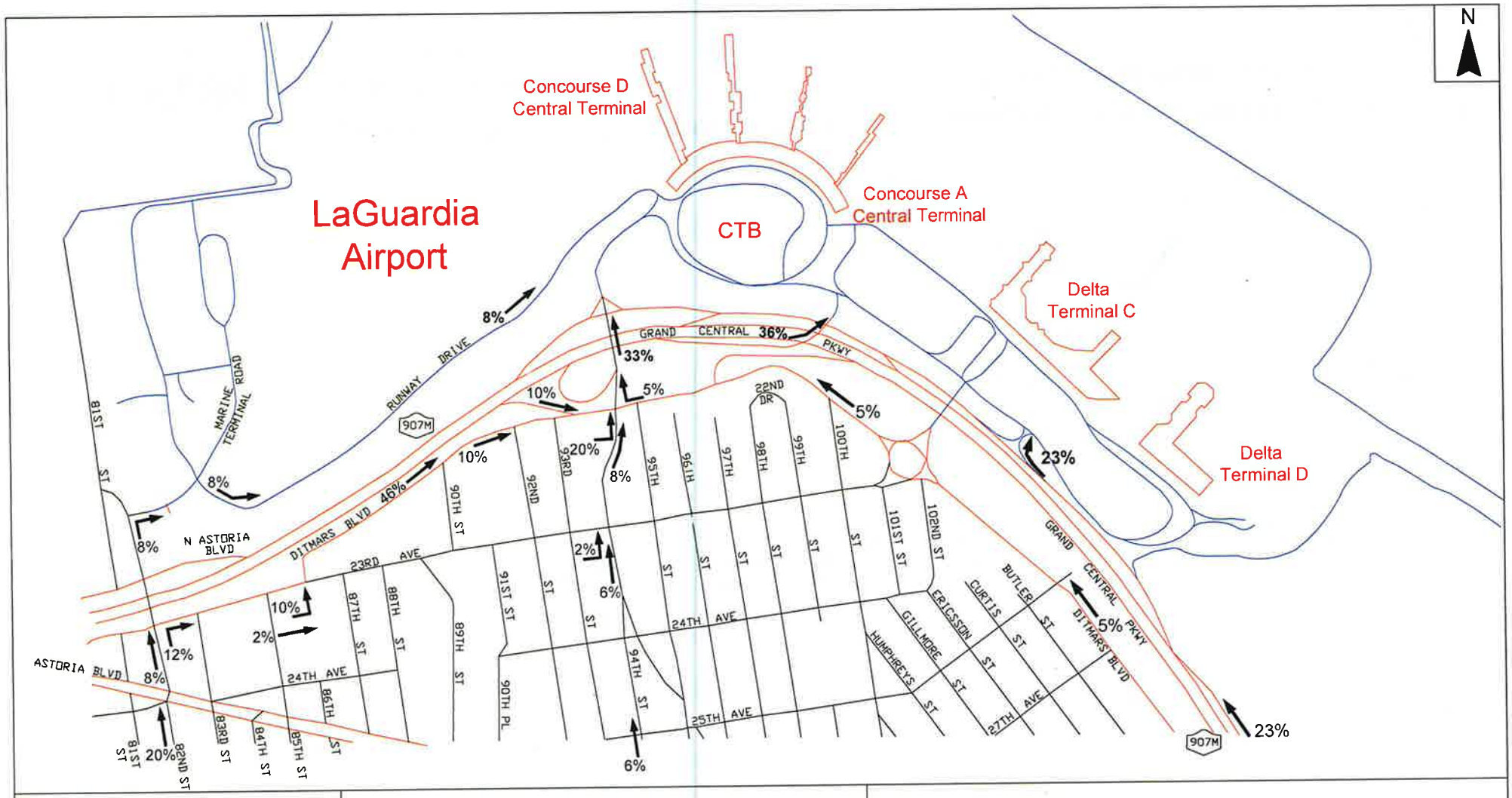
Estimated Outbound Trip Distribution Pattern
Weekday AM Peak Hour (7:30-8:30 AM)
Figure 3



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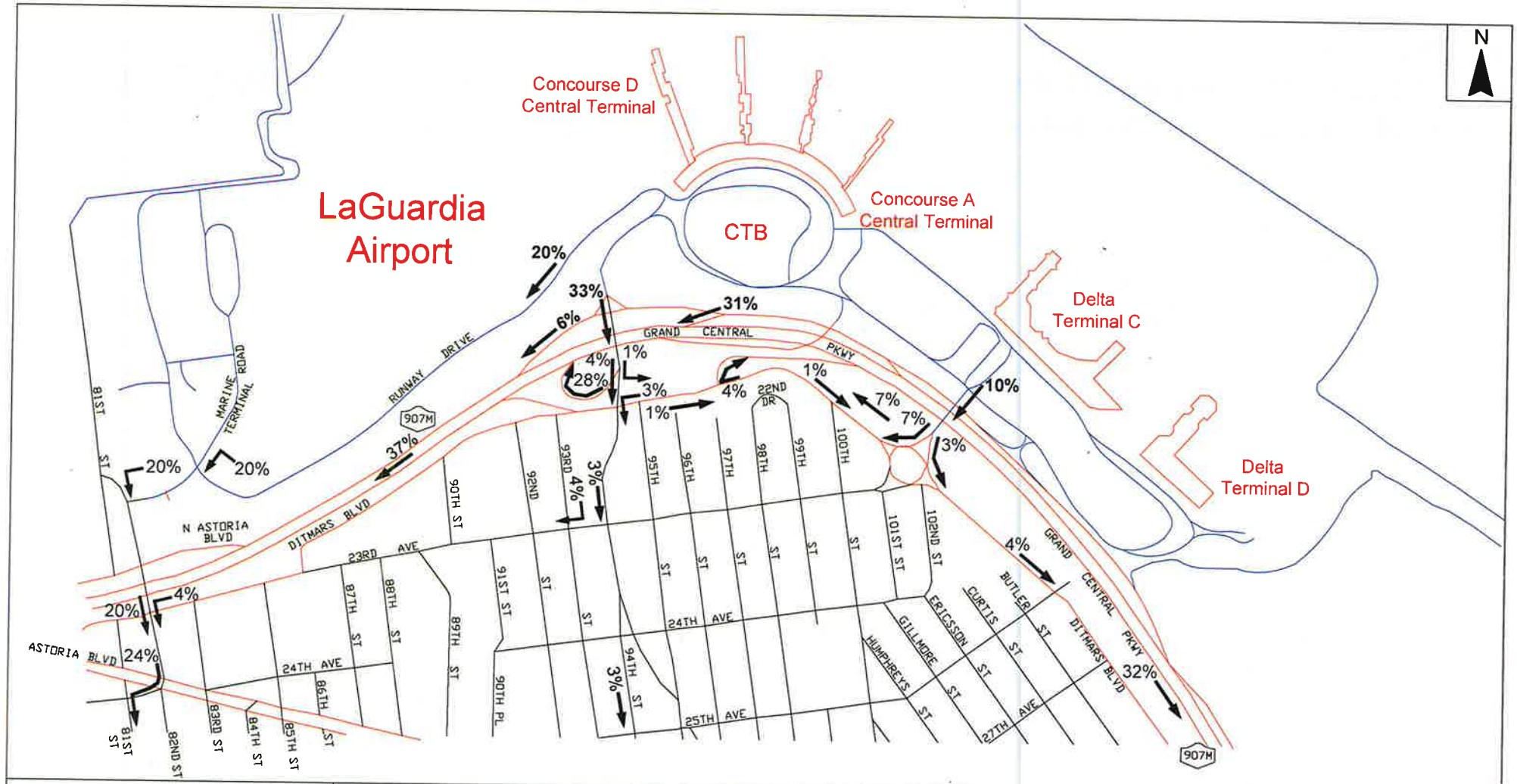
Estimated Inbound Trip Distribution Pattern
Weekday PM Peak Hour (4:00-5:00 PM)
Figure 4



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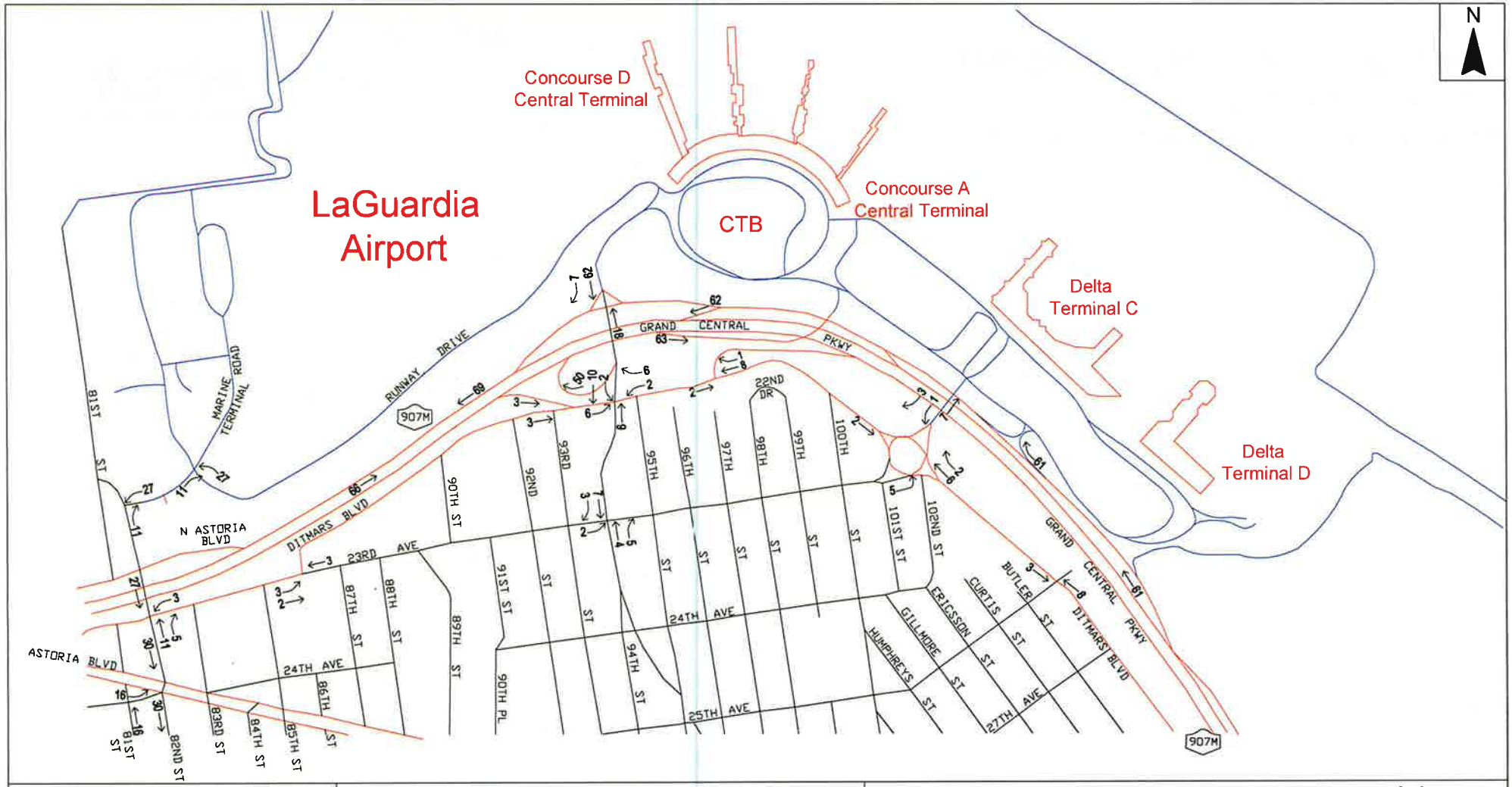
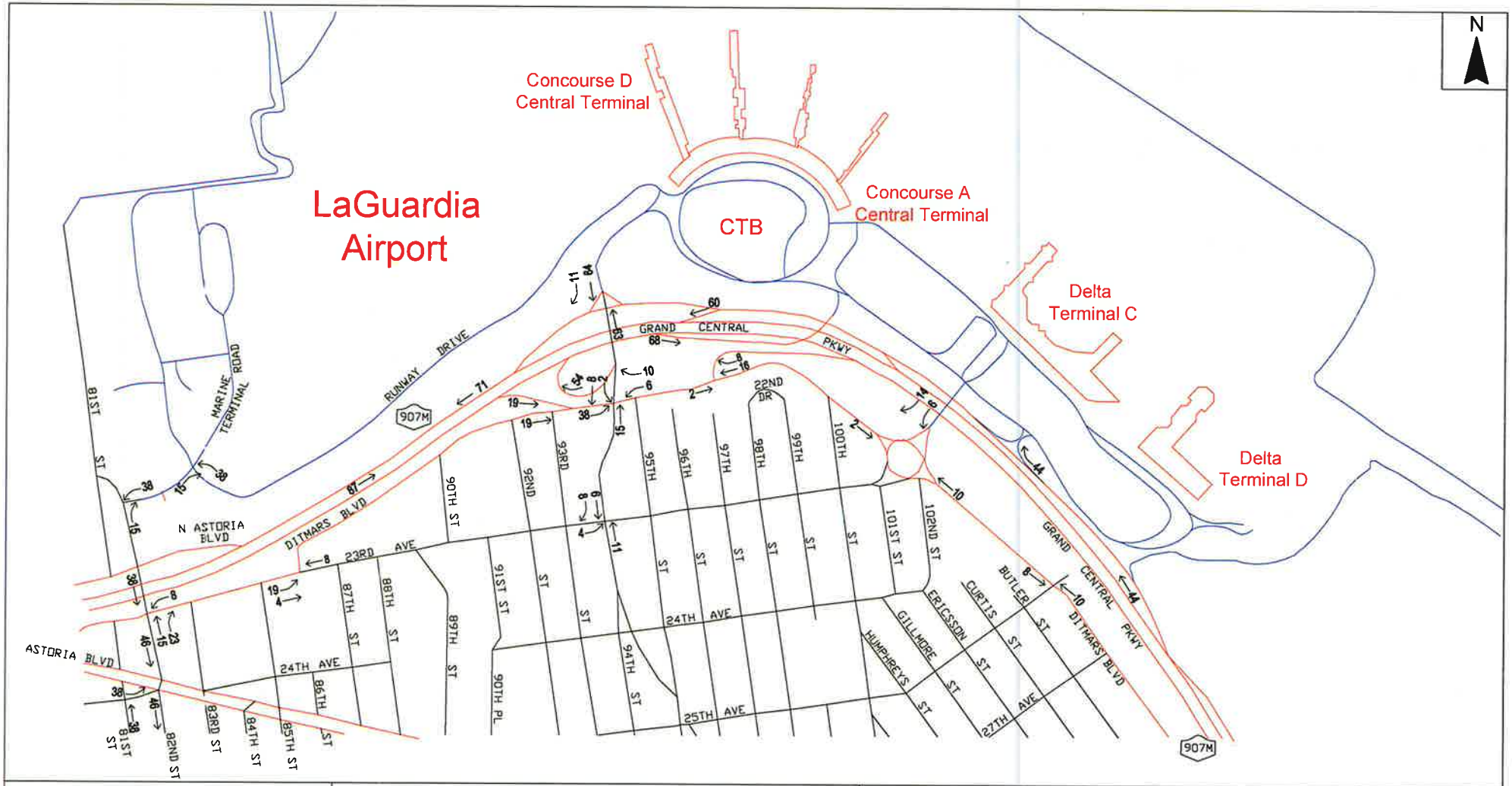
Estimated Outbound Trip Distribution Pattern
Weekday PM Peak Hour (4:00-5:00 PM)
Figure 5



AECOM	LaGuardia Airport CTB Redevelopment Environmental Assessment Queens, New York	Site-Generated Turning Movement Volumes Operation Condition Weekday AM Peak Hour (7:30-8:30 AM) Figure 6



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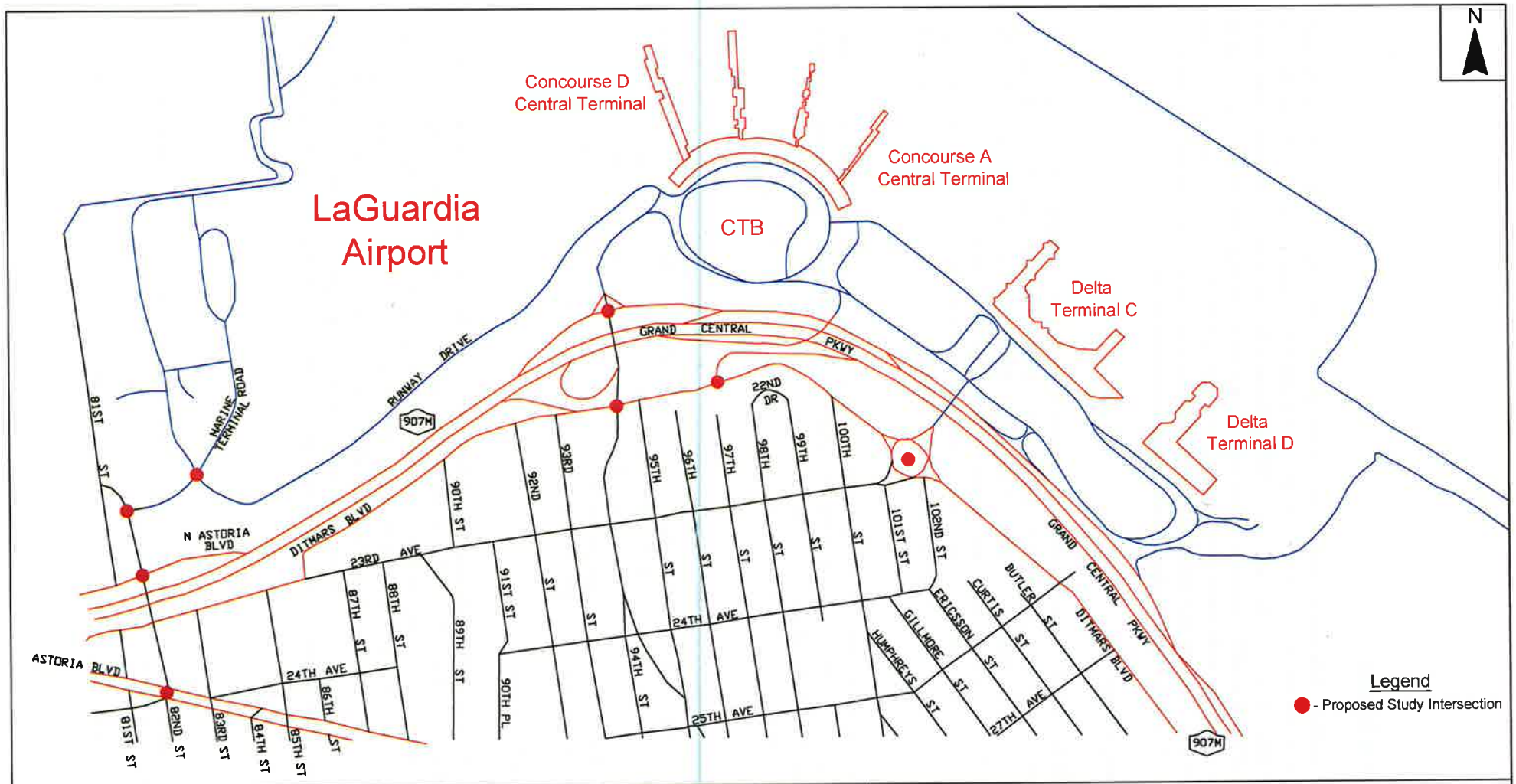
LaGuardia Airport CTB Redevelopment
Environmental Assessment
Queens, New York

Site-Generated Turning Movement Volumes
Operation Condition
Weekday PM Peak Hour (4:00-5:00 PM)
Figure 7



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LaGuardia Airport CTB Redevelopment
Environmental Assessment
Queens, New York

Recommended Study Area Intersections:
Operation Condition
Figure 8

Baseline Traffic Data Collection

Existing studies and other data sources will be reviewed to determine if recent, usable traffic counts and other relevant information are available at the proposed study intersections. Generally, for environmental reviews in accordance with the *CEQR Technical Manual*, traffic data older than three years are not considered usable. Because recent traffic data were not available, traffic counts were performed at the proposed study intersections during the 7:00 to 9:00 AM and 4:00 to 6:00 PM peak hours to establish year 2012 Existing (baseline) conditions. Baseline traffic counts were collected on a typical weekday in June 2012, before schools were closed for summer break.

Future No-Action Condition

The proposed CTB redevelopment is projected to be completed in 2022. However, the full passenger demand of 3.9 MAAP is not projected to materialize until 2030. Therefore, one Future No-Action horizon year (2030) will be studied. Under the Future No-Action condition, it is assumed that the current configuration and operation of, and access to/from, LaGuardia Airport will be retained. To establish year 2030 Future No-Action traffic volumes, the existing traffic volumes will first be increased by applying a compounded background growth rate of 5.91% in accordance with the 2012 *CEQR Technical Manual*.[1]

In addition, the projected increase in vehicular traffic associated with the background passenger growth (6.5 MAAP) anticipated at LaGuardia Airport will be included in the year 2030 Future No-Action traffic volumes. Furthermore, traffic expected to be generated by known developments scheduled to be completed and operational by 2030 will be estimated and added to arrive at the year 2030 Future No-Action traffic volumes.

The Future No-Action Condition will also reflect any planned roadway changes that are expected to be in place by 2030 including the 94th Street Bridge access to GCP, currently under rehabilitation. Relevant agencies including NYSDOT, NYCDOT, and NYCDCP have been contacted for information on No-Action projects and future roadway network changes. The only major development identified within the vicinity of LaGuardia Airport that is projected to generate significant volumes of additional traffic through the study intersections is the Willets Point Development District.

Future With-Action Condition

Vehicle trips estimated to be generated by the proposed Action will be added to the Future No-Action traffic volumes to produce the Future With-Action traffic volumes. In addition, traffic patterns at the proposed study intersections can be expected to be different under the Future With-Action Conditions due to the proposed roadway and ramp reconfigurations. As such, the Future With-Action condition analysis will account for the local reassignment of traffic associated with planned modifications to the roadway network and access configurations at LaGuardia Airport. The Future With-Action analyses will be performed for one horizon year (2030) and one phase of development (full build-out of the improved CTB).

[1] A compounded growth rate of 5.91% is calculated based on 0.50% growth from 2012 to 2017, plus 0.25% growth from 2017 to 2030, in accordance with *CEQR Technical Manual* guidelines.

PEDESTRIANS

As per the *CEQR Technical Manual, Chapter 16, Section 300. Assessment Methods*, quantified analysis for pedestrians would typically not be needed if the proposed development would result in fewer than 200 peak hour pedestrian trips. Although an increase in *on-site* (within the airport) pedestrian activity is expected, the proposed Action is not projected to generate more than 200 external pedestrian trips at any *off-site* locations (outside the airport). Therefore, a pedestrian assessment is not warranted for the proposed Action.

TRANSIT

LaGuardia Airport is not directly accessible via subway, and no modifications to subway service are proposed under the Action condition. Therefore, detailed subway analyses are not warranted for the proposed Action.

As per the *CEQR Technical Manual, Chapter 16, Section 300. Assessment Methods*, quantified analysis for bus transit would typically not be needed if the proposed development would result in fewer than 200 peak hour bus trips. It is expected that private bus carriers will continue to serve the airport under the proposed Action as well as provide more frequent service to accommodate the projected increase in passenger demand under both the Future No-Action and Future Action conditions. With respect to public bus service, based on the estimated trip generation, the proposed Action is not projected to increase public bus ridership by more than 200 new person-trips during any one peak hour. Therefore, according to *CEQR* guidelines, detailed bus analyses are not warranted for the proposed Action.

PARKING

As per the *CEQR Technical Manual, Chapter 16, Section 313.4. Parking*, a parking analysis may be needed if a quantified traffic analysis is necessary based on the initial screening analyses. Both the Port Authority and the Federal Aviation Administration (FAA) widely recognize that there is no existing parking deficiency at LaGuardia Airport, and this is not expected to change with the projected increase in passengers. The Port Authority estimates that the existing parking garage is largely underutilized, with utilization rates not exceeding approximately 65 percent under typical conditions. Furthermore, mode split surveys conducted by the Port Authority in 2010 indicate that fewer than five percent of the passengers arriving at the airport drive-and-park; the majority of passengers are dropped-off or take private or public transit.

The LaGuardia redevelopment project will rationalize the proposed parking supply with projected future parking demands within the airport through a spatial reallocation of parking supply throughout the facility. An objective of this rationalization process is to ensure that vehicles generated under the proposed Action (those belonging to both employees and airport customers) are entirely accommodated on-site in new and/or reconfigured parking facilities at the airport. Therefore, no off-site demand for parking is expected to occur on city streets in the vicinity of the airport. Because all parking demand is projected to be accommodated on-site, a parking assessment is not warranted for the proposed Action.

SAFETY ASSESSMENT

Once the study intersections are approved by NYCDOT, they will be screened to determine if any intersection qualifies as a "high crash" location. The *CEQR Technical Manual* defines a "high crash location" as those locations with 48 or more total reportable and non-reportable crashes—or five or more pedestrian/bicyclist injury crashes—in any 12-month period of the most recent three-year period for which data is available. Crash data from the NYCDOT will be reviewed for the most recent available three-year period at the study intersections. At any "high crash" locations, a detailed summary will be made of the type of crashes occurring at each location, by year. This summary will serve as the basis of an analysis of crash patterns. A determination will be made as to the likelihood, if any, that the proposed Action will contribute to a significant worsening of safety conditions.

CONSTRUCTION TRAFFIC

The Construction Traffic analysis will examine the potential operational effects of additional construction-related vehicle trips generated on the roadway system as a result of construction activities during the peak construction phase. Construction at LaGuardia Airport is assumed to begin in 2014 and continue through 2021. It is anticipated that daily parking for construction personnel and staging of construction equipment (a lay-down area) would be accommodated on Port Authority property at the Ingraham's Mountain site, located on the northeast quadrant of the 19th Avenue/45th Street intersection. It is anticipated that all construction personnel parking at Ingraham's Mountain will be transported by a private shuttle bus operator to and from work at the CTB construction site. In the evening, all construction personnel will depart the CTB construction site via shuttle bus and return to Ingraham's Mountain. The shuttle buses will utilize 45th Street and 19th Avenue, as well as on-airport roadways (e.g., Bowery Bay Boulevard and Runway Drive/LaGuardia Road) to travel between Ingraham's Mountain and the CTB. Construction traffic associated with the proposed Action will consist of passenger vehicles generated by construction personnel traveling to Ingraham's Mountain and construction trucks (i.e., delivery trucks, concrete mixers, construction equipment, etc.) traveling directly to the CTB construction site.

Construction Trip Generation

The Port Authority estimates that the total volume of construction-related traffic—including both trucks and construction personnel (i.e., laborers, management, and administrative staff)—would peak during the last quarter of 2015, with an average of approximately 1,408 construction personnel on-site daily during these months. During construction, travel to and from the site by means other than single-occupant vehicle will be encouraged and supported by the Port Authority. Based on discussions with Port Authority planning and construction staff, an average auto-occupancy rate of 1.50 and an auto mode share of 75 percent are assumed for construction personnel. The remaining 25 percent of construction personnel are projected to arrive and depart via city bus. The CTB at LaGuardia Airport is served by the M60, Q33, Q48, and Q72 bus lines which also provide connections to subway stations in Manhattan and Queens.

Based on discussions with Port Authority construction staff, all construction activities are expected to take place during two construction shifts. The first shift would occur from approximately 7:00 AM to approximately 3:00 PM and comprise approximately 90 percent of the total construction personnel workforce. The second shift would occur from approximately 3:00 PM to approximately 11:00 PM and comprise approximately 10 percent of the total construction personnel workforce. The majority of the

construction personnel travel (approximately 80 percent) in the first shift would typically take place during the hour immediately before the start of the shift and the hour immediately after the end of the shift, with the remaining travel occurring before and after these times due to the slight variations in the particular schedules and work activities of the various trades.

Based on discussions with Port Authority staff, the agency will coordinate with contractors to establish a daily schedule of goods deliveries that ensures on-time deliveries by minimizing truck travel during peak traffic periods, which can result in delays in transporting materials to and from the site. Construction truck trips to and from the site would generally be made between the hours of 4:00 AM and 10:00 PM. Truck arrivals generally expected to be generally uniform throughout this time period with slightly higher numbers of trips during the midday hours (8:00 AM to 1:00 PM) when on-site work activities are expected to peak. Some truck deliveries would also be made during off-peak times to ensure that materials are on-site prior to the start of the first shift. Trucks would typically remain on-site for relatively short durations (typically one hour or less).

Table 2 shows the numbers of construction personnel-related auto trips, as well as construction truck trips, during the peak construction quarter. The estimated daily vehicle trips were distributed to various hours of the day based on the projected work shift allocations and arrival/departure patterns of construction trucks, as described above.

Based on these assumptions, the peak hour construction traffic was estimated for the peak construction period. The total vehicle trips per hour are shown in **Table 2** along with passenger-car equivalent (PCE) values, which are based on 1.0 PCE per auto, 1.5 PCEs per shuttle bus, and 2.0 PCEs per truck.

Construction Trip Distribution

Figure 9 shows the estimated distribution for construction personnel-related auto trips during the weekday AM and PM peak hours. The trip distribution for construction personnel, shown in **Figure 9**, was estimated based on an analysis of 2010 Census data performed by the NY Building Congress showing home origins and work destinations for construction personnel working in Queens.

Figure 10 shows the estimated distribution of construction truck trips during the weekday AM and PM peak hours. The vehicle trip distribution for construction trucks, shown in **Figure 10**, was estimated based on the locations of NYCDOT "local" and "through" truck routes in the vicinity of LaGuardia Airport—including Astoria Boulevard and 94th Street-Junction Boulevard—and the locations of major expressways throughout Queens, including the Long Island Expressway, the Brooklyn-Queens Expressway, and the Van Wyck Expressway, which are expected to serve as the primary "through" truck routes to and from the CTB.

Table 2. Hourly Construction Vehicle Trip Increments (in PCEs) for LaGuardia Airport CTB Redevelopment during the Peak Construction Quarter (4th Quarter of 2015)

Average Daily Number of Construction Personnel during Peak Construction Quarter[1] = 1,408 Personnel in peak quarter

Percentage of Daily Construction Personnel Working First Shift[1] = 90%

Percentage of Daily Construction Personnel Working Second Shift[1] = 10%

Construction Personnel Auto-Occupancy[2] = 1.50

Construction Personnel Auto Mode Split[2] = 75%

Construction Personnel Transit Mode Split[2] = 25%

Average Daily Number of Construction Personnel Driving during Peak Construction Period[1] = 704

PCE for shuttle buses with 2 axles[3] = 1.5 passenger car equivalents/bus

Estimated passenger capacity per shuttle bus = 54 passengers/bus

Average Number of Daily Trucks during Peak Construction Period[4] = 128 trucks in peak quarter

PCE for construction trucks[3] = 2.0 passenger car equivalents/truck

Hour of Day	Temporal Distributions[1]						Auto Trips (Personnel): 1st Shift			Auto Trips (Personnel): 2nd Shift			Shuttle Bus Trips (Personnel): 1st Shift			Shuttle Bus Trips (Personnel): 2nd Shift			Truck Trips			Truck and Bus (PCE) Trips			Total Vehicle Trips			Total Vehicle Trips (PCEs)		
	Auto/ Bus IN: 1st Shift	Auto/ Bus OUT: 1st Shift	Auto/ Bus IN: 2nd Shift	Auto/ Bus OUT: 2nd Shift	Truck IN	Truck OUT	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
12-1AM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-2 AM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2-3AM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-4AM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5AM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5-6AM	10%	0%	0%	0%	5%	5%	63	0	63	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
6-7AM	80%	0%	0%	0%	5%	5%	507	0	507	0	0	0	14	14	28	0	0	0	6	6	12	15	15	30	71	8	79	78	15	93
7-8AM	10%	0%	0%	0%	5%	5%	63	0	63	0	0	0	2	2	4	0	0	0	6	6	12	33	33	66	527	20	547	540	33	573
8-9AM	0%	0%	0%	0%	6%	6%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	15	15	30	71	8	79	78	15	93
9-10AM	0%	0%	0%	0%	7%	7%	0	0	0	0	0	0	0	0	0	0	0	0	8	8	16	16	16	32	8	8	16	16	16	32
10-11AM	0%	0%	0%	0%	7%	7%	0	0	0	0	0	0	0	0	0	0	0	0	10	10	20	20	20	40	10	10	20	20	20	40
11AM-12PM	0%	0%	0%	0%	7%	7%	0	0	0	0	0	0	0	0	0	0	0	0	10	10	20	20	20	40	10	10	20	20	20	40
12-1PM	0%	0%	0%	0%	7%	7%	0	0	0	0	0	0	0	0	0	0	0	0	10	10	20	20	20	40	10	10	20	20	20	40
1-2PM	0%	0%	0%	0%	6%	6%	0	0	0	0	0	0	0	0	0	0	0	0	10	10	20	20	20	40	10	10	20	20	20	40
2-3PM	0%	10%	100%	0%	5%	5%	0	63	63	70	0	70	2	2	4	2	2	4	8	8	16	16	16	32	8	8	16	16	16	32
3-4PM	0%	80%	0%	0%	5%	5%	0	507	507	0	0	0	14	14	28	0	0	0	6	6	12	18	18	36	80	73	153	88	81	169
4-5PM	0%	10%	0%	0%	5%	5%	0	63	63	0	0	0	2	2	4	0	0	0	6	6	12	33	33	66	20	527	547	33	540	573
5-6PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	15	15	30	8	71	79	15	78	93
6-7PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
7-8PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
8-9PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
9-10PM	0%	0%	0%	0%	5%	5%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
10-11PM	0%	0%	0%	0%	0%	0%	0	0	0	0	0	0	0	0	0	0	0	0	6	6	12	12	12	24	6	6	12	12	12	24
11PM-12AM	0%	0%	0%	100%	0%	0%	0	0	0	0	70	70	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL =	100%	100%	100%	100%	100%	100%	633	633	1,266	70	70	140	36	36	72	4	4	8	128	128	256	316	316	632	872	872	1,744	1,020	1,020	2,040
						Check =	704	0																						

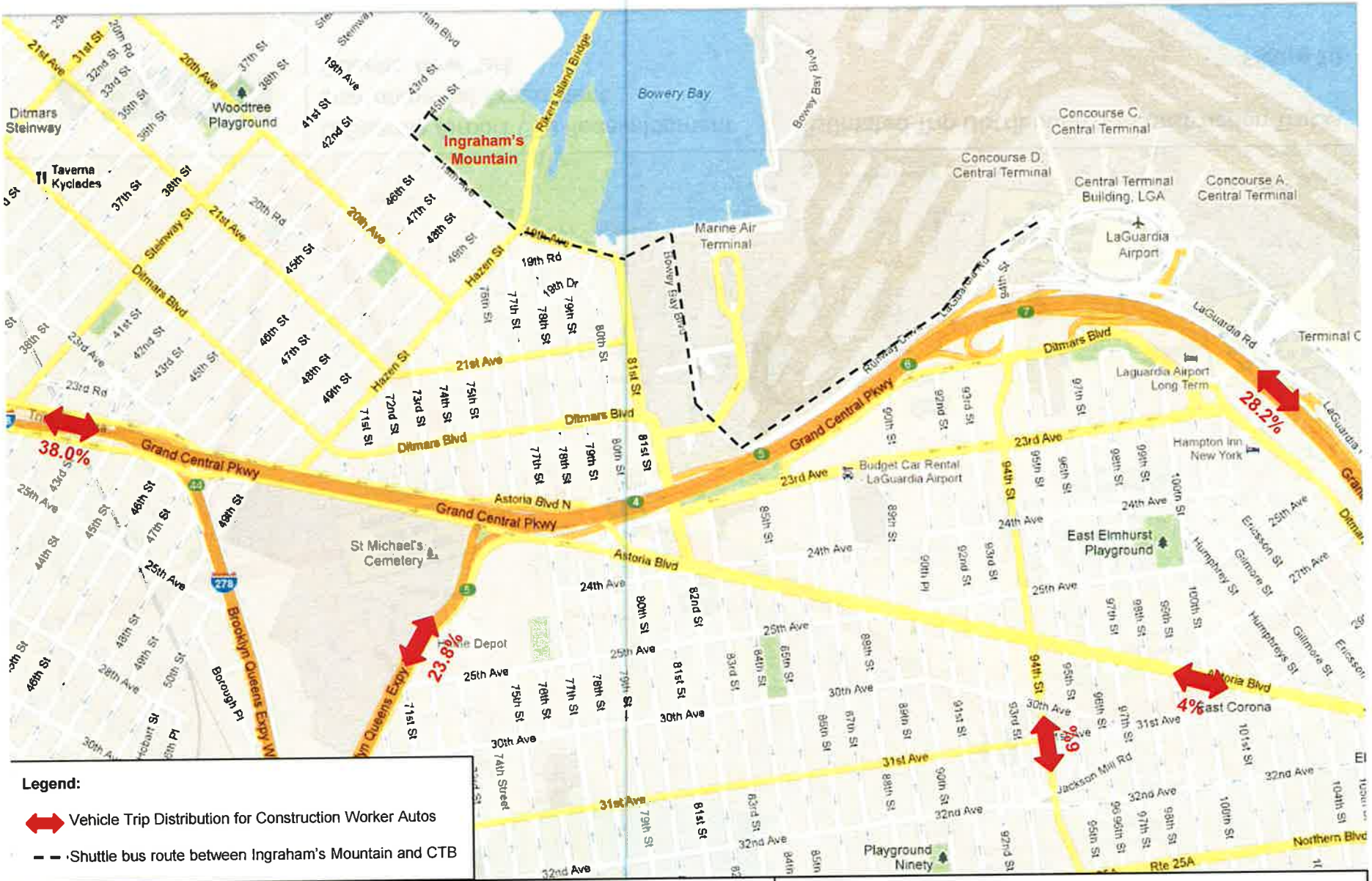
Note:

1 = From Port Authority planning and construction staff estimates.

2 = Estimated based on discussions with Port Authority planning and construction staff

3 = Based on *CEQR Technical Manual*, Table 16-3, page 16-11.

4 = Based on *LGA_TrucksByMonth_Table_27Dec2012Rev* document prepared by AECOM. This document contains detailed construction truck projections, by month, over the course of the entire construction schedule



AECOM

LaGuardia Airport CTB Redevelopment
Environmental Assessment
Queens, New York

Estimated Trip Distribution for Construction Workers' Private Autos & Potential Shuttle Bus Route

Figure 9

AECOM	LaGuardia Airport CTB Redevelopment Environmental Assessment Queens, New York	Estimated Trip Distribution for Construction Trucks **Figure 10**

Construction Trip Assignment

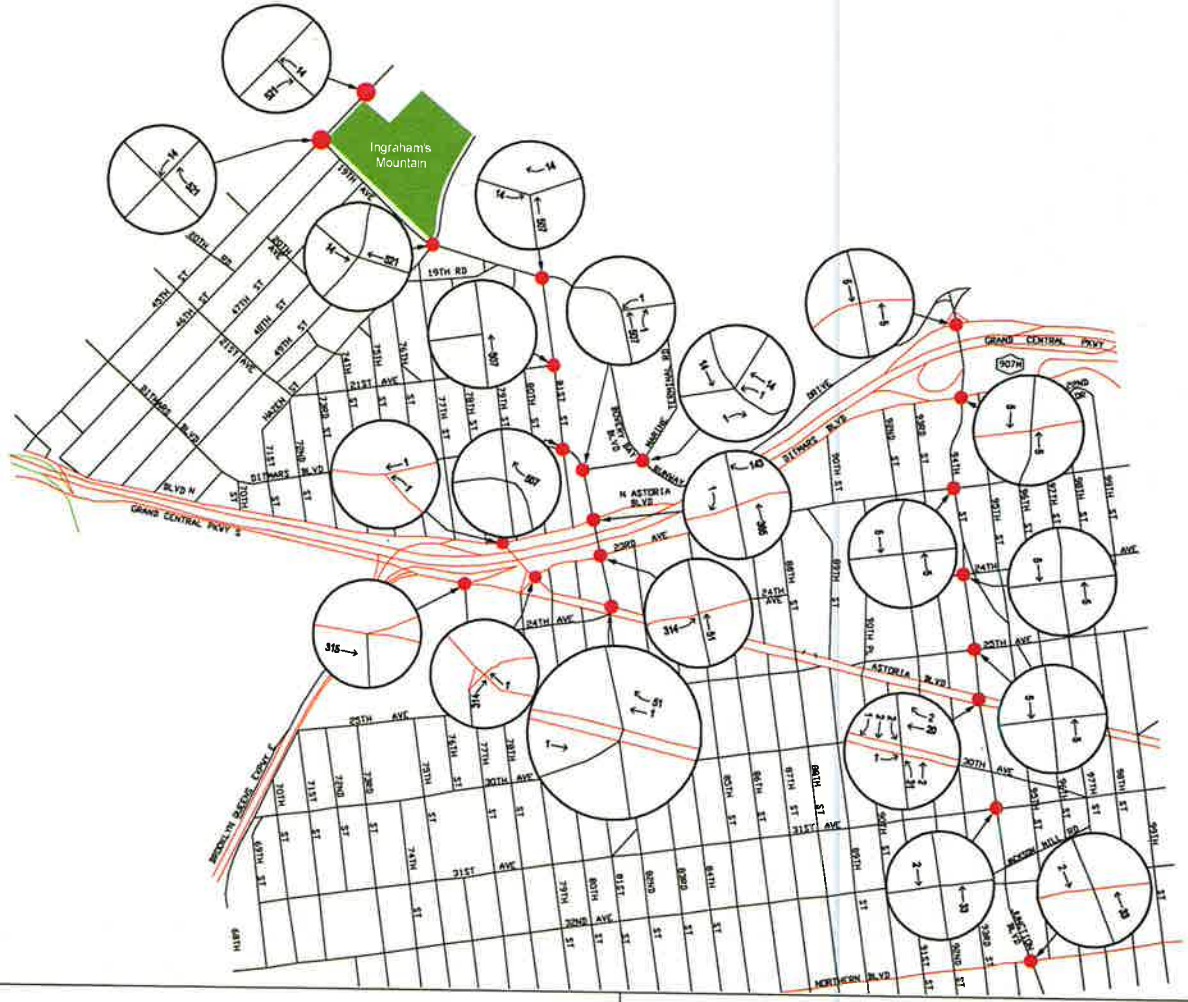
Figures 11 and 12 show the assignment of construction-related vehicle trips to the roadway network in the vicinity of LaGuardia Airport. The results of the construction trip assignment indicate that more than 50 PCE trips are projected to be generated through several key intersections in the vicinity of LaGuardia Airport as a result of construction-generated traffic associated with the proposed Action. Therefore, in accordance with the *CEQR Technical Manual,* a more detailed traffic analysis is warranted. Based on the result of the traffic assignment and our familiarity with the roadway network in the vicinity of LaGuardia Airport, we recommend the following 20 intersections be studied, as shown in **Figure 13**:

- LaGuardia Access Road / 94th Street
- Ditmars Boulevard / 94th Street
- 23rd Avenue / 94th Street
- 24th Avenue / 94th Street
- 25th Avenue / 94th Street
- Astoria Boulevard / 94th Street
- 31st Avenue / 94th Street
- Northern Boulevard / 94th Street
- Astoria Boulevard / 77th Street
- Astoria Boulevard North / 23rd Avenue
- Astoria Boulevard North / 79th Street (signal)
- Astoria Boulevard North / 82nd Street / Ditmars Boulevard
- 23rd Avenue / 82nd Street
- Astoria Boulevard / 82nd Street
- Ditmars Boulevard / Marine Terminal Road
- Bowery Bay Boulevard / Runway Drive / Marine Terminal Road
- 19th Avenue/45th Street
- 19th Avenue/Hazen Street
- 21st Avenue/81st Street
- Ditmars Boulevard/81st Street

The proposed study intersections for Construction conditions, listed above, will be analyzed using the Highway Capacity Software (HCS).

DATA AVAILABILITY

The *CEQR Technical Manual* requires that traffic count data be collected within the last three years (i.e., 2009 through 2012) and in non-summer months (i.e., when schools are in session) to ensure its validity. **Table 3** summarizes existing transportation-related data that was collected by the Port Authority at, or in the vicinity of, LaGuardia Airport. **Figure 14** illustrates the locations and types of data that were collected. As shown in **Table 3**, all the data were collected in 2010, and in August, which is the peak month of the year for passenger travel at LaGuardia Airport. Since schools are not in session during August, this data would normally be considered to be atypical. However, since August is a peak month for the generator (the airport) and since most of the traffic data collected is unique to the airport and was collected on-airport (detailed vehicle classification, bus dwell times, etc.), some of this data may be selectively used for on-airport analyses, such as air quality analysis. For traffic analysis purposes however, new data collected in June 2012 (when schools were still in session) will be used. It should be noted that based on historical passenger data, June is the second highest month for passenger activity at LaGuardia Airport (after August).



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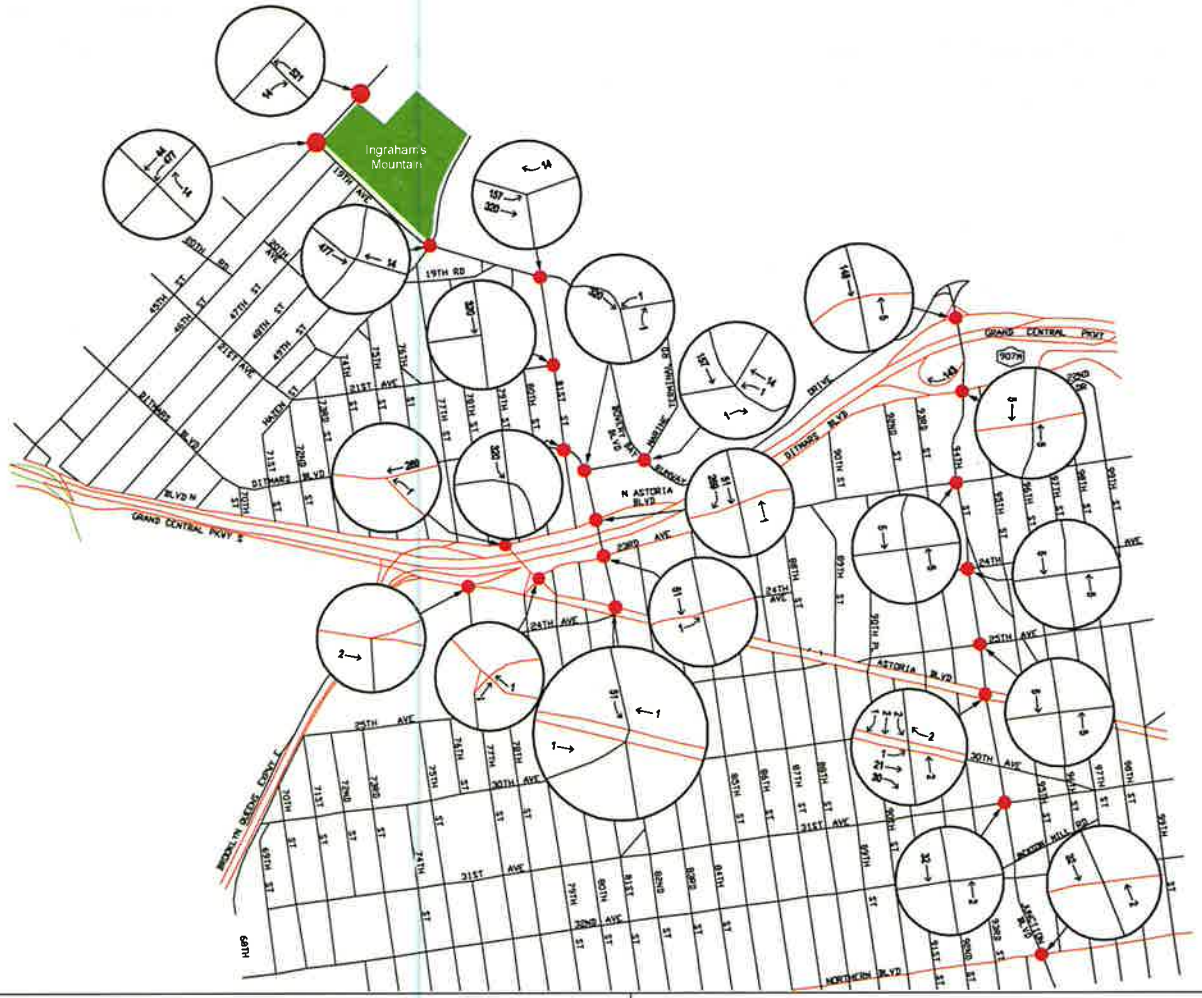
LaGuardia Airport CTB Redevelopment
Environmental Assessment
Queens, New York

Site-Generated Traffic Assignments
Construction Condition
Weekday AM Peak Hour (6:00 to 7:00 AM)
Figure 11



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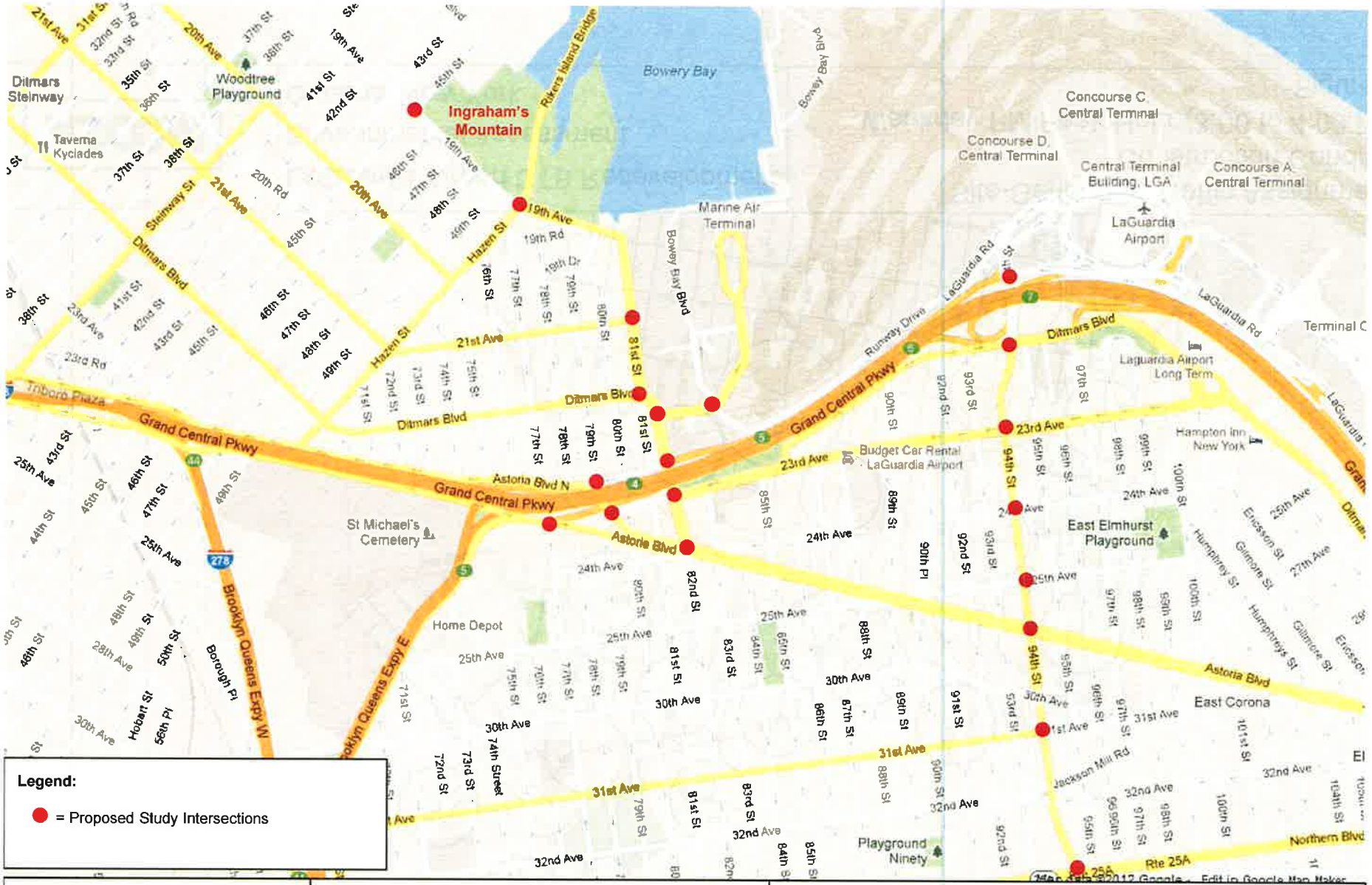
LaGuardia Airport CTB Redevelopment
Environmental Assessment
Queens, New York

Site-Generated Traffic Assignments
Construction Condition
Weekday PM Peak Hour (3:00 to 4:00 PM)
Figure 12



AECOM

LaGuardia Airport CTB Redevelopment
Environmental Assessment
Queens, New York

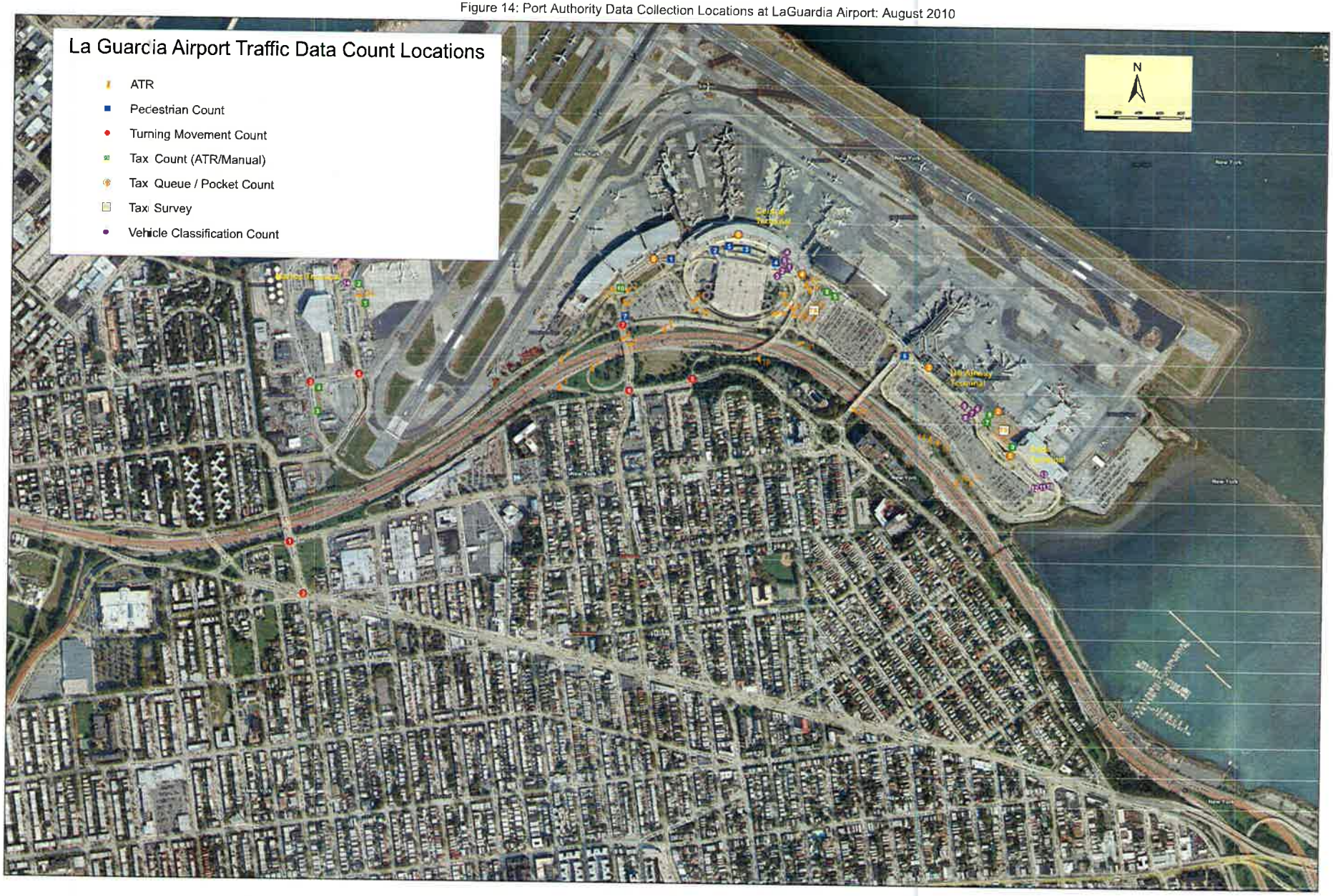
Recommended Study Area Intersections:
Construction Condition
Figure 13

Table 3. Summary of Traffic Data Provided by Port Authority[1]
LaGuardia Airport Redevelopment Environmental Assessment

Type of Data	Location(s)	Dates	Times	Comments	File location
Dwell Time Surveys (2010)	CTB - Arrivals Level, Inner Frontage	Wednesday, August 18, 2010	6-10am; 2-6pm		2012_02_21_ Traffic Data/Item 1/Appendix A/Dwell Time
	CTB - Arrivals Level, Middle Frontage	Wednesday, August 18, 2010	6-10am; 2-6pm		
	CTB - Arrivals Level, Outer Frontage	Wednesday, August 18, 2010	6-10am; 2-6pm		
	CTB - Departures Level, Inner Frontage	Wednesday, August 18, 2010	6-10am; 2-6pm		
10-Class Vehicle Classification Surveys (2010)[2]	CTB - Lower Level, Inner Roadway	Wednesday, August 18, 2010	6-10am; 2-6pm		2012_02_21_ Traffic Data/Item 1/Appendix A/VCC
	CTB - Lower Level, Middle Roadway	Wednesday, August 18, 2010	6-10am; 2-6pm		
	CTB - Lower Level, Outer Roadway	Wednesday, August 18, 2010	6-10am; 2-6pm		
	CTB - Upper Level, Inner Roadway	Wednesday, August 18, 2010	6-10am; 2-6pm		
	CTB - Upper Level, Outer Roadway	Wednesday, August 18, 2010	6-10am; 2-6pm		
	US Airways - Lower Level, Inner Roadway	Thursday, August 19, 2010	6-10am; 2-6pm		
	US Airways Terminal - Lower Level, Middle Roadway	Thursday, August 19, 2010	6-10am; 2-6pm		
	US Airways Terminal - Lower Level, Outer Roadway	Thursday, August 19, 2010	6-10am; 2-6pm		
	US Airways Terminal - Upper Level, Inner Roadway	Thursday, August 19, 2010	6-10am; 2-6pm		
	Delta Terminal - Upper Level, Inner Roadway	Friday, August 20, 2010	6-10am; 2-6pm		
	Delta Terminal - Lower Level, Inner Roadway	Friday, August 20, 2010	6-10am; 2-6pm		
	Delta Terminal - Lower Level, Middle Roadway	Friday, August 20, 2010	6-10am; 2-6pm		
	Delta Terminal - Lower Level, Outer Roadway	Friday, August 20, 2010	6-10am; 2-6pm		
	Marine Terminal -	Thursday, August 19, 2010	6-10am; 2-6pm		
Automatic Traffic Recorder (ATR) Data (2010)[3]	94th Street at LaGuardia Road (northbound)	8/17/2010 to 8/31/2010	24 hours	Loc1	2012_02_21_ Traffic Data/Item 1/ATR
	Central Terminal Drive to LaGuardia Road (eastbound)	8/17/2010 to 8/31/2010	24 hours	Loc2	
	GCP EB exit ramp to Ditmars Blvd/94th Street intersection (eastbound)	8/17/2010 to 8/31/2010	24 hours	Loc3	
	GCP WB entrance ramp from 94th Street (westbound)	8/17/2010 to 8/31/2010	24 hours	Loc4	
	GCP EB entrance ramp from 94th Street intersection (eastbound)	8/17/2010 to 8/31/2010	24 hours	Loc5	
	94th Street between GCP EB and WB mainlines (northbound)	8/17/2010 to 8/31/2010	24 hours	Loc6	
	94th Street between GCP EB and WB mainlines (southbound)	8/17/2010 to 8/31/2010	24 hours	Loc7	
	GCP WB entrance ramp from GCP service road (westbound)	8/17/2010 to 8/31/2010	24 hours	Loc8	
	GCP EB entrance ramp from Ditmars Blvd. (eastbound)	8/17/2010 to 8/31/2010	24 hours	Loc10	
	LaGuardia Road EB off-ramp to GCP service road (eastbound/westbound?)	8/17/2010 to 8/31/2010	24 hours	Loc14	
	GCP service road WB off-ramp to GCP service road (eastbound/westbound?)	8/17/2010 to 8/31/2010	24 hours	Loc15	
	GCP EB exit ramp to GCP service road WB (eastbound/westbound?)	8/17/2010 to 8/31/2010	24 hours	Loc16	
	LaGuardia Rd. from GCP service road entering Delta Terminal (eastbound)	8/17/2010 to 8/31/2010	24 hours	Loc17	
	GCP Exit 17 to CTB Lower Level (northbound)	8/17/2010 to 8/31/2010	24 hours	Loc23	
	GCP Exit 17 to CTB Upper Level (northbound)	8/17/2010 to 8/31/2010	24 hours	Loc24	
	LaGuardia Rd. to CTB Upper Level (northbound)	8/17/2010 to 8/31/2010	24 hours	Loc25	
	LaGuardia Rd. to CTB Lower Level (northbound)	8/17/2010 to 8/31/2010	24 hours	Loc26	
	GCP Exit 17 to CTB La Guardia Rd. (eastbound)	8/17/2010 to 8/31/2010	24 hours	Loc27	
	Central Terminal Drive to CTB Lower Level (westbound)	8/17/2010 to 8/31/2010	24 hours	Loc28	
	LaGuardia Rd. before merge with CTB Upper Level roadway (eastbound)	8/17/2010 to 8/31/2010	24 hours	Loc29	
	CTB Upper Level roadway before merge with LaGuardia Rd. (eastbound)	8/17/2010 to 8/31/2010	24 hours	Loc30	
	LaGuardia Rd. ramp to GCP service road west (westbound)	8/17/2010 to 8/31/2010	24 hours	Loc31	
	102nd St. northbound to LGA north of GCP (northbound)	8/17/2010 to 8/31/2010	24 hours	Loc32	
	Central Terminal Drive Conn Runway Dr. w/o W Taxi Hold (southbound)	8/17/2010 to 8/31/2010	24 hours	Loc33	
	Marine Terminal Rd. between taxi exit and entrance (northbound)	8/17/2010 to 8/31/2010	24 hours	Loc34	
Pedestrian Counts (2010)	Crosswalks between Central Terminal Drive and LaGuardia Road	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 1	2012_02_21_ Traffic Data/Item 1/Appendix A
	Crosswalk at west end of Central Terminal Building (Upper Level Bridge)	Wednesday, August 18, 2010	6-10am; 2-6pm	Loc 2	
	Crosswalk at-grade of Central Terminal Building Lower Level	Wednesday, August 18, 2010	6-10am; 2-6pm	Loc 3	
	Crosswalk at east side of Central Terminal Building (Upper Level Bridge)	Wednesday, August 18, 2010	6-10am; 2-6pm	Loc 4	
	Crosswalk at-grade, Central Terminal Building lower level	Wednesday, August 18, 2010	6-10am; 2-6pm	Loc 5	
	Crosswalk from 102nd Street Bridge to Central Terminal Drive west	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 6	
	Sidewalks on 94th Street on Service Road	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 7	
Turning Movement Counts (2010)	82nd Street / 23rd Avenue/ Grand Central Parkway South Service Road	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 1	2012_02_21_ Traffic Data/Item 1/Appendix A
	82nd Street / Astoria Boulevard / 24th Avenue	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 2a & 2b	
	Bowery Bay Blvd. / Fiorello Lane	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 3	
	Marine Terminal Road / Fiorello Lane	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 4	
	On-ramp at Ditmas Blvd.	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 5	
	94th Street / Ditmas	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 6	
	94th Street / Grand Central Parkway North Service Road	Thursday, August 19, 2010	6-10am; 2-6pm	Loc 7	
Synchro files (2011)	2010 Base Year Airport Peak AM	Wednesday, May 18, 2011			2012_02_21_ Traffic Data/Item 3/Base Year Synchro Files
	2010 Base Year Airport Peak PM	Wednesday, May 18, 2011			
Speed Runs (2010)	GCP eastbound	8/20/10 and 8/25/10	6-10am; 2-6pm	Entrance of 33rd Street to Exit 9E	2012_02_21_ Traffic Data/Item 5
	GCP westbound	8/20/10 and 8/25/10	6-10am; 2-6pm	Entrance of GCP Service Rd. to Hazen Street	
	Local roads (LGA Access Rd, LGA Rd., 94th St, Ditmars Blvd., 23rd Ave.)	Wednesday, August 25, 2010	6-10am; 2-6pm	Various locations	
	Marine Terminal (various locations)	Thursday, August 19, 2010	6-10am; 2-6pm	Various locations	
	DeltaUS (various locations)	Monday, August 23, 2010	6-10am; 2-6pm	Various locations	
	Central Terminal Building (various locations)	Tuesday, August 24, 2010	6-10am; 2-6pm	Various locations	
Bus Headways	For 20 private and public bus routes	Not provided	Not provided		2012_02_21_ Traffic Data/Item 6/Bus Service Headway

Notes:
1: This table does not summarize data collected prior to 2010, which was deemed too old for purposes of this project.
2: Classifications are: Auto, Yellow Taxi, For-Hire Vehicle, Point-to-Point Bus, Courtesy Vehicle, On-Airport Bus, Off-Airport Bus, Delivery Vehicle, Authorized Vehicle, and Others.
3: Tube counts.

Figure 14: Port Authority Data Collection Locations at LaGuardia Airport: August 2010



GRAND CENTRAL PARKWAY FREEWAY FACILITY ANALYSIS

Study Area

The proposed study area of the Grand Central Parkway "freeway facility" analysis is 2.3 miles long extending approximately from west of the Northern Boulevard Interchange to west of Grand Central Parkway off-ramp to Astoria Boulevard. Separate analyses will be performed for each direction of travel on the Grand Central Parkway. As shown in **Figure 15**, the following is a listing of the proposed study locations (including basic freeway segments, weaving segments, merge segments, and diverge segments), by direction, along the Grand Central Parkway:

Westbound Direction

1. GCP east of GCP Exit 7 (basic freeway segment)
2. GCP Exit 7 off-ramp: LaGuardia Airport Terminals B, C, D / 94th Street (diverge)
3. GCP between Exit 7 and 94th Street Interchange (basic freeway segment)
4. Airport Service Road on-ramp to GCP westbound (merge)
5. 94th Street on-ramp to GCP westbound (merge/start weaving segment)
6. GCP Exit 5: off-ramp to 82nd Street (diverge/end weaving segment)
7. GCP Exit 4 off-ramp: Brooklyn-Queens Expressway-Staten Island (diverge)
8. Astoria Boulevard North on-ramp to GCP westbound (merge)
9. GCP west of Astoria Boulevard North on-ramp (basic freeway segment)

Eastbound Direction

1. GCP west of Exit 5 off-ramp (basic freeway segment)
2. GCP Exit 5 off-ramp: Astoria Boulevard-82nd Street Terminal (diverge)
3. BQE northbound on-ramp to GCP eastbound (merge)
4. Astoria Boulevard on-ramp to GCP eastbound (merge)
5. GCP, between 82nd Street and 94th Street interchanges (basic freeway segment)
6. GCP Exit 6 off-ramp to 94th Street (diverge)
7. GCP Exit 7 off-ramp to LaGuardia Airport CTB (diverge)
8. Ditmars Boulevard + 94th Street on-ramp to GCP eastbound (merge)
9. GCP basic freeway segment east of airport overpass (basic freeway segment)

For analysis purposes, the above "freeway segments" will further be subdivided into *"analysis segments"* for consistency with the analysis procedures in Chapter 10: Freeway Facilities of the HCM 2010.

Proposed Peak Time Periods

Up to two, three-hour peak periods that include the weekday AM and PM peak hours for the GCP and LaGuardia Airport as determined by the Port Authority of NY & NJ and one hour before and after the peak hours will be analyzed. These weekday peak hours are understood to be 6:45 to 7:45 AM and 4:45 to 5:45 PM. It should be noted that these time periods do not coincide with the weekday AM and PM peak hours for traffic on the local street network (i.e., 7:30 to 8:30 AM and 4:00 to 5:00 PM), which is being analyzed separately.

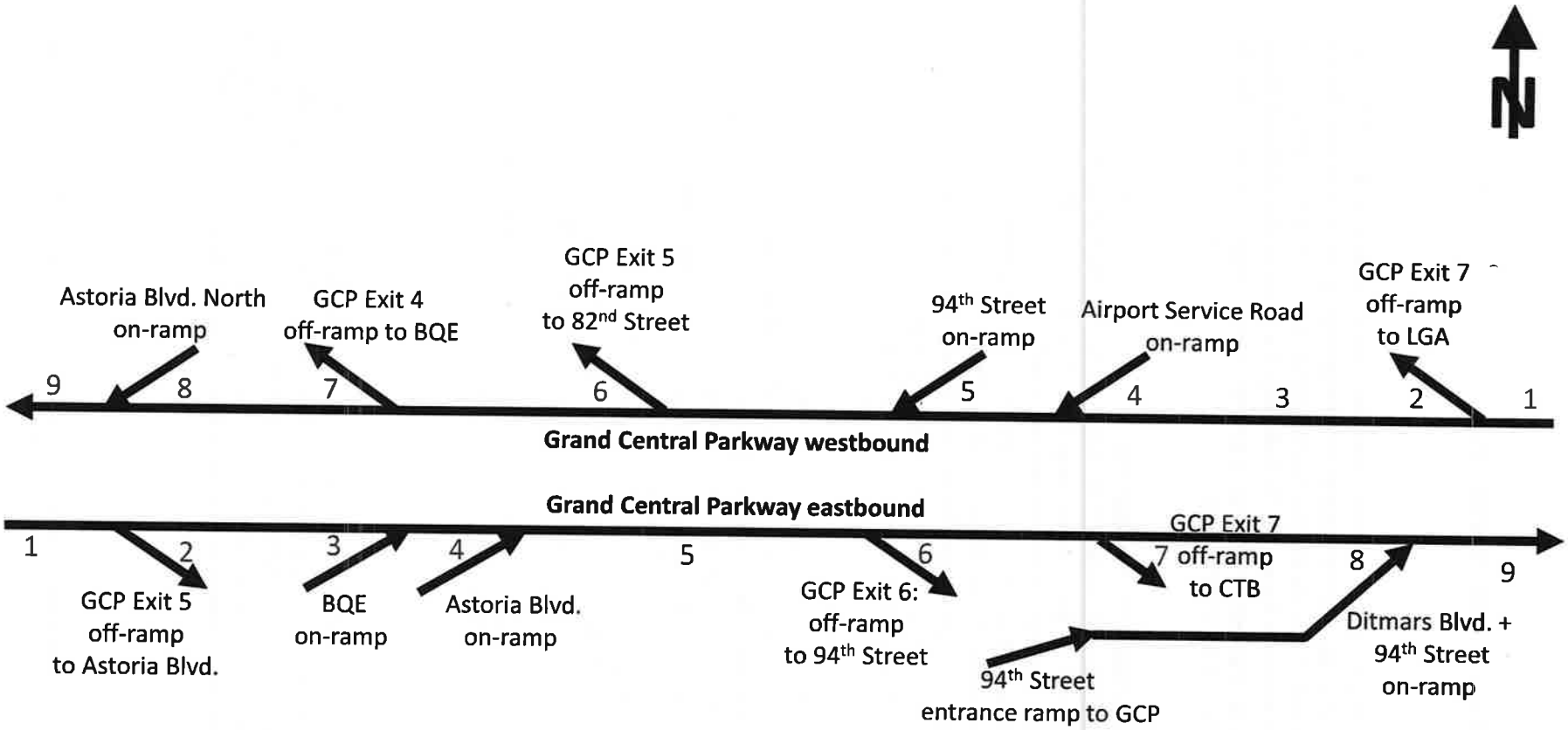


Figure 15: Schematic of Proposed Study Locations for Freeway Facility Analysis
LaGuardia Airport Central Terminal Building Redevelopment Environmental Assessment

Because the analysis peak hours for the GCP freeway system and the local street network are different, a separate set of new traffic assignments for the weekday AM and PM peak hours *for the GCP/LaGuardia Airport* will be prepared by AECOM. These traffic assignments will be prepared using the same trip generation methodology applied in the local street network analysis, as well as the weekday AM and PM peak hour trip distributions from the analysis of the local street network (based on Port Authority data). This second set of traffic assignments will be assigned to the GCP freeway system to project future conditions and evaluate the operational performance of the GCP.

Proposed Analysis Scenarios

The scenarios proposed to be analyzed are the following:

- **Year 2012 Base**
  - For consistency, analyses conducted for year 2012 existing conditions will use baseline traffic volumes and geometries obtained from the Port Authority for the weekday AM and PM peak hours of the GCP/LaGuardia Airport. These peak hour volumes will need to be subdivided into 15-minute flow rates for *"freeway facility"* analysis purposes. No new data will be collected by AECOM.
  - Because the volumes available from the Port Authority are for a baseline year of 2010, we will adjust volumes to reflect projected traffic growth between 2010 and 2012. The applicable growth rate for Queens, listed in Table 16-3 of the *CEQR Technical Manual* (i.e., 0.5 percent per year, or 1.0 percent total growth between 2010 and 2012) will be applied to the baseline 2010 volumes to reflect 2012 conditions.
  - As per direction from the NYSDOT and the Port Authority, the geometry to be used for the year 2012 base conditions analysis includes programmed improvements currently being implemented in the vicinity of the 94th Street interchange and other geometric improvements on the eastbound GCP (weave elimination, ramp consolidation/reconfiguration, lane addition) as illustrated in Figure 15.

- **Year 2030 No-Action**
  - The projected future traffic volumes used in the year 2030 No-Action conditions analysis will be based on the Port Authority's existing baseline volumes, and increased to reflect continued background traffic growth over time between 2012 and 2030, traffic estimated to be generated by major planned development projects in the area (such as Willets Point) and the addition of traffic associated with an additional 6.5 Million Annual Air Passengers (i.e., a total of 30.1 MAAP).
  - The background traffic growth rate used will be the applicable traffic growth rates for Queens from Table 16-4 the *CEQR Technical Manual*, as described previously (i.e., 0.5 percent per year).
  - The weekday AM and PM peak hour trip generation estimates and traffic assignments associated with the additional 6.5 MAAP will be estimated by AECOM using the trip generation methodology described previously.
  - The geometry used for the year 2030 No-Action conditions analysis will reflect the programmed improvements currently being implemented in the vicinity of the 94th Street interchange (as noted above under "Year 2012 Base").
  - One future No-Build scenario (2030) will be analyzed.

- **Year 2030 Action**
  - The projected future traffic volumes used in the year 2030 Action conditions analysis will be the future year 2030 No-Action conditions volumes, plus traffic assignments associated with an additional 3.9 MAAP (i.e., a total of 34.0 MAAP).
  - The weekday AM and PM peak hour trip generation estimates and traffic assignments associated with the additional 3.9 MAAP will be estimated by AECOM using the trip generation methodology described previously, and assumptions presented in the Transportation Planning Assumptions memo.
  - The geometry used for the year 2030 Action conditions analysis will be proposed "Build" geometric improvements for the GCP and LaGuardia Airport, to be identified by the Port Authority.

Analysis Methodology

The identified Grand Central Parkway study freeway sections (mainline segments, ramp segments, and weaving segments) will be analyzed using the HCM 2010 Freeway Facilities methodology that analyzes extended lengths of freeway composed of continuously connected basic freeway, weaving, merge, and diverge segments. Analysis will be performed using FREEVAL *(FREway EVALuation)*, the official computational engine that implements this methodology. In accordance with the input requirements of FREEVAL, the weekday AM and PM peak periods will be subdivided into up to eight (8) distinct 15-minute intervals, each with 15-minute flow rates expressed in vehicles per hour (vph).

Operational performance measures produced by the methodology for individual segments and for the facility as a whole, for a given time interval, include the following:

- Average space mean speed (mi/h),
- Average density (pc/mi/ln),
- Volume-to-capacity ratio (v/c),
- Demand-to-capacity ratio (d/c)
- Vehicle miles of travel (VMT),
- Vehicle hours of travel (VHT), and
- Travel time (min/veh)

CEQR Technical Manual Criterion for Identifying Potential Significant Impacts

NYCDOT has recently refined the *CEQR Technical Manual* criteria for significant traffic impacts for highway or ramp sections, including mainline capacity sections, weaving areas, and ramp junctions. Based on discussions with NYCDOT staff, these new criteria are expected to be formally published in a revised May 2013 edition of the *CEQR Technical Manual*. The criteria state that densities on such facilities should not increase by more than the values stated below between the No-Action and With-Action conditions:

- LOS D: 5 passenger cars/mile/lane
- LOS E: 4 passenger cars/mile/lane
- LOS F: 3 passenger cars/mile/lane

For No-Action LOS A, B, and C, deterioration to Mid-LOS D is considered acceptable. These criteria will be applied for purposes of identifying potential significant impacts in the analysis of the study section of the Grand Central Parkway.

CONCLUSIONS

Based on *CEQR Technical Manual* guidelines, it was determined that no further analyses of Pedestrian, Transit, or Parking are required for the proposed Action. For Operational Traffic and Construction Traffic conditions, it is recommended that detailed quantitative analyses be performed for the locations and time periods described in this memorandum. In addition, a safety assessment of the study intersections should be performed as described in this memorandum.

June 15, 2012 Correspondence with NYCDOT

The following is our response to the June 7, 2012 comments received from the New York City Department of Transportation (NYCDOT) in connection with the Transportation Planning Assumptions memorandum that was submitted by AECOM as part of the LaGuardia Airport Central Terminal Building Redevelopment EA on May 31, 2012. It should be noted that based on the comments provided below, the Transportation Planning Assumptions memorandum will be revised by AECOM and resubmitted to NYCDOT. The NYCDOT comments from June 7, 2012 are shown below in *italics*, with our responses following in regular type.

1. *Page one identifies an increase in 11 MAAP over the next two decades, which is considered as part of the Future No-Action condition. Based on the presentation given at DOT on May 8th, the CTB is deficient and handles 12 MAAP today; however, 17.5 MAAP will be handled by the new CTB. It is not clear why the increase in MAAP is not analyzed as part of the with-Action condition. Without the redevelopment project, LaGuardia Airport would not be able to process the increase in MAAP.*

   Based on subsequent discussions with the Port Authority, the passenger forecasts have been revised. The table below compares the most recent forecast annual passenger levels under the future year 2030 No-Action and Action scenarios, as well as year 2010 existing passenger levels.

Year 2010 Existing Conditions	**Year 2030 No-Action Conditions**	**Year 2030 Action Conditions**
23,600,000 annual passengers	30,100,000 annual passengers	34,700,000 annual passengers

   As shown in the table, the difference between existing passenger levels (i.e., 23.6 MAAP in 2010) and the Federal Aviation Administration's (FAA) forecast (i.e., 30.1 MAAP in 2030) will be included in the future No-Action condition. In other words, a future background growth in passenger volume of 6.5 MAAP (i.e., 30.1 MAAP minus 23.6 MAAP) is expected whether or not the CTB is improved.

   In contrast, the difference between the 2030 Action and No-Action scenarios as a result of the CTB Redevelopment Program is 4.6 MAAP (i.e., 34.7 MAAP minus 30.1 MAAP). Therefore, the EA will study the potential environmental impacts associated with the 4.6 MAAP increase.

2. *The May 8th presentation indicates a reduction in the number of parking spaces. Please indicate the type of parking to be reduced (i.e. long-term, short-term, etc.) Will the number of parking spaces provided under the with-Action condition be sufficient given the increase in MAAP? Page 6 screens out a parking assessment. Please provide hourly parking utilization surveys for the existing conditions, as well as projected hourly parking accumulation tables to justify screening out a parking assessment.*

   Both the Port Authority and the FAA widely recognize that there is no existing parking deficiency at LaGuardia Airport, and this is not expected to change with the projected increase in passengers. The Port Authority estimates that the existing parking garage is largely underutilized, with utilization rates not exceeding approximately 50 to 60 percent under typical conditions. (AECOM is working with Port Authority to obtain parking utilization data to support this estimate.) Furthermore, mode split surveys conducted by the Port Authority in 2010 indicate that fewer than five percent of the passengers arriving at the airport drive-and-park; the majority of passengers are dropped-off or take private or public transit.

The LaGuardia CTB Redevelopment project will rationalize and "right-size" the proposed parking supply with projected future parking demands within the airport through a spatial reallocation of parking supply throughout the facility. An objective of this rationalization process is to ensure that vehicles generated under the proposed Action (those belonging to both employees and airport customers) are entirely accommodated on-airport in new and/or reconfigured parking facilities. Therefore, no off-site demand for parking is expected to occur on city streets in the vicinity of the airport. Because all parking demand is projected to be accommodated on-airport, a parking assessment is not warranted for the proposed Action.

3. *Please provide plans showing the existing and proposed roadway improvements mentioned on pages one, two and four. Please explain why the four intersections shown in Figure 2 are proposed to be studied. Please provide maps showing the local reassignment patterns of traffic due to the roadway and access modifications.*

   Attached is an aerial photograph with an overlay showing the proposed roadway improvements at LaGuardia Airport as part of the CTB Redevelopment project. Because nearly all traffic arrives and departs LaGuardia Airport via Grand Central Parkway, the local reassignment of traffic is expected to be limited to intersections providing direct access to and from the Grand Central Parkway. Therefore, the analysis is limited to the eight key intersections located in the immediate vicinity of the airport, which provide access routes to/from the Grand Central Parkway.

4. *Please explain why an increase in the on-site pedestrian activity is expected under the with-Action condition and no increase in vehicular activity is expected under the with-Action condition.*

   See Comment #1. Increases in both vehicular and pedestrian activity are expected as a result of the proposed Action. The pedestrian increases will all occur on-airport.

5. *We recommend adding the intersection of Astoria Boulevard and 82nd Street for both the operational and construction period analyses.*

   This intersection has been added to the scope as a study intersection for both operation and construction periods.

6. *Please provide the August 2010 data collection program results. This is needed to determine whether the proposed peak periods to be counted include the peak hours of airport traffic.*

   The results of the August 2010 data collection program are voluminous and will be sent to NYCDOT separately from this memorandum. The weekday peak hours used by the Port Authority in modeling traffic conditions on-airport were 7:45 to 8:45 AM and 4:45 to 5:45 PM, which are included within the proposed count periods. Therefore, the airport peaks will be captured in our traffic data collection efforts.

7. *Please note the truck trip generation should be based on the peak quarter provided by the construction manager, not the Bedford Stuyvesant Rezoning EA. This should account for both the CTB and roadway construction.*

   Information regarding projected truck trips was not available from the Port Authority. Therefore, the truck trip generation for the LGA CTB Redevelopment project was estimated based on truck trip generation rates used in the Bedford-Stuyvesant EA and other recent projects. For the actual construction analysis, the truck trip generation estimates will be discussed with the Port Authority and refined as appropriate.

8. *Please provide the backup information for Figure 3 (analysis of the 2010 Census data mentioned on Page 3).*

   The spreadsheet showing the 2010 Census data from the NY Building Congress is attached.

9. *Please provide justification for the shuttle bus occupancy of 54 workers per bus.*

   The shuttle bus occupancy was estimated assuming a full-size transit bus (i.e., 54 seats) being fully-occupied. If a smaller shuttle bus is planned for use, the occupancy may be lower, and the number of shuttle bus trips would increase. This assumption will be discussed with the Port Authority and refined as appropriate.

10. *Please indicate the truck entrance/exit location(s).*

    The trucks are expected to enter and exit via two locations: A) 94th Street, and B) 82nd Street-Ditmars Boulevard-Marine Terminal Road. Both 94th Street and 82nd Street are local truck routes.

11. *We recommend assigning 10% of construction worker trips to the local streets. We do not expect 100% of workers to travel to the site via highway.*

    The trip distribution has been revised to reflect 10% of construction worker trips arriving via local streets (i.e., Astoria Boulevard and 94th Street).

12. *Please indicate how many trucks are expected to travel to the site via Northern Boulevard.*

    During the weekday AM peak hour for construction (6:00 to 7:00 am), a total of approximately 21 trucks are projected to travel to and from the site via Northern Boulevard. No truck trips are projected during the weekday PM peak hour (3:00 to 4:00 pm), because this hour represents the end of the construction shift.

13. *Page 6 indicates HCS will be utilized for the four proposed off-airport locations identified under the operational (2022) condition. Please indicate what software will be used for the construction analyses. In addition, how will the traffic circle at 23rd Avenue and Ditmars Boulevard be analyzed?*

    The HCS software will also be used to analyze traffic operations under construction conditions. The traffic circle at 23rd Avenue/Ditmars Boulevard operates as a series of one-way stop-controlled intersections, and will be analyzed as such.

14. *We recommend adding the following intersection for the construction analyses:*
    a. *Astoria Boulevard and 82nd Street;*
    b. *31st Avenue and 94th Street; and*
    c. *Northern Boulevard and 94th Street.*

    The intersections noted above have been added to the scope as study intersections for the construction condition.

15. *It is our understanding that this project should follow NEPA, SEQRA, and CEQR. Will highway mainline, weaving and/or ramps and ramp junctions be analyzed to fulfill NEPA, SEQRA and CEQR requirements?*

    The need for analysis of highway mainline, weaving, ramps, etc. will be discussed with NYSDOT.

16. *It is not clear which direction of travel will be counted with ATRs. For example, on 82nd Avenue between 23rd Avenue and Astoria Boulevard, will ATRs be placed to collect both northbound and southbound traffic? Also, there are by-pass lanes at the traffic circle at 23rd Avenue and Ditmars Boulevard. From the ATR location map provided, we cannot tell whether ATRs would be placed on the by-pass lanes. Please clarify the discrepancies.*

On divided and one-way roadways, the ATRs will be placed to count only the approach volumes at the nearest intersection (departure volumes will not be counted). On undivided roadways, the ATRs will be placed to count both arrival and departure volumes.

At the traffic circle on 23rd Avenue/Ditmars Boulevard, the ATRs will be placed a sufficient distance upstream of the circle to capture both the stop-controlled and by-pass movements (i.e., separate ATRs will not be placed across the stop-controlled and bypass legs).

17. *We recommend adding the following ATR locations:*
    a. *Northbound approach of Astoria Boulevard between 78th and 79th Streets (on the overpass);*
    b. *Eastbound westbound approaches of the intersection of 31st Avenue and 94th Street;*
    c. *Eastbound westbound approaches of the intersection of Northern Boulevard and 94th Street; and*
    d. *All approaches at the intersection of Astoria Boulevard and 82nd Street.*

    The ATRs noted above have been added to our scope.

18. *Please contact DEP regarding all air quality analyses related questions.*

    Understood. We will contact DEP for all air quality related questions.

Attachments:
- Aerial photograph illustrating proposed roadway improvements
- 2010 Census data from NY Building Congress

January 29, 2013 Correspondence with NYCDOT

The following is our response to the September 26, 2012 comments received from the New York City Department of Transportation (NYCDOT) in connection with the Step 1 Screening Analysis technical memorandum (dated June 26, 2012) that was submitted by AECOM as part of the LaGuardia Airport Central Terminal Building Redevelopment EA.

It should be noted that based on the comments provided below, and based on subsequent discussions with staff at the Port Authority of New York and New Jersey (the Port Authority), additional refinements to the trip generation estimate have been made. These refinements are described below and the revised trip generation estimate is included. Also, the Transportation Planning Assumptions memorandum will be revised by AECOM and resubmitted to NYCDOT. The backup data requested by NYCDOT is included on an accompanying CD.

The NYCDOT comments from September 26, 2012 are shown below in *italics*, with our responses following in regular type.

1. *The Level 1 screening analysis memorandum references a revised TPA memorandum provided to DOT, however, we received a response to comments memorandum and Level 1 screening analysis. Please provide the revised TPA memorandum.*

   A revised Transportation Planning Assumptions memorandum will be submitted to NYCDOT. This revised memorandum will reflect the latest refinements to the passenger forecasts (i.e., 3.9 million annual air passengers [MAAP] for the Build condition) developed by the Port Authority, a modified study horizon year (2030), and other refinements as described in our responses to the comments below.

2. *The memorandum identifies origin-destination data produced as part of the VISSIM traffic simulation model on page 5, as well as a VISSIM modeling study on page 18. Please provide this information, as well as the model.*

The origin-destination data was developed based on field data collection efforts conducted by the Port Authority in 2010. The origin-destination data is included in the accompanying data backup CD, in the PDF file titled: "PA Provided OD Data-05-10-2011". The existing and future conditions VISSIM models are currently being developed/refined by the Port Authority and are not available for review by NYCDOT at this time. We will notify NYCDOT when the model is completed and ready for review.

3. *Please explain why June was selected as the non-summer peak month.*

The accompanying backup data CD contains an Excel file titled "Historical LGA Passenger Profiles." This Excel file contains tables that summarize the average daily air passenger traffic at LaGuardia Airport, by month, from 2002 through 2011, obtained from the Port Authority's annually-published "Air Traffic Reports" from 2002 through 2011, which can be found online at the bottom of this webpage: http://www.panynj.gov/airports/general-information.html

These tables indicate that, between 2002 and 2011, the highest number of average daily air passengers at LaGuardia Airport typically occurs during the month of August, followed by June. While August has the highest number of average daily air passengers and is the peak month for traffic generated by LaGuardia Airport, the summer time period (i.e., mid-June through Labor Day weekend in early September) is not considered a valid study period according to the guidance in the *CEQR Technical Manual.* This is because traffic conditions are not considered typical, due to schools being closed for the summer, vacation-related travel taking place, and other factors. The remainder of the year is considered valid for study, provided that associated data collection efforts do not coincide with holidays, severe weather, or other atypical conditions.

On average, June has the second highest number of average daily air passengers at LaGuardia Airport. June also coincides with a period of the year where schools are in session (first two to three weeks) and, therefore, is a more representative month for traffic analysis at locations outside of the airport. Therefore, June was selected as the peak month for this analysis. (It should also be noted that the traffic counts for this project were also conducted in early June 2012, when schools were in session.)

4. *Please provide the Air Traffic reports identified in footnote one of "Travel Demand Assumptions and Estimated Trip Generation Characteristics" (Table 1). In addition, please provide the percentage of annual visitors for each month.*

Please see response to Comment 3, above. A link to the Port Authority's online Air Traffic Report publications is provided, and the "Historical LGA Passenger Profiles" Excel file in the accompanying backup data CD contains the percentages of annual visitors for each month, based on the data contained in the Air Traffic Reports.

5. *The average daily visitor assumes equal distribution of trips over weekday and the weekend. Please justify the assumption. Is distribution by day of week available?*

This aspect of the trip generation estimate has been revised based on data provided by the Port Authority. ATR data collected at 25 on-airport locations over the course of a continuous seven-day period was used to identify the total daily traffic volumes for each day during the course of a typical week. This data is provided in the Excel file titled: "ATR data – used for trip gen_2012-11-06" and summarized on the "Summarized Adjst Factor" tab on the backup data CD.

As shown in the Excel file, at each ATR location, the total daily traffic volume recorded on each day was compared to the corresponding traffic volume for the "average day" during that week (i.e., the average volume over the entire seven-day period) and an adjustment factor was calculated for each day. The data indicates that—on average, for all 25 ATR locations—traffic volumes on Wednesday and Thursday are higher than the "average day" by approximately four

percent and 10 percent, respectively, whereas the traffic volumes on Tuesday are approximately equal to the average. Combining the results for these three mid-week days yields an average adjustment factor of 1.046 (i.e., the three mid-week days experience daily volumes that are 1.046-percent higher than the average daily traffic volume during the course of the week). This increase for the mid-week days is reflected in the revised trip generation calculations.

6. *Please provide the ATRs used in the development of temporal distribution of passenger trips (comment 2).*

   The accompanying backup data CD contains an Excel file called "ATR data – used for trip gen_2012-11-06". The "Summary" tab in this Excel file contains a summary of ATR data collected by the Port Authority at 25 individual locations throughout LaGuardia Airport. As shown in cells AB98 and AB99 on the "Summary" tab, during the AM and PM peak hours of the off-airport roadway system (i.e., 7:30 and 8:30 AM, and 4:00 and 5:00 PM), the AM and PM peak hour volumes generated by LaGuardia Airport represent 4.67 percent and 6.04 percent, respectively, of the total daily traffic volume. Therefore, these percentages were incorporated into the trip generation calculations to estimate the proportion of total daily Airport-generated trips that are projected to occur during the AM and PM peak hours at the (off-airport) study intersections.

7. *Please justify the percentage of connecting passengers. This should be based on actual data/information.*

   The percentage of connecting passengers at LaGuardia Airport cited in each of the Port Authority's published "Airport Traffic Reports" from 2002 through 2011 is summarized in the Excel file titled "LGA Percentages of Connecting Passengers" on the backup data CD. The data from these years indicates that the percentage of connecting passengers ranged between as little as four to eight percent in 2002-2003, to as high as nearly 31 percent in 2005-2006. To ensure a conservative analysis of off-airport trip generation, the trip generation estimate assumes only five percent of all passengers are connecting at LaGuardia Airport (i.e., 95 percent of all passengers have origins or destinations off Airport premises). The five percent connection rate is a reasonably conservative (i.e., low) estimate of the percentage of connecting passengers, considering the range and magnitude of rates identified during the course of the Port Authority's surveys from 2002 to 2011.

8. *Please explain what the mode split is based on. Footnote 4 identifies that the modal split was provided by PANYNJ, but does not identify how the information was derived. Was a survey performed?*

   Yes, mode split data was obtained as part of interviews performed by the Port Authority Aviation Department's annual survey of passengers at all terminals at LaGuardia Airport (as well as other Port Authority airports). The results are presented in the Excel file "Mode split 2010" on the backup data CD.

9. *The vehicle occupancy and directional distribution should not be assumed. Please utilize an acceptable source such as other EASs and EISs or a survey for a similar facility.*

   Both of these aspects of the trip generation estimate have been revised based on data for the LaGuardia Airport Central Terminal Building (CTB) provided by the Port Authority. Directional distributions for the AM and PM peak hours were calculated based on the inbound and outbound traffic volumes observed traveling to and from the arrival and departure levels at the CTB during the morning and evening peak hours. The source data is included in a PDF file titled: "PA Provided OD Data-05-10-2011" on the backup data CD, and is further summarized in an Excel file titled: "Directional Dist for the CTB_2012-10-01_KM" also included on the backup data CD.

   Vehicle occupancies for various vehicle types were calculated based on lane-by-lane observations of vehicle occupancies conducted by the Port Authority on the roadways outside the

arrival and departure levels at the CTB during the AM and PM peak hours in conjunction with dwell time surveys. The source data is included in the various Excel files under the folder: "Dwell Time Surveys" on the backup data CD, and is further summarized in an Excel file titled: "Vehicle Occupancy_2012-11-06" also included on the backup data CD.

10. *Table 1 does not identify an increase in employees. Will there be new employees due to the CTB redevelopment?*

    No net increase in employees is expected as a result of the proposed Action. Although some increase in employees is expected to result from enhanced facilities (e.g., increased concession space) at the CTB, this increase is expected to be offset by new technologies and associated operational efficiencies that reduce existing labor requirements.

11. *Please provide assignment maps showing drop-off/pick-up trips and park and ride trips separately.*

    Figures showing the projected weekday AM and PM peak hour trips, separately for each mode, are included on the backup data CD. The hourly volumes in these figures reflect the most recent trip generation estimate, described above.

12. *At our July 26th meeting with PANYNJ, drawings showing the modifications to the roadway network and access configurations were presented. DOT requested a copy of these drawings; however, we did not receive them. Please provide.*

    Additional refinements have been made to the drawings since the July 26th meeting. A meeting will be coordinated with NYCDOT at a later date to present and discuss the latest drawings and plans.

13. *Please note that ATRs should have been placed on approaches (not departure volumes) on undivided roadways as well as on the stop-controlled approaches and by-pass movements at the traffic circle on 23rd Avenue/Ditmars Boulevard.*

    To clarify, Figure 14 of the Level 1 Screening Analysis technical memorandum identifies the locations of ATR counts that were conducted *separately* by the Port Authority in August 2010, prior to the start of this study. For the purposes of *this* study, ATRs were collected in June 2012 at the following locations that were identified through discussions with NYCDOT staff:

    - Ditmars Boulevard / 94th Street – north (north of the access ramp on bridge) and west legs
    - 23rd Avenue / 94th Street – south and east legs
    - Astoria Boulevard / 94th Street – north, south, east and west legs
    - Astoria Boulevard / 77th Street – west leg
    - Astoria Boulevard North / 79th Street – west leg
    - 23rd Avenue / 82nd Street – east leg
    - Ditmars Boulevard / Marine Terminal Road – south and east legs
    - Ditmars Boulevard / 23rd Avenue / LaGuardia Airport access road (rotary intersection) – north, south, east and west legs (*Note: separate ATRs were not placed on the by-pass legs, but the by-pass legs were counted separately as part of the turning movement counts*)
    - Astoria Boulevard between 78th and 79th Streets (on the overpass) – northbound approach
    - 31st Avenue / 94th Street – eastbound and westbound approaches
    - Northern Boulevard / 94th Street – eastbound and westbound approaches
    - Astoria Boulevard / 82nd Street – all approaches

    The locations listed above are illustrated in a PDF file titled "Figure 2_ATR Locations – 2012-06-08" on the backup data CD. At all locations, approach counts were conducted. Where possible, on undivided roadways, departure counts were also conducted simultaneously.

14. *Please explain why the 6.5 MAAP background passenger growth anticipated over 20 years (2030) will be included in the 2022 analysis year.*

    The Port Authority's projected MAAP increase, and the future analysis year, have both been revised subsequent to preparation of the June 26 Level 1 Screening Analysis technical memorandum reviewed by NYCDOT. Although the projected opening year for the Central Terminal Building (CTB) remains 2022, the future analysis year has been changed from 2022 to 2030, because it is projected that it will take approximately eight years following opening of the CTB to fully realize all of the forecast passenger growth associated with the new CTB.

    In addition, as of this writing, the Port Authority's projections indicate increases of 6.5 MAAP under the No-Action condition, and an additional 3.9 MAAP under the With-Action condition. The Transportation Planning Assumptions memorandum will be revised accordingly to reflect these changes. A revised trip generation estimate, reflecting the latest MAAP increase for the With-Action condition—as well as other refinements noted above—is included on the backup data CD as an Excel file titled: "LGA Redevelopment EA Trip Generation Estimate_2012-11-06".

15. *Please note that the background growth rate should be compounded.*

    Comment noted. For purposes of future year analyses, a compounded growth rate of 5.91 percent (i.e., a 1.0591 adjustment factor) will be applied to the existing traffic volumes to reflect background traffic growth between 2012 and 2030, in accordance with the guidance in Table 16-4 of the CEQR Technical Manual for "Other Queens" areas.

16. *Please provide assignment maps for the construction vehicles and workers separately.*

    Separate trip assignment maps—for construction vehicles and construction workers—are included on the backup data CD.

Attachment:

- Backup data CD

February 24, 2014 Correspondence with NYCDOT

The following is our response to the comments dated January 23, 2014 from the New York City Department of Transportation (NYCDOT) in connection with the pre-draft Transportation Appendix that was submitted by AECOM as part of the LaGuardia Airport Central Terminal Building Redevelopment EA. These comments were received by AECOM via the Mayor's Office of Environmental Coordination (MOEC) on January 27, 2014.

It should be noted that, based on the comments provided below, and based on subsequent discussions with staff at the Port Authority of New York and New Jersey (the Port Authority), additional refinements to the traffic analysis have been made. These refinements are described below and the requested backup and supplemental analysis information is included on a CD that will be transmitted to NYCDOT staff under separate cover.

The NYCDOT comments from January 23, 2014 are shown below in *italics*, with our responses following in regular type.

1. Please provide a complete copy of the EA for review.

The Draft EA is substantially complete. However, we cannot release the entire EA for review because a few sections are still being reviewed for approval prior to release.

2. The EA identifies operational improvements to be implemented in 2030 (analysis year). The project will be completed and operational by the end of 2021. Are there any improvements that need to be implemented prior to 2030? Please provide supporting analyses.

The improvements identified as part of the year 2030 Operation condition analysis include traffic signal timing modifications at four intersections, and re-striping plus signal phasing improvements at a fifth intersection. No capital improvements (i.e., roadway widening) are needed at the off-airport study intersections. The timing for implementation of these improvements (sometime between 2021 and 2030) will need to be further coordinated with NYCDOT staff.

3. Please provide drawings showing the existing airport layout. In the LaGuardia (LGA) Central Terminal Building (CTB) Project Description Memorandum, other terminals, lots (P2, 3, 4), aircraft hangars are referenced. Please indicate all of these locations on the existing map of the airport.

A drawing showing the existing airport facilities has been included as new Figure A.1-1 in the Transportation Appendix, and is included on the backup data CD.

4. Please explain why the LGA Runway Safety Area (RSA) Enhancement and CTB Redevelopment project are not analyzed as one EA with their cumulative impacts on the natural and human environment.

The FAA determined early on that the RSA and CTB projects at LaGuardia Airport have independent utility; accordingly, FAA advised that each project should be evaluated in a separate EA document and that each EA should discuss the potential cumulative impacts of both projects.

5. The following study intersections overlap with the LGA RSA Enhancement Environmental Assessment:

a. Astoria Boulevard North and 23rd Avenue
b. Astoria Boulevard North and Astoria Boulevard North Service Road/79th Street
c. Astoria Boulevard North and 82nd Street/Ditmars Boulevard
d. 23rd Avenue and 82nd Street
e. Ditmars Boulevard and Marine Terminal Road
f. Ditmars Boulevard and 81st Street
g. 21st Avenue and 81st Street
h. 19th Avenue and Hazen Street
i. 19th Avenue and 45th Street
j. 19th Avenue and 81st Street (LGA Access Road)

The consultants for each project should coordinate to create a standard HCS file for these intersections. Furthermore, the construction schedules of the LGA CTB (2014-2021, peak is fourth quarter of 2015) and RSA enhancements (2014-2016, 2014 construction analysis) overlap. Please verify that the consultant has included both construction sites and resulting trip generation in the construction traffic analyses. In addition, both EAs analyze different hours as the AM peak (CTB- 6-7 AM, RSA- 6:30-7:30 AM), utilize different impact criteria and transportation planning assumptions, etc. Both projects should develop one common baseline network for construction (CTB existing condition is 2012 and RSA is 2013), utilize the same HCS analyses, traffic planning assumptions for construction related trips and impact criteria following the 2012 CEQR Technical Manual Guidelines. Please have the consultant ensure both EAs are consistent.

The construction traffic analyses prepared as part of both the CTB EA (by AECOM) and the RSA EA (by VHB) were closely coordinated to the extent practical to ensure consistency in the traffic analysis for both projects. It should be noted that the schedules for preparation and approval of each project were much different due to the differences in the scope, timing, and complexity of each project.

The RSA EA was initiated by the Port Authority and VHB well after the start of the CTB EA using a set of traffic count data collected independently from the CTB EA's data collection program. (The RSA received approval in January 2014.) Due to significant changes in the CTB's construction management plan, the

traffic analysis study area for the CTB EA was expanded west to Ingraham's Mountain, at which point the CTB EA made use of available raw turning movement count data provided by VHB from the RSA EA.

The construction traffic analysis for the CTB EA does include the overlapping peak hour construction traffic volumes generated by the RSA that are expected during the peak analysis time frame for the CTB (i.e., fourth quarter of 2015). These volumes are included on the backup data CD. As noted above, because the construction peak hours for each project are slightly different, different baseline volumes—corresponding to the respective peak hours—were derived for each project from the raw data.

6. Please have the consultant provide a summary table showing how 7:30-8:30 AM and 4:00-5:00 PM were determined to be the peak hours for background traffic based on the 2012 count program. In addition, as per page A-13 the background traffic peak hours and airport hours (6:45-7:45 AM and 4:45-5:45 PM) overlap. Please have the consultant determine the peak hours to be analyzed based on the following guidance provided in the 2012 CEQR Technical Manual:

> *In some cases, the peak condition to analyze is obvious because the peak hour of the project's trip generation would coincide with the existing peak hour. In other cases, the two peak hours may be very close, and it may be proper to use the existing peak hour and later, during the impact analysis stage, to superimpose the peak trip generation of the proposed project onto the peak existing condition. In yet other cases where the two peaks are not coincidental (or nearly coincidental), a screening analysis is needed to determine which of the two peaks (the existing peak or the proposed project's peak) would reflect the worst impact condition, or whether both hours require detailed study.*

The Excel file named "Operation System Peak Hour_12-08-09_KM.xlsx" is included on the backup data CD. This file summarizes the total entering traffic volumes at each of the study intersections for the Operation condition during the 5:30-9:00 AM and 2:30-6:00 PM peak periods. As shown in that file, the hours with the highest observed existing traffic volumes during the weekday AM and PM peak periods were determined to be 7:30-8:30 AM and 4:00-5:00 PM. It should also be noted that the weekday AM and PM peaks for traffic activity at LaGuardia Airport on a typical mid-week day coincide with approximately these same hours. Therefore, the combination of existing peak hour traffic observed on the roadway network, coupled with the peak hour traffic generated by the proposed redevelopment of the CTB, represented a reasonable worst-case scenario for traffic conditions on the study area roadway network.

7. Page A-20 indicates that counts were performed when construction related to ramps to and from the Grand Central Parkway (GCP) in the vicinity of the 94th Street interchange was underway and that these improvements were included in the existing condition analysis at the direction of PANYNJ. Please provide plans showing the pre-construction and post-construction conditions. The on-going construction at this location has probably affected the traffic volumes at on ramps, as well as at study intersections in the vicinity. How were the existing traffic analyses (both HCS and FREEVAL) modified to reflect normal operations? Please provide the traffic counts for the GCP East on-ramp at 94th Street. In addition, was the intersection of Ditmars Boulevard and GCP signalized when the traffic counts were taken? If not, the intersection should not be analyzed as a signalized location under the Existing condition. Please have the consultant provide the official signal timing for this location.

Plans illustrating the roadway improvements in the vicinity of the 94th Street interchange, superimposed over the existing roadway geometry, are included on the backup data CD.

Traffic counts at the study intersections were conducted in 2012 when improvements to the 94th Street interchange were already underway. However, it should be noted that these improvements did not materially alter basic traffic patterns on local streets in the vicinity of the interchange—relative to pre-construction conditions—because the numbers and configurations of the lanes at the LaGuardia Access Road/94th Street and Ditmars Boulevard/94th Street intersections were maintained during construction. The purpose of the 94th Street interchange improvements are to improve safety and operations along the Grand Central Parkway mainline by eliminating weaving, and to streamline the movement of vehicles

among the Grand Central Parkway, LaGuardia Airport, and local streets (i.e., Ditmars Boulevard) by increasing maneuver and storage distances, rather making changes to traffic patterns on local streets.

The signalization of the Ditmars Boulevard/GCP eastbound on-ramp was done to improve safety and operations for vehicles making eastbound left-turns from Ditmars Boulevard onto the GCP eastbound on-ramp. The signalization of the intersection is not expected to significantly change local traffic patterns to a degree that would necessitate a reassignment of traffic. As recommended by NYCDOT, the existing conditions analysis of the Ditmars Boulevard/GCP eastbound on-ramp intersection has been revised to its original unsignalized configuration. All future conditions analyses continue to reflect the current signalized configuration. The revised HCS analyses are included on the backup data CD.

8. Please have the consultant justify the differences between the ATR summaries (2 week Tues-Thurs average) and the existing volume flow maps (FM):

a. AM Peak Hour (FM/ATR)

i. Ditmars Boulevard/23rd Ave and LGA Access Road- westbound (318/475)

b. PM Peak Hour (FM/ATR)

ii. Ditmars Boulevard/23rd Ave and LGA Access Road- westbound (164/328)

We acknowledge the difference between the ATR and the flow maps. Because of the complexity of vehicle movements traveling through this unconventional rotary intersection, four surveyors were used to count the various vehicle movements at this location in the field and ensure coverage of the proper movements. We considered this data to be more reliable than the ATR data, and therefore decided to use the manual turning movement counts as the basis for the volumes analyzed at the intersection.

9. Please have the consultant justify the differences between the Turning Movement Count (TMC) summaries and the existing volume flow maps (FM):

a. AM Peak Hour (FM/TMC)

i. Ditmars Boulevard/82nd Street and North Astoria Boulevard- southbound through (872/1108)

ii. Ditmars Boulevard/82nd Street and North Astoria Boulevard- southbound right (189/259)

iii. Ditmars Boulevard/82nd Street and North Astoria Boulevard- westbound left (624/795)

b. PM Peak Hour (FM/TMC)

i. Ditmars Boulevard/82nd Street and North Astoria Boulevard, southbound through (1183/1826)

ii. Ditmars Boulevard/82nd Street and North Astoria Boulevard, southbound right (219/290)

iii. Ditmars Boulevard/82nd Street and North Astoria Boulevard, westbound left (624/795)

iv. Ditmars Boulevard/82nd Street and North Astoria Boulevard, westbound left (380/475)

v. Ditmars Boulevard/82nd Street and Marine Terminal Road, northbound through (425/536)

vi. Ditmars Boulevard/82nd Street and Marine Terminal Road, southbound thru (1085/1172)

Based on a review of the raw turning movement count (TMC) data collected in June 2012, there was an imbalance noted between the intersection of Ditmars Boulevard/82nd Street/Astoria Boulevard North and the Ditmars Boulevard/Marine Terminal Road intersection. Because the TMC volumes at the Ditmars Boulevard/Marine Terminal Road intersection were comparable to the ATR counts, it was decided that a follow-up TMC should be conducted at the intersection of Ditmars Boulevard/82nd Street/Astoria Boulevard North for verification purposes; this count was conducted on September 11, 2012. The volumes obtained from the follow-up TMC were closer to both the ATR counts and the original TMC at Ditmars Boulevard/Marine Terminal Drive. Therefore, it was decided that the September 11, 2012 TMC volumes for the Ditmars Boulevard/82nd Street/Astoria Boulevard North intersection should be used instead. This count data is included on the backup data CD.

10. At the intersection of Ditmars Boulevard and 94th Street, the TMCs on June 12, 2012 reflect 134 vehicles making an eastbound left turn during the PM peak hour and the TMC on June 14, 2012 reflects 625 vehicles making this turn. The Existing PM volume map (Figure A.1-3) reflects 377 vehicles. Please note similar discrepancies occur on the eastbound through movement, as well as the other approaches. Additionally, there are imbalances along eastbound and westbound Ditmars Boulevard between 94th Street and eastbound GCP On-Ramp during the AM and PM peak hours. Although there are several streets between 94th Street and the GCP we don't expect the volumes to differ by 150 vehicles. Please have the consultant explain why the TMC at Ditmars Boulevard and 94th Street varies greatly (i.e. construction, accident, etc.) and determine which count is accurate for this location and revise the EA accordingly.

On the days the manual traffic counts were conducted, there were no observed accidents or construction activities that were observed to disrupt travel patterns at the intersection of Ditmars Boulevard/94th Street. It should be noted that three days of counts were conducted at this intersection: two days of 2-way classification counts (on June 12 and 14, 2012), as well as one day of 6-way classification counts (on June 13, 2012). It is worth noting that while there is variation between the June 12 and June 14 counts for eastbound left-turns during the PM peak hour (134 and 625 vehicles, for an average of 380 vehicles), the June 13 count for this movement indicated 372 vehicles, which approximates the two-day average as well as the analyzed volume reflected on the PM flow map (i.e., 377 vehicles). Because the purpose of the three-day counts is to capture day-to-day fluctuations in traffic, and reduce the level of variability in the volumes used in the analysis, we conclude that the three-day average volumes used in the analysis do not need adjustment. The backup data CD contains the calculations of the three-day average volumes.

The changes in volumes along Ditmars Boulevard, between 94th Street and the Grand Central Parkway on-ramp, are attributable to the presence of one local street intersection at 95th Street, as well as two driveways—one serving the National Car Rental parking lot and another serving both the National Car Rental facility and a separate public parking garage—on the south side of Ditmars Boulevard.

11. Please have the consultant balance the existing volumes or justify the inconsistencies in Figure A.1-2:

a. Imbalance of 24 vehicles traveling southbound on Ditmars Boulevard between Marine Terminal Road and North Astoria Boulevard;

b. The total volume going to the westbound GCP on-ramp at the intersection of LGA Access Road and 94th Street is 523; however the flow map is showing 778 vehicles on the westbound GCP on-ramp.

The imbalance for the southbound through volume at Ditmars Boulevard/82nd Street/Astoria Boulevard North was corrected, and the corresponding HCS files, LOS tables, and flow maps were updated. The 778 volume is a typo on the flow map and has been corrected; the correct volume is 523. The backup data CD contains these revised materials.

12. As per the 2012 CEQR Technical Manual (Section 730-Required Documents for Review) queue observations should be provided. Page A-19 mentions field observations. Please have the consultant provide a copy of all field notes.

Qualitative field observations were conducted at the time the turning movement counts were conducted but were not formally documented. No follow-up quantitative field studies were conducted because they would not have reflected traffic conditions at the time the counts were taken. Once the HCS analysis was conducted, the operational parameters (i.e., start-up lost time, extension of effective green, saturation flow rate, etc.) for any lane groups found to be operating with v/c ratios exceeding 1.05 were adjusted to ensure v/c ≤ 1.05 for Existing Conditions. As noted in subsequent comments, the HCS analyses have been revised to ensure the extension of effective green time does not exceed three (3) seconds.

13. The LGA CTB Project Description memorandum indicates the design capacity requirements of the new CTB is 17.5 MAAP. The existing CTB is designed to accommodate 10 MAAP and passenger demand in recent years has reached as high at 13 MAAP. The difference in the Existing and proposed

design capacities is 7.5 MAAP, however, the Action condition analyzes an increase of 3.9 MAAP. Why isn't an increase of 7.5 MAAP analyzed as part of the proposed action? If the existing CTB can operate 3.0 MAAP over the design, why isn't it also assumed the future terminal will operate over design? Please have the consultant clarify the discrepancies.

Approximately 23.6 million annual passengers (MAP) used LaGuardia Airport in 2010 (Base Year). The 2030 No-Build/No-Action forecast is 30.1 MAP and the 2030 Build forecast is 34.0 MAP. On this basis, the background growth expected to occur with or without the Proposed Action is 6.5 MAP and the incremental increase in passenger demand as a result of the Proposed Action is 3.9 MAP. While the EA/Traffic Analysis is based on total traffic volume, per CEQR requirements the significance threshold analysis is applied to the project-related growth (3.9 MAP) only.

Approximately half the passengers that use LaGuardia Airport use the CTB (Terminal B). The existing CTB has a design capacity of approximately 10 MAP assuming an adequate level of service (LOS C). When passenger demand exceeds 10 MAP, the terminal building becomes increasingly congested until these facilities begin to fail (LOS D or F) during busy hours of the day. Under the No-Build/No-Action Alternative, passenger demand increases and level of service decreases until the CTB is operating at LOS F most hours of the day, at which point the airport-wide passenger forecast is constrained at 30.1 MAP. Under the Build Alternative, the future CTB is designed for 17.5 MAP assuming an adequate level of service (LOS C). If future demand for the CTB begins to exceed 17.5 MAP then passenger levels of service would be reduced accordingly.

14. Please have the consultant provide the vehicle assignment maps (only distribution pattern was provided) for the No-Action (without SK02) background growth at LGA and explain the basis for the assignments. In addition, please show the assignments on the airport road and garage in/outs. Also since the CTB is operating over its design capacity, is it assumed the additional background growth would be accommodated by the other terminals? Why weren't any trips assigned to terminal A?

Weekday AM and PM peak hour vehicle trip assignment maps for the 6.5 MAP background growth at LaGuardia Airport are provided on the backup data CD.

The existing CTB (Terminal B) is currently operating above its design capacity, which is resulting in poor levels of service within the terminal building and along adjacent roadways. There is no surplus capacity in Terminals A, C, or D, to accommodate additional background growth associated with Terminal B. No vehicle trips are assigned to Terminal A because Terminal A is located on the west side of the airport and it is not part of the Proposed Action.

15. Please have the consultant update Figure A.1-9 (2030 No-Action AM Peak Turning Movement Volumes) as the volumes on the map are currently showing PM peak volumes instead of AM peak volumes.

The volumes presented in Figure A.1-9 (now re-numbered as Figure A.1-10) have been corrected in the Transportation Appendix, and are included on the backup data CD.

16. Please have the consultant submit schematic drawing(s) involving changes proposed as part of the LGA RSA Enhancements Environmental Assessment. This information is needed in order to review the future analyses.

Materials related to the LGA RSA Enhancements Environmental Assessment were provided to NYCDOT staff on CD at the January 30, 2014 coordination meeting.

17. The LGA CTB Project Description Technical memorandum states that the terminal area roadways would be reconfigured to accommodate free flowing traffic movements through the entire central terminal area complex, including the new terminal and existing Terminals C and D, while minimizing or avoiding impacts on the Grand Central Parkway to the degree practicable. Figure A.1-11 does not clearly show the proposed improvements. For example, the proposed improvements to the 82nd Street exit ramp are hard

to understand and the plans provided do not clearly show the reconfiguration of the intersection of Ditmars Boulevard and the GCP due to the ramp widening, as well as the roadway alignment. At our July 26, 2012 meeting with PANYNJ, more detailed plans showing the proposed geometry and which sections were at- grade, above-grade, etc. were presented. We requested a copy of those plans in previous comments; however, we have not received them. Please provide plans in which the proposed project is easier to understand. The plans should clearly show all proposed modifications to geometry and dimensions, including the three at-grade intersections identified on page A-35, as well as the right-of-way. Please provide the appropriate truck turning radii. Please indicate on the plans which agency has jurisdiction over each of the improvements. Has the geometry proposed under SK02 been approved by the required agencies? The EA and drawings should be submitted to the appropriate agency for approval. In addition, please have the consultant provide drawings detailing the geometric configuration, dimensions and parking regulations under the existing condition.

The improvements at the 82nd Street exit ramp are not part of the new CTB roadway system at LaGuardia Airport and have been completed as part of New York State Department of Transportation's Grand Central Parkway/94th Street improvement project.

Draft plans illustrating the Port Authority's proposed on-airport roadway improvements are included on the backup data CD. The on-airport roadway improvements are being developed by Port Authority Engineering in accordance with the agency's design standards and guidelines, and in coordination with the New York State Department of Transportation. It should be noted that these plans are not yet finalized and continuing to undergo refinement by the Port Authority. The Port Authority will work with NYCDOT staff and provide updated plans over time, as requested, as the project moves ahead.

18. Please have the consultant explain the Build assignment maps. For example, in Figure A.1-13 (With-Action vehicle drive and park trip distribution for outbound trips) why are there vehicle trips coming from the proposed Helix Ramp as all vehicles are coming from the north side of the proposed parking garage? It would be helpful to have a diagram showing the different routes vehicles take to enter and exit the airport garage, as well as drop-off/pick-up.

The methodology for assigning the year 2030 With-Action traffic volumes on the SK02 roadway network involved the following steps. The associated figures noted below are located on the backup data CD.

1. Use 2012 baseline volumes documented in the LGA Environmental Assessment (EA) – Existing roadway network (Figures A-1 and A-2);

2. Reassign the 2012 peak-hour volumes on the SK02 network during the weekday AM and PM peak hours (Figures A-3 and A-4);

3. Project the reassigned year 2030 baseline volumes using a growth factor of 1.0591 per CEQR guidelines (Figures A-5 and A-6);

4. Establish trip distribution patterns for Drive-and-Park inbound and outbound trips, and for Pick-Up/Drop-Off inbound and outbound trips (Figures A-7 through A-10);

5. Perform Drive-and-Park inbound and outbound trip distribution for the weekday AM and PM peak hours (Figures A-11 through A-14);

6. Perform Pick-Up/Drop-Off inbound and outbound trip distribution for the weekday AM and PM peak hours (Figures A-15 through A-18);

7. Assign the Willets Point trips during the weekday AM and PM peak hours (Figures A-19 and A-20);

8. Perform Drive-and-Park trip assignment for the 6.5 MAAP during the weekday AM and PM peak hours (Figures A-21 and A-22);

9. Perform Pick-Up/Drop-Off trip assignment for the 6.5 MAAP during the weekday AM and PM peak hours (Figures A-23 and A-24);

10. Add the Drive-and-Park and Pick-Up/Drop-Off trips to the year 2030 baseline peak-hour volumes (Step 3) to project the year 2030 peak-hour volumes (Figures A-25 and A-26) for No-Action conditions;

11. Perform the Drive-and-Park trip assignment for the 3.9 MAAP for the weekday AM and PM peak hours (Figures A-27 and A-28);

12. Perform the Pick-Up/Drop-Off trip assignment for the 3.9 MAAP for the weekday AM and PM peak hours (Figures A-29 and A-30); and

13. Add the Drive-and-Park and Pick-Up/Drop-Off trips (Steps 10 and 11) to the year 2030 No-Action peak hour volumes (Step 9) to project the year 2030 peak hour volumes (Figures A-25 and A-26) to project With-Action condition volume (Figures 1 and 2).

The different routes vehicles take to enter and exit the airport as well as Drop-Off/Pick-Up are illustrated in Figures A-7 to A-10 (trip distribution patterns). The base assignment maps were revised, for clarity purposes, in the vicinity of the helix ramp.

19. Please have the consultant provide progression analyses when proposing reallocation of signal timing exceeding four seconds of green time. Also, minimum pedestrian crossing time should be met for all crosswalks when proposing signal timing modifications.

For the Operation condition analysis, the two study intersections involve a proposed signal timing change exceeding four (4) seconds of green time. The first intersection is Bowery Bay Boulevard/Runway Drive/Marine Terminal Road. The magnitude of the proposed signal timing change at this location is five (5) seconds. However, it should be noted that this intersection is not under the jurisdiction of New York City, but rather is on airport property and is under the jurisdiction of the Port Authority. Therefore, progression analyses are not required for the Operation condition.

The second intersection is Astoria Boulevard North/Grand Central Parkway westbound off-ramp/82nd Street/Ditmars Boulevard where implementation of a modified phasing sequence—a lagging northbound left-turn phase with a westbound right-turn overlap—is recommended, along with green time reallocations of five (5) seconds during the weekday AM peak hour, and ten (10) seconds during the weekday PM peak hour. This improvement also requires restriping the northbound approach to accommodate one exclusive left-turn lane and two through lanes. Progression analyses will be performed for the weekday AM and PM peak hours based on this finding.

For the Construction condition analysis, the following intersections have proposed signal timing adjustments exceeding four (4) seconds of green time:

- Astoria Boulevard North/23rd Avenue: Five (5) seconds during the weekday AM peak hour.
- 23rd Avenue/82nd Street: Ten (10) seconds during the weekday AM peak hour.
- Ditmars Boulevard/81st Street: Eight (8) seconds during the weekday PM peak hour.
- 21st Avenue/81st Street: Eight (8) seconds during the weekday PM peak hour.
- 19th Avenue/Hazen Street: Six (6) seconds during the weekday AM peak hour, and 13 seconds during the weekday PM peak hour.

However, it should be noted that the Construction analysis is based on only the peak quarter for construction-generated traffic (i.e., the fourth quarter of 2015). Construction-generated traffic volumes are expected to fluctuate month-to-month over the duration of construction schedule, and are not only lower than the peak quarter for all other quarters of the construction schedule—but in most cases considerably lower (see Excel file on backup data CD: "Peak month analysis for trucks &

employees_ML_2013-01-28.xlsx"). Therefore, the signal timing adjustments noted above for the Construction condition reflect only the temporary "peak quarter" construction condition. As a result, the need for signal timing adjustments will change month-to-month and quarter-to-quarter as construction activity at the CTB progresses, and implementation of any temporary changes would be at the discretion of NYCDOT. Because these signal timing adjustments are not envisioned as long-term needs, progression analyses were not conducted.

Minimum pedestrian crossing times for Operation and Construction are met based on the following criteria:

- Pedestrian walking speed = 3.5 feet/second
- "WALK" time not less than seven (7) seconds
- Flashing "DON'T WALK" time not less than six (6) seconds
- "DON'T WALK" time not less than five (5) seconds
- Flashing "DON'T WALK" time + "DON'T WALK" time not less than Crossing Time, where:
    - Crossing Time = Crosswalk Length / Pedestrian Walking Speed

20. Please have the consultant provide scaled drawings of the recommended traffic improvements during construction. Please show the existing and proposed geometric configuration and parking regulations, as well as provide the appropriate turning radii. The consultant should also identify the vehicle size that will use the construction-only access driveway at 19th Avenue and 81st Street, as well as provide turning radii. Please explain how traffic will be managed at the construction driveway and how vehicular and pedestrian safety will be maintained. Will vehicles entering this location be checked before entering the airport? If so where and how long will this take, and will there be possible on-street queuing at this location for vehicles entering the driveway due to credentialing or security checks?

Scaled drawings of the recommended traffic improvements during construction are included on the backup data CD. Each drawing compares the existing and proposed geometric configurations, provides the applicable parking regulations, and illustrates vehicle turning paths for the intended design vehicle (i.e., passenger car, single-unit truck, and/or shuttle bus).

The construction driveway at 19th Avenue/81st Street will be a controlled access point through which only pre-screened, pre-credentialed vehicles will be able to enter. A security station will be set up in accordance with the PA security protocols and safety requirements to allow for active inspections and/or verification of entering vehicles as deemed necessary by PA security staff. The security booth will be located on airport property, sufficiently far inland from the street intersection to prevent potential queues to spillback through the intersection and onto City streets. Therefore, any potential queuing will occur on airport property. Vehicles expected to use this entrance will be limited to: A) shuttle buses transporting construction workers between Ingraham's Mountain (i.e., the designated parking location for construction workers) and the CTB construction site, and B) private construction workers' vehicles traveling to and from Ingraham's Mountain. No pedestrians are expected to use this entrance because this will not be a public access to the airport; as such, no conflicts between vehicles and pedestrians are expected to occur.

21. Please have the consultant complete DOT's signal warrant booklet for the temporary traffic signal proposed at the intersection of 19th Avenue and 45th Street during construction and submit for our review and approval.

The need for signalization of the 19th Avenue/45th Street intersection was discussed with representatives of NYCDOT Traffic Planning at the coordination meeting on January 30, 2014. NYCDOT Traffic Planning staff recommended investigation of traffic signal warrants as part of the basis for determining an appropriate type of traffic control for the subject intersection. Signalization of the 19th Avenue/45th Street intersection was investigated as one possible intersection control measure to improve traffic operations under the peak "With-Construction" condition time period (i.e., fourth quarter of 2015) when construction traffic associated the CTB and the Ingraham's Mountain construction staging/parking site is estimated to be at its highest.

As per discussions with NYCDOT staff at the January 30, 2014 meeting, AECOM evaluated the "Peak Hour" traffic signal warrant (Warrant 3) at the 19th Avenue/45th Street intersection for weekday AM and PM peak hour conditions. The intersection does not meet Warrant 3 for the weekday AM peak hour, but does meet Warrant 3 for the weekday PM peak hour.

Because a traffic signal at the subject intersection would be a temporary measure (i.e., only needed to accommodate traffic during construction), and also for only approximately two hours of the day (i.e., during the weekday AM and PM peak hours associated with the primary shift changes), other measures to address the need for more positive traffic control at this intersection—such as the use of a construction flagger—were discussed with NYCDOT Traffic Planning and should also be considered going forward.

22. Please have the consultant confirm that there weren't any No-Action soft sites between 2010 and 2012 that should be included in the Existing FREEVAL analyses. In addition, when the counts for the GCP were performed in 2010, were improvements to the mainline and ramps in place?

There were no soft sites identified as generating significant volumes of traffic on the Grand Central Parkway between 2010 and 2012. The FREEVAL analysis used the standard compounded traffic growth rates, identified in Table 16-4 of the *CEQR Technical Manual* to forecast growth between 2010 and 2012. None of the roadway improvements along the relevant section of the Grand Central Parkway were in place when the baseline 2010 traffic counts were performed.

23. Please have the consultant provide all FREEVAL analysis sheets/reports for Existing, No-Action and with Action conditions for all peak periods, as well as for the eastbound and westbound directions. In addition, please provide details on how the No-Action Willets Point, No-Action airport growth of 6.6 MAAP and action increment of 3.9 MAAP volumes were calculated and assigned for each hour in the No-Action and Action FREEVAL analyses. In addition to Figures A.2-1 and A.2-2, please show the Existing condition Facility Diagram on an aerial photograph or on SK01 GCP Existing Conditions pdf. Please identify each ramp and all dimensions. Please provide the proposed roadway changes in the with Action condition.

FREEVAL analysis sheets/reports under Existing, future No-Action and future With-Action conditions, for the weekday AM and PM peak periods, are provided on the backup data CD.

The calculations of No-Action Willets Point (soft site) trips, future No-Action airport growth (6.5 MAP) and future With-Action increment traffic volumes are provided in the backup data CD.

The facility diagram used for HCM-FREEVAL analysis is schematic. Geometric features such as curvature and lane widths generally are not shown because they are not used as inputs in the HCM-FREEVAL freeway facility methodology. The effect of these geometric elements on capacity can be taken into account using the model's capacity adjustment factor (CAF) based on field observations. The Grand Central Parkway facility diagrams are consistent with the HCM-FREEVAL freeway facility methodology.

In the westbound direction, the With-Action geometric condition (i.e., Build Alternative SK02) mainly consists of changes in the on-airport roadway configuration and the associated traffic patterns (i.e., a helix ramp at 94th Street, recirculation roadway, etc.). The main difference between the future No-Action facility geometry and the future With-Action facility geometry is the spacing of the two consecutive entrance ramps to the westbound mainline. The ramp spacing in the future With-Action condition increased from approximately 880 feet to approximately 1,090 feet. The spacing of the westbound entrance ramps is shown on facility diagram for Build Alternative SK02.

24. Please have the consultant justify the Free Flow Speed (60 mph) utilized in the HCM analyses.

The 60-mph free flow speed was estimated based on speed runs performed along the Grand Central Parkway during the AM and PM peak periods in the off-peak traffic direction: eastbound during the AM and westbound during the PM. Speed run summaries are shown on the backup data CD.

25. Please have the consultant explain the "GCP Existing, Future No-Build and Build VPloumes_Final_rev.xlsx file. The 15-minute ATR volumes on eastbound GCP Exit 5 off-ramp to Astoria Boulevard, BQE on-ramp and Astoria Boulevard on-ramp, and westbound Exits 4 and 5 off-ramps are not provided, which means the flow rate factor in the table may not accurate. In addition, please see attached for additional questions.

Fifteen-minute ATR volumes for these ramp locations were not available from either the Port Authority or NYCDOT. Therefore, a uniform distribution of volume throughout the hour was assumed.

26. Please have the consultant indicate the number of parking spaces under the Existing, No-Action and Action conditions. Please indicate the expected number of increased demand under the No-Action and Action conditions.

The number of on-airport parking spaces provided exclusively for patron parking are: Existing = 6,775 spaces, No-Action = 7,175 spaces, and With-Action = 5,638 spaces. During periods of peak parking demand at LaGuardia Airport, utilization of existing on-airport parking supply peaks at only approximately 70 percent. The reduction in parking supply from Existing to With-Action conditions is based on several trends that have materialized at LaGuardia Airport over the last 15+ years to consistently reduce parking demand over time. These trends include: A) an increase in the percentage of connecting passengers at the airport and a corresponding decrease in the percentage of outgoing travelers who park-and-fly, and B) a reduction in the percentage of business travelers (who are more apt drive and park) in favor of families and other recreational travelers (who are more apt to be dropped-off/picked-up, and have higher auto occupancies). Finally, it should be noted that paid parking is a revenue-generating stream for the Port Authority, and therefore it is in the agency's interest to provide enough parking to accommodate projected peak demands. Based on relatively low peak parking utilization levels under current conditions, and demonstrated changes in travel trends at LaGuardia Airport over time, the Port Authority is confident that the projected parking supply under the With-Action condition is sufficient to accommodate all future parking demands on airport property.

27. Please have the consultant update the safety assessment to reflect the crashes from 2009-2011.

As discussed with NYCDOT Traffic Planning staff at the January 30, 2014 coordination meeting, AECOM has updated the safety assessment in the Transportation Appendix based on crash data for the most recent available three-year period (2010-2012). Based on the updated safety assessment, none of the study intersections are considered "high crash locations" according to the *CEQR Technical Manual* thresholds.

28. Please show the pedestrian and bicyclist crashes by year separately. In addition, please provide the total crashes by year at each intersection.

AECOM has tabulated the bicycle and pedestrian crashes separately, and provided total crashes by year, in the revised Transportation Appendix.

29. Page A-105 states that during construction travel to and from the site by means other than single-occupant vehicles will be encouraged and supported by the PANYNJ. Please explain what is meant by this statement. Does it refer to construction personnel, airport employees and/or passengers? How will this be encouraged/enforced? Will there be incentives provided for those who comply?

The statement refers to construction personnel only. Recognizing that there will be a limited amount of parking spaces for construction workers at Ingraham's Mountain (the available space will also need to accommodate a contractor laydown area and serve as temporary storage for excavated soil), the PA will direct its Contractor to encourage its workers to carpool, use transit, and/or utilize other methods to discourage single-occupant vehicles. The exact details, including the potential for offering incentives, are not known at this time and will be worked out prior to the initiation of construction. It should be noted that

the 1.5 auto occupancy for construction workers is consistent with the assumptions used in the construction traffic analysis for the RSA EA.

30. Please provide justification for the construction personnel auto share (75%) and vehicle occupancy (1.5). Previously in the Level 1 screening assessment a 90% auto share and 1.15 auto occupancy was utilized.

Please see comment above concerning vehicle occupancy for construction workers.

New York City buses provide service between LaGuardia Airport, and Manhattan and Queens, with connections to New York City subways for destinations beyond, as follows:

- Service between LaGuardia and Manhattan is provided via the M60 bus which travels to 106th and Broadway via 125th Street in Manhattan, and Astoria Boulevard in Queens. Key connections along the M60 route include the N and Q subway trains at the Hoyt Avenue/31st Street station; the 4, 5, and 6 subway trains at the Lexington Avenue station in Manhattan; and the Metro-North Railroad station at Park Avenue/125th Street.

- Service between LaGuardia Airport and both western Queens and Midtown Manhattan is provided via the Q70 Limited and Q47 buses. Key connections from these buses to the E, F, M, R and 7 trains on the New York City subway are available at the Roosevelt Avenue/74th Street station.

- Service between LaGuardia and central Queens is available via the Q72 (Corona and Rego Park) and Q48 (Flushing) bus routes, both of which provide connections to the 7 subway train, at Junction Boulevard and 111th Street, respectively.

A revised Level 1 screening assessment was sent to NYCDOT on May 15, 2013 with the most recent travel demand assumptions which were modified based on discussions with Port Authority's construction management personnel following preparation of the original Level 1 screening assessment. The 75% auto/25% transit mode split is consistent with the assumptions used in the construction traffic analysis for the RSA EA, and reflects a lower transit usage than was used in the construction traffic analysis for the Willets Point Redevelopment EIS (i.e., 70% auto/30% transit mode split).

As requested by NYCDOT staff by email on February 3, 2014, reverse journey-to-work Census 2000 data was consulted to determine modes of travel for workers in census tract 331, comprising LaGuardia Airport. The data indicated that approximately 74% of airport workers traveled via auto, truck or bus, approximately 19% used transit, and approximately 7% used other modes.

Based on these findings, the use of a 75% auto/25% transit mode split was deemed appropriate for use in this study.

31. Please have the consultant provide the "LGA_TrucksByMonth_Table_27Dec2012Rev" document or latest version of the document.

The requested file is included on the accompanying backup data CD.

32. Please have the consultant balance the existing volumes or justify the inconsistencies in Figures A.7-6 and A.7-7:

a. Imbalance on northbound 82nd Street between Astoria Boulevard and 23rd Avenue (AM and PM).

b. Imbalance on northbound 82nd Street between 23rd Avenue and Astoria Boulevard North/GCP off-ramp (AM).

There was a typo for the northbound through volume, which should be 291 instead of 241. This volume has been corrected and the corresponding HCS files, LOS tables, and flow maps have

been updated. This correction resolves the AM imbalances noted in parts "a" and "b" of this comment.

During the PM peak hour, there is no imbalance in the northbound direction. The 177 vehicles on the northbound approach at the 82nd Street/23rd Avenue intersection are the sum of the following movements at the Astoria Boulevard/82nd Street/24th Avenue intersection: 14 vehicles making an eastbound left-turn from Astoria Boulevard, 118 vehicles making a westbound right-turn from Astoria Boulevard, and 45 northbound through vehicles from 24th Avenue. It should be noted that the 28 vehicles turning left from the 24th Avenue approach turn onto Astoria Boulevard westbound, and the 45 vehicles going through travel northbound on 82nd Street.

33. Please have the consultant provide the official signal timing for the following intersections:

c. Astoria Blvd North and 23rd Avenue
d. Ditmars Boulevard and 81st Street
e. 19th Avenue and Hazen Street
f. 21st Avenue and 81st Street

The NYCDOT official traffic signal timings for these four intersections are included on the accompanying backup data CD.

34. Please note that modifying the extension of effective green time to greater than three seconds in HCS (Table A.7-3-Existing Conditions Intersection Capacity Adjustments for the construction period analysis) is not permissible. Additionally, when calibrating the v/c ratio to 1.05 or better, the accuracy of input factors such as PHF, parking maneuvers, arrival type, etc., should be confirmed before adjusting the saturation flow rate. Please have the consultant revise the analyses and report accordingly.

Modifications to the extensions of effective green time were limited to a maximum of 3 seconds. Where necessary for calibration purposes (v/c ≥ 1.05), the start-up lost time was reduced from 2 seconds to 1 second. PHFs were coded based on observed traffic count data, and parking maneuvers were coded based on the presence of on-street parking. The arrival type was modified throughout both the Operations and Construction analyses to ensure that arrival type 3 was used, with limited exceptions where the progressive direction of through traffic was clear. These exceptions include the through movements in the peak direction along Astoria Boulevard and Northern Boulevard (i.e., westbound in the AM, and eastbound in the PM), and for the coordinated movements at 23rd Avenue/Astoria Boulevard North and 79th Street/Astoria Boulevard North.

35. Please note that the improvements proposed as part of the RSA Enhancements are still under review. We have issued comments on that EA; however, we have not received responses or the additional information we requested in order to complete our review. The RSA Enhancement improvements are included in the No-Action construction analyses of the CTB. Improvements such as a new signalized construction-only LGA access driveway at 19th Avenue and 81st Street are included in the No-Action condition, which is also assumed to provide access for the proposed action during its construction. Please have the consultant submit Existing and future scaled schematic drawings for this location, truck turning radii and DOT's signal warrant booklet for our review and approval. Please explain who will utilize the driveway (i.e. construction vehicles and/or workers personal cars). In addition, please show the existing volumes at this intersection on the volume maps and provide supporting count data. Please revise the flow maps for the future without construction to show the turning volumes using the construction-only access driveway at 19th Avenue and 81st Street.

Although the RSA EA called for the intersection of 19th Avenue/81st Street to be signalized, subsequent work by the RSA project team revealed that a traffic signal is not warranted at this location and will not be installed. Therefore, the CTB EA was updated to reflect this intersection remaining as an unsignalized intersection. A schematic drawing comparing the intersection under its existing and proposed configurations—including turning paths for design vehicles—is included in the backup data CD.

CTB construction traffic generated through this intersection is expected to include shuttle buses transporting construction workers between Ingraham's Mountain and the CTB construction site, as well as some construction workers' private vehicles destined for the eastbound Grand Central Parkway at the 94th Street interchange via Bowery Bay Boulevard-Runway Drive during the weekday PM peak hour for construction (see response to comment #39 below).

The AM and PM peak hour flow maps have been supplemented to show the turning movement volumes at the 19th Avenue/81st Street intersection for both existing conditions and future "without construction" conditions. The existing conditions volumes at the 19th Avenue/81st Street intersection were based on through traffic volumes derived from the study intersection at 21st Avenue/81st Street, located approximately 800 feet to the south. The segment of 81st Street between 19th Avenue and 21st Avenue is a continuous roadway with no intermediate intersections. The east side of this segment of 81st Street is bounded by a continuous wall bordering the airport, and the west side of this segment includes low-density residential housing. On-street parking is provided on both sides of this segment of 81st Street but is low turnover in nature (i.e., all-day parking). For these reasons, through traffic volumes derived from the 21st Avenue/81st Street intersection were judged to be a reasonably accurate representation of through traffic volumes at the 19th Avenue/81st Street intersection.

36. Please have the consultant provide the vehicle trip generation and assignments associated with the RSA Enhancements project. Construction of the Restricted Vehicle Service Road (RVSR) is scheduled to begin in the 3rd quarter of 2014 and end in the 4th quarter of 2016 as mentioned in the LGA RSA Enhancements Environmental Assessment. Construction will remove 10-20 vehicles per hour at the intersection of Runway Drive and Marine Terminal Road (LGA RSA Enhancements Environmental Assessment, Section 5.11.2, 2nd Paragraph). The removal and redistribution of the vehicles do not appear to be included in the construction analyses of the without-Action or with-Action condition. Please revise the analyses and EA accordingly.

The vehicle trip generation and assignments associated with the RSA EA are included on the backup data CD. It should be noted that, during the fourth quarter of 2015 (i.e., the peak quarter for construction at the CTB), the RSA is projected to generate overlapping traffic only during the CTB's 6:00-7:00 AM construction peak hour, and no overlapping traffic during the CTB's 3:00-4:00 PM construction peak hour.

It is recognized that construction of the RSVR is expected to remove 10-20 vehicles per hour at the intersection of Runway Drive/Marine Terminal Road/Bowery Bay Boulevard. However, because of the relatively low magnitude of this change, and the fact that volumes will be reduced, the removal of these vehicles was specifically not included in the CTB construction traffic analysis to ensure a conservative approach.

37. Please have the consultant provide assignment maps for the construction truck, worker and shuttle bus trips separately for each peak hour.

Separate construction traffic assignment flow maps for trucks, workers, and shuttle bus trips for the weekday AM and PM construction peak hours have been prepared and are provided on the backup CD.

38. Please have the consultant revise the volume maps to show vehicles entering/exiting the construction access driveway on 45th Street. In addition, HCS analyses were provided for this location; however, the LOS table showing the with-construction condition does not include this location. Please have the consultant revise the LOS table in the EA to include the results at this location.

The current proposed location for the construction access driveway to Ingraham's Mountain is on the south side of Berrian Boulevard, at its dead-end east of 45th Street, rather than on the east side of 45th Street (as once envisioned). Because Berrian Boulevard is a dead-end street east of 45th Street, and serves an industrial area with very low existing traffic volumes, intersection capacity analyses for both the access driveway on Berrian Boulevard and the intersection of Berrian Boulevard/45th Street were not conducted. Intersection capacity is not thought to be an issue at these locations due to the lack of existing through traffic volumes of any consequence throughout the day. It should also be noted that

traffic counts at the intersection of Berrian Boulevard/45th Street were also not collected as part of the RSA EA. Therefore, HCS analyses were not performed for these locations.

39. Please have the consultant explain the construction traffic assignment of 157 vehicles to the eastbound left turn at the intersection of 19th Avenue and 81st Street (construction only LGA access driveway) during the PM peak hour as shown in Figure A.7-4. According to Table A.7-2, the total construction-related vehicles expected to enter all driveways combined during the PM peak hour is 20. Please clarify the discrepancies.

The assignment of these 157 vehicles making an eastbound left-turn at the 19th Avenue/81st Street intersection are outbound construction workers (departing Ingraham's Mountain) and destined for eastbound Grand Central Parkway. Construction workers will be permitted to enter the airport via the proposed construction access at 19th Avenue/81st Street and travel southeast via Bowery Bay Boulevard-Runway Drive in order to access the eastbound on-ramp to the GCP at the 94th Street interchange.

40. Please have the consultant provide a table showing the HCS results (v/c ratio, delay, LOS) for the Future With-Construction condition without improvements.

The Excel files tabulating the LOS results for Existing, No-Action, With-Action without improvements, and With-Action with improvements—for both Operations and Construction conditions—are included on the backup data CD.

41. Please have the consultant modify the title of Table A.7-6 to indicate that the Future With-Action HCS results include traffic improvement measures. In addition the tables should identify which intersections improvements are proposed.

The title of Table A.7-6 has been revised to indicate "with improvements." Also, a footnote has been added following the intersection name to indicate which intersections include proposed improvements.

42. Please note the northbound approach at the intersection of Astoria Boulevard North/Grand Central Parkway westbound off-ramp and 82nd Street/Ditmars Boulevard has a significant impact during the AM peak hour as per CEQR Technical Manual Guidelines (Table A.1-8). Under the No-Action condition the approach (shared LT) operates with 23.1 seconds of delay; however under the with Action condition, the approach (DefL+T) operates with 61.6 seconds of delay. Please have the consultant identify improvement measures or identify as an unmitigated impact. In addition, the construction section states that the 82nd Street off-ramp should be implemented prior to the peak construction (fourth quarter of 2015) in order to accommodate projected construction related traffic volumes. Please have the consultant indicate when the construction of this improvement would start and construction schedule. Is obtaining all necessary approvals, widening the ramp and geometric reconfiguration of the adjacent intersection before the fourth quarter of 2015 feasible?

The widening of the off-ramp from westbound Grand Central Parkway to 82nd Street was completed recently, following submittal of the pre-draft EA Transportation Appendix to NYCDOT. As such, the future No-Action conditions HCS analysis has been revised to include this improvement as a background improvement measure. (This improvement is retained in the With-Action conditions HCS analysis as well.)

The HCS analysis of the Astoria Boulevard North/Grand Central Parkway westbound off-ramp/82nd Street/Ditmars Boulevard intersection has been updated based on the refinement noted above, and other refinements noted in these comments. As noted in the response to comment #19, the identified improvement at this intersection includes implementation of a modified phasing sequence—a lagging northbound left-turn phase with a westbound right-turn overlap—along with green time reallocations of five (5) seconds during the weekday AM peak hour, and ten (10) seconds during the weekday PM peak hour. This improvement also requires restriping the northbound approach to accommodate one exclusive left-turn lane and two through lanes. The HCS analysis and LOS tables have been updated, and are included on the backup data CD.

43. Please have the consultant add a footnote to Table A.7-6 showing the overall delay on the westbound approach at the intersection of Astoria Boulevard North/Grand Central Parkway westbound off-ramp and 82nd Street/Ditmars Boulevard during the PM construction peak hour. The footnote should explain why the westbound approach is not impacted by the proposed action.

This footnote is no longer needed based on the revisions made to the HCS analysis for this intersection.

44. The HCS analyses during construction at the intersection of 19th Avenue and 81st Street (construction only LGA access driveway) reflect one moving lane in each direction (east and westbound) under the No-Action condition, and two moving lanes in each direction under the with-Action condition (without improvements) for both the AM and PM peak hours. The number of moving lanes analyzed in HCS on the eastbound and westbound approaches under the with-Action (without improvement) condition should be consistent with the No-Action. Please confirm that the additional travel lanes are improvement measures. Furthermore, the recommended transportation improvements identified on page A-130 reflect two moving lanes in only one direction depending on peak period; however the HCS analyses reflect two moving in both directions for both the AM and PM peak hour. Please have the consultant clarify the discrepancies and revise the analyses and EA accordingly. As requested above, please provide Existing and proposed scaled drawings and appropriate turning radii diagrams in order to review the proposed improvement measures at this location.

The HCS analyses for the 19th Avenue/81st Street intersection have been modified to reflect one moving lane in each direction under the "No-Action" and "With-Action without improvements" scenarios. This lane configuration is consistent with existing conditions. Under the "With-Action with improvements" scenario, two northbound-to-westbound lanes are reflected during the AM peak hour (along with one lane in the eastbound-to-southbound direction), and two eastbound-to-southbound lanes are reflected during the PM peak hour (along with one lane in the northbound-to-westbound direction), consistent with the recommended improvement measure. A scaled schematic drawing of the 19th Avenue/81st Street intersection, comparing existing conditions with the proposed improvements and including turning path diagrams, is included on the backup data CD.

45. Please have the consultant determine whether there will be sufficient parking during construction for construction workers, airport employees and passengers. The assessment should also consider the parking demand created by the Runway Safety Area Enhancements.

Sufficient parking will be maintained during construction for airport employees and passengers. The parking facilities for airport employees and passengers are separate and distinct from the areas slated to be utilized for construction. The Port Authority's general contractor will be charged with managing the use of the Ingraham's Mountain site to facilitate multiple construction facilities and activities. This includes providing space for office trailers, equipment laydown, staging activities, and sufficient parking for construction workers.

46. Please have the consultant address the following comments on the HCS analysis (applies to AM/PM and all conditions unless otherwise stated):

The HCS analyses and LOS tables have been updated to reflect the refinements noted below.

a. General

i. There are locations where arrival type 4 was used in both directions (example: northbound and southbound approach at Ditmars Boulevard and Marine Terminal Road). Please note that arrival type 4 can only be used in the direction favoring signal progression for a two-way arterial. Arrival type 3 or 2 based on field observed information should be used for the opposing direction.

The arrival type was modified throughout both the Operations and Construction analyses to ensure that arrival type 3 was used, with limited exceptions where the progressive

direction of through traffic was clear. These exceptions include the through movements in the peak direction along Astoria Boulevard and Northern Boulevard (i.e., westbound in the AM, and eastbound in the PM), and for the coordinated movements at 23rd Avenue/Astoria Boulevard North and 79th Street/Astoria Boulevard North.

ii. The extension of green time can only be increased from two to three seconds, in order to calibrate the HCS analyses when v/c ratios exceed 1.05 under the Existing condition. Utilization of four seconds is not permissible. Please have the consultant revise the HCS analyses accordingly. Please note that the start-up lost time can be reduced from 2 seconds to 1 second at those locations where extension of green time increased from 2 to 3 seconds in order to calibrate the HCS analyses when v/c ratios exceed 1.05 under the Existing condition.

Modifications to the extensions of effective green time were limited to a maximum of 3 seconds. Where necessary for calibration purposes (v/c > 1.05), the start-up lost time was reduced from 2 seconds to 1 second.

b. Ditmars Boulevard and 94th Street

i. Please have the consultant adjust the southbound left and through lane widths as the HCS analysis does not match the physical inventory (PI). The left and through lanes in the HCS analysis currently shows 10 and 11 feet, respectively, while the PI shows 9 and 10 feet, respectively.

ii. Please have the consultant add parking maneuvers to the northbound approach as parking exist within 250 feet of the stop bar.

The southbound left and through lane widths have been adjusted to match the physical inventory, and parking maneuvers have been added to the northbound approach.

c. Ditmars Boulevard and GCP Eastbound On-Ramp

i. Please have the consultant provide the official signal timing for this intersection.

This intersection was signalized following preparation of the original HCS analyses. The official signal timing for this new signal installation was obtained from NYCDOT Signals and the new timing is now reflected in updated HCS analyses and revised LOS tables, which are included on the backup data CD.

Of note, inclusion of a 3 second all-red time for the east-west phase generates an error in HCS for the calculation of the g/C ratio for the eastbound left-turn. Therefore, the 3 second all-red time for the east-west phase was reversed with the 2 second all-red time for the eastbound-only phase. This combination maintains the same overall cycle length, the same total all-red time, and produces no errors in HCS.

d. Ditmars Boulevard/82nd Street and Astoria Boulevard North/GCP

i. Please have the consultant adjust the peak hour factor (PHF) for the westbound approach as it does not match the PHF calculations found in the TMC summary. The PHF in the AM peak period HCS analysis currently shows 0.94 for all lane groups in the westbound approach. The PHF calculations in the TMC summary show 0.87, 0.83, and 0.80 for the different lane groups.

The peak hour factors (PHF) for all approaches to this intersection during the weekday AM and PM peak hours were modified based on the follow-up count data collected on September 11, 2012 (see response to comment #9). However, the PHF for northbound left-turns was increased from 0.50 to 0.67 during the weekday AM peak hour, and from 0.81 to 0.84 during the weekday PM peak hour, because this movement was found to operate over-capacity (v/c > 1.05) during both of these time periods. The modified PHFs

were carried forward from the Existing Conditions analysis to the future No-Action and With-Action Conditions analyses.

ii. Please note that the extension of green time should be no greater than 3 seconds and have the consultant modify the PM analysis accordingly.

All of the extensions of effective green time have been changed to 2 seconds (default value) for both peak hours, with the exception of the northbound left-turns during the weekday AM peak hour, which has been increased to 3 seconds because this movement operates over-capacity (v/c > 1.05) during this time period.

iii. When calibrating the v/c ratio to 1.05 or better, the accuracy of input factors such as PHF, parking maneuvers, arrival type, etc., should be confirmed before adjusting the saturation flow rate. Please note that documentation identifying modification to the HCS default factors as well as verifiable field information to support these changes must be provided. Please have the consultant modify the PM analysis accordingly.

PHFs have been modified as described above. All arrival types have been set to 3 (random arrivals). The only saturation flow rate adjustment was to the northbound left-turn movements during the weekday AM and PM peak hour (2050 pcphgpl) due to the over-capacity operations (v/c > 1.05) for this movement.

e. Astoria Boulevard and 82nd Street/24th Avenue

i. Please have the consultant adjust the southbound right lane width as the HCS analysis does not match the PI. HCS analysis currently shows 11 feet, while the PI shows 10 feet.

The southbound right-turn lane width has been corrected from 11 feet to 10 feet in the HCS analysis and the associated LOS tables have been updated.

f. Marine Terminal Road and Bowery Bay Boulevard/Runway Drive

i. Please have the consultant adjust the northbound through and right lane widths as the HCS analysis does not match the PI. The through and right lanes in the HCS analysis currently shows 11 and 10 feet, respectively, while the PI shows 10 and 11 feet ,respectively.

ii. Please have the consultant adjust the northbound left/through and right lane widths as the HCS analysis does not match the PI. The left/through and right lanes in the HCS analysis currently shows 12 and 14 feet, respectively, while the PI shows 14 and 12 feet ,respectively.

iii. Please have the consultant adjust the northbound left lane widths as the HCS analysis does not match the PI during the PM peak period. The left lane in the HCS analysis currently shows 12 feet, while the PI shows 11 feet.

The lane widths on the northbound and southbound approaches have been corrected to match the physical inventory. The northbound approach accommodates one 11-foot shared through/left-turn lane, one 10-foot exclusive through lane, and one 11-foot exclusive right-turn lane. The southbound approach accommodates one 14-foot shared through/left-turn lane, and one 12-foot exclusive right-turn lane.

g. LGA Access Road/GCP and 94th Street

i. Please note that the extension of green time should be no greater than 3 seconds. Please have the consultant modify the PM analysis.

The extension of effective green time for westbound left-turns has been reduced from 4 seconds to 3 seconds (2 seconds is the default) for the weekday PM peak hour analysis. The start-up lost time has been reduced from 2 seconds to 1 second. As a result, there is no net change in the LOS analysis results.

ii. When calibrating the v/c ratio to 1.05 or better, the accuracy of input factors such as PHF, parking maneuvers, arrival type, etc., should be confirmed before adjusting the saturation flow rate. Please note that documentation identifying modification to the HCS default factors as well as verifiable field information to support these changes must be provided. Please have the consultant modify the PM analysis accordingly.

For calibration of the westbound left-turn movement (from the LGA Access Road) at this intersection during the weekday PM peak hour, the PHF was verified from the counts. There is no parking, and the arrival type is 3 (random arrivals). In addition to the modifications to extension of effective green time and start-up lost time, described above, the base saturation flow rate for this movement has been increased from 1900 pcphgpl to 2000 pcphgpl for calibration purposes (v/c > 1.05).

h. 19th Avenue and Hazen Street

i. Please modify the width of the eastbound left/through movement from 16 to 15 feet in the PM peak period to be consistent with the PI.

The eastbound approach to the 19th Avenue/Hazen Street intersection is listed in the physical inventory as 25 feet. Subtracting an eight-foot allowance for curbside parking on the south side of 19th Avenue, west of Hazen Street, results in a net width of 17 feet on the eastbound approach. Because approaches wider than 16 feet cannot be coded in HCS, the resulting width of 16 feet was used in the HCS analysis.

i. 19th Avenue and 45th Street

i. The improvement proposes to change the PM southbound lane configuration to 1 exclusive left turn and 1 through/right lane by eliminating parking on the west curb of 45th Street, while the AM lane configuration remains as is. Please change the PM configuration to 1 left/through and 1 through/right as recommending an exclusive left turn lane will require "left turn only" pavement markings and removing parking for the entire duration of construction.

Changing the PM lane configuration to 1 left/through lane and 1 through/right lane is not recommended because there is only one receiving lane on the south leg of the intersection in the southbound direction (i.e., on-street parking is allowed on the west side of 45th Street, south of 19th Avenue). As discussed with NYCDOT staff at the January 30, 2014 coordination meeting, and indicated in the response to comment #21, it is recommended that other measures, such as the use of a flagger during construction peak hours, should be considered going forward.

March 14, 2014 Correspondence with NYCDOT

The following is our response to your comments received by AECOM via emails on March 7 and 10, 2014 in connection with the pre-draft Transportation Appendix that was submitted by AECOM as part of the LaGuardia Airport Central Terminal Building Redevelopment EA. It should be noted that, based on these comments—as well as the discussions at our February 26, 2014 coordination meeting concerning your comments dated January 23, 2014—additional refinements to the traffic analysis for the pre-draft Transportation Appendix have been made. These refinements are described below and the requested backup and supplemental analysis information is included on a backup data CD that will be transmitted to NYCDOT staff under separate cover.

The NYCDOT comments from March 7 and 10, 2014 are shown below in *italics*, with our responses following in regular type.

March 7, 2014 comments

1. *Please have the consultant provide a summary of the assumptions made for the FREEVAL Analysis with regards to Adjustment Factors and other inputs.*

   FREEVAL runs were calibrated to replicate observed field conditions. This entailed, given roadway traffic flow profile and geometric characteristics, varying the Capacity Adjustment Factor (CAF) feature of the model to replicate during the analyzed peak periods the measures of effectiveness below:
   - Speed,
   - Travel time, and
   - State of traffic flow regime.

2. *The determination of Free Flow Speeds (FFS) is done during a period of low to moderate flow with a density of 1000 pc/hr/ln or less. Please indicate why the speed runs were performed during peak AM and PM periods.*

   The 60-mph FFS was estimated based on speeds maintained during travel time runs conducted in the off-peak travel directions (i.e., eastbound in the AM, westbound in the PM) along the GCP.

3. *Please provide the justification for the Ramp FFS and back-up Acceleration/Deceleration Lane Length inputs in the FREEVAL Analyses.*

   There is a correlation between freeway FFS and ramp FFS, as well as design speeds. A 60-mph freeway FFS is generally used in conjunction with a 30-50 mph ramp FFS range, depending on the merging/ diverging configuration and geometry. Based on field observations, a 45-mph FFS was used for the BQE entrance ramp to the GCP in the eastbound direction and the GCP Exit 7 off-ramp to LGA in the westbound direction, and a 35-mph FFS was used for all other ramps.

   GCP acceleration/ deceleration lane lengths, as well as segment lengths, were estimated from scaled maps, the As-Built Plan (SK-01) and the Conceptual Design Plan (SK-02).

4. *The schematic of the Facility Diagram & Segmentation for Eastbound GCP indicates that GCP Exit 7 (to CTB) has a total of 2 Lanes on the Off-Ramp. Plus update your FREEVAL Analysis inputs accordingly.*

   FREEVAL inputs for the GCP off-ramp to the CTB were revised to reflect two (2) lanes on the ramp. The change in the number of lanes on the ramp proper results in no changes in the eastbound GCP mainline MOEs for the subject segment (#8) because the number of lanes, including the deceleration lane in that segment, does not change. The revised eastbound GCP FREEVAL files are provided on the CD under the "FREEVAL" folder.

5. *Please verify that FREEVAL volume inputs are in accordance with the Volumes in the "GCP Existing, Future No-Build and Build Volumes_Final_rev.xls" file. Attached is the same worksheet highlighting the volumes that do not match the Inputs in FREEVAL. Particularly in the case of sheets WB AM(2) and WB PM(2), the collective difference from the FREEVAL inputs are upwards of 2400 vph and 1900 vph respectively.*

   Please refer to attached volume calculation worksheets "*GCP Existing to Future Build Volumes_All_Final 3.7.13.xls*" provided on the CD under the "FREEVAL" folder. An earlier version was erroneously submitted. The westbound GCP FREEVAL files are provided on the CD under the "FREEVAL" folder.

6. *Please have the consultant explain the rationale for using the 2010 hourly volumes for the 15 min Flow Rates in the FREEVAL Analyses where ATR Volumes were supposed to be distributed throughout the peak hour. In addition, please provide a summary of the calculations performed in this worksheet with a list of assumptions.*

The 2010 hourly volumes used as flow rates are for the_entrance and exit ramps, for which 15-minute ATR data were not available.

The following steps were used in the development of the 2030 With-Action volumes:

1. Begin with the year 2010 hourly volumes from the Port Authority (PA) flow maps.
2. Compute the 15-minute distribution percentages, based on NYCDOT-provided ATR data for each of the three hours of the AM and PM peak periods.
3. Compute the corresponding individual flow rate factors as percentages, based on the 15-minute data provided in Step 2
4. Compute year 2010 equivalent flow rates, in vehicles per hour, by multiplying the year 2010 hourly volumes (from Step 1) by the individual flow rate factors (from Step 3).
5. Compute the growth factor (GF) from 2010 to 2012 using the CEQR compounded annual growth rate of 0.5 percent for Queens: GF = 1.01
6. Compute the year 2012 flow rates: year 2010 flow rates (Step 4) x 1.01 (Step 5)
7. Compute the Growth Factor to year 2030, based on 0.50% compounded annual growth for Years 1 to 5 and 0.25% compounded annual growth for Year 6 and beyond. The resulting growth factor is $GF_{2030} = 1.0591$.
8. Compute year 2030 baseline flow rates, by multiplying individual year 2012 flow rates (Step 6) by 2030 Growth Factor (Step 7).
9. Compute No-Action flow rates as year 2030 baseline flow rates (Step 8) + Soft Sites Flow Rates + 6.5 MAP Increment.
10. Compute With-Action flow rates as No-Action flow rates (Step 9) + With-Action Increment (3.9 MAP).

7. *Please provide all the FREEVAL files for the 2030-With Action Condition. Currently, the CTB 2-24-2014 Back-up has 'GCP WB-Bld SK02_AM' and GCP 'WB-Bld SK02_PM' Files. We need the following:*
   a. *GCP EB-Bld SK02_AM*
   b. *GCP EB-Bld SK02_PM*

Build Alternative SK02 only involves geometric changes to the westbound direction of the GCP and modifications of internal airport roadways. For the westbound direction on the GCP, Build Alternative SK02 increases the spacing of the Airport Service Road entrance ramp and the 94th Street entrance ramp by approximately 210 feet. There is no "eastbound Build SK-02 Alternative" because the analyzed geometry of the eastbound GCP would not change as part of the proposed Action. Therefore, the FREEVAL analysis assumes no change to the eastbound geometry under both the No-Action and With-Action scenarios. The associated FREEVAL files for the weekday AM and PM are provided on the associated backup data CD.

Responses to additional FREEVAL-related comments dated March 10, 2014:

1. *What is the difference between the "2010 hourly volumes" for 5:45am to 6:45am, and the sum of the 15-minute volumes for the same hour (Ref. 15-minute ATR Volumes), as shown in Tables 13 to 16?*

The 2010 hourly volumes are from the balanced flow maps provided by the PA for eastbound and westbound GCP mainline and ramps.

The sum of the 15-minute volumes for the same hours was derived from mainline ATR data obtained from NYCDOT for locations within the study corridor. The ATR data were used only to derive the 15-minute volume distribution percentages shown for each analysis hour in Tables 13 to 16. These percentages were then used to develop, based on the 2010 PA volumes, 15-minute flow rates (represented in vehicles per hour) for years 2010, 2012, and 2030.

2. *Why is the value "NA" shown in Tables 13 to 16?*

The "NA" values were assigned to ramp locations for which 15-minute ATR data were not available from NYCDOT or the PA.

3. *How are the 2012 flow rates calculated?*

   Please refer to response to Comment 6 above (Steps 1 through 6).

4. *Why are some of the hourly volumes divided into equal 15-minute volumes (i.e., a uniform distribution: 25% of the hourly volume during each 15-minute period)?*

   The 25% distribution applies to ramp locations for which ATR data were not available from NYCDOT or the PA. Please see response to Comment 2 above.

5. *How were the flow rates for the soft sites calculated and assigned?*

   The trip generation and assignment of the soft sites (i.e., Willets Point) are provided on the associated backup data CD under the "FREEVAL" folder.

6. *Why don't the volumes in the "2012 Flow Rates" columns match the corresponding figures?*

   - The volumes shown on the figures/flow maps are actual hourly volumes during the AM and PM peak periods.
   - The 2012 Flow Rates are 15-minute flow rates, expressed in units of "vehicles per hour," for FREEVAL analysis purposes.

   This distinction is consistent with the FREEVAL analysis methodology.

April 2, 2014 Correspondence with NYCDOT, Part 1

1. *There is guidance in the 2014 CEQR Technical Manual for Freeway Impact criteria for Basic Freeway segments and Freeway Weaving, Merge & Diverge Segments. Please update the Impact Tables accordingly. Refer to Sections 413 and 414 in the Transportation Chapter.*

   In the FREEVAL analysis, the respective HCM methodologies for basic segments, ramps and weaves are used to predict the measures of effectiveness (MOEs). However, because the MOE definitions and LOS scales for ramps, weaves and basic segments are different, the 2010 HCM applies the LOS criteria for basic freeway segments to freeway facilities, for purposes of uniformity. We have also checked the Impact Tables against the provisions in Sections 410 and 413 of the *2014 CEQR Technical Manual* for significant impact criteria and determined that no changes are needed. This is because, as noted above, for LOS criteria purposes, the applicable CEQR criteria are those for basic freeway segments only (i.e., Section 413).

2. *Segments 1-3 in Tables A.2-28 and A.2-29 of the 'GCP MOE Impact Tables A 2-26-29 GCP.pdf' file indicates that the density has decreased from the No Action Condition to With Action Condition. Can you provide an explanation for the decrease in density for these three segments.*

   Oversaturated flows and associated traffic densities on freeway facilities are unstable. Densities may vary between the "density at capacity" of 45 pc/mi/ln (LOS F) and the "jam density" of 190 pc/mi/ln or higher. The HCM has limitations in modelling complex oversaturated flow conditions such as those with interacting queues found on the GCP in the westbound direction. These limitations were found to affect predicted density values for individual segments with queues upstream of the bottleneck (i.e., weaving segment #6) to a small degree. The HCM (Chapter 25) warns that "if interacting queues occur, the results should be viewed with extreme caution". As such, predicted oversaturated density values should be treated as approximate, along with

consideration of their order of magnitude. The noted decreases in density along the westbound GCP were 0.8 pc/mi/ln or less for density values ranging from 90 to 110 pc/mi/ln, approximately. To indicate the approximate nature of the oversaturated model results associated with interacting queues, a footnote was added to the westbound GCP MOE impact tables for the No-Action and With-Action conditions to read: "The density results for this segment reflect the limitations of the FREEVAL model in modelling interacting queues on oversaturated freeway segments. Increases in densities from No-Action to With-Action conditions are projected to be less than the allowable increase of 3.0 pc/mi/ln noted in the *CEQR Technical Manual*."

April 2, 2014 Correspondence with NYCDOT, Part 2

1. *We have some reservations regarding the determination of impact significance for the segments whose densities are "unstable"; particularly in some cases, there is a potential for underestimating the actual density which may exceed the CEQR Impact criteria threshold.*

   On the *undersaturated* westbound segments of the GCP, densities increased by 0.4 passenger car/mile/lane (pc/mi/ln) or less between the No-Action and With-Action conditions. On the *oversaturated* westbound segments of the GCP, average increases in density, if any, between the No-Action and With-Action conditions are also projected to be relatively small and of the same order-of-magnitude. A footnote was added to the westbound GCP MOE impact tables for the No-Action and With-Action conditions to read: "The density results for this segment reflect the limitations of the FREEVAL model in modelling interacting queues on oversaturated freeway segments. Increases in densities from No-Action to With-Action conditions are projected to be less than the allowable increase of 3.0 pc/mi/ln noted in the *CEQR Technical Manual*."

2. *According to the FREEVAL User Guide, the software incorporates all of the freeway segment procedures related to basic freeway segments, weaving, segments and merge and diverge segments. The submitted FREEVAL files have some segments that are not classified as basic. Please provide additional clarification as to why "all segments along the freeway facility are treated as basic freeway segments".*

   The statement is being reworded as follows: "In the FREEVAL model, the respective HCM methodologies for basic segments, ramps and weaves are used to predict the measures of effectiveness (MOEs). However, because the MOE definitions and LOS criteria for ramps, weaves and basic segments are different, the 2010 HCM applies the LOS criteria for basic freeway segments to freeway facilities, for purposes of uniformity".

May 9, 2014 Correspondence with NYCDOT

1. *Page xii of the Executive Summary states after construction minor reallocation of green time at five signalized intersections is proposed; however, the transportation section reflects parking regulation and restriping proposed at the intersection of Astoria Boulevard and 82nd Street/24th Avenue. Please update the Executive Summary accordingly. Please note in comment 18 below additional information is requested in order to determine the feasibility of the proposed improvement measures at this location.*

   The Executive Summary has been updated to reflect the proposed geometric improvements noted above, in addition to the signal timing reallocations, as well as other subsequent refinements made in response to these comments.

2. *The Build year of the Central Terminal Building (CTB) is 2021, however the analysis year selected is 2030. At our meeting with PANYNJ on February 26th, NYCDOT discussed concerns related to whether these improvements would be needed to be implemented in 2021 when the project is operational. We discussed PANYNJ monitoring the study area from 2021 to 2030 in*

order to inform DOT whether any improvements need to be implemented once the CTB is built and operational, as well as on a yearly basis as the number of airline passengers increases between 2021 and 2030. The EA and revised Transportation section do not mention any monitoring. We recommend language related to monitoring be included in the EA.

The Port Authority agrees to implement a traffic monitoring program as part of this project, and language to that effect has been added to the EA in Chapter 5, Section 5.1: Traffic and Transportation and also in Appendix A: Transportation. The monitoring program will involve an examination of intersections where improvements have been identified as part of the EA. The monitoring program will examine the need for, and timing of, implementation of the identified improvements. The monitoring efforts will be conducted annually or at a frequency to be determined as part of future coordination efforts between the Port Authority and NYCDOT.

3. *Page 1-13 states that NYCDOT review and approval of the proposed traffic improvement measures is needed under Required Land Use/Environmental Permits; however, PANYNJ has informed MOEC that the proposed project does not include any City actions. Similarly, page 1-13 identifies NYCDPR. Please clarify the discrepancy.*

There is no discrepancy. The CTB Redevelopment Program does not include any City actions; however, the project must still comply with City regulations and any necessary permits must be obtained prior to construction. Construction and Forestry Permits will be obtained from NYCDPR for the removal of City trees. The Port Authority will continue to coordinate with NYCDOT on implementing recommended traffic improvements (such as signal timing adjustments, geometric changes, etc.) to ensure no significant traffic impacts on local roads will result from the construction or operation of the Proposed Action.

4. *Page 4-5 states that NYCDOT dictates the specific haul routes for construction vehicles, which may not be accurate. Please confirm whether this statement is accurate.*

The EA has been revised to read:

> "Since commercial traffic is not allowed on the Grand Central Parkway, all construction vehicles must utilize local roads. Construction vehicles will arrive and depart the site via NYCDOT-established truck routes. In the vicinity of the Airport, Astoria Boulevard serves as a major through truck route and 94th Street, 19th Avenue, and a portion of 23rd Avenue and Ditmars Boulevard are also established local truck routes."

Similar references, elsewhere in the EA text, have been updated accordingly.

5. *The LOS tables in the Transportation Appendix show the results for the proposed action without improvement measures implemented. Therefore, please remove the following language from Page 6-1:*

> *As per CEQR Technical Manual criteria and NYCDOT guidelines, improvements and changes needed to maintain or improve traffic levels-of-service during and after construction are included in the design of the Proposed Action.*

Based on discussions with NYCDOT staff at the May 21 coordination meeting, the sentence has been retained. The LOS tables that were presented in Appendix A identifying the "With-Action without improvements" conditions have been deleted. The improvements and changes needed to maintain or improve traffic LOS during and after construction are indeed included in the design of the Proposed Action, and are reflected in LOS tables that compare the "With-Action with improvements" LOS to the "No-Action" LOS.

6. *Please have the consultant confirm the NYCDOT divisions consulted with as part of the EA process. Both Traffic Planning and Planning are identified; however there is no office titled Planning. Please have the consultant clarify the discrepancies.*

   All references to "NYCDOT Planning" have been changed to "NYCDOT Traffic Planning."

7. *There is an imbalance of vehicles on eastbound Marine Terminal Road between Ditmars Boulevard and Runway drive in Figure A.1-10. Please fix the imbalance and revise the figure and analyses accordingly.*

   Figure A.1-10 reflects a difference in volume of 10 vehicles per hour in the eastbound direction. This change in volume is attributable to the presence of a driveway serving the Hertz Rental Car facility on the south side of Marine Terminal Road, between Ditmars Boulevard and Runway Drive. As discussed with NYCDOT staff at the May 21 coordination meeting, it was agreed that the difference in volume of this magnitude is consistent for a facility of this type. Therefore, Figure A.1-10, and the associated analysis, were not revised.

8. *Please provide the figures that accompany the "Methodology for Reassigning Year 2030 with-Action Volumes with Build Alternative SK02", in order to understand the assignments. Response to comment 18 states figures will be provided on CD, however, these figures were not provided on CDs as part of 2/24/14 or 3/14/2014 submissions.*

   AECOM submitted the requested figures to NYCDOT via CD at the coordination meeting on May 21. The figures are also included on the associated backup data CD that was transmitted to NYCDOT.

9. *As previously commented on, we have concerns regarding the use of 75% auto share for construction workers. Please provide the reverse journey to work for the construction industry in the vicinity of LaGuardia Airport, in order to justify the modal split. In addition, please indicate how many parking spaces will be provided for construction workers.*

   Reverse journey-to-work data specifically for the *construction industry* at LaGuardia Airport does not exist in the census data. Reverse journey-to-work data for *all workers* at LaGuardia Airport does exist and supports the use of a 75% auto share.

10. *According to the NYSDOT letter included in the Transportation appendix, NYSDOT contends that VISSIM analysis is necessary to identify future highway operational improvements. The EA should be revised to reflect the results of the VISSIM.*

    Results of the VISSIM modeling effort performed by the Port Authority are not available at this time, and therefore, will not be included in the EA. Any future highway improvements will be undertaken by NYSDOT as a separate action, and that agency will conduct any environmental assessment(s) that may be required.

11. *The "NYSDOT 94th Street Interchange Improvements Location Plans" reflect two southbound left turn lanes and one through lane at the intersection of 94th Street and Ditmars Boulevard; however, the future HCS analyses reflect one left turn lane and two through lanes. Please clarify the discrepancies and revise the HCS analyses accordingly. HCS analyses were provided for the southbound channelized right turn for Existing and No-Action conditions, however the results were not included in the report. Why weren't HCS analyses of the with-Action condition provided? Furthermore, the delay for the channelized right turn doesn't take into account that as per NYSDOT's drawings the number of southbound through lanes will be reduced from two to one, so the southbound through queue will extend past the GCP on ramp from 94th Street and block right turning vehicles from entering the GCP which will increase their delay. Also, there is a crosswalk on this ramp and the HCS analyses do not reflect any pedestrian volumes. In*

addition, the future analyses reflect narrow lane widths at the intersection of 94th Street and Ditmars Boulevard due to construction. Please confirm the future lane widths.

The lane configurations and lane widths at the 94th Street/Ditmars Boulevard intersection were confirmed in the field after preparation of the Draft EA, following completion of the construction activities at this location. All associated intersection capacity analyses for No-Action and With-Action conditions, LOS tables, and EA narrative have been updated accordingly for purposes of the Final EA.

The channelized right-turn movements presented in the intersection capacity analyses are associated with southbound and westbound right-turns at the intersection of *94th Street/LaGuardia Access Road* (located one block north of the referenced intersection, across the Grand Central Parkway overpass). These channelized right-turn movements are currently stop-controlled under existing conditions, but will be eliminated as part of the significant changes to the geometry of this intersection under the Proposed Action.

The channelized southbound right-turn movement at 94th Street/Ditmars Boulevard is not stop-controlled, but rather free-flow. Pedestrian volumes were observed to be extremely low at the crosswalk across this right-turn and are not expected to increase significantly as part of the Proposed Action.

12. *The "NYSDOT 94th Street Interchange Improvements Location Plans" reflects proposed signal phasing/timing modifications at the following intersections:*
    a. *Ditmars Boulevard/82nd Street and Grand Central Parkway north service road;*
    b. *94th Street and Grand Central Parkway north service road; and*
    c. *94th Street and Ditmars Boulevard.*

    The NYSDOT plans provided do not provide the description of the exact changes. Please provide the proposed signal phasing/timings and whether they are already reflected in the existing signal timing at each location (the HCS analyses utilize the same signal timing under the Existing and No-Action conditions, but the official signal timing provided ranges from 2009-2011 depending on location so it is not clear whether the proposed changes were already implemented). If not implemented, please indicate whether the proposed timing had been approved by NYCDOT. If so, please revise the HCS analyses accordingly.

    The most recent (post-construction) traffic signal timing/phasing sequences for all three intersections were obtained from NYCDOT Signals staff and verified against those used in the analysis.

    For the first listed intersection (a), AECOM used the correct timing and no changes were needed. For the second intersection (b), the original (pre-2013) signal timing obtained from NYCDOT Signals was used for all year 2012 Existing conditions analyses (and was confirmed to match the original field-measured signals timings). However, the year 2013 signal timing, recently obtained from NYCDOT Signals, was used for the future No-Action condition for Operations, as well as for the No-Action and With-Action conditions for Construction. With respect to the With-Action conditions analysis for Operation, it should be noted that the subject intersection will be completely reconfigured to accommodate a significant geometric improvement and a signal controller upgrade; therefore, the future signal timing for this location was assumed based on the identified geometry. Once the intersection is reconstructed as part of the CTB Redevelopment, the Port Authority will coordinate with NYCDOT Signals concerning the specific signal timing and phasing parameters to be implemented at this intersection.

    For the third intersection (c), the LOS analyses were updated to reflect the latest signal timing plans provided by NYCDOT Signals.

13. *We do not recommend the proposed curb cut at the intersection of 19th Avenue and 81st Street due to its location along the curvature of the road, as well as site distance issues. We*

recommend exploring the feasibility of relocating the curb cut further south on 81st Street. Furthermore, the proposed restriping to gain an additional travel lane at this location is not feasible. Please have the consultant revise the plans accordingly.

At the May 21 coordination meeting, Port Authority staff indicated that a curb cut further south on 81st Street was not feasible due to the presence of a sound barrier wall at the location. Also at the meeting, NYCDOT Highway Design staff confirmed that providing two lanes "around the corner" in the vicinity of the proposed driveway at 19th Avenue/81st Street intersection is not feasible due to a past history of sideswipe crashes at this location. The solution discussed at the meeting with NYCDOT staff, and which was agreed to be implemented for construction conditions, involves:

- Maintaining one travel lane in each direction along 19th Avenue and 81st Street;
- Providing for a separate exclusive eastbound left-turn lane;
- Prohibiting "left-turn out" movements from the driveway;
- Posting sign(s) at the driveway to restrict entry to "authorized vehicles only" (no public access);
- Closing the driveway's gate when the driveway is not in use, and using construction barrels to prohibit use of the (proposed) eastbound left-turn lane on 19th Avenue; and
- Implementing a flagger to manage traffic flow to and from the driveway.

The LOS analyses and EA narrative have been revised to reflect the agreed-upon solution described above.

14. *The proposed construction-related mitigation measures at the intersection of 45th Street and 19th Avenue are not feasible as proposed. Please note that a part-time left-turn lane is not feasible. If a left-turn lane is implemented it would be at all times, as well as parking prohibited at all times. In addition, the turning radii diagrams provided show the southbound right turning truck hitting the curb, which is not acceptable. The turning vehicle's path should be two feet from the curb. The southbound left turning radii show a truck turning into a parking lane. Parked cars should be shown in the turning radii diagram and wherever a turning truck could hit a parked car, parking prohibitions should be proposed. Turning radii drawing should be provided for the westbound right turn. Also, the southbound through lane will be aligned with parked cars in the receiving lane, which will create unsafe conditions. Furthermore, the drawings are missing control device width of roadway and the distance of each proposed parking regulation is proposed. Please revise the proposed mitigations accordingly.*

Based on conversations with NYCDOT staff at the May 21 coordination meeting, the schematic diagram and the EA have been refined to reflect a "No Standing Anytime" parking regulation on both sides of 45th Street, north of 19th Avenue. In addition, the north leg is proposed to be restriped to accommodate two southbound (approach) lanes and one northbound (receiving) lane at the intersection. These improvements ensure that two southbound lanes will be available at all times.

NYCDOT staff also recommended eliminating the lane use arrows on the southbound approach and providing white "skip line" striping on the southbound approach approximately 50 feet from the stop-line. A "No Standing Anytime" parking regulation was also recommended by NYCDOT staff on the west side of 45th Street, for approximately 80 feet south of 19th Avenue, to provide a transition for southbound through traffic. These improvements ensure that either of the southbound approach lanes can be used to accommodate southbound through traffic.
Also, as noted by NYCDOT staff at the May 21 meeting, installation of a traffic signal, rather than a flagger, is preferred at this intersection.

Using the geometric improvements described above, a revised schematic drawing was prepared. This schematic drawing shows parked vehicles along the curbs. It also shows a two-foot buffer from the vehicle turning paths for a Single-Unit Truck (SUT) for westbound right-turns, and for southbound left-turns and right-turns. The wheel paths for all SUT movements clear the curb

lines. Although the two-foot buffer area for SUT movements extends over the northwest and northeast curb lines, it should be noted this intersection currently accommodates relatively low traffic volumes, and the majority of new vehicular traffic associated with the Proposed Action is expected to be passenger cars. Therefore, the likelihood that multiple SUTs would be turning at the same time—each simultaneously over-tracking the two-foot buffer area within the curb lines under the proposed geometric configuration—is expected to be low.

The revised schematic drawing is included on the associated backup data CD that was transmitted to NYCDOT.

15. *As a result of the proposed two right-turn lanes on the westbound approach of the intersection of Astoria Boulevard North and 82nd Street during construction, the turning radii diagram shows the right turning vehicles close to the curb. As commented on above, the turning vehicle's path should be two-feet from the curb. In addition, the parking regulations and lane widths for the entire intersection should be shown on the drawing. Please have the consultant revise the proposed improvement measures accordingly.*

The schematic drawing has been refined accordingly to show the two-foot buffer for the vehicle turning paths, as well as existing and proposed parking regulations and lane widths. The two-foot buffer area clears the curb lines on the northeast corner and the raised center median divider along Ditmars Boulevard-82nd Street. The revised schematic drawing is included on the associated backup data CD that was transmitted to NYCDOT.

16. *The proposal of two right turn lanes on the westbound approach of the intersection of Ditmars Boulevard and 81st Street during construction is not feasible. The turning radii diagram shows the right most turning vehicle hitting the curb, as well the second right turning vehicle (SU Truck) and cars in the parking lane. Also, the second right turning vehicle's turning path is too close to the median on 81st Street. In addition, the parking regulations and lane widths for the entire intersection should be shown on the drawing. Please have the consultant propose other improvement measures or identify the location as an unmitigated impact.*

The schematic drawing has been refined accordingly to show the two-foot buffer for the vehicle turning paths, as well as existing and proposed parking regulations and lane widths. The vehicle turning paths do not encroach on the on-street parking area along the east side of 81st Street, nor the raised center median divider along 81st Street. The revised schematic drawing is included on the associated backup data CD that was transmitted to NYCDOT.

17. *The proposed additional right turn lane on the eastbound approach at the intersection of Hazen Street and 19th Avenue during construction is not feasible. The proposed 25-foot wide approach would need to be striped with two lanes; however this is not feasible. According to the turning radii diagrams, the right turning passenger vehicle hits the curb when turning, and a single unit truck cannot make a right turn from the right most lane. As commented above the right turning vehicle's path should be two feet from the curb. In addition, the parking regulations and lane widths for the entire intersection should be shown on the drawing. Please have the consultant propose other improvement measures, or identify the impact as unmitigated.*

The schematic drawing has been refined accordingly to illustrate a revised striping configuration for the eastbound approach, and an associated parking regulation change on the north side of 19th Avenue, to permit a clear turning path for a SUT making an eastbound right-turn movement. Although the wheelbase of the SUT clears the southwest corner, the two-foot buffer slightly encroaches on the curb return on this corner. It should be noted that this SUT movement would be very similar to the movement made today under the intersection's existing configuration. Existing and proposed parking regulations and lane widths are also shown. The revised schematic drawing is included on the associated backup data CD that was transmitted to NYCDOT.

18. *Please provide turning radii drawings for the proposed improvement measures at the intersection of Astoria Boulevard and 24th Avenue in order to determine the feasibility of the proposed improvement measures.*

A new schematic drawing has been prepared to illustrate the proposed improvement measures at the subject intersection, including the turning paths for SUTs turning from 24th Avenue (including the two-foot buffer). Existing and proposed parking regulations and lane widths are shown as well. The schematic drawing is included on the associated backup data CD that was transmitted to NYCDOT.

19. *Please note, NYCDOT does not have intersections labeled Astoria Boulevard North and 23rd Avenue, and Astoria Boulevard North and 79th Street on file. Based on the naming convention, we believe you are referring to the intersections of Astoria Boulevard North Service Road and 79th Street, and Astoria Boulevard and Astoria Boulevard North Service Road, respectively. Please confirm and revise the EA to refer to the intersections as NYCDOT has them on file. In addition, the HCS analyses should be revised to reflect the official signal timing at the intersection of Astoria Boulevard and Astoria Boulevard North Service Road (see attached).*

The names of these two intersections have been modified in the report and in the LOS tables to conform to the naming conventions used by NYCDOT Signals. In addition, the traffic signal timing used in the analysis of the northerly intersection (i.e., Astoria Boulevard/Astoria Boulevard North Service Road) has been modified to match the official traffic signal timing provided by NYCDOT Signals following preparation of the May 9 comments. The corresponding LOS results and associated narrative have been updated accordingly throughout the EA.

20. *The proposed signal timing modifications at the following locations are not feasible:*
    - *21st Avenue and 81st Street;*
    - *19th Avenue and Hazen Street; and*
    - *Ditmars Boulevard and 94th Street.*

    Please have the consultant proposed other measures at this location or identify the impact as unmitigatable.

At the intersection of 21st Avenue/81st Street, AECOM verified that the minimum pedestrian crossing time was met. As discussed with NYCDOT Signals staff at the May 21 coordination meeting, this calculation was based on a minimum WALK time of seven (7) seconds, a pedestrian walking speed of 3.5 feet/second, and inclusion of the yellow and all-red clearance intervals in the calculation of the available crossing time. The length of the north and south crosswalks across 81st Street were field-measured to be 72 feet, curb-to-curb. The result of these calculations is a required minimum pedestrian crossing time of 28 seconds. With the identified signal timing adjustments in place for the weekday AM peak hour, the 21st Street signal phase provides a total of 29 seconds for pedestrians to cross (green=24, yellow=3, red=2) under construction conditions, which exceeds the calculated 28-second minimum required pedestrian crossing time. At the intersection of 19th Avenue/Hazen Street, the Port Authority has agreed to install a new traffic signal controller to provide greater flexibility to accommodate variable time-of-day signal timing plans, and address the concerns that NYCDOT Signals staff raised at the May 21 coordination meeting concerning the different time-of-day signal timing adjustments identified for construction conditions.

At the Ditmars Boulevard/94th Street intersection, the need for further signal timing adjustments was eliminated as part of the refinements cited in comments #11 and #12.

21. *Please note that the proposed signal timing modifications at the following intersections are not under the City's jurisdiction:*
    - *Ditmars Boulevard and Marine Terminal Drive;*
    - *Bowery Bay Boulevard and Runway Drive/Marine Terminal Road;*
    - *LaGuardia Access Road and 94th Street.*

At the May 21 coordination meeting, it was confirmed by NYCDOT Signals staff that the Ditmars Boulevard/Marine Terminal Drive and LaGuardia Access Road/94th Street signals are currently under the jurisdiction of NYCDOT, whereas the Bowery Bay Boulevard/Runway Drive/Marine Terminal Road signal is under the jurisdiction of the Port Authority.

22. *The response to comments (comment 19) dated March 14, 2014 states the following:*

> *Construction-generated traffic volumes are expected to fluctuate month-to-month over the duration of construction schedule, and are not only lower than the peak quarter for all other quarters of the construction schedule—but in most cases considerably lower (see Excel file on backup data CD: "Peak month analysis for trucks & employees_ML_2013-01-28.xlsx"). Therefore, the signal timing adjustments noted above for the Construction condition reflect only the temporary "peak quarter" construction condition. As a result, the need for signal timing adjustments will change month to-month and quarter-to-quarter as construction activity at the CTB progresses, and implementation of any temporary changes would be at the discretion of NYCDOT.*

Please note that although the implementation of the proposed construction-related improvement measures is at the discretion of NYCDOT, it is the applicant's responsibility to inform NYCDOT of the necessary improvements throughout construction period, including the duration of their implementation, and if the need of improvement measures change. The average quarterly trips of the monthly PCE trips presented in Peak month analysis for trucks & employees_ML_2013-01-28.xlsx do not match with those presented in "Estimated Average Daily Number of Construction Workers and Construction Truck PCEs On-Site, Per Calendar Quarter" (Table A.7-1). Please have the consultant clarify the discrepancies. Furthermore, the above response states that these measures are for the peak quarter (3 month time period), however, based on the Peak month analysis for trucks & employees_ML_2013-01-28.xlsx, the monthly construction trip generation reflects that the proposed action would generate a sizable number of construction related trips over the course of eight years of construction. Our comment requested progression analyses to be provided for those locations where the proposed reallocation of green time exceeded four seconds. However, the response stated since the "peak quarter" of construction was analyzed, these signal timing adjustments are not envisioned as long-term needs, therefore progression analyses were not conducted. For example, the peak month is identified as October 2015 with 858 vehicle trips, but the proposed action is expected to generate at least 500 daily vehicle trips for approximately three out of the 8 years. While 500 trips are lower, it is still a sizeable number and the proposed peak quarter improvements may still be needed. Furthermore, the construction worker trips contribute the most trips during the AM and PM peak hours analyzed; however the number of construction worker vehicles peak in 2016. Therefore the statement above is inaccurate as well as the discussion on pages 5-4 and 5-13 of the EA regarding improvement measures needed during the peak construction activity. Please revise the EA accordingly as well as provide progression analyses.

As discussed with NYCDOT staff at the May 21 meeting, a progression analysis has been conducted for those coordinated study intersections where more than four seconds of green time reallocation has been proposed. The results of this analysis are included on the associated backup data CD that was transmitted to NYCDOT.

As part of this project, the Port Authority agrees to implement a traffic monitoring program in coordination with NYCDOT throughout the duration of the construction period. Language to this effect has been added to the EA. This monitoring program would quantify the volume of construction workers' vehicles parked at the Ingraham's Mountain site and the need for, and timing of, implementation of the identified improvements. These monitoring efforts should be conducted annually, or at an agreed-upon frequency to be determined as part of on-going coordination efforts between the Port Authority and NYCDOT during the construction period.
In the Excel file *Peak month analysis for trucks and employees_ML_2013-01-28.slsx*, the average numbers of daily workers and daily trucks, on a month-by-month basis, are shown in rows 12 and 6, respectively. Each of the monthly values shown in these rows were then averaged by calendar

quarter (1st quarter: Jan-March, 2nd quarter: April-June, etc.). Although these calculations of the quarterly averages for workers and trucks (in PCEs) are not shown explicitly in the Excel file, the resulting average values do match the values presented in Table A.7-1. At the May 21 coordination meeting, NYCDOT Traffic Planning staff was provided with handouts from the Excel file and Table A.7-1 highlighting the numbers used for the calculations noted.

23. *The signal warrant booklet provided for the intersection of 19th Avenue and 45th Street was not filled out for the peak hour warrant, which is the warrant the consultant indicated was met in their response to comments. Please have the consultant provide a revised signal warrant booklet with the peak hour warrant portion filled-out.*

    Following the May 21 coordination meeting, the traffic signal warrant booklet for the 19th Avenue/45th Street intersection was prepared based on projected future year 2015 traffic volumes during the peak quarter of construction (i.e., 4th quarter of 2015). As recommended by NYCDOT in the comment, only the "Peak Hour Warrant" (Warrant 3) was investigated because the remaining warrants either do not apply or are not expected to be met considering both existing and projected future traffic conditions. Based on projected future traffic volumes during the peak quarter of CTB construction, the subject intersection was found to meet Warrant 3 during the weekday PM peak hour, consistent with the afternoon shift-change period. It should also be noted that an all-way stop-controlled configuration was tested here as a potential improvement, but does not provide an acceptable LOS nor meet the associated all-way stop-control warrants.

24. *The FREEVAL analyses reflect queues on the westbound 94th Street on-ramp of the Grand Central Parkway extending past the intersection of LaGuardia Access Road and 94th Street under future conditions; however, the LOS analyses for this intersection show acceptable delays, which is not consistent with the FREEVAL results.*

    There are no known procedures in the HCM that simultaneously address overlapping queues from a freeway entrance ramp and an upstream signalized intersection, or that establish some correlation between entrance ramp queues and intersection delays. As such, no changes were made to the analyses previously submitted. The interactions between queues from the on-ramp and the upstream intersection are being modeled by the Port Authority using VISSIM. The results of this analysis are not available at this time. When the VISSIM results are available, the need for further improvements will be reviewed and coordinated with NYCDOT and NYSDOT.

25. *Please provide a copy of the source material for the accident data.*

    AECOM submitted the source material for the accident data to NYCDOT on CD at the May 21 coordination meeting.

26. *As previously commented on, please provide the expected increases in the parking demand under the No-Action and with-Action conditions. The EA must demonstrate that the number of proposed parking will be able to accommodate the future parking demand, in order to screen out performing a parking assessment. Also, the response to comments states that the existing number of airport parking spaces is 6,775, and in the future there will be 7,175 and 5,638 parking spaces under the No-Action and with-Action conditions, representing a loss in the number of parking spaces due to the proposed action; however, page 1-12 of the EA indicates the existing CTB garage of 2,700 parking spaces will be removed and a new parking garage of 2,900 parking spaces will be constructed, representing an increase in the number of parking spaces. In addition Page 5-11 states there are 6,900 spaces under the existing condition and the net loss would be 65 spaces airport wide. However based on the response to comments the loss of parking spaces is 1,537 (no-Action vs. with-Action). Please clarify the discrepancies. Since the overall number of parking spaces will be reduced by the proposed action and the parking demand will increase due to both No-Action airline passenger growth and increased airline passengers associated with the proposed action, the EA must be revised to disclose the future airport parking demand, in order to support the statement that all parking demand will be accommodated on-site. In*

addition, the construction section must provide future projections regarding the number of parking spaces during construction for construction workers, airport employees and passengers, as well as how many parking spaces will be allocated to each.

Summary tables providing the existing and projected future parking supply and demand within the Central Terminal Area of the Airport are included on the backup data CD that was transmitted to NYCDOT. Port Authority aviation professionals developed these tables based on comprehensive forecasts of increased passenger activity for LaGuardia Airport. Trends show that parking activity is expected to similarly increase, but not at the same rate as passenger activity. The Airport currently has a surplus of available parking as peak demand is adequately accommodated by the current supply. As a result, the redevelopment program will "right-size" the parking capacity to better accommodate the forecasted demand.

27. *Please note that at the intersection of Hazen Street and 19th Avenue there is a leading southbound phase, not lagging, as analyzed in the HCS analyses. Please have the consultant revise the HCS analyses for the AM peak hour accordingly.*

    AECOM field-verified that the southbound-only phase is leading, not lagging, as noted by NYCDOT. The corresponding HCS analyses and LOS tables were updated to reflect this change.

28. *Please note that at the intersection of Ditmars Boulevard and 81st Street, the official signal timing reflect no pedestrians crossing while the westbound right turn is permitted; however the HCS analyses shows pedestrian crossing during this phase. Please have the consultant clarify the discrepancy and revise the HCS accordingly.*

    The pedestrian crossing phase for the north crosswalk was removed from the phase where the westbound right-turn is permitted. The HCS analyses and corresponding LOS tables in the EA were updated accordingly.

29. *The response to comments (comment 46b) states that the HCS analyses at the intersection of Ditmars Boulevard and 94th Street were updated to reflect parking on the northbound approach; however, not all construction conditions analyses were revised to reflect this. Please have the consultant provide the updated analyses.*

    The HCS analyses and corresponding LOS tables in the EA have been revised to consistently reflect the presence of parking on the northbound approach at the subject intersection.

July 28, 2014 Correspondence with NYCDOT

1. *After reviewing the traffic signal warrant analysis package for the intersection of 19th Avenue and 45th Street in Queens (attached), we have the following comments:*

    a. *Replace Melita James' name with Jenny Baez, P.E. the new chief of the Intersection Control Unit.*

       Melita James' name has been replaced by Jenny Baez' name on the signatory page of the warrant booklet.

    b. *Show how the 2015 build volumes were derived (i.e., growth factor, trip generation rates, etc.) and provide these increments on trip distribution flow maps.*

       AECOM has prepared a one-page flow-map illustrating how the construction peak hour traffic volumes at the 19th Avenue/45th Street intersection were derived. This flow-map shows the existing baseline traffic volumes, as well as the incremental traffic volumes

attributable to background growth, the RSA project, the CTB project (including shuttle bus and construction worker vehicle trips to/from Ingraham's Mountain), and the resulting total traffic volumes (sum of all of the above increments, added to the baseline volumes). This flow-map is included as a PDF file on the backup data CD.

c. *Show the analyses for existing condition as well.*

As requested, the traffic signal warrant analysis originally prepared for the 19th Avenue/45th Street intersection for projected future construction conditions has been supplemented with a similar traffic signal warrant analysis for this intersection under *existing conditions*. It should be noted that several of the signal warrants continue to be not applicable. Also, of the remaining applicable warrants, prevailing traffic and pedestrian volumes do not warrant the installation of a traffic signal at this location under existing conditions. All traffic signal warrant analyses are included in one PDF file on the backup data CD. The supplemental pages showing the warrant analyses for existing conditions follow the pages corresponding to the warrant analyses for projected future conditions.

d. *Please provide Commitment Letter for the proposed temporary traffic signal. In the letter please verify who will be paying for the proposed signal.*

The requested Commitment Letter, signed by the Port Authority, is included on the backup data CD.

2. *Please note the proposed action involves a City action (response to comment 3 states no city actions) as per MOEC.*

The Port Authority has discussed this issue with the Mayor's Office of Environmental Coordination (MOEC) and agreed that the City of New York's (City) discretionary action that triggers CEQR is one or more transfers of an interest in property either to or from the City that will occur in connection with the project's proposed roadway network changes in the Grand Central Parkway adjacent to LaGuardia Airport. The City has specified this action as a Type I action (expansion of an existing non-residential structure and the inclusion of structures eligible for listing on the National Register of Historic Places (NRHP) in the project (6 NYCRR Part 617.4 (b)(6)(v) and 6 NYCRR Part 617.4 (b)(9)) requiring an EAS Full Form.

3. *The response to comment 11 states the channelized right-turn movements (southbound and westbound right-turns) at the intersection of 94th Street/LaGuardia Access Road are currently stop-controlled under existing conditions, but will be eliminated as part of the significant changes to the geometry of this intersection under the Proposed Action. Please note the transportation chapter does not discuss these changes, nor the signal timing modifications. The proposed modifications are not clear based on the plans provided. Please drawings showing the future geometry, signs and signal modifications at this location. Will there be uncontrolled pedestrian crossings at this location as a result of the reconfiguration and signal modifications? Has the proposed modifications been approved by NYSDOT/NYCDOT?*

A schematic drawing showing the proposed future geometry for the 94th Street/LaGuardia Access Road intersection, as developed by the Port Authority, is included on the backup data CD. This drawing also illustrates the traffic signal phasing and timing parameters that were used in the weekday AM and PM peak hour intersection capacity analyses for purposes of the EA. A comprehensive signing plan for the airport, as well as more comprehensive and detailed signal phasing/timing plans for the subject intersection, are still under development by the Port Authority and not available at this time. Because of the importance of this intersection as a juncture between City and Port Authority roadways, coordination with NYCDOT staff will be on-going as the proposed project is implemented. The narrative of the Transportation Appendix had been

updated to provide an expanded discussion of the geometric modifications proposed at this intersection, as well as the signal phasing/timing parameters that were assumed.

There will be no uncontrolled pedestrian crossings at this intersection. With the proposed geometric improvements to this intersection in place, pedestrian access to and from the airport in this immediate area will be limited to a proposed sidewalk and crosswalks along the east side of 94th Street. The existing sidewalk on the west side of 94th Street, north of Ditmars Boulevard, will be eliminated. Therefore, pedestrian crossings of the east leg (i.e., the westbound approach) of the subject intersection would occur concurrently with the 94th Street through-traffic signal phase (i.e., northbound and southbound traffic movements). On the northeast quadrant of the intersection—north of the collector-distributor road and on airport property—a marked crosswalk would be striped across the westbound access roadway.

The proposed modifications to the subject intersection have been coordinated with NYSDOT staff. As noted above, due the importance of this intersection as a juncture between City and Port Authority roadways, coordination with NYCDOT staff will be on-going as the proposed project is implemented.

4. *The response to comment 11 states southbound right-turn movement at the intersection 94th Street/Ditmars Boulevard is not stop controlled, but rather free-flow and pedestrian volumes were observed to be extremely low at the crosswalk across this right-turn and are not expected to increase significantly as part of the Proposed Action. However the proposed action will add approximately 50 vehicles to this movement during the AM and PM peak hours (both construction and operation), which is a safety issue.*

As shown in the conceptual design schematic for the 94th Street/LaGuardia Access Road intersection (as indicated in the response to comment 3 above), the existing sidewalk along the west side of 94th Street, north of Ditmars Boulevard, will be eliminated. All pedestrian access to and from the airport via 94th Street will occur via a sidewalk on the east side of 94th Street. As such, there are not projected to be any pedestrian crossings of the free-flow ramp at the subject crosswalk and, therefore, no conflicts between vehicular traffic and pedestrians at this location.

5. *Please note that SIMCO has provided a design for the intersection of 19th Avenue and 81st Street that differs slightly. Please use this drawing. In addition, this configuration should be analyzed under No-Action conditions, since it will be implemented absent the proposed action. Provide turning radii for simultaneous eastbound left turn and southbound right turn showing these movements can safely operate at the same time. Please clarify whether this gate will be open other than during the AM and PM shift changes. Please note that a flagger should be placed at this intersection for as long as the driveway gate is open, not just during shift changes. As per our July 8th conference call with PANYNJ, SSE and SIMCO, DOT raised concerns regarding pedestrian safety and were assured that a flagger would be present. These issues require further discussion with DOT. We are currently reviewing the revised curb cut modification memorandum. We recommend adding language to the EA acknowledging issues related to the curb cut and flagger are still be coordinated with DOT.*

The current design plan for the 19th Avenue/81st Street intersection, prepared by SIMCO, was obtained and used to prepare a revised schematic drawing, which is included on the associated backup data CD. The schematic drawing illustrates the turning paths for a shuttle bus (i.e., for construction worker traffic) making simultaneous eastbound left-turn ingress and southbound right-turn egress movements. As requested, the No-Action conditions LOS analysis has been revised to reflect flagger-control (corresponding HCS files are included in the backup data CD). A flagger will be placed at the intersection during all times when the gate is open, not only during shift change times. The EA narrative was revised to clarify this point and to indicate that the proposed curb cut and the associated flagger require further coordination with NYCDOT.

Also Table A.7-6 should be revised to reflect "TR" movement not "LT" movement on the WB approach.

Table A.7-6 has been revised in the Transportation Appendix as noted.

6. *As previously commented on, the turning vehicle's path should be two feet from the curb. Please revise the proposed mitigation measures at the intersection of 19th Avenue and 45th Street accordingly. In addition, please note that the HCS analyses at the intersection of 19th Avenue and 45th Street for the Action with Improvements do not reflect the same number of moving lanes, lane configuration and lane width shown in the schematic drawings for both the AM and PM peak hours. As per the response to comment 14, lane use arrows were eliminated and the analyses should be revised accordingly.*

Two alternative design treatments have been developed to accommodate vehicle turning paths with the two-foot buffer at the subject intersection, as follows:

1) Slight modifications to the curb returns on the NW and NE corners (this may require relocation of one utililty pole on the NW corner),
2) Moving the proposed stop-bars further back from the crosswalk on the eastbound and southbound approaches, or

Alternatives 1 and 2 are illustrated on revised schematic drawings included on the backup data CD. Either one of these two options can be implemented based on NYCDOT's preference. These design considerations will be further coordinated with NYCDOT as part of the final design/implementation phases.

The HCS analyses at the 19th Avenue/45th Street intersection for the "With Action with Improvements" condition have been updated to ensure that the same lane configurations and lane widths are presented for both the AM and PM peak hours.

7. *Please revise the schematic drawings to provide the distance from the intersection that No Standing parking regulations are proposed at the following locations:*
   a. *Astoria Boulevard and 82nd Street/24th Avenue-east curb south of Astoria Boulevard;*
   b. *45th Street and 19th Avenue-south curb east of 45th Street; and*
   c. *Hazen Street and 19th Avenue- north curb east of Hazen Street.*

The schematic drawings for these three intersections have been updated to show the distance from the intersection that the "No Standing" parking regulations are proposed. These drawings are included on the associated backup data CD. (As noted in comment 6 above, and comment 8 below, two alternative concept sketches are provided for each of the 19th Avenue/45th Street and Hazen Street/19th Avenue intersections).

8. *Please provide turning radii diagrams for southbound right turns at the intersection of Hazen Street and 19th Avenue.*

Two alternative design treatments have been developed to accommodate vehicle turning paths with the two-foot buffer at the subject intersection:

1) Slight modifications to the curb return on the NW corner (this may require relocation of one traffic signal pole),
2) Moving the proposed stop-bar further back from the crosswalk on the eastbound approach, or
3) A combination of alternatives 1 and 2 above.

Alternatives 1 and 2 are illustrated on revised schematic drawings on the backup data CD. Either one of these two options can be implemented based on NYCDOT's preference. These design considerations will be further coordinated with NYCDOT as part of the final design/implementation phases.

9. *The response to comment 24 is not acceptable. The queue projection would have a significant impact on upstream intersections.*

Refinements to the FREEVAL analysis of the westbound Grand Central Parkway were made to account for the recent capacity improvements at the 82nd Street off-ramp under the No-Action and With-Action conditions (i.e., the ramp widening from two lanes to three lanes). Prior to this improvement, the queuing condition on the 82nd Street off-ramp impeded the execution of weaving movements between the 94th Street entrance ramp and the 82nd Street exit ramp, generating upstream queues. By incorporating these improvements into the FREEVAL analysis, queues from the 82nd Street off-ramp would not back-up onto the auxiliary lane of the weaving segment. This alleviates the bottleneck and leads to under-saturated traffic conditions within, and upstream of, the weaving segment (including the 94th Street entrance ramp). The refined FREEVAL analysis files for the No-Action and With-Action conditions, and associated LOS summary tables, are provided on the associated backup data CD. The narrative and associated tables in the draft EA and Transportation Appendix have been updated accordingly.

10. *The transportation chapter should indicate the number of parking spaces to be removed as a result of the proposed improvement measures (both operational and construction) and their utilization.*

The Transportation Appendix and relevant sections of the EA have been expanded to include narrative identifying the number of parking spaces to be removed as a result of the proposed improvement measures (under both operational and construction conditions), as well as commentary addressing existing utilization levels for these spaces. The parking regulation changes are as follows:

For Construction conditions:

- Hazen Street/19th Avenue (north side of the west leg): Eliminate the "48-hour Parking for Detached Trailers" regulation and implement a "No Standing Anytime" regulation on the north side of 19th Avenue for approximately 200 feet west of Hazen Street. This regulation change would eliminate curbside parking spaces for approximately four (4) detached trailers. Field observations of existing trailer parking utilization along this curbside revealed approximately one to two trailers present on weekdays. The north curb along 19th Avenue between Hazen Street and 45th Street is largely under-utilized for trailer parking, and sufficient curbside space exists to accommodate these displaced trailers.

- 45th Street/19th Avenue: Implement "No Standing Anytime" parking regulations for approximately:
  - 275 feet along both sides of the north leg. This regulation change would eliminate curbside parking space for approximately 6 detached trailers on the east side of 45th Street, north of 19th Avenue and approximately 11 passenger cars on the west side of 45th Street, north of 19th Avenue.
  - 25 feet along the south side of 19th Avenue, east of 45th Street. This regulation change would eliminate curbside parking space for one passenger car on the south side of 19th Avenue, east of 45th Street.
  - 80 feet along the west side of 45th Street, south of 19th Avenue. This regulation change would eliminate curbside parking space for four passenger cars on the west side of 45th Street, south of 19th Avenue.

  It is important to note that weekday field observations revealed no (zero) vehicles parked in any of the three locations noted above. The subject intersection is located in a low-density industrial area with little on-street parking demand. On-street parking spaces are widely available elsewhere along 45th Street and 19th Avenue, as well as other city streets in the vicinity of the subject intersection.

- 19th Avenue/81st Street driveway: As noted in SIMCO's design drawings for this intersection (see Comment 5), the lane restriping in the vicinity of the proposed driveway necessitates the elimination of eight (8) parking spaces on the south side of 19th Avenue, and two (2) parking spaces on the north side of 19th Avenue. A comprehensive and detailed multi-day survey of on-street parking utilization was conducted by SIMCO within ¼ mile of the subject intersection as part of the Port Authority's RSA project. The results of this survey are included on the associated backup data CD, and indicate that the number of available parking spaces in the vicinity of this intersection ("Zone 2") ranges between 28 and 139 throughout the course of a typical weekday. This corresponds to utilization levels ranging from 95 percent to 76 percent, respectively. In summary, sufficient on-street parking supply exists in the vicinity of this intersection to accommodate the reduction of 10 parking spaces associated with the proposed improvement.

For Operation conditions:

Astoria Boulevard/82nd Street/24th Avenue: Parking regulation changes at this intersection include the following:

1) Changing the "No Parking Anytime" regulation on the north side of 24th Avenue, south of Astoria Boulevard, to a "No Standing Anytime" regulation. This parking regulation change does not result in any effective change to the parking capacity or utilization in the area because no (zero) vehicles were observed to be standing in this location on a typical weekday.

2) Implementing a "No Standing Anytime" regulation for 100 feet (i.e., approximately four passenger car lengths) on the south side of 24th Avenue, south of Astoria Boulevard. Field observations of parking utilization levels in the vicinity of this intersection indicate sufficient available parking on the local streets south of Astoria Boulevard to accommodate up to four displaced passenger cars.

3) Implementing a "No Standing Anytime" parking regulation for 45 feet on the east side of 82nd Street, south of Astoria Boulevard. This parking regulation change largely overlaps with an existing driveway serving a gas station (i.e., where no on-street parking is allowed by default) so there is effectively no change in parking capacity or utilization as a result.

In addition, please provide the revised EA for review.

The revised Transportation Chapter for the EA, and the more detailed Transportation Appendix, are both included on the backup data CD.

August 13, 2014 Correspondence with NYCDOT

1. Please provide a revised complete EA. Only Transportation section provided.

   The complete EA, dated June 2014, was transmitted to NYCDOT on August 14, 2014.

2. The Signal Warrant Study does not explain in detail how the projected volumes were derived. Please explain in detail how the CTB Construction Personnel Vehicle Assignments at the intersection of 45th Street and 19th Avenue were derived and show how the volumes were calculated (southbound through- 44 and left-463).

AECOM discussed this request with NYCDOT Signals staff and provided supplemental information to staff on August 14, 2014. NYCDOT Signals has subsequently provided a conditional approval letter for the signal installation at 45th Street/19th Avenue.

3. We have reviewed the *Conceptual Sketch of 94th Street/LaGuardia Access Road Intersection* and have the following comments (for further clarification, please see attached drawing marked-up with comments):

The Port Authority recognizes the importance of the 94th Street/LaGuardia Access Road intersection as a major "gateway" and one of several critical transportation connections between LaGuardia Airport and New York City streets. Each of these connections must be designed to safely and efficiently accommodate the flow of vehicles and pedestrians between the airport and surrounding roadways. The Port Authority's initial Stage 1 concept design was developed by the Port Authority's Traffic Engineering group based on a thorough understanding of the multi-modal transportation needs of airport travelers and employees—including those traveling by car, bus, taxi, foot, etc.—and the need to seamlessly integrate the CTB's future transportation connections into the fabric of the City's street network. Furthermore, Port Authority Traffic Engineering recognizes that some of the specific, detailed design considerations that are germane to the functionality of these connections will require further dialogue and refinement in partnership with staff from NYCDOT, NYSDOT, the MTA, and others. These actions will continue beyond the EA process and the Stage 1 concept design.

Given the scope and magnitude of the CTB redevelopment program, its importance to regional transportation needs, and the importance for on-going dialogue among transportation agencies going forward to subsequent design and implementation stages, Port Authority Traffic Engineering is developing a comprehensive Transportation Management Plan (TMP) for the CTB program following completion of the EA. The TMP will incorporate a series of face-to-face meetings with key staff from NYCDOT, NYSDOT, the MTA, the Port Authority, and other agencies and key stakeholders. The TMP will provide an opportunity for round-table discussions to identify, collectively discuss, and agree on resolutions to various transportation-related questions (including some of the items noted in NYCDOT's comments below) as the project moves beyond the EA and the current Stage 1 design phase to final design and construction. Because of the complexity and design constraints associated with the CTB redevelopment program, there are often competing transportation needs and, therefore, no "one-size-fits-all" solution. However, the TMP process will provide an opportunity for the Port Authority to share its Stage 1 design concept and solicit feedback from all affected stakeholders, and for stakeholders to discuss solutions and achieve consensus on recommended design refinements. While the TMP process may result in minor design refinements to the Stage 1 concept, the overall operational elements on which potential transportation effects identified in the proposed CTB EA are based will remain unchanged.

Furthermore, beyond the EA process, the Port Authority will continue to actively coordinate with NYCDOT staff as the project moves through the City permitting and construction phases. Specifically, Port Authority staff will continue to work with NYCDOT staff to identify and resolve specific design and operations questions at the 94th Street/LaGuardia Access Road intersection—and other locations as warranted—as part of the on-going coordination efforts noted above, thereby providing ample opportunities for future input and dialogue.

The following provides a point-by-point response to each of the NYCDOT comments to the extent possible at the present time (Stage 1 concept design/planning-level EA):

a. Please provide dimensions on plans. This includes lane width, median width (i.e. medians on the north and east legs at intersection of 94th Street and the LaGuardia Access Road), crosswalk width and length, sidewalk width, etc.

The attached concept sketch has been supplemented to show the lane widths, median widths, crosswalk lengths and widths, and sidewalk widths. As shown in the sketch, all travel lanes are 12 feet wide.

b. Please provide truck turning radii diagrams. In addition, at locations where two turn lanes are proposed for the same movement, please provide turning radii diagrams for a single unit truck and passenger car turning simultaneously.

Vehicle turning path diagrams, including a two foot buffer on either side of the design vehicle, are shown in four attached drawings. The design vehicle used in these diagrams is a single-unit truck. Where two lanes are proposed, the turning diagrams illustrate a single-unit truck and a passenger car turning simultaneously.

c. Please provide property lines on drawing and indicate which entity has jurisdiction.

The attached concept sketches noted above also show the approximate location of the demised Airport boundary.

d. The with-Action volume maps provided in the report do not reflect the roadway configuration in this drawing.

Figures A.1-21 through A.1-24 (With-Action volumes maps) have been updated to illustrate the proposed lane configuration at 94th Street/LaGuardia Access Road as part of the inset showing the projected peak hour traffic flows at this intersection. These revised figures were provided to NYCDOT via email on August 14, 2014.

e. The westbound right turn at the intersection of LaGuardia Access Road and 94th Street should be stop-controlled under the with-Action conditions, as was analyzed under Existing and No-Action conditions. This movement needs to be controlled due to the crosswalk. Please revise the drawings, volume figures and analyses accordingly.

Unlike under Existing and No-Action conditions, the westbound right-turn lane shown near the subject intersection in the concept sketch is not functionally part of the 94th Street/LaGuardia Access Road intersection, but rather an internal circulation roadway on Port Authority property. As such, traffic volume projections for this movement were not prepared as part of the EA. Port Authority Traffic Engineering design staff has indicated that they expect this movement to be a relatively low-volume movement. The specific traffic control device for the crosswalk has not yet been determined by Port Authority Traffic Engineering. This type of detailed design consideration is expected to be the focus of the TMP process noted above.

f. The proposed signal timing is not feasible. All red time must be allocated to Phases 2 and 3. In addition, the timing appears to not provide adequate pedestrian crossing time for the east crosswalk. Please indicate the crosswalk length, as well as the width of the proposed median, and whether pedestrians are expected to cross in two cycles and stop in the median. Will there be a pedestrian signal in the median?

A 2-second all-red time has been added to Phases 2 and 3 as per NYCDOT direction. Also, the intersection was re-analyzed to operate on a 90-second cycle during the weekday AM peak hour, which is the same cycle length analyzed for the weekday PM peak hour at this intersection, and which is also consistent with the AM and PM peak hour cycle lengths at the 94th Street/Ditmars Boulevard intersection. The 90-second cycle ensures sufficient pedestrian crossing time for the east crosswalk (which is approximately 73 feet long) based on a 7-second initial "WALK" phase and a pedestrian walking speed of 3.5 feet/sec. The associated HCS files were provided to NYCDOT staff via email on August 15, 2014 for review.

Pedestrians are intended to cross the east leg of the intersection in one cycle (i.e., not via a multi-phase crossing). Although the design of the traffic signal at this intersection has not been fully developed, it is not anticipated that separate pedestrian signals in the median would be required; pedestrian signals would be located on the NE and SE corners of the intersection only. Detailed design considerations such as these are expected to be the focus of the TMP process noted above.

g. Drawing appears to show a south crosswalk but the timing plans do not reflect this. Please clarify.

The Port Authority does not intend to provide any crosswalk across the south leg of the subject intersection. The south crosswalk, shown in a previous concept sketch, has been removed.

h. Drawing shows lay by areas on the "WB CD Road" and "EB Recirculation Roadway". Please explain what these areas are for.

The lay-by area on the north side of the "WB CD Road" is a layover area for MTA buses. The lay-by area on the "EB Recirculation Roadway" is a bus stop.

i. Response to Comment 3 indicates that the west 94th Street sidewalk will be removed north of Ditmars Boulevard. Please extend the drawing to show the extent of the sidewalk removal/reconfiguration along 94th Street. Will the west crosswalk at the intersection of Ditmars Boulevard and 94th Street need to be removed along with pedestrian signals (P5)? If so, the drawing should be extended to this intersection and show all modifications. Will the 94th Street Bridge be reconstructed again to remove the sidewalk and add an additional moving lane? Please provide more details.

The Port Authority proposes to eliminate the existing sidewalk on the west side of 94th Street between Ditmars Boulevard and the LGA access roadway. To maintain safe and efficient pedestrian connectivity without this crosswalk, it is envisioned that the west and north crosswalks at 94th Street/Ditmars Boulevard will also be eliminated (along with the associated pedestrian signals), and appropriate signing and possibly physical barriers will be implemented to preclude pedestrian access to the NW corner of the 94th Street/Ditmars Boulevard intersection. Given the low observed volumes of pedestrians at this location, this potential improvement is not expected to affect pedestrian mobility and safety at this intersection. These design treatments will be coordinated with NYCDOT during the final design and implementation phases.

The 94th Street Bridge will not be reconstructed. However, the pavement will be restriped as shown in the concept plans, and it is envisioned that that a short

cantilevered section will be added to the east side of the 94th Street Bridge to accommodate a sidewalk along the east side.

j. We need additional information to understand pedestrian circulation. Where are bus stops? What are the desire lines for pedestrians? Please see attached marked up sketch for more details.

As noted in the response to comment 3h above, one bus stop is proposed to be located near the southeast corner of the subject intersection, on the south side of the "EB recirculation roadway." The Stage 1 design concept was prepared by Port Authority Engineering with careful consideration given to the pedestrian and transit needs and circulation patterns both on- and off-airport. Pedestrian- and transit-related design provisions in the Stage 1 concept that provide for safety and connectivity within the airport, and to and from external destinations, is expected to be a focus of the TMP process described above, involving NYCDOT, NYSDOT, the MTA, and others.

4. In response to comment 9, please note that at the intersection of 82nd Street and Astoria Boulevard North and Grand Central Parkway, the 95% back of queue for the westbound right turn exceeds the storage length under No-Action and with Action conditions during the AM peak hour. "WB 82nd Street Off-Ramp: Summary of HCS Capacity Values" (Table 1) provided with the response to comment 9 indicates the Capacity Adjustment Factor (CAF) was adjusted based on capacity improvements and the 95 percentile queues being contained within the off-ramp limits. According to the *Existing off-ramp dimensions Astoria Blvd North-Grand Central Pkwy westbound off-ramp/82nd St-Ditmars Blvd* the westbound right turn storage length is 155 feet, and the 95% back of queue in the HCS analyses exceed this length (at 38.5 cars this would be 962.5 foot-queue). Please clarify the discrepancies. In addition, the ramp is two moving lanes, not three. At the intersection of 82nd Street and Astoria Boulevard North and Grand Central Parkway, the westbound approach is improved to be three lanes. It is not clear how this improvement translates into an increase of 0.15 in the CAF. Furthermore, FREEVAL-2010 User Guide states "capacity adjustment factors should generally only be used to reduce the per-lane capacity in a segment, not to increase capacity above the calibrated HCM2010 capacity for that segment type".

Supplemental materials were submitted to NYCDOT on August 15, 2014 to justify the increase in the CAF and address the back of queue estimates provided in the FREEVAL analysis for the AM peak hour. Based on subsequent correspondence with NYCDOT, the following language will be added as the last sentence in Section A.2.5.4 of the Transportation Appendix (and repeated in the Transportation chapter of the EA):

"However, it is recommended that the Port Authority include the westbound Grand Central Parkway between the 94th Street entrance ramp and the 82nd Street exit ramp among the locations to be monitored as discussed in Section A.1.3.5. These monitoring efforts should be conducted annually, or at an agreed-upon frequency to be determined as part of future coordination efforts between the Port Authority and NYCDOT."

5. As previously commented on, the analyses of the proposed improvements on the southbound approach at the intersection of 19th Avenue and 45th Street should be revised to reflect no lane designations (i.e. 2LTR, not 1L and 1TR).

The HCS files for the With-Action condition (AM and PM) were updated accordingly. As noted in the HCS files, the unstriped two-lane southbound approach is projected to operate as a defacto left-turn lane and through/right lane during these hours. The LOS analysis results do not change (see attached HCS files).

In addition, we do not recommend modifying the corner radii, therefore we recommend removing Alternative 1 from the EA.

Comment noted. The alternatives do not appear in the EA, and were provided solely as backup materials for NYCDOT's review and consideration.

6. We do not recommend modifying the corner radii at the intersection of Hazen Street and 19th Avenue, therefore we recommend removing Alternative 1 from the EA.

   Comment noted. The alternatives do not appear in the EA, and were provided solely as backup materials for NYCDOT's review and consideration.

7. Please provide electronic HCS files for those locations updated since the June 2014 submission.

   As discussed with NYCDOT staff, AECOM will provide all final HCS files on CD to NYCDOT.

NEW YORK CITY DOT

Department of Transportation

POLLY TROTTENBERG, Commissioner

To: Chris Reo, Interim Director
Mayor's Office of Environmental Coordination

From: Naim Rasheed, Director
Traffic Planning

Re: LaGuardia Airport – Central Terminal Building (CTB) Redevelopment Program
Environmental Assessment (EA)

Date: August 22, 2014

The Office of Project Analysis/CEQR has completed its review of the above referenced EA. The Port Authority of New York and New Jersey (PANYNJ) is proposing to redevelop the existing passenger terminal, airside apron, landside roadways, and parking garage within LaGuardia Airport's central terminal area. These facilities would be demolished and replaced with new facilities more efficiently designed and located to both meet the latest federal standards for airport safety and security and to accommodate forecasted passenger demand at acceptable levels of service. The goal of the proposed action is to design and build a new terminal that would efficiently utilize the limited space within the central terminal area to provide new airside and landside facilities that could meet the 2030 demand level of 17.5 Million Annual Passengers. The proposed CTB Redevelopment Program is expected to be completed and fully operational by the end of 2021. However, the future analysis year for full operation of the new terminal is 2030, because it is projected to take approximately nine years following the opening of the terminal to fully realize all of the associated forecasted passenger growth.

The proposed project identifies traffic improvement measures at the following locations in 2030:

- Bowery Bay Boulevard/Runway Drive and Marine Terminal Road (under PANYNJ jurisdiction);
- Ditmars Boulevard and Marine Terminal Road;
- Astoria Boulevard North/Grand Central Parkway westbound off-ramp/82nd Street/Ditmars Boulevard; and
- Astoria Boulevard/82nd Street and 24th Avenue.

The proposed traffic improvement measures involve signal timing and parking regulation modifications, and restriping, which would improve traffic conditions at the above mentioned locations. As agreed to, PANYNJ will implement a traffic monitoring program in coordination with NYCDOT following the opening of the new CTB in 2021. The monitoring program should commence when the CTB is fully constructed and operational and would involve the collection and evaluation of traffic data at locations where improvements were recommended to determine the need for and timing of implementation of the identified improvements or similar measures. The monitoring efforts should be conducted annually or at an agreed-upon frequency to be determined as part of future coordination efforts between PANYNJ and NYCDOT. In addition,

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PANYNJ Traffic Engineering is developing a comprehensive Transportation Management Plan (TMP) for the CTB program following completion of the EA. The TMP will incorporate a series of face-to-face meetings with key staff from NYCDOT, NYSDOT, the MTA, the PANYNJ, and other agencies and key stakeholders. The TMP will provide an opportunity for round-table discussions to identify, collectively discuss, and agree on resolutions to various transportation-related questions. PANYNJ should coordinate with these entities beginning with Preliminary Design.

Construction at LaGuardia Airport would begin in 2014 and continue through 2021. Traffic improvement measures are proposed at 12 locations during construction. These measures involve signal timing and parking regulation modifications, restriping and the installation of a new traffic signal at the intersection of 19th Avenue and 45th Street. In addition, in order to accommodate the proposed signal timing/phasing at the intersection of 19th Avenue and Hazen Street, a new traffic signal controller will be installed. As agreed to, PANYNJ will implement a traffic monitoring program in coordination with NYCDOT throughout the duration of the construction period. This monitoring program would quantify the volume of construction workers vehicles parked at the Ingraham's Mountain site and the need for and timing of implementation of the identified improvements, or similar measures. The monitoring efforts should be conducted annually, or at an agreed-upon frequency to be determined as part of on-going coordination efforts between the PANYNJ and NYCDOT during the construction period. PANYNJ must conduct another traffic signal warrant study for NYCDOT review and approval prior to the installation of the traffic signal at the intersection of 19th Avenue and 45th Street. However, during construction regardless if the signal is warranted the PANYNJ will install signal foundation and conduit work at this location.

PANYNJ should coordinate with NYSDOT regarding modifications to the Grand Central Parkway (GCP) and 94th Street Bridge. PANYNJ will perform a VISSIM analyses at the request of NYSDOT. PANYNJ should also submit these analyses to NYCDOT. As agreed to, PANYNJ will include the westbound GCP between the 94th Street entrance ramp and the 82nd Street exit ramp among the locations to be monitored during construction as well as after the project is complete and fully operational.

NYCDOT will participate in the review process relating to proposed geometric reconfiguration, reconstruction, signal design/installation as well as design and construction drawings. PANYNJ should submit all of the required drawings/design as per AASHTO and NYCDOT specifications for NYCDOT review and approval, where applicable. PANYNJ will be responsible for all costs associated with monitoring and the design and traffic improvements.

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PANYNJ should submit a scope of work for NYCDOT review and approval before commencing any monitoring program. All signal work shall be done by an approved electrical contractor and under the supervision of NYCDOT Electrical Inspection. PANYNJ should inform NYCDOT six months prior to the completion and occupancy of the CTB.

If you have any questions or need additional information, please call me at (212) 839-7710 or Michele Samuelsen-Jaiswal at (212) 839-7758.

c: A/C R. Russo, B/C D. Hall, E. Athanailos, S. Barkho, J. Benson, D. Nguyen, E. Makarious, L. Stuurman, S. Ahmed, M. Samuelsen-Jaiswal, File

c:\Samuelsen\LGAredevelopment sign off

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Appendix B.
Air Quality Technical Report

Air Quality Technical Report

LaGuardia Airport Central Terminal Building Redevelopment Program EA

Queens, NY

Prepared for:

THE PORT AUTHORITY OF NY & NJ

LaGuardia Airport, Hangar 7, 2nd Floor
Flushing, NY 11371

Prepared by:

AECOM
125 Broad Street
New York, NY 10004

June 2014

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Appendix B: Air Quality Technical Report

As part of the Environmental Assessment (EA) for the Port Authority of New York and New Jersey's (PANYNJ) proposed redevelopment of the Central Terminal Building (CTB) at LaGuardia Airport, an air quality assessment was conducted in accordance with federal and local requirements. This analysis was conducted in accordance with the National Environmental Policy Act (NEPA), the Clean Air Act and its amendments (CAAA), the Federal Aviation Administration (FAA) guidance, the U.S. Environmental Protection Agency (USEPA) guidance, the specifications of the 2012 New York City Environmental Quality Review (CEQR) *Technical Manual*, and the New York State Environmental Quality Review Act (SEQRA).

The air quality assessment included an evaluation of both temporary construction activities and long-term operations. Air quality impacts due to long-term operations were evaluated for both the airside (e.g., effects on emissions due to changes in aircraft fleet mix) and landside operations (e.g., effects on emissions due to changes in roadway traffic and stationary sources). This report will establish the regulatory framework for the analysis, describe the assumptions and methodology for estimating emissions, and present the impacts to air quality from the Proposed Action.

B.1 Pollutants of Concern and Regulatory Setting

Air quality pollutants that require emissions forecasts include CAA-designated criteria pollutants and USEPA identified mobile source air toxics, as well as greenhouse gas concentration levels. Using forecast airport activity information and appropriate emission factors, the net project-related emissions are determined by subtracting future emissions without the project (the No-Action Alternative) from the future emissions with the project (the Proposed Action).

B.1.1 Criteria Pollutants and National Ambient Air Quality Standards

The USEPA, under the requirements of the 1970 Clean Air Act (CAA), as amended in 1977 and 1990, has established National Ambient Air Quality Standards (NAAQS) for six contaminants referred to as criteria pollutants (40 CFR 50). As shown in **Table B.1-1**, CAA-designated criteria pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter (PM_{10} and $PM_{2.5}$), lead (Pb), and sulfur dioxide (SO_2).

Criteria pollutants typically result from a wide range of man-made activities and associated stationary and mobile combustion sources. Areas that meet the NAAQS standard for a criteria pollutant are designated as being "in attainment." Areas where a criteria pollutant level exceeds the NAAQS are designated as being "in non-attainment." Ozone non-attainment areas are categorized based on the severity of their pollution problem – marginal, moderate, serious, severe, or extreme. Carbon monoxide and PM_{10} non-attainment areas are categorized as moderate or serious. When a non-attainment area is re-designated as an attainment area, the CAA requires that a maintenance plan be put in place to ensure continued compliance with the corresponding NAAQS. Therefore, a former non-attainment area is also defined as a maintenance area. Where insufficient data exists to determine an area's attainment status, an area is designated unclassifiable (or in attainment).

Table B.1-1: National and New York Ambient Air Quality Standards for Criteria Pollutants

Pollutant		Primary/Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		Primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead (Pb)		Primary and Secondary	Rolling 3-month average	0.15 $\mu g/m^3$(1)	Not to be exceeded
Nitrogen Dioxide (NO_2)		Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		Primary and Secondary	Annual	53 ppb(2)	Annual mean
Ozone (O_3)		Primary and Secondary	8-hour	0.075 ppm(3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution	$PM_{2.5}$	Primary	Annual	12 $\mu g/m^3$	Annual mean, averaged over 3 years
		Secondary	Annual	15 $\mu g/m^3$	Annual mean, averaged over 3 years
		Primary and Secondary	24-hour	35 $\mu g/m^3$	98th percentile, averaged over 3 years
	PM_{10}	Primary and Secondary	24-hour	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)		Primary	1-hour	75 ppb(4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Notes:
(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
(2) The official level of the annual NO2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.
(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard ("anti-backsliding"). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.
(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO2 standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.
Source: EPA Air and Radiation Environmental Criteria, NAAQS (40 CFR Part 50)

B.1.2 Clean Air Act and General Conformity Rule

The CAA, as amended in 1990, mandates that states with criteria pollutant nonattainment areas adopt State Implementation Plans (SIPs) that target the elimination or reduction of the severity and number of violations of the NAAQS. SIPs set forth policies to expeditiously achieve and maintain attainment of the NAAQS. The 1990 CAA Amendments (CAAA) expanded the scope of the statute's "conformity" provisions by clearly relating the concept of proposed federal actions. The CAAA requires that proposed federal actions will be in conformity with the SIP's purpose and may not:

1. Cause or contribute to any new violations of any standards in any area;
2. Increase the frequency or severity of any existing violation of any standards in any area;
3. Delay timely attainment of any standard or any required interim emission reductions or other milestones in an area.

USEPA has developed two sets of conformity regulations; federal actions are differentiated into transportation projects and non-transportation-related projects:

- Transportation projects funded or requiring approval from Federal Highway Administration (FHWA) or Federal Transit Administration (FTA), which are regulated under the "transportation conformity" regulations (40 CFR Parts 51 and 93), effective on December 27, 1993 and revised on August 15, 1997.

- Non-transportation projects including airport development projects, which are regulated under the "general conformity" regulations (40 CFR Parts 6, 51 and 93) described in the final rule for Determining Conformity of General Federal Actions to State or Federal Implementation Plans published in the Federal Register on November 30, 1993. The general conformity rule became effective January 31, 1994 and was revised on March 24, 2010.

The USEPA's general conformity rule (GCR) applies to federal actions occurring in an area designated as nonattainment for the NAAQS or in attainment areas subject to maintenance plans (maintenance areas). Federal actions occurring in air basins that are in attainment with the NAAQS are not subject to the conformity rule.

To focus general conformity requirements on those federal actions with the potential to have significant air quality impacts, the general conformity rules establishes threshold (*de minimis*) rates of emissions. When the annual net total of direct and indirect emissions from a federal action occurring in a nonattainment or maintenance area for a criterion pollutant would equal or exceed the annual *de minimis* level for that pollutant, a formal conformity determination is required.

Each criteria pollutant is assessed independently for attainment or nonattainment in a given area. The Proposed Action would take place in Queens County, New York, an area designated as:

- A moderate nonattainment area for O_3,
- A nonattainment area for $PM_{2.5}$,
- A maintenance area for CO, and
- An attainment area for all other criteria pollutants.

Since the Proposed Action is an airport terminal improvement project requiring an approval from FAA, and would occur in a nonattainment area for O_3 and $PM_{2.5}$ and a maintenance area for CO, the general conformity rule applies for those pollutants.

For O_3 nonattainment areas, conformity rules establish *de minimis* emission levels for both O_3 precursors, VOC and NO_x, on the presumption that VOC and NO_x reductions will contribute to reductions in O_3 formation. For the same reason, *de minimis* emission levels exist for SO_2 to reduce levels of $PM_{2.5}$. The applicable *de minimis* levels applicable for the Proposed Action are:

- 100 tons per year (tpy) of NO_x and 50 tpy of VOC,
- 100 tpy for CO, $PM_{2.5}$ and SO_2.

The conformity applicability analysis for a federal action should examine the impacts of the direct and indirect net emissions from both mobile and stationary sources. Direct emissions are emissions of a criterion pollutant, or its precursors, initiated by a federal action that occurs at the same time and in the same place as the action. Indirect emissions occur either later in time, at further removed distances from the action itself, or both. Indirect emissions must be included in the determination if both of the following apply:

- The federal agency can practicably control the emissions and has continuing program responsibility to maintain control.
- The emissions caused by the federal action are reasonably foreseeable.

All reasonably foreseeable net increases in emissions (both direct and indirect) associated with the implementation of the Proposed Action should be quantified and compared to the applicable annual *de minimis* levels to determine whether a formal conformity determination is required. According to the GCR, a proposed action would not require a formal conformity determination if the predicted net increases in annual nonattainment and/or maintenance pollutants are below the corresponding *de minimis* level.

B.1.3 Hazardous Air Pollutants and Mobile Source Air Toxics

The USEPA also regulates air toxics that include pollutants known or suspected to cause cancer and/or other serious health effects. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes, auxiliary power units (APU), ground support equipment (GSE), etc.), and stationary sources (e.g., a power plant). Their effects and potential toxicity may have impacts on human health, including risks of cancer, respiratory conditions, etc. The CAA identifies 188 hazardous air pollutants (HAPs); the USEPA has identified 93 HAPs as mobile source air toxics (MSATs), of which seven are priority MSATs:

- Acrolein
- Benzene.
- 1,3-butadiene
- Diesel particulate matter plus diesel exhaust organic gases (diesel PM)
- Formaldehyde
- Naphthalene
- Polycyclic organic matter (POM)

MSATs are compounds emitted by highway-traveling vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted when the fuel evaporates or passes through the engine unburned. Other toxics are generated by the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

For mobile source air toxics, specifically for roadway traffic-related potential MSAT effects, FHWA's *Interim Guidance* establishes a three-tiered approach to determine the level of MSAT analysis required by a project-level study.

Projects with Higher Potential MSAT Effects

Projects in this category create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location or add significant capacity to urban highways. Projects in this category would be more rigorously assessed for impacts.

Projects with Low Potential MSAT Effects

Projects included in this category are those that serve to improve highway, transit, or freight operations without adding substantial new capacity or without creating a facility that is likely to meaningfully increase emissions. Projects in this category are to be addressed with a qualitative analysis.

Exempt Projects or Projects with No Meaningful Potential MSAT Effects

Projects included in this category are:

- Projects qualifying as a categorical exclusion under 23 CFR 771.117(c);
- Projects exempt under the Clean Air Act conformity rule under 40 CFR 93.126; or
- Other projects with no meaningful impacts on traffic volumes or vehicle mix

Additionally, the guidance indicates that *"for projects with negligible traffic impacts, regardless of the class of NEPA environmental document, no MSAT analysis is required."* It is further noted in the guidance that "*the types of projects categorically excluded under 23 CFR 771.117(d) or exempt from conformity rule under 40 CFR 93.127 do not warrant an automatic exemption from an MSAT analysis, but they usually will have no meaningful impact.*"

Projects in this category do not require either a qualitative or a quantitative analysis for MSATS, although documentation of the project category is required.

MSAT Applicability

The Proposed Action would only affect the Airport access roadway network, including Airport access/egress ramps on the Grand Central Parkway (see **Section 5.1: Traffic and Transportation** of the Final EA). These improvements are expected to shorten the overall access roadway lengths (and thereby vehicle miles traveled) as well as overall congestion, resulting in an improvement of traffic flow conditions. Similarly, given the limited numbers of trucks and commuting vehicles traveling on off-Airport roadway network (see **Appendix A** for more detailed information), roadway traffic impacts related to MSAT are expected to be insignificant. Therefore, based on the FHWA guidance, roadway traffic related impacts due to MSAT can be categorized as a *Project with No Meaningful Potential MSAT Effects* requiring no MSAT analysis.

Although the FHWA MSAT guideline is applicable to motor vehicle air toxic impacts, other sources of airport-related emissions may also be applicable. However, as discussed in **Section B.3**, the results of the emissions inventory for VOC and PM indicated that there would be no meaningful impacts to MSAT.[1]

[1] MSAT emissions are typically a small percentage of of VOC and/or PM emissions.

B.1.4 Greenhouse Gases

Greenhouse gases (GHGs) are compounds that contribute to the greenhouse effect. The greenhouse effect is a natural phenomenon where gases trap heat within the surface-troposphere (lowest portion of the earth's atmosphere) system, causing heating (radiative forcing) at the surface of the earth. The primary long-lived GHGs directly emitted by human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Although CO_2, CH_4, and N_2O occur naturally in the atmosphere, their concentrations have increased by 38%, 149%, 23%, respectively, from the preindustrial era (1750) to 2007/2008 (USEPA 2009). These gases influence the global climate by trapping heat in the atmosphere that would otherwise escape to space. Global warming and climate change can affect many aspects of the environment. Not all effects of GHGs are related to climate, for example, elevated concentrations of CO_2 can lead to ocean acidification and stimulate terrestrial plant growth, and CH_4 emissions can contribute to ozone levels.

Although increased concentrations of greenhouse gases (GHGs) are occurring on a global scale, the environmental effects of climate change are also likely to be felt at the local level. Through *PlaNYC (2011 Update)*, the City has established sustainability initiatives and goals for both greatly reducing GHG emissions and adapting to climate change in New York City. The goal to reduce citywide GHG emissions to 30 percent below 2005 levels by 2030 was codified by Local Law 22 of 2008, known as the New York City Climate Protection Act (the "GHG reduction goal"). Seeking to expand its goal, the City is undertaking a study to determine potential strategies to reduce its GHG emissions by more than 80 percent below 2005 levels by 2050.

The CEQR *Technical Manual*, in determining an acceptable level of project-related GHG emissions, poses the following question: "Is the project consistent with the goal of reducing GHG emissions, specifically the attainment of the City's established GHG reduction goal of reducing citywide GHG emissions by 30 percent below 2005 levels by 2030?"

The following four major goals are cited for projects in the CEQR *Technical Manual*:

- Pursue transit-oriented development;
- Generate clean, renewable power through replacement of inefficient power plants with state-of-the-art technology and expanded use of clean distributed generation; (not applicable in the case of this Proposed Action);
- Construct new resource- and energy-efficient buildings, including the use of sustainable construction materials and practices, and improve the efficiency of existing buildings (within the project bounds of the Proposed Action, all buildings required to comply are new construction);
- Encourage sustainable transportation through improving public transit, improving the efficiency of private vehicles, and decreasing the carbon intensity of fuels.

B.2 Methodology and Modeling Assumptions

The air quality assessment for the Proposed Action was conducted in accordance with FAA Order 1050.1E, Change 1, Appendix A, *Analysis of Environmental Impact Categories*, Chapter 2, Air Quality as supplemented by FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. In addition, the air quality Impact analysis was evaluated following the CEQR *Technical Manual* guidance and procedures as appropriate.

The analysis includes baseline local air quality testing, assessment of nonattainment or maintenance pollutants, "hot spot" analysis near roadway intersections, and a general conformity applicability analysis that includes a net emissions analysis for both proposed construction and operational activities.

B.2.1 Construction Emissions

The type and quantity of equipment necessary for the proposed terminal redevelopment action were determined based on the activities necessary to implement the Proposed Action as described in the Final EA. Construction of the CTB project would involve multiple phases over a total of eight years (2014 through 2021). Various types of construction equipment would be utilized during both demolition and construction activities. Estimates of construction crew and equipment requirements and productivity were based on the data contained in 2003 *RSMeans Facilities Construction Cost Data* (RSMeans 2002) and 2011 *RSMeans Heavy Construction Cost Data* (RSMeans 2010) (see **Appendix F, Supporting Data**).

All equipment was assumed to be diesel-powered unless otherwise noted. Each piece of equipment is assumed to be operated continuously during each working day over eight hours. Estimates of equipment emissions were based on the estimated hours of usage and emission factors for each motorized source during both demolition and construction activities. Given the stringent PANYNJ emissions policy for the usage of construction equipment, it is assumed that majority of the on-site construction equipment would use Tier II or above engines.[2] For emissions estimate purposes, emission factors for NO_x, VOC, $PM_{2.5}$, CO, and SO_2 related to heavy-duty diesel equipment were obtained from the USEPA NONROAD model-established Tier II standard engine emission factors. Typical load factor values were obtained from NONROAD Emission Factor Worksheet (USEPA, 2008).

The USEPA recommends the following formula to calculate hourly emissions from non-road engine sources:

$$M_i = N \times HP \times LF \times EF_i$$

where:

- M_i = Mass of emissions of ith pollutants during inventory period
- N = Source population (units)
- HP = Average rated horsepower
- LF = Typical load factor
- EF_i = Average emissions of ith pollutant per unit of use (e.g., grams per horsepower-hour)

USEPA's Motor Vehicle Emission Simulator (MOVES) program was used to predict on-road vehicle emission factors. The New York State Department of Transportation (NYSDOT) has supplied model inputs and guidance to handle various factors in using MOVES to predict emissions factors applicable to Queens County where the project site is located. NYSDOT is the agency responsible for developing the regional Transportation Improvement Programs (TIP) in order to conform to the State Implementation Program (SIP) to improve state air quality condition on mobile sources as a requirement of CAA conformity rule.

[2] Tier II engines must adhere to standards for engine emission levels. Tier II standards are required of all equipment phased in between 2000 to 2008. Equipment phased in after 2008 must adhere to Tier IV requirements.

B.2.2 Operations Emissions

After construction, day-to-day Airport operations would continue to generate emissions of criteria pollutants. Mobile source emissions from airside operations include aircraft engines, aircraft auxiliary power units (APUs) and ground support equipment (GSE). The Airport's central heating and refrigeration plant (CHRP), responsible for heating and cooling the central terminal building, is the sole stationary source of emissions.

B.2.2.1 Central Heating and Refrigeration Plant (CHRP)

Stationary sources of air emissions would be affected by the Proposed Action through the construction of a new CHRP in a new location (in front of Terminal C, between the East End Substation and East Garage). The Clean Air Act sets permit rules and emission standards for stationary pollution sources of certain sizes. USEPA oversees the programs that grant stationary source operating permits (Title V) and new or modified major stationary source construction and operation permits for a major source. The New Source Review (NSR) program requires new major stationary sources, or large-scale modifications to existing major stationary sources of pollutants, to obtain permits before initiating construction. If the new source is classified as a major source for which the NSR is applicable, the emissions from the new sources are exempt from the general conformity rule analysis since they are regulated under the NSR regulatory program.

LaGuardia Airport is currently operating under the New York State Facility Permit that caps the overall Airport stationary source emissions below the major source thresholds. Since the new CHRP would have a similar size as compared to the existing CHRP, it is anticipated that the Airport would remain a state-permitted facility and a Title V permit would not be applicable after the construction of the new CHRP. Therefore, the potential increase as a result of new CHRP is considered in the general conformity rule analysis.

The actual annual fuel usage data from the existing CHRP operations reported over the past five years were used as the basis to establish the emissions levels for the existing CHRP. The ratio of design heating and cooling capacity between the existing and new CHRP was used to prorate the likely increase in the CHRP emissions using USEPA AP-42 emission factors. This approach is considered conservative since the new CHRP is designed with greater energy efficiency and anticipated to result in lower proportional emission rates for each applicable nonattainment pollutant.

B.2.2.2 Aircraft and Ground Support Equipment

USEPA has developed guidance to evaluate aircraft and associated ground support equipment operational emissions in *The Procedures of Emission Inventory Preparation, Volume IV: Mobile Sources* (USEPA 1992). Aircraft engines emit pollutants during all phases of operation: climb, approach, and cruise. According to USEPA, only emissions emitted in the atmospheric mixing layer have a potential air quality impact on ground-level ambient concentrations. The mixing layer is the air layer between the ground and the height above which the vertical mixing of pollutants decreases significantly. The USEPA recommends that a default mixing layer of 3,000 feet be used in aircraft emission calculations.

The FAA-developed *Emissions and Dispersion Modeling System* (EDMS) Version 5.1.3 was used to predict aircraft, ground support equipment or GSE, and auxiliary power unit (APU) incremental emissions as a result of the Proposed Action.

The EDMS model is capable of calculating aircraft landing and takeoff (LTO) exhaust emissions under various operational modes (including departure, arrival, and taxi in/out), ground support equipment (GSE) and APU emissions associated with each LTO from aircraft-specific ground vehicle operations.

For this airside analysis, emissions inventories were prepared for three major sources: aircraft, ground service equipment, and auxiliary power units. The emissions were calculated for both No-Action and Proposed Action conditions. The following sections describe the modeling assumptions used to compute emissions associated with future airside operations.

Aircraft Operations

Aircraft are generally the largest source (or one of the largest sources) of emissions at an airport. Within each landing/takeoff (LTO) cycle, emissions are mainly a function of the number of operations; the aircraft fleet characteristics (i.e., aircraft type, number of engines, and takeoff weight) and the aircraft operating features (i.e., fuel flow rate and emission factors).

With or without the Proposed Action, the total number of aircraft operations is not projected to increase substantially from current day conditions in 2030 due to the crowded airspace in the region which limits LaGuardia Airport to a slot restriction of 1,170 movements in a day. For this reason, a total of 1,170 design day aircraft operations were used to perform the emissions calculations for both the Proposed Action and No-Action Alternatives.

Aircraft Fleet Mix

As shown in **Table B.2-1**, the 2030 fleet mix forecast reflects an increase in the utilization of larger aircraft when compared to existing conditions and the future No-Action scenario. Smaller regional jets with 50 seats are projected to be replaced with larger regional jets with 70 to 90 seats, and older narrowbody jets with 130 to 175 seats are projected to be replaced with new narrowbody jets with seating for up to 189 passengers. The forecast for airlines to continue to move to larger aircraft is supported by the Boeing fleet mix order statistics showing a long range trend in aircraft *upgauging*.

The Proposed Action provides a 35-gate layout plan with 31 contact gate positions for narrowbody aircraft with wingspans up to and including the B737/900W, plus four contact gate positions for widebody aircraft with wingspans up to and including the B767/400. Assuming 1,170 design day aircraft operations (or 175,149 annual operations), to meet the unrestricted demand forecast at 34 MAP the proposed fleet mix must be upgauged. Under the No-Action Alternative, the existing 35-gate layout plan remains unchanged. The limited space between each gate restricts the size of aircraft that can be gated at the terminal. To respond to the passenger demand within the dual constraints of present day gate layout and operations limit, the passenger forecast would increase to only 30.1 MAP, assuming reduced upgauging of the fleet mix permitted by the existing infrastructure.

Table B.2-2: Aircraft Fleet Mix and Annual Operations

Aircraft Fleet Mix	No-Action Condition Flight Operations	Proposed Condition Flight Operations
B767	7,186	11,377
B757	5,689	-
A321	5,988	5,988
B737-900	15,269	20,359
B737-800	12,275	17,066
A320	10,778	16,467
737-700	13,174	14,072
A319	15,569	16,766
ERJ-190	10,479	10,778
CRJ-900	5,988	6,287
ERJ-175	25,150	25,150
Q400	21,257	21,257
Q300	5,389	5,389
CRJ-700	4,491	4,192
CRJ-200	16,467	-
Total	175,149	175,149

Source: PANYNJ, November 2012.

Aircraft Taxi Time-In-Mode (TIM)

Aircraft engine emissions are computed by using a time-in-mode (TIM) and an emissions factor for each phase of aircraft operations during a landing-takeoff (LTO) cycle. The time an aircraft spends in each mode (arrival, departure, and taxi in and out) depends on a variety of factors and FAA recommends adjusting TIM values to represent local conditions when possible. Taxi-time is highly site- and situation-specific. Therefore, Airport simulation modeling conducted by the PANYNJ was used to estimate LaGuardia-specific taxi times with and without the Proposed Action. EDMS national default TIMs were used for the remaining phases of each LTO.

PANYNJ is using the *Total Airspace and Airport Modeler (TAAM)* to evaluate the impact of changes to the airport, operations, and schedules associated with the Proposed Action. TAAM is an industry leading tool from Jeppesen that models airspace and airports to facilitate planning, analysis and decision making. TAAM models have been developed and validated for the existing (baseline) and future (Proposed Action) conditions. Using these two models, PANYNJ is able to accurately predict the potential change in taxi-time between the two scenarios.

The EDMS default taxi-time for LaGuardia Airport is 26 minutes, which compares to the TAAM data. Using TAAM, the weighted-average annual taxi-time for the Existing/Baseline (2012) condition is 26.1 minutes (5.7 minutes for taxi-in and 20.4 minutes for taxi-out). No TAAM model or data exists for the future No-Action Alternative. If no action is taken, the existing 35-gate layout plan would remain unchanged; therefore, it is reasonable to assume that the Existing/Baseline (2012) taxi-times would not change appreciably.

TAAM demonstrates that the Proposed Action would reduce aircraft congestion and delay around the CTB concourses resulting in decreased aircraft taxi-times and gate-wait delays. The weighted-average annual taxi-time for the Proposed Action (2030) condition is 21.2 minutes—a savings of 4.9 minutes per LTO compared to the No-Action Alternative. The operational benefits are directly related to the terminal airside improvements being proposed, including the 35-gate layout plan and dual parallel taxilane configuration.

Ground Support Equipment

Emissions are generated by ground support equipment (GSE) used to service aircraft parked at the gate. Typical GSE include bag tractors, belt loaders, and push-back tractors. Other types of GSE include specially-designed vehicles used for aircraft refueling, cabin service, catering, etc. GSE are commonly fueled by gasoline or diesel, termed conventional fuels. Fuel-related solutions to reduce emissions from conventional GSE include the use of electric-power GSE (eGSE) that run on batteries, which require periodic recharging. The electrically-powered eGSE generate no on-site emissions as the electricity used to power the vehicles is generated offsite.

Under the Proposed Action, all tenant airlines using the new Terminal B (CTB) would be required to use electric bag tractors, belt loaders, and pushback tractors; thereby reducing on-site GSE emissions when compared to the No-Action Alternative. The proposed 35-gate apron plan provides for eGSE storage and staging, including charging stations located at every other gate position.

Auxiliary Power Units

Larger jet aircraft have an auxiliary power unit or APU to operate heat, air conditioning, and electric systems while the aircraft is parked at the gate. The APU is also used to restart the engines before departing from the gate area. Under existing conditions, the airport-specific APU operating time is 24.3 minutes for each LTO cycle—5.3 minutes for arrival and 19 minutes for departure. Actual values may vary considerably depending on whether or not 400-Hz ground power/gate power and preconditioned air (PCAir) is available at the gate.

Terminals A, C, and D, already have or will be equipped with point-of-use 400-Hz ground power and PCAir units with or without the Proposed Action. Terminal B (CTB) has 30 gates equipped with 400-Hz ground power but only 8 gates are equipped to provide point-of-use PCAir. If No-Action is taken, there is no current plan or proposal to construct the improvements needed to provide additional gate electrification at the remaining CTB gates. Therefore, the existing APU operating time for the default APU for each aircraft type was used for the No-Action Alternative.

Under the Proposed Action, all 35 gates at the new terminal (Terminal B) would be equipped with point-of-use 400-Hz ground power and PCAir units, and all tenant airlines using the new terminal would be required to use the electric equipment provided by the Airport. Assuming every gate at LaGuardia Airport is equipped with 400-Hz ground power and PCAir, the APU operating time decreases to 15.3 minutes—a savings of 3.7 minutes per LTO when compared to the No-Action Alternative. Reducing the operating time of the APU in turn reduces the amount of jet fuel burned. Replacing fuel powered APU with the electric powered ground power units and PCAir units results in lower on-site emissions.

B.2.3 On-Road Emissions Estimate Assumptions

On-Road emissions were estimated for additional vehicular trips including both construction vehicles and the additional passenger trips as a result of the Proposed Action. Vehicle emissions were modeled for future conditions within the project site down to the intersection level.

B.2.3.1 On-Road Vehicles

The incremental on-Airport vehicle emissions under the Proposed Action were estimated for the additional vehicular trips as a result of an increase of 3.9 MAP (forecast passenger demand of 34 MAP by the year 2030 compared to No-Action Alternative constrained forecast of 30.1 MAP). Although the on-airport access roadway under the proposed configuration would improve traffic conditions, increase travel speed, and likely reduce travel length slightly because of the shorter distance from the new terminal to the Grand Central Parkway, it is conservatively assumed that each of the additional projected vehicular trips (approximately a total of 1.1 million round trips) would travel along existing access road with posting speeds of 30 miles per hour. The average distance from one round trip along the main access road at the Airport was estimated to be approximately 1.2 miles from west and 2.3 miles from east.

B.2.3.2 Emission Factor Modeling

The EPA's MOVES program was used to predict vehicle CO emission factors based on model inputs provided by NYSDOT. These input parameters include alternative vehicle and fuel technologies; road type distribution; average speed distribution; monthly, daily, and hourly vehicle miles traveled percentages; fuel data; inspection and maintenance programs; annual vehicle miles traveled (VMT); vehicle age distributions; vehicle population data; and meteorological data. The data were developed for the future TIP milestone years of 2017 and 2025. In order to predict peak construction year (2015) emission factors, 2017 VMT and population data were linearly extrapolated using the 2017 data and then imported into the MOVES model per NYSDOT's recommendation.

Given the lack of speed survey data at each analyzed intersection, the free flow travel speed of ten (10) miles per hour (mph), as compared to the general posted speed limit of 30 mph, was conservatively used to predict the CO emission factors using MOVES. The use of this slow speed reflects the traffic delay caused by the congestion at each intersection selected for the CO hot spot impact analysis. Because the MOVES-predicted free flow CO emission factors are not sensitive to travel speeds, the predicted CO concentration levels at each modeled intersection are relatively flat with changing free flow speeds. The EPA-provided MOVES post processer was used to generate the free flow emission factor in grams of CO per mile. Idle emission rates in grams per vehicle hour were established in accordance with the guidance provided in *Using MOVES in Project-Level Carbon Monoxide Analyses* (USEPA, December 2010).

B.2.3.3 Dispersion Modeling

In order to predict CO concentrations at the selected five intersections with the worst-case traffic conditions, geometric models were developed for the roadway network within a 1,000-foot radius of each selected intersection.

The dispersion modeling was performed using USEPA's CAL3QHC computer model in association with various modeling parameters recommended in the *CEQR Technical Manual* applicable to Queens County. In addition, several other parameters are also considered, including signal timing data and information describing the configuration of the intersection being modeled. Receptors were placed along sidewalks around each intersection. These receptors are considered the worst-case locations given their close proximity to the center of each congested intersection where vehicles would idle.

B.2.3.4 On-Road Mobile Source Hot Spot Impact

Traffic data used for the air quality analysis was derived from existing traffic counts, projected future growth in traffic, and other data developed as part of the traffic analysis for the Proposed Action (see Appendix A of the Final EA). Traffic data for the future with and without the Proposed Action under both construction and operation years was used in their respective air quality modeling scenarios. Weekday peak period traffic conditions (i.e., morning and afternoon) were evaluated. These time periods were selected for the mobile source analysis because these periods produce the maximum anticipated project-generated traffic, particularly at those signalized intersections with the greatest congestion which therefore have the greatest potential for significant air quality impacts ("hot spots"). Typical pollutants of concern related to on-road mobile source operations are CO and fine PM (particularly $PM_{2.5}$ for which the New York Metropolitan area has been designated as a nonattainment area).

Because the construction duration of the project would have the potential to exceed five years in any single location, the impact incurred during construction would not be considered temporary per 40 CFR 93.123(c)(5). Therefore CO and $PM_{2.5}$ hot-spot assessments were required for both construction and operational conditions.

The CO and $PM_{2.5}$ hot spot modeling analysis was performed using the CAL3QHC model. The CAL3QHC model is the USEPA guideline dispersion model for modeling mobile source concentrations near intersections. CAL3QHC incorporates methods for estimating hourly concentrations from the vehicular emissions under both free flow and idling conditions. The EPA MOVES model is used for predicting emission factors.

A hot spot CO analysis was performed for both construction year and operation year conditions according to 40 CFR 93.123a (1) (ii) criterion that relates to projects affecting intersections that are at Level of Service (LOS) D, E, or F, or those that will change to Level of Service D, E, or F because of increased traffic volumes related to the project. CO concentrations were predicted at intersections selected from a screening analysis using the CEQR-established procedures and EPA-specified permissible concentration levels to determine the wind direction resulting in the maximum concentrations at each receptor.

A hot spot $PM_{2.5}$ analysis was conducted per 40 CFR 93.116 requirements, through a screening procedure established in the *CEQR Technical Manual*, to further determine whether a refined hot spot analysis is required. $PM_{2.5}$ hot spot modeling analysis includes the modeling of hourly concentrations based on traffic data and the most recent five years of hourly meteorological data collected at the closest weather station, the LGA station. The highest model-predicted concentration for each averaging period was used to determine the worst-case potential impacts.

Each signalized intersection analyzed for potential peak period impacts was first screened using the hourly thresholds recommended in the *CEQR Technical Manual*, as follows:

- Traffic operational LOS "D" or worse; and
- For CO: 170 or more incremental vehicle trips from the Proposed Action; or
- For $PM_{2.5}$: 23 or more incremental truck trips at arterial roadways (further refined, as presented later in this chapter, for 19 or more incremental equivalent heavy duty diesel vehicle [HDDV] trips at collector roadways for $PM_{2.5}$).

If the screening thresholds were not exceeded at an intersection, no further dispersion analysis was warranted. For those intersections that exceeded the screening thresholds, a further ranking to determine the worst-case intersections was performed. The ranking was made based on worst-case LOS, overall highest Future Proposed Action traffic volume, and incremental increase in traffic attributable to the Proposed Action.

In order to compare the analysis results with the applicable NAAQS, cumulative concentration levels were calculated by combining the highest pollutant concentrations as a result of the Proposed Action with background pollutant concentrations. Background concentrations are those pollutant concentrations originating from distant sources not accounted for in the air quality modeling analysis of intersections, which only accounts for vehicular emissions from the streets immediately adjacent to the intersections selected for hot spot analysis. For this mobile source impact analysis, the most recent, highest background concentrations monitored at the nearest station was used to calculate cumulative concentrations.

B.3 Existing Conditions

The New York City Department of Environmental Protection (NYCDEP) collects air quality data in terms of ambient concentration levels at representative sites throughout the five boroughs. The most recent available data (for the year 2011) from nearby monitoring stations is used to describe the existing baseline ambient air quality at the Airport. As shown in **Table B.3-1**, with the exception of O_3, all measurements are below the standards. The region (within which the Airport is located) has been designated an 8-hour O_3 nonattainment area.

Although the New York-Northern New Jersey-Long Island metropolitan region where the Airport is located has been designated as a nonattainment area for $PM_{2.5}$, the recent ambient monitored $PM_{2.5}$ levels have shown compliance with the NAAQS. On December 15, 2010, USEPA issued a final rule effective December 15, 2010 with respect to a new designation of the New York-Northern New Jersey-Long Island metropolitan region. In the rule, USEPA determined that the region has attained the $PM_{2.5}$ NAAQS. As indicated in **Table B.3-1**, the $PM_{2.5}$ baseline concentration levels at the monitoring site that is closest to the Airport are well below the corresponding NAAQS.

The currently designated attainment status for Queens County, within which the Proposed Action is located, is:

- Moderate non-attainment area for 8-hour O_3
- Non-attainment area for $PM_{2.5}$
- CO maintenance area
- Attainment area for all other criteria pollutants

Table B.2-1: Measured Ambient Background Concentrations for Criteria Pollutants

Pollutant	Location	Averaging Period	Concentration	NAAQS
Carbon Monoxide (CO)	Queens College 65-30 Kissena Blvd Parking Lot #6, Queens County, NY	8-hour	1	9 ppm
		1-hour	2	35
Sulfur Dioxide (SO_2)	Queens College 65-30 Kissena Blvd Parking Lot #6, Queens County, NY	1-hour	19	75 ppb
Particulate Matter ($PM_{2.5}$)	Queens College 65-30 Kissena Blvd Parking Lot #6, Queens County, NY	Annual	9	12 $\mu g/m^3$
		24-hour	24	35 $\mu g/m^3$
Nitrogen Dioxide (NO_2)	Queens College 65-30 Kissena Blvd Parking Lot #6, Queens County, NY	1-hour	64	100 ppb
Ozone (O_3)	Queens College 65-30 Kissena Blvd Parking Lot #6, Queens County, NY	8-hour	0.081	0.075 ppm

Notes:
Based on the NAAQS definitions, CO and SO_2 concentrations for short-term averages are the first-highest from the year 2012.
$PM_{2.5}$ annual concentrations are the average of 2010, 2011, and 2012, and the 24-hour concentration is the average of the annual 98th percentiles in 2010, 2011, and 2012.
NO_2 1-hour concentration is the average of the annual 98th percentiles in 2010, 2011, and 2012.
Source: EPA Monitor Values Report

B.4 Future Conditions and Environmental Consequences

Potential air quality impacts from the Proposed Action were assessed for both the peak construction year (2015) and long-term operations in the Design Year of 2030.

B.4.1 General Conformity Analysis (Emissions)

Increased direct and indirect NO_x, VOC, $PM_{2.5}$, CO, and SO_2 emissions from the proposed construction and operational activities would result from:

Direct

- Use of diesel- and gas-powered demolition and construction equipment
- Movement of trucks transporting construction materials and concrete
- Construction workers' commutes

Indirect

- Change in aircraft and ground support equipment operation

- Change in on-road vehicle trips to and from the airport[3]
- Replacement of the Central Heating and Refrigeration Plant (CHRP)

B.4.1.1 Construction Emissions (Direct)

Construction equipment emissions were estimated using NONROAD model with the activity date predicted based on standards applied in RSMeans tools in conjunction with the construction schedule (see Appendix F of the Final EA, Supporting Data). According to the activity schedule, 2015 would be the worst-case construction year resulting in the maximum annual construction emissions.

Table B.4-1 presents the construction equipment data such as horsepower, load factor, and emissions tier based on data within the NONROAD model.

Table B.4-1: Construction Equipment Data

Construction Equipment Type	Horsepower (HP)	% Load Factor	Non-Road Category
Asphalt paver, 130 HP	130	59	Tier 2
Centrifugal water pump, 6"	57	43	Tier 2
Compressor, 160 cfm	80	43	Tier 2
Compressor, 250 cfm	78	43	Tier 2
Concrete pump, small	53	43	Tier 2
Crane, 90-ton	225	43	Tier 2
Crane, 150-ton	284	43	Tier 2
Crane, hydraulic, 33 ton	330	43	Tier 2
Diesel hammer, 41k ft-lb	101	43	Tier 2
Drill rig & augers	176	43	Tier 2
Dozer, 300 HP	300	59	Tier 2
Front end loader, 1.5 cy, crl	97	21	Tier 2
Front end loader, TM, 2.5cy	124	21	Tier 2
Gas engine vibrator	8	55	Tier 2
Gas welding machine	66	68	Tier 2
Grader, 30,000 lb	193	59	Tier 2
Hydraulic excavator, 3.5 cy	148	59	Tier 2
Paving machinery & equipment	70	59	Tier 2
Pneumatic wheel roller	99	59	Tier 2
Roller, vibratory	137	59	Tier 2
Tandem roller, 10 ton	137	59	Tier 2

Sources: Horse power based on the manufacturer catalogs for particular equipment or similar equipment type; Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling. USEPA, 2008.

[3] It should be noted that since the airport cannot practicably control the emissions from on-road passenger vehicles, only the change within the airport boundary was considered.

Table B.4-2 presents the types of construction equipment and the estimated hours of operation by year for all Proposed Action construction activities.

Table B.4-2: Construction Equipment Hours of Operation

Construction Equipment Type	Hours of Operation per Year							
	2014	*2015*	*2016*	*2017*	*2018*	*2019*	*2020*	*2021*
Asphalt paver, 130 HP	80	480	240	80	360	360	0	160
Centrifugal water pump, 6"	0	0	40	80	40	40	80	40
Compressor, 160 cfm	4,360	18,920	18,160	13,640	5,960	2,600	5,200	880
Compressor, 250 cfm	0	2,560	7,000	7,440	4,200	6,640	5,920	600
Concrete pump, small	2,120	9,560	5,400	2,880	840	1,040	520	0
Crane, 90-ton	7,240	27,480	25,960	15,240	4,280	4,840	2,320	0
Crane, 150-ton	0	0	280	400	280	200	400	80
Crane, hydraulic, 33 ton	2,960	4,400	400	400	880	1,480	400	880
Diesel hammer, 41k ft-lb	2,880	6,080	6,720	2,960	40	0	0	0
Drill rig & augers	0	0	40	80	40	40	80	40
Dozer, 300 HP	80	360	200	80	280	280	0	120
Front end loader, 1.5 cy, crl	80	360	200	80	280	280	0	120
Front end loader, TM, 2.5cy	2,960	4,400	400	400	880	1,440	400	880
Gas engine vibrator	1,760	4,440	4,680	2,320	280	480	240	0
Gas welding machine	6,240	33,400	26,000	16,800	6,240	7,960	4,080	80
Grader, 30,000 lb	80	1,160	520	80	1,080	920	0	440
Hydraulic excavator, 3.5 cy	160	360	360	200	40	80	0	0
Paving machinery & equipment	0	800	320	0	800	640	0	320
Pneumatic wheel roller	80	480	240	80	360	360	0	160
Roller, vibratory	80	360	200	80	280	280	0	120
Tandem roller, 10 ton	80	480	240	80	360	360	0	160

Source: AECOM; see Appendix G of the EA

The estimated equipment operational emissions by using the methodologies discussed in Section B.1.1: Construction Estimates are shown in **Table B.4-3**.

Table B.4-3: Construction Equipment Emissions (tons)

Year	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
2014	0.61	8.81	2.51	0.35	0.33	0.34	1153.82
2015	2.31	31.06	10.09	1.29	1.25	1.22	4067.81
2016	1.95	25.09	8.39	1.06	1.03	0.99	3293.05
2017	1.24	15.98	5.58	0.68	0.66	0.63	2090.00
2018	0.56	7.50	2.58	0.32	0.31	0.29	975.84
2019	0.61	8.31	2.81	0.35	0.34	0.33	1083.24
2020	0.34	4.53	1.80	0.20	0.20	0.18	584.94
2021	0.11	1.64	0.45	0.06	0.06	0.06	212.71

Various construction trucks (e.g., concrete and material delivery and haul trucks), workers' commuting vehicles, and shuttle bus operations would also result in indirect emissions during construction periods. The trip forecasts used in the analysis are described in Appendix A of the Final EA, Transportation. These on-road construction related vehicles are assumed to:

- Travel at an average speed of 25 miles per hour;
- Take a 20-mile round trip for each truck or commuting vehicle trip;
- Take 4-mile round trip for each shuttle bus trip.

MOVES emissions factor model-predicted emission factors were applied to the cumulative annual vehicle miles traveled by on-road vehicles to determine vehicular annual emissions as summarized in **Table B.4-4**.

Table B.4-4: On-Road Vehicle Emissions during Construction (tons)

Year	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
2014	0.10	0.95	0.47	0.068	0.049	0.0023	275.34
2015	0.40	3.88	1.79	0.276	0.199	0.0090	1,112.61
2016	0.25	2.34	1.39	0.168	0.120	0.0063	698.32
2017	0.14	1.26	0.98	0.092	0.065	0.0040	397.88
2018	0.23	2.28	1.02	0.162	0.117	0.0052	652.10
2019	0.20	2.03	0.81	0.144	0.104	0.0044	571.50
2020	0.06	0.58	0.32	0.042	0.030	0.0015	172.50
2021	0.09	0.88	0.32	0.062	0.045	0.0018	244.73

Under the GCR, total annual emissions resulting from proposed federal actions must be compared to the applicable *de minimis* levels on an annual basis. As defined by the rule, if the emissions of a nonattainment or maintenance pollutant (or its precursors) do not exceed the *de minimis* level, the federal action has minimal air quality impact and is determined to conform the SIP for the criteria pollutant under consideration. No further analysis is necessary. Conversely, if the total direct and

indirect emissions of a pollutant are above the *de minimis* level, a formal general conformity determination is required for that pollutant.

As shown in **Table B.4-5**, the expected annual increases in construction emissions under the Proposed Action would be below the applicable *de minimis* criteria.

Table B.4-5: Total Construction Year Annual Emissions (tons)

Year	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
2014	0.71	9.76	2.98	0.41	0.38	0.35	1,429.16
2015	2.71	34.94	11.89	1.56	1.45	1.23	5,180.43
2016	2.20	27.42	9.78	1.23	1.15	1.00	3,991.37
2017	1.38	17.24	6.57	0.78	0.73	0.63	2,487.88
2018	0.79	9.78	3.60	0.48	0.42	0.30	1,627.94
2019	0.81	10.35	3.62	0.49	0.44	0.33	1,654.74
2020	0.40	5.12	2.12	0.25	0.23	0.18	757.43
2021	0.19	2.52	0.77	0.13	0.11	0.07	457.44
Annual de minimis Levels	*50*	*100*	*100*	*n/a*	*100*	*100*	*n/a*

Therefore, since the cumulative emissions predicted during construction (including the peak year of 2015) are estimated to be well below the *de minimis* limits, the air quality impacts can be assumed to be negligible and not significant; therefore, a formal conformity determination is not required.

B.4.1.2 Operational Emissions (Indirect)

Aircraft and Ground Support Equipment

The aircraft fleet would change between the No-Action 30.1-MAP condition and the 34-MAP Proposed Action condition in order to accommodate increased passenger demand and regional growth at LaGuardia. **Table B.2-2** in **Section B.2** summarizes the changes in fleet mix between the two future conditions. This change in aircraft fleet mix would be accompanied by several measures and attributes to reduce overall airside emissions between the No-Action and the Proposed Action. As described in **Section B.2.2.2** (Aircraft and Ground Support Equipment), these measures and attributes include reduced congestion along the taxilanes, electrification of ground support equipment and reduced APU usage due to the implementation of 400-Hz ground power and PCAir units at the new CTB.

Taxi Times

The EDMS default taxi-time for LaGuardia Airport is 26 minutes, which is close to the time generated by the model using the TAAM data. Using TAAM, the weighted-average annual taxi-time for the Existing/Baseline (2012) condition is 26.1 minutes (5.7 minutes for taxi-in and 20.4 minutes for taxi-out). No TAAM model or data exists for the future No-Action Alternative. If no action is taken, the existing 35-gate layout plan would remain unchanged; therefore, it is reasonable to assume that the Existing/Baseline (2012) taxi-times would not change appreciably.

TAAM demonstrates that the Proposed Action would reduce aircraft congestion and delay around the CTB concourses resulting in decreased aircraft taxi-times and gate-wait delays. The weighted-average annual taxi-time for the Proposed Action (2030) condition is 21.2 minutes—a savings of 4.9 minutes per LTO compared to the No-Action Alternative. The operational benefits are directly related to the terminal airside improvements being proposed, including the 35-gate layout plan and dual parallel taxilane configuration. A reduction in taxi time results in a reduction in fuel usage, which reduces the pollutants that result from the burning of fuel.

Ground Support Equipment

If No-Action is taken, there are no provisions for eGSE at the existing CTB and no foreseeable plan to install additional infrastructure and utility provisions to support the necessary recharging equipment; therefore, the EDMS used default assignments for the type and operating time of conventional GSE for each aircraft type in the No-Action Alternative.

Under the Proposed Action, all tenant airlines using the new Terminal B (CTB) would be required to use electric bag tractors, belt loaders, and pushback tractors; thereby reducing on-site GSE emissions when compared to the No-Action Alternative. The proposed 35-gate apron plan provides for eGSE storage and staging, including charging stations located at every other gate position.

Auxiliary Power Units

Terminals A, C, and D, already have or will be equipped with point-of-use 400-Hz ground power and PCAir units with or without the Proposed Action. Terminal B (CTB) has 30 gates equipped with 400-Hz ground power but only 8 gates are equipped to provide point-of-use PCAir. If No-Action is taken, there is no current plan or proposal to construct the improvements needed to provide additional gate electrification at the remaining CTB gates. Therefore, the existing APU operating time for the default APU for each aircraft type was used for the No-Action Alternative.

Under the Proposed Action, all 35 gates at the new CTB would be equipped with point-of-use 400-Hz ground power and PCAir units, and all tenant airlines using the new Terminal B (CTB) would be required to use the electric equipment provided by the Airport. Assuming every gate at LaGuardia Airport is equipped with 400-Hz ground power and PCAir, the APU operating time decreases to 15.3 minutes—a savings of 3.7 minutes per LTO when compared to the No-Action Alternative.

Using 400Hz power and PCAir devices reduce the amount of time aircraft are otherwise required to operate their auxiliary power units (APUs), which burn aircraft fuel and generate exhaust emissions while the aircraft is parked at the gate. Unlike conventional GSE which burn gasoline and diesel fuel, the electric GSE would generate no on-site emissions as they are electrically-powered vehicles.

Total Operational Emissions

As shown in **Table B.4-6**, the EDMS model predicted Airport-wide aircraft operational emissions under both No-Action and Proposed Action conditions. The EDMS default inputs for GSE operations was used in the modeling. The reduction of aircraft arrival and departure time-in-mode and APU time was considered due to the mobility improvement at the terminal under the proposed condition. Of the

seven pollutants considered in the EDMS, the Proposed Action led to the projected reduction of six. The one pollutant that does increase as a result, NOx, is well below *de minimis* levels.

Table B.4-6: Aircraft Operational Emissions (tons)

Pollutant	Source	No-Action Condition	Proposed Action Condition	Proposed Total Net Change
CO	Aircraft	1,264.97	1,060.80	
	GSE	229.56	245.72	
	APUs	67.67	36.59	
	Total	**1,562.21**	**1,343.10**	**-219.11**
VOC	Aircraft	168.30	149.61	
	GSE	8.96	9.72	
	APUs	5.70	3.15	
	Total	**182.96**	**162.47**	**-20.49**
NOx	Aircraft	1,543.77	1,598.55	
	GSE	19.99	21.70	
	APUs	91.14	57.42	
	Total	**1,654.90**	**1,677.67**	**22.77**
SOx	Aircraft	162.36	156.48	
	GSE	2.39	2.56	
	APUs	12.19	7.36	
	Total	**176.94**	**166.39**	**-10.55**
PM_{10}	Aircraft	15.10	14.91	
	GSE	1.40	1.51	
	APUs	10.11	6.00	
	Total	**26.60**	**22.41**	**-4.19**
$PM_{2.5}$	Aircraft	15.10	14.91	
	GSE	1.30	1.40	
	APUs	10.11	6.00	
	Total	**26.51**	**22.31**	**-4.20**
CO_2	Aircraft	396,479.03	382,103.83	
	GSE	n/a	n/a	
	APUs	n/a	n/a	
	Total	**396,479.03**	**382,103.83**	**-14,375.21**

On-Road Vehicles

Using conservative estimates, future emissions from on-road vehicles at the airport were calculated for both 2030 No Build and Build conditions. The increase in annual passengers of 3.9 MAP between the 30.1 MAP No-Action condition and the 34 MAP Proposed Action condition generated approximately 1.1 million additional round trips to the approximately 8.11 million round trips under the 30.1 MAP condition. These additional trips were multiplied by the average access road length of 1.75 miles (1/2 * [1.2 + 2.3]), assuming trips from west and east bound routes are evenly distributed, and the MOVES-predicted emissions factors shown in **Table B.4-7**. The resultant emissions represent the conservative net increase of the on-airport vehicular emissions between the future No-Action Alternative and the Proposed Action Alternative.

Table B.4-7: Airport On-Road Vehicular Annual Emissions (tons)

Pollutant	MOVES Emission Factor (grams/mile)	2030 No Build/ No-Action	2030 Proposed Action	Potential Increase from No Build to Proposed Condition
VOC	0.338	1.47	1.67	0.20
NO_X	2.046	9.14	10.38	1.24
CO	4.975	22.27	25.29	3.02
PM_{10}	0.187	0.88	1.00	0.12
$PM_{2.5}$	0.127	0.59	0.67	0.08
SO_2	0.0094	0.07	0.08	0.01
CO_2	969.58	4,330.00	4,917.30	587.30

Central Heating and Refrigeration Plant

The EPA AP-42 emission factors were applied to the fuel data used at the existing Central Heating and Refrigeration Plant (CHRP) reported from 2007 to 2011 to determine worst-case annual emissions. It was found that the actual emissions from the existing CHRP operation in 2007 generated the worst-case emissions. Therefore, the 2007 emissions levels were used as the basis for prorating the potential incremental emissions as a result of constructing a new CHRP. As shown in **Table B.4-8**, the approximate ratio of 1:4 for design heating and cooling capacity between the new and existing CHRP was used to prorate the potential increase in CHRP emissions.

Table B.4-8: CHRP Annual Emissions (tons)

Pollutant	Existing Emissions	Proposed Emissions	Potential Increase from Existing to Proposed Condition
VOC	0.12	0.17	0.05
NO_X	2.86	4.02	1.16
CO	1.87	2.63	0.76
PM_{10}	0.24	0.34	0.10
$PM_{2.5}$	0.24	0.34	0.10
SO_2	1.29	1.82	0.53
CO_2	3,358.49	4,719.88	1,361.39

Applicability Determination

As shown in **Table B.4-9**, the expected annual increases in operational emissions, shown below as the difference between aircraft, vehicles, and CHRP emissions in the No-Action and the Proposed Action Alternative, would be well below the applicable *de minimis* criteria. Therefore, a formal conformity determination is not required and air quality impacts under the proposed action would be negligible and non-significant.

Table B.4-9: Net Change in Operational Annual Emissions (tons)

Source Operation	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
Aircraft	-20.49	22.77	-219.11	-10.55	-4.19	-4.20	-14,375.21
Vehicle	0.20	1.24	3.02	0.12	0.8	0.01	587.30
CHRP	0.05	1.16	0.76	0.10	0.10	0.52	1,361.39
Total	-20.24	25.17	-215.33	-10.33	-3.29	-3.67	-12,426.52
de minimis Levels	*50*	*100*	*100*	*n/a*	*100*	*100*	*n/a*

B.4.2 Hot Spot Analysis (Concentrations)

A hot spot, or microscale, analysis was conducted at selected intersections determined to operate with the highest or worst-case congestion during the construction period and during the operational phase of the Proposed Action.

B.4.2.1 Construction Concentrations

The anticipated hot spot air quality impacts associated with off-site mobile source activities during the worst-case year of construction (i.e., 2015) were evaluated for the Proposed Action. Mobile sources of air pollution include engine exhaust emitted from proposed traffic within the roadway network around the project site, such as trucks along designated truck routes. Given the type of development proposed at the CTB, the truck component of the project-related traffic would be minor. On-road traffic volumes and the incremental equivalent heavy duty diesel vehicle (HDDV) trips at each analyzed intersection were first screened using the screening thresholds recommended in the CEQR Technical Manual:

- 170 or more incremental vehicle trips for CO; and
- 23 or more incremental equivalent HDDV trips at arterial roadways for $PM_{2.5}$, or
- 19 or more incremental equivalent HDDV trips at collector roadways for $PM_{2.5}$.

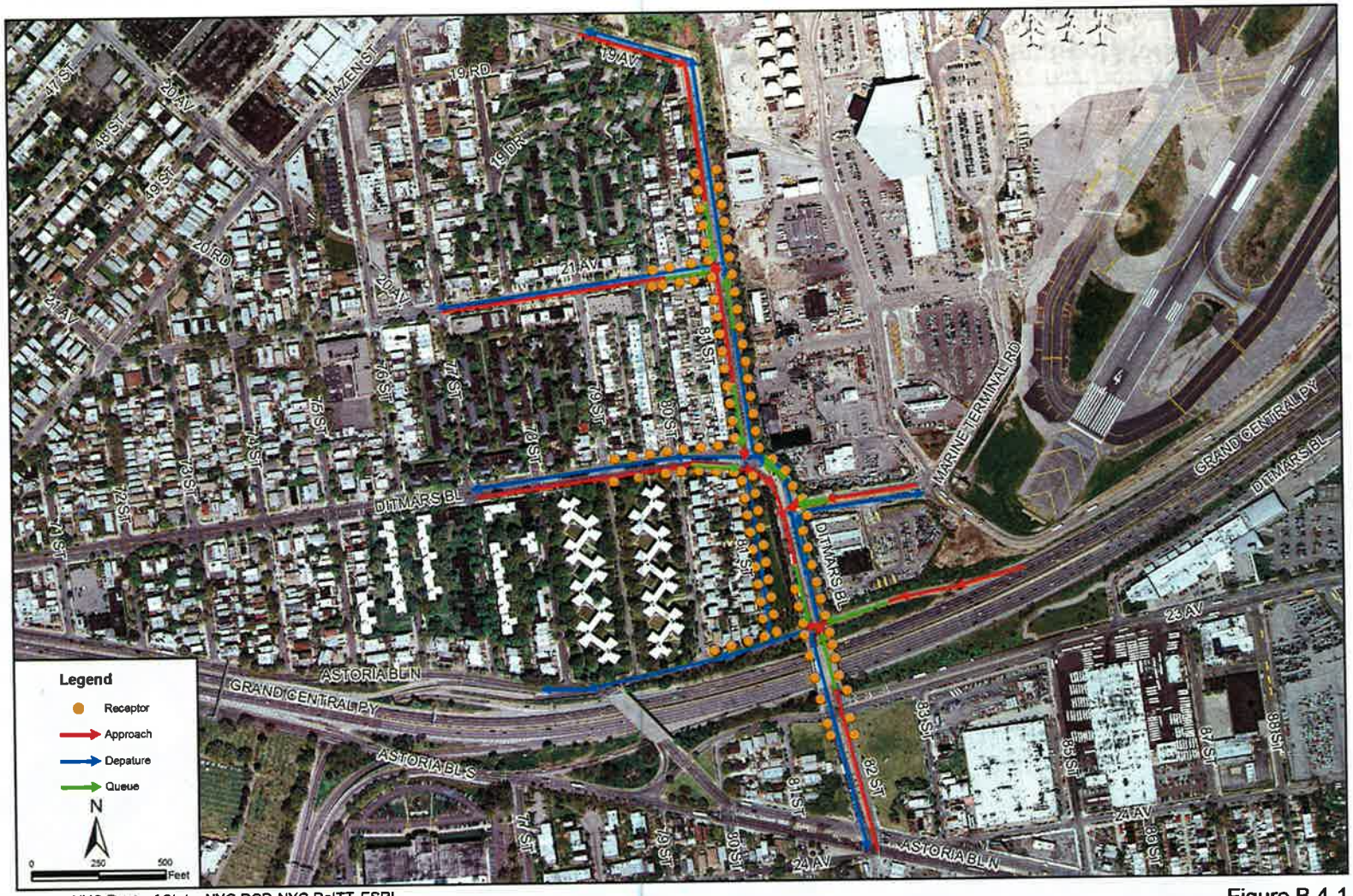
According to the screening results at each affected intersection, a further hot spot dispersion impact analysis is warranted for CO but not for $PM_{2.5}$. A total of five representative intersections that would have the worst-case LOS and highest traffic volume and incremental traffic volume were selected for the CO hot spot modeling:

- Ditmars Boulevard & Marine Terminal Road
- Astoria Boulevard North & 82nd Street / Ditmars Boulevard
- 81st Street & Ditmars Boulevard
- 81st Street & 21st Avenue
- Hazen Street & 19th Avenue

The geometric layout of each modeled intersection is shown in **Figures B.4-1 and B.4-2**.

B.4.2.2 CO Concentration Prediction

The predicted worst-case CO concentration levels, summarized in **Table B.4-10**, are from the selected worst-case intersections during the highest activity period (i.e., the Saturday midday period). For comparison purposes, the levels under the Future No-Action Condition were also predicted. Although most of the CO concentration levels in the future with the Proposed Action condition are predicted to be lower than the Future No-Action condition, several concentrations are predicted to be equal to or higher than the Future No-Action Condition. However, all of the predicted levels are well below the CO NAAQS. Therefore, the mobile source air quality impacts from the Proposed Action would not be significant.



Source: NYS Dept. of State, NYC DCP, NYC DoITT, ESRI
Prepared by: AECOM

Figure B.4-1

CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Construction Year – CO Hot Spot Modeling Diagram

Source: NYS Dept. of State, NYC DCP, NYC DoITT, ESRI
Prepared by: AECOM

Figure B.4-2

Construction Year – CO Hot Spot Modeling Diagram
Hazen Street/19th Avenue

Table B.4-10: Predicted Highest CO Concentrations at Selected Signalized Intersections (in ppm)

Intersection	CO 1-hour Concentration	CO 8-hour Concentration	CO 1-hour Concentration	CO 8-hour Concentration
	Future No-Action Condition		Future Proposed Action Condition	
Ditmars Boulevard & Marine Terminal Road	4.4	3.0	4.0	2.7
Astoria Boulevard North & 82nd Street / Ditmars Boulevard	4.6	3.1	4.7	3.2
81st Street & Ditmars Boulevard	4.4	3.0	4.0	2.7
81st Street & 21st Avenue	3.8	2.6	3.8	2.6
Hazen Street & 19th Avenue	4.1	2.8	4.0	2.7

Note: CO levels include background levels of 3 ppm for the 1-hour average and 2 ppm for the 8-hour average. All predicted concentrations are well below the NAAQS of 35 ppm for the 1-hour average and 9 ppm for the 8-hour average.

B.4.2.3 Operational Concentrations

The same procedures as described previously in the construction year impact section were implemented for the operational year condition. According to the screening results at each affected intersection, a further hot spot dispersion impact analysis is warranted for CO, but not for $PM_{2.5}$. A total of two worst-case intersections in terms of LOS, existing high traffic volume, and high incremental traffic volume (as depicted in Figure 5.2.2-3) were selected for the CO hot spot modeling:

- Astoria Boulevard & 82nd Street & 24th Avenue
- Astoria Boulevard North & 82nd Street / Ditmars Boulevard

The CAL3QHC-predicted worst-case CO concentration levels, summarized in **Table B.4-11**, were identified at the selected worst-case intersections during the worst-case period. For comparison purposes, the levels under the Future No-Action Condition were also predicted. Although the CO concentration levels under the future with the Proposed Action condition would be slightly higher than the Future No-Action Condition, the levels are well below the CO NAAQS. Therefore, the mobile source air quality impacts from the Proposed Action would not be significant.

Table B.4-11: Predicted Highest CO Concentrations at Select Operational Signalized Intersections (in ppm)

Intersection	CO 1-hour Concentration	CO 8-hour Concentration	CO 1-hour Concentration	CO 8-hour Concentration
	Future No-Action Condition		Future Proposed Action Condition	
Astoria Boulevard & 82nd Street & 24th Avenue	4.6	3.6	4.7	3.6
Astoria Boulevard North & 82nd Street / Ditmars Boulevard	4.6	3.6	4.6	3.6

Note: CO levels include background levels of 3 ppm for the 1-hour average and 2 ppm for the 8-hour average. All predicted levels are well below the NAAQS of 35 ppm for the 1-hour average and 9 ppm for the 8-hour average.

B.4.3 Greenhouse Gas Emissions Estimation

The EA follows the Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas issued by the Council of Environmental Quality (CEQ) (CEQ, February 2010). The potential effects of proposed GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. In keeping with CEQ guidance, the focus of the cumulative air quality GHG analysis is to disclose GHG emissions that are affected by the proposed action.

Although the USEPA final rule on Mandatory Reporting of Greenhouse Gases (October 30, 2009) provides various methodologies to estimate CO_2 equivalencies based on fuel test and consumption data, this rule is essentially designed for specific stationary facility reporting purposes and cannot be directly implemented in this EA to address the emissions from construction activities associated with the Proposed Action. Most of the USEPA tools that are widely used for NEPA study purposes (e.g., NONROAD emission factor model) do not provide emission factors for CO_2e other than for CO_2. Therefore, given the lack of regulatory tools to provide reasonable estimates of CO_2e, this EA utilizes the inventory ratios among CO_2, CH_4 and N_2O summarized in the recent USEPA inventory report (USEPA, April 15, 2009). In the inventory, it shows that the GHG contribution from CH_4 and N_2O is less than 1% of the total CO_2e for fossil fuel combustion sources. Given such small contributions from other GHG equivalents compared to the CO_2, this EA predicts CO_2e levels in terms of CO_2 levels.

Given the minimal increase, in terms of CO_2, of localized emissions predicted for the Proposed Action, overall global or US GHG emissions would remain near the current level under the proposed condition, resulting in an insignificant cumulative impact to global climate change. No specific GHG emission mitigation measures are required.

The Proposed Action includes a number of commitments that would ensure that energy efficient buildings are constructed. This may include designing and constructing to achieve Leadership in Energy and Environmental Design ("LEED") Gold certification (minimum Silver), using fewer raw materials, making the best of natural light where appropriate, improving indoor air quality, and decreasing the total impact on the natural and human environment. These designs may also include features aimed at reducing energy consumption and greenhouse GHG emissions, such as:

- Energy efficient building envelopes to reduce cooling and heating;
- High-efficiency HVAC systems or generators;
- Window glazing to optimize energy performance by allowing for day-lighting while managing both heat loss and solar heat gain; and
- Fuel from renewable sources or less GHG-intense fuels, such as natural gas, co-firing of biomass or use of biofuels or bioheat for heating fuel or in vehicles/equipment.

The *CEQR Technical Manual* also includes a specific listing of sustainability and efficiency measures to consider in the assessment of consistency with the GHG Reduction Goals. The Proposed Action would include a number of measures aimed at reducing energy consumption and GHG emissions including:

- Using energy efficient boilers. It is anticipated that many of the boilers for space heating and domestic hot water would be natural gas-fired hot water semi-condensing or condensing type.

- Using ultra-low sulfur diesel (ULSD) fuel. During construction, the Proposed Actions would comply with the NYC Air Pollution Control Code (*Local Law No. 77*), which includes use of ULSD fuel.

B.4.4 Summary of Impacts

For the assessed criteria pollutants, mobile air toxics, and GHGs, implementation of the Proposed Action would result in no emissions increase or an increase that is clearly *de minimis*. The air quality assessment demonstrates that the Proposed Action conforms to the New York SIP and the Clean Air Act because the Proposed Action would not exceed the *de minimis* thresholds established by the EPA for the criteria pollutants. In addition, the hot spot analysis found that the Proposed Action would not create a new violation of any NAAQS, delay the attainment of any NAAQS, or worsen any existing NAAQS violation. Consequently, no adverse impact on local or regional air quality is expected to occur as a result of the Proposed Action. No further analysis or reporting is required under the Clean Air Act or NEPA.

The results of the construction analysis are summarized in **Table B.4-12: Annual Emissions Inventory – Construction Phase**. Similarly, the results of the operational analysis are summarized in **Table B.4-13: Annual Emissions Inventory – Operations Phase**.

Table B.4-12: Annual Emissions Inventory – Construction Phase

Pollutant	Construction Year Emissions (tons per year)								Maximum	*NAAQS Threshold*	De Minimis?
	2014	2015	2016	2017	2018	2019	2020	2021			
Volatile Organic Compounds (VOC)	0.71	2.71	2.20	1.38	0.79	0.81	0.40	0.19	**2.71**	*50*	**Yes**
Nitrogen Oxides (NO_X)	9.76	34.94	27.42	17.24	9.78	10.35	5.12	2.52	**34.94**	*100*	**Yes**
Carbon Monoxide (CO)	2.98	11.89	9.78	6.57	3.60	3.62	2.12	0.77	**11.89**	*100*	**Yes**
Particulate Matter 10 micrometers (PM_{10})	0.41	1.56	1.23	0.78	0.48	0.49	0.25	0.13	1.56	-	**Exempt**
Particulate Matter 2.5 micrometers ($PM_{2.5}$)	0.38	1.45	1.15	0.73	0.42	0.44	0.23	0.11	**1.45**	*100*	**Yes**
Sulfur Dioxide (SO_2)	0.35	1.23	1.00	0.63	0.30	0.33	0.18	0.07	**1.23**	*100*	**Yes**

Total emissions may not sum exactly due to rounding.
Source: EPA MOVES/2010b; EPA NONROAD reference document-provided model emissions factor inputs (Table A-4) for Tier 2 engines, which corresponds to the 2008a version model; AECOM Analysis (2013).

Table B.4-13: Annual Emissions Inventory – Operations Phase

Emission Sources	Annual Operations Emissions (tons per year)					
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_X
2030 Proposed Action	164.31	1,692.07	1,371.02	23.75	23.32	168.29
2030 No-Build/No-Action	184.55	1,666.90	1,586.35	27.72	27.34	178.30
Net Emissions	-20.24	25.17	-215.33	-3.97	-4.02	-10.01
NAAQS Threshold	*50*	*100*	*100*	-	*100*	*100*
de minimis?	**Yes**	**Yes**	**Yes**	**Exempt**	**Yes**	**Yes**

Total emissions may not sum exactly due to rounding.
Source: EDMS/5.1.3; US EPA MOVES/2010b; AECOM Analysis (2013)

Appendix C.
Final Section 4(f) Evaluation

Final Department of Transportation Section 4(f) Evaluation

LaGuardia Airport Central Terminal Building Redevelopment Program

Prepared for:
U.S. Department of Transportation
Federal Aviation Administration

Sponsored by:

THE PORT AUTHORITY OF NY & NJ

Prepared by:

AECOM
125 Broad Street
New York, NY 10004

November 2014

Based on the enclosed Section 4(f) analysis, I have determined there is no prudent and feasible alternative that would avoid using Hangars 1, 2 and 4 at LaGuardia Airport, Section 4(f) protected resources. The project includes all possible planning to minimize harm to this resource. FAA will condition its approval of this project to fulfill its Section 4(f) responsibilities.

Signature

12/9/14
Date

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Attachment A: Agency Consultation
Attachment B: Final Memorandum of Agreement

Final Department of Transportation Section 4(f) Evaluation

The Port Authority of New York and New Jersey (PANYNJ), in coordination with the Federal Aviation Administration (FAA), proposes to redevelop a portion of LaGuardia Airport, located in the Borough of Queens, New York City. The Central Terminal Building (CTB) Redevelopment Program includes a series of improvements to resolve existing deficiencies in the central terminal area of the airport. This Final Section 4(f) Evaluation describes the effects of the Proposed Action on property protected by Section 4(f) of the Department of Transportation Act of 1966. The Act established a federal policy that mandates special efforts should be made to minimize adverse effects resulting from the use of public park and recreation lands, wildlife and waterfowl refuges, and significant historic sites.

1 Introduction

As part of the LaGuardia Airport CTB Redevelopment Program's Environmental Assessment (EA) – published for review and comment in the spring of 2014 – public parks, recreation land or open space, and land owned by public agencies were identified within the larger study area. No public parks, recreational lands, open space, or wildlife or waterfowl refuges were identified within the project limits. Reconnaissance and intensive field surveys undertaken as part of Section 106 of the National Historic Preservation Act (NHPA) revealed that historic resources were located within the Area of Potential Effects (APE) for the EA.

PANYNJ undertook a substantial effort to avoid or minimize impacts to Section 4(f) resources as part of the alternatives development process. Early design alternatives were refined based upon stakeholder input and additional planning efforts, resulting in reduced environmental impacts, reduced project costs, and improved functionality. These refinements have been incorporated into the Proposed Action (described in **Section 2**).

Based on reconnaissance and intensive field surveys, historic resources were identified within the APE for the Proposed Action (see **Figure 1**). The historic properties include two sets of historic hangars within the airport property. Hangars 1, 3, and 5 (constructed as a unit) and Hangars 2 and 4 (also constructed as a unit) were all built between 1939 and 1940. These resources were determined to be eligible for listing on the National Register of Historic Places (NRHP) by the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP). Hangars 1, 2, and 4 would be removed as part of the Proposed Action, resulting in an Adverse Effect.[1]

It is anticipated that the Proposed Action would result in the permanent use of Section 4(f) properties, requiring both avoidance and least overall harm analyses. **Figure 2** presents the Proposed Action and identifies the Section 4(f) resources that would be affected by the CTB Redevelopment Program.

2 Regulatory Framework and Applicability to the CTB Redevelopment Program

This Final Section 4(f) Evaluation has been prepared pursuant to Section 4(f) of the U.S. Department of Transportation Act, 49 U.S.C. 303(c). The law is codified in 49 U.S.C. Section 303(c) and 23 U.S.C. 138 and is implemented by the USDOT per 23 CFR 774. The following sections present the definitions of the

[1] Hangars 3 and 5 are not within in the project limits and would not be removed as part of the Proposed Action.

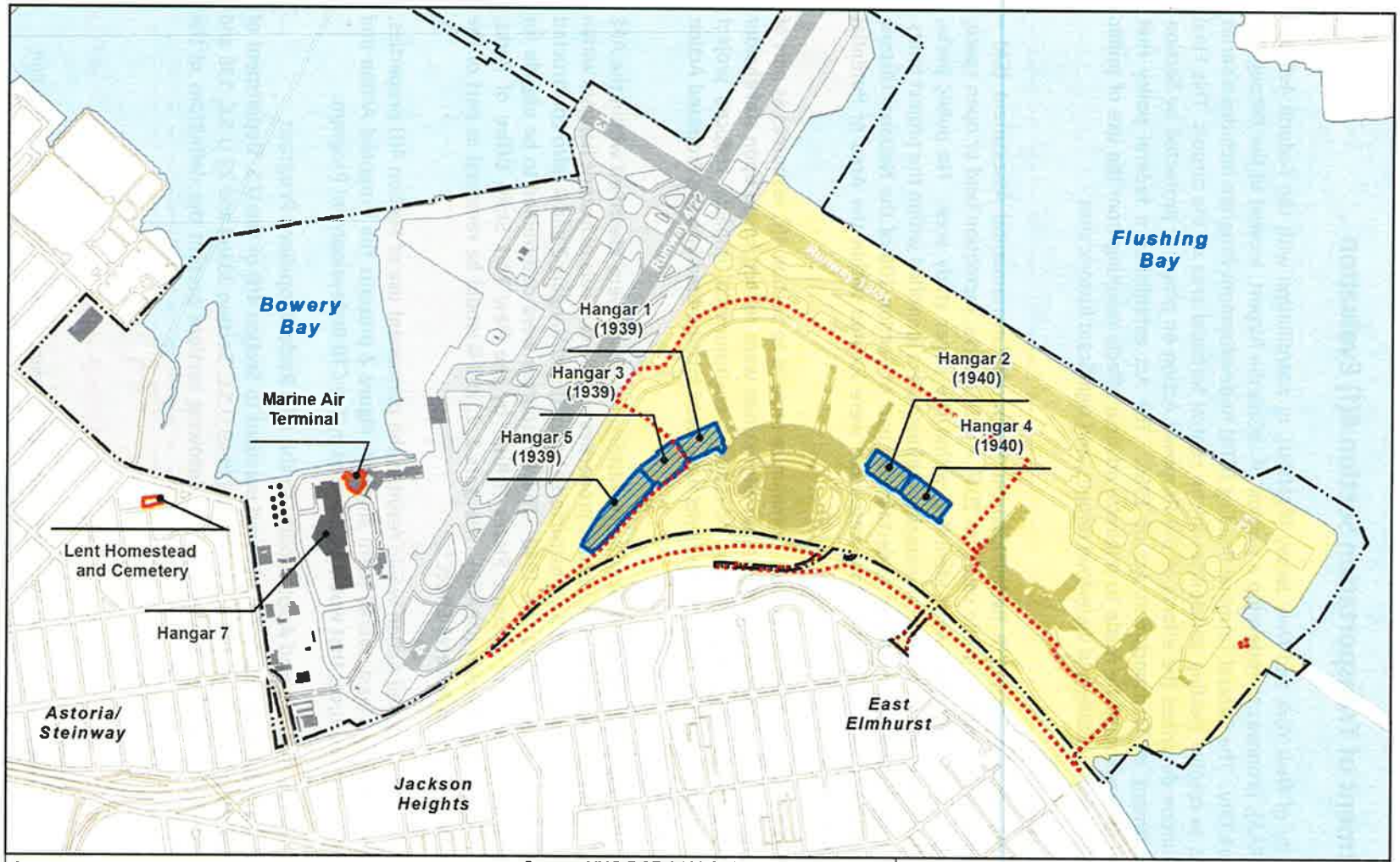

Figure 1

Section 4(f) Resources

LAGUARDIA AIRPORT
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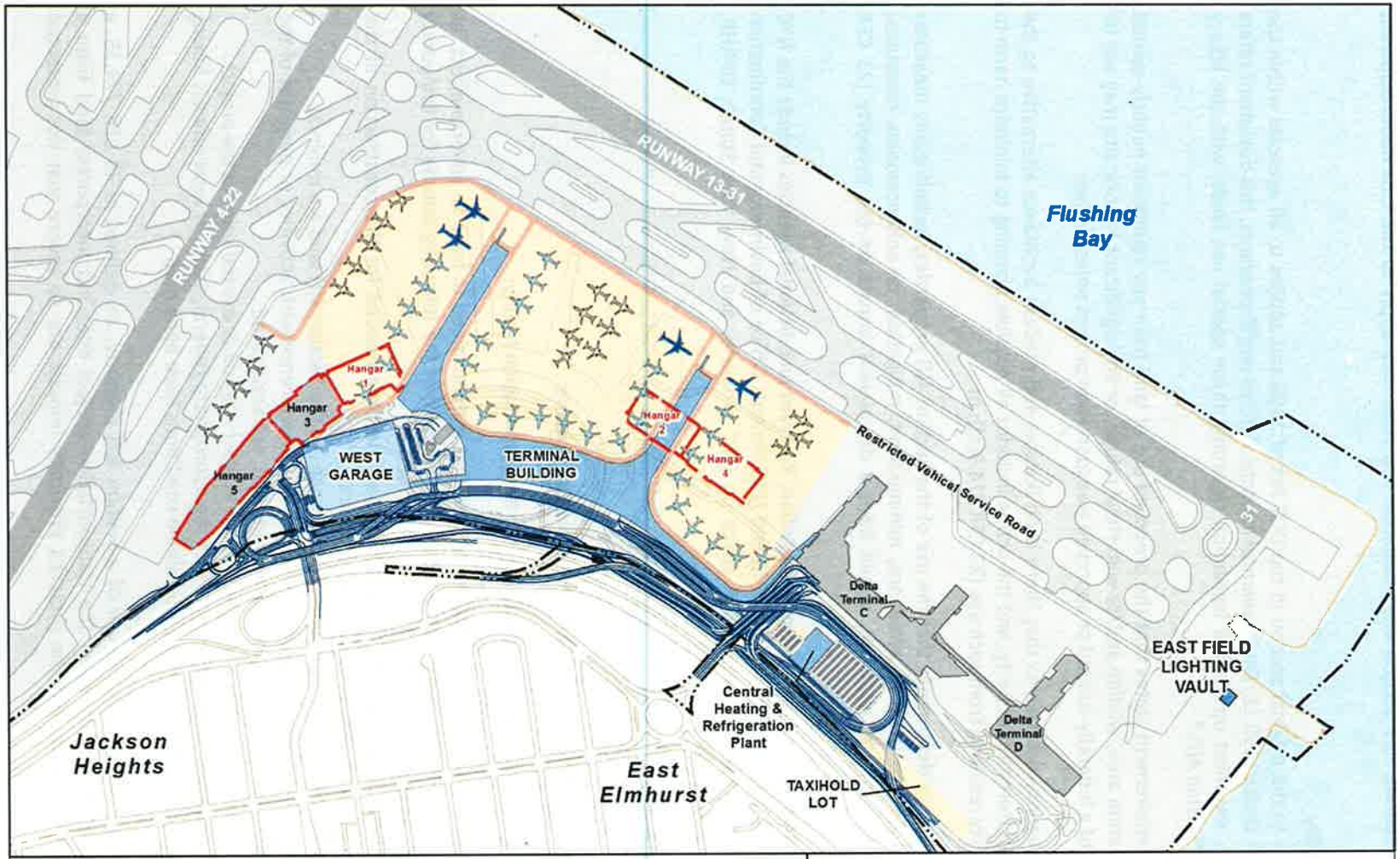

Figure 2

Proposed Action

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
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terms used in preparing this Section 4(f) Evaluation and how they apply to the CTB Redevelopment Program.

2.1 Applicability

Section 4(f) refers to the original section in the DOT Act of 1966 and applies to all agencies within the USDOT. As in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, this document refers to Section 303(c), the most up-to-date legislation regarding these special use lands, with the legacy policy identifier, "Section 4(f)."

The Section 4(f) requirement states that the proposed use of land from any significant publicly-owned public park, recreation area, wildlife and/or waterfowl refuge, or any significant historic site may not be approved as part of a federally-funded or approved transportation project unless either:

- The lead agency determines that there is no feasible and prudent avoidance alternative to the use of land from the property, and the action includes all possible planning to minimize harm to the property resulting from such use (23 CFR 774.3(a)); or
- The lead agency determines that the use of the Section 4(f) properties, including any measures to minimize harm (such as avoidance, minimization, mitigation, or enhancements measures) committed to by the applicant, would have a *de minimis* impact on the property (23 CFR 774.3(b)).

FAA is the lead federal agency for the Proposed Action. Relevant jurisdictional agencies include the NYC Department of Parks and Recreation (NYCDPR) and NYC Mayor's Office of Environmental Coordination (MOEC), the stewards for parks and open space on NYC property, and New York State's OPRHP, overseeing historic properties.

2.2 Definitions

2.2.1 Use

Pursuant to 23 CFR 774.17, a "use" of Section 4(f) property occurs:

- When land is permanently incorporated into a transportation facility;
- When there is a temporary occupancy of land that is determined to have an adverse effect as defined in 23 CFR 774.13(d); that is, when one or more of the following criteria for temporary occupancy are not met:
  a) The duration of the occupancy is less than the time needed for the construction of the project, and no change of ownership occurs.
  b) Both the nature and magnitude of the changes to the Section 4(f) land are minimal.
  c) No permanent adverse physical changes, nor interference with activities or purposes of the resources on a temporary or permanent basis, are anticipated.
  d) The land is returned to a condition that is at least as good as existed prior to the project.
  e) There is documented agreement with the appropriate Federal, State, or local officials having jurisdiction over the land that the above conditions have been met.
- When there is a constructive use of a Section 4(f) property. As defined in 23 CFR 774.15, a constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected

activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired.

2.2.2 Feasible and Prudent Avoidance Alternative

A feasible and prudent avoidance alternative does not use Section 4(f) property or cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute. The preservation purpose of Section 4(f) is described in 49 U.S.C. 303(a), which states: "It is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

An alternative is not **feasible** if it cannot be built as a matter of sound engineering judgment.

An alternative is not **prudent** if:

- It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
- It results in unacceptable safety or operational problems;
- It causes severe social, economic, or environmental impacts; severe disruption to established communities; severe disproportionate impacts to minority or low income populations; or severe impacts to environmental resources protected under other Federal statutes even after reasonable mitigation;
- It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- It causes other unique problems or unusual factors; or
- It involves multiple factors above that while individually minor, cumulatively cause unique problems, or impacts of extraordinary magnitude.

2.2.3 All Possible Planning

The action must include *all possible planning* to minimize harm to the Section 4(f) property from the use. "All possible planning" means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse impacts and effects must be incorporated into the project.

For public parks, recreation areas and wildlife and waterfowl refuges, the measures may include (but are not limited to): design modifications or design goals; replacement with land or facilities of comparable value and function; or monetary compensation to enhance the remaining property or to mitigate the adverse impacts of the project in other ways.

For historic sites, the measures normally serve to preserve the historic activities, features, or attributes of the site as agreed by the lead agency and the official(s) with jurisdiction over the Section 4(f) resource in accordance with the consultation process under 36 CFR Part 800.

In evaluating the reasonableness of measures to minimize harm, the lead agency would consider the preservation purpose of the statute and:

- The views of the official(s) with jurisdiction over the Section 4(f) property;

- Whether the cost of the mitigation/avoidance measures is a reasonable public expenditure in light of the adverse impacts of the project on the Section 4(f) property and the benefits of the measure to the property; and
- Any impacts or benefits of the measures to communities or environmental resources outside of the Section 4(f) property.

3 Purpose and Need

3.1 Purpose of the Project

The purpose of the Proposed Action is to:

- Enable LaGuardia Airport to safely and effectively accommodate forecast passenger demand at acceptable levels of service by:
  - Improving airline efficiency and operational safety on the terminal airside apron
  - Improving passenger throughput capacity and convenience throughout terminal
  - Improving traffic circulation and flow along the terminal landside roadways

3.2 Project Need

The Proposed Action is needed because the existing CTB and ancillary facilities are severely constrained and LaGuardia Airport is unable to adequately meet current or projected passenger demands without incurring unacceptable levels of delay. Implementation of the Proposed Action would serve the public interest by meeting the air transportation needs of the FAA, Transportation Security Administration (TSA), PANYNJ, LaGuardia Airport, the airlines, and passengers.

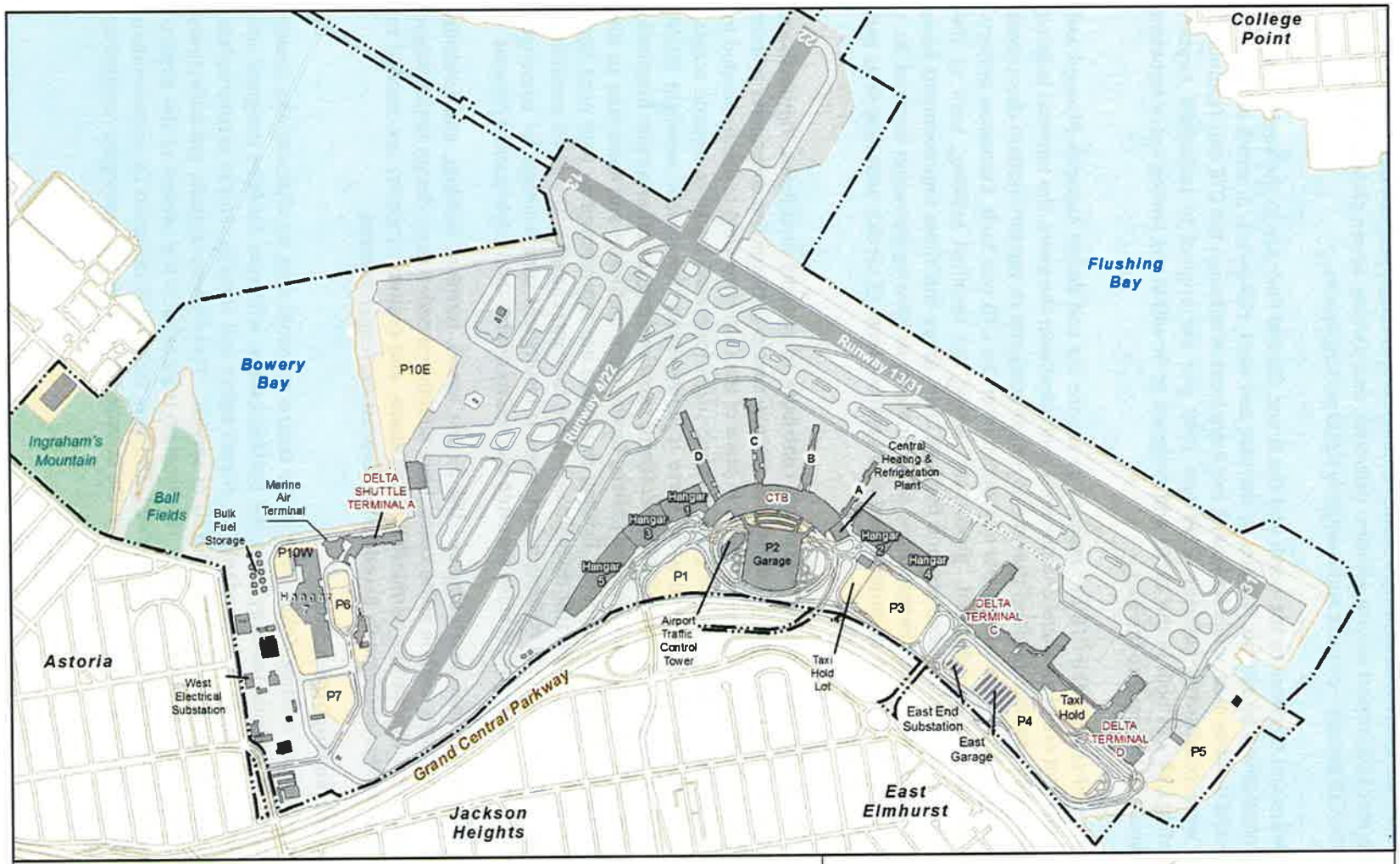
4 Detailed Project Description

4.1 Overview of LaGuardia Airport

Situated on 680 acres of waterfront property, LaGuardia Airport has two 7,000-foot long runways, four passenger terminal buildings with 71 contact gate positions, and a network of roadways and parking facilities (**Figure 3**). Unlike John F. Kennedy International (4,930 acres) and Newark Liberty International (2,027 acres), which have large scale facilities designed for international airline passenger and cargo operations, LaGuardia Airport is much smaller and therefore its facilities are limited to providing short-to-medium range domestic airline passenger service.

The CTB is one of the four passenger terminal buildings on the Airport. Terminal A is located on the west side of the airfield and is used by Delta Airlines for shuttle flights to Boston, Chicago, and Washington, DC. Terminals B, C, and D, are located on the central area and east sides of the airfield in what was originally referred to as the central terminal area. The CTB (also known as Terminal B, built in 1964) is the largest of the four terminals and is shared by most of the airlines that serve LaGuardia Airport. Terminal C (built in 1992) and Terminal D (built in 1983) were recently connected and are used primarily by Delta Airlines for their mainline hub operation. The remainder of the central terminal area includes aircraft hangars, roadways, and parking.

The focus of the Program is the CTB complex including the passenger terminal, airside apron, landside roadways, and parking facilities. The existing CTB has 835,000 square feet of floor space and two functional levels—with ticketing located upstairs and baggage claim located downstairs. There are four concourses with 35 gates surrounded by an aircraft parking apron. The roadway system includes the



Legend

- Existing Airport Property Line
- Building Under Construction
- Surface Parking
- Existing Building

0 500 1,000 Feet

N

Source: NYS Dept. of State, NYC DCP, NYC DoITT, ESRI, AECOM

Figure 3

Existing Airport Facilities

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CENTRAL TERMINAL BUILDING
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airport entrance/exit roads, terminal approach roads, terminal curb frontage, recirculation roads, as well as interior service roads for airport service vehicles, deliveries, and parking. Seven parking facilities—six surface lots and the CTB garage—provide approximately 6,900 parking spaces.

Bordered by runways and taxiways to the north and the Grand Central Parkway to the south, the CTB envelope is also constrained by aircraft hangars to the east and west. Hangars 1, 3, and 5 are located between the CTB and Runway 4-22, while Hangars 2 and 4 are located between the CTB and Terminal C. All five hangars were constructed between 1939 and 1940 and are original to LaGuardia Airport; whereas, the existing CTB was built in the 1960s and designed to fit within the limited space between Hangar 1 to the west and Hangar 2 to the east.

After nearly 50 years of service, the CTB has reached its service life and design capacity. Planned and constructed for a different era of air travel and unevenly renovated over the years, the terminal building is comprised of aging and obsolete facilities that are no longer adequate to support modern day airport and airline operations or the TSA requirements introduced after the CTB was built. Expansion projects have enhanced the capacity of individual "processors" within the terminal building, such as the ticketing/check-in lobby, security checkpoints, and baggage claim areas, but those improvements have not been sufficient to keep pace with changes in the airline industry or growing passenger demand. As a result, passengers using the CTB are accommodated at a very low level of service with long lines and overcrowding in all areas of the terminal.

Adjacent to the CTB, airside and landside constraints contribute to capacity limitations. Apron space around the CTB concourses is operationally inadequate. Narrow spaces between the concourses restrict the size of aircraft that can be gated at the terminal. In place of the dual (two-way) taxilanes needed to improve the flow of aircraft to and from the gates, existing single (one-way) taxilanes impede access, often leaving aircraft waiting for a place to park. There is limited space for remain overnight (RON) aircraft parking, ground service equipment (GSE) operations, snow melting, or other airside functions. On the landside, the terminal area roadways and parking facilities are inefficient and contribute to the overall poor performance of the CTB complex. Existing conditions are represented by high peak hour volumes, heavily congested flow, and traffic demand exceeding roadway capacity. The worst conditions occur directly in front of the terminal building where there is insufficient curb frontage for passenger loading and unloading and bypass/travel lanes are often blocked by double- and triple-parked vehicles.

All areas of the central terminal area complex—the airside apron, terminal building, and landside roadways—are nearing capacity and, in some cases, have already exceeded their design limits. Major increases in aircraft apron dimensions, terminal building space, and roadway capacity are needed to accommodate future facility requirements based on the forecast passenger demand.

4.2 Description of the Proposed Action

PANYNJ proposes to resolve existing deficiencies in the central terminal area by replacing the airside apron, terminal building, landside roadways, and the parking garage, with new facilities designed and constructed to meet the latest federal standards for airport safety and security, and to accommodate the forecast passenger demand at acceptable levels of service. These improvements are collectively referred to as the CTB Redevelopment Program. The Program is planned in the context of the airport-wide demand of 34 million annual passengers (MAP). The new terminal is designed to accommodate approximately half that demand—or 17.5 MAP (with the balance of the forecast passengers handled by Terminals A, C, and D).

To accomplish accommodating additional passengers at an acceptable level of service, the CTB Redevelopment Program includes a series of capacity improvement projects divided into three functional areas—airside, terminal, and landside. There is also a list of support projects needed to complete the Program. The major project elements are described in more detail below.

4.2.1 Airside Apron and Parking

The aircraft apron is the paved area on the airside of the terminal building where aircraft maneuver and park and where loading, unloading, and aircraft servicing activities are performed. Under the Proposed Action, the apron would be expanded and reconfigured to maximize airside efficiency, operational safety, and cost effective standards of service. There would be a dual (two-way) taxilane system, adequate space for airline vehicles and ground service equipment, and provisions for facilities and services needed to improve apron/gate operations. The Proposed Action includes the following airside improvements:

- 35-Gate Layout Plan. PANYNJ has determined that the proposed 35-gate layout plan is sufficient to achieve the 17.5 MAP forecast for the CTB. The Program provides 31 contact gate positions for narrow-body aircraft with wingspans up to and including the B737-900W and four contact gate positions for wide-body aircraft with wingspans up to and including the B767-400. Although there would be no net increase/decrease in the number of gates (35), the Proposed Action would provide additional apron space for newer, larger aircraft to maneuver and park side-by-side along the airside terminal frontage and concourses, reducing the frequency and duration of "gate-wait" delays caused by inadequate spacing between existing gates at the CTB.

- Dual Parallel Taxi-Lane Configuration. The Proposed Action would also provide additional apron space for dual parallel taxi-lanes throughout the apron area. Dual taxi-lanes enable one or more aircraft to be pushed-back or taxied in one direction, while aircraft are moving in the opposite direction on the parallel taxi-lane. Each aircraft gate position would have two entry/exits points, which increases flexibility in accessing terminal gates during peak periods. The redesigned apron would comply with FAA clearance standard dimensions for aircraft and restricted roadways used for ground service vehicles and equipment. There are no proposed modifications of airport design standards and, importantly, one existing Modification of Standard (MOS) and several other nonstandard operating conditions would be eliminated.

- Remain Overnight (RON) Aircraft Parking. The Program provides 20 RON positions for parking aircraft in close proximity to the terminal—a net increase of 3 positions when compared to existing conditions. RON parking improves airline flight scheduling and efficiency by allowing aircraft to be parked overnight at the same airport where they are needed for their first flight in the morning.

- Ramp Control Tower. The Proposed Action also includes an airline-operated ramp control tower to monitor and control aircraft entering and exiting the terminal apron area and gate parking positions. Centrally-located atop the west concourse/pier, and independent of the FAA-operation airport traffic control tower (ATCT), the ramp control tower would improve airside efficiency and operational safety by enhancing line-of-sight of aircraft, vehicles, and ground service equipment maneuvering around the apron.

4.2.2 Terminal Building

The passenger terminal is the service center for the transfer of passengers and their baggage between the vehicle curb and parked aircraft. Under the Proposed Action, the existing CTB would be replaced with a new terminal that is designed to interface effectively between the airside apron and the landside roadways and parking garage, thus allowing passengers and their baggage to be processed through the terminal as quickly and efficiently as possible. The Proposed Action includes the following terminal improvements:

- Headhouse and Concourses. The Program provides for a compact bar-shaped headhouse with two double-sided concourses and one smaller single-loaded concourse to the east. The new terminal would be both functional and flexible with a building layout and environment that supports the highest level of passenger service and facilities for a building of this size envelope and within available budget. The headhouse would have three levels: Departures/Ticketing on Level 3, Arrivals/Baggage Claim on Level 2, and Ground Transportation and airport/airline operations on Level 1. On the airside, three concourses interface with the preferred concept for the terminal airside apron; on the landside, all three building levels interface with the preferred concept for landside roadways and parking.

The proposed building totals approximately 1.3 million square feet after including all three concourses and the connector to the adjacent Terminal C. The terminal concourses/gates are designed to accommodate the projected aircraft fleet mix, and the terminal headhouse would have the capacity to handle projected peak hour passenger volumes. There would be adequate public space for passenger amenities, convenient locations for concessionaires, and plenty of seating and restrooms. There would also be sufficient space for airport and airline functions, and allowance for space dedicated to fulfilling TSA requirements for screening of passengers and bags.

4.2.3 Landside Roadways and Parking

The terminal area roadway system is a complex network of interrelated bridges and roads serving a variety of airport users. The roadway system includes the airport entrance/exit roads, terminal approach roads, terminal curb frontage, recirculation roads, as well as interior service roads for airport service vehicles, deliveries, and parking. Under the Proposed Action, the new roadway system would be designed to accommodate projected traffic volumes while providing fast, safe, efficient, and economical access and parking during the busy hours of the day. The Proposed Action includes the following landside improvements:

- Terminal Area Roadways. The terminal area roadways would be reconfigured to accommodate free flowing traffic movements through the central terminal area complex, including the new terminal and existing Terminals C and D, while minimizing or avoiding impacts on the Grand Central Parkway to the degree practicable. Based on the preferred terminal concept, the corresponding roadway improvements include: at-grade frontage roadways and ramps; elevated frontage roadways and ramps; connecting roadways to the West Garage; connecting roadways to the Grand Central Parkway (East and West); reconstruction of portions of the 94th Street and 102nd Street bridges to the Airport; and adapting the signal times for four signalized intersections.

  The new roadway system is planned to optimize the ability for all types of vehicles to access, egress, and circulate through the central terminal area, e.g., private cars, taxi cabs, limousines, shuttle vans, buses, etc. There would be convenient access to the terminal curbside and other

destinations such as parking as well as sufficient throughput capacity in the roadway system to provide safe and efficient operations even as volumes increase over time and during busy hours of the day. Curbside roadways would be vertically separated to interface with each level of the new terminal—with departures on the upper level, arrivals on the middle level, and ground transportation on the lower level.

- West Garage. The existing CTB parking garage (Lot P2) would be demolished and replaced by a new West Garage with 2,900 parking spaces, and a pedestrian connection to the new terminal building. Detailed studies for the passenger terminal and roadway concepts indicate that the existing CTB parking garage cannot remain in its current location and still achieve the objectives for the Program. Relocating the parking garage is essential to achieving an optimal layout for the CTB envelope—airside, terminal, and landside.

4.2.4 Required Support Projects

The Proposed Action includes the following list of *enabling* projects—these are smaller projects or actions that must be undertaken early in the Program in order to make space or to otherwise allow the above-referenced airside, terminal, and landside elements of the Program to proceed:

- Remove Aircraft Hangars 1, 2, and 4. Aircraft Hangars 1, 2, and 4, dating to 1939-1940, would be removed to make way for constructing the proposed terminal building and airside apron.

- Relocate the Central Heating and Refrigeration Plant (CHRP). The existing CHRP, located within the existing CTB, is nearing its useful life and needs to be replaced. A new CHRP would be located between the East End Substation and the East Garage in front of Terminal C.

- Relocate the East Field Lighting Vault. The existing East Field Lighting Vault, located in Concourse D near the base of the old ATCT would be removed and replaced with a comparable facility located on the on the east side of Terminal D.

- Relocate the Taxi Hold Lot. The existing CTB taxi hold area, located on the east side of Lot 3, would be relocated to the southeast side of Lot 4.

- Provide for New In-Ground Utilities. All the utilities needed to implement the Proposed Action are available on the Airport and are included in the Program; no off-airport improvements are proposed. There are provisions for electricity, natural gas, sanitary sewer, potable water, storm drainage, and communications. Existing systems would be used to the greatest extent practicable; where it is not practicable, existing systems would be modified and new equipment installed as needed to meet the requirements of the Program.

5 Identification of Section 4(f) Resources

The following section describes the Section 4(f) resources that are potentially used by the proposed CTB Redevelopment Program.

5.1 Publicly-Owned Parks and Recreation Areas

A park or recreation area is afforded federal protection under Section 4(f) if one or more of the following conditions are met:

- It is publicly-owned, meaning the property is owned and operated by a public entity, or the public entity has a proprietary interest in the property, such as an easement;
- It is open to the public for visitation for more than a select group of the public at any time during normal hours of operation;
- The primary purpose of the property is recreation (lands used primarily for non-recreational purposes but that host recreational activities do not have recreation as a primary purpose); and/or
- It is significant as a park or recreation area, meaning that the resource plays an important role in meeting the park and recreational objectives of the community, as determined by the official with jurisdiction.

If a park, recreation land, or open space meets these criteria, the entire property – including parking, maintenance facilities, and recreational facilities – must be considered as part of the resource. The following methods and tools were used to identify publicly-owned public parks and recreation areas within the project study area identified in the Final EA: review of GIS layers; review of the City of New York mapping tools; visual observation; property records search; and consultation with the New York City Department Parks and Recreation (NYCDPR).

There are a number of parks in the vicinity of the study area, including Overlook Park, located on the south side of the Grand Central Parkway along Ditmars Boulevard between 97th and 100th Streets, LaGuardia Landing Lights, a park situated in several lots stretching from 78th Street and 25th Avenue to the Parkway that follow the flight path leading to Runway 4, World's Fair Marina, a public boat dock located east of the airport on the north side of the Parkway, and the Grand Central Parkway Extension, a promenade along the waterfront between World's Fair Marina and the airport. The Proposed Action avoids the use of land from any of these parks.

LaGuardia Airport is located immediately adjacent to the Grand Central Parkway, which consists of travel lanes as well as grassy medians and landscaped sections. Due to the proposed roadway improvements, the project limits for the Proposed Action extend south of the Airport property line to encompass an unpaved portion of the Parkway right-of-way. While the unpaved embankment adjacent to the Grand Central Parkway is under the jurisdiction of NYCDPR, it is not designated nor intended for public access or recreation; rather it provides a visual amenity to automobile drivers as they pass by.

NYCDPR has reviewed the Proposed Action and has determined that the affected portion of the Grand Central Parkway right-of-way was originally acquired with legislative direction for "park and parkway purposes," which is distinct from a designation of the area as parkland. The access improvements to and from the Parkway are a legislatively authorized use of the land. Because the affected area of the Parkway is not accessible to the public and the primary purpose of the property is for transportation as opposed to recreation, it can be concluded that the unpaved sections along the Grand Central Parkway do not meet the criteria for protection under Section 4(f) of the DOT Act (23 CFR Part 774).

5.2 Historic Sites

Historic sites were identified, in accordance with the Section 106 process of the National Historic Preservation Act, as amended (refer to **Section 5.10** and **Appendix D** in the Final EA for additional information). For the purposes of Section 4(f), a historic site is any prehistoric or historic district, site,

building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places, which is the equivalent of a historic property under Section 106.[2]

Eligibility for the NRHP is evaluated based on four criteria. Identifying these criteria provides a starting point for understanding the significant features, activities, or attributes of the site. The criteria are:

- Criterion A: association with events that have made a significant contribution to the broad patterns of our history;
- Criterion B: association with the lives of significant persons in our past;
- Criterion C: embodiment of the distinctive characteristics of a type, period, or method of construction, or representative of the work of a master, or that possess high artistic values, or representative of a significant and distinguishable entity whose components may lack individual distinction; and
- Criterion D: have yielded or may be likely to yield, information important in history or prehistory.

In addition to having significance, the property must also possess historic integrity, as defined by these seven aspects: location, design, setting, materials, workmanship, feeling, and association. These attributes are used to assess the nature and degree of changes that may have occurred since the period of historic significance. To retain historic integrity, a property would always possess historical integrity in at least several, and usually most, of the aspects.

Properties and districts not previously listed in or determined eligible for the National Register, and that would be more than 50 years old at the end of the project planning process (built in and prior to 1963), were documented and evaluated, including descriptions, historic contexts, application of the four NRHP criteria, and integrity assessments. Historic properties within the APE for this project include Hangars 1, 2, 3, 4, and 5. Hangars 1, 3, and 5 are all connected, and thus are treated as a single "site." Hangars 2 and 4 are also connected, and are treated as a second "site" for the purposes of Section 4(f).

Owner:

LaGuardia Airport is owned by the City of New York and operated by PANYNJ under a long-term lease agreement. The hangars are owned by PANYNJ as part of the Airport property. Hangars 3 and 5 are leased to American Airlines.

Size:

Hangars 1, 3 and 5 are situated on the west side of the existing CTB and Hangars 2 and 4 are situated on the east side of the terminal (see **Figure 4**). All five hangars were designed by William Delano, from the firm Delano & Aldrich, and constructed as part of the original airport. The hangars are of equal size, measuring 350 feet long by 165 deep. These hangars have generally been in continuous aviation use since their construction and have been relatively unaltered. They retain six of the seven elements of integrity but not "setting" due to the removal of most of the original (ca. 1930s) airport buildings over the past 70 years in order to maintain and improve the functionality of air travel in New York. The buildings have had minor modifications over the years, but retain integrity of location, design, materials, workmanship, feeling, and association. The hangars were recommended as eligible for listing on the National Register of Historic Places (NRHP) by the OPRHP (see letter dated May 10, 2013, **Attachment**

[2] The applicability of Section 4(f) to historic sites is cited at 23 CFR Part 774.11(e), and the definition of a historic site at 774.17.

A). FAA formally determined that the hangars were eligible for listing on the NRHP (see letter dated August 22, 2013, **Attachment A**).

Visual Information:

When a project uses land from an individually NRHP-listed or eligible property, and/or a property that is a contributing element to a NRHP-listed or eligible historic district, Section 4(f) is applicable. Hangars 1, 2, and 4 would be removed as part of the Proposed Action. Photographs of these resources can be seen in **Exhibits 1 to 3**. Although the project would cause an indirect Adverse Effect to Hangars 3 and 5, there would be no "permanent use" of those resources, as they will remain in place.

Hangar 1

Hangar 1 is situated on the west side of the CTB and was constructed in 1939 (see **Exhibit 1**). This Art Deco-style hangar was designed by the architectural firm Delano & Aldrich. It is clad in buff-colored brick with decoratively-patterned dark brick accents, and a two-story lean-to appended to its west façade connects it to adjacent Hangar 3 (Hangar 3 is not part of this project). The north façade fronts the airfield, and is dominated by metal-and-glass canopy hangar doors. The south façade faces the Grand Central Parkway, and features a two-story lean-to that provides office space. This hangar was first leased by American Airlines in 1938, who continues to utilize the hangar. Hangar 1 is used for outbound baggage handling, Priority Parcel, flight operations, and flight services.

Exhibit 1. Hangar 1 south façade, looking north

Hangars 2 and 4

Hangars 2 and 4 are situated on the east side of the CTB (see **Exhibits 2 and 3**). Like Hangar 1, they were also designed by the architectural firm Delano & Aldrich, and are similar in appearance as Hangar 1. Originally, a third hangar, Hangar 6, was appended to the east façade of Hangar 4. However, Hangar 6

was demolished in the early 1990s. Hangars 2 and 4 remained under construction when the Airport commenced operations in 1939, and were scheduled for completion by March 1940. However, in March, a fire partially destroyed Hangar 4. Shortly after the fire, Hangar 2 and the non-extant Hangar 6 were completed. Hangar 2 was occupied by United Airlines. In June 1940, Hangar 4 was completed, and occupied by TWA. Currently, Hangar 2 is used by United/Continental with a Delta sublease, and the building utilized for GSE, Cargo, and administrative offices. Hangar 4 is now occupied by American Airlines, and is used for GSE and Cargo. Most of the upper level in Hangar 4 is vacant.

Exhibit 2. Hangar 2 south facade, looking northwest

Exhibit 3. Hangar 4 south façade, looking northwest

6 Use of Section 4(f) Properties

A "use" of Section 4(f) property may be a direct use (property is permanently incorporated into the transportation project), a temporary use (property is temporarily occupied in a way that is adverse to the property's purpose), or a constructive use (the project's proximity impacts substantially impair the protected activities, features, or attributes of property).

6.1 Permanent Use

As described previously, Hangars 1, 2, and 4 were constructed in 1939 and 1940. Hangar 1 is located on the west side of the CTB, while Hangars 2 and 4 are located on the east side of the CTB. The description of the Proposed Action was presented in **Section 4** of this Final Section 4(f) Evaluation. The location of Hangars 1, 2, and 4 can be seen on **Figure 4.** Hangars 1, 2, and 4 would be removed as part of the Proposed Action to allow for construction of the new terminal building and aircraft apron area.[3] In accordance with Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations at 36 CFR Part 800, the undertaking would result in an "adverse effect" to Hangars 1, 2, and 4 (and their connector buildings).

There would be a permanent use of Section 4(f) property as a result of the Proposed Action. Therefore, an avoidance alternative evaluation (**Section 7**) and least harm analysis (**Section 8**) for these properties were conducted.

[3] Hangars 1 and 3 are not within the project limits and would not be removed as part of the Proposed Action.

6.2 Temporary Occupancy

There would be no temporary use of any parkland as part of construction staging or storage activities on this project. There would be no temporary occupancy or temporary impacts to Section 4(f) property from the construction of the Proposed Action.

6.3 Constructive Use

Analyses of potential constructive use of any property protected under Section 4(f) were performed based on the proximity impacts to five major effects: noise, aesthetic features, access, vibration, and ecological intrusion.

Noise

The projected noise level increase attributable to the Proposed Action would not substantially interfere with the use and enjoyment of any noise-sensitive facilities or property protected by Section 4(f). Constructive use of Section 4(f) resources was evaluated with regard to noise impacts from aircraft activity at the Airport. (Noise impacts are discussed in detail in **Section 5.13** and **Appendix E** of the Final EA.) Substantial impairment of a Section 4(f) resource occurs only when the features of the resource that contribute to its significance or enjoyment are substantially diminished. The aircraft noise analysis was performed using the FAA-required Integrated Noise Model (INM). INM produces day-night average sound level (DNL) noise contours, measured in decibels (dB). The FAA's Land Use Compatibility Guidelines indicate that most recreational uses are compatible with noise levels up to DNL 75 dB.[4]

The noise analysis indicated that there are 12 potential Section 4(f) resources located within 65+ DNL of the Proposed Action noise contour for the year 2030. Of those resources, three (Main Street Subway Station, Castle Hill Park, and the James A. Bland House Playground) would experience a change in noise levels between the No-Action and Proposed Action alternatives. See **Table 1, *Noise Exposure at Potential Section 4(f) Resources*** for a list of the resources and the noise levels.

The Main Street Subway Station at Main Street and Roosevelt Avenue in Flushing, Queens, is listed on the National Register of Historic Places. This site would be located within the 65-70 DNL contour under the Proposed Action (2030); however, the increase in noise between No-Action and Proposed Action conditions would be less than DNL 1.5 dB (the threshold for significant noise impact). The Main Street Subway Station is not a noise-sensitive land use, and a quiet setting is not a unique attribute of the resource. Therefore, no adverse impacts with respect to noise would result from the Proposed Action.

Castle Hill Park is located in the Bronx on Castle Hill Point between Westchester Creek to the east and Pugsley Creek to the west. The park includes green space and bike trails. This site would go from being located outside the 65+ DNL of the 2030 No Build/No Action noise exposure contour to being located within the 65-70 DNL of the 2030 Proposed Action Noise Exposure Contour; however the increase in noise would be less than 1.5 DNL. All of the uses at the park are considered compatible with noise levels between 65-70 DNL. Therefore no adverse (constructive use) impacts with respect to noise would result from the Proposed Action.

The James A. Bland House Playground includes basketball courts, playground equipment, and handball courts. The park was named after a historic writer, and a historical plaque there honors him, but the park itself is not considered historic. This site would be located within the 65-70 DNL under the

[4] FAA Land Use Compatibility Guidelines, 14 CFR Part 150.

Legend

Section 4(f) Resource to be Permanently Used by Proposed Action

Source: NYC DoITT, ESRI, AECOM

0 250 500 Feet

N

Figure 4

Permanent Use of Section 4(f) Resources

LaGuardia Airport
CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Proposed Action (2030); however, the increase in noise would be less than DNL 0.5 dB. All of the uses at the park are considered compatible with noise levels between 65-70 DNL; therefore, no adverse impacts with respect to noise would result from the Proposed Action.

Table 1: Noise Exposure at Potential Section 4(f) Resources

Resource Name	Existing (2012/13) Baseline	2021 No Action/ Proposed Action	2030 No Build/ No Action	2030 Proposed Action
Historic Properties				
Jackson Heights Historic District	Below 65 DNL	65-70 DNL	65-70 DNL	65-70 DNL
Main Street Subway Station	Below 65 DNL	65-70 DNL	***Below 65 DNL***	***65-70 DNL***
Marine Air Terminal	65-70 DNL	65-70 DNL	65-70 DNL	65-70 DNL
St. George's Church	Below 65 DNL	65-70 DNL	65-70 DNL	65-70 DNL
Parks / Recreational Facilities				
Castle Hill Park	Below 65 DNL	65-70 DNL	***Below 65 DNL***	***65-70 DNL***
Flushing Meadows/Corona Park	65-70 DNL	70-75 DNL	70-75 DNL	70-75 DNL
Grand Central Parkway	75+ DNL	75+ DNL	75+ DNL	75+ DNL
James A Bland Houses Playground	Below 65 DNL	65-70 DNL	***Below 65 DNL***	***65-70 DNL***
LaGuardia Landing Lights Park	70-75 DNL	70-75 DNL	70-75 DNL	70-75 DNL
Planeview Park	75+ DNL	75+ DNL	75+ DNL	75+ DNL
Pugsley Creek Park	65-70 DNL	65-70 DNL	65-70 DNL	65-70 DNL
Soundview Park	65-70 DNL	65-70 DNL	65-70 DNL	65-70 DNL

Sources: National Park Service, National Register of Historic Places; New York City Department of Parks and Recreation; Landrum & Brown analysis, 2014.

The projected noise level increase attributable to the Proposed Action would not substantially interfere with the use and enjoyment of any noise-sensitive facility or property protected by Section 4(f).

Aesthetic Features

The Proposed Action would indirectly impact the remaining National Register-eligible Hangars 3 and 5, through demolition of Hangar 1 and construction of the West Garage such that it would obstruct views of the hangars from the Grand Central Parkway. Analysis determined that the Proposed Action's impact to Hangars 3 and 5, although creating an indirect adverse effect, would not rise to the level of a constructive use. The hangars are significant for the role they played in aviation history at LaGuardia Airport, but the CTB Redevelopment would not impact those qualities to the level of constructive use. The setting of the hangars has already been altered over the 70 years of the Airport's operations and is not critical to their significance. The proximity of the Proposed Action and changes in the setting would not substantially impair the aesthetic features and attributes of Hangars 3 and 5.

The proximity of the Proposed Action would not substantially impair aesthetic features or attributes of any property protected by Section 4(f).

Access

The Proposed Action would not result in a restriction of access which would substantially diminish the utility of a significant publicly owned park, recreation area, or a historic site.

Vibration

The vibration impact from construction or operation of the Proposed Action would not substantially impair the use of any Section 4(f) properties (detailed analysis of construction-related impacts is presented in **Section 5.19** of the Final EA).

Ecological Intrusion

There are no wildlife or waterfowl refuges adjacent to the Airport; therefore, the ecological intrusion of the Proposed Action would not substantially diminish the value of wildlife habitat in a wildlife and waterfowl refuge.

Summary

Proximity impacts do not rise to the level of severity that would substantially impair the protected activities, features, or attributes that qualify the properties for protection under Section 4(f). There would be no constructive use of Section 4(f) properties as a result of the Proposed Action.

6.4 Access

The hangars are within the secure airport operations area and are not accessible by the public. As described above, the Proposed Action would not result in a restriction of access which would substantially diminish the utility of a significant publicly owned park, recreation area, or a historic site.

6.5 Associated Areas

Hangar 1 is physically connected to Hangars 3 and 5. During demolition of Hangar 1 precautions will be taken to protect the remaining hangars, as stipulated in the Final Memorandum of Agreement (MOA) with the OPRHP and consulting parties (see **Section 9**). The setting of the property would remain unchanged under the Proposed Action.

7 Identification of Prudent and Feasible Alternatives

The Proposed Action requires the removal of Hangars 1, 2, and 4. Alternatives that avoid these Section 4(f) properties have been evaluated. Six total avoidance alternatives, in addition to the No-Build/No-Action Alternative, were developed and are discussed below. These include the Expand the Program Area Alternative; Reduce the Size of the Project Alternative; Utilization of Alternate Sites to LaGuardia Airport Alternative; Use a Different Airport Alternative; Build a Different Airport Alternative; and the Utilize Other Modes of Transportation Alternative. The avoidance alternatives, developed during the Phase I planning phase and screening process (described in **Chapter 3** of the Final EA) were analyzed in accordance with the definition of *feasible and prudent avoidance alternative* found in 23 CFR 774.17. The avoidance alternatives and options are presented below.

7.1 No-Build/No-Action Alternative

Under the No-Build/No-Action Alternative, the Proposed Action would not be implemented. The alternative avoids the use of the Section 4(f) resources; however, the No-Build/No Action Alternative does not meet the project purpose and need because it would not:

- Achieve the airport-wide 34 MAP forecast required;
- Improve airline efficiency and passenger levels of service;
- Provide the anticipated benefits of the CTB Redevelopment Program to the public.

Although the No-Build/No-Action Alternative would result in no impacts to Section 4(f) properties, it is not prudent because it would be unreasonable to proceed with the No-Build/No Action Alternative in light of the project's stated purpose and need—achieving the airport-wide 34 MAP forecast and improving airline efficiency and passenger levels of service. The No-Build/No Action Alternative, while feasible, is not prudent and was eliminated because it would cause severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) properties.

7.2 Expand the Program Area Alternative

Under the Expand the Program Area Alternative, the project limits would be expanded to the north, east, and west, in order to avoid impacting the Section 4(f) properties. However, the Program Area is physically constrained by Runway 13-31 and taxiways to the north, Terminals C and D to the east, the Grand Central Parkway to the south, and Runway 4-22 and taxiways to the west (**Figure 3**). The Expand the Program Area Alternative, while feasible, is not prudent because it would require:

- Shifting Runway 13-31 and associated taxiways north into Flushing Bay, necessitating massive fill and causing significant adverse impacts on coastal water resources;
- Shifting Runway 4-22 and associated taxiways to the west by filling in portions of Bowery Bay, displacing essential airport facilities, and encroaching on other buildings such as Hangar 7 (Airport Maintenance/Administration, built circa 1940, eligible for listing on the NRHP) and the Marine Air Terminal (listed on the NRHP); and
- Shifting aircraft over-flights and noise closer to more populated areas in the surrounding community.

It is not prudent to displace any portion of Terminals C and D. Terminal C was recently acquired by Delta Airlines and connected to Delta's Terminal D with a newly constructed walkway. Delta recently completed a $100 million renovation of both terminals as part of the airline's expanded east-coast hub operation. There are no underutilized facilities or excess spaces available within or adjacent Terminals C and D that could otherwise be used to accommodate unmet needs.

It is also not prudent to relocate the Grand Central Parkway. Not only is the Parkway a major east-west thoroughfare that passes through the Borough of Queens, shifting the roadway to the south would require displacing businesses and residences along Ditmar's Boulevard and removing Overlook Park.

The Expand the Program Area Alternative, while feasible, is not prudent and was eliminated because it would cause severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) properties.

7.3 Reduce the Size of the Project Alternative

Under the Reduce the Size of the Project Alternative, an assumption was made that the Program Area could not be expanded beyond the existing footprint of the CTB and apron area or would be expanded only slightly to reduce the impacts to the National Register-eligible hangars. In order to avoid impacting all or a portion of the Section 4(f) properties, the project elements would have to be reduced in size

from the required 35-gate layout plan. Three general terminal redevelopment concepts – Reuse, Island, and Concourses – were developed during the Phase I planning process. These concepts could be reduced in size to avoid impacting the Section 4(f) properties (**Figures 5a-j**).

The Reduce the Size of the Project Alternative, while feasible, is not prudent because it would result in a smaller terminal building with only 15 to 32 gates which would not provide the terminal space or gate capacity needed to accommodate existing or forecast passenger demands. In addition, redesigning the project to avoid Hangars 1, 2, and 4 would result in additional impacts to the nearby NRHP-eligible Hangars 3 and 5, creating a new Section 4(f) impact and the direct "use" of those properties.

The Reduce the Size of the Project Alternative, while feasible, is not prudent and it was eliminated because it would cause severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) properties.

7.4 Utilization of Alternate Sites within LaGuardia Airport Alternative

Under the Utilization of Alternate Sites within LaGuardia Airport Alternative, the project needs would be met by using a different terminal or alternate site within the limits of LaGuardia Airport to avoid impacting the Section 4(f) properties. The Utilization of Alternate Sites within LaGuardia Airport Alternative, while feasible, is not prudent because there are:

- No underutilized facilities that would be available to accommodate unmet needs. Terminal A is used for shuttle service to Boston, Chicago, and Washington, DC, and Terminals C and D are used for Delta Airline's east coast hub operation. Sharing their facilities with competitor airlines is not possible or practical because of the terminal area and number of gates required to meet their respective needs. No other terminal facilities are available.

- No vacant spaces that would be available to accommodate unmet needs. LaGuardia Airport is already land constrained. There is no suitable site with the space available to accommodate the airside, terminal, and landside requirements associated with constructing another terminal building.

The Utilization of Alternate Sites within LaGuardia Airport Alternative, while feasible, is not prudent and it was eliminated because it would cause severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) properties.

7.5 Use a Different Airport Alternative

Under the Use a Different Airport Alternative, the project needs would be met by using a different airport in the region in lieu of improvements to LaGuardia Airport. Other airports in the region include John F. Kennedy International (JFK), Newark Liberty International, Teterboro Airport, and Stewart International Airport. The Use a Different Airport Alternative would avoid impacting the Section 4(f) properties. However, the Use a Different Airport Alternative, while feasible, is not prudent because:

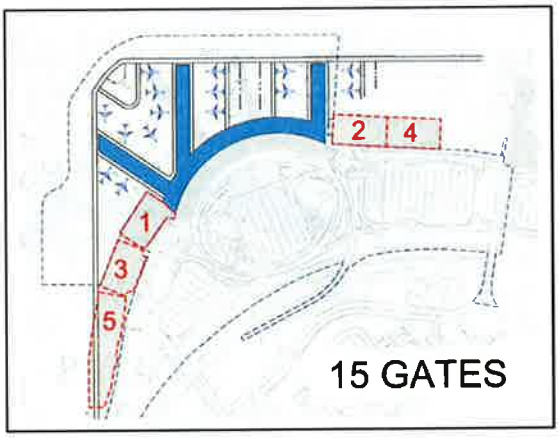


Figure 5a. Alternative Concept A1

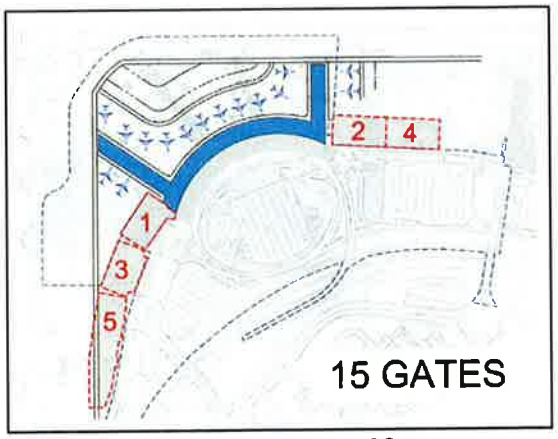


Figure 5b. Alternative Concept A2

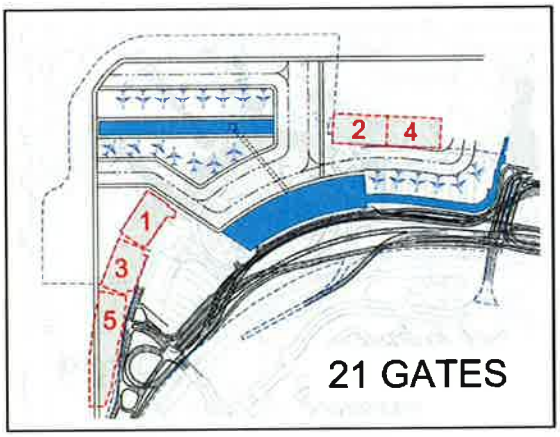


Figure 5c. Alternative Concept B1

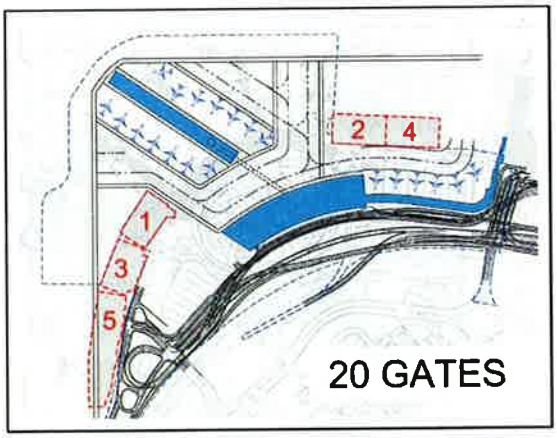


Figure 5d. Alternative Concept B2

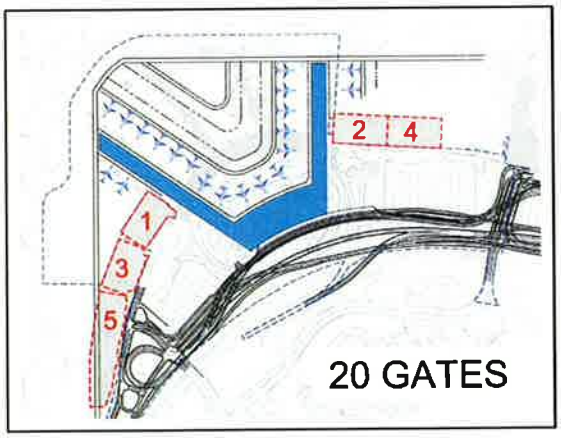


Figure 5e. Alternative Concept C1

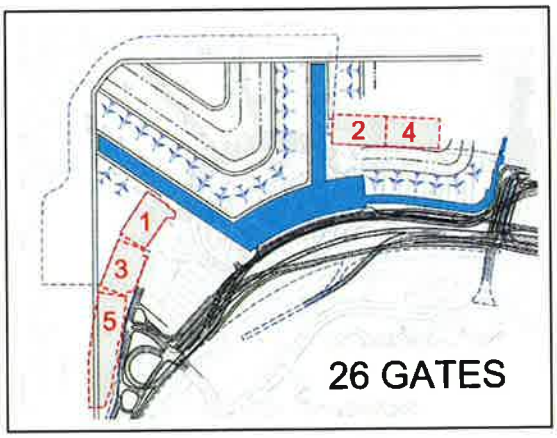


Figure 5f. Alternative Concept C2

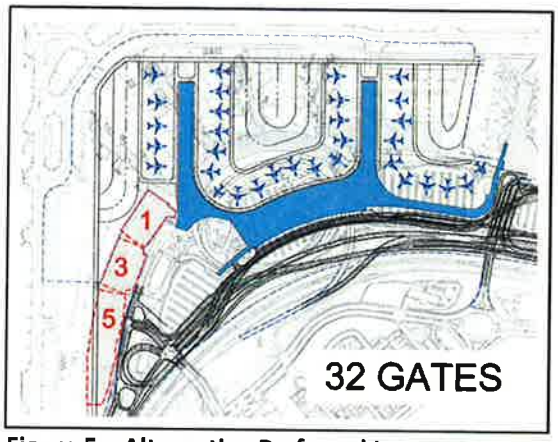


Figure 5g. Alternative Preferred Layout

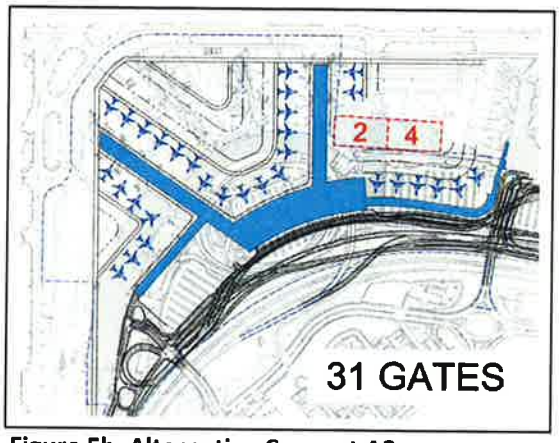


Figure 5h. Alternative Concept A3

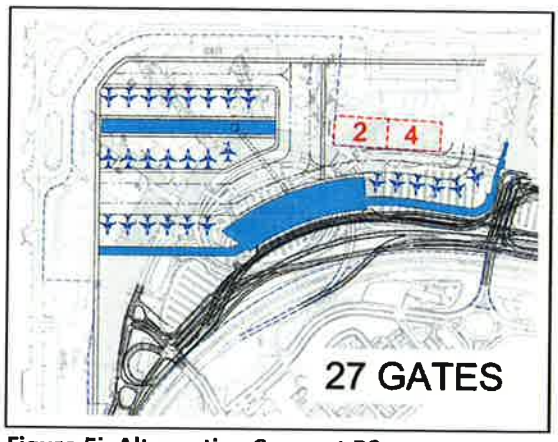


Figure 5i. Alternative Concept B3

Figure 5j. Alternative Concept C3

- JFK and Newark Liberty International are among the most congested and delayed airports in the U.S., and both are in need of future capacity enhancements to meet their own projected demands. These airports do not have vacant space or underutilized facilities available that could otherwise be used to supplement or replace airline operations at LaGuardia Airport. Both airports are land constrained, and neither airport would be easily expanded. Any alternative that involves expanding JFK and/or Newark Liberty International to supplement or replace airline operations at LaGuardia Airport would have costs and environmental impacts far greater than the Proposed Action;

- Teterboro Airport is a small airport used exclusively for business aircraft and general aviation. It does not have the infrastructure or the vacant space needed to support commercial airline operations, and it would not be practical to expand the airport to do so. Several other small public-use airports exist in the region, but they are not considered to be viable alternatives for the same reason; and

- Stewart International Airport is located too far away for most air travelers who depend on LaGuardia Airport for convenient access to New York City.

The Use a Different Airport Alternative, while feasible, is not prudent and it was eliminated because it would cause severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) properties. There are no other airports – individually or collectively – that can accommodate the current and projected passenger demands from LaGuardia Airport.

7.6 Building a New Airport Alternative

Under the Building a New Airport Alternative, the project needs would be met by constructing an entirely new commercial airport in a different location, which would avoid impacting the Section 4(f) properties. However, the Building a New Airport Alternative, while feasible, is not prudent because it would:

- Have costs and environmental impacts of the highest order;

- Not address the current and projected capacity deficiencies at LaGuardia Airport; and

- Not be supported by the study conducted by the Regional Plan Association (RPA), an independent not-for-profit regional planning organization dedicated to the quality of life and economic competitiveness of the Tri-state region, which has thoroughly analyzed the option and determined that there is no appropriate site within 40 miles of Manhattan to locate a new airport.[5]

The Building a New Airport Alternative, while feasible, is not prudent, and it was eliminated because it would cause severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) properties.

7.7 Utilize Other Modes of Transportation Alternative

Under the Utilize Other Modes of Transportation Alternative, the project needs would be met by promoting other modes of transportation to reduce passenger demand at LaGuardia Airport, which

[5] *Upgrading to World Class—The Future of the New York Region's Airports, Executive Summary*, Regional Plan Association (January 2011).

would avoid impacting the Section 4(f) properties. However, the Utilize Other Modes of Transportation Alternative, while feasible, is not prudent because:

- It would not meet local aviation needs;
- It would not improve the terminal area facilities;
- Other modes of transportation, including buses and rail, have a complementary role to air travel, not a replacement one; and
- Other modes of transportation do not provide the fast, flexible, and efficient long-distance transport the public expects to be provided by LaGuardia Airport.

The Utilize Other Modes of Transportation Alternative, while feasible, is not prudent and was eliminated because it would not meet the project's purpose and need.

7.8 Avoidance Analysis Conclusion

Based on the evaluation presented in this section, there is no feasible and prudent avoidance alternative to the use of land from a Section 4(f) property.

8 Evaluation of the Alternative Causing the Least Overall Harm

Pursuant to 23 CFR 774.3(c), if the avoidance analysis determines that there is no feasible and prudent avoidance alternative, only the alternative that causes the least overall harm to the Section 4(f) property may be approved. Since the previous discussion demonstrates that there is no feasible and prudent avoidance alternative, all of the other build alternatives that would have some impact to Section 4(f) property were evaluated to determine which alternative would cause the least overall harm to Section 4(f) property. This section evaluates those alternatives, including alternatives that would eliminate or reduce the use of individual Section 4(f) properties.

8.1 Evaluation Factors

There are seven factors to be considered in identifying the alternative that would cause the least overall harm. These factors are:

1. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in additional benefits to the property);
2. The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;
3. The relative significance of each Section 4(f) property;
4. The views of the officials with jurisdiction over each Section 4(f) property;
5. The degree to which each alternative meets the purpose and need for the project;
6. After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
7. Substantial differences in costs among the alternatives.

When there is no feasible or prudent avoidance alternative, the FAA must select an alternative from those that use Section 4(f) properties that cause the least overall harm in light of the statute's preservationist purpose. The seven balancing factors noted above must be considered by FAA in determining which alternative causes the least overall harm.

8.2 Build Alternatives Considered

The design of the build alternatives for the CTB has evolved from its initial concept in 2007 to the current alternative. A variety of alternatives were evaluated during the Phase I planning process, leading to the development of three terminal configurations (Concept A, Concept B, and Concept C). All three configurations were fully-developed and evaluated for their ability to provide the airside, terminal, and landside facilities that are needed to meet the Program's objectives within the space available. All of the alternatives require the removal of Hangars 1, 2, and 4 as there is insufficient space within the LaGuardia Airport boundaries to construct a project that meets the Purpose and Need. As discussed above, there are no feasible and prudent avoidance alternatives that avoid all Section 4(f) resources. A comparison of the concepts/alternatives is provided in **Table 2**.

8.2.1 Concept A

The Concept A design would retain the existing Central Terminal Building and pier layout, as shown in **Figure 6**. The concept would consist of the total reconstruction and expansion of the existing terminal, replacement of concourses, as well as the reconstruction of the frontage roads. Concept A was dismissed from further consideration because it had major design and operational flaws and would not meet the Project's Purpose and Need. Concept A would also require the removal of Section 4(f) resources, Hangars 1, 2, and 4. The estimated cost of Concept A construction would be approximately $4.37 billion.

8.2.2 Concept B

Concept B would consist of an island or satellite design, consisting of a central terminal building for passengers and baggage and a remote (island) concourse around which the aircraft would be parked (**Figure 7**). This remote concourse would be connected to the main terminal by a pedestrian bridge and a tunnel. Concept B was dismissed because there is not enough space available within the program area to implement this design effectively. Concept B would not meet the Project's Purpose and Need. Concept B would also require the removal of Section 4(f) resources, Hangars 1, 2, and 4. The estimated cost of Concept B construction would be approximately $4.65 billion.

8.2.3 Concept C

Concept C would consist of a finger/pier layout which reconfigures the airside apron, terminal building, landside roadways, and parking to achieve better performance measures (**Figure 8**). To accomplish this, the central terminal would be shifted south towards the Grand Central Parkway, creating apron space for aircraft. Concept C better meets the Project's Purpose and Need than Concepts A and B, and as a result, was advanced, refined, and developed into the Proposed Action Alternative. Concept C would require the removal of Hangars 1, 2, and 4, Section 4(f) resources. The estimated cost of Concept C construction would be approximately $4.23 billion.

8.3 Least Overall Harm Analysis Summary

The Proposed Action would require a Section 4(f) use because of demolition of two historic properties: Hangar 1, and Hangars 2 and 4 (attached and treated as one site). Each alternative was weighed against the seven criteria for evaluating least overall harm per 23 CFR 774.3(c)(1).

1. *The ability to mitigate adverse impacts to each Section 4(f) property including any measures that result in benefits to the property.* All of the alternatives include and require the demolition of Hangars 1, 2, and 4. Thus the mitigation of adverse impacts would be the same across the alternatives, and is outlined in the Final MOA with the OPRHP and consulting parties (see **Section 9**).

2. *The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection.* All of the alternatives include and require the demolition of Hangars 1, 2, and 4, and thus the relative severity of the remaining harm is the same for all alternatives.

3. *The relative significance of each Section 4(f) property.* Hangars 1, 2, and 4 are all considered to be of equal significance and are all National Register eligible.

4. *The views of the official(s) with jurisdiction over each Section 4(f) property.* At consultation meetings on September 26, 2013 and October 29, 2013 with the PANYNJ and FAA, the OPRHP (agency with jurisdiction) informally expressed support for the Proposed Action. The OPRHP accepted the purpose and need for the project and the fact that the original hangars could not meet the needs of the facility moving forward. The discussions also included information on the constraints of the site and the area, including other historic buildings on the Airport property, active aviation uses, the Grand Central Parkway, and residential and commercial development to the south. The OPRHP understands the avoidance and minimization measures and considerations taken by the PANYNJ (see letter dated February 3, 2014). OPRHP was given an opportunity to review and comment on the Draft Section 4(f) Evaluation during the formal public comment period for the Draft EA between April 9 and May 23, 2014. No further comments were received.

5. *The degree to which each alternative meets the purpose and need for the project.* Only the Proposed Action meets the Purpose and Need. Options A and B had design and operational flaws and were not able to meet the project's purpose and need. Option C met many of the criteria for the project's purpose and need, but not fully. The Proposed Action built upon Option C, and it is the only alternative which completely meets the project's purpose and need.

6. *The magnitude, after reasonable mitigation, of any adverse impacts to properties not protected by Section 4(f).* The Proposed Action would not cause any adverse impacts to properties not protected by Section 4(f). There would be no relocation of residences or businesses and no impacts to other properties except the CTB and CTB garage. There would be no direct or indirect impacts to the Marine Air Terminal and no impacts to any community facilities.

7. *Substantial differences in costs among the alternatives.* The cost of the Proposed Action is considerably less than those of the other alternatives for consideration. Estimates are that the Proposed Action would cost $770 million less than Concept A and $1.4 billion less than Concept B.

Table 2 presents a comparison of the alternatives by each of the seven factors discussed above. Based on the evaluation presented in this section and in **Table 2**, several factors outweigh the importance of protecting the Section 4(f) properties.

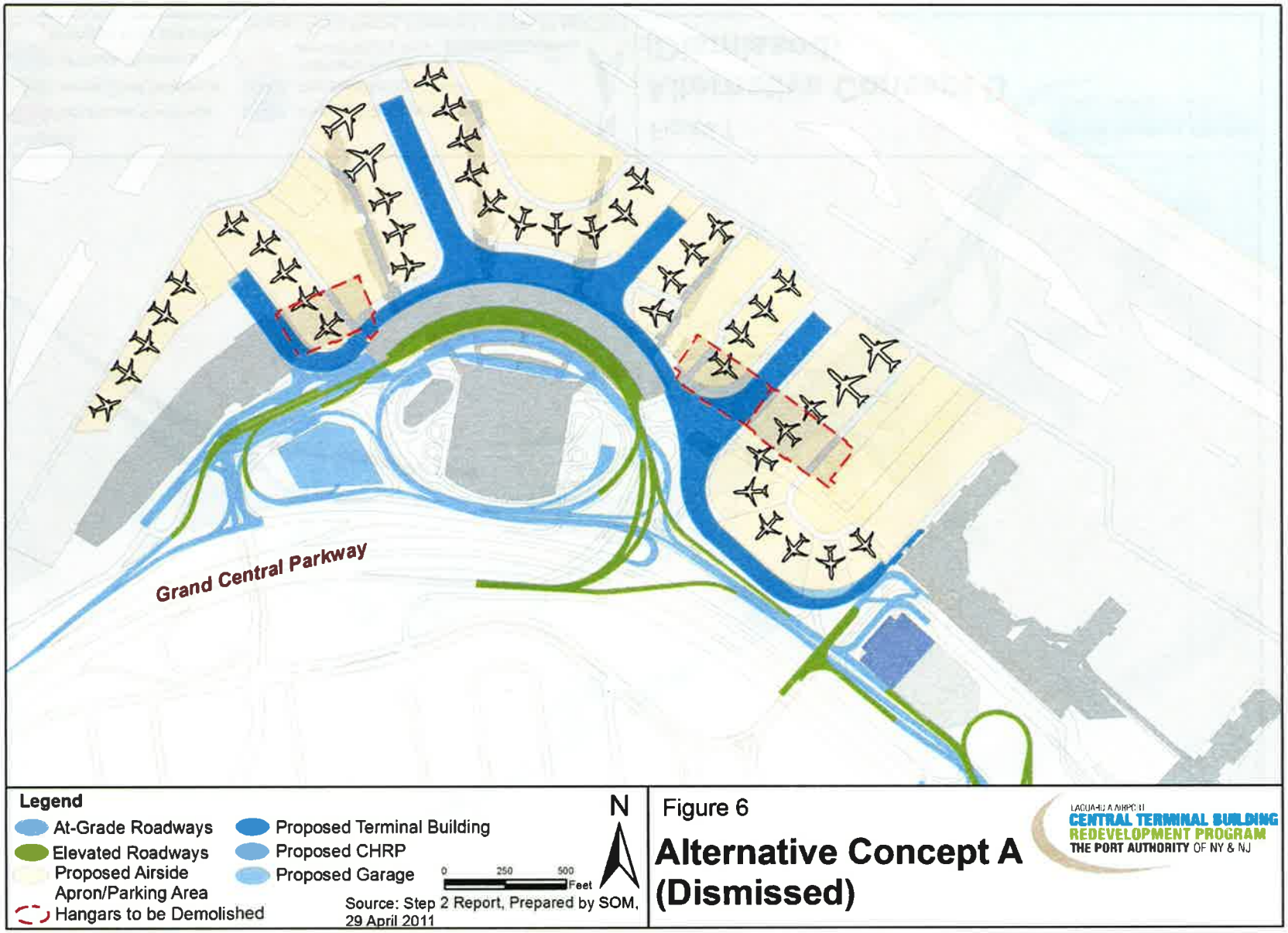
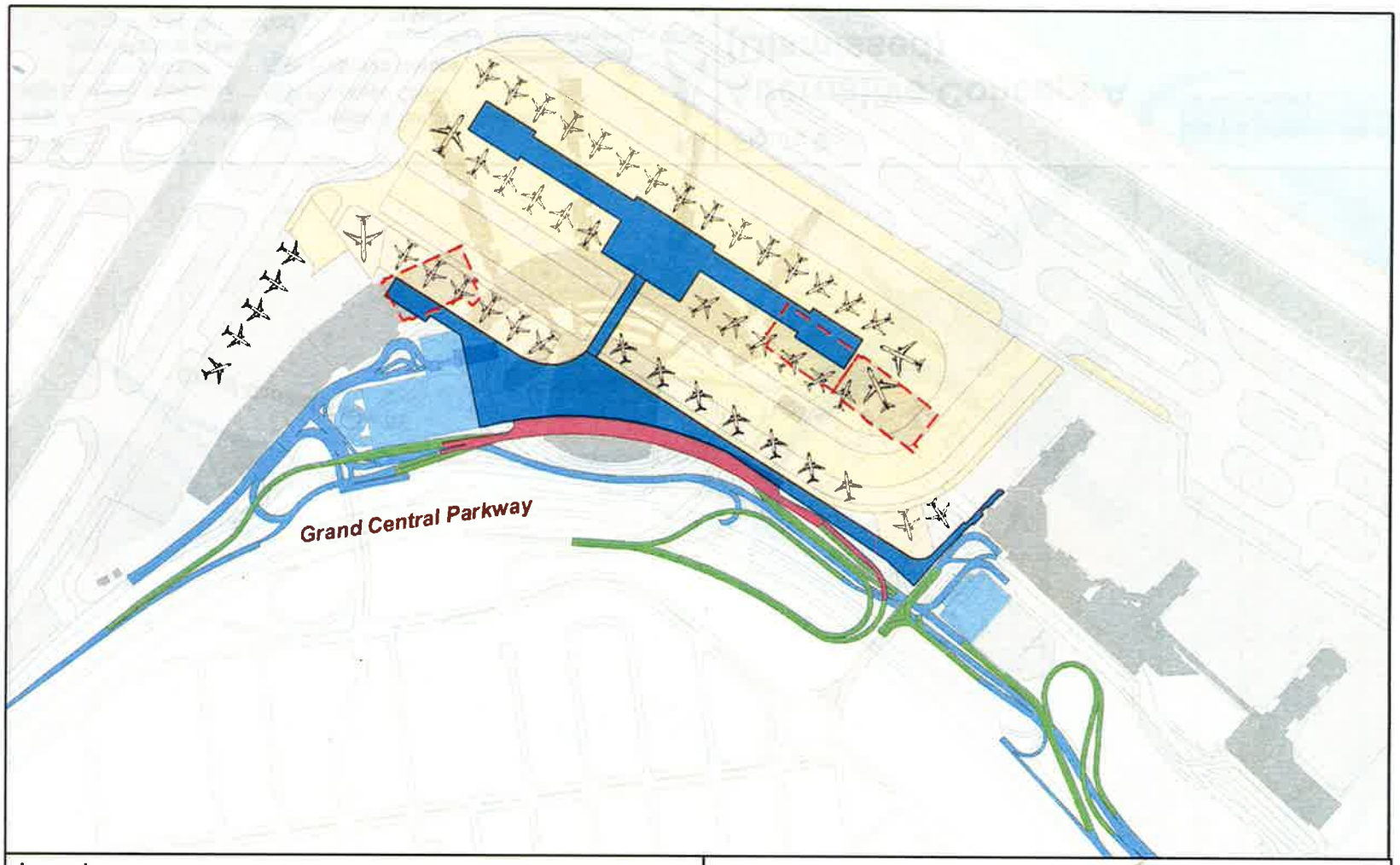


Figure 6

Alternative Concept A (Dismissed)

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ



Legend

- Departures Roadways
- Arrival Level Roadways
- At-Grade Roadways
- Hangars to be Demolished
- Proposed Terminal Building
- Proposed Garage/CHRP
- Proposed Airside Apron/Parking Area

0 250 500 Feet

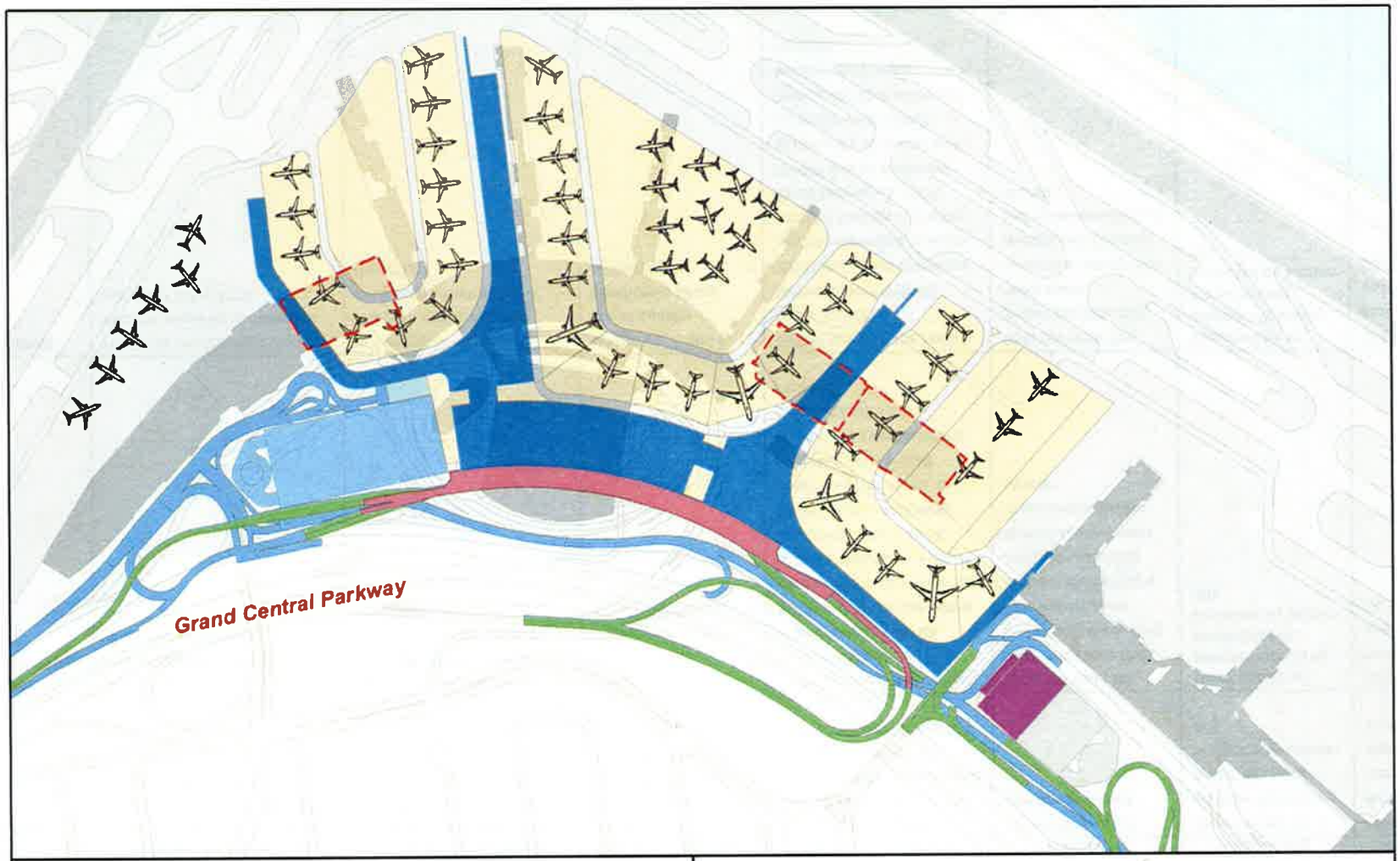
N

Source: Step 2 Report, Prepared by SOM, 29 April 2011

Figure 7

Alternative Concept B (Dismissed)

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ



Legend

- Departures Roadways
- Arrival Level Roadways
- At-Grade Roadways
- Hangars to be Demolished
- Proposed Terminal Building
- Proposed Airside Apron/Parking Area
- Proposed Garage
- Proposed CHRP

0 250 500 Feet

N

Source: Step 2 Report, Prepared by SOM, 29 April 2011

Figure 8

Alternative Concept C (Advanced)

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Table 2: Seven Factors for the Evaluation of Least Overall Harm

CTB Redevelopment Program Alternatives	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)	ii. The relative severity of the remaining harm, after mitigation, to the protected attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)	vii. Substantial differences in costs among the alternatives
Proposed Action	Impacts would be mitigated as proposed in the Memorandum of Agreement (MOA).	Remaining harm would be less than significant after mitigation, as per terms of the MOA.	Hangars 1, 2, and 4 are all equally significant; all are NRHP-eligible	OPRHP has expressed support for the project and understood the purpose and need and the need to remove Hangars 1, 2, and 4.	Meets the project purpose and need	There will be no adverse impacts to properties not protected by Section 4(f).	Proposed Action would cost approximately $3.6 billion.
Option A (Re-use/Reconstruction)	Similar to the Proposed Action, impacts would be mitigated as proposed in the MOA.	Remaining harm would be less than significant after mitigation, as per terms of the MOA	Hangars 1, 2, and 4 are all equally significant; all are NRHP-eligible	OPRHP has seen the option in the Technical Memorandum (July 26, 2013) and at two consulting parties meetings and agreed with the findings in a letter dated February 3, 2014; OPRHP had an additional opportunity to review and comment on the Draft Section 4(f) Evaluation and no comments were received.	Does not meet the project purpose and need; facility would be only slightly more efficient than existing and there would be limited improvement in passenger level of service	There will be no adverse impacts to properties not protected by Section 4(f).	Option A would cost approximately $4.37 billion.
Option B (Island)	Similar to the Proposed Action, impacts would be mitigated as proposed in the MOA.	Remaining harm would be less than significant after mitigation, as per terms of the MOA	Hangars 1, 2, and 4 are all equally significant; all are NRHP-eligible	OPRHP has seen the option in the Technical Memorandum (July 26, 2013) and at two consulting parties meetings and agreed with the findings in a letter dated February 3, 2014; OPRHP had an additional opportunity to review and comment on the Draft Section 4(f) Evaluation and no comments were received.	Does not meet the project purpose and need; space constraints would limit operational efficiency and maneuverability of aircraft.	There will be no adverse impacts to properties not protected by Section 4(f)	Option B would cost approximately $4.65 billion.

CTB Redevelopment Program Alternatives	i. The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property)	ii. The relative severity of the remaining harm, after mitigation, to the protected attributes, or features that qualify each Section 4(f) property for protection	iii. The relative significance of each Section 4(f) property	iv. The views of the official(s) with jurisdiction over each Section 4(f) property	v. The degree to which each alternative meets the purpose and need for the project	vi. After reasonable mitigation, the magnitude of any adverse impacts to properties not protected by Section 4(f)	vii. Substantial differences in costs among the alternatives
Option C (Concourses)	Similar to the Proposed Action, impacts would be mitigated as proposed in the MOA.	Remaining harm would be less than significant after mitigation, as per terms of the MOA.	Hangars 1, 2, and 4 are all equally significant; all are NRHP-eligible	OPRHP has seen the option in the Technical Memorandum (July 26, 2013) and at two consulting parties meetings and agreed with the findings in a letter dated February 3, 2014; OPRHP had an additional opportunity to review and comment on the Draft Section 4(f) Evaluation and no comments were received.	Compared to Options A and B, Option C meets more of the project's purpose and need. However, it still required revisions to airside, terminal, and landside designs.	There will be no adverse impacts to properties not protected by Section 4(f)	Option C would cost approximately $4.23 billion.

9 Mitigation

Where adverse impacts to historic properties cannot be avoided, implementation of the Proposed Action would include the following mitigation measures as listed in the Final MOA that has been developed by the FAA in consultation with OPRHP, PANYNJ, and the Consulting Parties:

- Recordation
    - Level III Historical Architectural Building Survey/Historic American Engineering Record (HABS/HAER) recordation of Hangars 1, 3, and 5, Hangars 2 and 4, and Hangar 7.
- Archaeological Monitoring of Areas of Sensitivity
    - Construction phase monitoring of select earthwork and excavation in the vicinity of the West Garage in accordance with a monitoring protocol approved by FAA and OPRHP
- Demolition/Construction Management Plan
    - Implementation of procedures to ensure that potential adverse effects to Hangars 3 and 5 are avoided to the greatest extent practicable during all phases of demolition and construction associated with the Proposed Action
- Maintenance Plan
    - Implementation of procedures to ensure that Hangars 3 and 5 are maintained in a state of good repair for the foreseeable future
- Interpretive Display on the History of LaGuardia Airport
    - Preparation of a public display illustrating the significance of the 1939 and 1964 Central Terminal Buildings and Hangars 1 2, 3, 4, 5 and 7.

A copy of the signed MOA is included in **Attachment B**. An executed MOA verifies that the unavoidable adverse effects to historic properties have been resolved and that the Section 106 process is complete.

10 Coordination

- Department of Interior (DOI): The Draft Section 4(f) Evaluation was provided to the DOI for review (see transmittal letter dated April 10, 2014). DOI concurred that there is no prudent and feasible alternative to the proposed use of the 4(f) lands (letter dated May 20, 2014).
- Officials with Jurisdiction: Coordination activities with the officials with jurisdiction over parks and historic properties in the study area has occurred as follows:
    - New York City Department of Parks and Recreation and Mayor's Office of Environmental Coordination: An initial meeting between NYCDPR and PANYNJ occurred on May 9, 2013 and with MOEC on September 12, 2013 to discuss the Proposed Action and potential impacts to significant public parks within the study area. After several subsequent meetings, NYCDPR determined that the access improvements are a legislatively authorized use of the land (see **Attachment A** for records of meetings). In addition, to compensate for the encroachment on unpaved Grand Central Parkway right-of-way, PANYNJ is committed to allocating funds to NYCDPR for park improvements in the vicinity of the Airport. NYCDPR

documented the ongoing coordination efforts and PANYNJ's commitments in a letter dated June 2, 2014 (see **Attachment A**).

- New York State Office of Parks, Recreation, and Historic Preservation (OPRHP): FAA has consulted with OPRHP to delineate the Area of Potential Effects, identify historic properties, evaluate properties not previously evaluated for National Register eligibility, assess effects, and develop mitigation measures. A letter from OPRHP dated May 10, 2013 stated that in their opinion Hangars 1, 2, 3, 4, and 5 at LaGuardia Airport were all eligible, and that removing Hangars 1, 2, and 4 would constitute an adverse effect. Subsequent to that letter, FAA informed the Advisory Council on Historic Preservation of the adverse effect in a letter dated August 22, 2013. In August 2013, FAA initiated formal consultation with OPRHP with the submittal of a Cultural Resources Technical Memorandum. To date, the OPRHP has reviewed and commented on the following documents (followed by the OPRHP correspondence date): (1) Description of Buildings to be Removed (May 10, 2013); (2) Phase IA Archaeological Survey Report (July 18, 2013); (3) Cultural Resources Technical Memorandum; (4) Phase IA Archaeological Survey Report Addendum (September 5, 2013). In a letter dated February 3, 2014, OPRHP concurred with the findings of the Cultural Resources Technical Memorandum and agreed to enter into an MOA that recognizes the adverse effect of the project and lists mitigation measures.

- Section 106 Consulting Parties: A summary of coordination with Section 106 consulting parties follows:
  - Invited consulting parties included the OPRHP, New York City Landmarks Preservation Commission, New York Landmarks Conservancy, Queens Borough President, Municipal Art Society, National Trust for Historic Preservation, and American Airlines.
  - Meetings were held on September 26, 2013 and October 29, 2013 to provide a detailed overview of the project, the alternatives, the cultural resources within the APE, and the results of the studies. This consultation effort included discussions of the identification phase of the project, the evaluation of significance phase, and the evaluation of project effects. Additional coordination was undertaken to discuss potential avoidance, minimization and mitigation measures.
  - The consulting parties were invited to concur on the Final MOA. The following parties signed their concurrence: NYC Landmarks Preservation Commission, Queens Borough President's Office, and New York Landmarks Conservancy.
  - Advisory Council on Historic Preservation (ACHP) was notified of the finding of adverse effect on historic properties in a letter from FAA dated August 22, 2013 (in accordance with 36 CFR Part 800.6). The FAA also asked the ACHP to review the Cultural Resource Technical Memorandum to determine if the agency wished to join the consultation process. ACHP responded in a letter dated September 18, 2013, stating that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of their regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply. They will not participate in the consultation unless they receive a request or circumstances change.
- Public: The public had an opportunity to review and comment on the Draft Section 4(f) Evaluation concurrently with the Draft EA during the public comment period from April 9 to May

23, 2014. No comments related to the Section 106 process or Section 4(f) analysis were received from the public.

11 Summary

This Section 4(f) Evaluation has been prepared to assess the likely effects of the Proposed Action on Section 4(f) resources and to evaluate alternatives that avoid or minimize impacts caused by the CTB Redevelopment Program to those resources. The Proposed Action would result in the permanent use of historic sites eligible for listing on the National Register of Historic Places – Hangars 1, 2, and 4. There is no feasible and prudent avoidance alternative to the use of land from the Section 4(f) properties, and it was determined that the Proposed Action would cause Least Overall Harm. After a 45-day public comment period, agency and public comments were addressed and incorporated into the Final Section 4(f) Evaluation. This Final Section 4(f) Evaluation provides a determination by the FAA and the DOI that there are no feasible and prudent avoidance alternatives to the project's use of Section 4(f) resources, that all possible planning to minimize harm to the resources has been performed, and incorporates mitigation for unavoidable impacts.

Attachment A: Agency Consultation

NYC Mayor's Office of Environmental Coordination

Citywide CEQR Task Force

September 12, 2013 – 3 to 5 PM

100 Gold Street, 2nd Floor – Central Park Conference Room

AGENDA

1. **LaGuardia Airport Central Terminal Building (CTB) Project** – Presentation by PANYNJ

2. **Portfolio Review**
   a. United Nations Development Corp. – UN Project (14UND001M)
   b. Seaside Amphitheater Project
   c. NY Public Library – Central Library Plan
   d. Lighthouse Point

3. **CCTF**
   a. Administrative
      i. Meeting schedule
      ii. CEQR-View Training
   b. Type II proposed amendment to rules
   c. CEQR-Access
   d. Mitigation tracking
   e. CEQR Technical Manual (October 2013 edition)
   f. Commitment letters

UPDATES and REMINDERS

1. **Reminders:**
   a. CEQR-View Data Quality: confirm accuracy and completeness of records
   b. Required submissions to MOEC – must be done through CEQR-View
   c. City-wide calendar entries (form accessible by Project Manager Companion link)
2. **Recap:** Citywide CEQR operations:
   a. CCTF – will continue as planned by City Hall
   b. Portfolio management will remain unchanged
   c. CEQR regulations revisions – will continue as planned
   d. Periodic and *ad hoc* review of CEQR Technical Manual – new version anticipated in Fall 2013
3. **Updates:**
   i. CEQR-View:
      1. Version 5.02 Released
      2. Approximately 300 registered users

NYC Mayor's Office of Environmental Coordination

Citywide CEQR Task Force

September 12, 2013 – 3 to 5 PM

100 Gold Street, 2nd Floor – Central Park Conference Room

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CEQR-View: CEQRView@cityhall.nyc.gov

Website: http://www.nyc.gov/html/oec/html/home/home.shtml
SharePoint Site: http://citypoint.csc.nycnet/communities/MOEC/CEQR/default.aspx

LaGuardia Airport Redevelopment Program

LGA NOW

LA GUARDIA AIRPORT
BUILDING FOR THE FUTURE

NYCDPR Presentation
May 9, 2013

THE PORT AUTHORITY OF NY & NJ

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643

www.nysparks.com

May 10, 2013

Edward Knoesel
Port Authority of NY & NJ
225 Park Avenue South
New York, NY 10003

Re: FAA/PA
LaGuardia Airport Central Terminal Redevelopment
Queens County
12PR05127

Dear Mr. Knoesel,

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO) for the proposed work at LaGuardia Airport in Queens. We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental quality Review Act (New York Environmental Conservation Law Article 8).

We note that hangers 1, 2, 3, 4 and 5 at LaGuardia Airport, Grand Central Parkway are eligible for listing on the State and National Registers of Historic Places. The Resource Evaluation for these hangers is attached for your use. We further note that the Marine Air Terminal is listed on the State and National Registers of Historic Places.

We understand the current project proposes to demolish hangers 1, 2 and 4. Demolition of a National Register eligible building is deemed an Adverse Effect which triggers an exploration of alternative that might avoid or reduce project impacts. We note that if these three hangers were removed this would be a major loss leaving little of the original LaGuardia era plan. If no prudent and feasible alternatives are identified, we would enter into an Memorandum of Agreement (MOA) which would identify proper mitigation measures to be incorporated into the work. As a matter of policy and practice, this exploration must occur before mitigation measure can be developed and before demolition can occur.

At this point, we recommend moving ahead with an exploration of alternatives. If anyone has any questions, please call me at (518) 237-8643, ext. 3282.

Sincerely,

Beth A. Cumming
Historic Site Restoration Coordinator
beth.cumming@parks.ny.gov

via e-mail only

enc: Resource Evaluation

cc: M. Jenet - FAA

An Equal Opportunity Employer/Affirmative Action Agency

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks,
Recreation and Historic Preservation
Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

RESOURCE EVALUATION

DATE: April 25, 2013
STAFF: Kathy Howe

PROPERTY: Hangars 1, 2, 3, 4, 5
MCD: Queens

ADDRESS: LaGuardia Airport, Grand Central Parkway
COUNTY: Queens

PROJECT REF: 12PR05127
USNs: 08101.011711
08101.011712
08101.011713
08101.011714
08101.011715

I. ☐ Property is individually listed on SR/NR:
name of listing:
☐ Property is a contributing component of a SR/NR district:
name of district:

II. ☒ Property meets eligibility criteria.
☐ Property contributes to a district which appears to meet eligibility criteria.
Pre SRB: ☐ Post SRB: ☐ SRB date

Criteria for Inclusion in the National Register:

A. ☒ Associated with events that have made a significant contribution to the broad patterns of our history;
B. ☐ Associated with the lives of persons significant in our past;
C. ☒ Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or possess high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction;
D. ☐ Have yielded, or may be likely to yield information important in prehistory or history.

STATEMENT OF SIGNIFICANCE:

Significance Statement for Hangars 1, 2, 3, 4, and 5
Hangars 1, 2, 3, 4, and 5 at LaGuardia Airport were built in 1939 and 1940 and designed in the Art Deco style by architects Delano & Aldrich. Retaining a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association, the complex of hangars meets Criterion A in the area of aviation history and Criterion C as representations of early twentieth century industrial design. Hangars 2 and 4 are located east of the Central Terminal Building (CTB/a.k.a. Terminal B) while Hangars 1, 3, and 5 are located west of the CTB.

Another hangar, Hangar 6, located east of Hangar 4 was demolished in the early 1990s.

While the five surviving hangars are National Register-eligible, the Central Terminal Building/Terminal B, originally constructed in 1964 to the design of Harrison & Abramowitz, does not meet the NR criteria due to major alterations in the 1970s-1990s. Along with the previously National Register-listed Marine Air Terminal, the hangars are significant historical features of LaGuardia Airport.

The design of all five surviving hangars consists of buff-colored brick with contrasting dark brick accents. The north façades front the airfield and are dominated by industrial steel sash and large hangar doors while the south façades, facing Grand Central Parkway, have two-story brick projections with ribbon windows. The shed portion of the hangars is a large, open space with exposed steel trusswork for the arched roof while the projecting brick blocks on the south side house office space. The hangars have been leased by various airlines including American Airlines, United/Continental, Delta, and TWA through the years for airplane maintenance and to house administrative offices.[1]

History of LaGuardia Airport

LaGuardia Airport opened in 1939 as North Beach Airport and was soon after given the name New York City Municipal Airport – LaGuardia Field. It was the first airport in the United States to have been financed, designed, and built with the full participation of the federal government using Works Progress Administration funding. Plans for the airport were promoted by Mayor Fiorello H. La Guardia as one aspect of a vast municipal transportation improvement campaign. The site offered easy access to the Triborough Bridge and to proposed highways. The airport initially covered 558 acres, part of which consisted of landfill from Rikers Island and from subway excavations.

The airport was designed by Delano & Aldrich and "reflected the latest functionalist thinking. The scheme consisted of a main terminal with a central administration building flanked by crescent like ranges containing three hangars on each side and a Marine Air Terminal about a half mile away. The hangars, with simple brickwork, horizontally banded metal windows, and low-vaulted roofs, convincingly mediated their inherent machine-shop atmosphere and monumentality deemed appropriate to a municipal gateway. The administration building was a long rectangular mass, one side of which opened in a semicircular shape onto the landing field."[2]

Plans for a major reconstruction for the airport began in 1957. Although the reconstruction demolished Delano & Aldrich's central terminal building, it retained five of the hangars designed by that firm as well as the Marine Air Terminal. New buildings erected as part of this reconstruction included Harrison & Abramowitz's control tower (1963) and an arc-shaped curving Central Terminal Building (1964).

If you have any questions concerning this Determination of Eligibility, please call Kathy Howe at (518) 237-8643, ext. 3266.

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[1] See Paul Barrett's entry on LaGuardia Airport in Kenneth T. Jackson, ed., *The Encyclopedia of New York City* (New Haven: Yale University Press, 1955) 651.

[2] Robert A.M. Stern, Gregory Gilmartin, Thomas Mellins, *New York 1930: Architecture and Urbanism Between the Two World Wars* (New York: Rizzoli, 1987) 704.

Weymouth, Nicole

From: Tabachnick, Alan
Sent: Wednesday, June 26, 2013 1:02 PM
To: Oscarson, Bryan; Weymouth, Nicole
Cc: Lawrence, John W.
Subject: FW: LGA CTB Project

FYI. This is what Kathy Howe emailed me yesterday. Should be kept in the official project file, communications, I would think.

Sincerely,

Alan D. Tabachnick
Cultural Resources Manager/Senior Architectural Historian
c.215-370-3579

From: Howe, Kathy (PEB) [mailto:Kathy.Howe@parks.ny.gov]
Sent: Tuesday, June 25, 2013 9:30 AM
To: Tabachnick, Alan; Cumming, Beth (PEB)
Subject: RE: LGA CTB Project

Alan,

Hi Alan,

The Central Terminal Building is Not NR eligible and is noted as such in our official database (USN 08101.011710).

I also mentioned the CTB in our Resource Evaluation noting that:

While the five surviving hangars are National Register-eligible, the Central Terminal Building/Terminal B, originally constructed in 1964 to the design of Harrison & Abramowitz, does not meet the NR criteria due to major alterations in the 1970s-1990s. Along with the previously National Register-listed Marine Air Terminal, the hangars are significant historical features of LaGuardia Airport.

Best,
Kathleen A. Howe
Survey and Evaluation Unit Coordinator
NYS Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation
Peebles Island State Park
P.O. Box 189

Waterford, New York 12188-0189

Phone/voicemail: 518-237-8643 extension 3266

kathy.howe@parks.ny.gov

Website: http://nysparks.com/shpo

From: Tabachnick, Alan [mailto:Alan.Tabachnick@aecom.com]
Sent: Tuesday, June 25, 2013 8:53 AM
To: Howe, Kathy (PEB); Cumming, Beth (PEB)
Subject: LGA CTB Project

I wanted to double check with you that we do have your agreement with our recommendation that the Central Terminal Building has lost integrity and is not eligible for the NR. I noted in your comment letter that the CTB wasn't specifically called out or mentioned, but was assuming that you agreed with the lack of eligibility. I just wanted to make sure I wasn't assuming anything incorrectly. Thanks.

Sincerely,

Alan D. Tabachnick
Cultural Resources Manager/Senior Architectural Historian
c.215-370-3579

U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
600 Old Country Rd, Suite 446
Garden City, New York 11530
Telephone: 516-227-3800
Fax: 516-227-3813

August 22, 2013

John M. Fowler, Executive Director
Advisory Council on Historic Preservation
Old Post Office Building
1100 Pennsylvania Avenue, NW
Suite 803
Washington D.C. 20004

Re: Notice of Adverse Effect
Environmental Assessment: Central Terminal Building Redevelopment Program
LaGuardia Airport, Queens, New York

Dear Mr. Fowler:

The Federal Aviation Administration (FAA) New York Airports District Office herewith notifies the Advisory Council on Historic Preservation (ACHP) of an adverse effect finding for the Central Terminal Building Redevelopment Program involving the proposed demolition of Hangars 1, 2 and 4 at LaGuardia Airport in New York.

The New York State Historic Preservation Office has determined that the Hangars are eligible for listing on the State and National Register of Historic Places. This notification is in accordance with 36 CFR Part 800.6, regulations implementing Section 106 of the National Historic Preservation Act. The undertaking involves the demolition of Hangars 1, 2 and 4 in order to allow the redevelopment of the aged LaGuardia Airport Central Terminal Building to safely and efficiently accommodate forecast aviation passenger demand.

As part of our notification, I am enclosing documentation required under Section 800.11(e) including a packet with photographs prepared by the airport's consultant, AECOM.

Section 800.11(e) requires the Federal agency to submit six areas of documentation, which are provided in the enclosure, as follows:

1. *A description of the undertaking, specifying the Federal involvement, and its area of potential effect, including photographs, maps, and drawings, as necessary:*
   The federal involvement with this undertaking is the approval by FAA of the Airport Layout Plan (ALP) and the potential provision of federal funds. Further description of the proposed project can be found in the enclosure.

2. *A description of the steps taken to identify historic properties:*
   See enclosure

3. *A description of the affected historic properties, including information on the characteristics that qualify them for the National Register:*
   See enclosure

4. *A description of the undertaking's effects on the historic properties:*
   See enclosure

5. *An explanation of why the criteria of adverse effect were found applicable or inapplicable, including any conditions or future actions to avoid, minimize, or mitigate adverse effects:*
   See enclosure

6. *Copies or summaries of any views provided by consulting parties and the public:*
   See enclosure

Thank you for your attention to this matter. We look forward to your reply.

Sincerely,

Steven M. Urlass, Manager
New York Airports District Office

Enclosure

cc: L. Johnson, ACHP
B. Cumming, NYSHPO
E. Knoesel, PANYNJ
A.Tabachnick, AECOM

Preserving America's Heritage

September 18, 2013

Steven M. Urlass, Manager
New York Airports District Office
Federal Aviation Administration
600 Old Country Road, Suite 446
Garden City, NY 44530

Ref: *Proposed Demolition of Hangars 1, 2 & 4- Central Terminal Building Redevelopment Program LaGuardia Airport, Queens, New York*

Dear Mr. Urlass:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the New York State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Najah Duvall-Gabriel at 202-606-8585 or at ngabriel@achp.gov.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone:202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

February 03, 2014

Edward Knoesel
Port Authority of NY & NJ
225 Park Avenue South
New York, New York 10003
(*via e-mail only*)

Re: FAA, PA
Central Terminal Building at LaGuardia Airport
LaGuardia Airport, Queens County
12PR05127

Dear Mr. Knoesel:

Thank you for continuing to consult with the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. The intent of this letter is to provide written documentation of the Adverse Effect finding.

On August 21, 2013, we received the Cultural Resources Technical Memorandum dated July 26, 2013 for the LaGuardia Airport Central Terminal Building Redevelopment Program in response to our letter dated May 10, 2013 requiring an exploration of alternatives in response to the proposed demolition of the National Register Eligible hangers 1, 2, and 4.

As noted in **section 6.0** – *Summary of proposed action, impacts to historic properties and consultation process,* none of the seven (7) options will meet the project's Purpose and Need. As such there are no prudent and feasible alternatives. Furthermore, the SHPO participated via telephone on September 26, 2013 and attended an on-site consulting parties meeting and tour of facilities on October 29, 2013. It is the SHPO's opinion the project will have an Adverse Effect upon properties in or eligible for inclusion in the National Register of Historic Places as noted verbally during the consulting parties meeting on October 29, 2013. As a result, our office concurs with the findings of the report and is willing to enter into a Memorandum of Agreement that recognizes the associated adverse effect and lists mitigation measures.

If you have any questions, I can be reached at (518) 237-8643, ext. 3260. Please refer to the SHPO Project Review (PR) number in any future correspondences regarding this project.

Sincerely,

Eric N. Kuchar
Historic Preservation Technical Specialist

CC: Marie Janet, FAA (*via e-mail only*)

U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
159-30 Rockaway Blvd, Suite 111
Jamaica, New York 11434

April 10, 2014

Mr. Willie R. Taylor
Director, Office of Environmental Policy and Compliance
U.S. Department of the Interior
1849 C. Street, NW (MS 2462)
Washington, DC 20240

Re: Laguardia Airport, Queens, NY
Central Terminal Building Redevelopment Program
Draft 4(f) Statement

Dear Mr. Taylor:

Enclosed please find a Draft 4(f) Statement for the proposed Central Terminal Building Redevelopment Project, located in Queens, New York.

The proposed project necessitates the demolition of historic Hangars 1, 2, and 4 which constitutes a use under Section 4(f). Accordingly, a Section 4(f) Statement has been prepared and is submitted for Department of the Interior review. The proposed project is also subject of an environmental assessment which can be found at http://www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessment.pdf

Thank you in advance for your comments and input. Should you have any questions, please contact Ms. Marie Jenet of my staff at (718) 995-5777 or at marie.jenet@faa.gov.

Sincerely,

Steven M. Urlass, Manager
New York Airports District Office

cc: E. Knoesel, PANYNJ
B. Oscarson, AECOM
E. Kuchar, NYSHPO

United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
15 State Street – Suite 400
Boston, Massachusetts 02109-3572

TAKE PRIDE IN AMERICA

May 20, 2014

9043.1
ER 14/0247

Marie Jenet
US Department of Transportation
Federal Aviation Administration
New York Airports District Office
Jamaica, New York, 11434

RE: Section 4(F) Evaluation, Proposed LaGuardia Airport Central Terminal Building Redevelopment Program, Queens County, NY

Dear Ms. Jenet:

The U.S. Department of the Interior (Department) has reviewed the Draft Section 4(f) Evaluation for proposed improvements to LaGuardia Airport. The Port Authority of New York and New Jersey (PANYNJ), in coordination with the Federal Aviation Administration (FAA) proposes to redevelop a portion of LaGuardia Airport, in the Borough of Queens, New York. We offer the following comments on this project for your consideration.

Section 4(f) Evaluation Comments

The Department concurs that there is no prudent and feasible alternative to the proposed use of 4(f) lands, which consists of Airport Hangers 1, 2 and 4. These structures are eligible for listing in the National Register of Historic Places. All three structures will be removed as part of the proposed redevelopment, which constitutes a transportation use and adverse effect to these historic properties.

We note that measures to minimize harm to these historic resources are being executed in a Memorandum of Agreement (MOA) developed in consultation with the New York State Historic Preservation Officer (NY-SHPO) and concurred with, as appropriate, by the Advisory Council on Historic Preservation. We recommend that a signed copy of the agreement document be included in the final documentation for this project to reflect the procedures for protecting cultural resources determined in consultation with the NY-SHPO.

Thank you for the opportunity to review and comment on this project. Should you have questions about these comments, please contact Missy Morrison, National Park Service, at (215) 597-7067. Please contact me at (617) 223-8565 if I can be of further assistance.

Sincerely,

Andrew L. Raddant
Regional Environmental Officer

CC: SHPO-NY (ruth.pierpont@parks.ny.gov)
PANYNJ (LGACTB@panynj.gov)

NYC Parks

Alyssa Cobb Konon
Assistant Commissioner
Planning & Parklands

T 212.360.3402
F 212.360.3453

E alyssa.cobb@parks.nyc.gov

City of New York
Parks & Recreation

The Arsenal
Central Park
New York, NY 10065
www.nyc.gov/parks

June 2, 2014

Mr. Edward C. Knoesel
Manager, Environmental & Noise Programs
Aviation Department
The Port Authority of New York & New Jersey
233 Park Avenue South, 9th Floor
New York, New York 10003

RE: Central Terminal Building Redevelopment Program at LaGuardia Airport (the "Program")
NYC Department of Parks and Recreation Determination of Section 4(f) Non-Applicability

Dear Mr. Knoesel:

This letter is in regard to ongoing coordination efforts between the New York City Department of Parks & Recreation (DPR) and the Port Authority of New York and New Jersey (Port Authority) related to the Environmental Assessment (EA) being prepared for the redevelopment of the Central Terminal Building (CTB) at LaGuardia Airport. This coordination effort includes consideration by DPR as to whether property owned by the City of New York (the City) and managed by DPR (the "embankment area") as shown on the attached Exhibit A is parkland potentially subject to evaluation under Section 4(f) of the United States Department of Transportation Act of 1966 in connection with the proposed Program.

On October 8, 2013, staff from the Port Authority met with staff from the New York City Economic Development Corporation (EDC), DPR, and the New York City Law Department (Law Department). During this meeting, you shared the project plans and provided a review of the Program, and described the proposed on-airport roadway network and its various connections between the airport and the Grand Central Parkway (GCP). After discussing the project and its potential impact, all parties came to an understanding that the new roadway system cannot avoid the area due to the severe site constraints and required roadway construction standards. Accordingly, the project will inevitably result in an infringement to the embankment area. The embankment area to be impacted includes an unpaved parcel of the Grand Central Parkway of up to 2.1 acres.

After review of property records for the embankment area and discussing the matter with appropriate DPR and Law Department staff, DPR has determined that the embankment area is not designated parkland and does not qualify for Section 4(f) protection (23 CFR Par 774) as explained below. Rather, the embankment area is designated parkway and provides a visual

amenity to automobile drivers as they pass by on the GCP. DPR has taken no action to develop the property for either park or recreational purposes. DPR has never made the embankment area formally accessible to the public. The embankment area is not used by the public for any recreational purposes. Based upon these factors, it is DPR's position that Section 4(f) would not apply to the area in question.

Please provide a copy of the Final Environmental Assessment and any Federal Aviation Administration determination that may stem from it when they become available so we can ensure that the final project conforms with our understanding and to ensure that the Program has not changed in any way that would constitute different or additional impacts. DPR understands that the Port Authority has committed to develop a plan with DPR to address local impacts to City trees. This plan will include provisions for restitution for the loss of those trees in the embankment area pursuant to Chapter 5 of Title 56 of the Rules of the City of New York (NYCDPR Rules) and Local Law 3 of 2010. In addition, the PANYNJ is committed to allocating to NYCDPR $2.5 million for park improvements in the vicinity of the airport in 2014.

Please contact Daniel Grulich, DPR's Interagency Coordinator at 718-760-6927 if you have any follow-up questions regarding necessary Parks approvals for the construction of the project. If you have any questions pertaining to Parks' comments to the NEPA environmental review, please contact Owen Wells, Director of Environmental Review, at 212-360-3492.

Sincerely,

Alyssa Cobb Konon
Assistant Commissioner

Acknowledged and Agreed:

The Port Authority of New York & New Jersey

Name: ANGEL MARTINEZ

Title: Program Director

Cc: Thomas L. Bosco, PANYNJ
Lysa Scully, PANYNJ
Dorothy Lewandowski, DPR

EXHIBIT A

Legend

- NYSDOT Right-of-Way (from Maintenance Jurisdiction Plan dated 05/21/2009)
- LGA Demised Premises (from Vollmer Assoc, Exhibit A, 11/23/2004)
- NYC Parks (from NYC Dept of City Planning)
- Impacts to Off-Airport Park Property
  - At-Grade Roads = 0.39 acres
  - Elevated Roads = 0.66 acres
  - At-Grade and Elevated Roads = 1.05 acres

LAGUARDIA AIRPORT CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM

IMPACTS TO PARKS PROPERTY

Date: 11/21/2013

Attachment B: Final Memorandum of Agreement

FINAL
MEMORANDUM OF AGREEMENT
AMONG
THE PORT AUTHORITY OF NEW YORK & NEW JERSEY, THE NEW YORK STATE HISTORIC PRESERVATION OFFICE, AND THE FEDERAL AVIATION ADMINISTRATION, FOR THE CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM AT LAGUARDIA AIRPORT, QUEENS, NEW YORK

November 2014

MEMORANDUM OF AGREEMENT
AMONG
THE PORT AUTHORITY OF NEW YORK & NEW JERSEY, THE NEW YORK STATE HISTORIC PRESERVATION OFFICE, AND THE FEDERAL AVIATION ADMINISTRATION, FOR THE CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM AT LAGUARDIA AIRPORT, QUEENS, NEW YORK

WHEREAS, the proposed redevelopment of the Central Terminal area at LaGuardia Airport (LGA), known as the Central Terminal Building Redevelopment Program (Program), has prompted the Port Authority of New York & New Jersey (Port Authority), as operator of LGA, to request the Federal Aviation Administration (FAA) to consider approving a change to the airport layout plan (ALP); and

WHEREAS, the Central Terminal area includes the existing Hangars 1, 2, 3, 4 and 5 which have been determined to be eligible for listing on the National and State Registers of Historic Places. The Central Terminal Building at LGA does not meet the National Register criteria due to major alterations in the 1970s-1990s. Hangar 7, which is not in the Central Terminal area or part of the redevelopment of the Central Terminal area, has also been determined to be eligible for listing on the National and State Registers of Historic Places; and

WHEREAS, the existing Hangars 1, 2, and 4 were all designed and built between 1939 and 1940, and it has been determined through a thorough exploration of feasible and prudent alternatives that it is not possible for these facilities to remain in-situ and function in a manner to support the Program at LaGuardia; and

WHEREAS, FAA consulted with the New York State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800 regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. Section 470) on August 21, 2013 and SHPO concurred with FAA's determination of adverse effect in its verbal response on October 29, 2013 and its written response dated February 3, 2014; and

WHEREAS, the FAA notified the Advisory Council on Historic Preservation (ACHP) that the proposed redevelopment will have an Adverse Effect on Hangars 1, 2, and 4 (which are eligible for listing on the National and State Registers of Historic Places) within the meaning of 36 CFR Part 800.5; and in a letter to FAA dated September 18, 2013 (Attachment 1), the ACHP has concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of its regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, ACHP does not believe that its participation in the consultation to resolve adverse effects is needed; and

WHEREAS, The National Trust for Historic Preservation, The Municipal Art Society of New York, The New York Landmarks Conservancy, the New York City Landmarks Preservation Commission, The Borough of Queens President, American Airlines, as interested parties, have been invited by the FAA to be consulting parties and to participate in the Section 106 process as described in 36 CFR Part 800. The New York Landmarks Conservancy, the New York City Landmarks Preservation Commission, The Borough of Queens President, American Airlines, as the interested parties who chose to participate in the consultation process, have been invited to concur in this Memorandum of Agreement (MOA); and

WHEREAS, Hangars 1, 2, and 4 will be removed after documentation is completed in accordance with National Parks Service standards, as stipulated in this MOA, and a new Central Terminal Building will be constructed in their place.

NOW THEREFORE, the FAA, the SHPO, and the Port Authority, as parties and signatories to this MOA, agree that the Program at LaGuardia shall be implemented in accordance with the following Stipulations in order to take into account the effect of the undertaking on Hangars 1, 2, 3, 4, and 5:

STIPULATIONS

If the FAA approves the undertaking, it will ensure that the following measures are carried out:

Mitigation

1. Recordation

The Port Authority shall record Hangars, 1, 2, 3, 4, 5, and 7 to Level III Historical Architectural Building Survey/Historic American Engineering Record (HABS/HAER) standards of the National Park Service (NPS). The consultant chosen by the Port Authority to conduct the documentation shall meet the professional qualifications established by the U.S. Department of the Interior and set forth in 36 CFR. 61. Copies of the recordation shall be sent to the New York State Archives, the Port Authority and the New York State Historic Preservation Office. The recordation will include a historic narrative of the Hangars and their relationship to the development of LaGuardia Airport.

The Port Authority will not begin to remove Hangars 1, 2, or 4 as set forth in this stipulation until the documentation products to support the recordation have been submitted to and accepted by the SHPO.

2. Archaeological Monitoring of Areas of Sensitivity

The Port Authority shall ensure that archaeological monitoring will be undertaken within designated areas of sensitivity during construction, and in accordance with the approved monitoring plan developed in consultation with the SHPO. (See Attachment 2.)

3. Demolition/Construction Management Plan

The Port Authority shall ensure that it and/or its Contractors/Lessees develop a Demolition/Construction Management Plan designed to ensure that adverse effects to Hangars 3 and 5 are avoided to the greatest extent practicable during all phases of demolition of Hangar 1, and the construction of a new Central Terminal Building, roadway network and parking garage. The Demolition/Construction Management Plan will be submitted to the SHPO for approval prior to commencement of work.

4. Maintenance Plan For Hangars 3 and 5

The Port Authority shall develop a Maintenance Plan that will provide for scheduled and as-needed maintenance designed to ensure that Hangars 3 and 5 remain in a state of good repair for the foreseeable future. (See Attachment 3.)

5. Interpretive Display on the History of LaGuardia Airport

As part of its public education effort, the Port Authority shall develop an interpretive display illustrating the history and significance of the 1939 and 1964 Central Terminal Buildings, and Hangars 1, 2, 3, 4, 5, and 7. The display will link their relationship and significance to the overall development of LGA. The interpretive display shall be placed in a prominent public location at LaGuardia Airport.

Reconsideration of the Memorandum of Agreement

6. The terms of this MOA may be reconsidered by the signatories if the undertaking (Section 1 of the MOA) has not commenced within one-year after the execution of this MOA by all signatories.

Termination of the Memorandum of Agreement

7. This agreement shall expire after the Port Authority, the FAA and SHPO agree, in a writing to be prepared by the Port Authority for execution by such parties, that the stipulations set forth in this MOA, as set forth in Sections 1-5, ending in placement of the interpretative display, have been effectively carried out to their mutual satisfaction.

Dispute Resolution

8. Should any member of the public or other interested party object within 30 days from installation, to the placement or content of the interpretative display specified in Section 5 of this MOA, the Port Authority shall consult with the objecting party to resolve the objection.

If any signatory determines that the terms of the MOA cannot be, or are not being, carried out, then that signatory shall give written notice to all other signatories to this MOA of such determination. If the MOA is not amended by further consultation between the signatories within three months after issuance of such notice, then any signatory may terminate the MOA by providing thirty (30) calendar days written notice to the other signatories. The FAA shall then seek to execute a new agreement with the signatories, but in doing so shall seek to minimize the impact of any such new agreement on either: 1) terms not under discussion, or 2) terms that have been carried out prior to the issuance of such notice.

EXECUTION AND AMENDMENT

Execution of this Memorandum by the FAA, the SHPO, and the Port Authority, and implementation of its terms, will be evidence that FAA has afforded consulting parties an opportunity to comment on the undertaking and its effects on historic properties, and has completed all processes in accordance with Section 106 of the National Historic Preservation Act.

Prior to Termination of this MOA pursuant to Section 7, any signatory to this agreement may propose to the other signatories that this agreement be amended, whereupon the FAA shall consult with the other signatories to this MOA in accordance with 36 CFR 800.6(c)(7), (8) to consider such an amendment. Notwithstanding the foregoing, the signatories agree that once the SHPO has approved the Demolition/Construction Management Plan, pursuant to Section 3 of this MOA, no further amendment of this MOA that would affect that Plan, shall be effectuated.

***A separate signature page is being executed by each signatory to this Agreement.**
SIGNATORY PAGES* (PAGE 1 OF 3)

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

By: Pat Foye Date: 10/28/14

Print/Type Name: PATRICK FOYE

Print/Type Title: EXECUTIVE DIRECTOR

***A separate signature page is being executed by each signatory to this Agreement.**
SIGNATORY PAGES* (PAGE 2 OF 3)

FEDERAL AVIATION ADMINISTRATION

By: _____ Date: 10/30/11

Print/Type Name: STEVEN M. ULLASS

Print/Type Title: MANAGER

FINAL MOA for LGA CTB Program

***A separate signature page is being executed by each signatory to this Agreement.**
SIGNATORY PAGES* (PAGE 3 OF 3)

NEW YORK STATE HISTORIC PRESERVATION OFFICE

By: Ruth L Pierpont Date: 10/29/14

Print/Type Name: Ruth L. Pierpont

Print/Type Title: DSHPO

*A separate concurrence signature page is being executed by each Consulting Party to this Agreement.

CONSULTING PARTIES CONCURRENCE - PAGE 1 OF 4

NEW YORK CITY LANDMARKS PRESERVATION COMMISSION

By: M Srinivasan Date: 10/31/14

Print/Type Name: MEENAKSHI SRINIVASAN.

*A separate concurrence signature page is being executed by each Consulting Party to this Agreement.

CONSULTING PARTIES CONCURRENCE - PAGE 2 OF 4

QUEENS BOROUGH PRESIDENT'S OFFICE

By: Melinda Katz Date: 11/12/14

Print/Type Name: Melinda Katz

FINAL MOA for LGA CTB Program

***A separate concurrence signature page is being executed by each Consulting Party to this Agreement.**
CONSULTING PARTIES CONCURRENCE - PAGE 3 OF 4

NEW YORK LANDMARKS CONSERVANCY

By: _____ Date: 11/4/14

Print/Type Name: Peg Breen

***A separate concurrence signature page is being executed by each Consulting Party to this Agreement.**
CONSULTING PARTIES CONCURRENCE - PAGE 4 OF 4

AMERICAN AIRLINES

By: _____ Date: _____

Print/Type Name: _____

ATTACHMENT 1

FINAL MOA for LGA CTB Program

Preserving America's Heritage

September 18, 2013

Steven M. Urlass, Manager
New York Airports District Office
Federal Aviation Administration
600 Old Country Road, Suite 446
Garden City, NY 44530

Ref: *Proposed Demolition of Hangars 1, 2 & 4- Central Terminal Building Redevelopment Program LaGuardia Airport, Queens, New York*

Dear Mr. Urlass:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the New York State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Najah Duvall-Gabriel at 202-606-8585 or at ngabriel@achp.gov.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone:202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

ATTACHMENT 2

ARCHAEOLOGICAL MONITORING OF CONSTRUCTION

An approximately 10-acre area of archaeological sensitivity has been defined at the western end of the Area of Potential Effects (Figure 1). Archaeological monitoring requires that an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards (48 Federal Register [FR] 44738-44739 – Appendix A to 36 CFR 61) be present on site during any activities that result in the excavation or significant movement of soil below the documented level of fill.

Archaeological monitoring of construction will only be required in the area of sensitivity illustrated in Figure 1. Construction activities in all other areas of the CTB Redevelopment Program will not require archaeological monitoring. Monitoring is also limited to those activities with the potential to disturb soils below the documented level of fill; these activities include but may not be limited to: grading, trenching and excavating. Pile driving will not require the presence of archaeological monitoring. There are no known or documented hazardous waste sites present within the area of archaeological sensitivity. Based on current design plans, construction activities with the potential to affect archaeological deposits are limited to:

- utility trenching;
- new roadway construction; and
- any excavations for building the West Garage.

The limits of those activities in the archaeologically sensitive area are depicted in Figure 2. Archaeological monitoring of construction is limited to those areas unless changes are made in the design plans. The New York State Historic Preservation Office (NYSHPO) will be consulted for concurrence on any proposed changes to the monitoring activity.

Protocol for Monitoring Activities
It will be the responsibility of the Resident Engineer to inform the archaeological consultant of the date that excavations are set to begin with at least one month notice.

An archaeological monitor will be on-site whenever excavation below the level of documented fill will occur in areas that have not been cleared. (See below for a definition of ***Cleared Site***.) If multiple excavations are taking place simultaneously, steps will be taken to assure monitoring is taking place at all locations where it is required. The archaeological monitor will observe all excavators operating in the areas highlighted in Figure 2. The archaeological monitor may request that an equipment operator temporarily stop work in order to examine the excavation for artifacts or cultural features. Work stoppages of this nature will last for no more than 20 minutes. If the artifact deposit or cultural features appear to be potentially significant, the archaeological monitor will determine the nature of any discovery during construction that may warrant construction to cease for a certain period of time to evaluate the potential extent and significance of the find.

If, in the opinion of the archaeological monitor for the archaeological consultant, the archaeological find is assessed to be potentially significant, they will notify the Contractor Foreman. The Contractor Foreman will order a ***Stop Work*** to the excavator and excavations will be temporarily halted for inspection. It is anticipated that a work stoppage to determine the function and cultural affiliation of artifacts or features may last from 20 minutes up to four (4) hours.

Hand excavations by the archaeological monitors to the extent necessary to identify and assess the objects or features may be required. If the objects and/or features are determined by the archaeological consultant

not to be significant, this information will be relayed to the Resident Engineer, who will contact the Contractor Foreman to resume work.

If the artifacts and/or features are assessed by the archaeological consultant to be potentially significant archaeological remains, the Resident Engineer, PANYNJ, NYSHPO and the New York Landmarks Preservation Commission (LPC) will be notified. No work by the Contractor will be allowed to continue within that area until it has been cleared by the archaeological consultant, PANYNJ and the NYSHPO. Up to two full days may be required to conduct sufficient testing to make a recommendation of NR-eligibility. The extent of the area to be protected will be defined by the archaeological consultant in consultation with the Resident Engineer but will include sufficient space to adequately sample the cultural deposits and stage the work space for further archaeological investigation.

Once a specific excavation has been completed and no significant archaeological remains have been found, the Principal Investigator archaeological consultant will recommend that the specific location be declared a ***Cleared Site*** and no further archaeological monitoring will be required. This recommendation will be forwarded to the Site Engineer, PANYNJ, the NYSHPO and LPC. Once all parties have agreed to this recommendation, the Resident Engineer will notify the Contractor and work may proceed on that work site without the presence of archaeological monitors.

Administration
During the course of archaeological monitoring under these contracts, bi-weekly progress reports will be produced by the archaeological consultant and distributed to PANYNJ, the Resident Engineer, the NYSHPO and LPC. The reports will be brief and they will outline the activities carried out during the two-week period. These reports will be submitted by the end of day every other Friday.

In the event that a National Register-eligible archaeological site (or sites) is encountered during construction monitoring, the archaeological consultant through the PANYNJ will complete a Curation Request Form and consult with the New York State Museum (NYSM) to determine whether the collection falls within the Museum's collection interest. If the NYSM wishes to accept the artifact collection, a Curation Agreement Form will be signed between the PANYNJ and the NYSM and all artifacts collected from the site or sites will be curated according to the standards and guidelines established by the NYSM (www.nysm.nysed.gov). Upon completion of the monitoring project, all artifacts will be delivered to the NYSM (or to any other institution agreed upon by the PANYNJ and the NYSM) for final storage.

Mitigation
If in the event that an archaeological site is encountered in the archaeologically sensitive area and is determined to be eligible for listing on the National Register of Historic Places, a resource-specific Memorandum of Agreement (MOA) to mitigate the adverse impacts to that resource will be drafted and subsequently reviewed and approved by the NYSHPO. Once the MOA for mitigation has been concurred upon by all parties, mitigation of the adverse impacts to the sites will be implemented. Construction at the archaeological site will not recommence until the fieldwork for the Data Recovery is completed.

Reporting
At the conclusion of the archaeological monitoring activity, the archaeological consultant for PANYNJ will produce an Archaeological Monitoring Report.

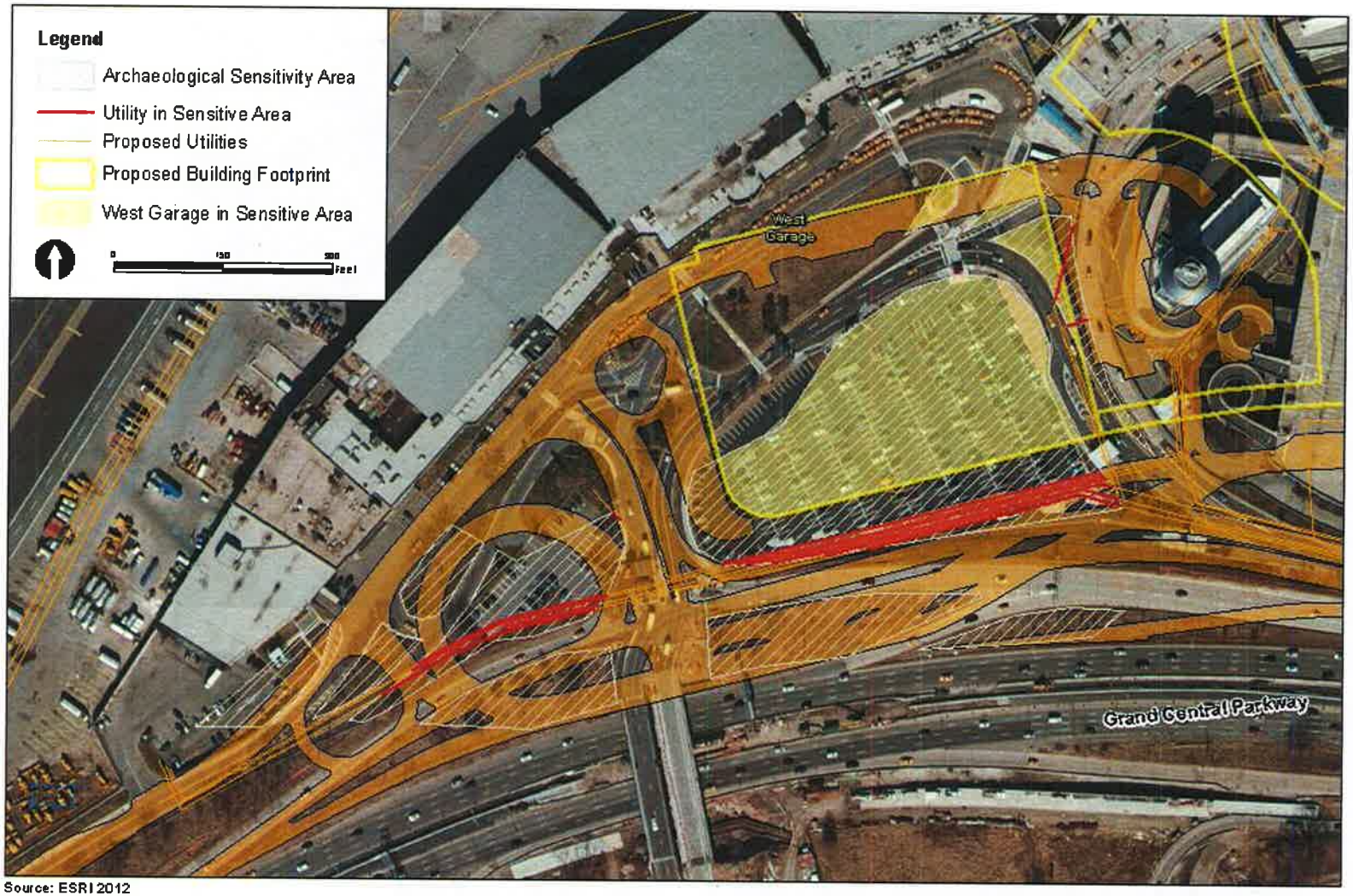
Source: ESRI 2012
Prepared by: AECOM

Figure 1

LaGuardia Airport
CTB Redevelopment Program

LGA Area of Archaeological Sensitivity

THE PORT AUTHORITY OF NY & NJ



Source: ESRI 2012
Prepared by: AECOM

Figure 2

CTB Redevelopment Program
Environmental Assessment
LaGuardia Airport
THE PORT AUTHORITY OF NY & NJ

Construction Impacts in Archaeological Sensitivity Area

ATTACHMENT 3

THE PORT AUTHORITY OF NY & NJ

Maintenance Plan for Hangars 3 and 5 at LaGuardia Airport

This Maintenance Plan has been developed in an effort to satisfy Stipulation 4, of the Memorandum of Agreement among the Port Authority of New York & New Jersey, the New York State Historic Preservation Office, and the Federal Aviation Administration, for the Central Terminal Building Redevelopment Program at LaGuardia Airport. The plan is intended to provide for scheduled and as-needed maintenance which is designed to ensure that Hangars 3 and 5 remain in a state of good repair for the foreseeable future.

In accordance with the parameters of a lease agreement between the tenant and the Port Authority of NY & NJ, the lessee shall, throughout the term of the lease, assume the responsibility for all repair and maintenance whatsoever within the hangar space including the structural support of the hangar floors.

The maintenance plan shall consist of the following actions, which include the identification of each system or items that must be periodically checked or serviced and the frequency of those checks:

- Inspection of all life safety systems to ensure that they will be fully functional in the case of an emergency, including fire alarm, suppression, emergency generators and lighting, exit signage, fire extinguishers, and egress components. The plan will include the requisite testing and servicing as required by manufacturer's recommendations;
- Mechanical systems for providing heating, ventilation, and air conditioning; maintenance of air compressors, cleaning of coils, cleaning of filters, lubrication of bearings;
- Electrical systems for providing power and lighting including high voltage switch gear, transformers, and network protectors;
- Inspection of doors and windows, frames and weather stripping, including alignment, deterioration of parts, and operation;
- Integrity of all structural systems including the roof, interior and exterior building components, slabs, and hangar doors;
- Additionally, a formal condition inspection of said facilities is conducted once every five (5) years. The inspection identifies items which require repair and groups those repairs based on prioritization.

Regular inspection and maintenance of systems and character defining features will help preserve the integrity of those hangars eligible for listing on the National and State Registers of Historic Places. Repairs or replacements in-kind are recommended for significant architectural features. Guidance is available per the National Park Service Preservation Briefs for common historic building problems. http://www.nps.gov/tps/how-to-preserve/briefs.htm

Appendix D.
Evaluation of Historic Resources

D.1 Cultural Resources Technical Memorandum (July 26, 2013)

D.2 Cultural Resources Technical Memorandum: Addendum No. 1 (November 19, 2013)

D.3 Signed Memorandum of Agreement

AECOM

Technical Memorandum

LaGuardia Airport Central Terminal Building Redevelopment Program
Environmental Assessment

Date: July 26, 2013

Subject: Cultural Resources Technical Memorandum
NYSHPO Project Reference: 12PR05127

Prepared by: **Alan Tabachnick, Vanessa Zeoli, Anne Jennings, Bryan Oscarson (AECOM)**

INTRODUCTION

This Technical Memorandum discusses the LaGuardia Central Terminal Building (CTB) Redevelopment Program (Program) in relation to the Cultural Resources documentation efforts being performed in accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA). This memorandum presents: 1) the project's purpose and need; 2) a description of the Proposed Action and its elements; 3) the results of the cultural resources investigations; 4) an overview of the evolution of project build alternatives and their effects on historic properties; 5) an overview of alternatives that avoided impacts to historic properties; and 6) a summary of the Proposed Action, its impacts, and the consultation process.

More detailed information on the project's purpose and need, as well as the alternatives evaluated, and their impacts, will be available in the Draft Environmental Assessment (EA) that is being prepared for this project. Graphics associated with this Technical Memorandum are included as Appendix A. Information on the cultural resources documented as part of this project is included as Appendix B. Correspondence to date is included in Appendix C.

1.0 PROJECT DESCRIPTION, PURPOSE AND NEED

This section describes LaGuardia Airport and discusses the deficiencies that need to be addressed by the CTB Redevelopment Program.

1.1 LaGuardia Airport and Its Terminals

LaGuardia Airport is located in the Borough of Queens, New York City, bordering on Flushing Bay, Bowery Bay, and the Grand Central Parkway (GCP) (**Figure 1**). The GCP provides access for noncommercial vehicles, while access for all vehicles is provided by local streets at 82nd Street, 94th Street, and 102nd Street. LaGuardia Airport is owned by the City of New York and operated by the Port Authority of New York and New Jersey (PANYNJ) under a long-term lease agreement. Constructed by the City and opened in 1939, the PANYNJ took control of the Airport in 1947.

Situated on 680 acres of waterfront property, LaGuardia Airport has two 7,000-foot long runways, four passenger terminal buildings with 71 contact gate positions, and a network of roadways and parking facilities (**Figure 2**). Unlike John F. Kennedy International (4,930 acres) and Newark Liberty International (2,027 acres), which have large scale facilities designed for international airline passenger and cargo operations, LaGuardia Airport is much smaller and therefore its facilities are limited to providing short-to-medium range domestic airline passenger service.

The CTB is one of the four passenger terminal buildings. Terminal A is located on the southwest corner of the airfield and is used by Delta Airlines for shuttle flights to Boston, Chicago, and Washington, DC.[1] Terminals B, C, and D, are located on the southeast corner of the airfield in what was originally referred to as the central terminal area. The CTB (Terminal B/built 1964) is the largest of the four terminals and is shared by most of the airlines that serve LaGuardia Airport. Terminal C (built 1992) and Terminal D (built 1983) were recently connected and are used primarily by Delta Airlines for their mainline hub operation. The remainder of the central terminal area includes aircraft hangars, roadways, and parking.

The focus of the Program is the CTB complex including the passenger terminal, airside apron, landside roadways, and parking facilities. The existing CTB has 835,000 square feet of floor space and two functional levels with ticketing located upstairs and baggage claim located downstairs. There are four concourses with 35 gates surrounded by an aircraft parking apron. The roadway system includes the airport entrance/exit roads, terminal approach roads, terminal curb frontage, recirculation roads, as well as interior service roads for airport service vehicles, deliveries, and parking. Five parking facilities—four surface lots and the CTB garage—provide 6,386 parking spaces.

Bordered by runways and taxiways to the north and the Grand Central Parkway to the south, the CTB envelope is also constrained by aircraft hangars to the east and west. Hangars 1, 3, and 5, are located between the CTB and Runway 4-22, while Hangars 2 and 4 are located between the CTB and Terminal C. All five hangars were constructed between 1939 and 1940 and are original to LaGuardia Airport; whereas, the existing CTB was built in the 1960s and designed to fit within the limited space between Hangar 1 to the west and Hangar 2 to the east.

Hangars 1, 2, and 4, are no longer used for servicing or storing aircraft. These activities are typically performed at other airports where the airlines have established fleet maintenance centers with modern facilities and ample space for performing aircraft inspections, maintenance, and repairs. Instead, Hangar 1 is used for outbound baggage make-up and for processing express/overnight packages, while Hangars 2 and 4 are used for maintaining and storing airline ground service vehicles and equipment. This is not the highest and best use of the hangars or the space they occupy. Given the increasing need for passenger terminal facilities, the diminishing need for aircraft maintenance facilities, and the overall lack of available space within the central terminal area, continued use of the aircraft maintenance hangars for baggage handling and equipment storage is an inefficient allocation of valuable space that is essential to implementing the CTB Redevelopment Program.[1]

1.2 Purpose and Need for Action

The *purpose* of the CTB Redevelopment Program is to enable LaGuardia Airport to safely and effectively accommodate forecast passenger demand by maximizing the use of the limited space available for

[1] Similarly, in order to provide adequate terminals and gate facilities at LaGuardia Airport, Hangar 6 and Hangar 8 (also built 1939-1940) were removed in 1992 to make way for constructing Terminal C.

airside, terminal, and landside improvements. The Program is *needed* because the existing CTB and ancillary facilities are severely constrained and LaGuardia Airport is unable to adequately meet current or projected passenger demands without incurring unacceptable levels of congestion and delay.

1.2.1 Existing Deficiencies

After nearly 50 years of service, the CTB has reached its service life and design capacity. Planned and constructed for a different era of air travel and unevenly renovated over the years, the terminal building is comprised of aging and obsolete facilities that are no longer adequate to support modern day airport or airline operations or Transportation Security Agency (TSA) requirements that did not exist when the CTB was built. Expansion projects have enhanced the capacity of individual "processors" within the terminal building, such as the ticketing/check-in lobby, security checkpoints, and baggage claim areas, but those improvements have not been sufficient to keep pace with changes in the airline industry or growing passenger demand. As a result, passengers using the CTB are accommodated at a very low level of service with long lines and overcrowding in all areas of the terminal.

Adjacent to the CTB, airside and landside constraints are no less limiting. Apron space around the CTB concourses is operationally inadequate. Narrow spaces between the concourses restrict the size of aircraft that can be gated at the terminal. Where dual (two-way) taxilanes are needed to improve the flow of aircraft to and from the gates, single (one-way) taxilanes impede access often leaving aircraft waiting for a place to park. There is limited space for remote overnight (RON) aircraft parking, ground service equipment (GSE) operations, snow melting, or other airside functions. On the landside, the terminal area roadways and parking facilities are inefficient and contribute to the overall poor performance of the CTB complex. Existing conditions are represented by high peak hour volumes, heavily congested flow, and traffic demand exceeding roadway capacity. The worst conditions occur directly in front of the terminal building where there is insufficient curb frontage for passenger loading and unloading and where bypass/travel lanes are often blocked by double- and triple-parked vehicles.

As discussed in the following sections, all areas of the central terminal area complex—the airside apron, terminal building, and landside roadways—are nearing capacity and, in some cases, have already exceeded their design limits. Major increases in aircraft apron dimensions, terminal building space, and roadway capacity, are needed to accommodate future facility requirements based on the forecast passenger demand.

1.2.2 Forecast Passenger Demand

Approximately half the passengers that use LaGuardia Airport pass through the CTB and strong growth in recent years has put added pressure on the existing terminal facilities. LaGuardia Airport handled 25.7 million annual passengers (MAP) in 2012, just below the 25.9 MAP record set in 2005. According to the *Long Range Forecast for the Port Authority Airports*, passenger activity at LaGuardia Airport is projected to rise 1.8 percent per year for the next 20 years, increasing to 34 MAP by 2030 and approximately half of the passengers—or 17.5 MAP—need to be accommodated by the CTB.

In order to achieve the passenger forecast, the airlines are expected to continue transitioning into newer, larger, and more efficient aircraft with additional seat capacity (referred to as aircraft fleet mix "up-gauging"). For example, smaller regional jets with 50 seats are being replaced with larger regional jets with 70 to 90 seats, and older narrowbody jets with 130 to 175 seats are being replaced with newer

narrowbody jets with seating for up to 189 passengers. The forecast for airlines to continue to move to larger aircraft is supported by the Boeing fleet order statistics showing a long-range trend in aircraft up-gauging.

1.2.3 Design Parameters and Facility Requirements

The CTB Redevelopment Program is intended to resolve existing deficiencies in the central terminal area by replacing the existing terminal building and ancillary facilities with new facilities designed and constructed to meet the latest Federal standards for airport safety and security, and to accommodate forecast passenger demand at acceptable levels of service. **Table 1-1** summarizes the design parameters and facility requirements associated with the CTB Redevelopment Program, how future requirements compare to existing conditions, and the changes that need to be made. Additional explanation is provided in the discussion points below:

- Passenger Demand. Based on FAA-approved forecasts for LaGuardia Airport, PANYNJ has established 34 MAP as the basis of design to be used for all four passenger terminals and the roadway system, and determined that the CTB Redevelopment Program (Terminal B) shall be planned to accommodate 17.5 MAP at Level of Service (LOS) "C." LOS C is the generally accepted design objective as it denotes good service and stable flow, with acceptable brief delays, at a reasonable cost.

- Design Aircraft. The existing CTB was designed around narrowbody (DC-9) aircraft with seating for 115 passengers. Over time, the DC-9s were replaced by smaller regional jets with fewer than 80 seats, which were not as cost effective for the airlines as originally intended. For that reason, airlines are transitioning into newer, larger narrowbody aircraft with additional seat capacity ("up-gauging"). For planning purposes, the design airplane is the B-737/900, which is 15 percent longer and 20 percent wider than the DC9 and carries up to 189 passengers.

  Airside Apron. The existing terminal airside apron is based on a 35-gate layout plan for the older, smaller DC-9s and there is only enough space between the concourses to allow for a single (one-way) taxilane. This causes excessive delays to occur when arriving aircraft must wait on active taxiways for clearance to enter the apron area and for a suitable gate assignment. As the airlines continue to up-gauge their fleets, efficiency is reduced because the apron is too small and the aircraft parking positions are too close together to accommodate more frequent use by larger aircraft. To improve airline efficiency and operational flow, the apron needs to be expanded and reconfigured to accommodate a 35-gate layout plan that is based on the design airplane and dual (two-way) taxilanes. No additional gates are needed, just additional space around them. There should also be adequate space for remote overnight (RON) aircraft parking, restricted vehicle service roads and parking for airline vehicles and ground service equipment (GSE), and provisions for facilities and services needed to improve safety and efficiency, such as a ramp control tower.

- Passenger Terminal Building. In addition to age and obsolescence, the existing CTB does not have the capacity, even at low levels of service, to accommodate the 17.5 MAP forecast. Terminal processors within the building (e.g., ticketing, security screening, baggage claim, gate areas, etc.) are designed to accommodate approximately 10 MAP. Passenger demand in recent years has reached as high at 13 MAP, which explains why the CTB is so heavily congested during busy hours of the day. To improve passenger comfort and convenience, the existing CTB needs

to be replaced with a new terminal building designed to interface effectively between the airside apron and the landside roadways and parking garage, thus allowing passengers and their baggage to be processed through the terminal as quickly and efficiently as possible. Approximately 1.3 million square feet of terminal space is needed to accommodate the design aircraft and corresponding passenger volumes associated with the 17.5 MAP forecast. There should be adequate public space for passenger amenities, convenient locations for concessionaires, and plenty of seating and restrooms. There should also be sufficient space for airport and airline functions and allowance for TSA requirements for screening of passengers and bags. Ideally, the terminal should be designed and constructed in ways that safeguard flexibility to adapt to variations in aviation demand and the changing needs of the airline industry.

- Landside Roadways and Parking. Like the existing terminal building, the terminal area roadways do not have the capacity to handle traffic volumes associated with the 17.5 MAP forecast. Traffic congestion is already reducing safety and efficiency by causing delays that result in missed flights or other important meetings and by increasing the chance of collisions due to tight vehicle spacing and stop-and-go conditions. Valuable space that could be used to improve traffic conditions is occupied by the existing CTB parking garage. The garage is also nearing the end of its useful life and a substantial investment is needed to maintain the garage in a state-of-good repair. To improve traffic efficiency and flow, the landside roadways and parking facilities need to be reconfigured to optimize the ability for different types of vehicles to access, egress, and circulate through the central terminal area. There should be convenient access to the terminal curbside and other destinations such as parking, and sufficient throughput capacity in the roadway system to provide safe and efficient operations even as volumes increase during busy hours of the day. Curbside roadways should be vertically separated to interface with each level of the new terminal—with departures on the upper level, arrivals on the middle level, and ground transportation on the lower level. There should also be a parking garage adjacent and connected to the terminal but located such that it does not interfere with the optimal layout and function of the terminal.

Table 1-1: CTB Redevelopment Program Design Parameters and Facility Requirements

		Existing Facilities (2010)	CTB Program Requirements (2030)	Comments
Design Parameters	Passenger Demand (million annual passengers, or MAP)	13 MAP	17.5 MAP	FAA-approved forecast indicates 1.8 percent annual growth for 20 years
	Design Aircraft	DC-9/30 (93 ft. wingspan; 115 seats)	B-737/900W (118 ft. wingspan; 189 seats)	Airlines will continue their transition into newer, larger aircraft with additional seat capacity ("up-gauging")
Facility Requirements	Airside Apron	35-gate aircraft parking layout plan	35-gate aircraft parking layout plan	The airside apron needs to be expanded and reconfigured for the design aircraft and to optimize efficiency and safety
		Single (one-way) taxilanes	Dual (two-way) taxilanes	
	Passenger Terminal Building	835,000 s.f. w/ 2 functional levels Design Capacity = 10 MAP	1,300,000 s.f. w/ 3 functional levels Design Capacity = 17.5 MAP	A new terminal building is needed to accommodate the 17.5 MAP forecast at acceptable levels of safety, comfort, and convenience
	Landside Roadways and Parking Garage	2-level roadway and terminal curb frontage	3-level roadway and terminal curb frontage	The landside roadways and parking facilities need to be reconfigured to handle airport-wide traffic volumes under the 34 MAP forecast
		5-levels w/ 2,700 parking spaces	5-levels w/ 2,900 parking spaces	

2.0 THE PROPOSED ACTION

This section describes the CTB Redevelopment Program and how the Proposed Action addresses the Purpose and Need.

2.1 CTB Redevelopment Program

The CTB Redevelopment Program would resolve existing deficiencies in the central terminal area by replacing the airside apron, terminal building, landside roadways, and the parking garage, with new facilities designed and constructed to meet the latest Federal standards for airport safety and security, and to accommodate the forecast passenger demand at acceptable levels of service. The CTB Redevelopment Program would not create the need for additional runways. Studies show that the 34 MAP forecast can be accomplished without increasing aircraft activity, if PANYNJ can change the layout and dimensions of the central terminal building to handle the airlines' transition to newer, larger, and more efficient aircraft with additional seat capacity.

To accomplish this, the CTB Redevelopment Program includes a series of projects divided into three functional areas—airside, terminal, and landside. There is also a list of support projects needed to complete the Program. As shown in **Figure 3**, the major project elements are described in more detail below.

2.2 Airside Apron

The aircraft apron is the paved area on the airside of the terminal building where aircraft maneuver and park, and where loading, unloading and aircraft servicing activities are performed. Under the Proposed Action, the apron would be expanded and reconfigured to maximize airside efficiency, operational safety, and cost effective standards of service. There would be a dual (two-way) taxilane system, adequate space for airline vehicles and ground service equipment, and provisions for facilities and services needed to improve apron/gate operations. The Proposed Action includes the following airside improvements:

- 35-Gate Layout Plan. After a thorough analysis of the 34 MAP design day aircraft schedule for LaGuardia Airport, PANYNJ has determined that the proposed 35-gate layout plan is sufficient to achieve the 17.5 MAP forecast for the CTB. The Program provides 31 contact gate positions for narrow-body aircraft with wingspans up to and including the B737-900W and four contact gate positions for wide-body aircraft with wingspans up to and including the B767-400. Although there would be no net increase/decrease in the number of gates (35), the Proposed Action would provide additional apron space for newer, larger aircraft to maneuver and park side-by-side along the airside terminal frontage and concourses, reducing the frequency and duration of "gate-wait" delays caused by inadequate spacing between existing gates at the CTB.

- Dual Parallel Taxi-Lane Configuration. The Proposed Action would also provide additional apron space for dual parallel taxi-lanes throughout the apron area. Dual taxi-lanes enable one or more aircraft to be pushed-back or taxi in one direction, while aircraft are moving in the opposite direction on the parallel taxi-lane. Each aircraft gate position would have two entry/exits points, which increases flexibility in accessing terminal gates during peak periods. The redesigned apron would comply with FAA clearance standard dimensions for aircraft and restricted roadways used for ground service vehicles and equipment. There are no proposed modifications of airport design standards and, importantly, one existing Modification of Standard (MOS) and several other nonstandard operating conditions would be eliminated.

- Remote Overnight (RON) Aircraft Parking. The Program provides 20 RON positions for parking aircraft in close proximity to the terminal—a net increase of 3 positions when compared to existing conditions. RON parking improves airline flight scheduling and efficiency by allowing aircraft to be parked overnight at the same airport where they are needed for their first flight in the morning.

- Ramp Control Tower. The Proposed Action also includes an airline operated ramp control tower to monitor and control aircraft entering and exiting the terminal apron area and gate parking positions. Centrally-located atop the west concourse/pier, and independent of the FAA-operation airport traffic control tower (ATCT), the ramp control tower would improve airside efficiency and operational safety by enhancing line-of-sight of aircraft, vehicles, and ground service equipment maneuvering around the apron.

2.3 Terminal Building

The passenger terminal is the service center for the transfer of passengers and their baggage between the vehicle curb and parked aircraft. Under the Proposed Action, the existing CTB would be replaced

with a new terminal that is designed to interface effectively between the airside apron and the landside roadways and parking garage, thus allowing passengers and their baggage to be processed through the terminal as quickly and efficiently as possible. The Proposed Action includes the following terminal improvements:

- Head House and Concourses. The Program provides for a compact bar-shaped head house with two double-loaded concourses and one smaller single-loaded concourse on the east side. The new terminal would be both functional and flexible with a building layout and environment that supports the highest level of passenger service and facilities for a building of this size envelope and within available budget. The head house would have three levels, with Departures/Ticketing on Level 3, Arrivals/Baggage Claim on Level 2, and Ground Transportation and airport/airline operations on Level 1. On the airside, three concourses interface with the preferred concept for the terminal airside apron; on the landside, all three building levels interface with the preferred concept for landside roadways and parking.

- The Program is planned in the context of the airport-wide demand of 34 MAP. The new terminal is designed to accommodate approximately half that demand—or 17.5 MAP (with the balance of the forecast passengers handled by Terminals A, C, and D). The proposed building totals approximately 1.3 million square feet including all three concourses and a connector to the adjacent Terminal C. The terminal concourses/gates are designed to accommodate the projected aircraft fleet mix, and the terminal head house would have the capacity to handle projected peak hour passenger volumes. There would be adequate public space for passenger amenities, convenient locations for concessionaires, and plenty of seating and restrooms. There would also be sufficient space for airport and airline functions, and allowance for TSA requirements for screening of passengers and bags.

These Program objectives cannot be accomplished by expanding and modernizing the existing CTB. Constructing a new terminal from the ground up allows the building to be sized accordingly and the entire Program to be coordinated across sectors—airside, terminal, and landside—into a cohesive plan.

2.4 Landside Roadways and Parking

The terminal area roadway system is a complex network of interrelated bridges and roads serving a variety of airport users. The roadway system includes the airport entrance/exit roads, terminal approach roads, terminal curb frontage, recirculation roads, as well as interior service roads for airport service vehicles, deliveries, and parking. Under the Proposed Action, the new roadway system would be designed to accommodate projected traffic volumes while providing fast, safe, efficient, and economical access and parking during the busy hours of the day. The Proposed Action includes the following landside improvements:

- Terminal Area Roadways. The terminal area roadways would be reconfigured to accommodate free flowing traffic movements through the entire central terminal area complex, including the new terminal and existing Terminals C and D, while minimizing or avoiding impacts on the Grand Central Parkway to the degree practicable. Based on the preferred terminal concept, the corresponding roadway improvements include: at-grade frontage roadways and ramps; elevated frontage roadways and ramps; connecting roadways to the West Garage; connecting roadways to the Marine Air Terminal and Grand Central Parkway (East and West);

reconstruction of portions of the 94th Street and 102nd Street bridges to the Airport; and, four signalized intersections.

The new roadway system is planned to optimize the ability for all types of vehicles to access, egress, and circulate through the central terminal area, e.g., private cars, taxi cabs, limousines, shuttle vans, busses, etc. There would be convenient access to the terminal curbside and other destinations such as parking, and sufficient throughput capacity in the roadway system to provide safe and efficient operations even as volumes increase over time and during busy hours of the day. Curbside roadways would be vertically separated to interface with each level of the new terminal—with departures on the upper level, arrivals on the middle level, and ground transportation on the lower level.

- West Garage. The existing CTB parking garage (Lot P2) would be demolished and replaced by a new West Garage with five levels, 2,900 parking spaces, and a pedestrian connection to the new terminal building. Detailed studies for the passenger terminal and roadway concepts indicate that the existing CTB parking garage cannot remain in its current location and still achieve the objectives for the Program. Relocating the parking garage is essential to achieving an optimal layout for the CTB envelope—airside, terminal, and landside.

2.5 Support Projects

In addition, the Proposed Action includes the following list of *enabling* projects—these are smaller projects or actions that must be undertaken early in the Program in order to make space or to otherwise allow the above-referenced airside, terminal, and landside elements of the Program to proceed:

- Remove Aircraft Hangars 1, 2, and 4. Aircraft Hangars 1, 2, and 4, dating to 1939-1940, would be removed to make way for constructing the proposed terminal building and airside apron.

- Relocate the Central Heating and Refrigeration Plant (CHRP). The existing CHRP, located within the existing CTB, is nearing its useful life and needs to be replaced. A new CHRP would be located between the East End Substation and the East Garage in front of Terminal C.

- Relocate the East Field Lighting Vault. The existing East Field Lighting Vault, located in Concourse D near the base of the old Airport Traffic Control Tower (ATCT) would be removed and replaced with a comparable facility located on the on the east side of Terminal D.

- Relocate the Taxi Hold Lot. The existing CTB taxi hold area, located on the east side of Lot 3, would be relocated to the southeast side of Lot 4.

- Provide for New In-Ground Utilities. All the utilities needed to implement the Proposed Action are available on the Airport and are included in the Program; no off-airport improvements are proposed. There are provisions for electricity, natural gas, sanitary sewer, potable water, storm drainage, and communications. Existing systems would be used to the greatest extent practicable; where it is not practicable, existing systems would be modified and new equipment installed as needed to meet the requirements of the Program.

3.0 RESULTS OF THE CULTURAL RESOURCE INVESTIGATIONS

This section identifies and describes the archaeological and architectural resources that would be affected by the Proposed Action.

A cultural resources survey was undertaken for this project under Section 106 of the National Historic Preservation Act (NHPA). An Area of Potential Effects (APE) was developed for the project (**Figure 3**). The APE is defined in the regulations implementing the Section 106 review process as, "The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking" [36 CFR Part 800.16(d)]. The APE for this project is large enough to identify all potentially significant cultural resources that could potentially be directly or indirectly affected by the project.

A cultural resources survey was undertaken for the project within the APE. The results of those studies are presented below.

3.1 Archaeological Resources

The archaeological potential within the APE for the project was evaluated. A Phase IA Archaeological Reconnaissance Report was prepared and submitted to the NYSHPO for review on June 24, 2013. That report noted one location of archaeological sensitivity within the project's APE. Due to the substantial amount of filling activities that have occurred in this location over the past 50 years, any intact soils would be significantly below grade. Thus, the potential for impacts to occur overall was recommended as low, contingent upon the depth of construction. One location was determined to have moderate to high potential, but again, only at depths of over 15 feet. The recommendation in that location was consultation with the NYSHPO to determine if monitoring during construction by a qualified archaeologist would be appropriate. NYSHPO will review this report and consultation will be undertaken to determine if any additional archaeological work is warranted.

3.2 Architectural Resources

Architectural resources over 50 years of age that could potentially be impacted by project activities were identified and evaluated as part of this study (**Figure 4**). One previously documented property is located on airport property: the Marine Air Terminal. The Marine Air Terminal, has been designated a New York City Landmark by the New York City Landmark Preservation Commission (LPC) (1980), and is listed in the National Register of Historic Places (NRHP) (1982). The Marine Air Terminal was part of the original airport designed by Delano & Aldrich, and was constructed on the west side of the airport along Bowery Bay to serve as a terminal for Pan American's sea planes. The Art Deco-style Marine Air Terminal was dedicated in April 1940, upon which time the first international flight aboard the Yankee Clipper took off. It was determined to be both historically and architecturally significant, as a surviving early Art Deco style sea plane terminal, dating to the first generation of passenger flight in the US, designed by architect William Delano. This building is outside of the APE for this project and will not be affected by any project activities, either directly or indirectly.

A number of other buildings over 50 years of age were surveyed and evaluated as part of the project.

3.2.1 Central Terminal Building (CTB/Terminal B)

The Modern, crescent-shaped CTB was designed by Wallace K. Harrison of the New York City-based architectural firm Harrison & Abramowitz. Harrison's architectural achievements include the design of the Trylon and Perisphere for the 1939 World's Fair, the Rockefeller Apartments, and the United Nations, among others. Constructed in 1964 as part of the first major redevelopment effort at the airport, the CTB features curtain glass walls, a four-story central section and two three-story wings topped with a parasol roof, evocative of flight. Four bi-level concourses extend northward from the north façade of the terminal to provide access to planes. Upper and lower-level roadways curve against the building, and provide access for departing passengers on the upper level, and arriving passengers on the lower level.

The CTB has been significantly altered, and therefore lacks integrity. Specifically, as part of a major redevelopment campaign that commenced in 1987 the lower level was expanded 55 feet to the south to create an additional 56,000 square feet of space. This resulted in removal of V-shaped concrete columns which had supported the upper level and were replaced with cylindrical concrete and chrome-covered columns. The lower level roadway was expanded to conform to the new building footprint. The upper level roadway was widened to provide space for three additional lanes of traffic. An addition was appended to the rear, or north façade. The interior of the building was also completely renovated during this time. In addition, in 2010, the ATCT appended to Concourse D was demolished and replaced with a new control tower, which also diminished the integrity of the CTB. As a result, the CTB lacks integrity of materials, workmanship, feeling, and association. The CTB was recommended to be not eligible for listing on the NRHP due to this lack of integrity. The NYSHPO agreed with this recommendation that the CTB is not eligible (Appendix C). Additional information on the CTB can be found in Appendix B.

3.2.2 Hangars 1, 3 and 5 and Hangars 2 and 4

Hangars 1, 3, and 5 and Hangars 2 and 4 at LaGuardia Airport were also identified within the APE and were surveyed and recommended eligible. This project only includes the removal of Hangars 1, 2, and 4. However, Hangars 3 and 5 are part of a larger connected block of Hangars (1, 3, 5), and thus have been included in this documentation effort. There are no plans as part of this project to remove or demolish Hangars 3 or 5. Summary information on the eligible resources is presented below, and the full survey forms can be found in Appendix B.

LaGuardia Airport was constructed between 1937 and 1939, and originally comprised of 105 acres. Plans for the new airport called for the expansion of the site to 558 acres, approximately 228 of which would be created primarily from fill from Rikers Island. As designed by the Department of Docks, the Works Progress Administration (WPA), and the architectural firm of Delano & Aldrich, the airport would function separately for sea and land planes. Thus, separate terminals and hangars for sea planes and land planes were developed. The original Landplane Terminal was a three-story Art Deco-style building, topped with a glass-enclosed control tower. This building was demolished to make room for the current Central Terminal Building (1964).

A total of seven hangars associated with land planes were constructed in the central terminal area: Hangars 1, 3, and 5, situated west of the original terminal, and Hangars 2, 4, 6 and 8 located east of the terminal building. Hangar 7 is located on the southwest corner of the airport, outside the APE. The hangars were 350 feet long by 165 feet deep. The hangars included two-story lean-tos in the rear or

south, which provided office space. Two story additions were also affixed to the east and west side of the hangars to provide additional space for offices and shops.

The airport opened on March 31, 1940. Soon after opening, however, a fire destroyed Hangar 4, but it was repaired by June 1940. Original airlines at LaGuardia included American, United, TWA, and Eastern airlines. In July 1940, Hangar 8 was under construction, east of Hangar 6, to house Eastern Airlines. This hangar was completed by December 1940.

In the late 1950s, advances in aviation led to the success of commercial jet airplanes, leading to a boom in air travel. As a result of aviation growth, and just as today, LaGuardia was forced to evolve, leading to the demolition of the original terminal building and the construction of the modern CTB and control tower (completed in 1964). The CTB was designed by Wallace K. Harrison of the New York firm, Harrison & Abramowitz. During that massive redevelopment phase, runways were improved as were taxiways and aprons. Roadway improvements were also undertaken, including roads that access the CTB and Grand Central Parkway ramps, to allow for better circulation. Runways 4-22 and 13-31 were extended between 1,000 and 2,000' (to 7,000') in 1967. The CTB Parking Garage (P2) was constructed (and the landscaped park in front of the CTB removed), in 1975-76. In addition, the boat basin was filled in to provide for a new parking structure (noted above) and additional parking lots.

As part of expansion projects in the 1980s and 1990s, runways were extended and the new terminal (built as the US Airways Terminal, now operated by Delta) was constructed west of the Eastern Airlines Shuttle Terminal, and resulted in the demolition of Hangar 8. This was completed in 1992, and shortly afterward, Hangar 6 was also demolished to allow more space for US Airways planes. Runway 13-31 deck was extended by 400' in 1997. The East End Roadway Improvements were completed in the mid-2000s, the new Air Traffic Control Tower (ATCT) completed in 2010, and the original ATCT was partially demolished in 2011.

Hangars 1, 3 and 5 and Hangars 2 and 4 (and the buildings that connect them) were all constructed between 1939 and 1940 as part of the original LaGuardia Airport. Hangars 1, 3 and 5 are located west of the CTB and Hangars 2 and 4 are located east of the CTB. The blocks of hangars form two sets of curved blocks with shared piers and all are interconnected. The hangars are all frame buildings with rectangular plans, set upon concrete pile foundations, capped by barrel roofs, and sheathed in buff-colored brick. The corners of the hangars are distinguished by brick piers that extend above the rooflines and are accentuated with vertical brick work.

Hangars 1, 3, and 5 and Hangars 2 and 4 were determined to be significant under National Register Criterion A for their association with the original airport, constructed as New York City's first major commercial airport. The hangars are also significant as part of one of the largest Works Progress Administration (WPA)-funded projects at the time. The hangars are also significant under National Register Criterion C as good examples of Art Deco style hangars and workshops, designed by noted architect William Delano. Although the overall airport was altered, including demolition of the original Art Deco style terminal, demolition of Hangars 6 and 8, and construction of the CTB, Hangars 1, 3, and 5 and Hangars 2 and 4 remain from the original design.

The NYSHPO provided an opinion that Hangars 1, 3, and 5 and Hangars 2 and 4 were eligible for listing on the NRHP. The NYSHPO agreed that the CTB was not eligible in their May 10, 2013 correspondence. Survey forms for Hangars 1, 3 and 5 and Hangars 2 and 4 can be found in Appendix B, and

documentation supporting the non-eligibility of the CTB is also included in Appendix B. Correspondence from the NYSHPO can be found in Appendix C.

4.0 EVOLUTION OF BUILD ALTERNATIVES AND IMPACTS TO CULTURAL RESOURCES

This section identifies the Program Area, describes the preliminary concepts that were evaluated in detail, and discusses the potential impacts on the historic buildings. Additional discussion about the avoidance alternatives is provided later in Section 5. More detailed information about all the alternatives will be presented in the Draft EA.

4.1 Program Area

It was determined early in the terminal planning process that the Program requirements cannot be accomplished without removing Hangars 1, 2 and 4. This is because the minimum space required to implement the Proposed Action is approximately 147 acres as defined by the Program Area—the boundary of which is physically constrained by Runway 13-31 and taxiways to the north, Terminals C and D to the east, the Grand Central Parkway to the south, and Runway 4-22 and taxiways to the west. There are no underutilized facilities or open spaces available within or adjacent to the Program Area that could otherwise be used to work around the hangars; therefore, the land encompassing Hangars 1, 2, and 4 is essential to meeting the requirements of the Program.

As previously mentioned, the Program is planned in the context of the airport-wide 34 MAP forecast and the new terminal facilities must be designed to accommodate approximately half that demand—or 17.5 MAP. After detailed analysis and careful consideration, PANYNJ concluded that airline operations associated with the 17.5 MAP forecast can be adequately accommodated with a 35-gate layout plan and corresponding facilities.

4.2 Terminal Configurations within the Program Area

Three different terminal configurations—referred to as Concepts A, B, and C—were thoroughly evaluated during the terminal planning process. A design team consisting of airport and environmental planners, engineers, architects, and other specialists, spent more than two years preparing and evaluating dozens of conceptual layouts for each terminal configuration before deciding on one preferred layout to represent each of the three concepts.

All three concepts utilize the same Program Area as described above and each concept was fully-developed and evaluated for its ability to provide the airside, terminal, and landside facilities needed to meet the project's objectives within the space available. Concepts A, B, and C, are discussed below to help demonstrate that there is no novel concept or terminal design approach that would otherwise avoid an adverse effect on the hangars.

4.2.1 Concept A: Reconstruction/Re-Use (Dismissed)

Concept A retains the existing central terminal building and concourse/pier layout, as shown in **Figure 5**. This concept is referred to as the Reconstruction alternative because it entails the complete gut renovation, reconstruction, and expansion of the existing terminal head house, as well as replacement of the airside concourses. Without total reconstruction, the existing head house cannot be reused and still meet the capacity needs, service needs, and building systems needs for the future. In this concept, the central terminal building would be reconstructed in the same location using the existing structural frame and floor slabs. The existing terminal building format would be retained with Arrivals/Baggage Claim at the ground level and Departures/Ticketing at the second-level (administrative office /support areas would continue to be located on a partial third floor). The terminal airside apron and taxi lanes would be reconfigured within the space available, while the existing CTB frontage roads and parking garage would be rehabilitated and reused to the degree practicable.

Detailed evaluation concluded that Concept A is not a reasonable alternative because trying to reuse the existing facilities proved to be more complicated than redeveloping the site altogether. Due to the inherent constraints associated with keeping the existing terminal and roadway configuration, Concept A is the most difficult alternative to sequence and construct. Furthermore, when completed, the renovated facilities would be only slightly more efficient than the existing facilities are today. Concept A was dismissed because it severely limits potential opportunities to improve passenger service in all areas of the Program—airside, terminal, and landside—and thereby fails to achieve the Purpose and Need.

Concept A requires demolition of Hangars 1, 2 and 4. As discussed later in Section 5, there is no prudent or feasible alternative to modify Concept A to avoid impacting Hangars 1, 2 and 4 and still achieve the project's objectives.

4.2.2 Concept B: Island/Satellite (Dismissed)

The island, or satellite, concept consists of a central terminal building for the processing of passengers and baggage, and a remote (island) concourse around which the aircraft would be parked, as shown in **Figure 6**. In this concept, the remote concourse is connected to the main terminal by a pedestrian bridge crossing over the aircraft taxi lanes, and by a tunnel crossing under the taxi lanes that encloses the baggage conveyor system and utilities. A recent, local example of a similar island concept is Terminal 8 (American Airlines) at John F. Kennedy International Airport.

Detailed evaluation concluded that Concept B is not a reasonable alternative because there is not enough space available to implement an island/satellite concept, effectively. In an attempt to make Concept B conform to the established Program Area, which is not optimal for this type of terminal, the intended operational benefits of the island/satellite layout were eroded to the degree that Concept B is no longer practical. Other contributing factors for dismissing Concept B were dominated by construction phase impacts on gate availability and airline operations, the nature and extent of temporary facilities required to execute a complex phasing plan, the percentage of construction within secure airside areas, and the need to tunnel through a high water table.

Concept B requires demolition of Hangars 1, 2 and 4. As discussed later in Section 5, there is no prudent or feasible alternative to modify Concept B to avoid impacting Hangars 1, 2 and 4 and still achieve the project's objectives.

4.2.3 Concept C – Finger/Pier Concourses (Advanced)

As shown in **Figure 7**, Concept C is also a concourse/pier layout. However, unlike Concept A, which reuses the existing terminal building, frontage roads and parking garage, Concept C allows the airside apron, terminal building, landside roadways and parking garage, to be reconfigured and reconstructed as needed to achieve higher level performance measures that cannot be achieved with Concept A (or Concept B). To accomplish this, the central terminal is shifted south towards the Grand Central Parkway and expanded east and west to accommodate wider spaces between the concourses, thus creating needed apron space for dual taxi lanes to facilitate more efficient aircraft maneuvering and parking.

After detailed evaluation, Concept C was determined to be superior to Concepts A and B in terms of construction and subsequent operation. Construction phasing is improved in all areas of the project. Concept C results in the least impact on airside taxi lanes and aircraft parking, the fewest airline relocations/moves, and one to two years less construction time—all of which contributes to the least disruption for passengers and airlines, which translates to the lowest direct and indirect costs of the three concepts considered.

On the airside, Concept C offers the largest apron and the best aircraft stand capacity, the richest complement and best balance of airside facilities, and the most flexibility to adapt to future needs. Inside the terminal, Concept C has the lowest gross floor area and yet it provides the most efficient use of space, due to the fact that the building is not influenced by the need to reuse existing structures (like Concept A) or the need to conform the building to a site that is not optimal (like Concept B). On the landside, Alternative Concept C provides for new roadways and parking facilities that satisfy the program requirements for this project and with the least impact on the GCP. Concept C was recommended for more detailed planning, analysis, and refinement of each of its major sectors—airside, terminal, and landside—which resulted in several improvements and changes to the preliminary Concept C, as discussed here. The final layout is presented in more detail in Section 2.0: The Proposed Action.

Concept C requires demolition of Hangars 1, 2 and 4. As discussed later in Section 5, there is no prudent or feasible alternative to modify Concept C to avoid impacting Hangars 1, 2 and 4 and still achieve the project's objectives.

4.2.4 The Proposed Action

No configuration other than the Proposed Action fully meets the Purpose and Need for the project. The Proposed Action was selected among the alternatives considered because it fully meets the Purpose and Need for the project, no potentially significant environmental impacts have been identified that could be reasonably avoided by a different alternative, and the Proposed Action is technologically and economically feasible to implement. The Proposed Action requires the unavoidable removal of Hangars 1, 2 and 4.

5.0 ALTERNATIVES EVALUATED THAT AVOIDED IMPACTS TO HISTORIC PROPERTIES

This section discusses the feasibility of alternatives that would avoid adverse impacts on historic properties. The term "historic property" is defined in the National Historic Preservation Act as: "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on

the National Register" (16 U.S.C. Section 470(w)(5). Avoidance alternatives are those that entirely avoid historic properties. Hangars 1, 2, 3, 4 and 5 are recommended as NRHP-eligible. Efforts have been made to assess if there are any feasible and prudent alternatives that would meet the project's Purpose and Need and avoid having an Adverse Effect on historic properties under Section 106 of the NHPA. The PANYNJ examined numerous options and alternatives in an attempt to meet the project's objectives without impacting the historic property.

In addition, an Adverse Effect on a historic property constitutes a "use" under Section 4(f) of the U.S. DOT Act of 1966. A key requirement of Section 4(f) compliance is the attempt to show whether or not a historic property can be completely avoided while meeting the transportation need. When the alternatives under consideration "use" land from a Section 4(f) property, alternatives that avoid the property must be evaluated.

Several options were considered as alternatives to the Proposed Action and all of them were eliminated from detailed environmental analysis for the reasons explained below. These options range from expanding the Program Area, to using other areas of the Airport, to using a different airport, to using other modes of transportation, to taking no-action at all.

5.1 No-Build/No-Action Alternative

Under the No-Build/No-Action Alternative, the Proposed Action would not be implemented and the project-related adverse effects on the hangars would not occur; however, the project's objectives would not be accomplished either, which means the airport-wide 34 MAP forecast would not be achieved, airline efficiency and passenger levels of service would continue to get worse, and the public would go without the anticipated benefits of the CTB Redevelopment Program. Consequently, the Purpose and Need for the Proposed Action would not be fulfilled.

The No-Build/No-Action Alternative is not a reasonable or prudent solution and is not recommended by PANYNJ. However, the No-Build /No-Action Alternative is required to be evaluated in an EA. As such, this alternative will be carried forward in the EA and used as a baseline against which the effects of the Proposed Action will be compared.

5.2 Expand the Program Area

As previously stated, the Program Area is physically constrained by Runway 13-31 and taxiways to the north, Terminals C and D to the east, the Grand Central Parkway to the south, and Runway 4-22 and taxiways to the west (**Figure 3**). It is not reasonable to relocate runways or taxiways as a means to avoid impacting the hangars. For example, Runway 13-31 and associated taxiways would have to be shifted north into Flushing Bay requiring massive fill and causing significant adverse impacts on coastal water resources. Similarly, Runway 4-22 would have to be shifted west by filling in portions of Bowery Bay, displacing essential airport facilities, and encroaching on other buildings such as Hangar 7 built circa 1940 (Airport Maintenance/Administration) and the NRHP-listed Marine Air Terminal. In addition, relocating either runway would shift aircraft over-flights and noise closer to more populated areas in the surrounding community.

It is not reasonable to displace any portion of Terminals C and D. Terminal C was recently acquired by Delta Airlines and physically connected to Delta's Terminal D. Delta recently completed a $100 million renovation of both terminals as part of the airline's expanded east-coast hub operation. There are no

underutilized facilities or excess space available within or adjacent Terminals C and D that could otherwise be used to accommodate unmet needs.

It is also not reasonable to relocate the Grand Central Parkway. Not only is the Parkway a major east-west thoroughfare that passes through the Borough of Queens, shifting the roadway to the south would require displacing businesses and residences along Ditmar's Blvd and remove Overlook Park as well.

Expanding the Program Area is not a prudent or feasible alternative because the environmental impacts would be far greater than the impacts associated with the Proposed Action.

5.3 Reduce the Size of the Project

Assuming the Program Area cannot be expanded, the project elements would have to be reduced in size in order to accommodate Hangars 1, 2 and 4. Based on the forecast passenger activity levels, the Program requirement is to provide a new central terminal building with a 35-gate layout plan. As shown in **Figures 8a - 8f**, there is no reasonable terminal development alternative that avoids the hangars and still accomplishes the project's purpose and need.

These figures illustrate how preliminary Concepts A, B, and C, could be reduced in size to avoid impacting Hangars 1, 2 and 4. In each case, reducing the size of the Program Area as needed to avoid the historic properties would result in a smaller terminal building with only 15 to 26 gates, which would not provide the terminal space or gate capacity needed accommodate existing or forecast passenger demands.

Reducing the size of the project is not a prudent or feasible alternative because it is unreasonable to proceed with a Program that fails to accomplish the stated Purpose and Need.

5.4 Utilization of Alternate Sites within LaGuardia Airport

Using a different terminal is not a reasonable alternative because no vacant space or underutilized facilities would be available to accommodate unmet needs. Terminals A, C, and D are leased exclusively to Delta Airlines. Terminal A is used for shuttle service to Boston, Chicago, and Washington DC, and Terminals C and D are used for Delta's east coast hub operation. Sharing their facilities with competitor airlines is not possible or practical because of the terminal area and gates required to meet their respective needs. No other terminal facilities are available.

Developing another location on the Airport in which to implement the Proposed Action is not a prudent or feasible alternative either. LaGuardia Airport is already land constrained. There is no suitable site with the space available to accommodate the airside, terminal, and landside requirements associated with constructing another terminal building.

Utilizing another location on the Airport is not a reasonable alternative because there are no other suitable sites to consider.

5.5 Use a Different Airport

John F. Kennedy International and Newark Liberty International Airports are among the most congested and delayed airports in the U.S. and both are in need of future capacity enhancements to meet their own projected demands. Those airports do not have vacant space or underutilized facilities available that could otherwise be used to supplement or replace airline operations at LaGuardia Airport. Both airports are land constrained and neither airport would be easily expanded. Any alternative that involves expanding JFK and/or EWR to supplement or replace airline operations at LGA would have costs and environmental impacts far greater than the Proposed Action.

Teterboro is a small airport used exclusively for business aircraft and general aviation. It does not have the infrastructure or the vacant space needed to support commercial airline operations and it would not be practical to expand the airport to do so. Several other small, public-use airports exist in the region but they are not considered to be viable alternatives for same reason. Stewart International Airport is located too far away for most air travelers who depend on LaGuardia Airport for convenient access to New York City.

Utilizing another airport is not a reasonable alternative because there are no other airports—individually or collectively—that can accommodate the current and projected passenger demands from LaGuardia Airport.

5.6 Build a Different Airport

The alternative to construct an entirely new commercial airport is not a viable solution to satisfy the current or projected capacity deficiency at LaGuardia Airport. New airport development would have costs and environmental impacts of the highest order. Not to mention, the Regional Plan Association has thoroughly studied this option and determined that there is no appropriate site within 40 miles of Manhattan to locate a new airport[2]. PANYNJ participated in the 2011 study and concurs with their conclusion.

Building a new airport to supplement or replace LaGuardia Airport is not a reasonable alternative because the environmental impacts would be far greater than the impacts associated with the Proposed Action and because there are no other suitable sites to consider.

5.7 Utilize Different Modes of Transportation

Promoting other modes of transportation to reduce passenger demand at LaGuardia Airport is not a reasonable alternative. These do not meet local aviation needs, nor would they improve the terminal area facilities. Other modes, including busses and rail, have a complementary role to air travel, not a replacement one. Further, other modes do not provide the fast, flexible, and efficient long-distance transportation the public expects to be provided by LaGuardia Airport.

Utilizing different modes of transportation is not a prudent or feasible alternative because it fails to accomplish the stated Purpose and Need.

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[2] *Upgrading to World Class— The Future of the New York Region's Airports, Executive Summary*, Regional Plan Association (January 2011).

5.8 Summary

There is no prudent or feasible avoidance alternative that would meet the project's stated Purpose and Need.

6.0 SUMMARY OF PROPOSED ACTION, IMPACTS TO HISTORIC PROPERTIES AND CONSULTATION PROCESS

The Proposed Action includes the redevelopment of the passenger terminal, airside apron, landside roadways and parking garage associated with the CTB. Under the Proposed Action, the existing terminal and adjunct facilities would be demolished and replaced in-kind with new facilities. The project is needed because the existing facilities are outdated and cannot meet projected passenger demand without significant reconstruction and expansion. The proposed project is designed to meet the latest Federal standards for airport safety and security and to accommodate forecast passenger demand at acceptable levels of service.

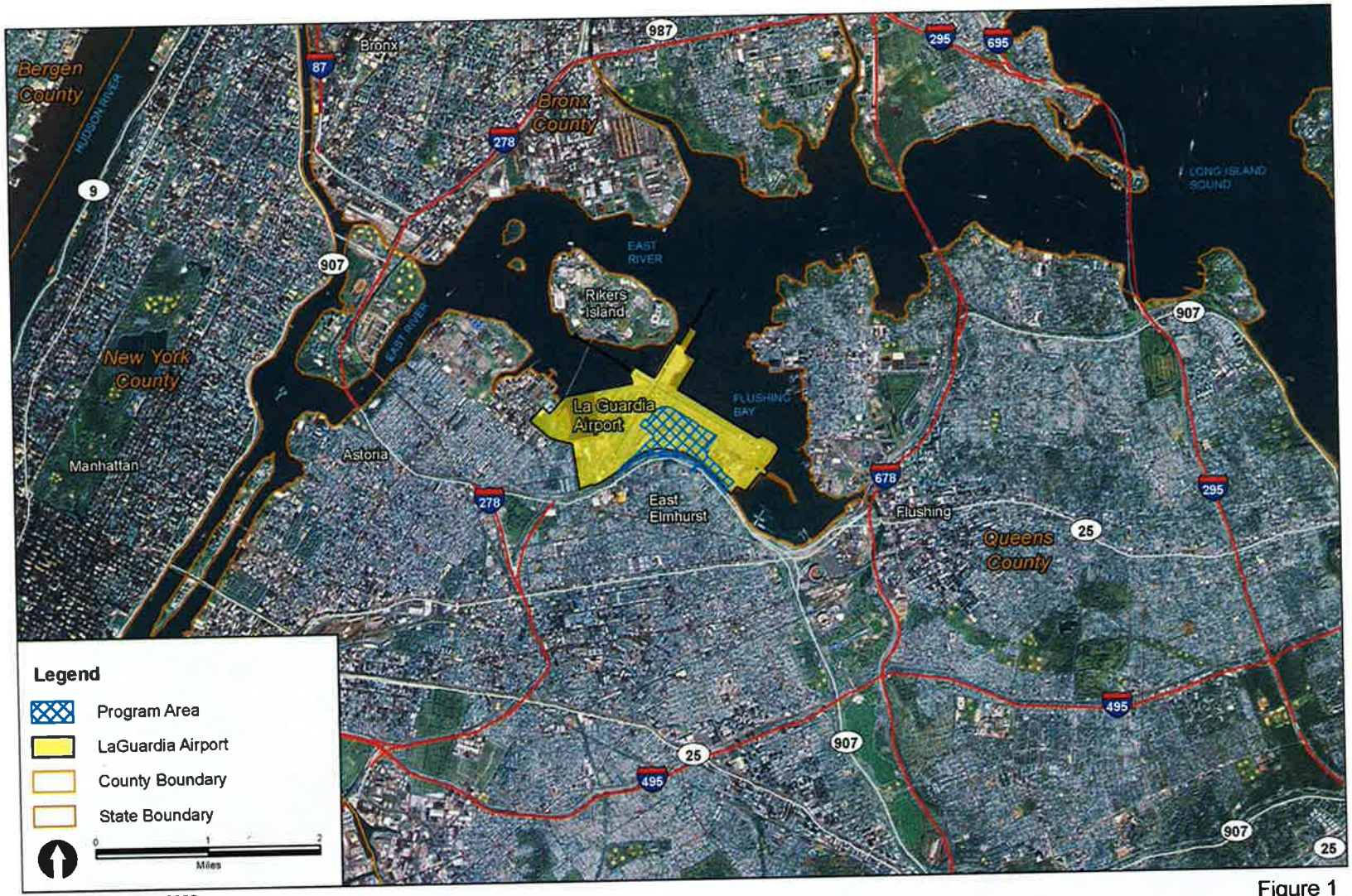
A wide range of build alternatives were examined in order to meet the project's Purpose and Need, and these efforts evolved into the Proposed Action. As demonstrated in this memorandum, every build alternative examined required the removal of Hangars 1, 2, and 4. Alternatives that avoided impacts to the hangars were also examined, but fundamental space constraints precluded these options. In addition, none of these would meet the project's Purpose and Need. The Proposed Action impacts Hangars 1, 3, and 5 and Hangars 2 and 4, all potential National Register eligible resources. The project requires the removal of Hangars 1, 2, and 4, as well as connector buildings between them, causing a direct Adverse Effect. The removal of the adjacent Hangars 1, 2, and 4, as well as the connector buildings, will have indirect Adverse Effects on remaining Hangars 3 and 5, due to the major change in the immediate setting. The buildings will no longer be part of a block of hangars, but will be subsumed within modern development, removing much of the context of the resources. Overall, the project will have an Adverse Effect on cultural resources.

Consultation as part of the Section 106 and NEPA processes will be ongoing as part of this project, seeking ways to avoid, minimize and/or mitigate the anticipated Adverse Effects associated with the removal of Hangars 1, 2 and 4. Avoidance and minimization do not appear to be prudent or feasible options, based upon the extensive alternative analysis undertaken during the planning process.

Consultation will be important to gather input and ideas from various parties moving forward. This process will include the PANYNJ, NYSHPO, FAA, and consulting parties as appropriate. The impacts of the project and the consultation process, and the mitigation elements agreed upon, will be presented in a Memorandum of Agreement (MOA). Consultation as part of the Section 106 process will be ongoing and input will be solicited from all consulting parties.

APPENDIX A

GRAPHICS



Source: ESRI 2013b, 2006
Prepared by: AECOM

Figure 1

CTB Redevelopment Program
Environmental Assessment
LaGuardia Airport
THE PORT AUTHORITY OF NY & NJ

Project Location

Source: ESRI 2013a
Prepared by: AECOM

Figure 2

CTB Redevelopment Program
Environmental Assessment
LaGuardia Airport
THE PORT AUTHORITY OF NY & NJ

Existing Airport Facilities

Source: ESRI 2013a
Prepared by: AECOM

Figure 3

CTB Redevelopment Program
Environmental Assessment
LaGuardia Airport
THE PORT AUTHORITY OF NY & NJ

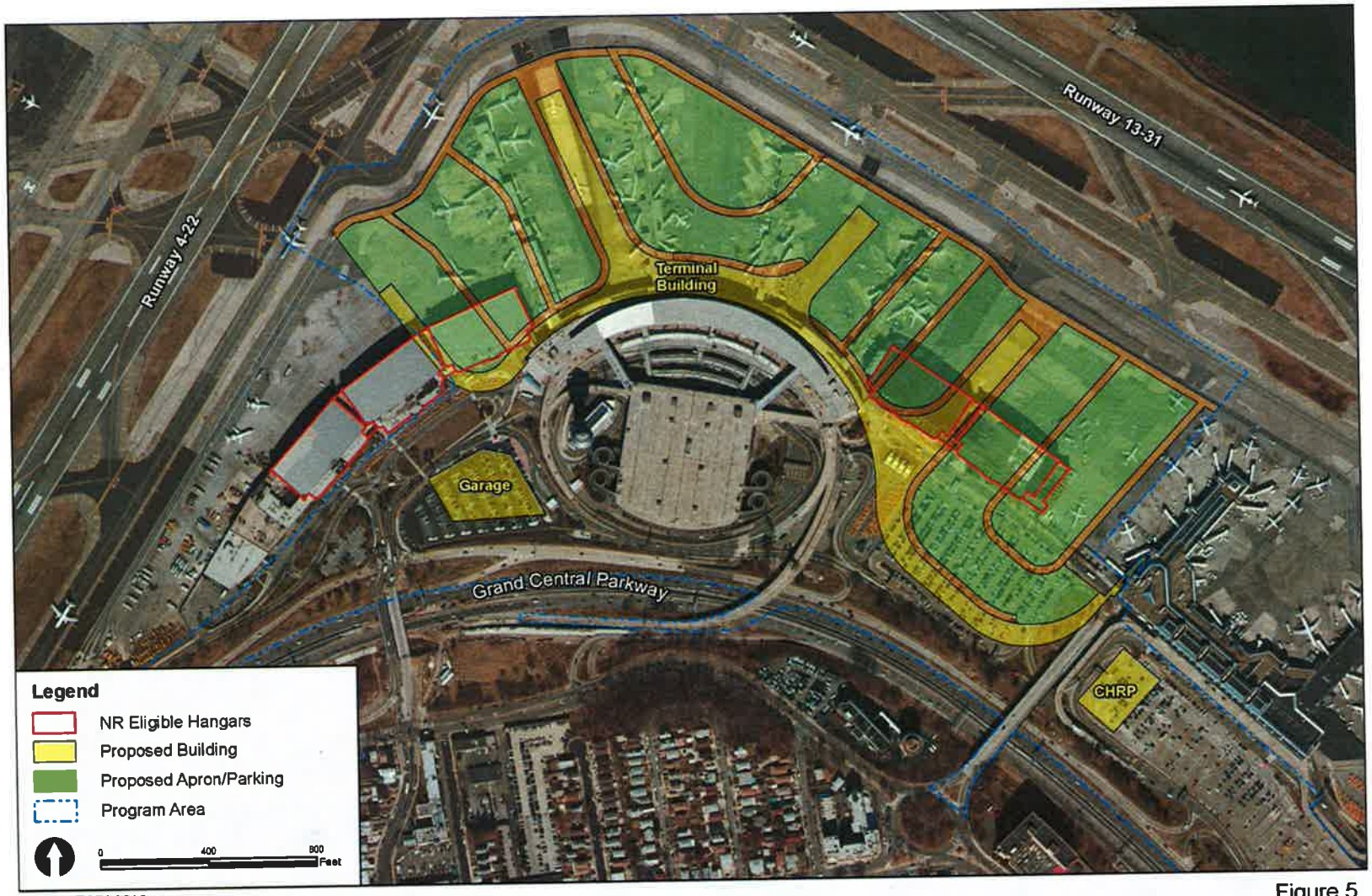
APE and Program Area

Source: ESRI 2013a
Prepared by: AECOM

Figure 4

CTB Redevelopment Program
Environmental Assessment
LaGuardia Airport
THE PORT AUTHORITY OF NY & NJ

Proposed Action

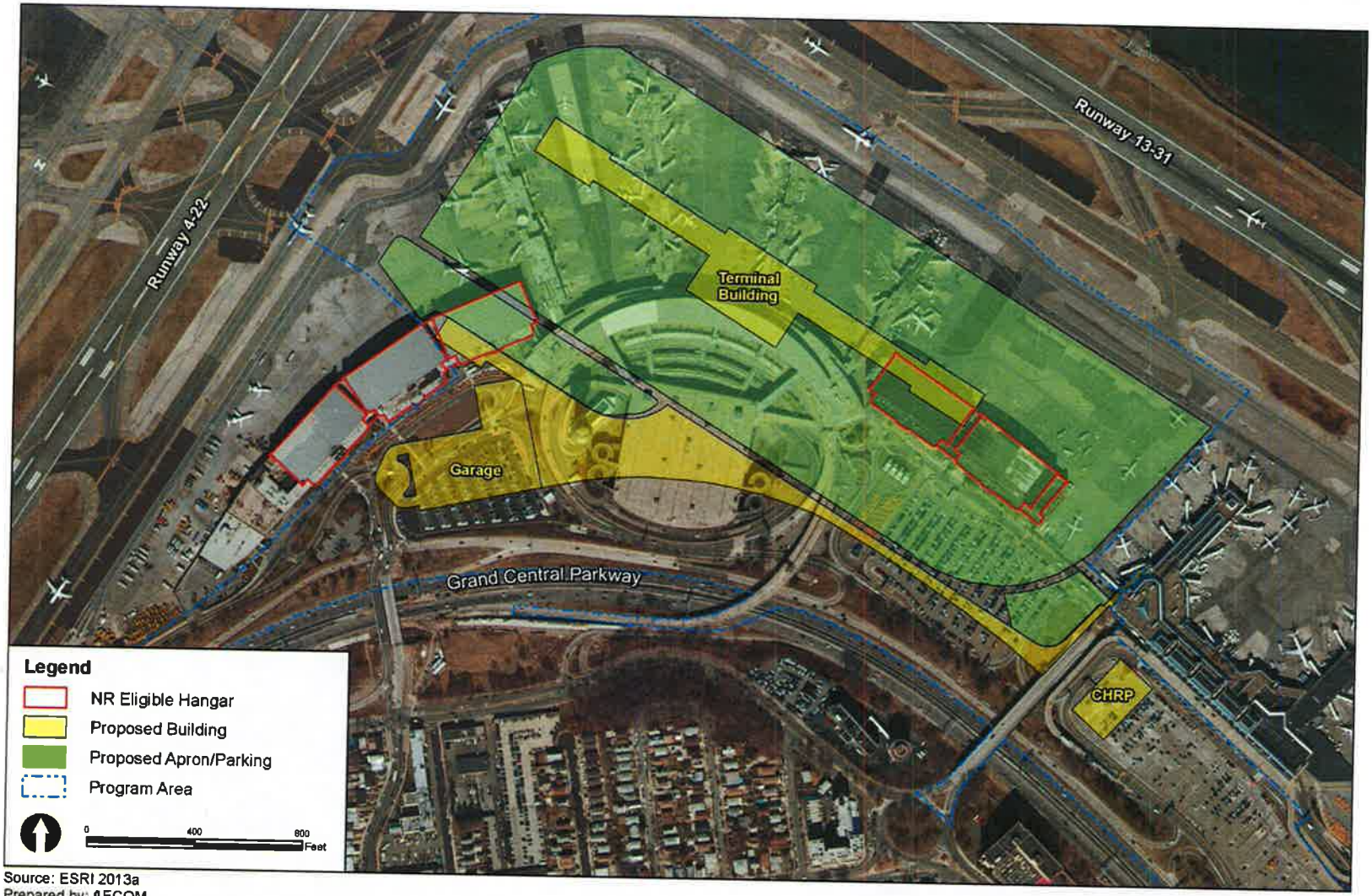


Source: ESRI 2013a
Prepared by: AECOM

Figure 5

Alternative Concept A (Dismissed)

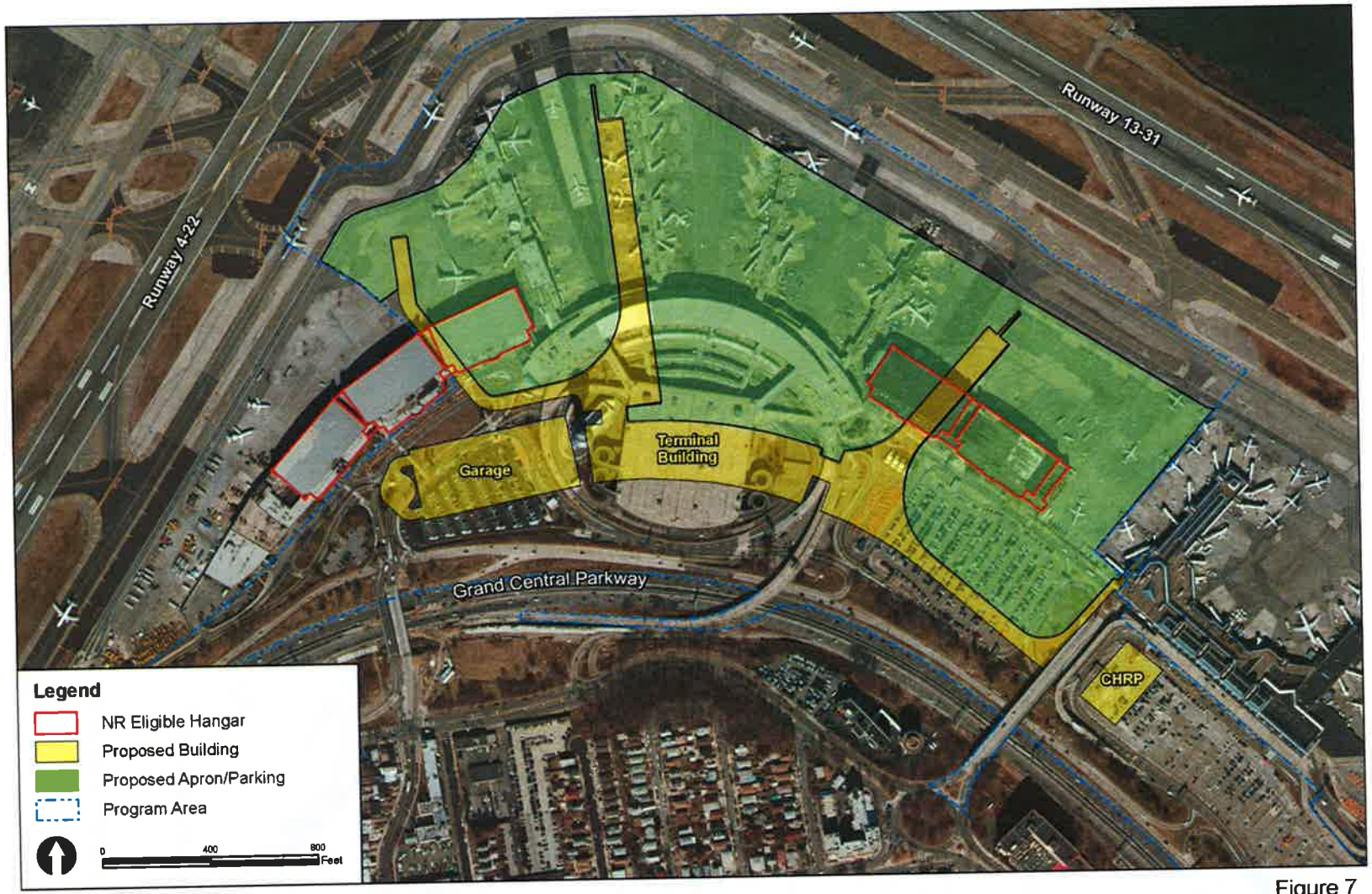
CTB Redevelopment Program
Environmental Assessment
LaGuardia Airport
THE PORT AUTHORITY OF NY & NJ



Source: ESRI 2013a
Prepared by: AECOM

CTB Redevelopment Program
Environmental Assessment
LaGuardia Airport
THE PORT AUTHORITY OF NY & NJ

Figure 6
Alternative Concept B (Dismissed)



Source: ESRI 2013a
Prepared by: AECOM

Figure 7

Alternative Concept C (Advanced)

CTB Redevelopment Program
Environmental Assessment
LaGuardia Airport
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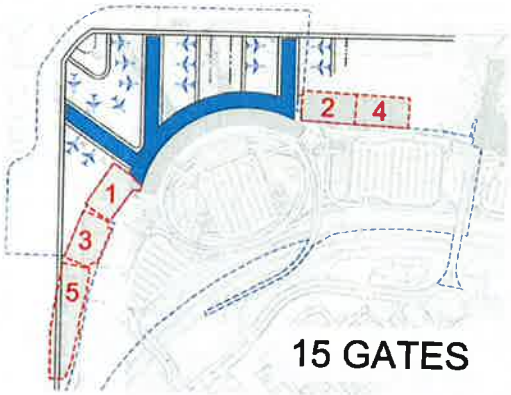

Figure 8a: Alternative Concept Terminal A1

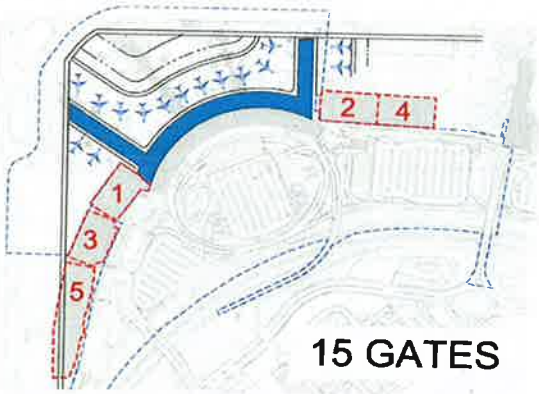

Figure 8b: Alternative Concept A2

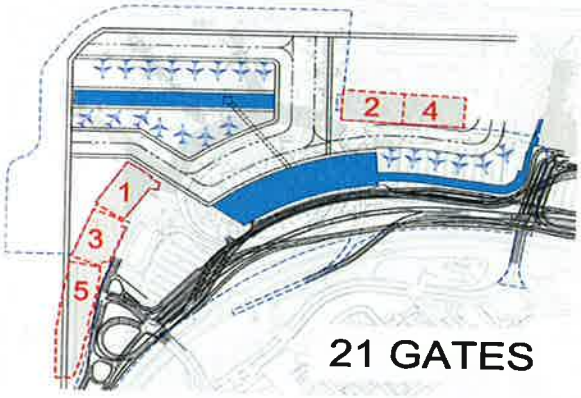

Figure 8c: Alternative Concept B1

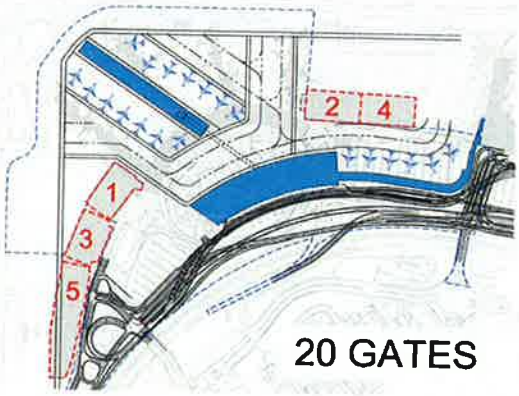

Figure 8d: Alternative Concept B2

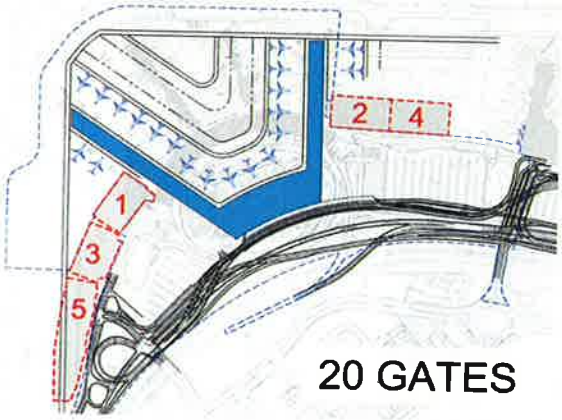

Figure 8e. Alternative Concept C1

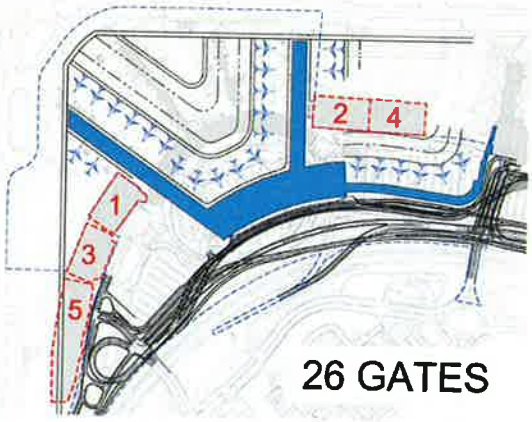

Figure 8f. Alternative Concept C2

Figures 8a-8f. Allernative Concepts

APPENDIX B

NON-ELIGIBILITY MEMORANDUM FOR CENTRAL TERMINAL BUILDING

and

SURVEY FORMS

for

HANGARS 1, 3, 5
HANGARS 2, 4

AECOM
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Technical Memorandum

LaGuardia Airport Central Terminal Building Redevelopment Program Environmental Assessment

Date: July, 2013

Subject: National Register Evaluation of Central Terminal Building

Prepared by: Anne Jennings (Architectural Historian)/Alan Tabachnick (Task Leader)

Central Terminal Building Description

The Central Terminal Building (CTB) is a crescent-shaped, Modern style terminal constructed in 1964 as part of the first major redevelopment effort at LaGuardia Airport. The CTB is situated east of 1930s-era Hangars 1, 3, and 5 and west of Hangars 2 and 4. It is located north of a parking garage constructed in the 1970s, and south of the airfield. The CTB features glass curtain walls, a four-story central section and two three-story wings topped with a parasol roof, evocative of flight. Four bi-level concourses extend northward from the north façade of the terminal to provide access to planes. The former control tower (determined not eligible for listing in the National Register) is appended to Concourse D, and has been partially demolished. Upper- and lower-level roadways curve against the building, and provide access for departing passengers on the upper level and arriving passengers on the lower level. Awnings supported by cylindrical chrome-covered columns and covered walkways are appended to the south façade at the first story level and two glass tubes are appended at the second story level, which provide access to the parking garage. **Photographs 1–5** depict views of the CTB. **Photograph 6** depicts a view of the former, partially demolished control tower.

Brief History of the Central Terminal Building

The CTB was constructed as part of the first major redevelopment effort at LaGuardia Airport and replaced the original 1939 Art Deco style terminal designed by architect William Delano of Delano & Aldrich. The redevelopment effort was necessary as the result of advances in aviation that led to the success of commercial jet airplanes, ushering in the Jet Age. With the larger and faster planes, air travel surged (Gordon 2008). As a result, the Port of New York Authority announced plans in 1957 for a $32,000,000 redevelopment program for LaGuardia Airport (*The New York Times,* June 19, 1957). The CTB was designed by Wallace K. Harrison of the New York architectural firm, Harrison & Abramowitz. The firm was founded in 1945 by Harrison and Max Abramowitz. They were chiefly known for New York City skyscrapers for such companies as Mobil, Corning Glass, Time & Life, McGraw-Hill, Exxon, and

Celanese, among others. Harrison was involved with the planning and design of numerous notable buildings including the United Nations, Lincoln Center, and elements of the 1939 World's Fair, including the iconic Trylon and Perisphere (*The New York Times,* December 3, 1981).

As designed, the Modern crescent-shaped CTB was 1,300 feet long and featured 650,000 square feet of space. V-shaped concrete columns supported the upper roadway and concrete stairways also provided access to the upper area. The terminal featured a roof-top observation deck, and glass-enclosed restaurant. A landscaped park, named Fiorello Park to honor Mayor LaGuardia, was located south of the terminal (Port of New York Authority, 1964). The CTB and associated control tower, reported to cost $36,000,000 and $1,600,000, respectively, were dedicated on April 16, 1964. The CTB commenced operations the following day, in time for the April 22 opening of the 1964 World's Fair (*Queensborough,* May 1964).

By the 1980s, the LaGuardia Airport began its second major redevelopment campaign to accommodate increasing numbers of travelers, as well as technological improvements. In 1987, *Newsday* reported that when the CTB was built in 1964, it was designed to accommodate 8 million travelers annually. In 1987, the number of people utilizing the building had doubled to almost 16 million. In 1987, LaGuardia Airport served 22 million, making it the 10th busiest airport in the world (*New York Newsday,* October 19, 1987). In addition to creating a better passenger experience at the airport, these improvements also boosted the city's economy by generating new jobs and revenue (*Queens Tribune,* September 17, 1992).

The new redevelopment campaign focused on renovations to the CTB, runways, taxiways, and construction of a new terminal east of the CTB. In terms of the CTB, the lower level was expanded 55 feet to the south to create an additional 56,000 square feet of space. This resulted in removal of the V-shaped concrete columns which had supported the upper level and replacement with cylindrical concrete and chrome-covered columns. The lower level roadway was expanded to conform to the new building footprint. The upper level roadway was widened to provide space for three additional lanes of traffic. An addition was appended to the rear, or north, façade. The interior of the building was also completely renovated during this time (Arend, 1990; *Newsday,* December 10, 1986).

In 2010, the control tower appended to Concourse D of the CTB was partially demolished and a new control tower was constructed south of the CTB and west of the parking garage. Currently, the airport is set to undergo its third major redevelopment effort since it was constructed in 1939. This proposed effort involves the replacement of the existing CTB, as well as significant airside and landside improvements, and would include the demolition of the CTB, the parking garage, Hangars 2 and 4, and Hangar 1 to allow for construction of a new terminal that would better serve air passengers.

CTB National Register Eligibility Evaluation

Although the CTB may be significant for its association with the first major redevelopment campaign at LaGuardia Airport, ushering in the Jet Age (Criterion A), and as a Modern style terminal designed by noted architect Wallace K. Harrison (Criterion C), it has been significantly altered and lacks integrity. Therefore, the CTB is not recommended eligible for listing in the National Register. Justification of its lack of integrity is included below.

The CTB has been significantly altered since it was constructed in 1964. In the 1970s, the landscaped park south of the CTB was removed and a parking garage constructed in its place, changing the immediate setting of the terminal. The most significant changes took place as part of a major

redevelopment campaign that commenced in 1987. Under this redevelopment campaign, the lower level was expanded 55 feet to the south to create an additional 56,000 square feet of space. This resulted in removal of V-shaped concrete columns which had supported the upper level, and were replaced with cylindrical concrete and chrome-covered columns. The lower level roadway was expanded to conform to the new building footprint. The upper level roadway was widened to provide space for three additional lanes of traffic. An addition was appended to the rear, or north façade. Glass-enclosed tubes were appended to the south façade to allow access to the parking garage, and covered walkways were appended to the first story. The interior of the building was also completely renovated during this time. In addition, in 2010, the control tower appended to Concourse D was demolished which also diminished the historic integrity of the CTB. As a result of these alterations, the CTB lacks integrity of location, materials, design, workmanship, feeling, and association as a Modern, 1960s-era terminal, and is not recommended eligible for listing in the National Register. **Photographs 7-9** depict historic views of the CTB, and illustrate the difference in the historic and present-day appearance of the terminal.

References

Arend, Geoffrey. 1990. *Great Airports LaGuardia: Celebrating 50 Years 1939-1989.* Air Cargo News.

Gordon, Alastair. 2008. *Naked Airport: A Cultural History of the World's Most Revolutionary Structure.* Chicago, Illinois: University of Chicago Press.

New York Newsday. December 10, 1986. "$335M, 8-Year Overhaul of LaGuardia Set." LaGuardia Airport Clippings Collection, on file at the Archives at the Central Queens Public Library, Jamaica, New York.

New York Newsday. October 19, 1987. "Airport Upgrade Gets OK." LaGuardia Airport Clippings Collection, on file at the Archives at the Central Queens Public Library, Jamaica, New York.

Port of New York Authority. 1964. "At 25...The *New* LaGuardia Airport."

Queensborough. May 1964. "Dedicate 'New' LaGuardia Airport." LaGuardia Airport Clippings Collection, on file at the Archives at the Central Queens Public Library, Jamaica, New York.

Queens Tribune. September 17, 1992. "New USAir Terminal Opens at LaGuardia Airport." LaGuardia Airport Clippings Collection, on file at the Archives at the Central Queens Public Library, Jamaica, New York.

The New York Times. June 19, 1957. "LaGuardia Field to be Made Over."

The New York Times. December 3, 1981. "Wallace K. Harrison Dead at 86; Rockefeller Center Architect."

Photograph 1: CTB south façade from modern Parking Garage, looking northwest.

Photograph 2: South façade of upper level of CTB, looking west.

Photograph 3: CTB south façade, looking northwest. Note modern aerial walkway.

Photograph 4: CTB north façade, looking south. Note modern control tower.

Photograph 5: CTB, Concourse B, looking northeast.

Photograph 6: Former LaGuardia Airport Control Tower appended to Concourse B (determined not eligible for the National Register) and partially demolished, looking northeast.

Photograph 7: South façade of CTB, looking northeast, ca. 1964.

Photograph 8: South façade of upper level of CTB, looking northeast, ca. 1964.

Photograph 9: South façade of CTB, looking northwest, ca. 1964. Park has been removed.

HISTORIC RESOURCE INVENTORY FORM

Bernadette Castro
Commissioner

NYS OFFICE OF PARKS, RECREATION
& HISTORIC PRESERVATION
P.O. BOX 189, WATERFORD, NY 12188
(518) 237-8643

OFFICE USE ONLY
USN:

IDENTIFICATION

Property name (if any) Hangars 1, 3, and 5; Buildings 19 and 20

Address or Street Location Central Terminal Drive, LaGuardia Airport

County Queens Town/City East Elmhurst Village/Hamlet:

Owner Port Authority of New York and New Jersey Address Central Terminal Drive, LaGuardia Airport

Original use Airplane hangar and shops/offices Current use American Airlines outbound baggage handling, Priority Parcel, flight operations, and flight services

Architect/Builder, if known William Delano, Department of Docks, WPA Date of construction, if known 1939

DESCRIPTION

Materials – please check those materials that are visible

Exterior Walls:	☐	wood clapboard	☐	wood shingle	☐	vertical boards	☐	plywood	
	☐	stone	☒	brick	☐	poured concrete	☐	concrete block	
	☐	vinyl siding	☒	aluminum siding	☐	cement-asbestos	☐	other:	
Roof:	☐	asphalt, shingle	☒	asphalt, roll	☐	wood shingle	☐	metal	☐ slate
Foundation:	☐	stone	☐	brick	☒	poured concrete	☐	concrete block	

Other materials and their location:

Alterations, if known: Date:

Condition: ☐ excellent ☒ good ☐ fair ☐ deteriorated

Photos

Provide several clear, original photographs of the property proposed for nomination. Submitted views should represent the property as a whole. For buildings or structures, this includes exterior and interior views, general setting, outbuildings and landscape features. Color prints are acceptable for initial submissions.

Please staple one photograph providing a complete view of the structure or property to the front of this sheet. Additional views should be submitted in a separate envelope or stapled to a continuation sheet.

Maps

Attach a printed or drawn locational map indicating the location of the property in relationship to streets, intersections or other widely recognized features so that the property can be accurately positioned. Show a north arrow. Include a scale or estimate distances where possible.

Prepared by: Anne Jennings
Vanessa Zeoli
address AECOM, 20 Exchange Place, 13th Floor, New York, NY;
AECOM, 516 East State Street, Trenton, NJ 08609
Telephone: (212) 798-8602
(609) 310-3202
email anne.jennings@aecom.com
vanessa.zeoli@aecom.com
Date January 2013
July 2013

(See Reverse)

PLEASE PROVIDE THE FOLLOWING INFORMATION

IF YOU ARE PREPARING A NATIONAL REGISTER NOMINATION, PLEASE REFER TO THE ATTACHED INSTRUCTIONS

Narrative Description of Property: Briefly describe the property and its setting. Include a verbal description of the location (e.g. north side of NY 17, west of Jones Road; a general description of the building structure or feature including such items as architectural style (if known) number of stories type and shape of roof (flat gabled mansard shed or other) materials and landscape features. Identify and describe any associated buildings, structures or features on the property such as garages silos privies pools gravesites. Identify any known exterior and interior alterations such as additions replacement windows aluminum or vinyl siding or changes in plan. Include dates of construction and alteration if know. Attach additional sheets as needed.

Hangars 1, 3, and 5 and the small connector buildings between them (19 and 20) were all constructed in 1939 for American Airlines as part of the original LaGuardia Airport. They are the easternmost block of interconnected hangars west of the Central Terminal Building (CTB). The three hangars form a curved block and the southwest pier of Hangar 1 is shared with Hangar 3 and the southwest pier of Hangar 3 is shared with Hangar 5 (**Figure 1**).

Hangar 1

Hangar 1 is a frame building with a rectangular plan, set upon concrete pile foundations, capped by a barrel roof, and sheathed in buff-colored brick. The corners of the hangar are distinguished by brick piers that extend above the roofline and are accentuated with vertical brick work. The north (front) façade of Hangar 1 fronts the apron and is dominated by four steel, multi-light hangar doors. Each hangar door is comprised of five panels. The upper portion of the panel typically features three 20-pane fixed-steel windows over three 20-pane fixed-steel windows. The lower portion is comprised of three 24-pane fixed-steel windows over three solid metal panels. In some instances, the metal panels have been inset with doors. Some glass panels have been replaced; however, the majority of Hangar 1's doors appear to be original. Vertical aluminum siding is affixed to the arched portion of the north façade above the hangar doors. A sign that reads "American Airlines" and displays the airlines logo is appended to the aluminum siding (**Photograph 1**).

(See Narrative Description of Property Continuation Sheets)

Narrative Description of Significance: Briefly describe those characteristics by which this property may be considered historically significant. Significance may include, but is not limited to, a structure being an intact representative of an architectural or engineering type or style (e.g., Gothic Revival style cottage, Pratt through-truss bridge); association with historic events or broad patterns of local, state or national history (e.g., a cotton mill from a period of growth in local industry, a seaside cottage representing a locale's history as a resort community, a structure associated with activities of the "underground railroad."); or by association with persons or organizations significant at a local, state or national level. Simply put, why is this property important to you and the community. Attach additional sheets as needed.

Hangars 1, 3, and 5 and attached Buildings 19 and 20 are recommended eligible for listing in the National Register of Historic Places (NRHP) under NRHP Criteria A and C. They are significant under Criterion A (history) for their association with the original airport, as New York City's first major commercial airport constructed between WWI and WWII. They are also significant under Criterion A for their association with one of the largest WPA funded airport projects at that time. The buildings meet NRHP Criterion C (architecture) as good examples of Art Deco-style hangars and interior working shops, designed by architect William Delano. Although the airport overall has been altered, including demolition of the original Art Deco style terminal and Hangar 6, and construction of the CTB, the hangars remain as part of a collection of original hangars from the original design. The hangars have generally been in continuous use since their construction and have been relatively unaltered, as depicted in historic 1950s-era photographs. Hangars 1, 3, and 5 possess integrity of location, design, materials, workmanship, feeling, and association.

(See Narrative Description of Significance Continuation Sheets)

Narrative Description of Property (continued)

The east façade of Hangar 1 is six bays wide and features seven brick pilasters that extend the height of the façade. The first story is pierced by metal louvers and multi-light windows; and the second story is pierced by six multi-light industrial windows. The west façade is appended to Building 19 and Hangar 3. Similar to the east façade, the second story is pierced by six multi-light industrial windows, divided by seven brick pilasters (**Photograph 2**).

The south facade of Hangar 1 fronts Central Terminal Drive, and consists of a two-story lean-to with canted corners, capped by a flat roof, that houses offices and shops. The arched portion of Hangar 1's south façade extends above the lean-to, and consists of multi-light industrial windows which provide light for the hangar's interior open space. An American Airlines sign and logo is appended to the windows. A two-story projecting entry bisects the lean-to, and features industrial awning windows on the first story and replacement awning windows on the second story. The windows are surrounded by a recessed brickwork pattern of dark-brown bricks. Two slightly recessed entries are situated east and west of the central windows and consist of metal-and-glass doors surrounded by patterned dark brown bricks (**Photograph 3**).

The east and west sections of the lean-to flank the projecting entry and are each six bays wide with a single-bay canted section. A rectangular-plan, glass curtain wall connection to the CTB to the east is appended to the second story of the eastern side of the lean-to, and obscures the fifth and sixth bays. Bands of industrial awning windows, surrounded by patterned dark-brown brickwork, pierce the first and second stories of the lean-to. Windows on the first story are typically sets of four five-pane awning windows, and four three-pane awning windows on the second story. The western portion of the lean-to has been slightly altered; on the first story, two of the six windows have been altered to accommodate garage bays. On the second story, five of the six bays feature replacement windows. With the exception of the glass connector to the CTB, fenestration on the eastern lean-to is mostly original.

The interior of Hangar 1 generally features an open workspace with a concrete floor and brick walls. A concrete masonry unit (CMU) wall creates a partition towards the center of the hangar. The roof is supported by exposed trusswork. The space is divided by a conveyor belt system that allows the hangar to function as an outbound baggage handling area for American Airlines. The hangar is also used for Priority Parcel, flight operations, and flight services (**Photographs 4-6**).

Hangar 3

Hangar 3 is a frame building with a rectangular plan, set upon concrete pile foundations, capped by a barrel roof, and sheathed in buff-colored brick. The corners of the hangar are distinguished by brick piers that extend above the roofline and are accentuated with vertical brick work. The northwest (front) façade of Hangar 1 fronts the apron and is dominated by four steel, multi-light hangar doors. Each hangar door is comprised of five panels. The upper portion of the panel typically features three 20-pane fixed-steel windows over three 20-pane fixed-steel windows. The lower portion is comprised of three 24-pane fixed-steel windows over three solid metal panels. Some glass panels have been replaced; however, the majority of Hangar 3's doors appear to be original. Vertical aluminum siding is affixed to the arched portion of the north façade above the hangar doors. A sign that reads "American Airlines" and displays the airlines logo is appended to the aluminum siding (**Photograph 7**).

Narrative Description of Property (continued)

The northeast façade of Hangar 3 is appended to Building 19 and Hangar 1. The southwest façade of Hangar 3 is appended to Building 20 and Hangar 5.

The southeast facade of Hangar 3 fronts Central Terminal Drive, and consists of a two-story lean-to capped by a flat roof and a setback third story reminiscent of a clerestory. The lean-to houses offices and shops. The arched portion of Hangar 3's south façade extends above the lean-to, and consists of multi-light industrial windows which provide light for the hangar's interior open space. An American Airlines sign and logo is appended to the windows. A stepped-façade, two-story projecting three-bay curved entry bisects the lean-to, and features industrial awning windows on the first story and replacement awning windows on the second story. The windows are surrounded by a recessed brickwork pattern of dark-brown bricks. The centrally situated slightly recessed infilled entry features modern 1/1 double-hung windows. The eleven-bay clerestory-like third floor features three light sliding windows and a projecting central bay (**Photograph 8** and **Photograph 9**).

The northeast and southwest sections of the Hangar 3 lean-to flank the projecting entry and are each seven bays wide. Bands of industrial awning windows, surrounded by patterned dark-brown brickwork, pierce the first and second stories of the lean-to. Windows on the first story are typically sets of four five-pane awning windows, and four three-pane awning windows on the second story.

The interior of Hangar 3 generally features an open workspace with a concrete floor and brick walls. The roof is supported by exposed truss work (**Photograph 10**).

Hangar 5

Hangar 5 is a frame building with a rectangular plan, set upon concrete pile foundations, capped by a barrel roof, and sheathed in buff-colored brick. The corners of the hangar are distinguished by brick piers that extend above the roofline and are accentuated with vertical brick work. The northwest (front) façade of Hangar 5 fronts the apron and is dominated by four steel, multi-light hangar doors. Each hangar door is comprised of five panels. The upper portion of the panel typically features three 20-pane fixed-steel windows over three 20-pane fixed-steel windows. The lower portion is comprised of three 24-pane fixed-steel windows over three solid metal panels. Some glass panels have been replaced; however, the majority of Hangar 5's doors appear to be original. Vertical aluminum siding is affixed to the arched portion of the north façade above the hangar doors. A sign that reads "American Airlines" and displays the airlines logo is appended to the aluminum siding. The northeast façade of Hangar 5 is appended to Building 20 and Hangar 3 (**Photograph 11** and **Photograph 12**).

The southeast facade of Hangar 5 fronts Central Terminal Drive, and consists of a two-story lean-to with canted corners, capped by a flat roof, that houses offices and shops. The arched portion of Hangar 5's southeast façade extends above the lean-to, and consists of multi-light industrial windows which provide light for the hangar's interior open space. An American Airlines sign and logo is appended to the windows. A two-story projecting entry bisects the lean-to, and features industrial awning windows on the first story and replacement awning windows on the second story. The windows are surrounded by a recessed brickwork pattern of dark brown bricks. Two slightly recessed entries are situated northeast

Narrative Description of Property (continued)

and southwest of the central windows and consist of metal-and-glass doors surrounded by patterned dark brown bricks (**Photograph 13**).

The northeast and southwest sections of the lean-to flank the projecting entry and are each six bays wide with a single-bay canted section. Bands of industrial awning windows, surrounded by patterned dark-brown brickwork, pierce the first and second stories of the lean-to. Windows on the first story are typically sets of four five-pane awning windows, and four three-pane awning windows on the second story.

The interior of Hangar 5 generally features an open workspace with a concrete floor and brick walls. A concrete masonry unit (CMU) wall creates a partition towards the center of the hangar. The roof is supported by exposed truss work (**Photograph 14** and **Photograph 15**).

Buildings 19 and 20

Building 19 and Building 20 are two-story buff-colored brick hyphens connecting Hangar 1 and Hangar 3 and Hangar 3 and Hangar 5 respectively. The northwest façades of Buildings 19 and 20 are pierced by centrally located semicircular projecting entries and feature parapet roofs. The fenestration of Building 20 appears to have been altered and infilled with buff-colored brick and 2/2 casement windows. The second story of Building 19 features a projecting semicircular bay window (**Photograph 16** and **Photograph 17**).

The flat roofed, two-story buff-colored brick southeast façades of Buildings 19 and 20 are three bays wide. The second floors feature three-pan awning windows and the first floor, five-pane awning windows. Patterned dark-brown brickwork accents the fenestration.

Narrative Description of Significance (continued)

Integrity Assessment

Hangars 1, 3, and 5 retain integrity, meeting six of the seven criteria. Since the resource is located on its original site of construction, it retains integrity of location. The setting of Hangars 1, 3, and 5 has undergone significant changes during the period between the late 1950s and 1990s including the demolition of the Administration Building (the 1939 Terminal), demolition of Hangar 6 and Hangar 8, construction of the modern CTB and Control Tower, and extensive work to improve runways, taxiways, and aprons. While the setting is still an airport, it no longer conveys the character of the LaGuardia Airport when it was constructed. As a result, the resource no longer retains integrity of setting. The resource still retains its original form, which has not been compromised by non-historic or inappropriate changes or additions; therefore, the resource also retains integrity of design. Some of the historic materials, such as window sashes, doors, and siding in the gable end have been replaced with non-historic materials, but the majority of window and doors, as well as the exterior material, survive. It should be noted that there have been numerous minor alterations to the buildings over time in an effort to help maintain their functionality, including signage changes, exterior light fixtures, air conditioners, security cameras, antennas, bio-metrics, and other changes. However, these are minor modifications within the overall context of these large buildings. As a result, Hangars 1, 3, and 5 retain integrity of materials and workmanship. Because Hangars 1, 3, and 5 retain integrity of design, materials, and workmanship, they are able to convey their historic character and as a result, retain integrity of feeling. Since the link between Hangars 1, 3, and 5 and the LaGuardia Airport is still evident, the resource also retains integrity of association.

Boundary Description

Because the setting of Hangars 1, 3, and 5 has been altered since their construction in 1939 and has been compromised by a number of alterations, the overall property is not intact enough to be considered a district and the proposed boundary is limited to the footprint of Hangars 1, 3, and 5, including Building 19 and Building 20 (see **Figure 1**).

Historic Context

Glen Curtiss Airport, North Beach, 1929-35

Inspired by aviation pioneers such as the Wright brothers, Wilbur and Orville, Glenn Curtis, and Charles Lindberg, multiple airports were established during the 1920s-30s. In 1929, the Curtiss-Wright Corporation acquired land at North Beach along Bowery Bay with the intention of establishing an airport. The location was selected because its waterfront location permitted development of an airport for both sea and land planes. In May 1929, the seaplane portion of the airport was established, and construction of the remainder of the airport was underway. As part of construction efforts, land was created with fill from a variety of sources (*Queensborough,* May 1939).

On September 24, 1930, a ceremony was held to dedicate the new Glenn Curtiss Airport and was attended by notable aviation leaders, including Charles Lindbergh. The new airport consisted of 105 acres and three hangars (*Queensborough,* May 1939). A local Jackson Heights periodical, *The Jackson*, reported that business at the airport grew rapidly, and it was utilized by major air lines such as Eastern Air Transport, and New York City Airways. In addition, it served as headquarters for the New York City Police Department Air Force (*The Jackson,* ca. 1930).

In addition to the Glenn Curtiss Airport at North Beach, airports were established at nearby locations. For example, in 1929, Holmes Airport, located in Jackson Heights southwest of the airport opened. Around the same time, Flushing Airport, located about a mile east from the Glenn Curtiss Airport opened. Perhaps most significantly, in 1931, Floyd Bennett Field, situated on Jamaica Bay in Brooklyn, opened as New York City's first municipal airport. Unfortunately, Floyd Bennett Field was unable to usurp Newark Airport, established in New Jersey in 1928, as the major airport of the metropolitan area. Newark Airport was easily accessible to Manhattan via the Pulaski Skyway and Holland Tunnel, whereas Floyd Bennett Field lacked direct highways or rail transportation. Therefore, Newark Airport remained the terminus for US Post Office air mail service, dominating air travel in the metropolitan region throughout the 1930s (Gordon, 2008). During this period, the CWA also funded numerous projects at Newark Airport, furthering its dominance in the region.

New York City Municipal Airport 2, North Beach, 1934-37

In 1934, Fiorello LaGuardia was elected mayor of the city of New York. LaGuardia was interested in aviation and wanted to develop a municipal airport in the city to rival Newark's. Mayor LaGuardia pushed to shift investment and travel to New York, away from Newark, and the city acquired a 5-year lease for Glenn Curtiss Airport. On January 5, 1935, the former Glenn Curtiss Airport was dedicated and named New York Municipal Airport 2. With the airport now under city control, LaGuardia continued to advocate for development of an airport that would rival Newark (*The New York Times,* January 6, 1935).

Although New York Municipal Airport 2 at North Beach would require significant work to develop it as a world class airport, it offered numerous advantages. Similar to the logic for establishing Glenn Curtiss Airport at this location, its' waterfront location was ideal for both sea and land planes. In addition, transportation improvements, including construction of the Grand Central Parkway and Triborough Bridge (now the Robert F. Kennedy Bridge) in 1936, allowed for a quick trip into Manhattan, which could rival that of Newark Airport's (Gordon, 2008).

In April 1937, over multiple objections, including those made by the owner of nearby Holmes Airport, the New York City Sinking Fund Commission voted to approve funds to improve Municipal Airport 2 at North Beach (*The New York Times,* April 22, 1937). By September 1937, substantial Works Progress Administration (WPA) funds were appropriated, enabling the project to move forward (Gordon 2008, *Queensborough,* October 1939).

Plans for the new airport were prepared by the Department of Docks, WPA, and the architectural firm Delano & Aldrich. The firm was founded in 1903 by William Adams Delano and Chester Holmes Aldrich, who met in the late-19th century while working at the offices of Carrère & Hastings. Delano & Aldrich rose to prominence throughout the early-20th century as designers of residences and clubhouses for wealthy New Yorkers. Among their first commissions was Aldrich's design of John D. Rockefeller's residence at Pocantico Hills, New York, and Delano's design of the Walters Art Gallery in Baltimore (Pennoyer, March Walker, 2003).

The Great Depression (1929-1941) led to a decrease in the type of high-end residential commissions Delano & Aldrich were known for; however, by the late-1920s, the firm quickly established themselves as airport designers. As the aviation industry continued to grow, architects faced the challenges of airport design. In 1928, Delano & Aldrich designed Pan American Airways Systems first Miami Terminal, at the site of the present-day Miami International Airport. *The American Architect* noted that it was the

first "completely equipped station built in America." Thus, the firm was at the forefront of airport design. In 1931, Delano & Aldrich designed a second airport in Florida, at Dinner Key. In their airport design, the firm treated the airport as a cohesive unit, accommodating circulation needs between the terminals, hangars, and runways. In 1937, Mayor LaGuardia, who had visited and admired the airport at Dinner Key, selected Delano & Aldrich to design Municipal Airport 2 at North Beach. The scale of the airport, which would include separate terminals for sea planes and land planes, was larger than any of their previous airport commissions. By this time, Chester Aldrich had taken a leave of absence from the firm to serve as head of the American Academy in Rome. As a result, Delano was responsible for design of the airport (Pennoyer & Walker, 2003).

Construction of LaGuardia Airport, 1937-39

Ground-breaking ceremonies were held on September 9, 1937. Somewhat boldly, the Mayor announced that the airport would be open in time for the beginning of the upcoming World's Fair scheduled for April 1939 in present-day Flushing Meadows Corona Park (*The New York Times,* September 10, 1937). Construction commenced following the ground-breaking ceremony. The existing airport encompassed 105 acres, some of which sat upon fill created by development of the airport in 1929. However, plans for the new airport called for the expansion of the site to 558 acres, approximately 228 acres of which would be created from fill. Fill was obtained from Rikers Island, located in Bowery Bay north of the airport (New York City Municipal Airport, November 1939), as well as other local sources.

Once land had been filled, construction of buildings and structures began. Separate terminals and hangars for sea planes and land planes were designed and erected. The Landplane Terminal, commonly referred to as the Administration Building (non-extant), was a three-story Art Deco-style building, topped with a glass-enclosed control tower. The building housed baggage rooms, offices, a rotunda with ticket counters, and a restaurant and shops. North of the building, a 1,500-long covered platform on the apron allowed passengers access to planes, and also served as a promenade for sightseers (LaGuardia Field, 1940). This terminal was removed in the early 1960s to make way for the current CTB.

A total of six original hangars associated with land planes were constructed: Hangars 1, 3, and 5, situated west of the Administration Building, and Hangars 2, 4, and 6, situated east of the Administration Building. The hangars were 350 feet long by 165 feet deep, and were accessed by electronically-operated canopy doors that weighed 25 tons. The hangars included two-story lean-tos in the rear or south, which provided office space. Two story additions were also affixed to the east and west side of the hangars to provide additional space for offices and shops (New York City Municipal Airport, November 1939).

A boat basin was situated south of the Administration Building and served to set it and the hangars back from the newly constructed Grand Central Parkway to the south. Four runways were constructed, the longest of which ran northwest and southeast, and measured 6,000 feet long by 200 feet wide (present-day Runway 4-22). The second longest ran northeast and southwest and was 5,000 feet long by 200 feet wide (present-day Runway 13/31). Two smaller runways which ran east/west and north/south were also constructed (not extant). The east/west runway measured 4,500 feet long by 150 feet wide, and the north/south runway was 3,523 feet long by 150 feet wide (*Queensborough,* May 1939). A network of 100-foot wide taxiways connected the runways (partially extant). The taxiways connected to a curved apron north of Hangars 1, 3, and 5; the Administration Building; and Hangars 2, 4, and 6 (LaGuardia Field, 1940).

The sea plane portion of the airport was situated on the western side along Bowery Bay. A concrete ramp and rails allowed the planes to be hauled from the bay onto the field. A two-story, circular Art Deco-style sea plane terminal, known as the Marine Air Terminal, was constructed on the western side of the airport, on Bowery Bay. A sea plane hangar, known as Marine Hangar (present-day Hangar 7) was also constructed. The five-sided hangar featured four open sides, two adjoining sides on the west which each measured 204 feet wide respectively, and 169-feet wide north and south sides were 169 feet wide. The east side consisted of a three-story addition to provide space for offices and shops. It was noted that the building was designed to be enlarged to accommodate planes as they continued to increase in size. In addition, gas tanks were constructed west of the Marine Air Terminal and Marine Hangar (Queensborough, May 1939).

Tenants at LaGuardia Airport, 1938-39

While construction was underway, Mayor LaGuardia took an active role in campaigning to attract major airlines to the new airport. In addition, he campaigned to get the US Post Office to transfer its air mail operations from Newark Airport. In response, the mayor of Newark, Meyer Ellenstein, sought to entice airlines to remain. In 1938, major domestic airlines began to lease space at the new airport. In November 1938, three major airlines signed leases for hangars at the airport: American Airlines leased Hangars 1, 3, and 5; United Airlines leased Hangars 2 and 4; and Transcontinental and Western Air (TWA) leased Hangar 6 (not extant) (*The New York Times,* November 17, 1938). Although flights had not yet commenced, in July 1939, Pan American Airlines, housed in the Marine Air Terminal and Marine Hangar, became the first airline to move into the airport (*The New York Times,* July 23, 1939).

LaGuardia Airport Dedication and Beginning of Operations, 1939-40

On October 15, 1939, the airport, which had not yet been formally named and remained known as New York Municipal Airport 2, was opened. Soon after, the airport was officially named New York Municipal Airport, LaGuardia Field, which was ultimately shortened to LaGuardia Airport (Gordon 2008). Although the airport was dedicated in October, it did not begin operations until December 1939. At 12:01AM on December 2, 1939, a plane from Chicago landed at LaGuardia Airport, marking the beginning of official operations. By this time, the Marine Air Terminal and Marine Hangar, Administration Building, and Hangars 1, 3, and 5 had been completed. The remainder of the buildings, including Hangars 2, 4, and 6, were still under construction (New York City Municipal Airport, November 1939) (**Photograph 18** and **Photograph 19**). The shift of four major airlines (American Airlines, United Airlines, TWA, and Eastern Airlines) and the US Post Office from Newark Airport, marked not only the beginning of LaGuardia Airport's dominance as the metropolitan area's major airport, but also resulted in the closure of Newark Airport in 1940 (Holden, 2009).

LaGuardia Airport, 1940-1950

Although it was essentially completed in 1939, the Marine Air Terminal at LaGuardia Airport was not officially dedicated until March 31, 1940. By this period, Hangars 2 and 6 were completed, and occupied by United Airlines and TWA, respectively (*The New York Times,* March 6, 1940; March 22, 1940). However, in March 1940 a fire broke out in Hangar 4 causing extensive damage (*The New York Times, March 6, 1940*). It was estimated that it would cost roughly $1,000,000 to rebuild the hangar, which was to be occupied by TWA (*New York Daily News,* March 6, 1940). Repairs to Hangar 4 were completed by June 1940 (*New York Daily News,* June 2, 1940).

In addition, three new hangars were also constructed in 1940. In January, the WPA commenced construction of a hangar to house private planes (present-day Building 84). The hangar was quickly constructed and presented to the city by the WPA on May 26, 1940. In July, construction commenced on Hangar 8 (to be occupied by Eastern Airlines (non-extant)). The hangar was situated east of Hangar 6, completed in December 1940, and dedicated in January 1941 (*The New York Times,* July 2, 1940; January 1, 1941). In October 1940, the WPA completed the two-story Civil Aeronautics Board Building (present-day Hangar 11), which was constructed at a cost of $400,000. The building was situated on the west side of the airport and featured offices and hangar space (*The New York Times,* October 9, 1940).

Upon the two-year anniversary of the airport's opening in 1941, *The New York Times* reported on its success. By that time, more than 2 million passengers flew to or from the airport annually on more than 100,000 flights. The article also documented the impact that the airport had on the surrounding area, estimating that the population of northern Queens and Long Island rose by roughly 10,000 (*The New York Times,* November 30, 1941).

Construction continued at the airport during World War II (1941-45). In 1941, plans were developed for construction of a new seaplane hangar known as Hangar 9 (non-extant) to serve American Export Airlines and construction of north and south additions to the existing Marine Hangar to serve Pan American Airlines. The new hangar and additions were completed in 1943. At the dedication ceremony for the north and south additions to the Marine Hangar, John McKenzie, City Commissioner of the Department of Marine and Aviation, noted that, "[W]hen LaGuardia Field was planned, we never dreamed that this seaplane hangar would have to be tripled in size within so short a time. But that is aviation as we know it. Today's design is outmoded before the ink is dry" (*The New York Times,* April 1, 1943).

Despite the scope of the improvements made at LaGuardia Airport in the 1940s, they were not enough to accommodate increases in air travel. In order to meet anticipated future needs, the city, again led by Mayor LaGuardia, advocated for construction of a new airport. At the end of 1941, the city approved purchase of land on Jamaica Bay and construction commenced the following year (Stoff, 2009). This airport would become John F. Kennedy Airport. While construction of that new airport was on-going in the 1940s, LaGuardia Airport assisted with the war effort. A squadron of fighter planes and anti-aircraft battery were stationed at the airport and aircraft, including Pan American's Clippers, were utilized for military purposes. Domestic flights continued on a curtailed basis (Arend, 1990).

Following the end of World War II in 1945, technological advances in airplane design made seaplanes such as PanAmerican's Clippers obsolete. The Marine Air Terminal continued to be utilized as a land plane terminal for international flights; however, these facilities were considered inadequate and with the opening of the New York International Airport (present-day John F. Kennedy International Airport (JFK) in July 1948, most international flights switched (Stoff, 2009; Goeschel, 1982). The same year the airport opened, the Port of New York Authority (later re-named the Port Authority of New York & New Jersey (PANYNJ) assumed control of the three major metropolitan airports: LaGuardia Airport, New York International Airport, and Newark Airport (PANYNJ, no date).

LaGuardia Airport Expansion, 1957-81

In the late-1950s, advances in aviation led to the success of commercial jet airplanes and a boom in air travel. With the larger, faster, planes, air travel surged (Gordon, 2008). As a result, in 1957, the Port of

New York Authority announced plans for a $32,000,000 redevelopment program for LaGuardia Airport, which would "transform the city's first commercial airport into a compact, modern facility" (*The New York Times,* June 19, 1957). The program would include demolition of the Administration Building and construction of the modern CTB and Control Tower (Port of New York Authority, July 1957).

Plans for the CTB and Control Tower were designed by Wallace K. Harrison of the New York architectural firm, Harrison & Abramowitz. The firm was founded in 1945 by Harrison and Max Abramowitz. They were chiefly known for their New York City skyscrapers, including the Mobil Building, the Corning Glass building, and the Time & Life, McGraw-Hill, Exxon, and Celanese buildings, among others. Harrison was involved with the planning and design of numerous notable buildings, including the United Nations, Lincoln Center, and elements of the 1939 World's Fair, including the iconic Trylon and Perisphere (*The New York Times,* December 3, 1981).

As designed, the modern crescent-shaped CTB was 1,300 feet long and featured 650,000 square feet of space. It featured curtain glass walls with a four-story central section and two three-story wings capped with a parasol roof that was evocative of flight. Four bi-level concourses extended northward from the north façade of the terminal to provide access to planes. Upper and lower-level roadways curved against the building and provided access for departing passengers on the upper level and arriving passengers on the lower level. The terminal featured a roof-top observation deck and glass-enclosed restaurant. A landscaped park, named Fiorello Park to honor Mayor LaGuardia was located south of the terminal (Port of New York Authority, 1964).

Other elements of the project included extensive work to improve runways, taxiways, and aprons. The two main runways, 4-22 and 13-31, were extended between 1,000 and 2,000 feet to reach a length of 7,000 feet. Before work could begin to construct the runway extensions, a new shipping channel was dredged. Aprons were expanded, taxiways rebuilt and improved, and a helicopter pad erected. Roadway improvements were also undertaken, including roads that accessed the CTB and Grand Central Parkway ramps, to allow for better circulation. In addition, the boat basin was filled in to provide additional parking spaces and additional parking lots were also created to handle a total of 5,200 cars (Port of New York Authority, 1964).

Work commenced in 1958 when the lagoon was filled with roughly 750,000 cubic feet of sand (*Long Island Star-Journal,* April 10, 1958). In 1960, an expedited schedule was announced, and work began in earnest, including demolition of Delano & Aldrich's Administration Building. By 1963, construction was well underway, with newspapers reporting that the Control Tower was close to completion, roadways constructed, and the exterior of the CTB in place (*Long Island Star-Journal,* July 28, 1962). Similar to construction of the original airport in 1939, construction in the 1960s was also rushed to coincide with the 1964 World's Fair held in Flushing Meadows Park (Flushing Chamber of Commerce, February 1963) (**Photograph 20**).

The CTB and Control Tower, reported to cost $36,000,000 and $1,600,000, respectively, were dedicated on April 16, 1964. The CTB commenced operations the following day, in time for the April 22 opening of the 1964 World's Fair (*Queensborough,* May 1964). Construction continued on other elements of the redevelopment project, including runway extensions, which were completed in 1967. In 1975, the parking garage south of the CTB was partially opened, and completed the following year. *The New York Times* reported that completion of the garage marked the last scheduled project of the redevelopment

program initiated in the late-1950s. By this time, total costs were reported at $116 million (*The New York Times,* June 30, 1976).

Although it was not part of the initial redevelopment plans, in March 1981 a new 95,000 square foot terminal (Terminal D) was completed for Eastern Airlines shuttle service. The new terminal was located east of Hangar 8, which had provided the airline with a makeshift terminal for their shuttle operations since 1961 (*The New York Times,* April 3, 1981; *New York Newsday,* March 11, 1981).

Redevelopment Program, 1980s-1990s

By the 1980s, the LaGuardia Airport began its third redevelopment campaign to accommodate increasing numbers of travelers, as well as technological improvements. In 1987, *Newsday* reported that when the airport was built in 1964, the CTB was designed to accommodate 8 million travelers annually. In 1987, the number of people utilizing the building had doubled to almost 16 million. Overall, in 1987, LGA served 22 million, making it the 10th busiest airport in the world (*New York Newsday,* October 19, 1987). In addition to creating a better passenger experience at the airport, these improvements also boosted the city's economy by generating new jobs and revenue (*Queens Tribune,* September 17, 1992).

The new redevelopment campaign focused on renovations to the CTB, runways, taxiways, and construction of a new terminal. In terms of the CTB, the lower level was expanded 55 feet to the south to create an additional 56,000 square feet of space. This resulted in removal of V-shaped concrete columns which had supported the upper level and replacement with cylindrical concrete-and-chrome covered columns. The lower level roadway was expanded to conform to the new building footprint. The upper level roadway was widened to provide space for three additional lanes of traffic. An addition was appended to the rear, or north façade. The interior of the building was also completely renovated during this time (Arend, 1990; *Newsday,* December 10, 1986).

In terms of runway and taxiway improvements, the eastern end of Runway 13-31 was improved with the creation of a safety extension in 1997 (*The New York Times,* July 12, 1997). A new taxiway was also developed at the northwest corner of the airport. The new terminal (present-day Delta Terminal C) was constructed west of the Eastern Airlines Shuttle Terminal, and resulted in the demolition of Hangar 8. It cost approximately $150 million, and was completed in 1992 (*Queens Tribune,* September 17, 1992). Shortly after its construction, Hangar 6 was also demolished to allow more space for US Airways planes (*The New York Times,* April 18, 1993). As the overall facility evolved, space needs changed, and the existing infrastructure provided by Hangars 6 and 8 could not provide for those needs.

Central Terminal Building Redevelopment, 2000s

Although LaGuardia Airport underwent a substantial redevelopment campaign in the 1980s and 1990s, the airport is planning its fourth major redevelopment effort since it was constructed in 1939. One project in 2011 was the partial demolition of the 1964-era control tower and its replacement with a modern, state of the art facility. Current plans involve the replacement of the existing CTB, as well as significant airside and landside improvements and would result in the demolition of the CTB, the parking garage, Hangars 2 and 4, and Hangar 1 to allow for construction of a new terminal that would better serve air passengers.

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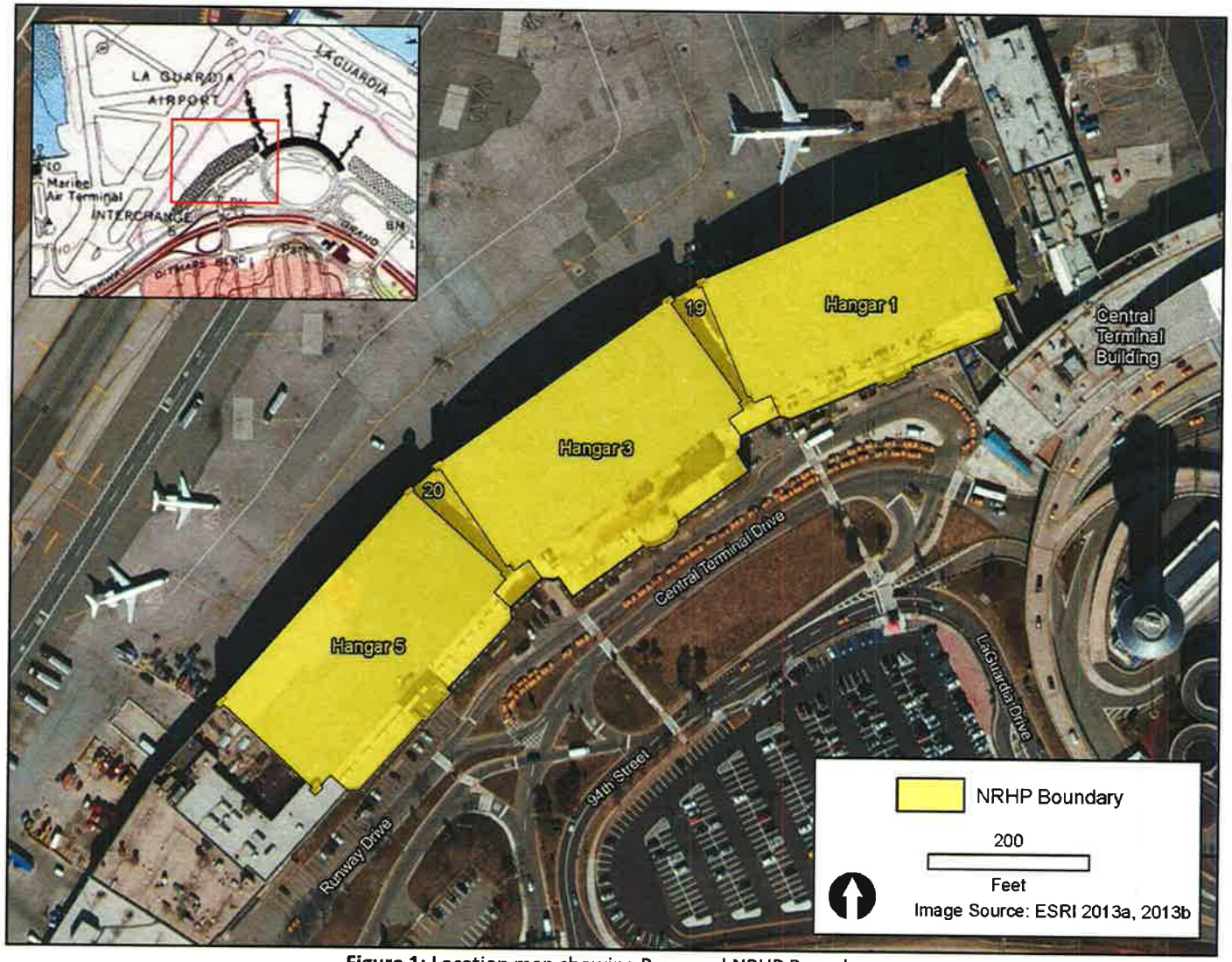


Figure 1: Location map showing Proposed NRHP Boundary

Photograph 1. Hangar 1 north façade, view southwest.

Photograph 2: Hangar 1 east façade, view west.

Photograph 3. Hangar 1 south façade, view north.

Photograph 4. Hangar 1 interior, view northeast.

Photograph 5. Hangar 1 interior partition, view west.

Photograph 6. Hangar 1 interior, view east.

Photograph 7. Hangar 3 northwest façade, view southwest.

Photograph 8. Hangar 3 (right) southeast façade, view west.

Photograph 9. Hangar 3 southeast façade, view west. Note air conditioners in windows.

Photograph 10. Hangar 3 interior, view east.

Photograph 11. Northwest façade of Hangar 5, view east.

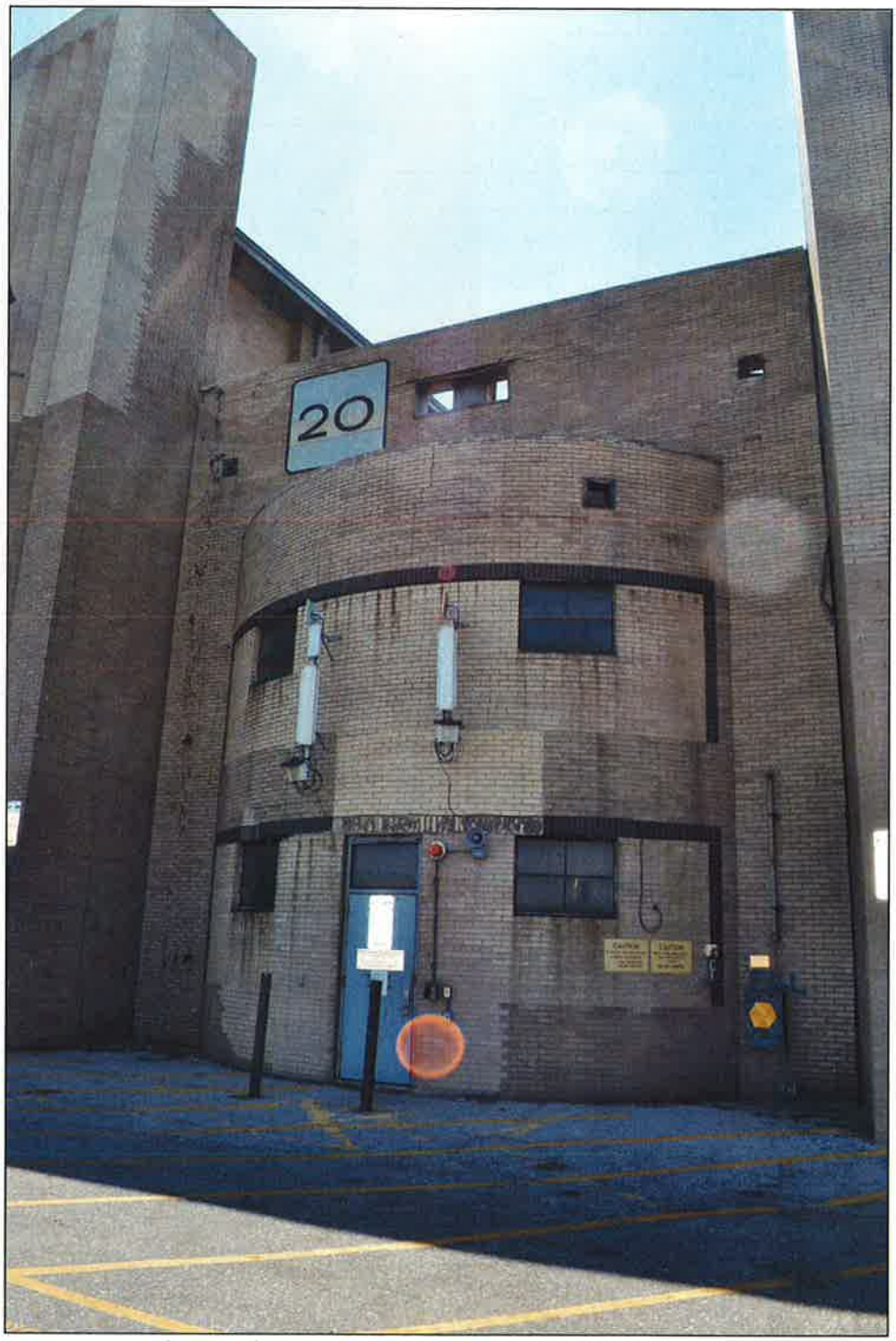
Photograph 12. Northwest façade of Hangar 5, view southeast.

Photograph 13. Southeast façade Hangar 5, view west.

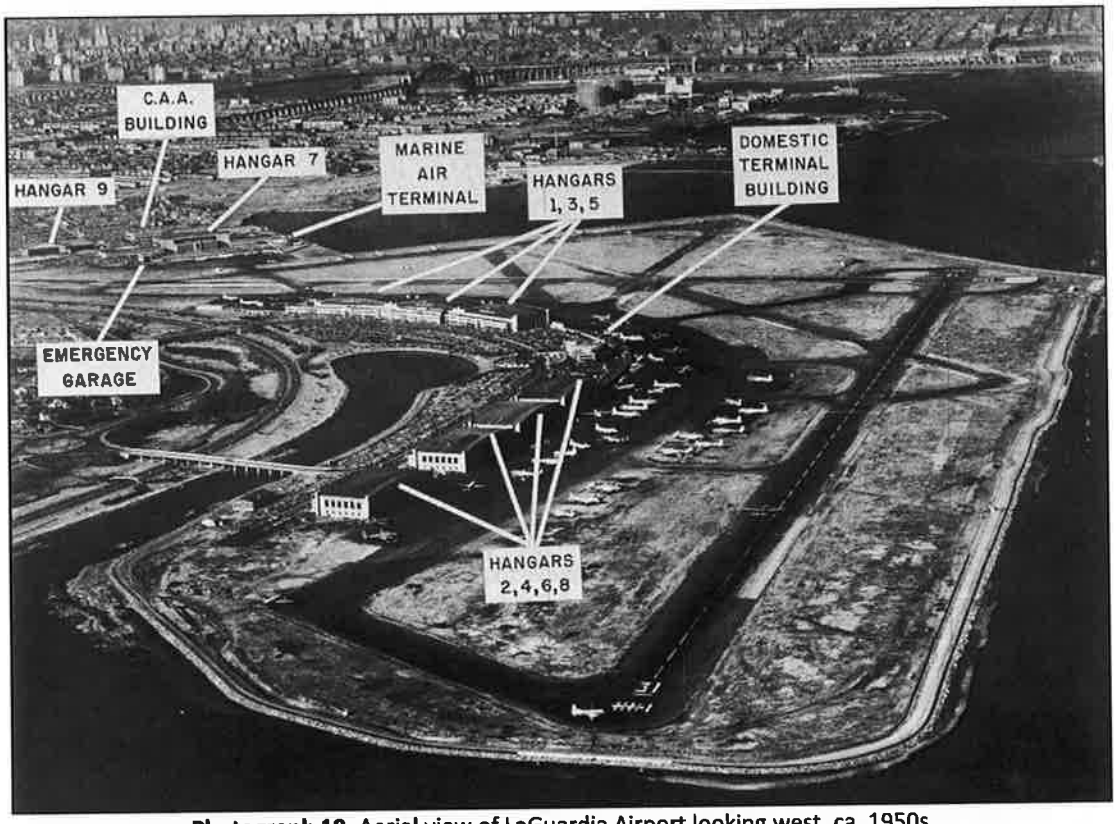
Photograph 14. Hangar 5 interior, view northeast.

Photograph 15. Hangar 5 interior, view north.

Photograph 16. Building 19 northwest façade, view east.

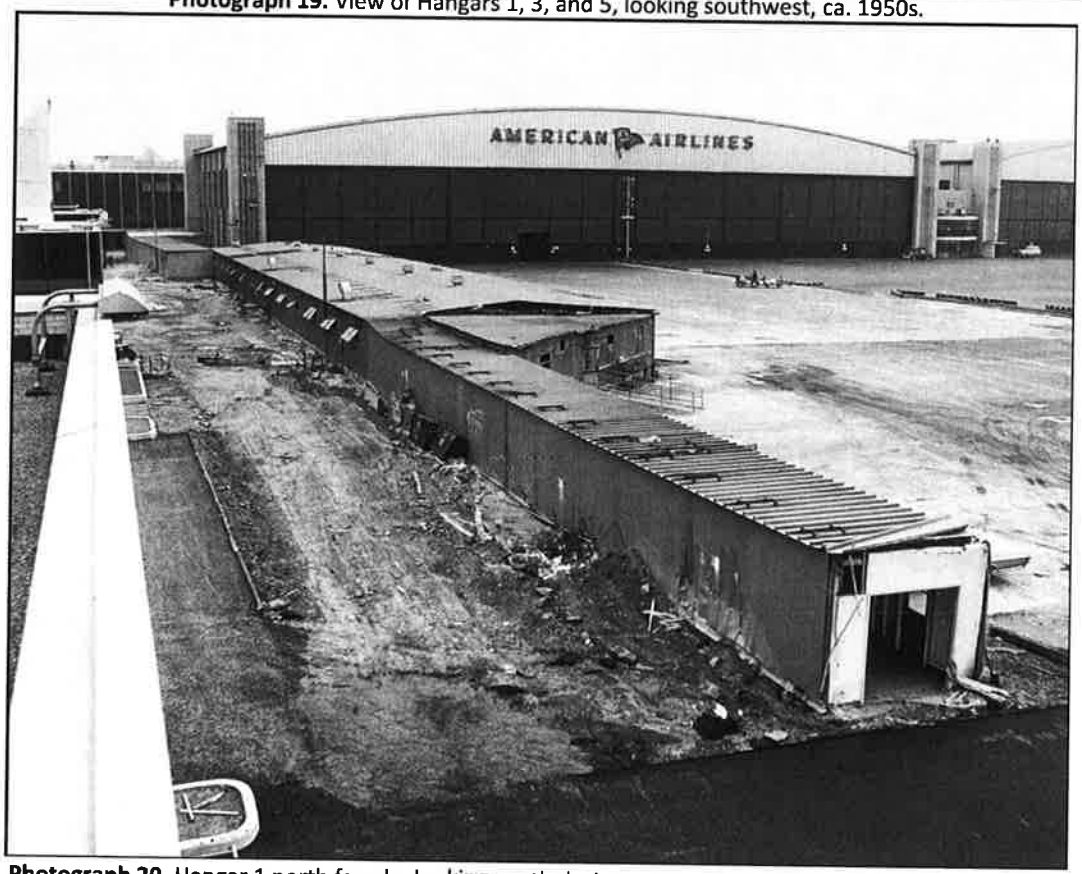


Photograph 17. Building 20 northwest façade, view southeast.
Note infilled windows and security features applied to façade.



Photograph 18. Aerial view of LaGuardia Airport looking west, ca. 1950s.

Photograph 19. View of Hangars 1, 3, and 5, looking southwest, ca. 1950s.



Photograph 20. Hangar 1 north façade, looking south during construction of the CTB in the early 1960s.

IDENTIFICATION

Property name (if any) Hangars 2 and 4; Buildings 17 and 18

Address or Street Location Central Terminal Drive, LaGuardia Airport

County Queens Town/City East Elmhurst Village/Hamlet:

Owner Port Authority of New York and New Jersey Address Central Terminal Drive, LaGuardia Airport

Original use Airplane hangar and shops/offices Current use GSE, Cargo, and administrative offices (Hangar 2) GSE and Cargo (Hangar 4)

Architect/Builder, if known William Delano, Department of Docks, WPA Date of construction, if known 1939

DESCRIPTION

Materials – please check those materials that are visible

Exterior Walls:	☐ wood clapboard	☐ wood shingle	☐ vertical boards	☐ plywood
	☐ stone	☒ brick	☐ poured concrete	☒ concrete block
	☐ vinyl siding	☐ aluminum siding	☐ cement-asbestos	☐ other:
Roof:	☐ asphalt, shingle	☒ asphalt, roll	☐ wood shingle	☐ metal ☐ slate
Foundation:	☐ stone	☐ brick	☒ poured concrete	☐ concrete block

Other materials and their location:

Alterations, if known: Date:

Condition: ☐ excellent ☒ good ☐ fair ☐ deteriorated

Photos

Provide several clear, original photographs of the property proposed for nomination. Submitted views should represent the property as a whole. For buildings or structures, this includes exterior and interior views, general setting, outbuildings and landscape features. Color prints are acceptable for initial submissions.

Please staple one photograph providing a complete view of the structure or property to the front of this sheet. Additional views should be submitted in a separate envelope or stapled to a continuation sheet.

Maps

Attach a printed or drawn locational map indicating the location of the property in relationship to streets, intersections or other widely recognized features so that the property can be accurately positioned. Show a north arrow. Include a scale or estimate distances where possible.

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Narrative Description of Property: Briefly describe the property and its setting. Include a verbal description of the location (e.g. north side of NY 17,west of Jones Road; a general description of the building structure or feature including such items as architectural style (if known) number of stories type and shape of roof (flat gabled mansard shed or other) materials and landscape features. Identify and describe any associated buildings, structures or features on the property such as garages silos privies pools gravesites. Identify any known exterior and interior alterations such as additions replacement windows aluminum or vinyl siding or changes in plan. Include dates of construction and alteration if know. Attach additional sheets as needed.

Hangars 2 and 4 were constructed in 1939 as part of the original LaGuardia Airport for United Airlines, and Transcontinental and Western Air (TWA) respectively and are situated east of the Central Terminal Building (CTB) at LaGuardia Airport (**Figure 1**). They are connected by a two-story building, known as Building 18. Another two-story building, Building 17, is appended to the east façade of Hangar 4. As originally constructed, a third hangar (Hangar 6) was appended to the east façade of Building 17, but was demolished in the early 1990s. Hangars 2 and 4 are rectangular-plan, frame buildings, set upon concrete pile foundations, capped by a barrel roof, and sheathed in buff-colored brick. The corners of the hangars are distinguished by brick piers that extend above the roofline, and are accentuated with vertical brick work.

Hangar 2

The north façade of Hangar 2 fronts the apron and is dominated by four steel, multi-light hangar doors, painted blue. Each hangar door is comprised of five panels. The upper portion of the panel typically features three 20-pane fixed-steel windows over three 20-pane fixed-steel windows. The lower portion is comprised of three 24-pane fixed-steel windows over three solid metal panels. In some instances, the metal panels have been inset with doors.

Some panels have been replaced over time; however, the majority of Hangar 2's doors appear to be original. Vertical metal siding is affixed to the arched portion of the north façade above the hangar doors.

The east façade of Hangar 2 is appended to Building 18, which in turn, is connected to the west façade of Hangar 4. The second story of the east façade is pierced by six multi-light industrial windows, separated by seven brick pilasters. Similarly, the west façade is also pierced by six second-story windows and seven pilasters that extend the height of the façade. The majority of the west façade is obscured by tanks.

The south facade of Hangar 2 fronts the Grand Central Parkway and consists of a two-story lean-to that houses offices and shops with canted corners and capped by a flat roof. The arched portion of Hangar 2's south façade extends above the lean-to and consists of multi-light industrial windows which provide light for the hangar's interior open space. Signs for Delta Airlines and United Airlines are appended to the windows towards the west and east ends, respectively. A two-story projecting entry bisects the lean-to and features industrial awning windows on the first and second stories, surrounded by a recessed brickwork pattern of dark brown bricks. Two slightly recessed entries are situated east and west of the central windows and consist of metal-and-glass doors, surrounded by patterned dark brown bricks. Decorative metal lights are appended above the doors and a circular United Airlines sign is appended above the eastern-most door. Concrete steps with metal rails provide access to the doors and are surrounded by small grassy areas.

(See Narrative Description of Property Continuation Sheets)

Narrative Description of Property (continued)

The east and west sections of the lean-to flank the projecting entry and are each six bays wide with a single-bay canted section. Bands of industrial awning windows surrounded by patterned dark-brown brickwork pierce the first and second stories of the lean-to. Windows on the first story are typically sets of four five-light awning windows and sets of four three-light awning windows on the second story. Fenestration on the first story has been somewhat altered; garage bays with metal doors pierce the east and west ends of the façade and do not appear to be original. Similarly, pedestrian entrances that do not appear to be original pierce the façade. Fenestration on the second story appears to be generally unaltered, although some of the glass panes have been replaced with louvered vents.

The interior of Hangar 2 features an open workspace with a concrete floor and brick walls. The roof is supported by exposed trusswork. Hangar 2 is used by United/Continental Airlines with a Delta Airlines sublease and the building is utilized for ground support equipment (GSE), cargo and administrative offices.

Hangar 4

Hangar 4 is generally similar in appearance to Hangar 2. The north façade of Hangar 4 fronts the apron and its appearance is similar to that of Hangar 2 with the exception of the massive hangar doors which are black. Similar to Hangar 2, the doors have minor alterations, such as modern garage doors that pierce the lower metal sections. The east and west facades also feature six multi-light industrial windows separated by seven brick pilasters.

The south façade fronts the Grand Central Parkway and is similar to the south façade of Hangar 4 with some exceptions. Unlike Hangar 2, no airline company signs are appended to the façade and it appears that the majority of original fenestration has been retained. Alterations consist of the introduction of modern pedestrian and vehicle doors on the three westernmost bays of the lean-to.

The appearance of the interior is similar to that of Hangar 2; however, unlike Hangar 2, Hangar 4 is used by American Airlines for GSE and cargo. Most of the upper spaces in Hangar 4 are not used.

Building 17

The two-story Building 17 is appended to the east façade of Hangar 4. It is capped by a flat roof pierced by a skylight. Similar to the hangars, it is clad in buff brick with dark brick accents. As originally constructed, a third hangar (Hangar 6) was appended to the east façade of Building 17, but was demolished in the 1990s to enable needed airport terminal upgrades. Hangar 8 was also demolished at this time. The two-bay wide north façade fronts the apron and is distinguished by a two-story brick pier at the northeast corner of the façade, which was likely associated with Hangar 6 and truncated when the hangar was removed. Fenestration on the first story of the north façade consists of two metal garage bays, set within a brown brick surround. A sign reading "Chautaqua Airlines" is appended above the doors. Second-story windows include two sets of three-pane awning windows set within a decorative dark brick surround. The east façade is blind and punctuated by brick pilasters.

The south façade fronts the Grand Central Parkway and is five bays wide. Fenestration is similar to the south facades of Hangars 2 and 4 and appears to have been relatively unaltered. Building 17 contains shops and offices for Hangar 4.

(See Narrative Description of Property Continuation Sheets)

Narrative Description of Property (continued)

Building 18

The two-story Building 18 is appended to Hangar 2 to the west and Hangar 4 to the east. Similar to the hangars, it is clad in buff brick with dark brown brick accents. It is capped by a flat roof. Its two-bay north facade fronts the apron and is similar in design to the south façades of the hangars. The first story is pierced by a set of three five-pane windows and a replacement metal garage door surrounded by patterned brown brickwork. The second story features two sets of three-pane windows, also set within patterned brown brickwork. A metal sign with the number "18" is appended to the façade.

The south façade is five bays wide, and is set back from Hangar 2 and 4's lean-tos that flank it to the west and east, respectively. The first story is pierced by two replacement metal garage bays and metal panels, set within a brown brick surround towards the east and west ends of the façade. These doors flank five sets of two metal-louvered doors. Three two-pane louvered windows pierce the façade above the louvered doors. Fenestration on the second story includes a set of three three-pane awning windows set within brown brick surrounds towards the east and west ends of the façade. These windows flank a band of three sets of three-pane awning windows set within brown brick surrounds, separated by patterned brown brick. Building 18 contains shops and offices for Hangars 2 and 4.

Narrative Description of Significance: Briefly describe those characteristics by which this property may be considered historically significant. Significance may include, but is not limited to, a structure being an intact representative of an architectural or engineering type or style (e.g., Gothic Revival style cottage, Pratt through-truss bridge); association with historic events or broad patterns of local, state or national history (e.g., a cotton mill from a period of growth in local industry, a seaside cottage representing a locale's history as a resort community, a structure associated with activities of the "underground railroad."); or by association with persons or organizations significant at a local, state or national level. Simply put, why is this property important to you and the community. Attach additional sheets as needed.

Hangars 2 and 4 and attached Buildings 17 and 18 are recommended eligible for listing in the National Register of Historic Places (NRHP) under NRHP Criteria A and C. They are significant under Criterion A (history) for their association with the original airport, as New York City's first major commercial airport constructed between WWI and WWII. They are also significant under Criterion A for their association with one of the largest WPA-funded airport projects at that time. The buildings meet Criterion C (architecture) as good examples of Art Deco-style hangars and interior working shops, designed by architect William Delano. Although the airport overall has been altered, including demolition of the original Art Deco-style terminal and Hangar 6, and construction of the CTB, the hangars remain as part of a collection of original hangars from the original design. The hangars have generally been in continuous use since their construction and have been relatively unaltered, as depicted in historic 1950s-era photographs. Hangars 2 and 4 retain integrity of location, design, materials, workmanship, feeling, and association.

Integrity Assessment

Hangars 2 and 4 retain integrity, meeting six of the seven criteria. Since the resource is located on its original site of construction, it retains integrity of location. The setting of Hangars 2 and 4 has undergone significant changes during the period between the late 1950s and 1980s including the demolition of the Administration Building (the 1939 Terminal), demolition of Hangar 6 and Hangar 8,

construction of the modern CTB and Control Tower, and extensive work to improve runways, taxiways, and aprons. While the setting is still an airport, it no longer conveys the character of the LaGuardia Airport when it was constructed. As a result, the resource no longer retains integrity of setting. The resource still retains its original form, which has not been compromised by non-historic or inappropriate changes or additions; therefore, the resource also retains integrity of design. Some of the historic materials, such as window sashes, doors, and siding in the gable end have been replaced with non-historic materials, but the majority of window and doors, as well as the exterior material, survive. It should be noted that there have been minor changes to the buildings over time to maintain their functionality, including exterior light fixtures, air conditioners, security cameras, antennas, bio-metrics, and other changes. However, these are applied minor alterations within the overall context of these large buildings. As a result, Hangars 2 and 4 retain integrity of materials and workmanship. Because Hangars 2 and 4 retain integrity of design, materials, and workmanship, they are able to convey their historic character and as a result, retain integrity of feeling. Since the link between Hangars 2 and 4 and the LaGuardia Airport is still evident, the resource also retains integrity of association.

Boundary Description

Because the setting of Hangars 2 and 4 has been altered since their construction in 1939 and has been compromised by a number of alterations, the overall property is not intact enough to be considered a district and the proposed boundary is limited to the footprint of Hangars 2 and 4, including Building 17 and Building 18 (see **Figure 1**).

Historic Context

Glen Curtiss Airport, North Beach, 1929-35

Inspired by aviation pioneers such as the Wright brothers, Wilbur and Orville, Glenn Curtis, and Charles Lindberg, multiple airports were established during the 1920s-30s. In 1929, the Curtiss-Wright Corporation acquired land at North Beach along Bowery Bay with the intention of establishing an airport. The location was selected because its waterfront location permitted development of an airport for both sea and land planes. In May 1929, the seaplane portion of the airport was established, and construction of the remainder of the airport was underway. As part of construction efforts, land was created with fill from a variety of sources (*Queensborough,* May 1939).

On September 24, 1930, a ceremony was held to dedicate the new Glenn Curtiss Airport and was attended by notable aviation leaders, including Charles Lindbergh. The new airport consisted of 105 acres and three hangars (*Queensborough,* May 1939). A local Jackson Heights periodical, *The Jackson*, reported that business at the airport grew rapidly, and it was utilized by major air lines such as Eastern Air Transport, and New York City Airways. In addition, it served as headquarters for the New York City Police Department Air Force (*The Jackson,* ca. 1930).

In addition to the Glenn Curtiss Airport at North Beach, airports were established at nearby locations. For example, in 1929, Holmes Airport, located in Jackson Heights southwest of the airport opened. Around the same time, Flushing Airport, located about a mile east from the Glenn Curtiss Airport opened. Perhaps most significantly, in 1931, Floyd Bennett Field, situated on Jamaica Bay in Brooklyn, opened as New York City's first municipal airport. Unfortunately, Floyd Bennett Field was unable to usurp Newark Airport, established in New Jersey in 1928, as the major airport of the metropolitan area. Newark Airport was easily accessible to Manhattan via the Pulaski Skyway and Holland Tunnel, whereas Floyd Bennett Field lacked direct highways or rail transportation. Therefore, Newark Airport remained

the terminus for US Post Office air mail service, dominating air travel in the metropolitan region throughout the 1930s (Gordon, 2008).

New York City Municipal Airport 2, North Beach, 1934-37

In 1934, Fiorello LaGuardia was elected mayor of the city of New York. LaGuardia was interested in aviation and wanted to develop a municipal airport in the city to rival Newark's. Mayor LaGuardia pushed to shift investment and travel to New York, away from Newark, and the city acquired a 5-year lease for Glenn Curtiss Airport. On January 5, 1935, the former Glenn Curtiss Airport was dedicated and named New York Municipal Airport 2. With the airport now under city control, LaGuardia continued to advocate for development of an airport that would rival Newark (*The New York Times,* January 6, 1935).

Although New York Municipal Airport 2 at North Beach would require significant work to develop it as a world class airport, it offered numerous advantages. Similar to the logic for establishing Glenn Curtiss Airport at this location, its' waterfront location was ideal for both sea and land planes. In addition, transportation improvements, including construction of the Grand Central Parkway and Triborough Bridge (now the Robert F. Kennedy Bridge) in 1936, allowed for a quick trip into Manhattan, which could rival that of Newark Airport's (Gordon, 2008).

In April 1937, over multiple objections, including those made by the owner of nearby Holmes Airport, the New York City Sinking Fund Commission voted to approve funds to improve Municipal Airport 2 at North Beach (*The New York Times,* April 22, 1937). By September 1937, substantial Works Progress Administration (WPA) funds were appropriated, enabling the project to move forward (Gordon 2008, *Queensborough,* October 1939).

Plans for the new airport were prepared by the Department of Docks, WPA, and the architectural firm Delano & Aldrich. The firm was founded in 1903 by William Adams Delano and Chester Holmes Aldrich, who met in the late-19th century while working at the offices of Carrère & Hastings. Delano & Aldrich rose to prominence throughout the early-20th century as designers of residences and clubhouses for wealthy New Yorkers. Among their first commissions was Aldrich's design of John D. Rockefeller's residence at Pocantico Hills, New York, and Delano's design of the Walters Art Gallery in Baltimore (Pennoyer, March Walker, 2003).

The Great Depression (1929-1941) led to a decrease in the type of high-end residential commissions Delano & Aldrich were known for; however, by the late-1920s, the firm quickly established themselves as airport designers. As the aviation industry continued to grow, architects faced the challenges of airport design. In 1928, Delano & Aldrich designed Pan American Airways Systems first Miami Terminal, at the site of the present-day Miami International Airport. *The American Architect* noted that it was the first "completely equipped station built in America." Thus, the firm was at the forefront of airport design. In 1931, Delano & Aldrich designed a second airport in Florida, at Dinner Key. In their airport design, the firm treated the airport as a cohesive unit, accommodating circulation needs between the terminals, hangars, and runways. In 1937, Mayor LaGuardia, who had visited and admired the airport at Dinner Key, selected Delano & Aldrich to design Municipal Airport 2 at North Beach. The scale of the airport, which would include separate terminals for sea planes and land planes, was larger than any of their previous airport commissions. By this time, Chester Aldrich had taken a leave of absence from the firm to serve as head of the American Academy in Rome. As a result, Delano was responsible for design of the airport (Pennoyer & Walker, 2003).

Construction of LaGuardia Airport, 1937-39

Ground-breaking ceremonies were held on September 9, 1937. Somewhat boldly, the Mayor announced that the airport would be open in time for the beginning of the upcoming World's Fair scheduled for April 1939 in present-day Flushing Meadows Corona Park (*The New York Times,* September 10, 1937). Construction commenced following the ground-breaking ceremony. The existing airport encompassed 105 acres, some of which sat upon fill created by development of the airport in 1929. However, plans for the new airport called for the expansion of the site to 558 acres, approximately 228 acres of which would be created from fill. Fill was obtained from Rikers Island, located in Bowery Bay north of the airport (New York City Municipal Airport, November 1939), as well as other local sources

Once land had been filled, construction of buildings and structures could begin in earnest. Separate terminals and hangars for sea planes and land planes were designed and erected. The Land Plane Terminal, commonly referred to as the Administration Building (non-extant), was a three-story Art Deco-style building, topped with a glass-enclosed control tower. The building housed baggage rooms, offices, a rotunda with ticket counters, and a restaurant and shops. North of the building, a 1,500-long covered platform on the apron allowed passengers access to planes, and also served as a promenade for sightseers (LaGuardia Field, 1940). This terminal was removed in the early 1960s to make way for the current CTB.

A total of six original hangars associated with land planes were constructed: Hangars 1, 3, and 5, situated west of the Administration Building, and Hangars 2, 4, and 6, situated east of the Administration Building. The hangars were 350 feet long by 165 feet deep, and were accessed by electronically-operated canopy doors that weighed 25 tons. The hangars included two-story lean-tos in the rear or south, which provided office space. Two story additions were also affixed to the east and west side of the hangars to provide additional space for offices and shops (New York City Municipal Airport, November 1939).

A boat basin was situated south of the Administration Building and served to set it and the hangars back from the newly constructed Grand Central Parkway to the south. Four runways were constructed, the longest of which ran northwest and southeast, and measured 6,000 feet long by 200 feet wide (present-day Runway 4-22). The second longest ran northeast and southwest and was 5,000 feet long by 200 feet wide (present-day Runway 13-31). Two smaller runways which ran east/west and north/south were also constructed (not extant). The east/west runway measured 4,500 feet long by 150 feet wide, and the north/south runway was 3,523 feet long by 150 feet wide (*Queensborough,* May 1939). A network of 100-foot wide taxiways connected the runways (partially extant). The taxiways connected to a curved apron north of Hangars 1, 3, and 5; the Administration Building; and Hangars 2, 4, and 6 (LaGuardia Field, 1940).

The sea plane portion of the airport was situated on the western side along Bowery Bay. A concrete ramp and rails allowed the planes to be hauled from the bay onto the field. A two-story, circular Art Deco-style sea plane terminal, known as the Marine Air Terminal, was constructed on the western side of the airport, on Bowery Bay. A sea plane hangar, known as Marine Hangar (present-day Hangar 7) was also constructed. The five-sided hangar featured four open sides, two adjoining sides on the west which each measured 204 feet wide respectively, and 169-feet wide north and south sides were 169 feet wide. The east side consisted of a three-story addition to provide space for offices and shops. It was noted that the building was designed to be enlarged to accommodate planes as they continued to increase in size. In addition, gas tanks were constructed west of the Marine Air Terminal and Marine Hangar (Queensborough, May 1939).

Tenants at LaGuardia Airport, 1938-39

While construction was underway, Mayor LaGuardia took an active role in campaigning to attract major airlines to the new airport. In addition, he campaigned to get the US Post Office to transfer its air mail operations from Newark Airport. In response, the mayor of Newark, Meyer Ellenstein, sought to entice airlines to remain. In 1938, major domestic airlines began to lease space at the new airport. In November 1938, three major airlines signed leases for hangars at the airport: American Airlines leased Hangars 1, 3, and 5; United Airlines leased Hangars 2 and 4; and Transcontinental and Western Air (TWA) leased Hangar 6 (not extant) (*The New York Times,* November 17, 1938). Although flights had not yet commenced, in July 1939, Pan American Airlines, housed in the Marine Air Terminal and Marine Hangar, became the first airline to move into the airport (*The New York Times,* July 23, 1939).

LaGuardia Airport Dedication and Beginning of Operations, 1939-40

On October 15, 1939, the airport, which had not yet been formally named and remained known as New York Municipal Airport 2, was opened. Soon after, the airport was officially named New York Municipal Airport, LaGuardia Field, which was ultimately shortened to LaGuardia Airport (Gordon 2008). Although the airport was dedicated in October, it did not begin operations until December 1939. At 12:01AM on December 2, 1939, a plane from Chicago landed at LaGuardia Airport, marking the beginning of official operations. By this time, the Marine Air Terminal and Marine Hangar, Administration Building, and Hangars 1, 3, and 5 had been completed. The remainder of the buildings, including Hangars 2, 4, and 6, were still under construction (New York City Municipal Airport, November 1939). The shift of four major airlines (American Airlines, United Airlines, TWA, and Eastern Airlines) and the US Post Office from Newark Airport, marked not only the beginning of LaGuardia Airport's dominance as the metropolitan area's major airport, but also resulted in the closure of Newark Airport in 1940 (Holden, 2009).

LaGuardia Airport, 1940-1950

Although it was essentially completed in 1939, the Marine Air Terminal at LaGuardia Airport was not officially dedicated until March 31, 1940. By this period, Hangars 2 and 6 were completed, and occupied by United Airlines and TWA, respectively (*The New York Times,* March 6, 1940; March 22, 1940). However, in March 1940 a fire broke out in Hangar 4 causing extensive damage (*The New York Times,* March 6, 1940). It was estimated that it would cost roughly $1,000,000 to rebuild the hangar, which was to be occupied by TWA (*New York Daily News,* March 6, 1940). Repairs to Hangar 4 were completed by June 1940 (*New York Daily News,* June 2, 1940).

In addition, three new hangars were also constructed in 1940. In January, the WPA commenced construction of a hangar to house private planes (present-day Building 84). The hangar was quickly constructed and presented to the city by the WPA on May 26, 1940. In July, construction commenced on Hangar 8 (to be occupied by Eastern Airlines (non-extant)). The hangar was situated east of Hangar 6, completed in December 1940, and dedicated in January 1941 (*The New York Times,* July 2, 1940; January 1, 1941). In October 1940, the WPA completed the two-story Civil Aeronautics Board Building (present-day Hangar 11), which was constructed at a cost of $400,000. The building was situated on the west side of the airport and featured offices and hangar space (*The New York Times,* October 9, 1940).

Upon the two-year anniversary of the airport's opening in 1941, *The New York Times* reported on its success. By that time, more than 2 million passengers flew to or from the airport annually on more than 100,000 flights. The article also documented the impact that the airport had on the surrounding area, estimating that the population of northern Queens and Long Island rose by roughly 10,000 (*The New York Times,* November 30, 1941).

Construction continued at the airport during World War II (1941-45). In 1941, plans were developed for construction of a new seaplane hangar known as Hangar 9 (non-extant) to serve American Export Airlines and construction of north and south additions to the existing Marine Hangar to serve Pan American Airlines. The new hangar and additions were completed in 1943. At the dedication ceremony for the north and south additions to the Marine Hangar, John McKenzie, City Commissioner of the Department of Marine and Aviation, noted that, "[W]hen LaGuardia Field was planned, we never dreamed that this seaplane hangar would have to be tripled in size within so short a time. But that is aviation as we know it. Today's design is outmoded before the ink is dry" (*The New York Times,* April 1, 1943).

Despite the scope of the improvements made at LaGuardia Airport in the 1940s, they were not enough to accommodate increases in air travel. In order to meet anticipated future needs, the city, again led by Mayor LaGuardia, advocated for construction of a new airport. At the end of 1941, the city approved purchase of land on Jamaica Bay and construction commenced the following year (Stoff, 2009). This airport would become John F. Kennedy Airport. While construction of that new airport was on-going in the 1940s, LaGuardia Airport assisted with the war effort. A squadron of fighter planes and anti-aircraft battery were stationed at the airport and aircraft, including Pan American's Clippers, were utilized for military purposes. Domestic flights continued on a curtailed basis (Arend, 1990).

Following the end of World War II in 1945, technological advances in airplane design made seaplanes such as PanAmerican's Clippers obsolete. The Marine Air Terminal continued to be utilized as a land plane terminal for international flights; however, these facilities were considered inadequate and with the opening of the New York International Airport (present-day John F. Kennedy International Airport (JFK) in July 1948, most international flights switched (Stoff, 2009; Goeschel, 1982). The same year the airport opened, the Port of New York Authority (later re-named the Port Authority of New York & New Jersey (PANYNJ) assumed control of the three major metropolitan airports: LaGuardia Airport, New York International Airport, and Newark Airport (PANYNJ, no date).

LaGuardia Airport Expansion, 1957-81

In the late-1950s, advances in aviation led to the success of commercial jet airplanes and a boom in air travel. With the larger, faster, planes, air travel surged (Gordon, 2008). As a result, in 1957, the Port of New York Authority announced plans for a $32,000,000 redevelopment program for LaGuardia Airport, which would "transform the city's first commercial airport into a compact, modern facility" (*The New York Times,* June 19, 1957). The program would include demolition of the Administration Building and construction of the modern CTB and Control Tower (Port of New York Authority, July 1957).

Plans for the CTB and Control Tower were designed by Wallace K. Harrison of the New York architectural firm, Harrison & Abramowitz. The firm was founded in 1945 by Harrison and Max Abramowitz. They were chiefly known for their New York City skyscrapers, including the Mobil Building, the Corning Glass building, and the Time & Life, McGraw-Hill, Exxon, and Celanese buildings, among others. Harrison was involved with the planning and design of numerous notable buildings, including the United Nations, Lincoln Center, and elements of the 1939 World's Fair, including the iconic Trylon and Perisphere (*The New York Times,* December 3, 1981).

As designed, the modern crescent-shaped CTB was 1,300 feet long and featured 650,000 square feet of space. It featured curtain glass walls with a four-story central section and two three-story wings capped with a parasol roof that was evocative of flight. Four bi-level concourses extended northward from the north façade of the terminal to provide access to planes. Upper and lower-level roadways curved against

the building and provided access for departing passengers on the upper level and arriving passengers on the lower level. The terminal featured a roof-top observation deck and glass-enclosed restaurant. A landscaped park, named Fiorello Park to honor Mayor LaGuardia was located south of the terminal (Port of New York Authority, 1964).

Other elements of the project included extensive work to improve runways, taxiways, and aprons. The two main runways, 4-22 and 13-31, were extended between 1,000 and 2,000 feet to reach a length of 7,000 feet. Before work could begin to construct the runway extensions, a new shipping channel was dredged. Aprons were expanded, taxiways rebuilt and improved, and a helicopter pad erected. Roadway improvements were also undertaken, including roads that accessed the CTB and Grand Central Parkway ramps, to allow for better circulation. In addition, the boat basin was filled in to provide additional parking spaces and additional parking lots were also created to handle a total of 5,200 cars (Port of New York Authority, 1964).

Work commenced in 1958 when the lagoon was filled with roughly 750,000 cubic feet of sand (*Long Island Star-Journal,* April 10, 1958). In 1960, an expedited schedule was announced, and work began in earnest, including demolition of Delano & Aldrich's Administration Building. By 1963, construction was well underway, with newspapers reporting that the Control Tower was close to completion, roadways constructed, and the exterior of the CTB in place (*Long Island Star-Journal,* July 28, 1962). Similar to construction of the original airport in 1939, construction in the 1960s was also rushed to coincide with the 1964 World's Fair held in Flushing Meadows Park (Flushing Chamber of Commerce, February 1963).

The CTB and Control Tower, reported to cost $36,000,000 and $1,600,000, respectively, were dedicated on April 16, 1964. The CTB commenced operations the following day, in time for the April 22 opening of the 1964 World's Fair (*Queensborough,* May 1964). Construction continued on other elements of the redevelopment project, including runway extensions, which were completed in 1967. In 1975, the parking garage south of the CTB was partially opened, and completed the following year. *The New York Times* reported that completion of the garage marked the last scheduled project of the redevelopment program initiated in the late-1950s. By this time, total costs were reported at $116 million (*The New York Times,* June 30, 1976).

Although it was not part of the initial redevelopment plans, in March 1981 a new 95,000 square foot terminal (Terminal D) was completed for Eastern Airlines shuttle service. The new terminal was located east of Hangar 8, which had provided the airline with a makeshift terminal for their shuttle operations since 1961 (*The New York Times,* April 3, 1981; *New York Newsday,* March 11, 1981).

Redevelopment Program, 1980s-1990s

By the 1980s, the LaGuardia Airport began its third redevelopment campaign to accommodate increasing numbers of travelers, as well as technological improvements. In 1987, *Newsday* reported that when the airport was built in 1964, the CTB was designed to accommodate 8 million travelers annually. In 1987, the number of people utilizing the building had doubled to almost 16 million. Overall, in 1987, LGA served 22 million, making it the 10th busiest airport in the world (*New York Newsday,* October 19, 1987). In addition to creating a better passenger experience at the airport, these improvements also boosted the city's economy by generating new jobs and revenue (*Queens Tribune,* September 17, 1992).

The new redevelopment campaign focused on renovations to the CTB, runways, taxiways, and construction of a new terminal. In terms of the CTB, the lower level was expanded 55 feet to the south to create an additional 56,000 square feet of space. This resulted in removal of V-shaped concrete columns which had supported the upper level and replacement with cylindrical concrete-and-chrome

covered columns. The lower level roadway was expanded to conform to the new building footprint. The upper level roadway was widened to provide space for three additional lanes of traffic. An addition was appended to the rear, or north façade. The interior of the building was also completely renovated during this time (Arend, 1990; *Newsday,* December 10, 1986).

In terms of runway and taxiway improvements, the eastern end of Runway 13-31 was improved with the creation of a safety extension in 1997 (*The New York Times,* July 12, 1997). A new taxiway was also developed at the northwest corner of the airport. The new terminal (present day Delta Terminal C) was constructed west of the Eastern Airlines Shuttle Terminal, and resulted in the demolition of Hangar 8. It cost approximately $150 million, and was completed in 1992 (*Queens Tribune,* September 17, 1992). Shortly after its construction, Hangar 6 was also demolished to allow more space for US Airways planes (*The New York Times,* April 18, 1993). As the overall facility evolved, space needs changed, and the existing infrastructure provided by Hangars 6 and 8 could not provide for those needs.

Central Terminal Building Redevelopment, 2000s

Although LaGuardia Airport underwent a substantial redevelopment campaign in the 1980s and 1990s, the airport is planning its fourth major redevelopment effort since it was constructed in 1939. One project in 2011 was the demolition of the 1964 era control tower and its replacement with a modern, state of the art facility. Current plans involve the replacement of the existing CTB, as well as significant airside and landside improvements and will result in the demolition of the CTB, the parking garage, Hangars 2 and 4, and Hangar 1 to allow for construction of a new terminal that would better serve air passengers.

References

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Figure 1: Location map showing proposed NRHP boundary

Photograph 1. Hangar 2 southwest façade, view north.

Photograph 2. Hangar 2 northeast façade, view south.

Photograph 3. Hangar 2 interior, view southwest.

Photograph 4. Hangar 2 interior, view southeast.

Photograph 5. Hangar 4 southwest façade, view northeast.

Photograph 6. Hangar 4 northeast façade, view southwest.

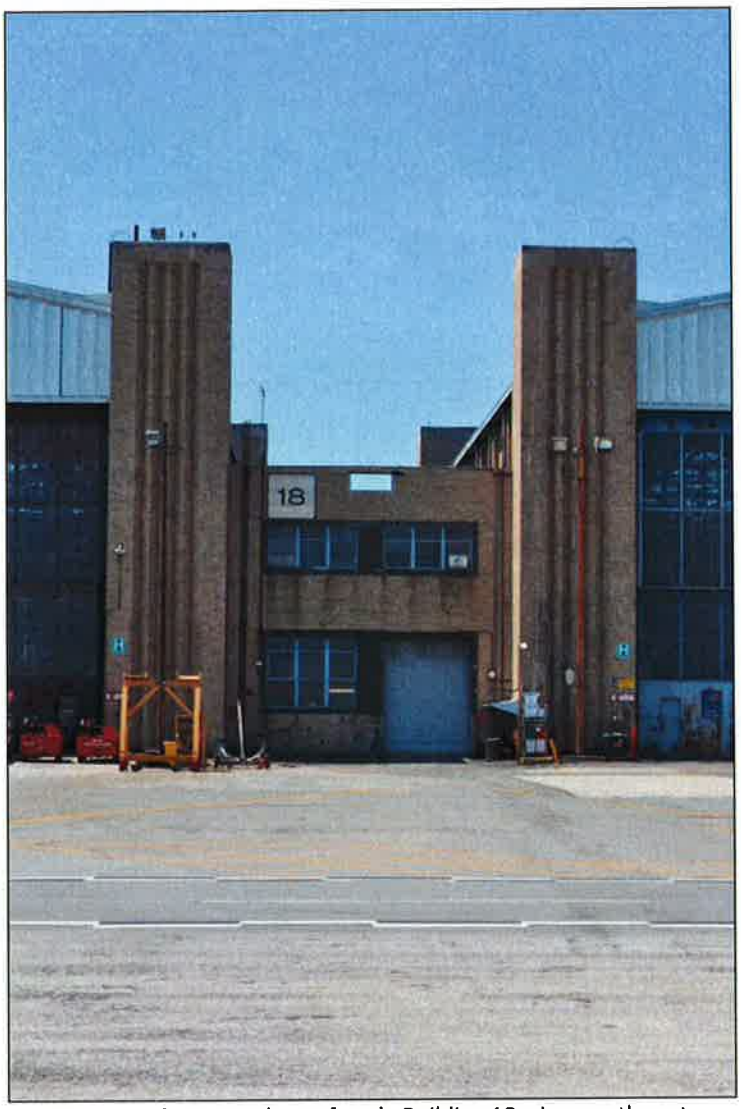
Photograph 7. Close-up of Hangar 4's door, view south.

Photograph 8. Hangar 4 interior, view northwest.

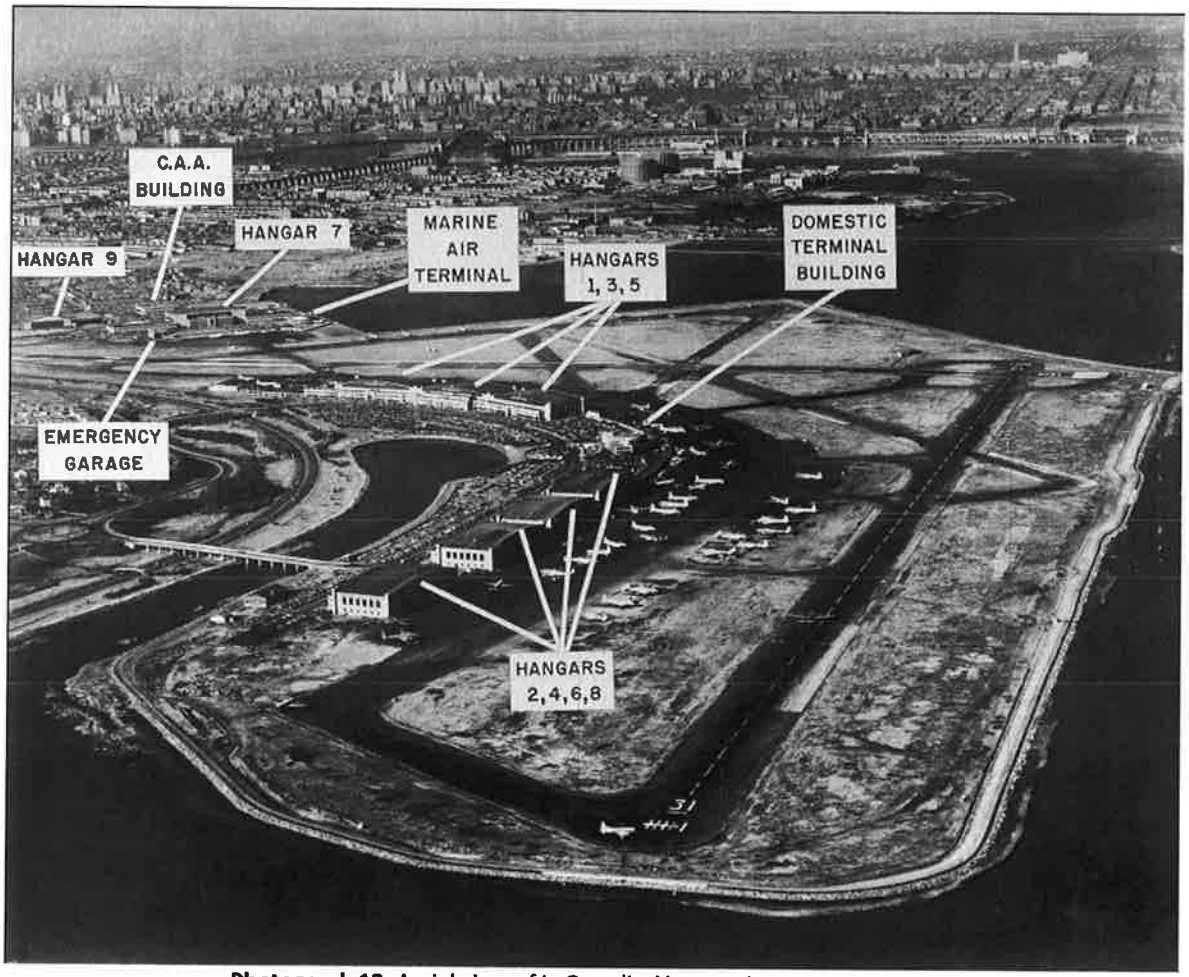
Photograph 9. Northeast façades of Hangar 2 (right) and Hangar 4 (left), view southeast.

Photograph 10. Southwest façades Hangars 2 and 4, view northeast.

Photograph 11. Northeast façade Building 17, view south. Note the truncated brick pier on the eastern corner of the façade, which was associated with non-extant Hangar 6.



Photograph 12. Northeast façade Building 18, view southwest.

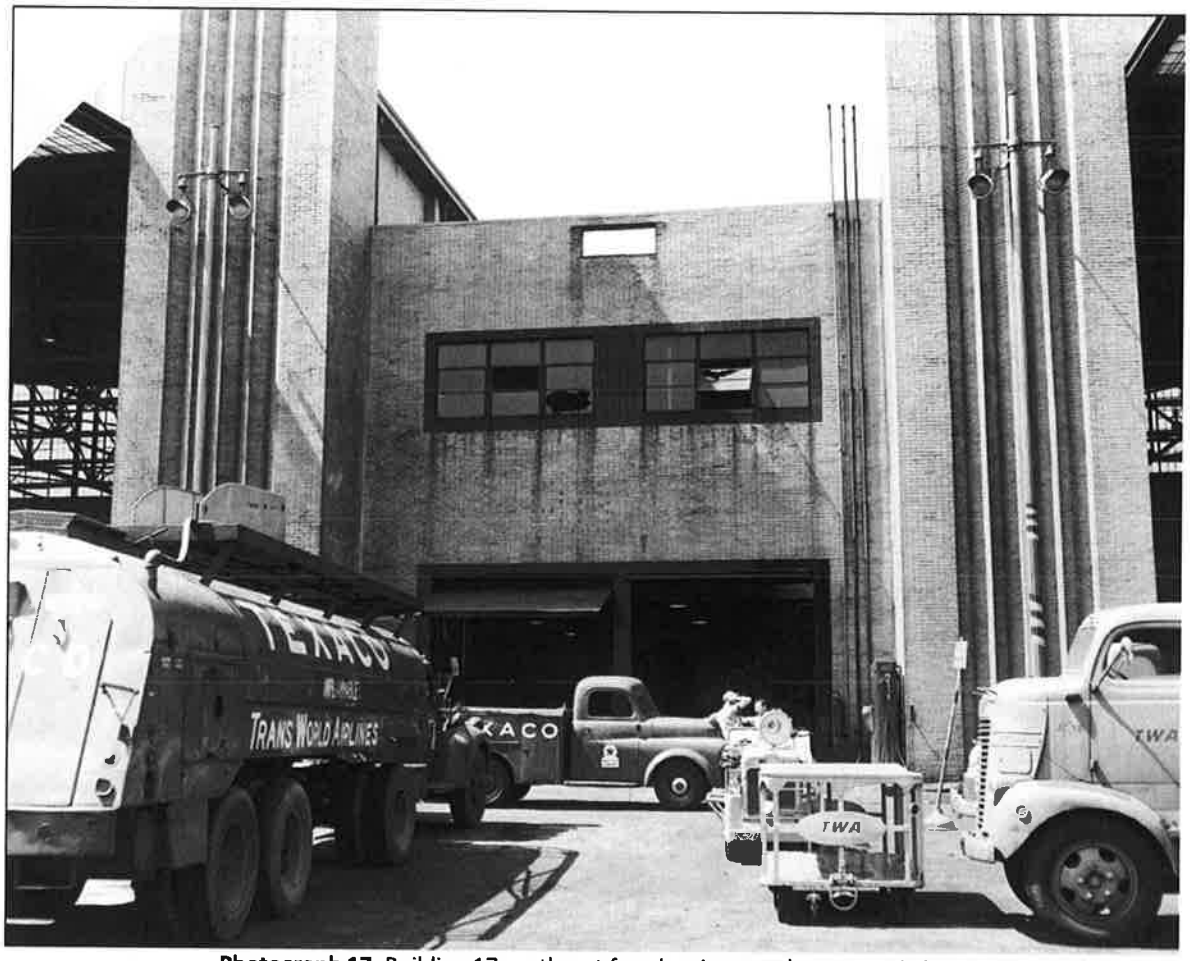


Photograph 13. Aerial view of LaGuardia Airport, view west, ca. 1950s.

Photograph 14. Aerial view of Hangars 2, 4, and 6, and Hangar 8, view northeast, ca. 1950s. The two easternmost hangars (Hangars 6 and 8) are no longer extant.

Photograph 15. Partial view of Hangar 2 south and west facades, ca. 1950s.

Photograph 16. Building 18 northeast façade, view southwest, ca. 1950s.



Photograph 17. Building 17 northeast façade, view southwest, ca. 1950s.

APPENDIX C

CORRESPONDENCE

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks,
Recreation and Historic Preservation
Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

RESOURCE EVALUATION

DATE: April 25, 2013
STAFF: Kathy Howe
PROPERTY: Hangars 1, 2, 3, 4, 5
MCD: Queens
ADDRESS: LaGuardia Airport, Grand Central Parkway
COUNTY: Queens
PROJECT REF: 12PR05127
USNs: 08101.011711
08101.011712
08101.011713
08101.011714
08101.011715

I. ☐ Property is individually listed on SR/NR:
name of listing:
☐ Property is a contributing component of a SR/NR district:
name of district:

II. ☒ Property meets eligibility criteria.
☐ Property contributes to a district which appears to meet eligibility criteria.
Pre SRB: ☐ Post SRB: ☐ SRB date

Criteria for Inclusion in the National Register:

A. ☒ Associated with events that have made a significant contribution to the broad patterns of our history;
B. ☐ Associated with the lives of persons significant in our past;
C. ☒ Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or possess high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction;
D. ☐ Have yielded, or may be likely to yield information important in prehistory or history.

STATEMENT OF SIGNIFICANCE:

Significance Statement for Hangars 1, 2, 3, 4, and 5
Hangars 1, 2, 3, 4, and 5 at LaGuardia Airport were built in 1939 and 1940 and designed in the Art Deco style by architects Delano & Aldrich. Retaining a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association, the complex of hangars meets Criterion A in the area of aviation history and Criterion C as representations of early twentieth century industrial design. Hangars 2 and 4 are located east of the Central Terminal Building (CTB/a.k.a. Terminal B) while Hangars 1, 3, and 5 are located west of the CTB.

Another hangar, Hangar 6, located east of Hangar 4 was demolished in the early 1990s.

While the five surviving hangars are National Register-eligible, the Central Terminal Building/Terminal B, originally constructed in 1964 to the design of Harrison & Abramowitz, does not meet the NR criteria due to major alterations in the 1970s-1990s. Along with the previously National Register-listed Marine Air Terminal, the hangars are significant historical features of LaGuardia Airport.

The design of all five surviving hangars consists of buff-colored brick with contrasting dark brick accents. The north façades front the airfield and are dominated by industrial steel sash and large hangar doors while the south façades, facing Grand Central Parkway, have two-story brick projections with ribbon windows. The shed portion of the hangars is a large, open space with exposed steel trusswork for the arched roof while the projecting brick blocks on the south side house office space. The hangars have been leased by various airlines including American Airlines, United/Continental, Delta, and TWA through the years for airplane maintenance and to house administrative offices.[1]

History of LaGuardia Airport

LaGuardia Airport opened in 1939 as North Beach Airport and was soon after given the name New York City Municipal Airport – LaGuardia Field. It was the first airport in the United States to have been financed, designed, and built with the full participation of the federal government using Works Progress Administration funding. Plans for the airport were promoted by Mayor Fiorello H. La Guardia as one aspect of a vast municipal transportation improvement campaign. The site offered easy access to the Triborough Bridge and to proposed highways. The airport initially covered 558 acres, part of which consisted of landfill from Rikers Island and from subway excavations.

The airport was designed by Delano & Aldrich and "reflected the latest functionalist thinking. The scheme consisted of a main terminal with a central administration building flanked by crescent like ranges containing three hangars on each side and a Marine Air Terminal about a half mile away. The hangars, with simple brickwork, horizontally banded metal windows, and low-vaulted roofs, convincingly mediated their inherent machine-shop atmosphere and monumentality deemed appropriate to a municipal gateway. The administration building was a long rectangular mass, one side of which opened in a semicircular shape onto the landing field."[2]

Plans for a major reconstruction for the airport began in 1957. Although the reconstruction demolished Delano & Aldrich's central terminal building, it retained five of the hangars designed by that firm as well as the Marine Air Terminal. New buildings erected as part of this reconstruction included Harrison & Abramowitz's control tower (1963) and an arc-shaped curving Central Terminal Building (1964).

If you have any questions concerning this Determination of Eligibility, please call Kathy Howe at (518) 237-8643, ext. 3266.

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[1] See Paul Barrett's entry on LaGuardia Airport in Kenneth T. Jackson, ed., *The Encyclopedia of New York City* (New Haven: Yale University Press, 1955) 651.

[2] Robert A.M. Stern, Gregory Gilmartin, Thomas Mellins, *New York 1930: Architecture and Urbanism Between the Two World Wars* (New York: Rizzoli, 1987) 704.

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation • Peebles Island, PO Box 189, Waterford, New York 12188-0189
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www.nysparks.com

May 10, 2013

Edward Knoesel
Port Authority of NY & NJ
225 Park Avenue South
New York, NY 10003

Re: FAA/PA
LaGuardia Airport Central Terminal Redevelopment
Queens County
12PR05127

Dear Mr. Knoesel,

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO) for the proposed work at LaGuardia Airport in Queens. We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental quality Review Act (New York Environmental Conservation Law Article 8).

We note that hangers 1, 2, 3, 4 and 5 at LaGuardia Airport, Grand Central Parkway are eligible for listing on the State and National Registers of Historic Places. The Resource Evaluation for these hangers is attached for your use. We further note that the Marine Air Terminal is listed on the State and National Registers of Historic Places.

We understand the current project proposes to demolish hangers 1, 2 and 4. Demolition of a National Register eligible building is deemed an Adverse Effect which triggers an exploration of alternative that might avoid or reduce project impacts. We note that if these three hangers were removed this would be a major loss leaving little of the original LaGuardia era plan. If no prudent and feasible alternatives are identified, we would enter into an Memorandum of Agreement (MOA) which would identify proper mitigation measures to be incorporated into the work. As a matter of policy and practice, this exploration must occur before mitigation measure can be developed and before demolition can occur.

At this point, we recommend moving ahead with an exploration of alternatives. If anyone has any questions, please call me at (518) 237-8643, ext. 3282.

Sincerely,

Beth A. Cumming
Historic Site Restoration Coordinator
beth.cumming@parks.ny.gov

via e-mail only

enc: Resource Evaluation

cc: M. Jenet - FAA

An Equal Opportunity Employer/Affirmative Action Agency

AECOM

Technical Memorandum

LaGuardia Airport Central Terminal Building Redevelopment Program
Environmental Assessment

Date: November 19, 2013

Subject: Cultural Resources Technical Memorandum: *Addendum No. 1*
NYSHPO Project Reference: 12PR05127

Prepared by: **Alan Tabachnick, Bryan Oscarson (AECOM)**

INTRODUCTION

This Addendum supplements the Cultural Resources Technical Memorandum (Tabachnick, *et al*, July 2013) and discusses the LaGuardia Central Terminal Building (CTB) Redevelopment Program ("the Program") in relation to the cultural resources documentation efforts being performed in accordance with Section 106 of the National Historic Preservation Act of 1966 (NHPA). Consultation meetings and development of a draft Memorandum of Agreement (MOA) took place after the original *Cultural Resources Technical Memorandum* was distributed; therefore, this Addendum discusses the consultation process leading to the preparation of the draft MOA.

1. LaGuardia Airport and Project Overview

LaGuardia Airport is located in the Borough of Queens, New York City, bordering on Flushing Bay, Bowery Bay, and the Grand Central Parkway (GCP). LaGuardia Airport is owned by the City of New York and operated by the Port Authority of New York and New Jersey (PANYNJ) under a long-term lease agreement. Constructed by the City and opened in 1939, the PANYNJ took control of the Airport in 1947. PANYNJ, in coordination with the Federal Aviation Administration (FAA), proposes to resolve existing deficiencies in the central terminal area by replacing the airside apron, terminal building, landside roadways, and the parking garage with new facilities designed and constructed to meet the latest federal standards for airport safety and security, and to accommodate the forecast passenger demand at acceptable levels of service.

Implementation of the Proposed Action would require demolition and removal of buildings that are approximately 50 years of age or older. They are: the Central Terminal Building (Terminal B, built 1964); Hangar 1 (built 1939-1940); and Hangars 2 and 4 (built 1939-1940).

2. Section 106 Process

In consultation with the FAA and SHPO, the Area of Potential (APE) was established and then used to define the geographic boundary of the cultural resource surveys. Two surveys were performed—one for above ground resources (historic architecture) and the other for below ground resources (archeology)—as discussed below.

2.1 Historic Architectural Resources

Architectural resources over 50 years of age that could potentially be impacted by project-related activities were identified and evaluated. One previously documented property is located on airport property—the Marine Air Terminal. The Marine Air Terminal has been designated a New York City Landmark by the New York City Landmark Preservation Commission (LPC, 1980) and is listed in the National Register of Historic Places (NRHP, 1982). This building is outside of the APE for this project and would not be directly or indirectly affected by the Proposed Action. A second resource within the APE is the Central Terminal Building (CTB/Terminal B). This building, constructed in 1964, was determined to be Not Eligible for listing in the NRHP due to major alterations that occurred in the 1970s and the 1990s. Hangars 1, 2, 3, 4, and 5 are all located within the APE and were surveyed and evaluated. The hangars, built between 1939 and 1940, were determined to be Eligible for the NRHP.

2.2 Archaeological Resources

The archaeological potential within the APE for the project was also evaluated. A *Phase IA Archaeological Reconnaissance Survey Report* (Mikolik, *et al*, June 2013) was prepared and submitted to the New York State Historic Preservation Office (NYSHPO) for review on June 24, 2013. That report noted one location of archaeological sensitivity within the project's APE. The recommendation in that location was consultation with the NYSHPO to determine if monitoring during select construction activities by a qualified archaeologist would be appropriate. FAA and NYSHPO reviewed the report and determined that monitoring in this location is warranted and that the conditions should be specified in the MOA.

2.3. Effect Determination

As part of the Section 106 process, a determination of effect was prepared, assessing the impact of the project on eligible and/or listed historic resources. The application of the criteria of effect resulted in the determination that the project would have an Adverse Effect on historic resources: direct adverse effect due to the removal of Hangars 1, 2, and 4, and indirect adverse effect to Hangars 3 and 5 due to a substantial change in setting. Overall, the project will have an Adverse Effect on cultural resources.

3.0 Consultation

The Consulting Parties process for this project has involved coordination on the limits of the APE, historic properties within the APE, potential historic resource avoidance and minimization alternatives, effects to historic properties, treatment of potential adverse effects, and development of a draft Memorandum of Agreement to resolve adverse effects.

3.1 Consulting Parties

The key participants and their roles are:

- Federal Aviation Administration, *Lead Agency*
- NY State Office of Parks, Recreation & Historic Preservation, *SHPO*
- Port Authority of New York & Jersey, *Applicant/Sponsor*

In addition, the FAA invited the following agencies, nongovernmental organizations, and private sector interests to participate in the consultation process:

- National Trust for Historic Preservation
- New York City Landmarks Preservation Commission
- Municipal Art Society of New York
- New York Landmarks Conservancy
- The Borough of Queens
- American Airlines

Further, the FAA notified the Advisory Council on Historic Preservation (ACHP) that the Proposed Action would have an Adverse Effect on historic properties. The ACHP replied that they did not believe that their participation in consultation to resolve adverse effects was needed.

3.2 Meetings/Workshops

Two Consulting Parties coordination meetings (workshops) were held to review the technical information, answer questions, and receive comments on the Section 106 process. Copies of the presentation materials, sign-in sheets, and meeting notes are attached.

- Consulting Parties Meeting No. 1
    - September 26, 2013
    - Agenda: project description, purpose and need, resources involved, determination of NR eligibility, the potential for adverse effects, and avoidance alternatives

- Synopsis: All the Consulting Parties were invited to attend. Present at the meeting were: FAA, PANYNJ, NYSHPO (via phone), the NYLC, and the Borough of Queens President's office. The follow items were discussed: the Section 106 process is underway; Hangars 1, 2, 3, 4, and 5 are eligible; the CTB itself is not eligible; due to the removal of Hangars 1, 2, and 4, the project would have an Adverse Effect; and, there are no reasonable or prudent alternatives that would avoid an Adverse Effect on the historic properties. More detailed information about the meeting is provided in **Attachment A**.

- Consulting Parties Meeting No. 2
  - October 29, 2013
  - Agenda: site visit/tour of the buildings affected by the Proposed Action and the other original airport buildings that would not be affected; outcome of Meeting No. 1; adverse effects and potential mitigation measures; draft Memorandum of Agreement
  - Synopsis: All the Consulting Parties were invited to attend. Present at the meeting were: FAA, PANYNJ, NYSHPO, and a representative from the Municipal Art Society. The following items were discussed: possible mitigation options, development of a draft Memorandum of Agreement. More detailed information about the meeting is provided in **Attachment B**.

3.3 Memorandum of Agreement

A Memorandum of Agreement is being prepared including mitigation measures that would reduce the adverse effects of the project to a level of no significance. A copy of the draft MOA is also included in Appendix E to the Draft EA. The recommended mitigation measures are:

- Recordation
  - Level III Historic American Building Survey/Historic American Engineering Record (HABS/HAER) recordation of Hangars 1, 3, and 5, and Hangars 2 and 4.
- Archaeological Monitoring of Areas of Sensitivity
  - Construction phase monitoring of select earthwork and excavation in the vicinity of the West Garage in accordance with an approved protocol
- Demolition/Construction Management Plan
  - Implementation of procedures to ensure that potential adverse effects to Hangars 3 and 5 are avoided to the greatest extent practicable during all phases of demolition and construction associated with the Proposed Action
- Interpretive Display on the History of LaGuardia Airport
  - Preparation of an public display illustrating the significance of the 1939 and 1964 Central Terminal Buildings and Hangars 1 through 5

The FAA and SHPO are required signatories, the PANYNJ is an invited signatory, and the remaining consulting parties will be invited to concur. However, it is important to note that any concurring party

refusing to be a signatory does not negate the Memorandum of Agreement or make it invalid. An executed Memorandum of Agreement verifies that the adverse effects to the historic properties have been resolved and that the Section 106 process is complete.

Since ACHP is not a part of the consultation, a copy of the executed Memorandum of Agreement must be sent to ACHP so that ACHP can include it in its files to have an understanding of the FAA's implementation of Section 106.

3.4 Public Involvement for Section 106 and NEPA

In addition to working with Consulting Parties to resolve adverse effects, public involvement is also a critical aspect of the Section 106 process. To reduce redundancies associated with the NEPA and Section 106 processes, the FAA is using the NEPA process to satisfy its Section 106 responsibilities, including providing the public with an opportunity to express their views on resolving adverse effects. Accordingly, all Section 106 documentation will be included in the Draft EA and the public will be notified and provided with sufficient time and relevant information to allow meaningful comments, so they can express their views during the 45-day comment period. A Public Information Open House/Formal Public Hearing will be held during the public comment period.

In general, the Section 106 and NEPA requirements for public involvement are being integrated as follows:

- Draft Environmental Assessment
  - Include all relevant Section 106 documentation including a copy of the draft MOA
- Notice of Availability of the Draft EA
  - Reference the potential for adverse effects to historic properties and the opportunity for public review and comment in accordance with Section 106
- Public Information Open House/Formal Public Hearing
  - Include a display station dedicated to the affected historic properties and the opportunity to express personal views on resolving adverse effects
- Responses to Public Comments
  - Compile all comments on the Draft EA including comments pertaining to historic resources and address the comments accordingly
- Final Environmental Assessment
  - Include responses to public comments on the Draft EA and include a copy of the executed MOA
- FAA Record of Decision
  - Reference the executed MOA including mitigation measures that would be implemented as part of the Proposed Action

ATTACHMENT A

CONSULTING PARTIES MEETING INFORMATION
SEPTEMBER 26th, 2013

Cultural Resources Addendum

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Meeting Record

To		From	
Name	Ed Knoesel	Name	Nicole Weymouth
Firm	PANYNJ	Firm	AECOM
Email	eknoesel@panynj.gov	Date Sent	October 3, 2013

Meeting Date: September 26, 2013
Project Name: LGA CTB EA
Project Number: 60181178.0009
Subject: Section 106 Review, Consulting Parties Meeting

☒ Meeting ☐ Telephone ☐ Conference Call

Attendees: See attached sign-in sheet.
Beth Cumming, NY State Historic Preservation Office (SHPO) participated via telephone

As lead agency, the FAA invited six organizations to be a Consulting Party to the Section 106 consultation process for the Central Terminal Building (CTB) Redevelopment Program at LaGuardia Airport. Invitation letters dated August 29, 2013 were sent to each organization requesting that they advise FAA of their interest to participate as a consulting party and their availability to attend the Consulting Parties Workshop scheduled for September 26, 2013. Each letter included a Technical Memorandum prepared by AECOM that described the project and its potential effects on historic resources. The following table summarizes each organization's response:

Organization	Name	Response	Consulting Party (Y/N)	Meeting Attendance
American Airlines	Palmina Whelan	Yes		Last minute cancellation
Municipal Arts Society	Vin Cipolla	No		No
National Trust for Historic Preservation	Stephanie Meeks represented by Roberta Lane	Yes		Expected but did not attend
NYC Landmarks Preservation Commission	Robert Tierney represented by Gina Santucci	Yes	Yes	No

Organization	Name	Response	Consulting Party (Y/N)	Meeting Attendance
New York Landmarks Conservancy	Peg Breen represented by Alex Herrera	Yes	Yes	Yes
Queens Borough President	Helen Marshall represented by Hugh Weinberg	Yes	Yes	Yes

The following is a summary of the meeting held on September 26, 2013 from 10:00 AM to 12:00 PM. This is not a direct transcript of the meeting but rather a summary of the key discussion points, decisions, and action items. Please notify me of any changes or corrections needed. Discussion was as follows:

- Angel Martinez (PA) welcomed everyone and introduced Marie Jenet (FAA).
- Marie asked all the attendees to introduce themselves. She expressed interest in hearing from those consulting parties that were not in attendance since only two of the six invitees were present. Marie mentioned that she reached out to parties who did not reply. Marie said Roberta Lane (National Trust for Historic Preservation) would be late.
- Mike Moran (PA) began the presentation (attached), describing the history of LaGuardia Airport and the CTB and emphasizing the need for the project. Mike's presentation included a project description, discussion about purpose and need, and a discussion related to the extensive alternatives analysis performed, focusing on Hangars 1, 2 and 4. Ed Knoesel (PA) continued the presentation, reviewing the NEPA and Section 106 processes. He concluded the presentation with some photographs of the hangars that would be adversely affected by the Proposed Action.
- Alex Herrera (NY Landmarks Conservancy) asked whether the buildings were still used as aircraft hangars.
    - The hangars to be removed are no longer used for scheduled aircraft maintenance; instead the buildings are used for airline baggage screening, cargo handling, equipment maintenance, and parts storage. In addition to being in fair to poor condition, the hangars are functionally obsolete because they are too small to accommodate modern day airliners, such as the B737 (the current design aircraft at the airport).
- Marie Jenet mentioned that FAA has coordinated with the Advisory Council on Historic Preservation (ACHP). ACHP responded they would not be participating in the Section 106 consultation process.
- Alan Tabachnick (AECOM) explained that NYC Landmarks Preservation Commission was also contacted. They concurred with the SHPO's findings regarding archaeology (one area of sensitivity would be monitored if excavation extends beneath 15' (the remainder of the project site is unlikely to contain intact archaeological resources). They have expressed no interest or concern with the hangars at this time.
- Regarding the EA schedule, Marie indicated that, given the FAA's current workload and the time needed for administrative review of the EA documentation, the scheduled conclusion of the Section 106 consultation process and the subsequent completion of the draft EA by December 2013 appears ambitious. Gail Butler (FAA) and Hugh Weinberg (Queens Borough President's

Office) also expressed concerns that the current EA schedule has the public review and comment period coinciding with the upcoming holiday season.

- Alex Herrera asked for confirmation that the Proposed Action would avoid Hangars 3 and 5, and Hangar 7. This was confirmed. Ed Knoesel explained that Hangars 3 and 5 would be indirectly affected by the removal of Hangar 1 but that Hangars 3 and 5 would remain. Hangar 7 has not been evaluated by SHPO since it is on the west side of the airport and would not be affected by the CTB Redevelopment. There are no plans to do anything with Hangar 7 at this time.
- Gail Butler asked for clarification regarding the RFP for the Public Private Partnership (PPP) that was released in the third quarter of 2013.
    - Carlene McIntyre (PA), Mike Moran and Tony Vero (PA) explained that a private entity will be selected to design, build, finance, operate and maintain the new terminal building. PA will construct the roadways, utilities and parking garages. PA recognizes that they are at risk by releasing the RFP without a determination on the EA, but the PPP decision will not be made until May 2014, followed by financial agreement discussions. The need for the CTB Redevelopment is so great that they are conducting the NEPA and PPP processes simultaneously in order to maintain the current schedule.
- Alex Herrera asked if the existing terminal would be kept open during construction.
    - Mike Moran discussed the complicated phasing that will be necessary to keep the CTB fully operational during the entire construction period. The demolition of Hangars 2 and 4 is an important part of the phasing plan, as it will allow for the construction of two of the piers that can be opened for use before beginning demolition of the existing CTB concourses. Part of the new headhouse would be constructed over the existing CTB frontage roads to allow for access to the existing terminal for as long as possible during construction.
- Marie Jenet asked for clarification that there would be no impact to the runways or taxiways as part of this project. Mike Moran explained that the only airside impact beyond the CTB apron would be shifting the restricted vehicle service road.
- Hugh Weinberg said it is important that the public be given adequate notice and that the public comment period not occur only during the holiday season.
    - Patty Clark (PA) explained that PA has had over 200 meetings with public groups and agencies over the course of the planning for this project. In addition, a public information open house was held in December 2012.
    - Ed Knoesel responded that PA has been increasing their efforts in public outreach and involvement regarding projects at JFK and LGA. PA has identified twelve publications in Queens (in several languages) in order to reach the different communities that may be interested in the activities at the airport. In addition, the public review and comment period for this project would be a minimum of 45 days.
    - Marie Jenet suggested that the Queens Borough President's Office could be helpful in reaching the appropriate audience. Hugh mentioned that his office's Aviation Advisory Council is typically the way to reach their constituency regarding any aviation issues. PA asked to be put on the agenda for the November meeting (November 12 or 13). Ian Van Praagh (PA) will follow up.

The record herein is considered to be an accurate depiction of the discussion and/or decisions made during the meeting unless written clarification is received by AECOM within five (5) working days upon receipt of this meeting record.

- Hugh Weinberg also suggested that PA should meet with the new Queens Borough President once they take office to familiarize them with all the current issues at LaGuardia and JFK.

- Alex Herrera would like to follow up with colleagues in his office before providing any feedback on the project. He mentioned that he would reach out to the person at the Municipal Arts Society (Rhonda) responsible for historic preservation. He will have some ideas in two to three weeks.
- Marie explained that there would be an MOA signed by SHPO, FAA and PA. They would like the consulting parties to concur or at least to not object. She is interested in hearing what the consulting parties think about the project and suggested another meeting and/or site visit.
- A follow-up meeting and site visit was scheduled for October 17, 2013, at LaGuardia Airport.
    - Marie Jenet will send out a formal invitation to all those on the consulting parties list, along with the meeting minutes and a copy of the presentation (**ACTION**).
    - Angel Martinez requested that the consulting parties email any comments ahead of the next meeting so that PA can be prepared to address them.

Copy: All attendees

--- End of Notes ---

The record herein is considered to be an accurate depiction of the discussion and/or decisions made during the meeting unless written clarification is received by AECOM within five (5) working days upon receipt of this meeting record.

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Environmental Assessment
Central Terminal Building Redevelopment Program at LaGuardia Airport

Section 106 Consulting Parties Meeting
225 Park Avenue South, New York, NY
September 26, 2013

Name	Organization	Phone Number	E-mail
Hugh Weinberg	Queens Borough Pres. Office	(718)286-2880	hweinberg@queensbp.org
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ED KNOESEL	PANYNJ	212-435-3747	eknoesel@panynj.gov
Tim Stickelman	PANYNJ Law	212-435-3425	tstickel@panynj.gov
Naomi Berlin	PANYNJ	212-435-6926	nberlin@panynj.gov
MICHAEL MORAN	PANYNJ 34943	718-533-3591	mmoran " "
TONY VERO	PANYNJ	718 533 3779	avero@panynj.gov
GAIL F. BUTLER	FAA AEA-7	(718)553-3267	gail.butler@faa.gov
Marie Jenet	FAA - NYADO	516-227-3811	mariejenet@faa.gov
BRYAN OSCARSON	AECOM	215 399 4333	bryan.oscarson@aecom.com
Nicole Weymouth	AECOM	646-758-6436	nicole.weymouth@aecom.com
Alan Tabachnick	AECOM	215-370-3579	Alan.Tabachnick@aecom.com

LaGuardia Airport
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Environmental Assessment
Central Terminal Building Redevelopment Program at LaGuardia Airport

Section 106 Consulting Parties Meeting
225 Park Avenue South, New York, NY
September 26, 2013

Name	Organization	Phone Number	E-mail
Carlene McIntyre	Port Authority	212 435-3503	CMcintyr@panynj.gov
ANDY CHIURAZZI	LGA PM	718-533-3644	ACHIURAZZI@PANYNJ.GOV
Angel Martinez	PA	718-533-3512	Aemartin@PANYNJ.GOV

LaGuardia Redevelopment Program

Consulting Parties Workshop
September 26, 2013

THE PORT AUTHORITY OF NY & NJ

Agenda

- Brief Overview of LaGuardia Airport & History of the CTB
- Purpose and Need:
  - Accommodating Future Demand
- LGA Redevelopment Program
- Adverse Affect Alternative Analysis
- NEPA Process
  - Section 106 Coordination
    - Impacts to Historic Resources - Hangars 1, 2, & 4
    - Proximate to Historic Resources – Hangars 3 & 5
- Discussion

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Existing Facilities

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LGA Historically Evolved to Nurture Economic Growth

Original CTB Opened in 1939

CTB Replacement Opened in 1964

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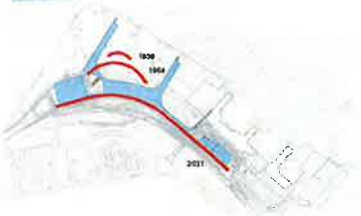
History of the CTB



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Need for the Project

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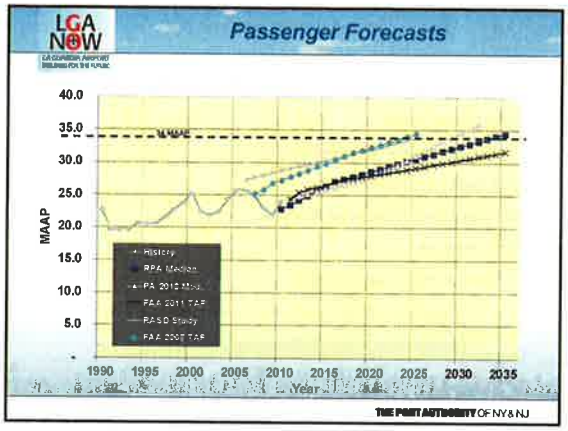
Passenger Forecasts



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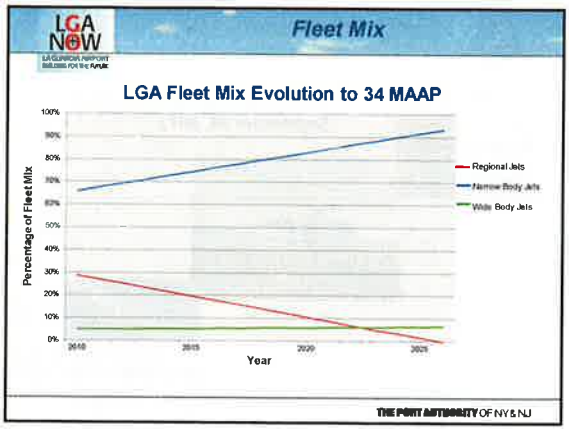
Fleet Mix



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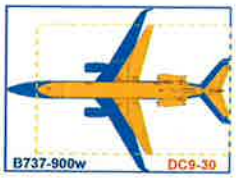
Design Aircraft



24' Wider 19' Longer

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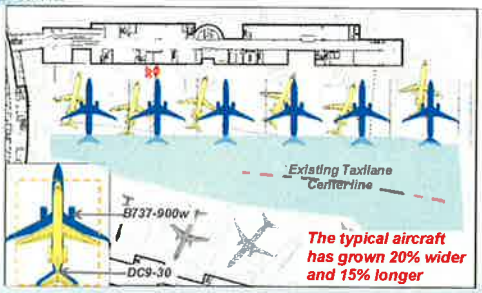
Airside Deficiencies



The typical aircraft has grown 20% wider and 15% longer

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Airside Deficiencies

- *Existing taxilanes are undersized*
- *Minimal start-up positions*
- *Numerous tow-in gates*
- *Sub-standard wingtip clearances*
- *Some gates require pushback onto taxiways*

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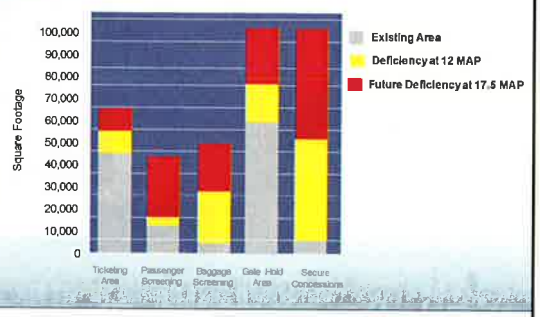
Existing Terminal Deficiencies



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Terminal Deficiencies

Passenger Screening

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Alternatives Analysis

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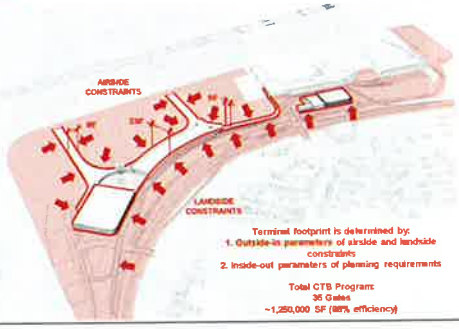
Site Constraints



Terminal footprint is determined by:
1. Outside-in parameters of airside and landside constraints
2. Inside-out parameters of planning requirements

Total CTB Program:
35 Gates
~1,250,000 SF (80% efficiency)

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Redevelopment on Existing Site

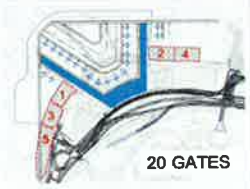

Figure 8e. Alternative Concept C1

Figure 8f. Alternative Concept C2

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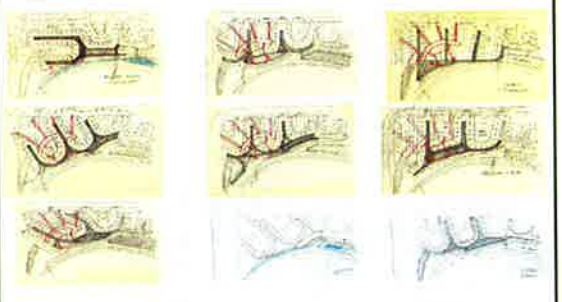
Concept Alternative Development Process



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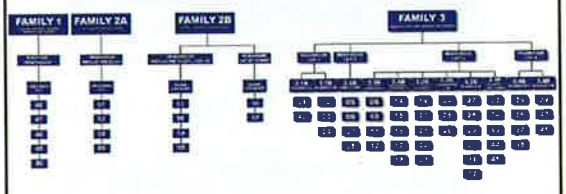
All Concepts Developed



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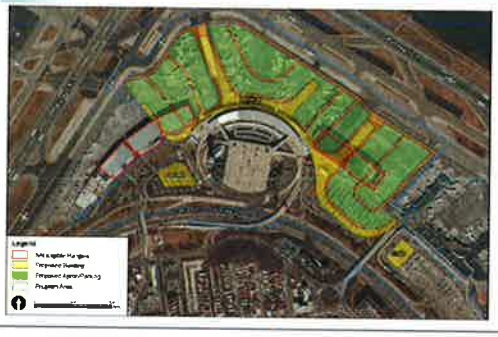
Alternative Concept A (Dismissed)



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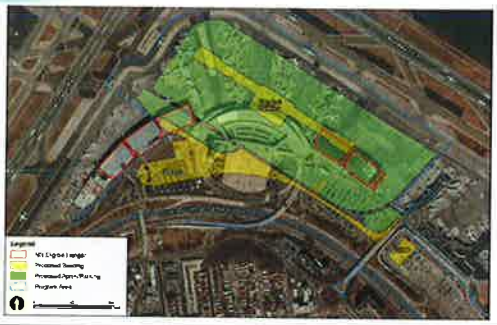
Alternative Concept B (Dismissed)



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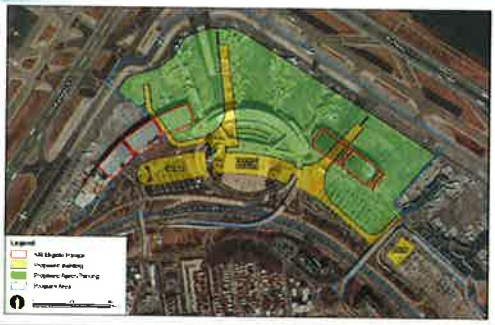
Alternative Concept C (Advanced)



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Proposed Action

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Program Features

Feature	CTB Today	New CTB
Passengers	12.0 MAAP	17.5 MAAP
Level of Service	Poor	Very Good
Contact Gates	35	35
Terminal	Inadequate @ 750,000 sf	1,300,000 sf
Frontage Roads	Inadequate @ 3,000 lf	4,400 lf
CTB Parking	6,100 spaces	+/- 5,400 spaces
Rail Connection	Not Considered	*Planned for Future* Implementation

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Airside

- Standardized wing tip clearances
- No pushbacks onto adjacent taxiways
- Taxilanes sized for fleet mix
- Multiple start-up positions
- All gates power-in

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Departures Level

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Preliminary Milestone Schedule

- Planning is complete
- 30% design complete 2Q 2013
- Request for Proposals for Public Private Partnership 3Q 2013
- Environmental Assessment target completion 1Q 2014
- Construction to immediately follow in 2014
- Target project completion 2021

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NEPA Process

- National Environmental Policy Act of 1970
- Federal Action(s) requiring NEPA review for this project are approval of a change to the Airport Layout Plan, and provision of federal funding
- Federal Aviation Administration (FAA) is federal Lead Agency for this NEPA document
- It is anticipated that an Environmental Assessment (EA) will satisfy requirements of NEPA
- Preparation of EA began in early 2012

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NEPA Process and Section 106

Status of EA and Section 106 Process

- Title 36 CFR Section 800 encourages Federal agencies to integrate Section 106 and NEPA processes
- Currently finalizing analyses and preparing a Draft EA
- SHPO's letter of January 3, 2013 to PANYNJ requested information on project and impacts
- May 2013 - SHPO Determination of impact/effect

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NEPA and Section 106

1. Identification of Area of Potential Effects (APE)
2. Survey and Evaluation of Historic Resources
   Central Terminal Building (CTB) – Not Eligible

   Hangars 1,2,3,4, and 5 Eligible
3. Evaluation of Archeological Potential
   Limited archeological sensitivity due to substantial disturbance

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NEPA and Section 106 (cont.)

4. Ongoing Consultation with NYSHPO
5. Consulting Parties Outreach

   Invitation from FAA to participate

   Consulting Parties Workshop (9/26/13)
6. Memorandum of Agreement

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MOA

If no prudent and feasible alternatives to demolition are identified, the Port Authority would enter into an Memorandum of Agreement (MOA) with NYSHPO and FAA, which would identify proper mitigation measures to be incorporated into the project. As a matter of policy and practice, this exploration must occur before mitigation measure can be developed and before demolition can occur.

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Environmental Assessment

Project	Public Comment Period	FAA Determination
LaGuardia Redevelopment Program	(PLANNED) Q4 2013	(PLANNED) Q1 2014

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Hangar 1

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Hangars 2 & 4

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Hangars 3 & 5

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Hangars 1 - 5

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Hangars 1 - 5

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Questions?

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ATTACHMENT B

CONSULTING PARTIES MEETING INFORMATION

OCTOBER 29th, 2013

Cultural Resources Addendum

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

Meeting Record

To		From	
Name	Ed Knoesel	Name	Bryan Oscarson
Firm	PANYNJ	Firm	AECOM
Email	eknoesel@panynj.gov	Date Sent	October 30, 2013 Revised November 15, 2013

Meeting Date: October 29, 2013
Project Name: LGA CTB EA
Project Number: 60181178.0009
Subject: Section 106 Review, Consulting Parties Meeting No. 2

☒ Meeting ☐ Telephone ☐ Conference Call

Attendees: See attached sign-in sheet.

The purpose of the meeting was to continue with the Section 106 consultation process and to specifically address the potential for adverse effects to the hangars and potential mitigation options working toward a Memorandum of Agreement. As lead agency, the FAA included an agenda with the meeting invitation.

1. Introductions; see the attached Sign-In Sheet.
2. Tony Vero (PA) and Ed Knoesel (PA) delivered the PowerPoint presentation for the benefit of those who did not attend the first Consulting Parties meeting held on September 26. The presentation focused on the purpose and need of the CTB Redevelopment Program, and alternatives analysis done on the proposed adverse effect (demolition of Hangars 1, 2 and 4).
3. Following the presentation, PA provided a site tour of the hangars proposed for demolition; the tour also included a field view/visit to the Marine Air Terminal and Hangar 7 located on the west side of the airport. The group had a chance to see Hangars 1, 2, 3, 4 and 5 from both the landside and airside, and the tour included a stop inside the interiors of Hangars 2 and 4.
4. After the tour, everyone returned to the conference room for a working lunch and continuation of the Consulting Parties meeting.
5. The Proposed Action would directly impact Hangars 1, 2 and 4. Hangars 3 and 5 would be indirectly impacted by the removal of Hangar 1 and the construction of a parking garage in Parking Lot 1,

which would partially block the view of hangars 3, and 5. Hangar 7 and the Marine Air Terminal are located outside of the Area of Potential Effect (APE).

6. Ed Knoesel continued the meeting with a discussion of the need for a Memorandum of Agreement (MOA) including options for mitigation. The following "options" were identified and discussed:
    a. Recordation that combines drawings, history, and photography to produce a comprehensive, interdisciplinary record of the buildings to be removed; SHPO stated HABS Level 3 recordation would be sufficient.
    b. Public interpretive plan, exhibit, panel, or display, or other educational tools such as a model, a booklet, website, etc.
    c. Architectural salvage and/or preservation of artifacts such as building signage, unique or decorative items, etc.
    d. Potential preservation of the center section of Hangar 7.
7. FAA and SHPO agreed that there is no requirement for mitigation to occur within the APE.
8. There was general consensus that there is a need for a maintenance and protection plan to minimize/avoid construction-related impacts to Hangars 3 and 5.
9. PA will prepare a draft MOA with stipulations (i.e., proposed mitigation measures).
10. PA will submit the draft MOA to FAA and SHPO for concurrent review and comment.
11. Signatories to the MOA will be PA, FAA, and SHPO.
12. Consulting Parties may review and comment on the draft MOA and they may concur with the final MOA but they will not be signatories.
13. Several identified Consulting Parties (invited) have not attended the meeting(s) and/or have not stated their intention to participate as a Consulting Party.
14. The record should reflect in writing whether or not the Consulting Parties (invited) agreed to participate; Marie Jenet (FAA) will close the loop on this.
15. Marie Jenet indicated that all future communication with the Consulting Parties will be accomplished via mail/email.
16. FAA and SHPO agreed that the Section 106 consultation process is far enough along to prepare the Draft Environmental Assessment (EA) report and to circulate the Draft EA for public review and comment. The Draft EA may include a copy of the draft MOA if it is complete but the Draft EA/NEPA process does not need to wait for the Draft MOA to be completed.
17. An Open House/Public Hearing is planned for January 2014. The public involvement process will be implemented in such a manner so as to satisfy FAA requirements for implementing NEPA as well as Section 106 (and, although not mentioned during the meeting, Section 4(f) too).
18. Action Items
    a. FAA will follow-up with the Consulting Parties regarding intent to participate
    b. PA will prepare a Draft MOA for review and comment
    c. SHPO will provide commentary related to the originally submitted Cultural Resources Technical Memorandum
    d. AECOM will proceed with preparation of the Draft EA including the Section 106 documentation to be appended.

The record herein is considered to be an accurate depiction of the discussion and/or decisions made during the meeting unless written clarification is received by AECOM within five (5) working days upon receipt of this meeting record.

The meeting adjourned at approximately 2:30 pm.

Copy: All attendees

The record herein is considered to be an accurate depiction of the discussion and/or decisions made during the meeting unless written clarification is received by AECOM within five (5) working days upon receipt of this meeting record.

THE PORT AUTHORITY OF NY & NJ

LaGuardia Redevelopment Program

CP Workshop No. 2

Tuesday October 29, 2013

Name	Title	Organization	Phone Number	E-Mail Address
ANDY CHIUFAZZI	PM	LGA REDEVELOPMENT	718-533-3644	ACHIUFAZZI@PANYNJ.GOV
RICHARD SOUTHWICK	PARTNER - HP	BEYER BLINDER BELLE	212.777.7800	RSOUTHWICK@BBBARCH.COM
Charlie Kramer	ARCHITECT	Beyer Blinder Belle	212-777-7800	CKRAMER@bbbarch.com
Marie Jenet	Env Specialist Proj Mgr	FAA NYADO	516 227 3811	marie.jenet@faa.gov
BRYAN OSCARSON	ENV. ASSMT PM	AECOM	215.399.4333	BRYAN.OSCARSON@AECOM.COM
Ian Van Praagh	Senior Advisor	PA	212-435-[redacted]6938	IVANPRAA@panynj.gov
PATTY CLARK	Sr. Advisor	"	212-435-3731	pclark@panynj.gov
ED KNOESEL	Env Mgr PA	PA	212 435-3747	eknoesel@panynj.gov
ERIC KUCHTAR	TECHNICAL SPECIALIST	NYSHPO	518 237 8643	eric.kuchtar@parks.ny.gov
Lakan Cole	MAS Fellow	MAS	404-229-4960	lcole@mas.org
TONY VERO	SR. PROGRAM MGR	PA - LGA	718 533 3779	avero@panynj.gov

FINAL
MEMORANDUM OF AGREEMENT
AMONG
THE PORT AUTHORITY OF NEW YORK & NEW JERSEY, THE NEW YORK STATE HISTORIC PRESERVATION OFFICE, AND THE FEDERAL AVIATION ADMINISTRATION, FOR THE CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM AT LAGUARDIA AIRPORT, QUEENS, NEW YORK

November 2014

MEMORANDUM OF AGREEMENT AMONG THE PORT AUTHORITY OF NEW YORK & NEW JERSEY, THE NEW YORK STATE HISTORIC PRESERVATION OFFICE, AND THE FEDERAL AVIATION ADMINISTRATION, FOR THE CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM AT LAGUARDIA AIRPORT, QUEENS, NEW YORK

WHEREAS, the proposed redevelopment of the Central Terminal area at LaGuardia Airport (LGA), known as the Central Terminal Building Redevelopment Program (Program), has prompted the Port Authority of New York & New Jersey (Port Authority), as operator of LGA, to request the Federal Aviation Administration (FAA) to consider approving a change to the airport layout plan (ALP); and

WHEREAS, the Central Terminal area includes the existing Hangars 1, 2, 3, 4 and 5 which have been determined to be eligible for listing on the National and State Registers of Historic Places. The Central Terminal Building at LGA does not meet the National Register criteria due to major alterations in the 1970s-1990s. Hangar 7, which is not in the Central Terminal area or part of the redevelopment of the Central Terminal area, has also been determined to be eligible for listing on the National and State Registers of Historic Places; and

WHEREAS, the existing Hangars 1, 2, and 4 were all designed and built between 1939 and 1940, and it has been determined through a thorough exploration of feasible and prudent alternatives that it is not possible for these facilities to remain in-situ and function in a manner to support the Program at LaGuardia; and

WHEREAS, FAA consulted with the New York State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800 regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. Section 470) on August 21, 2013 and SHPO concurred with FAA's determination of adverse effect in its verbal response on October 29, 2013 and its written response dated February 3, 2014; and

WHEREAS, the FAA notified the Advisory Council on Historic Preservation (ACHP) that the proposed redevelopment will have an Adverse Effect on Hangars 1, 2, and 4 (which are eligible for listing on the National and State Registers of Historic Places) within the meaning of 36 CFR Part 800.5; and in a letter to FAA dated September 18, 2013 (Attachment 1), the ACHP has concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of its regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, ACHP does not believe that its participation in the consultation to resolve adverse effects is needed; and

WHEREAS, The National Trust for Historic Preservation, The Municipal Art Society of New York, The New York Landmarks Conservancy, the New York City Landmarks Preservation Commission, The Borough of Queens President, American Airlines, as interested parties, have been invited by the FAA to be consulting parties and to participate in the Section 106 process as described in 36 CFR Part 800. The New York Landmarks Conservancy, the New York City Landmarks Preservation Commission, The Borough of Queens President, American Airlines, as the interested parties who chose to participate in the consultation process, have been invited to concur in this Memorandum of Agreement (MOA); and

WHEREAS, Hangars 1, 2, and 4 will be removed after documentation is completed in accordance with National Parks Service standards, as stipulated in this MOA, and a new Central Terminal Building will be constructed in their place.

NOW THEREFORE, the FAA, the SHPO, and the Port Authority, as parties and signatories to this MOA, agree that the Program at LaGuardia shall be implemented in accordance with the following Stipulations in order to take into account the effect of the undertaking on Hangars 1, 2, 3, 4, and 5:

STIPULATIONS

If the FAA approves the undertaking, it will ensure that the following measures are carried out:

Mitigation

1. Recordation

The Port Authority shall record Hangars, 1, 2, 3, 4, 5, and 7 to Level III Historical Architectural Building Survey/Historic American Engineering Record (HABS/HAER) standards of the National Park Service (NPS). The consultant chosen by the Port Authority to conduct the documentation shall meet the professional qualifications established by the U.S. Department of the Interior and set forth in 36 CFR. 61. Copies of the recordation shall be sent to the New York State Archives, the Port Authority and the New York State Historic Preservation Office. The recordation will include a historic narrative of the Hangars and their relationship to the development of LaGuardia Airport.

The Port Authority will not begin to remove Hangars 1, 2, or 4 as set forth in this stipulation until the documentation products to support the recordation have been submitted to and accepted by the SHPO.

2. Archaeological Monitoring of Areas of Sensitivity

The Port Authority shall ensure that archaeological monitoring will be undertaken within designated areas of sensitivity during construction, and in accordance with the approved monitoring plan developed in consultation with the SHPO. (See Attachment 2.)

3. Demolition/Construction Management Plan

The Port Authority shall ensure that it and/or its Contractors/Lessees develop a Demolition/Construction Management Plan designed to ensure that adverse effects to Hangars 3 and 5 are avoided to the greatest extent practicable during all phases of demolition of Hangar 1, and the construction of a new Central Terminal Building, roadway network and parking garage. The Demolition/Construction Management Plan will be submitted to the SHPO for approval prior to commencement of work.

4. Maintenance Plan For Hangars 3 and 5

The Port Authority shall develop a Maintenance Plan that will provide for scheduled and as-needed maintenance designed to ensure that Hangars 3 and 5 remain in a state of good repair for the foreseeable future. (See Attachment 3.)

5. Interpretive Display on the History of LaGuardia Airport

As part of its public education effort, the Port Authority shall develop an interpretive display illustrating the history and significance of the 1939 and 1964 Central Terminal Buildings, and Hangars 1, 2, 3, 4, 5, and 7. The display will link their relationship and significance to the overall development of LGA. The interpretive display shall be placed in a prominent public location at LaGuardia Airport.

Reconsideration of the Memorandum of Agreement

6. The terms of this MOA may be reconsidered by the signatories if the undertaking (Section 1 of the MOA) has not commenced within one-year after the execution of this MOA by all signatories.

Termination of the Memorandum of Agreement

7. This agreement shall expire after the Port Authority, the FAA and SHPO agree, in a writing to be prepared by the Port Authority for execution by such parties, that the stipulations set forth in this MOA, as set forth in Sections 1-5, ending in placement of the interpretative display, have been effectively carried out to their mutual satisfaction.

Dispute Resolution

8. Should any member of the public or other interested party object within 30 days from installation, to the placement or content of the interpretative display specified in Section 5 of this MOA, the Port Authority shall consult with the objecting party to resolve the objection.

If any signatory determines that the terms of the MOA cannot be, or are not being, carried out, then that signatory shall give written notice to all other signatories to this MOA of such determination. If the MOA is not amended by further consultation between the signatories within three months after issuance of such notice, then any signatory may terminate the MOA by providing thirty (30) calendar days written notice to the other signatories. The FAA shall then seek to execute a new agreement with the signatories, but in doing so shall seek to minimize the impact of any such new agreement on either: 1) terms not under discussion, or 2) terms that have been carried out prior to the issuance of such notice.

EXECUTION AND AMENDMENT

Execution of this Memorandum by the FAA, the SHPO, and the Port Authority, and implementation of its terms, will be evidence that FAA has afforded consulting parties an opportunity to comment on the undertaking and its effects on historic properties, and has completed all processes in accordance with Section 106 of the National Historic Preservation Act.

Prior to Termination of this MOA pursuant to Section 7, any signatory to this agreement may propose to the other signatories that this agreement be amended, whereupon the FAA shall consult with the other signatories to this MOA in accordance with 36 CFR 800.6(c)(7), (8) to consider such an amendment. Notwithstanding the foregoing, the signatories agree that once the SHPO has approved the Demolition/Construction Management Plan, pursuant to Section 3 of this MOA, no further amendment of this MOA that would affect that Plan, shall be effectuated.

FINAL MOA for LGA CTB Program

***A separate signature page is being executed by each signatory to this Agreement.**
SIGNATORY PAGES* (PAGE 1 OF 3)

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY

By: Pat Foye Date: 10/28/14

Print/Type Name: PATRICK FOYE

Print/Type Title: EXECUTIVE DIRECTOR

FINAL MOA for LGA CTB Program

***A separate signature page is being executed by each signatory to this Agreement.**
SIGNATORY PAGES* (PAGE 2 OF 3)

FEDERAL AVIATION ADMINISTRATION

By: _____ Date: 10/30/11

Print/Type Name: STEVEN M. URCASS

Print/Type Title: MANAGER

FINAL MOA for LGA CTB Program

***A separate signature page is being executed by each signatory to this Agreement.**
SIGNATORY PAGES* (PAGE 3 OF 3)

NEW YORK STATE HISTORIC PRESERVATION OFFICE

By: Ruth L Pierpont Date: 10/29/14

Print/Type Name: Ruth L. Pierpont

Print/Type Title: DSHPO

*A separate concurrence signature page is being executed by each Consulting Party to this Agreement.

CONSULTING PARTIES CONCURRENCE - PAGE 1 OF 4

NEW YORK CITY LANDMARKS PRESERVATION COMMISSION

By: _____ Date: 10/31/14

Print/Type Name: MEENAKSHI SRINIVASAN

*A separate concurrence signature page is being executed by each Consulting Party to this Agreement.

CONSULTING PARTIES CONCURRENCE - PAGE 2 OF 4

QUEENS BOROUGH PRESIDENT'S OFFICE

By: Melinda Katz Date: 11/12/14

Print/Type Name: Melinda Katz

FINAL MOA for LGA CTB Program

***A separate concurrence signature page is being executed by each Consulting Party to this Agreement.**
CONSULTING PARTIES CONCURRENCE - PAGE 3 OF 4

NEW YORK LANDMARKS CONSERVANCY

By: _____ Date: 11/4/14

Print/Type Name: Peg Breen

***A separate concurrence signature page is being executed by each Consulting Party to this Agreement.**
CONSULTING PARTIES CONCURRENCE - PAGE 4 OF 4

AMERICAN AIRLINES

By: _____ Date: _____

Print/Type Name: _____

ATTACHMENT 1

FINAL MOA for LGA CTB Program

Preserving America's Heritage

September 18, 2013

Steven M. Urlass, Manager
New York Airports District Office
Federal Aviation Administration
600 Old Country Road, Suite 446
Garden City, NY 44530

Ref: *Proposed Demolition of Hangars 1, 2 & 4- Central Terminal Building Redevelopment Program LaGuardia Airport, Queens, New York*

Dear Mr. Urlass:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the New York State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Najah Duvall-Gabriel at 202-606-8585 or at ngabriel@achp.gov.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone:202-606-8503 • Fax: 202-606-8647 • achp@achp.gov • www.achp.gov

ATTACHMENT 2

ARCHAEOLOGICAL MONITORING OF CONSTRUCTION

An approximately 10-acre area of archaeological sensitivity has been defined at the western end of the Area of Potential Effects (Figure 1). Archaeological monitoring requires that an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards (48 Federal Register [FR] 44738-44739 – Appendix A to 36 CFR 61) be present on site during any activities that result in the excavation or significant movement of soil below the documented level of fill.

Archaeological monitoring of construction will only be required in the area of sensitivity illustrated in Figure 1. Construction activities in all other areas of the CTB Redevelopment Program will not require archaeological monitoring. Monitoring is also limited to those activities with the potential to disturb soils below the documented level of fill; these activities include but may not be limited to: grading, trenching and excavating. Pile driving will not require the presence of archaeological monitoring. There are no known or documented hazardous waste sites present within the area of archaeological sensitivity. Based on current design plans, construction activities with the potential to affect archaeological deposits are limited to:

- utility trenching;
- new roadway construction; and
- any excavations for building the West Garage.

The limits of those activities in the archaeologically sensitive area are depicted in Figure 2. Archaeological monitoring of construction is limited to those areas unless changes are made in the design plans. The New York State Historic Preservation Office (NYSHPO) will be consulted for concurrence on any proposed changes to the monitoring activity.

Protocol for Monitoring Activities
It will be the responsibility of the Resident Engineer to inform the archaeological consultant of the date that excavations are set to begin with at least one month notice.

An archaeological monitor will be on-site whenever excavation below the level of documented fill will occur in areas that have not been cleared. (See below for a definition of ***Cleared Site***.) If multiple excavations are taking place simultaneously, steps will be taken to assure monitoring is taking place at all locations where it is required. The archaeological monitor will observe all excavators operating in the areas highlighted in Figure 2. The archaeological monitor may request that an equipment operator temporarily stop work in order to examine the excavation for artifacts or cultural features. Work stoppages of this nature will last for no more than 20 minutes. If the artifact deposit or cultural features appear to be potentially significant, the archaeological monitor will determine the nature of any discovery during construction that may warrant construction to cease for a certain period of time to evaluate the potential extent and significance of the find.

If, in the opinion of the archaeological monitor for the archaeological consultant, the archaeological find is assessed to be potentially significant, they will notify the Contractor Foreman. The Contractor Foreman will order a ***Stop Work*** to the excavator and excavations will be temporarily halted for inspection. It is anticipated that a work stoppage to determine the function and cultural affiliation of artifacts or features may last from 20 minutes up to four (4) hours.

Hand excavations by the archaeological monitors to the extent necessary to identify and assess the objects or features may be required. If the objects and/or features are determined by the archaeological consultant

not to be significant, this information will be relayed to the Resident Engineer, who will contact the Contractor Foreman to resume work.

If the artifacts and/or features are assessed by the archaeological consultant to be potentially significant archaeological remains, the Resident Engineer, PANYNJ, NYSHPO and the New York Landmarks Preservation Commission (LPC) will be notified. No work by the Contractor will be allowed to continue within that area until it has been cleared by the archaeological consultant, PANYNJ and the NYSHPO. Up to two full days may be required to conduct sufficient testing to make a recommendation of NR-eligibility. The extent of the area to be protected will be defined by the archaeological consultant in consultation with the Resident Engineer but will include sufficient space to adequately sample the cultural deposits and stage the work space for further archaeological investigation.

Once a specific excavation has been completed and no significant archaeological remains have been found, the Principal Investigator archaeological consultant will recommend that the specific location be declared a ***Cleared Site*** and no further archaeological monitoring will be required. This recommendation will be forwarded to the Site Engineer, PANYNJ, the NYSHPO and LPC. Once all parties have agreed to this recommendation, the Resident Engineer will notify the Contractor and work may proceed on that work site without the presence of archaeological monitors.

Administration

During the course of archaeological monitoring under these contracts, bi-weekly progress reports will be produced by the archaeological consultant and distributed to PANYNJ, the Resident Engineer, the NYSHPO and LPC. The reports will be brief and they will outline the activities carried out during the two-week period. These reports will be submitted by the end of day every other Friday.

In the event that a National Register-eligible archaeological site (or sites) is encountered during construction monitoring, the archaeological consultant through the PANYNJ will complete a Curation Request Form and consult with the New York State Museum (NYSM) to determine whether the collection falls within the Museum's collection interest. If the NYSM wishes to accept the artifact collection, a Curation Agreement Form will be signed between the PANYNJ and the NYSM and all artifacts collected from the site or sites will be curated according to the standards and guidelines established by the NYSM (www.nysm.nysed.gov). Upon completion of the monitoring project, all artifacts will be delivered to the NYSM (or to any other institution agreed upon by the PANYNJ and the NYSM) for final storage.

Mitigation

If in the event that an archaeological site is encountered in the archaeologically sensitive area and is determined to be eligible for listing on the National Register of Historic Places, a resource-specific Memorandum of Agreement (MOA) to mitigate the adverse impacts to that resource will be drafted and subsequently reviewed and approved by the NYSHPO. Once the MOA for mitigation has been concurred upon by all parties, mitigation of the adverse impacts to the sites will be implemented. Construction at the archaeological site will not recommence until the fieldwork for the Data Recovery is completed.

Reporting

At the conclusion of the archaeological monitoring activity, the archaeological consultant for PANYNJ will produce an Archaeological Monitoring Report.

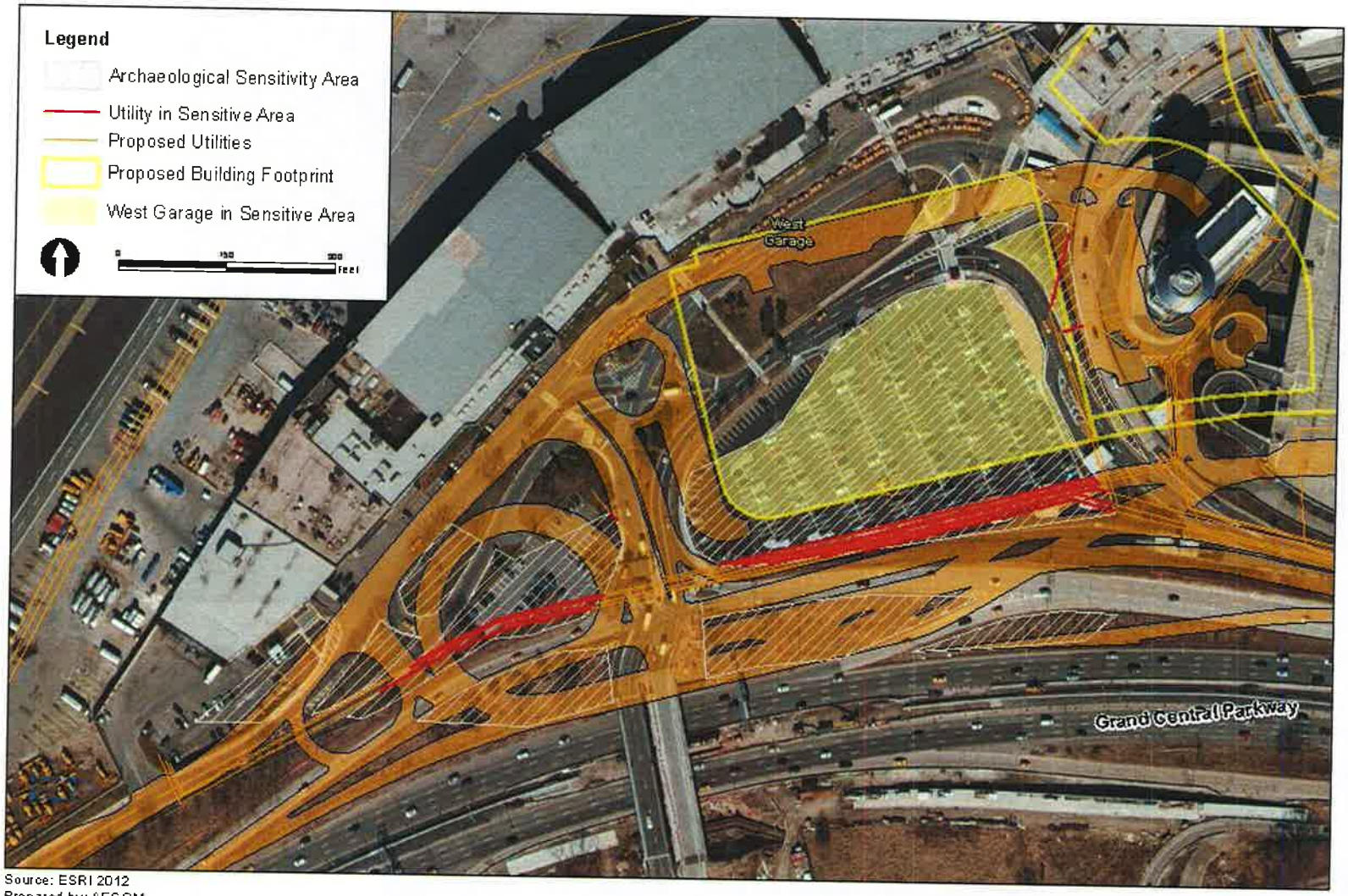
Source: ESRI 2012
Prepared by: AECOM

Figure 1

LaGuardia Airport
CTB Redevelopment Program

LGA Area of Archaeological Sensitivity

THE PORT AUTHORITY OF NY & NJ



Source: ESRI 2012
Prepared by: AECOM

Figure 2

CTB Redevelopment Program
Environmental Assessment
LaGuardia Airport
THE PORT AUTHORITY OF NY & NJ

Construction Impacts in Archaeological Sensitivity Area

ATTACHMENT 3

Maintenance Plan for Hangars 3 and 5 at LaGuardia Airport

This Maintenance Plan has been developed in an effort to satisfy Stipulation 4, of the Memorandum of Agreement among the Port Authority of New York & New Jersey, the New York State Historic Preservation Office, and the Federal Aviation Administration, for the Central Terminal Building Redevelopment Program at LaGuardia Airport. The plan is intended to provide for scheduled and as-needed maintenance which is designed to ensure that Hangars 3 and 5 remain in a state of good repair for the foreseeable future.

In accordance with the parameters of a lease agreement between the tenant and the Port Authority of NY & NJ, the lessee shall, throughout the term of the lease, assume the responsibility for all repair and maintenance whatsoever within the hangar space including the structural support of the hangar floors.

The maintenance plan shall consist of the following actions, which include the identification of each system or items that must be periodically checked or serviced and the frequency of those checks:

- Inspection of all life safety systems to ensure that they will be fully functional in the case of an emergency, including fire alarm, suppression, emergency generators and lighting, exit signage, fire extinguishers, and egress components. The plan will include the requisite testing and servicing as required by manufacturer's recommendations;
- Mechanical systems for providing heating, ventilation, and air conditioning; maintenance of air compressors, cleaning of coils, cleaning of filters, lubrication of bearings;
- Electrical systems for providing power and lighting including high voltage switch gear, transformers, and network protectors;
- Inspection of doors and windows, frames and weather stripping, including alignment, deterioration of parts, and operation;
- Integrity of all structural systems including the roof, interior and exterior building components, slabs, and hangar doors;
- Additionally, a formal condition inspection of said facilities is conducted once every five (5) years. The inspection identifies items which require repair and groups those repairs based on prioritization.

Regular inspection and maintenance of systems and character defining features will help preserve the integrity of those hangars eligible for listing on the National and State Registers of Historic Places. Repairs or replacements in-kind are recommended for significant architectural features. Guidance is available per the National Park Service Preservation Briefs for common historic building problems. http://www.nps.gov/tps/how-to-preserve/briefs.htm

Appendix E.
Noise Technical Report

Noise Technical Report

LaGuardia Airport Central Terminal Building Redevelopment Program EA

Queens, NY

Prepared for:

THE PORT AUTHORITY OF NY & NJ

LaGuardia Airport, Hangar 7, 2nd Floor
Flushing, NY 11371

Prepared by:

AECOM
125 Broad Street
New York, NY 10004

June 2014

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ATTACHMENT 1: Noise Analysis Technical Report (Aircraft Operations)
ATTACHMENT 2: Supporting Documentation

Appendix E. Noise Technical Report

As part of the Port Authority of New York and New Jersey's (PANYNJ) proposed redevelopment of the Central Terminal Building (CTB) at LaGuardia Airport, a noise assessment was conducted for an environmental assessment (EA) in accordance with federal, state, and local requirements. This analysis was conducted in accordance with the National Environmental Policy Act (NEPA), the Federal Aviation Administration (FAA) guidance, the New York City Environmental Quality Review (CEQR) guidance and the New York State Environmental Quality Review Act (SEQRA).

The noise assessment included an evaluation of both temporary construction activities and long-term operations. Noise impacts due to long-term operations were evaluated for both the airside (i.e., noise impacts due to changes in aircraft fleet mix) and landside operations (i.e., noise impacts due to changes in roadway configuration and increase in passenger traffic, as well as changes to on-Airport stationary sources). The airside noise impacts were evaluated by a consultant to PANYNJ (Landrum & Brown) as part of a separate analysis, the results of which are provided in **Attachment 1**.

E.1 Noise Fundamentals and Evaluation Criteria

E.1.1 Noise Fundamentals

Noise can be defined as any unwanted sound. Sound is all around but becomes noise when it interferes with normal activities such as sleep and conversation. The principal human response to noise is annoyance. Human response can vary according to the type and source of the noise, the distance between the source and the human receptor, the perceived importance of the noise, its appropriateness in the setting, and the sensitivity of the person receiving the noise (receptor).

The measurement of the human perception of sound results from its three basic physical characteristics: intensity, frequency, and duration. Intensity is a measure of the acoustic energy of the sound vibrations and is expressed in terms of sound pressure. As sound pressure increases, the energy carried by the sound increases, and the perception of loudness of that sound increases as well. Frequency is the number of times per second the air vibrates or oscillates. Low frequency sounds are characterized as rumbles or roars, while sirens or screeches typify high frequency sounds. Duration is the length of time the sound can be detected.

The loudest sounds that can be detected without pain by the human ear have intensities that are a trillion times higher than those of sounds that can barely be detected. Because of this vast range, a logarithmic unit known as the decibel (dB) is used to represent the intensity of a sound. Such a representation is called a sound level.

The logarithmic nature of the dB unit does not allow sound levels to be arithmetically added or subtracted. However, some simple rules can be used to understand sound levels. If a sound's intensity is doubled, the sound level increases by 3 dB, regardless of the initial sound level. For example:

60 dB + 60 dB = 63 dB
80 dB + 80 dB = 83 dB

Second, the total sound level produced by two sounds of different levels is usually only slightly more than the greater of the two. For example:

60 dB + 70 dB = 70.4 dB

The minimum change in the sound level of individual events that an average human ear can detect is about 3 dB. On average, a person perceives a change in sound level of about 10 dB as a doubling (or halving) of the sound's loudness, and this relation holds true for loud and quiet sounds. A decrease in sound level of 10 dB actually represents a 90% decrease in sound intensity but only a 50% decrease in perceived loudness because of the nonlinear response of the human ear (similar to most human senses). Noise measurements assessed relative to human exposure are usually expressed using an "A-weighted" scale that filters out very low and very high frequencies in order to replicate human sensitivity. It is common to add the letter "A" to the unit of measurement (dBA) in order to identify that the measurement has been made with this filtering process. Human hearing ranges from approximately 20 dBA (the threshold of hearing) to between 130 and 140 dBA (the threshold of pain). **Table E.1-1** summarizes noise levels from common sources.

Table E.1-1: Noise Levels of Common Sources

Noise Source	Level (dBA)
Air Raid Siren at 50 Feet	120
On Platform by Passing Subway	100
On Sidewalk by Passing Heavy Truck or Bus	90
On Sidewalk by Typical Highway	80
On Sidewalk by Passing Automobiles with Mufflers	70
Typical Urban Area	60-70
Typical Suburban Area Background	50-60
Quiet Suburban Area at Night	40-50
Typical Rural Area at Night	30-40

Source: *CEQR Technical Manual.*

Since the dBA noise metric describes a noise level at just one moment, and very few noises are constant, other ways of describing noise over extended periods are needed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period as if it had been a steady, unchanging sound. For this condition, a descriptor called the equivalent sound level (or L_{eq}) can be computed. The L_{eq} descriptor is the constant sound level that, in a given situation and time period (e.g., one-hour L_{eq}, or 24-hour L_{eq}), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors, such as L_1, L_{10}, L_{50} and L_{90} are also sometimes used to indicate noise levels which are exceeded 1, 10, 50 and 90 percent of the time, respectively. The descriptors of the maximum and minimum noise during a noise event are L_{max} and L_{min}, respectively. Among these descriptors, the one-hour L_{eq} (or simply $L_{eq}(1)$) is considered a standard metric for evaluating traffic noise impact by the Federal Highway Administration (FHWA) and is also a common metric for all sources by the City of New York as per the *City Environmental Quality Review (CEQR) Technical Manual.*

Alternatively, it is often useful when measuring noise levels to take into account the difference in perception and response between daytime waking hours and nighttime sleeping hours. To this end, a descriptor called the day-night noise level (or DNL) has been developed. DNL is defined as the A-weighted average sound level during a 24-hour period, with a 10 dBA penalty weighting applied to noise

occurring during the nighttime period (10 pm to 7 am). The 10 dBA weighting accounts for the fact that noises at night are more perceptible because of lower background noise levels.

The DNL descriptor has been recognized by the Department of Housing and Urban Development (HUD), the U.S. Environmental protection Agency (EPA), the FAA, and the Department of Defense (DoD) as one of the most appropriate metrics for estimating the degree of nuisance or annoyance that increased noise levels would cause in residential neighborhoods. Therefore, DNL has been selected as the appropriate noise descriptor for evaluating aircraft noise impacts in this analysis.

E.1.2 Noise Analysis Methodology and Evaluation Criteria

E.1.2.1 Aircraft

Aircraft noise analysis relies largely on a measure of cumulative noise exposure over an entire calendar year, in terms of DNL, as required by *FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* and *FAA Order 1050.1E, Change 1, Environmental Impacts: Policies and Procedures*. These orders specify which noise prediction models are acceptable under various circumstances, what constitutes significant impact, and when supplemental noise analyses are appropriate.

The FAA defines DNL 65 dB as the threshold of noise incompatibility with residential land uses. A significant noise impact is defined as a Proposed Action that would cause noise sensitive land uses that are already at or above DNL 65 dB noise exposure to experience an increase in noise of DNL 1.5 dB or more when compared to the No Action Alternative for the same timeframe. For this analysis, noise sensitive land uses were determined based on guidelines contained in 14 Code of Federal Regulations (CFR) Part 150, which includes residential, schools, libraries, places of worship, hospitals, and nursing homes. The residential population and number of housing units within the noise contours were estimated using 2010 U.S. Census Data.

The noise analysis was performed using the FAA's Integrated Noise Model (INM), Version 7.0d. The noise contours calculated by the INM for an airport are a function of several factors including: the number of aircraft operations during the period evaluated, the types of aircraft flown, the time of day when they are flown, how frequently each runway is used for arrivals and departures, the routes of flight used to and from the runways, and the operating weight of the aircraft. Details regarding the input data used to develop the INM models for this study can be found in **Attachment 1**.

E.1.2.2 On-Road Mobile Sources (Construction and Operations)

The *CEQR Technical Manual* contains noise exposure guidelines for use in a New York City environmental impact review. As shown in **Table E-1.2**, noise exposure is classified into four categories: (1) Acceptable, (2) Marginally Acceptable, (3) Marginally Unacceptable and (4) Clearly Unacceptable. The *CEQR Technical Manual* criteria are based on maintaining an interior noise level for the worst-case hour L_{10} less than or equal to 45 dBA and assumes typical construction techniques provide a minimum of 20 dBA of noise attenuation from outdoor to indoor areas.

Table E-1.2: CEQR Noise Exposure Guidelines[1]

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3] Exposure	Marginally Acceptable General External Exposure	Airport[3] Exposure	Marginally Unacceptable General External Exposure	Airport[3] Exposure	Clearly Unacceptable General External Exposure	Airport[3] Exposure
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---------- DNL ≤ 60 dB ----------	NA	---------- 60 < DNL ≤ 65 dB ----------	NA	(1) 65 < DNL ≤ 70 dB, (2) 70 ≤ DNL	NA	---------- DNL ≤ 75 dB ----------
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 65$ dBA		65 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
3. Residence, residential hotel or motel	7 AM to 10 PM	$L_{10} \leq 65$ dBA		65 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		55 < $L_{10} \leq 70$ dBA		70 < $L_{10} \leq 80$ dBA		$L_{10} > 80$ dBA	
4. School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, out-patient public health facility		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	
5. Commercial or office		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)		Same as Residential Day (7 AM-10 PM)	
6. Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Notes:

1 Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.

2 Tracts of land where serenity and quiet are extraordinarily important and serve an important public need, and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old-age homes.

3 Noise contours should be computed using the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.

4 External Noise Exposure standards for sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).

Source: *New York City Department of Environmental Protection (adopted policy 1983)*

According to the noise impact assessment guidelines provided in the *CEQR Technical Manual*, a significant impact during daytime hours is an exceedance of 65 dBA $L_{eq}(1)$. Therefore, a three decibel (3 dBA) increase in $L_{eq}(1)$ over the future No Action condition (although just barely perceptible to most listeners) is considered an indicator of noise impact significance when the daytime level is at or above 62 dBA. These assessment guidelines were used to assess noise impacts from on-road mobile sources from operations as well as during construction under the Proposed Action.

The methodology for predicting future on-road traffic noise levels assumes that existing noise levels are dominated by, and are a function of, existing traffic volumes. Changes in future noise levels can therefore be determined by the proportional increase in traffic on the adjacent roadways as a result of a given project. For example, if the existing traffic volume at an intersection is 100 vehicles per hour (vph) and the future traffic volume increases by 50 vph (to 150 vph), the noise levels would increase by approximately 1.8 decibels (dBA). For an increase of 100 vph (a doubling of traffic volume or a total of 200 vehicles per hour), noise levels would increase by 3 dBA. However, as different types of vehicles (cars, trucks, buses, etc.) generate different noise levels, *CEQR Technical Manual* recommends using Passenger Car Equivalents (PCE) to create a common unit of measurement to conservatively estimate noise from traffic.

The PCE conversion factors are as follows:

Description	PCE
Automobile or Light Truck	1
Medium Truck	13
Bus	18
Heavy Truck	47

If the Proposed Action would double PCE traffic, a more detailed analysis should be performed; however, if the increase is less than double the existing PCE, it is assumed that the Proposed Action would not cause a significant adverse vehicular noise impact. The simple PCE calculation can be used where traffic noise at a location comes primarily from a single adjacent roadway (with no nearby higher-volume roadways). At locations where traffic noise from multiple roadways substantially contributes to ambient sound levels, the simple PCE comparison for traffic on the nearest roadway does not account for ambient noise levels generated by those other roadways. In these cases, a refined noise analysis using the FHWA Traffic Noise Model (TNM) can be conducted to predict the true project-generated incremental traffic noise along the immediately adjacent road.

Even though traffic noise surrounding LaGuardia Airport comes from multiple roadways, the PCE method was utilized as a conservative approach using mid-block peak-hour traffic forecasts to determine whether a significant traffic noise impact would occur. This approach is conservative because it assumes a lower ambient (existing) noise level than truly occurs and, therefore, a lower criteria for increasing the noise level by 3 dBA or more. This approach was applied to both the construction and operational phases along the major affected routes.

E.1.2.3 Stationary Construction Equipment (Non-Road Mobile Sources)

On-site construction noise is generally short in duration and its effects are temporary. Unlike operational impacts, there is a lack of specific impact criteria on a federal, state, or city level. However, according to the New York State Department of Transportation (NYSDOT) *Noise Analysis Policy and Procedures (4.4.18)*, there would be no impact from construction noise at any sensitive receptor when levels are

under 85 dBA of L_{eq} (1) in New York City. In addition, in *Assessing and Mitigating Noise Impacts* (policy dated February 2, 2001) New York State Department of Environmental Conservation (DEC) identifies an increase of 10 dBA as deserving consideration of avoidance and mitigation measures.

To assess the construction noise impacts from on-site equipment operations for the Proposed Action, the loudest projected hourly noise level in any given month was predicted assuming that all likely equipment would be operating within the same hour. These cumulative noise levels were then adjusted based on applicable usage factors.

The FHWA-approved Roadway Construction Noise Model (RCNM) was used to predict construction noise levels from on-site construction equipment. RCNM was released for public use in 2006 after several years of development stemming from an earlier version used at the Central Artery/Third Harbor Tunnel Project in Boston. Noise emission levels for generic types of heavy equipment are contained in a database in the model. The equipment noise emission reference levels, which were all measured under actual field conditions, are expressed as A-weighted L_{max} levels at 50 feet.

Based on the equipment type, the distance between the work zone and the selected receptor, the RCNM computes the L_{max} and/or L_{eq} (1) levels at each receptor location. Adjustments are also applied to reflect any additional shielding factors such as the noise reduction expected from noise barriers. The model automatically accesses a database of equipment usage factors to compute the equipment noise levels over any period of interest. The RCNM model does not account for excess ground attenuation or atmospheric absorption, so the resulting predicted noise levels are higher than would actually be perceived.

E.2 Existing Conditions

Noise levels at and around LaGuardia Airport are affected both by the setting of the Airport, which includes an urban area close to a major highway (the Grand Central Parkway), and the aircraft operations taking place on the airfield. Vehicle traffic on and off the Airport is a mostly steady source of ambient noise while aircraft operations make a more intermittent but significant contribution to existing noise levels. A total of four noise-sensitive sites were selected for typical weekday 24-hour noise monitoring to determine current baseline conditions.[1] **Figure E-2.1** shows these selected sites in the context of the surrounding land uses.

The monitoring program was implemented on the January 16, 17, 29, and 30, 2013. Noise monitoring was conducted per the procedures described in the *CEQR Technical Manual* using two Brüel & Kjær Type 1 sound level meters, Models 2250 and 2238. During each sampling event, a sound signal was obtained by an outdoor microphone positioned five feet above the ground and was transferred to the noise analyzer. The sound level meters then converted the incoming signal to A-weighting, sound statistics, including $L_{eq}(1)$, L_{10}, and L_{90}. A wind screen was used to minimize wind noise across the face of the microphone.

The predominant source of noise at each monitoring location is highway and local roadway vehicular traffic. Aircraft noise also contributes to the monitored levels but to a lesser extent. The monitored hourly noise levels summarized in **Table E-2.1** indicate that:

[1] An additional control site (M4) was selected by PANYNJ adjacent to the Airport near the Grand Central Parkway ramp.

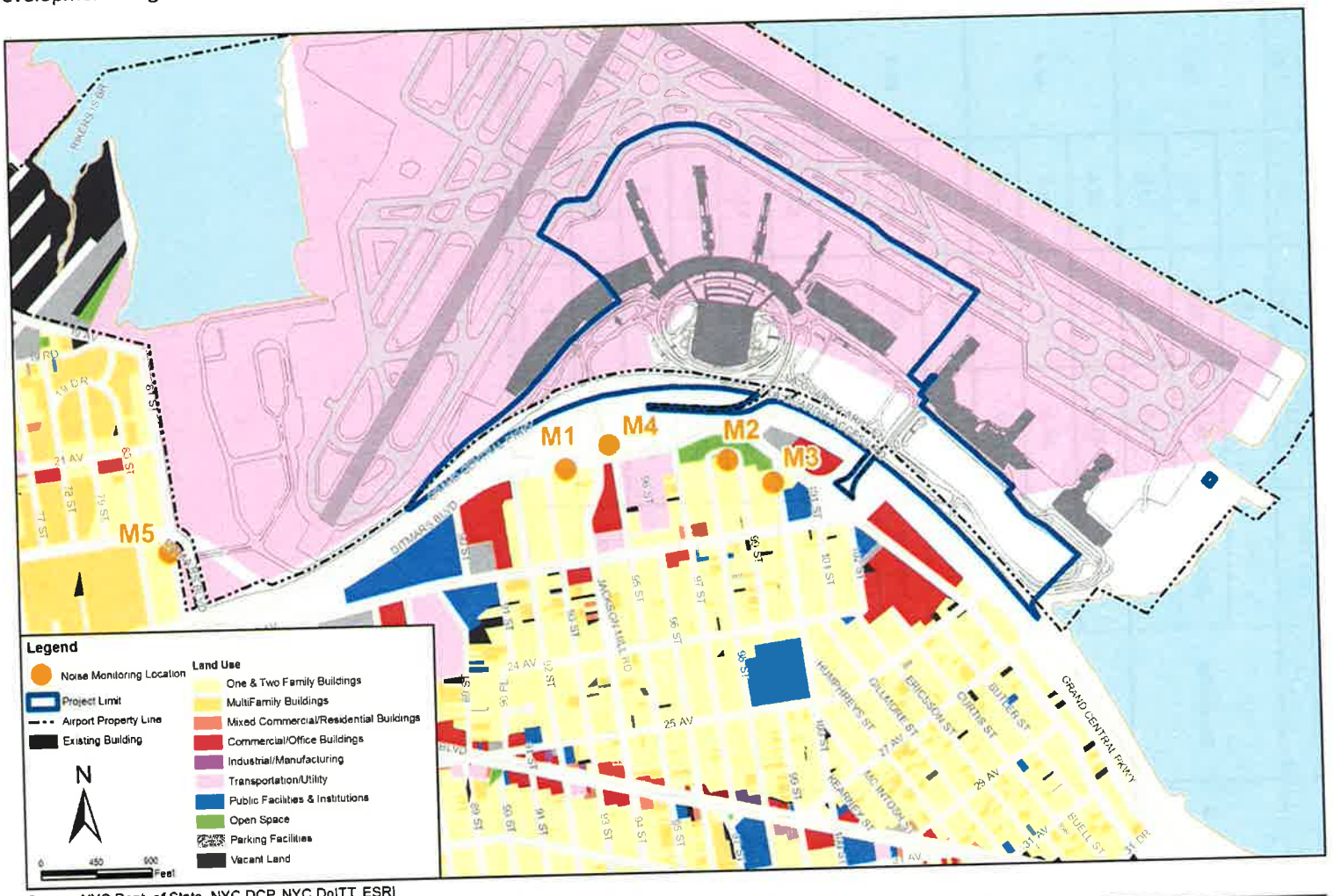

Figure E-2.1: Noise Monitoring Locations in the Vicinity of the LGA CTB

Table E-2.1: Existing Ambient Noise Monitoring Results

Site	Location	Land Use	Weekday Peak Hour	Noise Level (dBA)			
				L_{eq} (1)	L_{10}	L_{90}	DNL
M1	Ditmars Blvd. between 93rd St. & 94th St.	Residential	AM	73.0	75.6	66.6	73.2
			Mid-Day	73.2	76.0	66.2	
			PM	71.9	73.8	67.0	
M2	Overlook Park	Park	AM	64.6	67.3	60.4	64.4
			Mid-Day	64.3	66.1	59.9	
			PM	64.5	67.1	60.6	
M3	100th St. & Ditmars Blvd.	Residential	AM	63.5	66.0	58.1	64.3
			Mid-Day	63.6	65.7	57.9	
			PM	63.7	65.9	58.5	
M4 (control)	94th St. & Ditmars Northeast Corner	Non-sensitive	AM	71.3	71.8	63.0	72.3
			Mid-Day	66.2	68.4	61.9	
			PM	65.5	67.6	62.0	
M5	Ditmars Blvd. and 81st St. at Marine Terminal Rd.	Residential	AM	67.3	69.5	60.0	72.6
			Mid-Day	67.2	66.4	58.2	
			PM	64.0	66.9	59.8	

Note: Data collected January 16, 17, 29, and 30, 2013, per the procedures described in the *CEQR Technical Manual* using two Brüel & Kjær Type 1 sound level meters, Models 2250 and 2238.

- The L_{10} noise levels at Monitoring Site 1 (M1) which is close and exposed to the Grand Central Parkway traffic, is classified Marginally Unacceptable under the City's noise exposure guidelines presented in **Table E-1.2**.

- The L_{10} noise levels at the rest of the sensitive sites (M2, M3, and M5) are classified as "Marginally Acceptable."[2]

- The DNL level at M3 is only slightly below 65 dBA, the threshold of noise incompatibility with residential land uses.

- The DNL levels recorded at sites M1 and M5 are above 65 dBA, the threshold of noise incompatibility with residential land uses. These levels are primarily due to vehicular traffic, although some portion of the noise could be attributable to aircraft overflights as they are located on the edges of the DNL 65 dB noise contour for the existing aircraft modeling (see Exhibit 9 in Attachment 1). These sites would be considered Marginally Unacceptable for General External Exposure (per **Table E-1.2)** based on the measurements conducted as part of this analysis.

E.3 Environmental Consequences

Potential noise impacts from the CTB Redevelopment Project were assessed for both the peak construction period and for long-term operations.

E.3.1 Construction

E.3.1.1 Construction Equipment Noise

Construction of the CTB Redevelopment Project would involve multiple phases over eight years (2014 to 2021), as discussed in the Construction section of the Final EA (**Section 5.19**). Various construction equipment would be utilized during both demolition and construction activities. Based on the predicted monthly equipment usage data, the month with the highest activity (based on the greatest number of equipment pieces utilized) was selected as the worst-case condition for each year (see Supporting Documentation in **Attachment 2**). Construction equipment noise was compared with existing background levels at four noise sensitive sites (Sites M1, M2, M3, and M5). The analysis conservatively assumed that all equipment would be operated at the same time at the construction project site. Since these selected monitoring sites are the closest receptor locations to the proposed construction activities, the predicted noise impacts are expected to be representative of the worst-case conditions.

The FHWA-approved Roadway Construction Noise Model (RCNM) was used to predict construction noise levels from on-site construction equipment. **Table E-3.1** shows RCNM-predicted noise levels from each phase of construction at the four off-site monitoring locations. The CTB Redevelopment Program construction activity would likely result in noticeable noise increases that range from 5 to 10 dBA above existing background levels in areas around sites M2 and M3. The relatively high noise increases would occur during early construction stages (between 2014 and 2017) corresponding with the with pile

[2] M2 is located at Overlook Park and recorded L_{10} levels between 66.1 and 67.3 dBA. The "Acceptable General External Exposure" for an 'outdoor area requiring serenity and quiet' is $L_{10} \leq 55$ dBA; however, quiet is not a primary attribute of the park. Overlook Park is located south of Ditmars Boulevard, at an elevation that provides a full view of LaGuardia Airport, allowing visitors to observe the airport activities.

Table E-3.1: Predicted RCNM Daytime $L_{eq}(1)$ Noise Levels at Select Monitoring Sites

Site	Weekday Peak Hour	Leq Noise Level (dBA)								
		Measured Background L_{eq}	2014	2015	2016	2017	2018	2019	2020	2021
M1 - Ditmars Blvd. between 93rd St. & 94th St.	AM	73	72	70	70	70	64	64	61	59
	Mid Day	73								
	PM	72								
M2 - Overlook Park	AM	65	73	75	75	75	69	69	65	63
	Mid Day	64								
	PM	65								
M3 - 100th St. & Ditmars Blvd.	AM	64	71	74	74	74	68	68	64	62
	Mid Day	66								
	PM	66								
M5 - Ditmars Blvd. and 81st St. at Marine Terminal Rd.	AM	67	62	62	61	62	56	56	53	51
	Mid Day	67								
	PM	64								

Note: Shading indicates time periods when noise from construction equipment expected to exceed background level by 10 dBA or more.

driving activities. The construction equipment noise levels are predicted to be well below the 85 dBA criterion established by NYSDOT in all cases. At site M1, the incremental noise from construction activities would not be noticeable given the high background noise primarily caused by the adjacent Grand Central Parkway traffic. At site M5 construction activity would have negligible noise impacts given the distance between sources and receptors.

The project would require a construction noise control plan (NCP) to minimize construction noise as mandated in Chapter 28, Title 15 of the City of New York Administrative Code, *Citywide Construction Noise Mitigation.* The NCP would incorporate various noise control measures in accordance with the New York City *Citywide Construction Noise Mitigation* policy and to demonstrate compliance with the City's *Noise Code* (Local Law No. 113 of 2005). See **Section E.4** for specific mitigation recommendations.

E.3.1.2 Construction Traffic Noise

The mid-block PCE volumes along the roadway immediately adjacent to the noise sensitive receptors were calculated for each of the peak traffic periods (morning and afternoon) for which construction traffic was predicted (see analysis in Appendix A of the Final EA). For the No Action condition, the vehicle mix data for corresponding roadway types was used to calculate the future PCE volumes (based on information provided by NYSDOT). The project-generated vehicle mix during the peak construction period was used to calculate the incremental traffic-related PCEs under the Proposed Action condition. The peak period with the highest incremental PCEs was selected for this analysis. If the Proposed Action would double PCE volumes at a given intersection, it is assumed that noise levels would increase by 3 dBA and thereby exceed the NYC CEQR threshold for a significant noise impact. This applies to both nighttime and daytime periods provided the No Action levels exceed 62 dBA.

The maximum incremental noise predicted for each roadway link within the project-related traffic network is summarized in **Table E-3.2**. Since no incremental increase of 3 dBA was predicted, traffic noise impacts from construction of the Proposed Action would not be significant. No mitigation measures related to construction traffic are warranted to comply with CEQR guidelines.

Table E-3.2: Peak-Year Construction Mid-Block Traffic PCEs Comparison

Location	Worst-case Peak Hour Condition			Significant Traffic Noise Impact?
	No Action PCE	Incremental With Action PCE	Noise Increment (dBA)	
South of Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	1,332	741	1.9	No
North of Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	1,065	647	2.1	No
West of Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	1,594	94	0.2	No
East of Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	1,493	0	0.0	No
South of Ditmars Boulevard / Marine Terminal Road	5,305	601	0.5	No
North of Ditmars Boulevard / Marine Terminal Road	4,112	507	0.5	No
East of Ditmars Boulevard / Marine Terminal Road	1,767	94	0.2	No
South of Astoria Boulevard North / 82nd Street / Ditmars Boulevard	3,106	411	0.5	No
North of Astoria Boulevard North / 82nd Street / Ditmars Boulevard	5,301	601	0.5	No
West of Astoria Boulevard North / 82nd Street / Ditmars Boulevard	1,871	316	0.7	No
East of Astoria Boulevard North / 82nd Street / Ditmars Boulevard	3,914	143	0.2	No
South of 23rd Avenue / 82nd Street	1,310	98	0.3	No
North of 23rd Avenue / 82nd Street	2,983	458	0.6	No
West of 23rd Avenue / 82nd Street	904	360	1.5	No
East of 23rd Avenue / 82nd Street	1,233	0	0.0	No
South of Astoria Boulevard / 82nd Street / 24th Avenue	539	0	0.0	No
North of Astoria Boulevard / 82nd Street / 24th Avenue	1,438	51	0.2	No
West of Astoria Boulevard / 82nd Street / 24th Avenue	4,391	94	0.1	No
East of Astoria Boulevard / 82nd Street / 24th Avenue	5,231	145	0.1	No
South of Astoria Boulevard North / 79th Street	3,153	47	0.1	No
West of Astoria Boulevard North / 79th Street	5,446	363	0.3	No
East of Astoria Boulevard North / 79th Street	2,293	316	0.6	No
South of Astoria Boulevard North / 23rd Avenue	2,387	47	0.1	No
North of Astoria Boulevard North / 23rd Avenue	3,153	47	0.1	No
West of Astoria Boulevard North / 23rd Avenue	1,794	360	0.8	No
East of Astoria Boulevard North / 23rd Avenue	959	360	1.4	No

Table E-3.2: Peak-Year Construction Mid-Block Traffic PCEs Comparison (continued)

Location	Worst-case Peak Hour Condition			Significant Traffic Noise Impact?
	No Action PCE	Incremental With Action PCE	Noise Increment (dBA)	
South of Astoria Boulevard / 77th Street	474	0	0.0	No
North of Astoria Boulevard / 77th Street	1,505	0	0.0	No
West of Astoria Boulevard / 77th Street	4,302	407	0.4	No
East of Astoria Boulevard / 77th Street	3,272	407	0.5	No
South of LaGuardia Access Road / 94th Street	4,013	613	0.6	No
North of LaGuardia Access Road / 94th Street	3,655	613	0.7	No
West of LaGuardia Access Road / 94th Street	1,048	0	0.0	No
East of LaGuardia Access Road / 94th Street	3,820	0	0.0	No
South of Ditmars Boulevard / 94th Street	1,364	470	1.3	No
North of Ditmars Boulevard / 94th Street	1,999	470	0.9	No
West of Ditmars Boulevard / 94th Street	1,065	0	0.0	No
East of Ditmars Boulevard / 94th Street	1,359	0	0.0	No
South of 23rd Avenue / 94th Street	811	470	2.0	No
North of 23rd Avenue / 94th Street	1,364	470	1.3	No
West of 23rd Avenue / 94th Street	1,497	0	0.0	No
East of 23rd Avenue / 94th Street	1,053	0	0.0	No
South of 24th Avenue / 94th Street	867	470	1.9	No
North of 24th Avenue / 94th Street	813	470	2.0	No
West of 24th Avenue / 94th Street	242	0	0.0	No
East of 24th Avenue / 94th Street	168	0	0.0	No
South of 25th Avenue / 94th Street	835	470	1.9	No
North of 25th Avenue / 94th Street	870	470	1.9	No
West of 25th Avenue / 94th Street	336	0	0.0	No
East of 25th Avenue / 94th Street	341	0	0.0	No
South of Astoria Boulevard / 94th Street	764	218	1.1	No
North of Astoria Boulevard / 94th Street	838	470	1.9	No
West of Astoria Boulevard / 94th Street	5,061	144	0.1	No
East of Astoria Boulevard / 94th Street	4,774	208	0.2	No
South of 31st Avenue / 94th Street	744	218	1.1	No
North of 31st Avenue / 94th Street	759	218	1.1	No
West of 31st Avenue / 94th Street	398	0	0.0	No
East of 31st Avenue / 94th Street	343	0	0.0	No
South of Northern Boulevard / 94th Street	937	218	0.9	No
North of Northern Boulevard / 94th Street	830	218	1.0	No
West of Northern Boulevard / 94th Street	4,542	0	0.0	No
East of Northern Boulevard / 94th Street	4,767	0	0.0	No

Table E-3.2: Peak-Year Construction Mid-Block Traffic PCEs Comparison (continued)

Location	Worst-case Peak Hour Condition			Significant Traffic Noise Impact?
	No Action PCE	Incremental With Action PCE	Noise Increment (dBA)	
South of GCP eastbound on-ramp / 94th Street	1,999	470	0.9	No
North of GCP eastbound on-ramp / 94th Street	1,999	470	0.9	No
West of GCP eastbound on-ramp / 94th Street	944	143	0.6	No
South of 81st Street/Ditmars Boulevard	84	0	0.0	No
North of 81st Street/Ditmars Boulevard	3,203	507	0.6	No
West of 81st Street/Ditmars Boulevard	979	0	0.0	No
East of 81st Street/Ditmars Boulevard	4,112	507	0.5	No
South of 81st Street/21st Avenue	3,203	507	0.6	No
North of 81st Street/21st Avenue	3,027	507	0.7	No
West of 81st Street/21st Avenue	437	0	0.0	No
South of New LGA access driveway/19th Ave./81st St.	3,027	0	0.0	No
North of New LGA access driveway/19th Ave./81st St.	1,448	647	1.6	No
West of New LGA access driveway/19th Ave./81st St.	2,894	967	1.3	No
East of New LGA access driveway/19th Ave./81st St.	3,027	507	0.7	No
South of Hazen Street/19th Avenue	971	0	0.0	No
North of Hazen Street/19th Avenue	3,030	0	0.0	No
East of Hazen Street/19th Avenue	2,980	1,011	1.3	No

E.3.2 Operational Traffic Noise

Operational traffic noise impacts were predicted based on PCE comparisons, in the same way as construction traffic. Analysis of future traffic conditions in year 2030 under the No Action and Proposed Action conditions was performed based on the assumed Airport throughput in terms of million annual passengers (see Appendix A of the Final EA). The No Action condition assumes no change in the existing roadway network but background increase in local traffic and passengers utilizing LaGuardia Airport from 2012 baseline conditions. The Proposed Action scenario assumes the proposed roadway improvements are made and an additional 3.9 million annual passengers (MAP) utilize the Airport (beyond the background traffic increase assumed under the No Action scenario).

The peak hour noise predicted within the project traffic network during long-term operations upon completion of the CTB Redevelopment Program and realization of the full forecasted passenger levels (year 2030) is summarized in **Table E-3.3**. Since no noise increment greater than 3-dBA is predicted, traffic noise impacts from the Proposed Action under the operational condition would not be significant. No mitigation measures related to operational traffic are warranted to comply with CEQR guidelines.

Table E-3.3: Operational Year Mid-Block Traffic PCEs Comparison

Location	Worst-case Peak Hour Condition			Significant Traffic Noise Impact?
	No Action PCE	With Action PCE	Noise Increment (dBA)	
South of Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	1,524	1,706	0.5	No
North of Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	1,170	1,170	0.0	No
West of Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	2,001	2,184	0.4	No
East of Bowery Bay Boulevard / Runway Drive / Marine Terminal Road	1,358	1,358	0.0	No
South of Ditmars Boulevard / Marine Terminal Road	5,581	5,763	0.1	No
North of Ditmars Boulevard / Marine Terminal Road	4,764	4,764	0.0	No
East of Ditmars Boulevard / Marine Terminal Road	2,123	2,306	0.4	No
South of Astoria Boulevard North / 82nd Street / Ditmars Boulevard	4,771	4,953	0.2	No
North of Astoria Boulevard North / 82nd Street / Ditmars Boulevard	5,581	5,763	0.1	No
West of Astoria Boulevard North / 82nd Street / Ditmars Boulevard	2,219	2,219	0.0	No
East of Astoria Boulevard North / 82nd Street / Ditmars Boulevard	3,741	3,741	0.0	No
South of 23rd Avenue / 82nd Street	1,898	2,188	0.6	No
North of 23rd Avenue / 82nd Street	2,769	2,952	0.3	No
West of 23rd Avenue / 82nd Street	777	777	0.0	No
East of 23rd Avenue / 82nd Street	1,648	1,755	0.3	No
South of Astoria Boulevard / 82nd Street / 24th Avenue	1,044	1,333	1.1	No
North of Astoria Boulevard / 82nd Street / 24th Avenue	1,596	1,886	0.7	No
West of Astoria Boulevard / 82nd Street / 24th Avenue	6,257	6,257	0.0	No
East of Astoria Boulevard / 82nd Street / 24th Avenue	6,990	6,990	0.0	No
South of LaGuardia Access Road / 94th Street	4,743	5,180	0.4	No
North of LaGuardia Access Road / 94th Street	2,694	2,997	0.5	No
West of LaGuardia Access Road / 94th Street	1,929	1,967	0.1	No
East of LaGuardia Access Road / 94th Street	3,123	3,123	0.0	No
South of Ditmars Boulevard / 94th Street	1,779	1,879	0.2	No
North of Ditmars Boulevard / 94th Street	2,849	3,100	0.4	No
West of Ditmars Boulevard / 94th Street	2,989	3,120	0.2	No
East of Ditmars Boulevard / 94th Street	2,762	2,824	0.1	No
South of 23rd Avenue / 94th Street	1,070	1,132	0.2	No
North of 23rd Avenue / 94th Street	2,350	2,450	0.2	No

Table E-3.3: Operational Year Mid-Block Traffic PCEs Comparison (continued)

Location	Worst-case Peak Hour Condition			Significant Traffic Noise Impact?
	No Action PCE	With Action Incremental PCE	Noise Increment (dBA)	
West of 23rd Avenue / 94th Street	2,041	2,083	0.1	No
East of 23rd Avenue / 94th Street	967	984	0.1	No
South of GCP eastbound on-ramp / 94th Street	4,057	4,308	0.3	No
North of GCP eastbound on-ramp / 94th Street	6,266	6,704	0.3	No
West of GCP eastbound on-ramp / 94th Street	906	1,078	0.8	No

E.3.3 Operational Aircraft Noise

The noise impacts due to a change in the aircraft fleet mix between the No Action and Proposed Action during the forecast year of 2030 were evaluated as part of a separate study conducted by Landrum and Brown (see **Attachment 1**). No changes to runway configuration, runway use, flight track locations and densities, or stage length are expected as a result of the Proposed Action. However, under the Proposed Action scenario, upgauging of aircraft is assumed in order to accommodate the full projected increase in passenger demand (to 34 MAP) without exceeding the existing airfield capacity at LaGuardia. The larger aircraft would result in an expansion of 0.2 square miles of the DNL 65-70 dB contour between the No Action and Proposed Action scenarios for 2030.

The 2030 noise exposure contours for the No Action and Proposed Action (DNL 65, 70 and 75 db) are presented in **Exhibit 11** of **Attachment 1**. The DNL 65 dB for the Proposed Action increases along the primary approach and departure corridors compared to the No Action contour. The DNL 65 and 70 dB noise contours would encompass additional housing units (763) and residents (2,005) under the Proposed Action when compared to the future No Action scenario. One additional noise sensitive facility would be located within the DNL 65 dB under the Proposed Action. However, based on the analysis, no areas within the DNL 65 dB beyond Airport property would experience an increase in noise of DNL 1.5 dB or greater as a result of the Proposed Action. Therefore, the Proposed Action is not expected to result in any significant impacts to noise-sensitive land uses around the Airport.

E.4 Mitigation

Based on the results of the noise analysis, pile driving activities during Years 3 to 5 of the construction of the Proposed Action would result in an increase of up to 10 dB over background noise measured at two monitoring sites off Airport property. DEC recommends consideration of avoidance and mitigation measures at that level. As a result, the following noise control measures are recommended to minimize these potentially adverse effects in the community:

- Reduce the impact sound of the ram hitting the pile cap by placing a resilient pad in the anvil chamber;
- Reduce the discharge sound of the hammer's air exhaust by installing a rectangular steel enclosure lined with acoustically-absorptive material to provide both sound absorption and a limp mass noise barrier; and,
- Reduce the "ringing" noise of the steel piles by utilizing acoustical paint across the web of each pile at 4-6 foot intervals.

The project would require a construction noise control plan (NCP) to minimize construction noise as mandated in Chapter 28, Title 15 of the City of New York Administrative Code, *Citywide Construction Noise Mitigation*. The NCP would incorporate various noise control measures in accordance with the New York City *Citywide Construction Noise Mitigation* policy and to demonstrate compliance with the City's *Noise Code* (Local Law No. 113 of 2005). Those measures include the following:

- Conduct all construction activities during the daytime whenever possible;
- Require special permits for all construction within a specified distance and a specified time period for residential zones during the night and weekends;
- Use construction equipment with effective noise-suppression devices;
- Use noise control measures as necessary, such as enclosures and noise barriers, to protect the public and achieve compliance with all City noise ordinances; and,
- Conduct all operations in a manner that will minimize, to the greatest extent feasible, disturbance to the public in areas adjacent to the construction activities and to occupants of nearby buildings.

E.5 Summary

The noise assessment of long-term operations under the Proposed Action on both airside and landside found no significant noise impacts. The increase in passenger traffic would result in only minor noise increments on the local roadways surrounding the Airport. The upgauging (change in fleet mix) would expand the DNL 65 dB noise contour from aircraft operations only slightly but would not result in a DNL 1.5 dB increase for any noise sensitive land use within the DNL 65 dB contour. Construction activities would include use of equipment on-site as well as construction traffic in the surrounding area. The increased construction traffic would result in only minor noise increments. Use of construction equipment on-site (particularly pile-driving) would likely result in noticeable noise increases above existing background levels in a couple of areas around the construction site during early stages of the project. Mitigation measures would be implemented and a noise control plan drafted to minimize the adverse effects on the community.

ATTACHMENT 1: Noise Analysis Technical Report (Aircraft Operations) Prepared by Landrum & Brown (April 2014)

ENVIRONMENTAL ASSESSMENT FOR TERMINAL REPLACEMENT AT LAGUARDIA AIRPORT NEW YORK, NY

NOISE ANALYSIS TECHNICAL REPORT

FINAL

April 2014

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1. INTRODUCTION

This report describes the methodology, assumptions, and results of the aircraft noise analysis that was conducted to assess the potential noise impacts of redevelopment of the central terminal at LaGuardia Airport (LGA) on the surrounding communities. The terminal redevelopment has been proposed by the Airport's sponsor, the Port Authority of New York and New Jersey (the Port Authority). The Port Authority is preparing an Environmental Assessment (EA) at the request of the Federal Aviation Administration (FAA) New York Airports District Office (ADO) in order to comply with provisions of the National Environmental Policy Act (NEPA). It is expected that the proposed central terminal redevelopment would enable larger commercial passenger aircraft to be accommodated at LGA to meet the forecasted growth in passenger demand at LGA without exceeding the limitations on the number of aircraft operations due to airfield capacity and slot restrictions at LGA.

2. ALTERNATIVES EVALUATED

The noise exposure levels associated with the No Build/No Action Alternative and the Proposed Action Alternative were evaluated at the 2021 and 2030 activity levels. The No Build/No Action and Proposed Action scenarios are described in the following paragraphs.

No Build/No Action

The No Build/No Action scenario would maintain the existing terminal configuration. Specifically, no changes would occur to the terminal complex at LGA that would allow significant changes to the types and gauge of aircraft that could be accommodated. Normal growth in aircraft operations would occur but would be bound by existing capacity limitations and slot restrictions.

Proposed Action

The Proposed Action includes the redevelopment of the central terminal at LGA to enable larger aircraft to be accommodated at the Airport. It is expected that the total number of aircraft operations would remain the same as would occur under the No Build/No Action scenario and only changes in aircraft types would occur. No changes to the existing runway layout would occur as a result of the Proposed Action.

3. REGULATORY SETTING

In this analysis, criteria from FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures,* was used to assess whether the Proposed Action would result in significant noise impacts to noise sensitive land uses near the Airport. As stated on Page A-61 of Order 1050.1E, Change 1, *a significant noise impact would occur if analysis shows that the proposed action will cause noise sensitive areas to experience an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB noise exposure when compared to the no action alternative for the same timeframe. For example, an increase from 63.5 dB to 65 dB is considered*

a significant impact. Therefore, the primary goal in this analysis was to evaluate whether the Proposed Action would cause significant increases in noise exposure over noise sensitive areas around the Airport relative to the No Build/No Action scenario. For this analysis, noise sensitive land uses were determined based on guidelines contained in 14 Code of Federal Regulations (CFR) Part 150, which includes residential, schools, libraries, churches, hospitals, and nursing homes. The residential population and number of housing units within the noise contours were estimated using 2010 U.S. Census Data.

4. NOISE ANALYSIS METHODOLOGY

The noise analysis was performed using the FAA's Integrated Noise Model (INM), Version 7.0d. The INM was developed under the guidance of the FAA and it is the preferred aircraft noise contour software approved by FAA to conduct aircraft noise studies, Part 150 studies and NEPA noise evaluations. The noise contours calculated by the INM for an airport are a function of several factors/elements including: the number of aircraft operations during the period evaluated, the types of aircraft flown, the time of day when they are flown, how frequently each runway is used for arrivals and departures, the routes of flight used to and from the runways, and the operating weight of the aircraft.

The INM produces day-night average sound level (DNL) noise contours. The DNL metric represents the cumulative noise level in an area over a 24-hour period, typically an average day during a given year. The INM computes DNL levels by summing the noise produced by all aircraft events during a 24-hour period and then adding an extra 10 decibel (dB) weight to nighttime operations (between 10:00 p.m. and 6:59 a.m.).

In this analysis, the INM was used to produce 65, 70, and 75 DNL contours for the No Build/No Action airfield configuration using 2012/13[1], 2021, and 2030 levels of aviation activity. The first full year of operation of the Proposed Action would be 2021; although, it is not expected that passenger levels will reach the point at which additional aircraft gauge is needed by 2021. Therefore, the aircraft operating levels and fleet mix for the 2021 No Build/No Action and 2021 Proposed Action are identical.

By 2030, passenger levels are forecasted to exceed what the existing aircraft fleet/gauge can accommodate due to the cap on total operations at LGA. As a result, to accommodate the forecasted growth in passengers, larger aircraft would be utilized under the Proposed Action. Therefore, the 2030 No Build/No Action represents the fleet mix which can be accommodated at the existing central terminal, while the Proposed Action represents the fleet mix that would be accommodated by the proposed central terminal replacement. Total aircraft operations remain the same between the 2030 No Build/No Action and 2030

[1] The existing noise exposure contours were based on data from April 2012 through March 2013, as it was the latest data available at the time the noise contours were prepared.

Proposed Action. No changes to runway configuration, runway use, flight track locations and densities, or stage length[2] are expected as a result of the Proposed Action at LGA.

INTEGRATED NOISE MODEL INPUT DATA

The following paragraphs describe the input data that were used to develop the INM models for this study.

Airport Characteristics

The INM uses airport elevation, average annual temperature, and average annual relative humidity in its computation of aircraft noise propagation. According to the INM's airport database, LGA has a field elevation of 22 feet above mean sea level. Elevation data for areas surrounding the airport was obtained from the United States Geological Survey and uploaded into the INM.

The average annual temperature recorded at the Airport—55.1° F—was used as input to the INM. This value was obtained from data maintained by the National Climatic Data Center and directly affects the propagation of sound through the air.

Airfield Description

The existing runway system at the Airport features two intersecting runways, Runway 04/22 and Runway 13/31. The physical characteristics of the existing runways at LGA are shown below:

	Length	Width
Runway 04/22	7,001 feet	150 feet
Runway 13/31	7,003 feet	150 feet

In addition to fixed-wing operations, a number of helicopter operations occur at LGA. Helicopter operations were modeled for this analysis at the helipad (designated in this report as H1) located on the west site of the airfield at LGA at the following coordinates:

	Latitude	Longitude
Helipad H1	40.776014	-73.880967

As noted previously, no changes to the airfield configuration would occur between the No Build/No Action and Proposed Action.

[2] Stage length refers to the distance an aircraft flies to reach its destination. For the purpose of noise modeling, stage length is used to determine the weight of an aircraft by assuming that the weight has a direct relationship with the fuel load necessary to reach the first destination.

Aircraft Operations

Annual aircraft operations (arrivals and departures) and fleet mix distributions for the 2012/13 level of aviation activity at the Airport were obtained from the FAA's Aviation Traffic Activity Data System (ATADS). Data from the FAA's ATADS indicated that approximately 371,726 aircraft landed at or departed from the Airport from April 2012 through March 2013.

Data on specific aircraft types, and operating times was obtained from the Port Authority's Electronic Collection and Analysis of Terminal Records (E-CATER) data system. E-CATER data includes information regarding each flight that lands at or departs from the Airport. This E-CATER data is obtained from several sources, including the FAA's Enhanced Traffic Management System and the *Official Airline Guide* (OAG). Additional data regarding flights that landed at or departed from the Airport were collected from the Airport's Total Airport Management Information System (TAMIS) radar data. Radar data was extracted from the TAMIS system from June 2012, September 2012, December 2012, and March 2013.

The aircraft operations levels and fleet mix distributions modeled for 2021 were calculated using the FAA's Terminal Area Forecast (TAF) and aircraft fleet mix estimates from the *Port Authority's Long Range Forecast for the Port Authority Airports, Moderate Growth Scenario*, April 2012 (Port Authority Forecast). This forecast reports annual operations levels for the various market segments of activity that use the Airport (e.g. air carrier, cargo, commuter, general aviation, and military) through 2032. The annual activity levels reported in the TAF for 2021 is 387,539.

Aircraft operating levels and fleet mix information for 2030 was calculated based on analysis of the Port Authority Forecast with additional consideration of existing airfield slot restrictions and terminal constraints. By 2030, it is expected that passenger demand will exceed existing capacity at LGA without the implementation of the Proposed Action. Therefore, two fleet mix scenarios were prepared for 2030 conditions, a No Build/No Action scenario and a Proposed Action scenario. Under the No Build/No Action scenario, a slight upgauge in aircraft is projected that would accommodate a portion of the forecasted increase in passenger demand without exceeding the existing capacity of the central terminal complex or the existing airfield slot restrictions at LGA. Under the Proposed Action scenario, a more aggressive upgauge of aircraft is projected that would accommodate the full projected increase in passenger demand without exceeding the existing airfield capacity at LGA. Implementation of the Proposed Action will allow LGA to accommodate this upgauge in aircraft, thus allowing the ability to accommodate additional passengers without exceeding hourly airfield capacity/slot restrictions. Under both scenarios, the same number of annual aircraft operations are projected; however, the Proposed Action includes larger average aircraft gauge. **Table 1** shows the forecasted operating levels upon which the noise analysis for 2021 and 2030 conditions are based.

Table 1
FORECAST ACTIVITY COMPARISON – AIRPORT OPERATIONS
LaGuardia Airport

YEAR	EA FORECAST	FAA 2012 TAF	% DIFFERENCE FROM TAF
2021	387,539	387,539	0.00%
2030	362,298	387,539	-6.51%

Source: PANYNJ, FAA Terminal Area Forecast, Landrum & Brown, 2013.

Because the INM uses average annual day (AAD) activity to produce noise contours, the number of annual operations for 2012/13, 2021, and 2030 were divided by 365, producing AAD activity levels of approximately 1,018.4 operations in 2012/13, 1,061.8 operations in 2021, and 992.6 operations in 2030.

The Port Authority's forecast provides information regarding aircraft fleet mixes for future activity levels (i.e., 2021 and 2030), which were incorporated in this analysis. However, several general reasonable assumptions were made for the noise analysis in the future years.

- The fleet mix distribution would change after 2021 as larger average gauge aircraft are utilized to accommodate passenger demand without exceeding the capacity limitations, resulting in fewer operations in 2030 than in 2021.
- General markets served by air carrier aircraft would be similar in 2021 and 2030 compared to 2012/13 conditions.
- General runway and flight track use would be similar in 2021 and 2030 compared to 2012/13 conditions.
- The ratio of daytime (7:00 A.M. to 9:59 P.M.) to nighttime (10:00 P.M. to 6:59 A.M.) operations would be similar in 2021 and 2030 compared to 2012/13 conditions.

The resulting aircraft fleet mix forecasts by aircraft type for the 2012/13, 2021, and 2030 activity levels are summarized in **Table 2**.

Table 2
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE – 2012/13, 2021, & 2030
LaGuardia Airport

AIRCRAFT TYPE	INM ID	2012/13 BASELINE	2021 NO ACTION/ PROPOSED ACTION	2030 NO ACTION	2030 PROPOSED ACTION
HEAVY JETS					
Boeing 757-300	757300	0.20	0.17	0.10	0.00
Boeing 767-300	767300	0.40	1.18	14.58	0.00
Boeing 767-300	767CF6	0.50	1.48	18.23	0.00
Boeing 767-400	767400	0.00	0.00	0.00	62.34
Subtotal		*1.10*	*2.83*	*32.91*	*62.34*
LARGE JETS					
Boeing 717-200	717200	24.80	0.00	0.00	0.00
Boeing 737-300	737300	1.80	0.00	0.00	0.00
Boeing 737-400	737400	0.70	0.00	0.00	0.00
Boeing 737-500	737500	1.70	0.00	0.00	0.00
Boeing 737-700	737700	37.60	79.20	70.54	77.11
Boeing 737-800	737800	57.70	72.47	86.95	93.51
Boeing 737-900	737900	0.00	59.38	101.71	111.56
Boeing 727-200	727Q7	0.10	0.00	0.00	0.00
Boeing 737-300	7373B2	0.10	0.00	0.00	0.00
Boeing 737-200	737N17	0.20	0.00	0.00	0.00
Boeing 757-200	757PW	26.70	25.68	13.62	0.00
Boeing 757-200	757RR	14.90	14.33	7.60	0.00
Airbus A319-131	A319-131	80.90	172.33	86.95	91.87
Airbus A320-211	A320-211	45.80	37.93	35.71	41.79
Airbus A320-232	A320-232	53.10	43.97	41.40	48.45
Airbus A321-232	A321-232	15.00	26.09	6.56	32.81
Canadair CRJ-701	CRJ701	146.00	186.31	22.97	22.97
Canadair CRJ-900ER	CRJ9-ER	2.70	12.16	23.31	24.48
Canadair CRJ-900LR	CRJ9-LR	1.10	4.95	9.50	9.97
Embraer 170/175	EMB170	160.30	129.65	137.81	137.81
Embraer 190	EMB190	31.40	53.46	55.78	59.06
McDonnell-Douglas MD-82	MD82	19.50	4.02	0.00	0.00
McDonnell-Douglas MD-83	MD83	18.70	3.86	0.00	0.00
McDonnell-Douglas MD-88	MD88	39.30	8.11	0.00	0.00
McDonnell-Douglas MD-90	MD9028	0.40	0.08	0.00	0.00
Subtotal		*780.50*	*933.98*	*700.41*	*751.37*
REGIONAL JETS					
Canadair Regional Jet	CLREGJ	46.30	31.48	80.39	0.00
Embraer 135	EMB135	58.10	11.05	0.00	0.00
Embraer 140/145	EMB145	1.70	0.48	0.00	0.00
Embraer 145LR	EMB14L	89.80	25.61	0.00	0.00
Subtotal		*195.90*	*68.63*	*80.39*	*0.00*
COMMUTER PROPS					
Dash 8-100/200	DHC8	0.10	22.56	29.53	29.53
Dash 8-300/400	DHC830	20.70	8.62	116.48	116.48
Saab 340	SF340	0.00	5.28	0.00	0.00
Subtotal		*20.80*	*36.46*	*146.01*	*146.01*

Table 2, *Continued*
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE – 2012/13, 2021, & 2030
LaGuardia Airport

AIRCRAFT TYPE	INM ID	2012/13 BASELINE	2021 NO ACTION/ PROPOSED ACTION	2030 NO ACTION	2030 PROPOSED ACTION
GENERAL AVIATION JETS					
Bombardier Global Express	BD700	0.40	0.39	0.66	0.66
Beechjet 400	BEC400	1.10	1.07	1.80	1.80
Bombardier Challenger	CL600	1.40	1.37	2.30	2.30
Cessna Mustang 510	CNA510	0.20	0.20	0.33	0.33
Cessna Citation 525C	CNA525C	0.40	0.39	0.66	0.66
Cessna 550 Citation Bravo	CNA55B	0.10	0.10	0.16	0.16
Cessna Citation Encore 560	CNA560E	0.70	0.68	1.15	1.15
Cessna Citation Ultra 560	CNA560U	0.20	0.20	0.33	0.33
Cessna Citation Excel 560	CNA560XL	1.90	1.85	3.12	3.12
Cessna Citation 680	CNA680	0.60	0.59	0.98	0.98
Citation X	CNA750	1.60	1.56	2.62	2.62
Falcon 50	FAL50	0.20	0.20	0.33	0.33
Falcon 900	FAL900	0.30	0.29	0.49	0.49
Gulfstream 200	G200	0.70	0.68	1.15	1.15
Gulfstream GIV	GIV	1.60	1.56	2.62	2.62
Gulfstream III	GULF3	0.40	0.39	0.66	0.66
Gulfstream GV	GV	1.20	1.17	1.97	1.97
Hawker 4000	HK4000	0.50	0.49	0.82	0.82
Bae Hawker-Siddley 125-800	HS1258	1.00	0.98	1.64	1.64
Astra 1125	IA1125	0.10	0.10	0.16	0.16
Lear 31	LEAR31	0.10	0.10	0.16	0.16
Lear 35/36	LEAR35	0.20	0.20	0.33	0.33
Lear 45	LEAR45	0.20	0.20	0.33	0.33
Lear 55	LEAR55	0.10	0.10	0.16	0.16
Lear 60	LEAR60	0.40	0.39	0.66	0.66
Raytheon Hawker 850XP	R850	0.40	0.39	0.66	0.66
Subtotal		*16.00*	*15.62*	*26.24*	*26.24*
GENERAL AVIATION PROPS					
Beech Super King Air 200	BEC200	0.20	0.20	0.33	0.33
Beech Super King Air 300	BEC300	0.10	0.10	0.16	0.16
Beech King Air C90	BEC90	0.10	0.10	0.16	0.16
Cessna 208	CNA208	0.70	0.68	1.15	1.15
Cessna 310	CNA310	0.10	0.10	0.16	0.16
Cessna 402	CNA402	0.00	0.10	0.16	0.16
Cessna 414 Chancellor	CNA414	0.10	0.10	0.16	0.16
Convair 580	CVR580	0.10	0.00	0.00	0.00
Beech Super King Air	F90	0.20	0.20	0.33	0.33
Piaggio P-180	P180	0.40	0.39	0.66	0.66
Piper 31 Navajo Chieftain	PA31	0.10	0.10	0.16	0.16
Piper 34 Seneca	PA34	0.10	0.10	0.16	0.16
Pilatus PC-12	PC12	0.60	0.59	0.98	0.98
Cirrus SR-22	SR22	0.10	0.10	0.16	0.16
Subtotal		*2.90*	*2.83*	*4.76*	*4.76*
GENERAL AVIATION HELICOPTERS					
Sikorsky S-76 Spirit	S76	1.23	1.40	1.88	1.88
Subtotal		*1.23*	*1.40*	*1.88*	*1.88*
Grand Total		**1,018.43**	**1,061.75**	**992.60**	**992.60**

Note: Totals may not equal sum due to rounding.
Source: ECATER Data, Landrum & Brown, 2012-2013.

Day – Night Distribution

The time of day when operations (arrivals and departures) occur is also a key component of the INM input. It is important to the computation of the cumulative average noise level because of the penalty of ten decibels assigned to each operation that occurs at night (between 10:00 p.m. and 6:59 a.m.). The day-night split for the Existing (2012/13) Baseline condition was computed using E-CATER flight operations data from April 2012 through March 2013. This historical split was retained in the 2021 and 2030 input files. On average, approximately 90 percent of operations at the Airport occur during daytime hours. Day-night splits are presented in the summary of average-annual day operations modeled for 2012/13, 2021, and 2030 No Build/No Action and 2030 Proposed Action conditions, which are presented in **Table 3**, **Table 4**, **Table 5**, and **Table 6**, respectively.

Flight Profiles

Aircraft noise characteristics vary depending on the takeoff profiles and climb rates of individual aircraft, which are directly affected by the takeoff weight. Because obtaining data on aircraft takeoff weight is not practical, stage length is often used as a surrogate. Stage length refers to the distance an aircraft travels nonstop to reach its destination. Departure operations in the INM are divided into nine stage lengths that correspond to approximate nonstop flight distances. Each stage length associates the aircraft operations with a takeoff weight that represents a typical passenger load factor and fuel requirement. The climb profile of the aircraft will become less steep as the stage length is increased to reflect the heavy fuel load carried for long-haul travel.

The INM groups trip lengths into seven stage categories and assigns standard aircraft weights to each stage category. These categories are:

Stage Category	Stage Length
1	0-500 nautical miles
2	500-1000 nautical miles
3	1000-1500 nautical miles
4	1500-2500 nautical miles
5	2500-3500 nautical miles
6	3500-4500 nautical miles
7	4500+ nautical miles

Table 3
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE, TIME OF DAY, AND STAGE LENGTH – 2012/13 BASELINE
LaGuardia Airport

INM Aircraft ID	Arrivals			Departures									Total Operations
				Stage 1		Stage 2		Stage 3		Stage 4		Total	
	Day	Night	Total	Day	Night	Day	Night	Day	Night	Day	Night		
Heavy Jets													
757300	0.09	0.01	0.10	0.00	0.00	0.09	0.01	0.00	0.00	0.00	0.00	0.10	0.20
767300	0.18	0.02	0.20	0.00	0.00	0.18	0.02	0.00	0.00	0.00	0.00	0.20	0.40
767CF6	0.22	0.03	0.25	0.00	0.00	0.22	0.03	0.00	0.00	0.00	0.00	0.25	0.50
767400	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Large Jets													
717200	11.14	1.26	12.40	1.95	0.22	9.19	1.04	0.00	0.00	0.00	0.00	12.40	24.80
737300	0.81	0.09	0.90	0.81	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.80
737400	0.31	0.04	0.35	0.03	0.00	0.29	0.03	0.00	0.00	0.00	0.00	0.35	0.70
737500	0.76	0.09	0.85	0.29	0.03	0.07	0.01	0.40	0.04	0.00	0.00	0.85	1.70
737700	16.89	1.91	18.80	4.47	0.51	10.72	1.22	1.69	0.19	0.00	0.00	18.80	37.60
737800	25.91	2.94	28.85	0.48	0.05	12.61	1.43	12.80	1.45	0.02	0.00	28.85	57.70
737900	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
727Q7	0.04	0.01	0.05	0.00	0.00	0.01	0.00	0.04	0.00	0.00	0.00	0.05	0.10
7373B2	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
737N17	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
757PW	11.99	1.36	13.35	0.03	0.00	2.23	0.25	9.74	1.10	0.00	0.00	13.35	26.70
757RR	6.69	0.76	7.45	0.01	0.00	1.24	0.14	5.43	0.62	0.00	0.00	7.45	14.90
A319-131	36.33	4.12	40.45	22.96	2.60	9.82	1.11	3.50	0.40	0.05	0.01	40.45	80.90
A320-211	20.57	2.33	22.90	2.43	0.28	15.46	1.75	2.66	0.30	0.01	0.00	22.90	45.80
A320-232	23.85	2.70	26.55	2.81	0.32	17.93	2.03	3.09	0.35	0.02	0.00	26.55	53.10
A321-232	6.74	0.76	7.50	5.58	0.63	1.16	0.13	0.00	0.00	0.00	0.00	7.50	15.00
CRJ701	65.57	7.43	73.00	38.56	4.37	26.89	3.05	0.12	0.01	0.00	0.00	73.00	146.00
CRJ9-ER	1.21	0.14	1.35	0.71	0.08	0.50	0.06	0.00	0.00	0.00	0.00	1.35	2.70
CRJ9-LR	0.49	0.06	0.55	0.29	0.03	0.20	0.02	0.00	0.00	0.00	0.00	0.55	1.10
EMB170	71.99	8.16	80.15	46.88	5.31	19.63	2.22	5.48	0.62	0.00	0.00	80.15	160.30
EMB190	14.10	1.60	15.70	9.18	1.04	3.84	0.44	1.07	0.12	0.00	0.00	15.70	31.40
MD82	8.76	0.99	9.75	0.67	0.08	7.10	0.80	0.99	0.11	0.00	0.00	9.75	19.50
MD83	8.40	0.95	9.35	0.64	0.07	6.81	0.77	0.95	0.11	0.00	0.00	9.35	18.70
MD88	17.65	2.00	19.65	1.35	0.15	14.31	1.62	2.00	0.23	0.00	0.00	19.65	39.30
MD9028	0.18	0.02	0.20	0.03	0.00	0.15	0.02	0.00	0.00	0.00	0.00	0.20	0.40
Regional Jets													
CLREGJ	20.79	2.36	23.15	20.79	2.36	0.00	0.00	0.00	0.00	0.00	0.00	23.15	46.30
EMB135	26.09	2.96	29.05	23.05	2.61	3.04	0.35	0.00	0.00	0.00	0.00	29.05	58.10
EMB145	0.76	0.09	0.85	0.60	0.07	0.16	0.02	0.00	0.00	0.00	0.00	0.85	1.70
EMB14L	40.33	4.57	44.90	30.25	3.43	8.07	0.91	2.02	0.23	0.00	0.00	44.90	89.80
Commuter Props													
DHC8	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
DHC830	9.30	1.05	10.35	9.30	1.05	0.00	0.00	0.00	0.00	0.00	0.00	10.35	20.70
SF340	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 3, *Continued*
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE, TIME OF DAY, AND STAGE LENGTH – 2012/13 BASELINE
LaGuardia Airport

INM Aircraft ID	Arrivals			Departures									Total Operations
				Stage 1		Stage 2		Stage 3		Stage 4		Total	
	Day	Night	Total	Day	Night	Day	Night	Day	Night	Day	Night		
General Aviation Jets													
BD700	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.40
BEC400	0.49	0.06	0.55	0.49	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.55	1.10
CL600	0.63	0.07	0.70	0.63	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.70	1.40
CNA510	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
CNA525C	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.40
CNA55B	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
CNA560E	0.31	0.04	0.35	0.31	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.70
CNA560U	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
CNA560XL	0.85	0.10	0.95	0.85	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.95	1.90
CNA680	0.27	0.03	0.30	0.27	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.60
CNA750	0.72	0.08	0.80	0.72	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.80	1.60
FAL50	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
FAL900	0.13	0.02	0.15	0.13	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.30
G200	0.31	0.04	0.35	0.31	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.70
GIV	0.72	0.08	0.80	0.72	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.80	1.60
GULF3	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.40
GV	0.54	0.06	0.60	0.54	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.60	1.20
HK4000	0.22	0.03	0.25	0.22	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.50
HS1258	0.45	0.05	0.50	0.45	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.00
IA1125	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
LEAR31	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
LEAR35	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
LEAR45	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
LEAR55	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
LEAR60	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.40
R850	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.40
General Aviation Props													
BEC200	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
BEC300	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
BEC90	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
CNA208	0.31	0.04	0.35	0.31	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.70
CNA310	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
CNA402	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
CNA 414	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CVR580	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
F90	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
P180	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.40
PA31	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
PA34	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
PC12	0.27	0.03	0.30	0.27	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.60
SR22	0.04	0.01	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
Helicopters													
S76	0.61	0.00	0.61	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	1.23
Total													
Total	457.43	51.78	509.21	233.41	26.39	171.94	19.49	51.97	5.89	0.10	0.01	509.21	1,018.43

Note: Totals may not equal sum due to rounding.
Source: ECATER Data, Official Airline Guide (OAG) Data, Landrum & Brown, 2012-2013.

Table 4
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE, TIME OF DAY, AND STAGE LENGTH - 2021
LaGuardia Airport

INM Aircraft ID	Arrivals			Departures									Total Operations
				Stage 1		Stage 2		Stage 3		Stage 4		Total	
	Day	Night	Total	Day	Night	Day	Night	Day	Night	Day	Night		
Heavy Jets													
757300	0.08	0.01	0.09	0.00	0.00	0.08	0.01	0.00	0.00	0.00	0.00	0.09	0.17
767300	0.53	0.06	0.59	0.00	0.00	0.53	0.06	0.00	0.00	0.00	0.00	0.59	1.18
767CF6	0.66	0.08	0.74	0.00	0.00	0.66	0.07	0.00	0.00	0.00	0.00	0.74	1.48
767400	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Large Jets													
717200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737400	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737700	35.57	4.03	39.60	9.42	1.07	22.59	2.56	3.56	0.40	0.00	0.00	39.60	79.20
737800	32.55	3.69	36.24	0.60	0.07	15.84	1.80	16.08	1.82	0.02	0.00	36.24	72.47
737900	26.67	3.02	29.69	0.49	0.06	12.98	1.47	13.18	1.49	0.02	0.00	29.69	59.38
727Q7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7373B2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737N17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
757PW	11.53	1.31	12.84	0.03	0.00	2.14	0.24	9.37	1.06	0.00	0.00	12.84	25.68
757RR	6.43	0.73	7.16	0.01	0.00	1.19	0.14	5.23	0.59	0.00	0.00	7.16	14.33
A319-131	77.39	8.77	86.17	48.91	5.54	20.93	2.37	7.45	0.84	0.11	0.01	86.17	172.33
A320-211	17.03	1.93	18.96	2.01	0.23	12.81	1.45	2.21	0.25	0.01	0.00	18.96	37.93
A320-232	19.75	2.24	21.99	2.33	0.26	14.85	1.68	2.56	0.29	0.01	0.00	21.99	43.97
A321-232	11.72	1.33	13.04	9.70	1.10	2.01	0.23	0.00	0.00	0.00	0.00	13.04	26.09
CRJ701	83.67	9.48	93.15	49.21	5.58	34.31	3.89	0.15	0.02	0.00	0.00	93.15	186.31
CRJ9-ER	5.46	0.62	6.08	3.21	0.36	2.24	0.25	0.01	0.00	0.00	0.00	6.08	12.16
CRJ9-LR	2.22	0.25	2.48	1.31	0.15	0.91	0.10	0.00	0.00	0.00	0.00	2.48	4.95
EMB170	58.22	6.60	64.82	37.92	4.30	15.87	1.80	4.43	0.50	0.00	0.00	64.82	129.65
EMB190	24.01	2.72	26.73	15.64	1.77	6.54	0.74	1.83	0.21	0.00	0.00	26.73	53.46
MD82	1.81	0.20	2.01	0.14	0.02	1.47	0.17	0.20	0.02	0.00	0.00	2.01	4.02
MD83	1.73	0.20	1.93	0.13	0.01	1.41	0.16	0.20	0.02	0.00	0.00	1.93	3.86
MD88	3.64	0.41	4.06	0.28	0.03	2.95	0.33	0.41	0.05	0.00	0.00	4.06	8.11
MD9028	0.04	0.00	0.04	0.01	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.04	0.08
Regional Jets													
CLREGJ	14.14	1.60	15.74	14.14	1.60	0.00	0.00	0.00	0.00	0.00	0.00	15.74	31.48
EMB135	4.96	0.56	5.53	4.38	0.50	0.58	0.07	0.00	0.00	0.00	0.00	5.53	11.05
EMB145	0.22	0.02	0.24	0.17	0.02	0.05	0.01	0.00	0.00	0.00	0.00	0.24	0.48
EMB14L	11.50	1.30	12.81	8.63	0.98	2.30	0.26	0.58	0.07	0.00	0.00	12.81	25.61
Commuter Props													
DHC8	10.13	1.15	11.28	10.13	1.15	0.00	0.00	0.00	0.00	0.00	0.00	11.28	22.56
DHC830	3.87	0.44	4.31	3.87	0.44	0.00	0.00	0.00	0.00	0.00	0.00	4.31	8.62
SF340	2.37	0.27	2.64	2.37	0.27	0.00	0.00	0.00	0.00	0.00	0.00	2.64	5.28

Table 4, *Continued*
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE, TIME OF DAY, AND STAGE LENGTH - 2021
LaGuardia Airport

INM Aircraft ID	Arrivals			Departures									Total Operations
				Stage 1		Stage 2		Stage 3		Stage 4		Total	
	Day	Night	Total	Day	Night	Day	Night	Day	Night	Day	Night		
General Aviation Jets													
BD700	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.39
BEC400	0.48	0.05	0.54	0.48	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.54	1.07
CL600	0.61	0.07	0.68	0.61	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.68	1.37
CNA510	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
CNA525C	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.39
CNA55B	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
CNA560E	0.31	0.03	0.34	0.31	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.68
CNA560U	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
CNA560XL	0.83	0.09	0.93	0.83	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.93	1.85
CNA680	0.26	0.03	0.29	0.26	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.59
CNA750	0.70	0.08	0.78	0.70	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.78	1.56
FAL50	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
FAL900	0.13	0.01	0.15	0.13	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.29
G200	0.31	0.03	0.34	0.31	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.68
GIV	0.70	0.08	0.78	0.70	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.78	1.56
GULF3	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.39
GV	0.53	0.06	0.59	0.53	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.59	1.17
HK4000	0.22	0.02	0.24	0.22	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.49
HS1258	0.44	0.05	0.49	0.44	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.98
IA1125	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
LEAR31	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
LEAR35	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
LEAR45	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
LEAR55	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
LEAR60	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.39
R850	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.39
General Aviation Props													
BEC200	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
BEC300	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
BEC90	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
CNA208	0.31	0.03	0.34	0.31	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.68
CNA310	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
CNA402	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
CNA414	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
CVR580	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F90	0.09	0.01	0.10	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20
P180	0.18	0.02	0.20	0.18	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.39
PA31	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
PA34	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
PC12	0.26	0.03	0.29	0.26	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.59
SR22	0.04	0.00	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.10
Helicopters													
S76	0.70	0.00	0.70	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	1.40
Total													
Total	476.90	53.98	530.88	234.04	26.45	175.25	19.87	67.43	7.64	0.18	0.02	530.88	1,061.75

Note: Totals may not equal sum due to rounding.
Source: ECATER Data, Official Airline Guide (OAG) Data, Landrum & Brown, 2012-2013.

Table 5
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE, TIME OF DAY, AND STAGE LENGTH – 2030 NO BUILD/NO ACTION
LaGuardia Airport

INM Aircraft ID	Arrivals			Departures									Total Operations
				Stage 1		Stage 2		Stage 3		Stage 4		Total	
	Day	Night	Total	Day	Night	Day	Night	Day	Night	Day	Night		
Heavy Jets													
757300	0.05	0.01	0.05	0.00	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.05	0.10
767300	6.55	0.74	7.29	0.03	0.00	6.51	0.74	0.01	0.00	0.00	0.00	7.29	14.58
767CF6	8.19	0.93	9.11	0.04	0.00	8.14	0.92	0.01	0.00	0.00	0.00	9.11	18.23
767400	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Large Jets													
717200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737400	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737700	31.68	3.59	35.27	8.39	0.95	20.12	2.28	3.17	0.36	0.00	0.00	35.27	70.54
737800	39.05	4.43	43.47	0.72	0.08	19.00	2.15	19.30	2.19	0.03	0.00	43.47	86.95
737900	45.68	5.18	50.86	0.85	0.10	22.23	2.52	22.57	2.56	0.03	0.00	50.86	101.71
727Q7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7373B2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737N17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
757PW	6.12	0.69	6.81	0.01	0.00	1.14	0.13	4.97	0.56	0.00	0.00	6.81	13.62
757RR	3.41	0.39	3.80	0.01	0.00	0.63	0.07	2.77	0.31	0.00	0.00	3.80	7.60
A319-131	39.05	4.43	43.47	24.68	2.80	10.56	1.20	3.76	0.43	0.06	0.01	43.47	86.95
A320-211	16.04	1.82	17.85	1.89	0.21	12.06	1.37	2.08	0.24	0.01	0.00	17.85	35.71
A320-232	18.59	2.11	20.70	2.19	0.25	13.98	1.58	2.41	0.27	0.01	0.00	20.70	41.40
A321-232	2.95	0.33	3.28	2.44	0.28	0.51	0.06	0.00	0.00	0.00	0.00	3.28	6.56
CRJ701	10.31	1.17	11.48	6.07	0.69	4.23	0.48	0.02	0.00	0.00	0.00	11.48	22.97
CRJ9-ER	10.47	1.19	11.66	6.16	0.70	4.29	0.49	0.02	0.00	0.00	0.00	11.66	23.31
CRJ9-LR	4.27	0.48	4.75	2.51	0.28	1.75	0.20	0.01	0.00	0.00	0.00	4.75	9.50
EMB170	61.89	7.02	68.90	40.31	4.57	16.87	1.91	4.71	0.53	0.00	0.00	68.90	137.81
EMB190	25.05	2.84	27.89	16.31	1.85	6.83	0.77	1.91	0.22	0.00	0.00	27.89	55.78
MD82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD9028	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional Jets													
CLREGJ	36.10	4.09	40.19	36.10	4.09	0.00	0.00	0.00	0.00	0.00	0.00	40.19	80.39
EMB135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EMB145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EMB14L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commuter Props													
DHC8	13.26	1.50	14.76	13.26	1.50	0.00	0.00	0.00	0.00	0.00	0.00	14.76	29.53
DHC830	52.31	5.93	58.24	52.31	5.93	0.00	0.00	0.00	0.00	0.00	0.00	58.24	116.48
SF340	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 5, *Continued*
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE, TIME OF DAY, AND STAGE LENGTH – 2030 NO BUILD/NO ACTION
LaGuardia Airport

INM Aircraft ID	Arrivals			Departures									Total Operations
				Stage 1		Stage 2		Stage 3		Stage 4			
	Day	Night	Total	Day	Night	Day	Night	Day	Night	Day	Night	Total	
General Aviation Jets													
BD700	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
BEC400	0.81	0.09	0.90	0.81	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.80
CL600	1.03	0.12	1.15	1.03	0.12	0.00	0.00	0.00	0.00	0.00	0.00	1.15	2.30
CNA510	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
CNA525C	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
CNA55B	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CNA560E	0.52	0.06	0.57	0.52	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.57	1.15
CNA560U	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
CNA560XL	1.40	0.16	1.56	1.40	0.16	0.00	0.00	0.00	0.00	0.00	0.00	1.56	3.12
CNA680	0.44	0.05	0.49	0.44	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.98
CNA750	1.18	0.13	1.31	1.18	0.13	0.00	0.00	0.00	0.00	0.00	0.00	1.31	2.62
FAL50	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
FAL900	0.22	0.03	0.25	0.22	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.49
G200	0.52	0.06	0.57	0.52	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.57	1.15
GIV	1.18	0.13	1.31	1.18	0.13	0.00	0.00	0.00	0.00	0.00	0.00	1.31	2.62
GULF3	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
GV	0.88	0.10	0.98	0.88	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.98	1.97
HK4000	0.37	0.04	0.41	0.37	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.82
HS1258	0.74	0.08	0.82	0.74	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.82	1.64
IA1125	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
LEAR31	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
LEAR35	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
LEAR45	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
LEAR55	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
LEAR60	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
R850	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
General Aviation Props													
BEC200	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
BEC300	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
BEC90	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CNA208	0.52	0.06	0.57	0.52	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.57	1.15
CNA310	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CNA402	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CNA414	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CVR580	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F90	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
P180	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
PA31	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
PA34	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
PC12	0.44	0.05	0.49	0.44	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.98
SR22	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
Helicopters													
S76	0.94	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	1.88
Total													
Total	445.86	50.44	496.30	229.14	25.87	148.88	16.88	67.70	7.67	0.14	0.02	496.30	992.60

Note: Totals may not equal sum due to rounding.
Source: ECATER Data, Official Airline Guide (OAG) Data, Landrum & Brown, 2012-2013.

Table 6
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE, TIME OF DAY, AND STAGE LENGTH – 2030 PROPOSED ACTION
LaGuardia Airport

INM Aircraft ID	Arrivals			Departures									Total Operations
				Stage 1		Stage 2		Stage 3		Stage 4		Total	
	Day	Night	Total	Day	Night	Day	Night	Day	Night	Day	Night		
Heavy Jets													
747200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
757300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
767300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
767CF6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
767400	28.00	3.17	31.17	0.13	0.01	27.83	3.15	0.04	0.00	0.00	0.00	31.17	62.34
Large Jets													
717200	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737300	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737400	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737500	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737700	34.63	3.93	38.55	9.18	1.04	21.99	2.49	3.46	0.39	0.00	0.00	38.55	77.11
737800	42.00	4.76	46.76	0.78	0.09	20.44	2.32	20.75	2.35	0.03	0.00	46.76	93.51
737900	50.10	5.68	55.78	0.93	0.11	24.38	2.76	24.76	2.81	0.04	0.00	55.78	111.56
727Q7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7373B2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737N17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
757PW	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
757RR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A319-131	41.26	4.68	45.94	26.07	2.96	11.16	1.26	3.97	0.45	0.06	0.01	45.94	91.87
A320-211	18.77	2.13	20.89	2.21	0.25	14.11	1.60	2.43	0.28	0.01	0.00	20.89	41.79
A320-232	21.76	2.47	24.22	2.57	0.29	16.36	1.85	2.82	0.32	0.01	0.00	24.22	48.45
A321-232	14.74	1.67	16.41	12.20	1.38	2.53	0.29	0.00	0.00	0.00	0.00	16.41	32.81
CRJ701	10.31	1.17	11.48	6.07	0.69	4.23	0.48	0.02	0.00	0.00	0.00	11.48	22.97
CRJ9-ER	10.99	1.25	12.24	6.47	0.73	4.51	0.51	0.02	0.00	0.00	0.00	12.24	24.48
CRJ9-LR	4.48	0.51	4.99	2.63	0.30	1.84	0.21	0.01	0.00	0.00	0.00	4.99	9.97
EMB170	61.89	7.02	68.90	40.31	4.57	16.87	1.91	4.71	0.53	0.00	0.00	68.90	137.81
EMB190	26.52	3.01	29.53	17.27	1.96	7.23	0.82	2.02	0.23	0.00	0.00	29.53	59.06
MD82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD9028	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Regional Jets													
CLREGJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EMB135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EMB145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EMB14L	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Commuter Props													
DHC8	13.26	1.50	14.76	13.26	1.50	0.00	0.00	0.00	0.00	0.00	0.00	14.76	29.53
DHC830	52.31	5.93	58.24	52.31	5.93	0.00	0.00	0.00	0.00	0.00	0.00	58.24	116.48
SF340	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 6, *Continued*
AVERAGE ANNUAL DAY OPERATIONS BY INM TYPE, TIME OF DAY, AND STAGE LENGTH – 2030 PROPOSED ACTION
LaGuardia Airport

INM Aircraft ID	Arrivals			Departures									Total Operations
				Stage 1		Stage 2		Stage 3		Stage 4		Total	
	Day	Night	Total	Day	Night	Day	Night	Day	Night	Day	Night		
General Aviation Jets													
BD700	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
BEC400	0.81	0.09	0.90	0.81	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.80
CL600	1.03	0.12	1.15	1.03	0.12	0.00	0.00	0.00	0.00	0.00	0.00	1.15	2.30
CNA510	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
CNA525C	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
CNA55B	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CNA560E	0.52	0.06	0.57	0.52	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.57	1.15
CNA560U	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
CNA560XL	1.40	0.16	1.56	1.40	0.16	0.00	0.00	0.00	0.00	0.00	0.00	1.56	3.12
CNA680	0.44	0.05	0.49	0.44	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.98
CNA750	1.18	0.13	1.31	1.18	0.13	0.00	0.00	0.00	0.00	0.00	0.00	1.31	2.62
FAL50	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
FAL900	0.22	0.03	0.25	0.22	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.49
G200	0.52	0.06	0.57	0.52	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.57	1.15
GIV	1.18	0.13	1.31	1.18	0.13	0.00	0.00	0.00	0.00	0.00	0.00	1.31	2.62
GULF3	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
GV	0.88	0.10	0.98	0.88	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.98	1.97
HK4000	0.37	0.04	0.41	0.37	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.82
HS1258	0.74	0.08	0.82	0.74	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.82	1.64
IA1125	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
LEAR31	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
LEAR35	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
LEAR45	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
LEAR55	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
LEAR60	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
R850	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
General Aviation Props													
BEC200	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
BEC300	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
BEC90	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CNA208	0.52	0.06	0.57	0.52	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.57	1.15
CNA310	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CNA402	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CNA414	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
CVR580	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F90	0.15	0.02	0.16	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.33
P180	0.29	0.03	0.33	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.66
PA31	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
PA34	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
PC12	0.44	0.05	0.49	0.44	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.98
SR22	0.07	0.01	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.16
Helicopters													
S76	0.94	0.00	0.94	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	1.88
Total													
Total	445.86	50.44	496.30	207.25	23.39	173.46	19.66	65.00	7.37	0.15	0.02	496.30	992.60

Note: Totals may not equal sum due to rounding.
Source: ECATER Data, Official Airline Guide (OAG) Data, Landrum & Brown, 2012-2013.

Average-annual day stage lengths for the Existing (2012/13) Baseline condition were derived from a review of OAG data from April 2012 through March 2013. OAG data includes information on scheduled aircraft operations, including aircraft type, time of day, and origin/destination. Average stage lengths modeled for the 2021 and 2030 scenarios were the same as those modeled for the Existing (2012) Condition. Aircraft types in the 2021 and 2030 fleets that were not represented in the Existing (2012/13) Condition were assumed to have similar stage length distributions to comparable aircraft from the 2012/13 fleet mix. For example, Boeing 767-400 aircraft were assumed to have the same stage length distributions as 767-300 aircraft. Stage length assumptions, which remain constant throughout current and future activity levels, are presented by aircraft type in Tables 3, 4, 5, and 6.

Runway Use

The INM requires input regarding the number of operations (takeoffs and landings) that use each runway end at the Airport. Runway use for the Existing (2012/13) condition was calculated for specific aircraft categories based on E-CATER data from April 2012 through March 2013. The resulting distributions were then applied to the 2021 and 2030 conditions to produce runway use distributions for the future conditions. As previously stated, runway use is not expected to change with the implementation of the Proposed Action; therefore, identical runway use assumptions were applied to both the No Build/No Action and Proposed Action scenarios for 2030. **Table 7** summarizes the arrival and departure runway use distributions, by aircraft category, modeled for 2012/13, 2021, and 2030.

Generalized Flight Tracks

The INM requires generalized flight tracks that aircraft utilize during their approach to or departure from the Airport. The INM also requires input information regarding the horizontal dispersion of aircraft in space when they use these flight tracks. In this analysis, both the generalized flight tracks and parameters relating to flight track dispersion were developed from the Port Authority's Airport Noise and Operations Monitoring System data to ensure established procedures were adequately modeled. The generalized flight tracks from this model are shown in **Exhibit 1 through Exhibit 8**. No significant changes to flight track locations or track dispersions are expected to occur in 2021 or 2030, nor are any changes expected with the implementation of the Proposed Action. Therefore, flight track locations and dispersions modeled for 2012/13 conditions remain the same for the 2021 and 2030 No Build/No Action and 2030 Proposed Action conditions.

Land Use Data

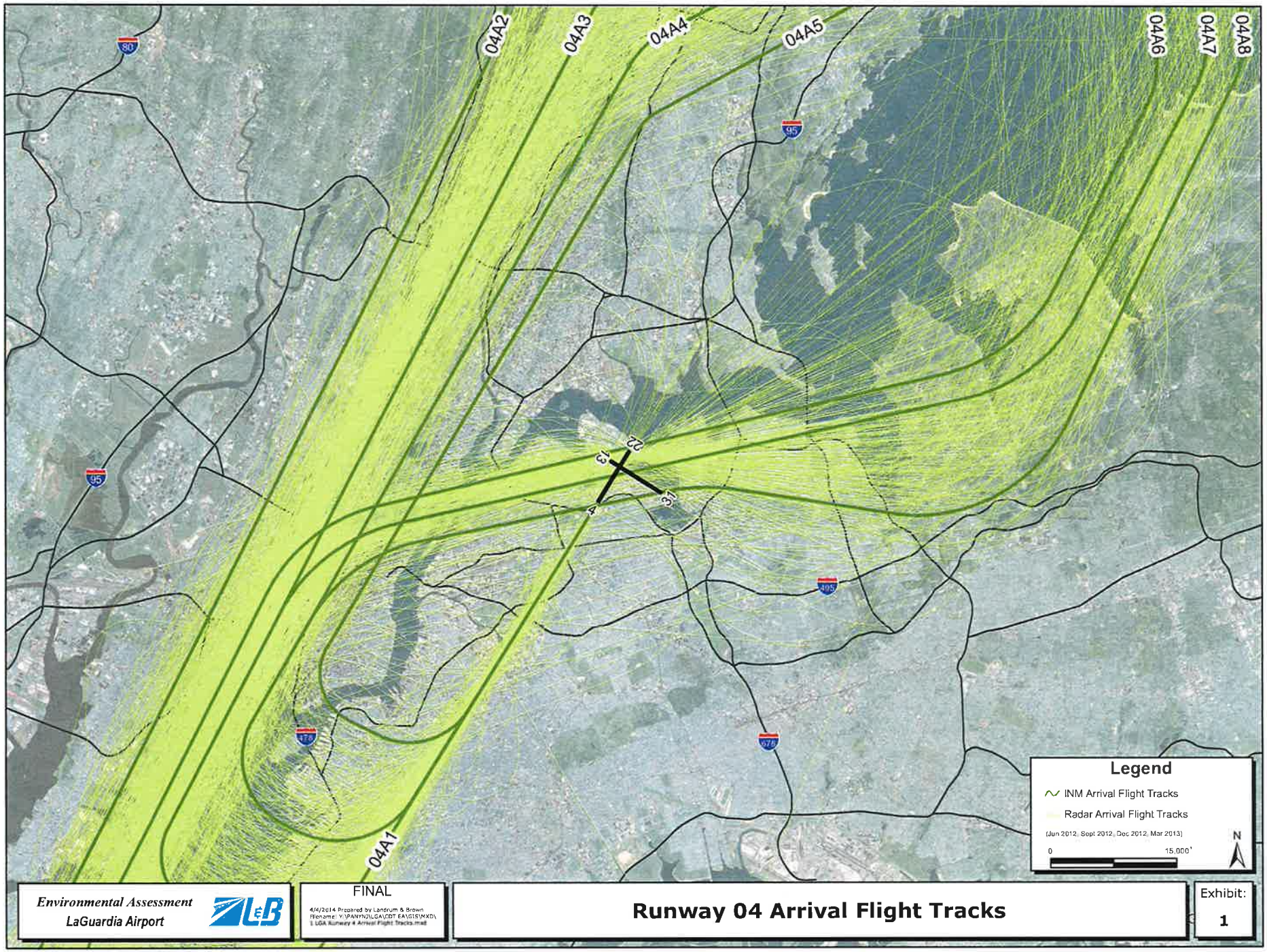
Data from the 2010 United States Census—specifically the *Census 2010 Redistricting Data (P.L. 94-171) Summary File, Census of Population and Housing*—was used to estimate the approximate number of housing units and residential population that would experience changes in noise exposure as a result of the Proposed Action. To enhance the accuracy of these population estimates, census blocks were modified in a geographic information system to exclude large

unpopulated areas (e.g., golf courses, marsh areas, open water, parks) from the population analysis. The population associated with each block was assumed to be uniformly distributed throughout the resulting modified census blocks. GIS software was then used to estimate the proportion of each resulting modified census block encompassed within each contour band. Estimates of the populations within each contour band were then calculated by multiplying the resulting area proportions by the population estimates associated with each modified census block. The locations of schools, libraries hospitals, and nursing homes were derived from data obtained from the New York City Department of City Planning. The location of churches in the vicinity of LGA was derived from a variety of sources including ESRI and Google Earth.

Table 7
RUNWAY USE BY AIRCRAFT CATEGORY AND TIME OF DAY – 2012/13, 2021, & 2030 (SHOWN IN PERCENTAGES)
LaGuardia Airport

DAYTIME ARRIVALS				
	04	22	13	31
Heavy Jets	19%	51%	2%	28%
Large Jets	18%	46%	2%	33%
Commuter / GA Props	17%	50%	1%	32%
Regional /GA Jets	18%	47%	2%	33%
Total	18%	46%	2%	33%
DAYTIME DEPARTURES				
	04	22	13	31
Heavy Jets	27%	0%	48%	25%
Large Jets	31%	1%	44%	25%
Commuter / GA Props	31%	0%	51%	18%
Regional /GA Jets	31%	0%	46%	23%
Total	31%	1%	45%	24%
NIGHTTIME ARRIVALS				
	04	22	13	31
Heavy Jets	37%	31%	0%	31%
Large Jets	20%	42%	4%	34%
Commuter / GA Props	20%	42%	2%	36%
Regional /GA Jets	19%	43%	3%	36%
Total	20%	43%	3%	34%
NIGHTTIME DEPARTURES				
	04	22	13	31
Heavy Jets	22%	0%	39%	39%
Large Jets	30%	1%	42%	26%
Commuter / GA Props	0%	0%	61%	39%
Regional /GA Jets	44%	1%	31%	23%
Total	32%	1%	40%	26%

Note: Totals may not equal 100 due to rounding
Source: TAMIS Data, Landrum & Brown, 2012-2013.


04A1
04A2
04A3
04A4
04A5
04A6
04A7
04A8
22
13
4
31
Legend
INM Arrival Flight Tracks
Radar Arrival Flight Tracks
(Jun 2012, Sept 2012, Dec 2012, Mar 2013)
0
15,000'
N
Environmental Assessment
LaGuardia Airport
FINAL
4/4/2014 Prepared by Landrum & Brown
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1 LGA Runway 4 Arrival Flight Tracks.mxd
Runway 04 Arrival Flight Tracks
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1

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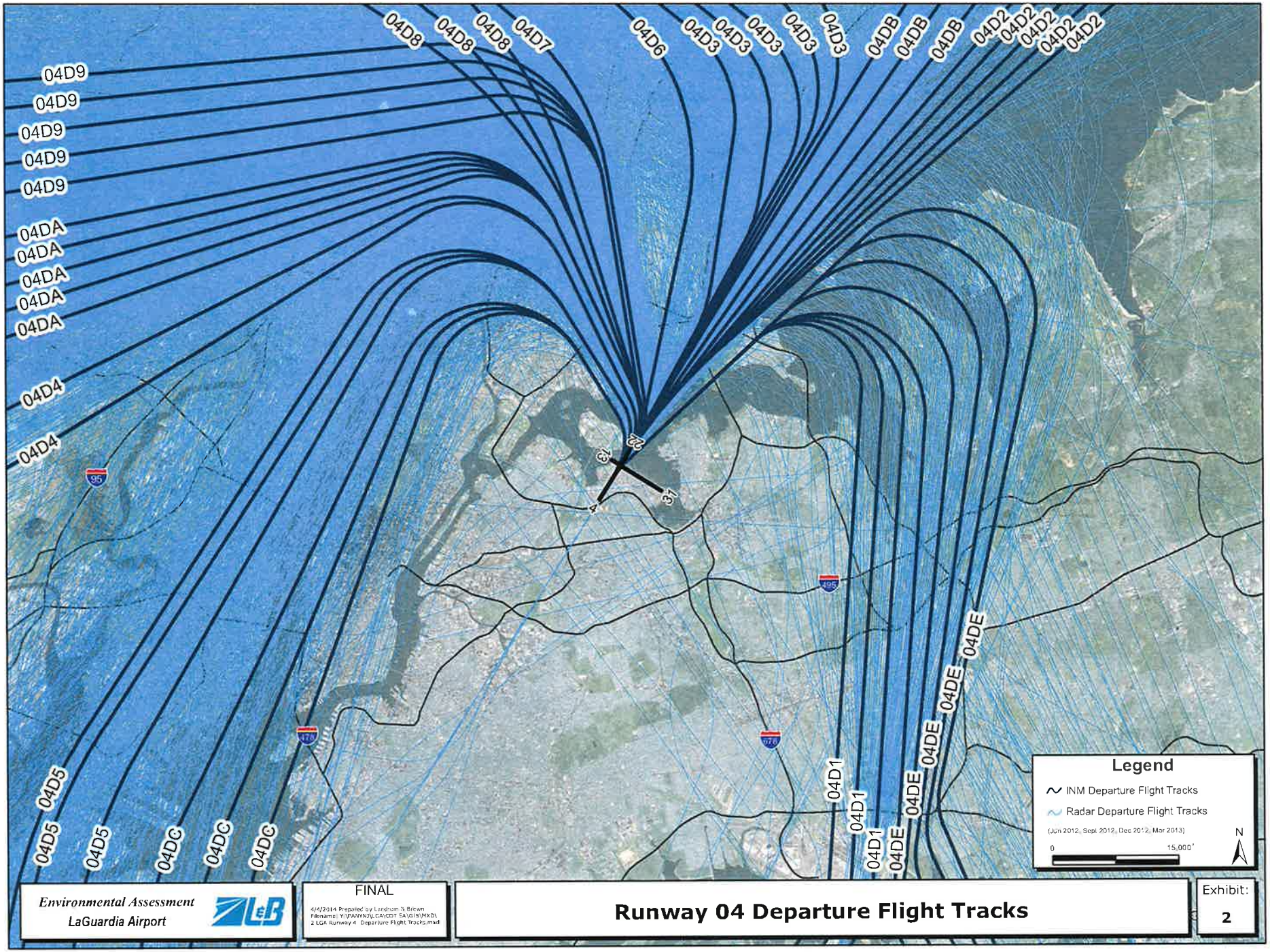

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2 LGA Runway 4 Departure Flight Tracks.mxd

Runway 04 Departure Flight Tracks

Exhibit:
2

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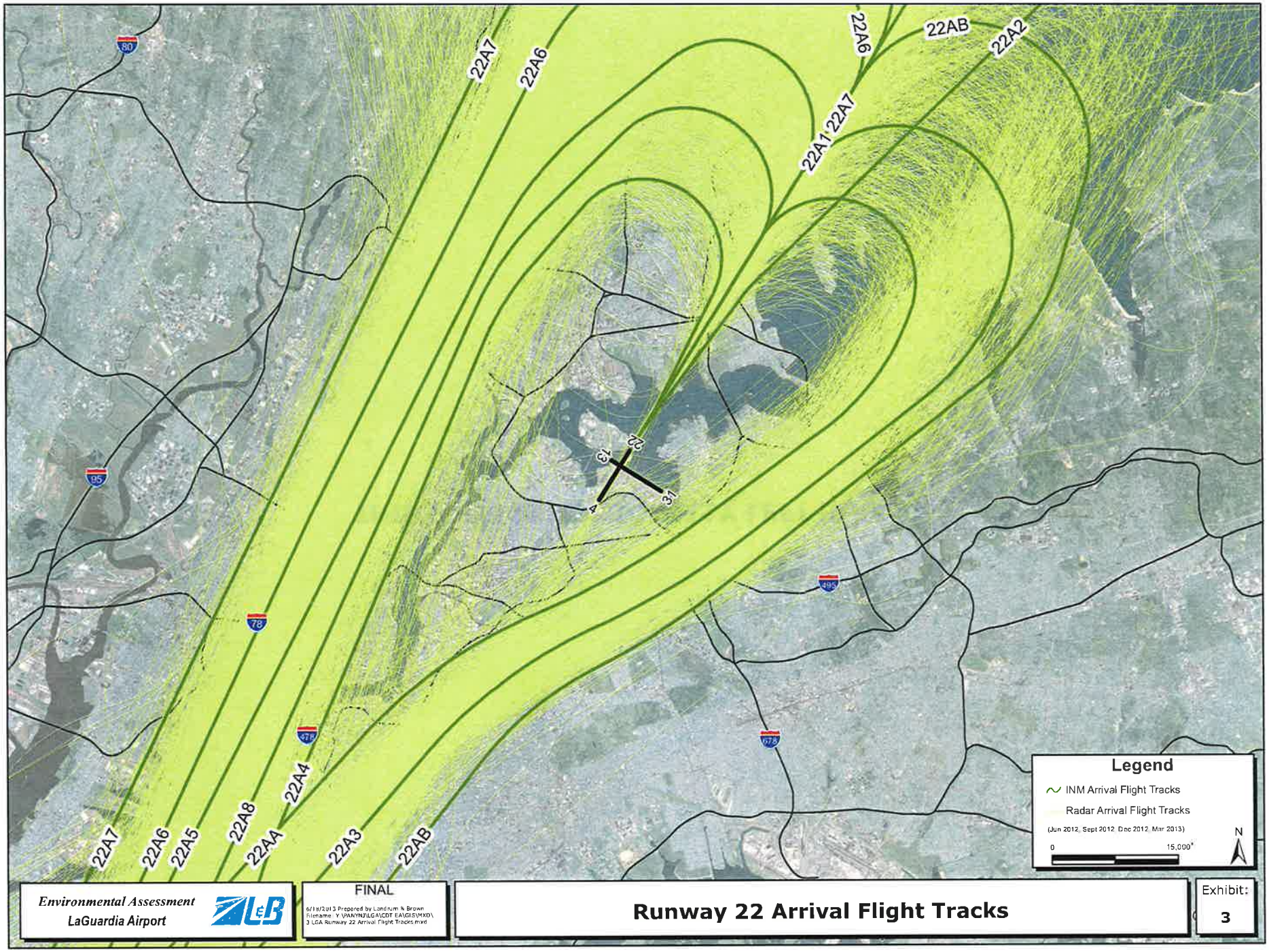

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LaGuardia Airport

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Runway 22 Arrival Flight Tracks

Exhibit: 3

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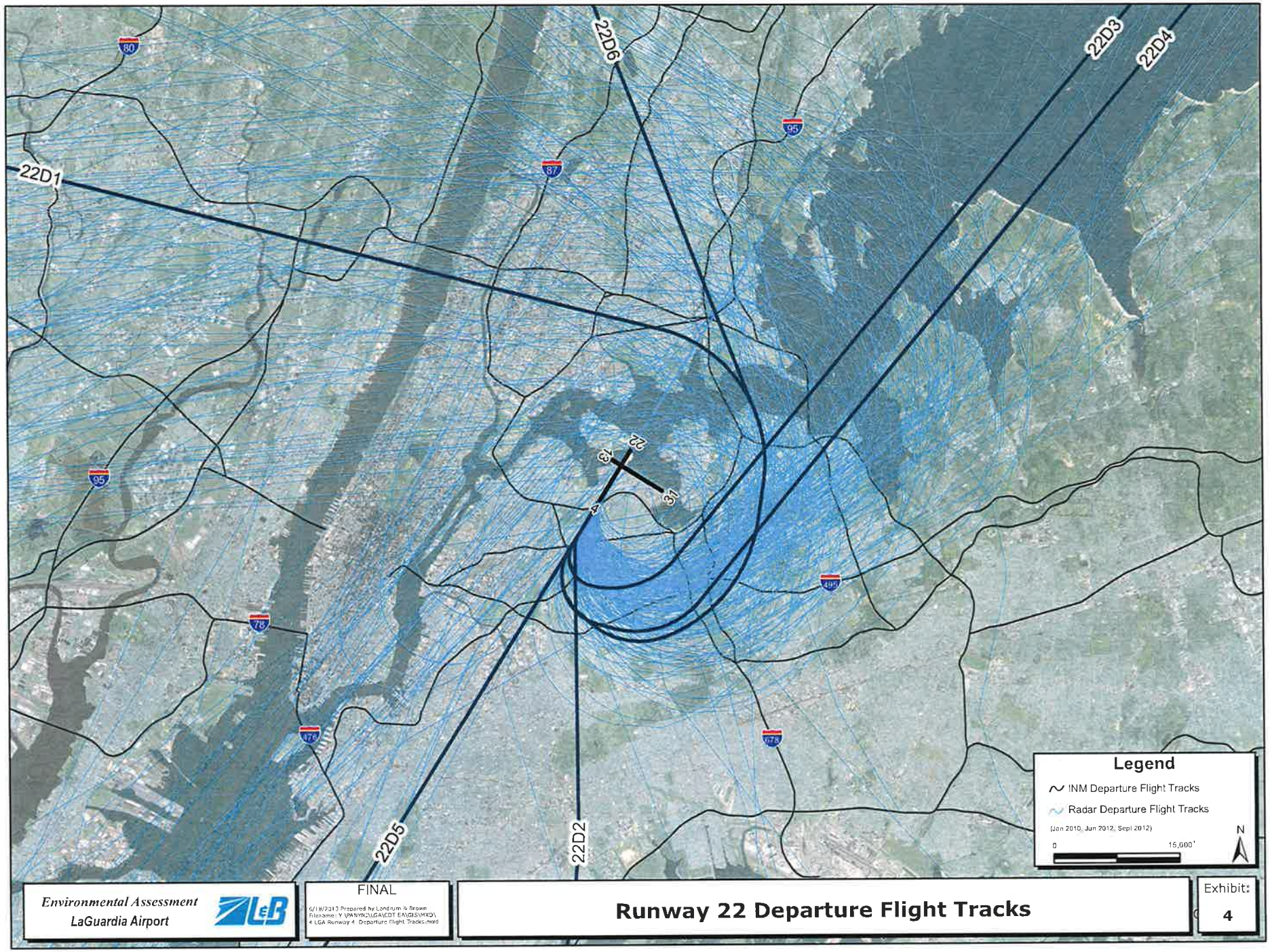

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LaGuardia Airport

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4 LGA Runway 4 Departure Flight Tracks.mxd

Runway 22 Departure Flight Tracks

Exhibit:
4

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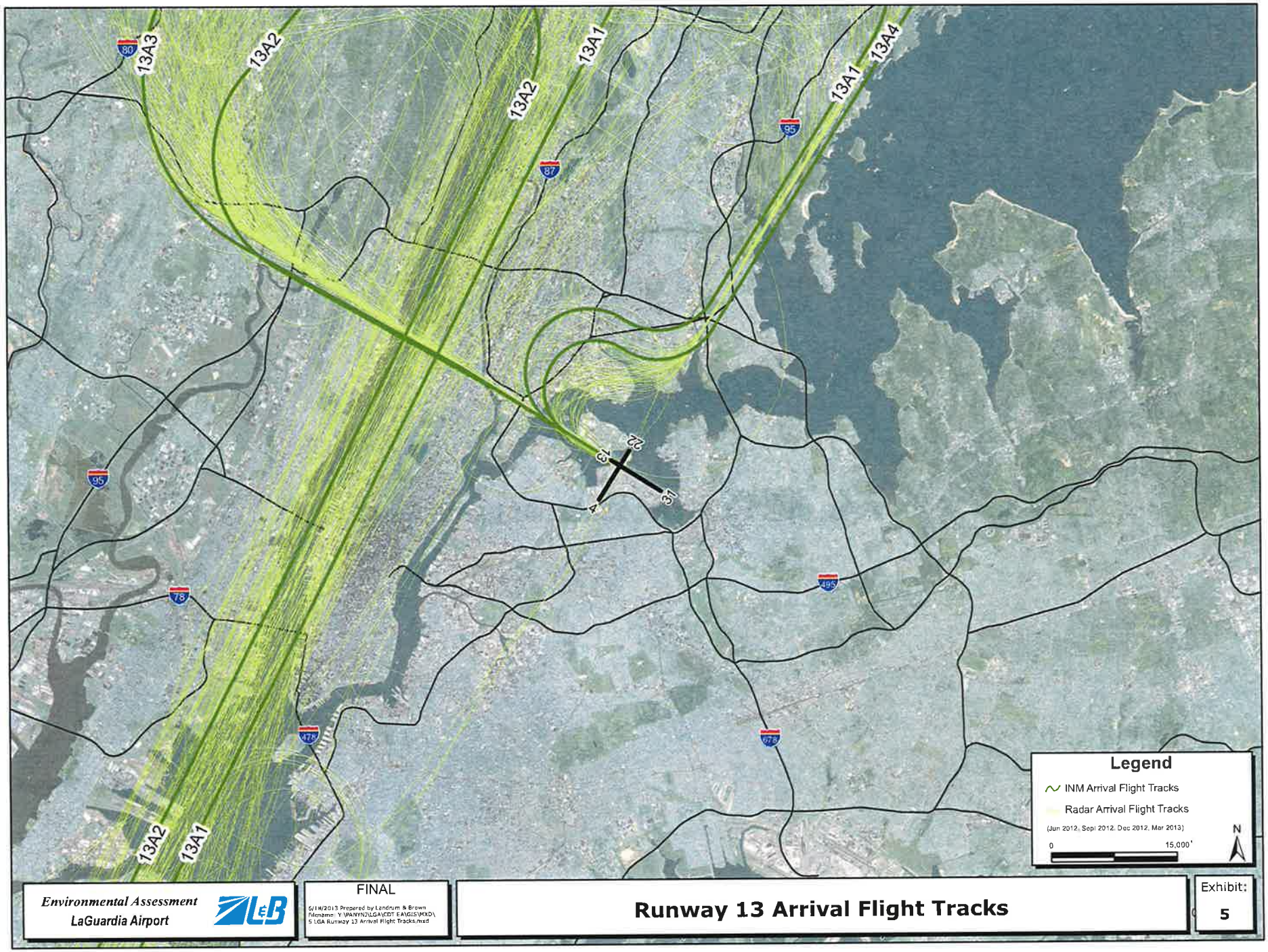

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Runway 13 Arrival Flight Tracks

Exhibit: 5

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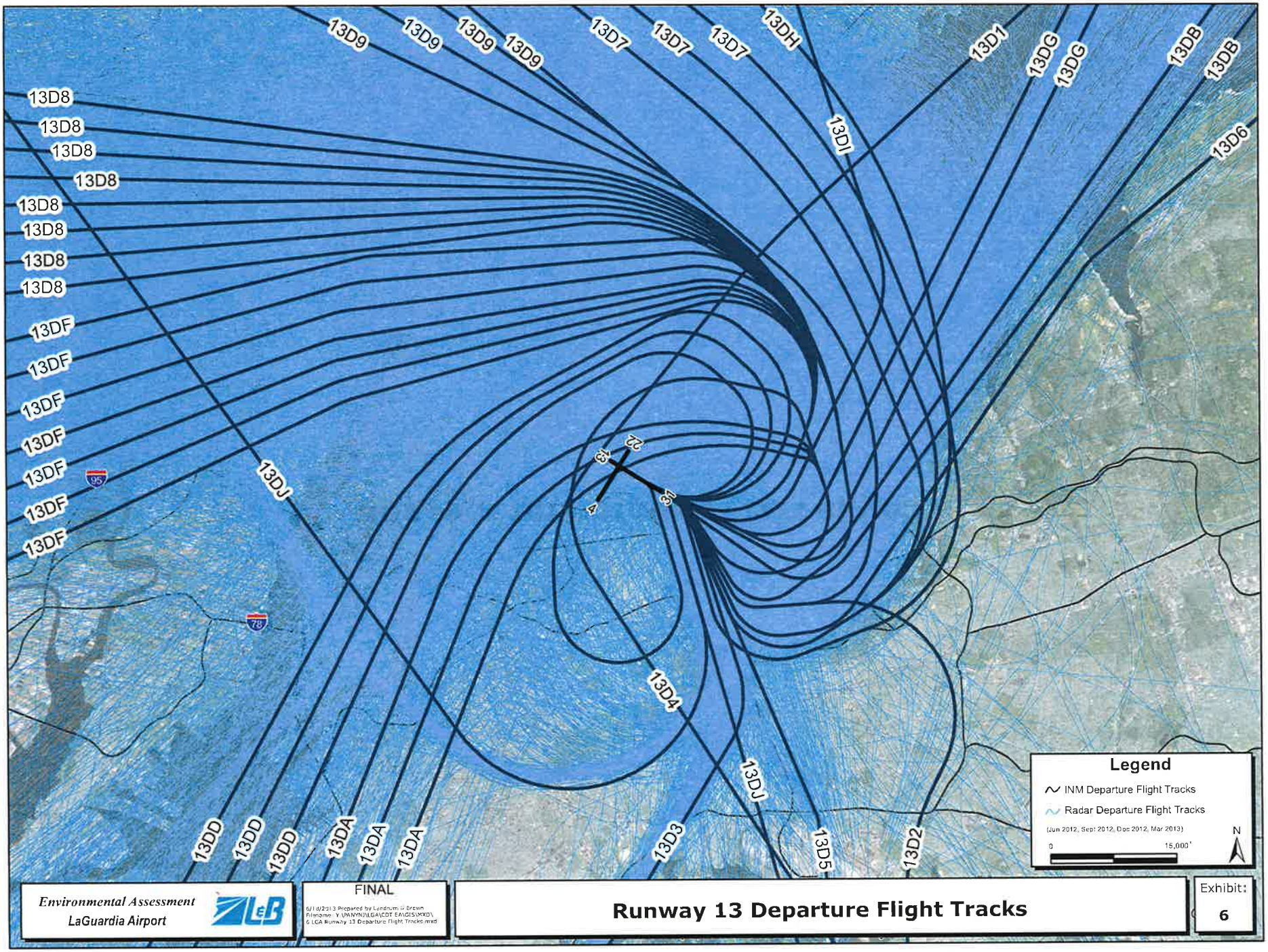
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13D8
13D8
13D8
13D8
13D8
13D8
13DI
13D6
13DF
13DF
13DF
13DF
13DF
13DF
13DF
13DJ
22
13
31
4
95
78
13D4
13DJ
13DD
13DD
13DD
13DA
13DA
13DA
13D3
13D5
13D2
Legend
INM Departure Flight Tracks
Radar Departure Flight Tracks
(Jun 2012, Sep 2012, Dec 2012, Mar 2013)
0
15,000'
N
Environmental Assessment
LaGuardia Airport
LeB
FINAL
6/14/2013 Prepared by Landrum & Brown
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6 LGA Runway 13 Departure Flight Tracks.mxd
Runway 13 Departure Flight Tracks
Exhibit:
6

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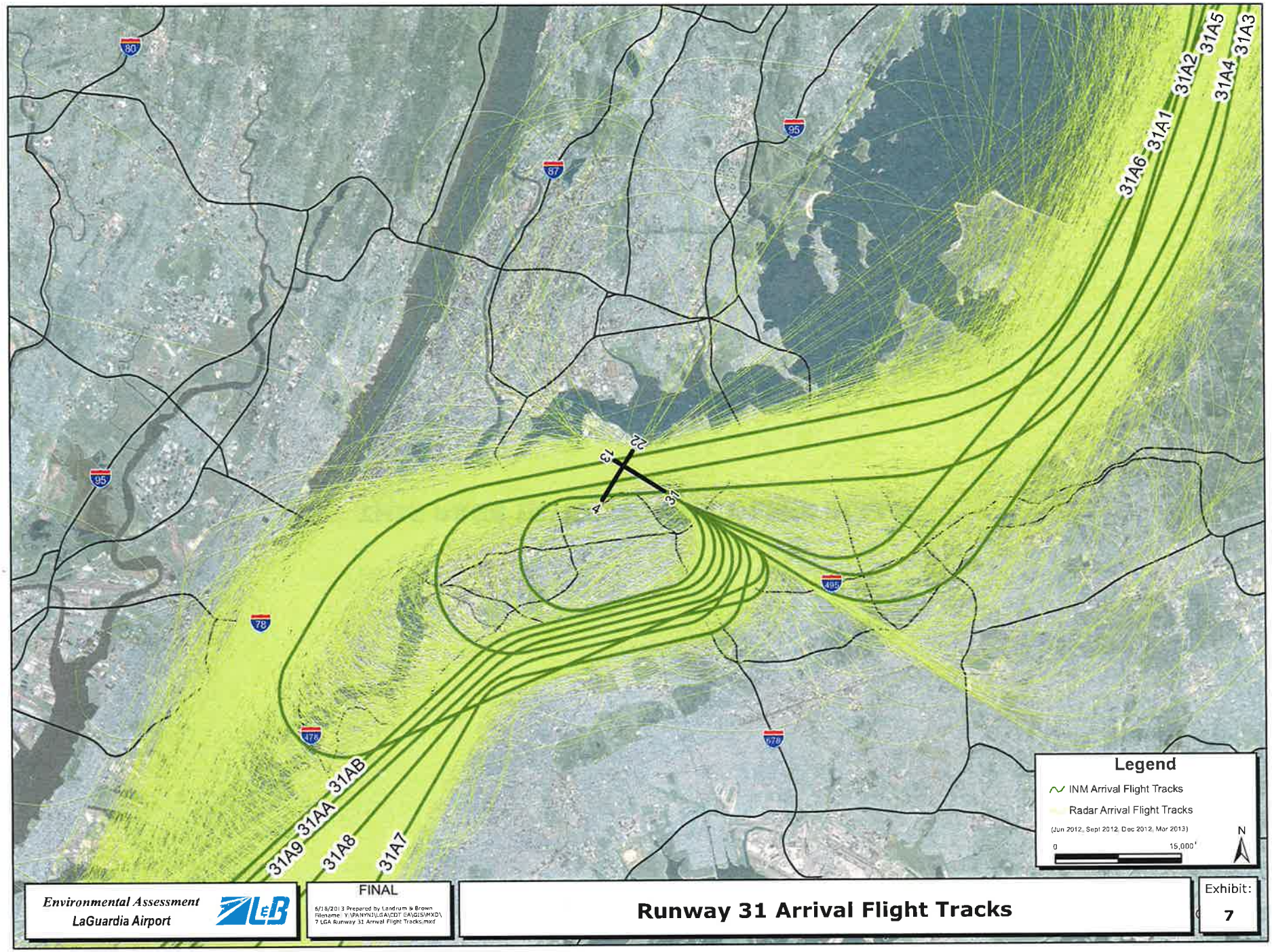
31A6
31A1
31A2
31A5
31A4
31A3
31AB
31AA
31A9
31A8
31A7
13
22
4
31
Legend
INM Arrival Flight Tracks
Radar Arrival Flight Tracks
(Jun 2012, Sept 2012, Dec 2012, Mar 2013)
0
15,000
N
Environmental Assessment
LaGuardia Airport
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Runway 31 Arrival Flight Tracks
Exhibit:
7

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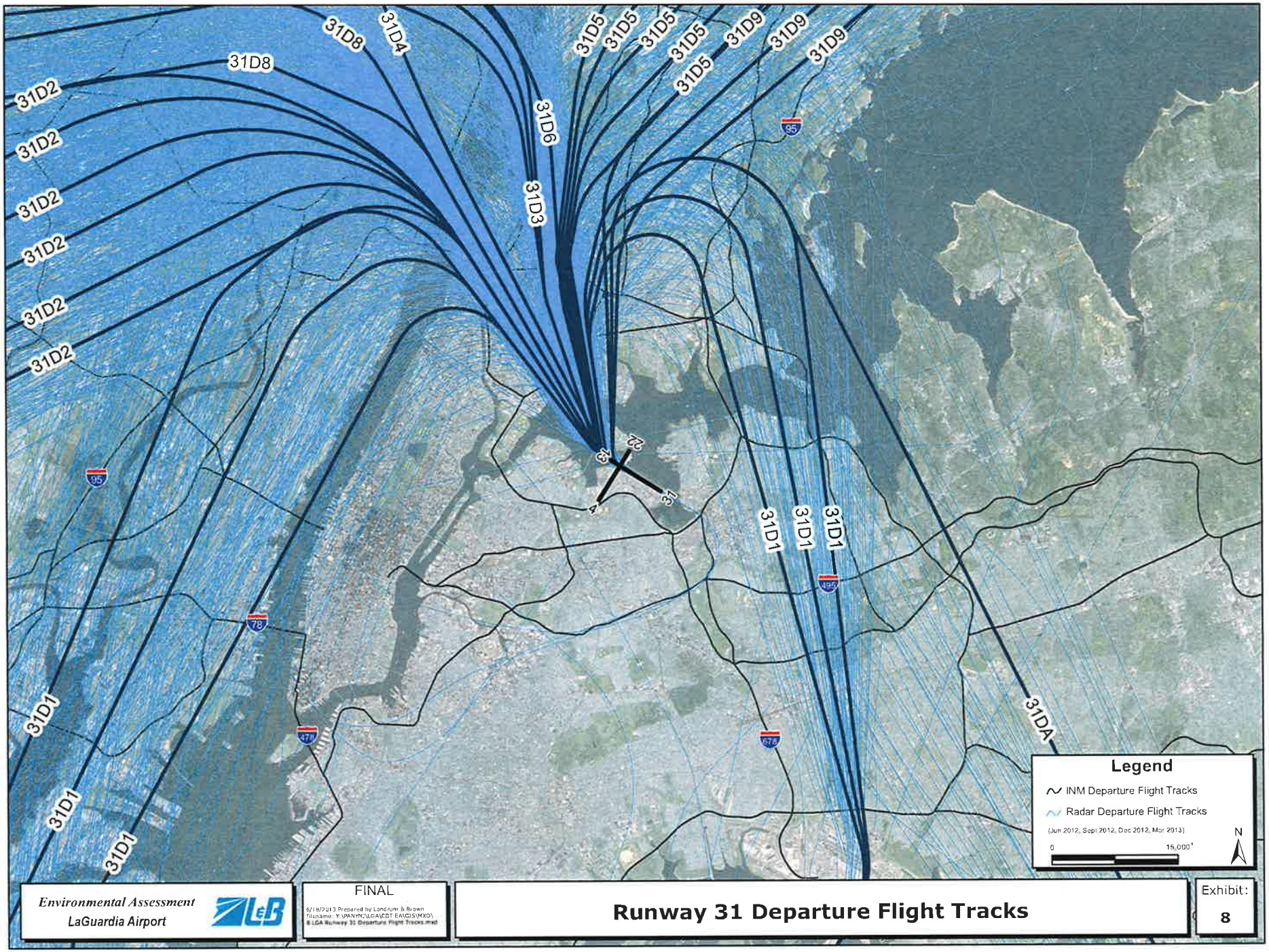

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8 LGA Runway 31 Departure Flight Tracks.mxd

Runway 31 Departure Flight Tracks

Exhibit:
8

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5. NOISE MODELING RESULTS

Exhibit 9, *Existing (2012/13) Noise Exposure Contour*, shows the Existing (2012/13) Baseline Noise Exposure Contour. The DNL 65 dB contour of the Existing (2012/13) Baseline Noise Exposure Contour is wider to the east of Runway 13 due to the greater number of departures from this runway. The DNL 65 dB of the Existing (2012/13) Baseline Noise Exposure Contour is longer and thinner to the north and south of Runway 04/22 due to the greater number of arrivals to these two runway ends. The DNL 65 dB of the Existing (2012/13) Baseline Noise Exposure Contour is shorter to the west of Runway 31 due to the lesser number of arrivals to Runway 13 or departures from Runway 31.

Exhibit 10, Future *(2021) No Build/No Action/Proposed Action Noise Exposure Contour* shows the Future (2021) No Build/No Action/Proposed Action Noise Exposure Contour. The year 2021 represents the first full year of operation of the Proposed Action; although, it is not expected that passenger levels will reach the point at which additional aircraft gauge is needed by 2021. Therefore, the aircraft operating levels and fleet mix for the Future (2021) No Build/No Action and the Future (2021) Proposed Action are identical. Furthermore, no changes to runway use, flight tracks, or flight profiles are anticipated as a result of the Proposed Action. Therefore, the Future (2021) No Build/No Action noise exposure contour and the Future (2021) Proposed Action noise exposure contour are identical.

The shape of the DNL 65 dB of the Future (2021) No Build/No Action/Proposed Action Noise Exposure Contour remains similar to the DNL 65 dB of the Existing (2012/13) Baseline Noise Exposure Contour; however, minor differences in the shape of the noise contour occur due to forecasted changes in operations levels and fleet mix. In general, compared to the Existing (2012/13) Baseline the DNL 65 dB contour of the Future (2021) No Build/No Action/Proposed Action Noise Exposure Contour is longer along the straight-in approach paths to the northeast and southwest of Runway 04 and Runway 22 due to the forecasted increase in total arrivals. The DNL 65 dB of the Future (2021) No Build/No Action/Proposed Action Noise Exposure Contour is shorter along the major departure corridors to the northwest and south east of Runway 13/31 due to the forecasted phase out of older aircraft which are somewhat louder on departure than newer replacement aircraft. As previously noted, no difference in operating levels or fleet mix are expected to occur due to the implementation of the Proposed Action by 2021.

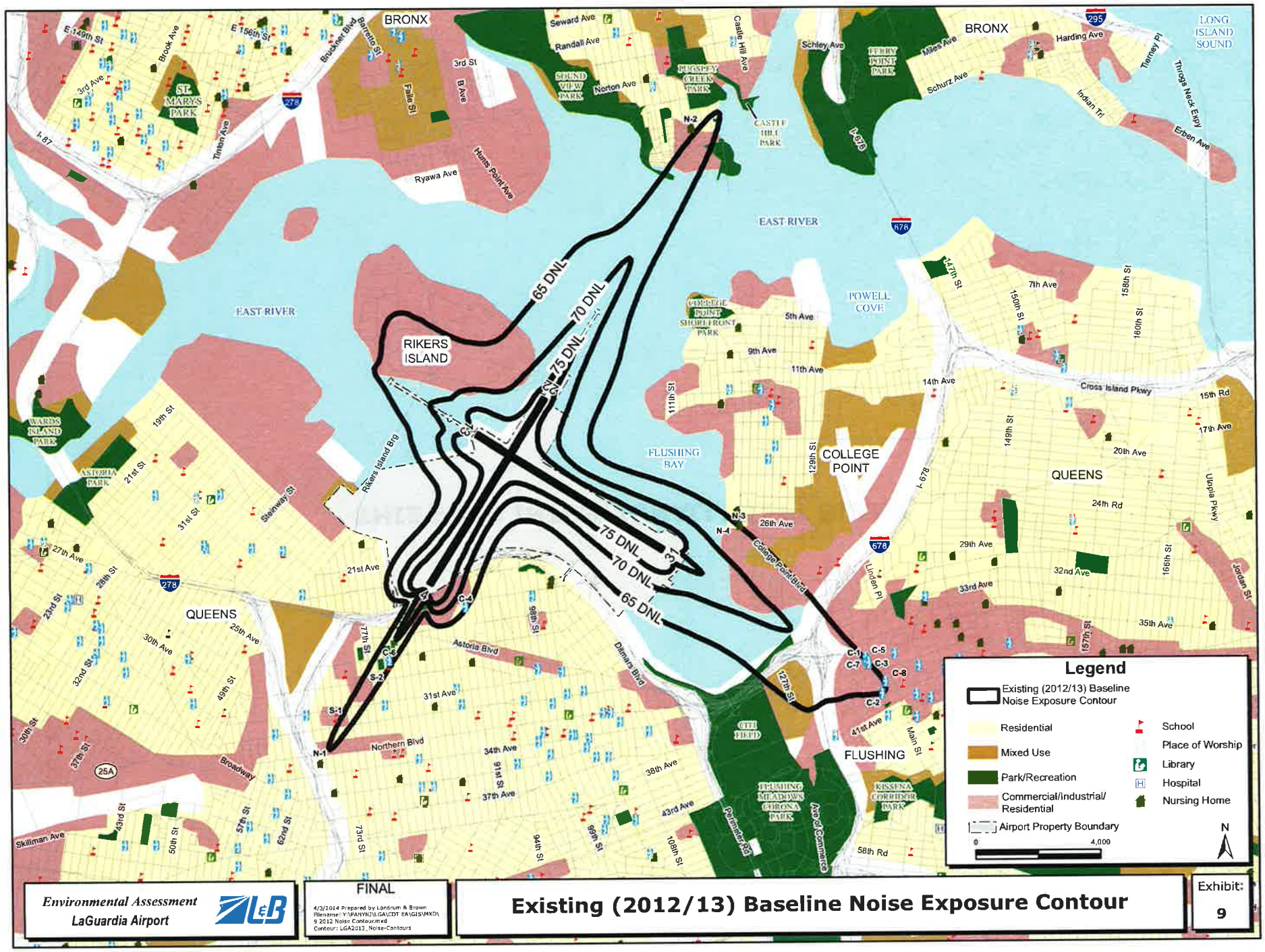
Exhibit 11, *2030 No Build/No Action compared to 2030 Proposed Action Noise Exposure Contour* shows a comparison of the noise exposure contours modeled for the No Build/No Action and Proposed Action scenarios for 2030 conditions. This exhibit shows the 65, 70, and 75 dB DNL contours for both scenarios, overlaid atop one another. As illustrated, the DNL 65 dB contour shifts slightly as compared to the No Build/No Action DNL 65 dB contour due to the projected change in fleet mix that would occur under the Proposed Action. The DNL 65 dB of the Future (2030) Proposed Action Noise Exposure Contour increases along the primary approach and departure corridors compared to the Future (2030) No Build/No Action scenario. The greatest increase would occur to the northeast of

Runway 04/22. In this location the DNL 65 dB of the Future (2030) Proposed Action Noise Exposure Contour increases compared to the Future (2030) No Build/No Action scenario by approximately 700 feet to a point near the intersection of Castle Hill Avenue and Norton Avenue in the Castle Hill neighborhood in the Bronx. To the southwest of Runway 04/22, the DNL 65 dB of the Future (2030) Proposed Action Noise Exposure Contour increases by approximately 500 feet to a point near the intersection of Broadway and 35th Avenue in the Woodside neighborhood in Queens. To the southeast of Runway 13/31, the DNL 65 dB of the Future (2030) Proposed Action Noise Exposure Contour increases by approximately 260 feet near 41st Avenue and Main Street in Flushing and east of College Point Boulevard in the College Point neighborhood in Queens. To the northwest of Runway 13/31, the DNL 65 dB of the Future (2030) Proposed Action Noise Exposure Contour increases by approximately 360 feet over the East River and Rikers Island.

As mentioned previously, if any noise sensitive land uses within the DNL 65 dB noise contour would experience increases in noise of DNL 1.5 dB or greater as a result of the Proposed Action, a significant noise impact would occur. Based on this analysis, no areas within the DNL 65 dB beyond airport property would experience an increases in noise of DNL 1.5 dB or greater as a result of the Proposed Action in 2030. Therefore, the Proposed Action is not expected to result in any *significant* impacts in noise-sensitive land uses around the Airport.

A review of areas of noise increase less than 1.5 dB within the 65 DNL of the 2030 Proposed Action Noise Exposure Contour was conducted for informational purposes. There are no areas of noise increase of 1.0 dB or more within the 65 DNL off airport-owned property. **Exhibit 12**, ***Areas of Increased Noise within 65 DNL***, shows the area of 0.5 dB increase within the 65 DNL of the 2030 Proposed Action Noise Exposure Contour. As shown, the 0.5 dB area of increase occurs over residential areas in Queens, within the Jackson Heights and Steinway communities, near the approach end of Runway 04. Per FAA guidance noise increases below 1.5 dB within the 65 DNL are not considered significant impacts.

Table 8 shows a tabular comparison of the land area, number of housing units, and estimated residential population that are estimated to be contained within the DNL 65, 70, and 75 dB noise contours for the No Build/No Action and Proposed Action scenarios, where applicable, at all three activity levels (2012/13, 2021, and 2030) that were evaluated in this analysis. **Table 9** identifies the noise-sensitive facilities (defined as schools, churches, libraries, hospitals, and nursing homes) within each noise contour.


BRONX
EAST RIVER
RIKERS ISLAND
65 DNL
70 DNL
75 DNL
QUEENS
FLUSHING BAY
COLLEGE POINT
POWELL COVE
FLUSHING
Legend
Existing (2012/13) Baseline Noise Exposure Contour
Residential
Mixed Use
Park/Recreation
Commercial/Industrial/ Residential
Airport Property Boundary
School
Place of Worship
Library
Hospital
Nursing Home
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LaGuardia Airport
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Existing (2012/13) Baseline Noise Exposure Contour
Exhibit:
9

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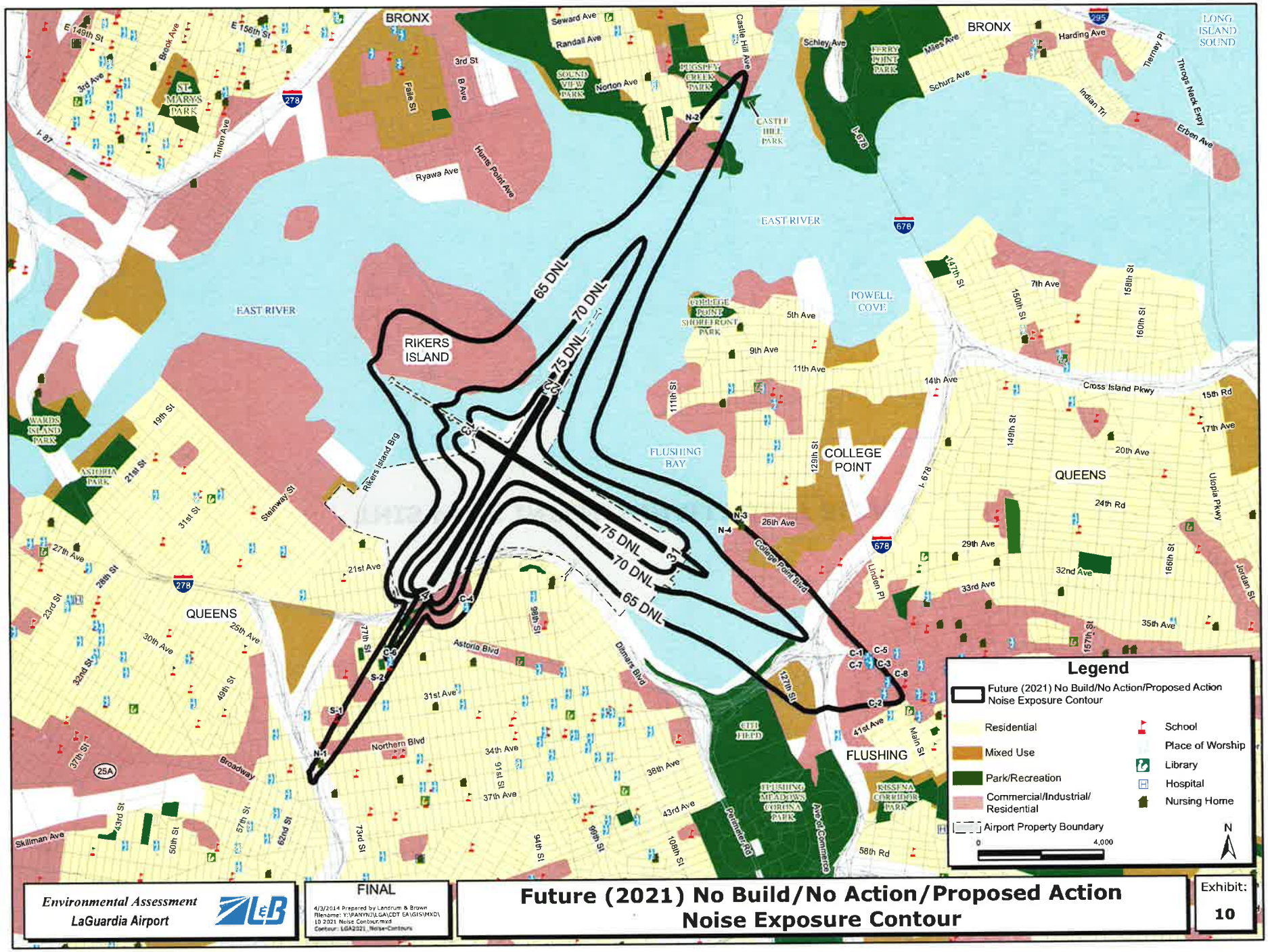
BRONX
EAST RIVER
RIKERS ISLAND
65 DNL
70 DNL
75 DNL
QUEENS
COLLEGE POINT
FLUSHING BAY
POWELL COVE
FLUSHING
Legend
Future (2021) No Build/No Action/Proposed Action Noise Exposure Contour
Residential
Mixed Use
Park/Recreation
Commercial/Industrial/ Residential
Airport Property Boundary
School
Place of Worship
Library
Hospital
Nursing Home
0
4,000
N
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Future (2021) No Build/No Action/Proposed Action
Noise Exposure Contour
Exhibit:
10

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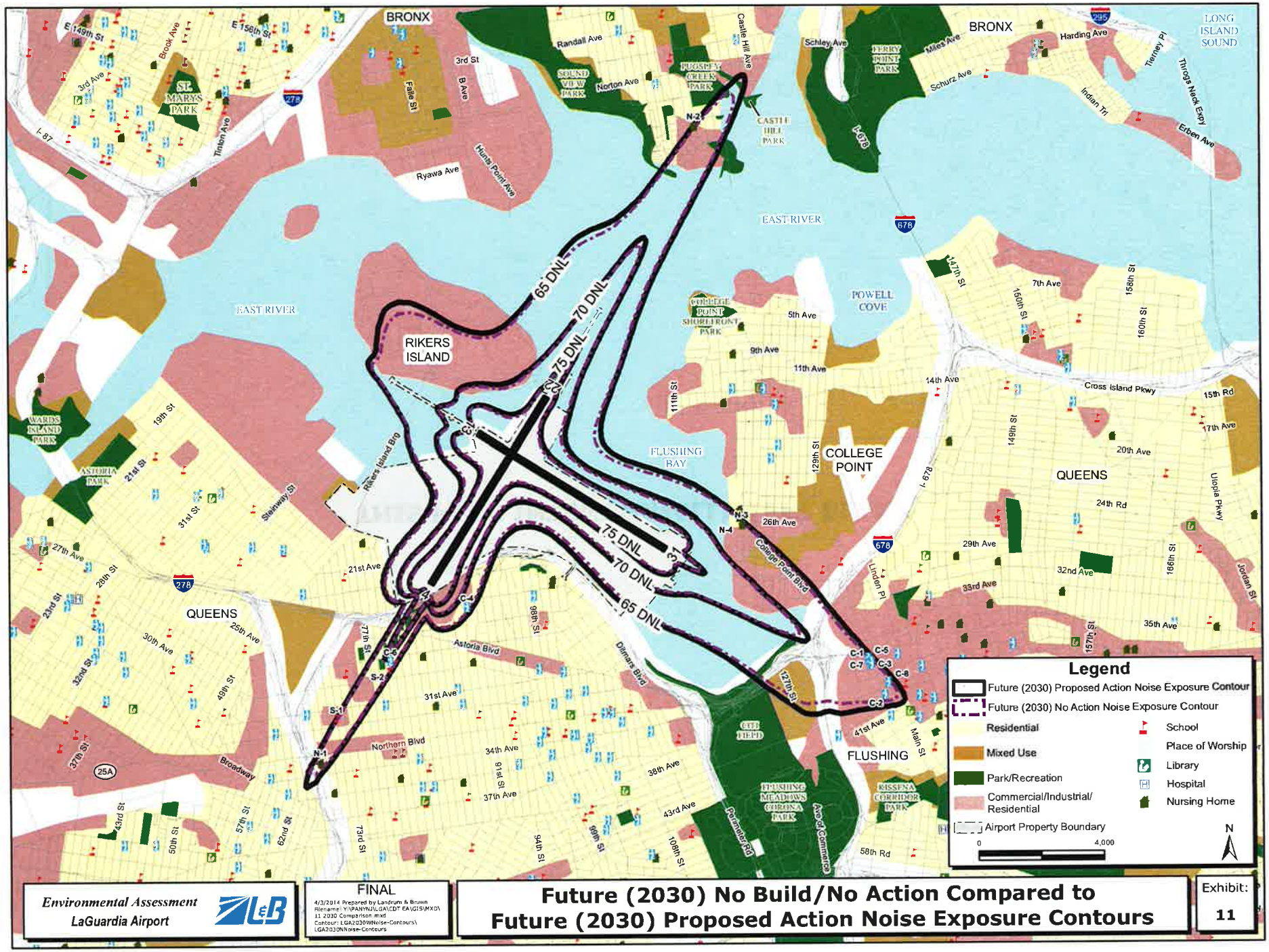
BRONX
EAST RIVER
RIKERS ISLAND
65 DNL
70 DNL
75 DNL
QUEENS
COLLEGE POINT
FLUSHING
FLUSHING BAY
POWELL COVE
LONG ISLAND SOUND
Legend
Future (2030) Proposed Action Noise Exposure Contour
Future (2030) No Action Noise Exposure Contour
Residential
Mixed Use
Park/Recreation
Commercial/Industrial/ Residential
Airport Property Boundary
School
Place of Worship
Library
Hospital
Nursing Home
0
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4/3/2014 Prepared by Landrum & Brown
Filename: Y:\PANYNJ\LGA\CDT EA\GIS\MXD\11 2030 Comparison.mxd
Contours: LGA2030NNoise-Contours\LGA2030NNoise-Contours
Future (2030) No Build/No Action Compared to
Future (2030) Proposed Action Noise Exposure Contours
Exhibit:
11

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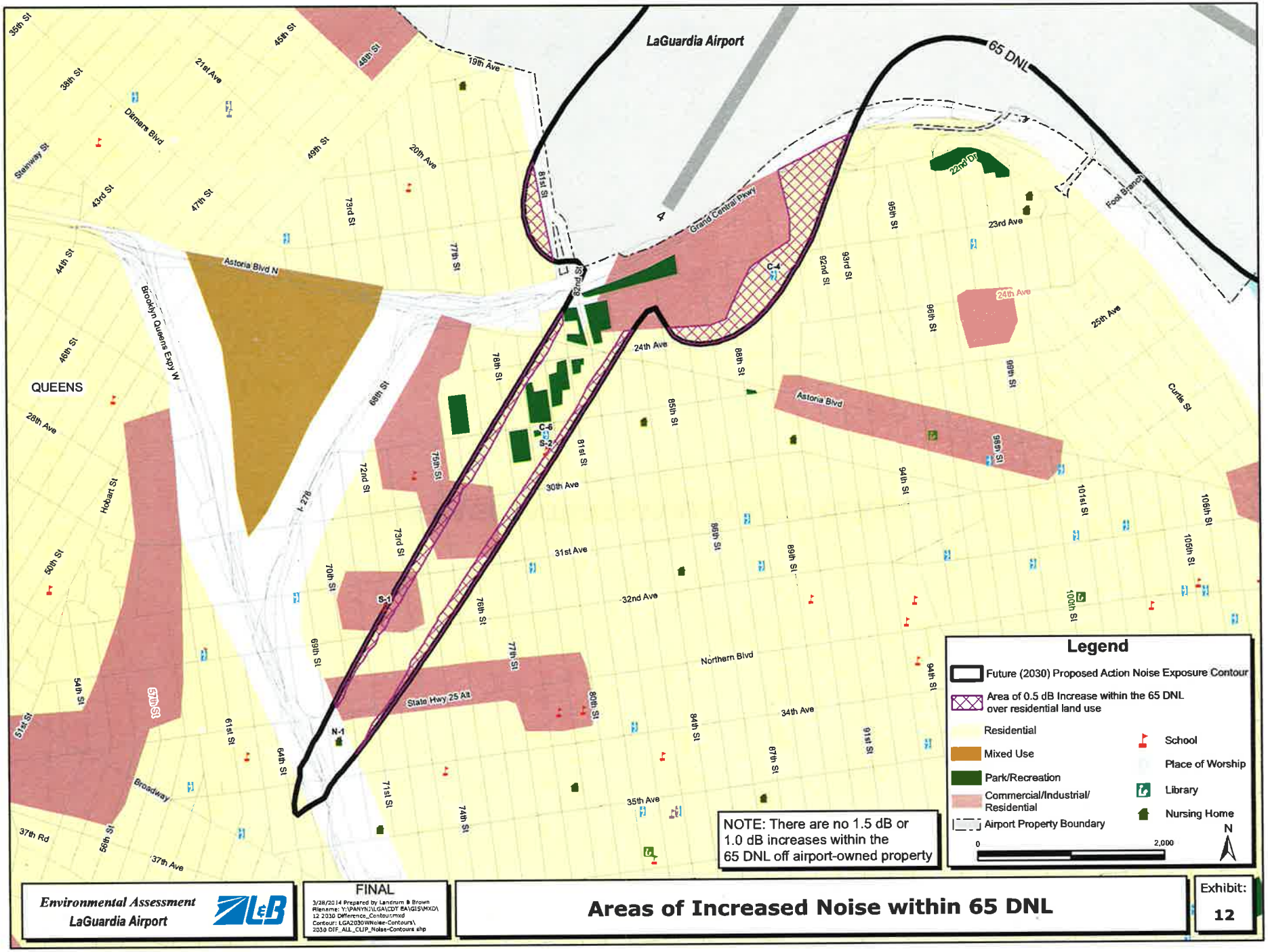

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LaGuardia Airport

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Contour: LGA2030WNoise-Contours\2030 DIF_ALL_CLIP_Noise-Contours.shp

Areas of Increased Noise within 65 DNL

Exhibit: 12

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Table 8
NOISE EXPOSURE AREA, HOUSING UNITS, AND POPULATION
LaGuardia Airport

EXISTING (2012/13) CONDITION

DNL	No Build/No Action				Proposed Action				Difference Between No Build/No Action and Proposed Action			
	Square Miles	Housing Units	Population	NSF	Square Miles	Housing Units	Population	NSF	Square Miles	Housing Units	Population	NSF
65-70	2.2	1,900	5,123	5	The Proposed Action was not evaluated for the Existing (2013) Condition.							
70-75	0.8	12	86	0								
75+	0.6	0	0	0								
Total	3.5	1,912	5,209	5								

FUTURE (2021) CONDITION

DNL	No Build/No Action				Proposed Action				Difference Between No Build/No Action and Proposed Action			
	Square Miles	Housing Units	Population	NSF	Square Miles	Housing Units	Population	NSF	Square Miles	Housing Units	Population	NSF
65-70	2.4	2,894	7,924	12	2.4	2,894	7,924	12	No difference is expected to occur under the Proposed Action in 2021.			
70-75	0.8	51	221	0	0.8	51	221	0				
75+	0.6	0	0	0	0.6	0	0	0				
Total	3.8	2,945	8,145	12	3.8	2,945	8,145	12				

FUTURE (2030) CONDITION

DNL	No Build/No Action				Proposed Action				Difference Between No Build/No Action and Proposed Action			
	Square Miles	Housing Units	Population	NSF	Square Miles	Housing Units	Population	NSF	Square Miles	Housing Units	Population	NSF
65-70	2.4	2,637	7,236	11	2.6	3,383	9,165	12	0.2	745	1,928	1
70-75	0.8	44	203	0	0.9	62	280	0	0.1	18	77	0
75+	0.6	0	0	0	0.6	0	0	0	0.1	0	0	0
Total	3.8	2,681	7,440	11	4.1	3,445	9,445	12	0.3	763	2,005	1

Notes: Totals/differences may not equal sum due to rounding.
NSF = Noise-Sensitive Facilities (schools, churches, libraries, hospitals, nursing homes)

Sources: U.S. Census Bureau, 2010 Census Data; New York City Department of City Planning; ESRI; Landrum & Brown, 2013.

Table 9
NOISE-SENSITIVE FACILITIES
LaGuardia Airport

FACILITY NAME	MAP ID	FACILITY TYPE	NOISE CONTOUR BAND			
			EXISTING (2012/13) BASELINE	FUTURE (2021) NO ACTION / PROPOSED ACTION	FUTURE (2030) NO BUILD/NO ACTION	FUTURE (2030) PROPOSED ACTION
Monsignor McClancy Memorial High School	S-1	School	Outside 65 DNL	Outside 65 DNL	Outside 65 DNL	Outside 65 DNL
Our Lady of Fatima School	S-2	School	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
Independence Residences, Inc.	N-1	Nursing Home	Outside 65 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
New York Foundling Hospital	N-2	Nursing Home	Outside 65 DNL	Inside 65-70 DNL	Outside 65 DNL	Inside 65-70 DNL
Waterview Nursing Care Center	N-3	Nursing Home	Outside 65 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
Woodcrest Rehabilitation & Residential Health Care Center., LLC	N-4	Nursing Home	Outside 65 DNL	Outside 65 DNL	Outside 65 DNL	Outside 65 DNL
Calvary Church Of NY	C-1	Church	Outside 65 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
Chinese Christian Herald Crusaders	C-2	Church	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
Ebenezer Baptist Church	C-3	Church	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
Korean Church of Queens	C-4	Church	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
New York Philadelphia Presbyterian Church	C-5	Church	Outside 65 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
Our Lady of Fatima Church	C-6	Church	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
Queens Baptist Church	C-7	Church	Outside 65 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL
Saint George's Episcopal Church	C-8	Church	Outside 65 DNL	Inside 65-70 DNL	Inside 65-70 DNL	Inside 65-70 DNL

Sources: New York City Department of City Planning, ESRI, Landrum & Brown, 2013.

6. ENVIRONMENTAL JUSTICE

The Proposed Action would result in an increase to the number of noise-sensitive land uses located within the 65 DNL noise contour (see Table 9); however, there would not be a 1.5 dB increase within the 65 DNL over noise-sensitive land uses (see Section 5). The incremental increase in the noise level, deemed by FAA guidance as below the 1.5 dB threshold of significance, would be nearly evenly distributed beyond each runway end based on established runway use percentages, which would not change with or without the Proposed Action.

Further analysis shows that within the 65+ DNL noise contour of the 2030 No Action Alternative, approximately 87 percent of the population is minority. Similarly, in the 2030 Proposed Action approximately 87 percent of the population within the 65+ DNL noise contour would be minority. **Table 10** summarizes the percentage of minority population within the 65+ DNL for the Proposed Action and No Action alternatives in both 2021 and 2030. Therefore, as demonstrated, the Proposed Action would not disproportionately impact any minority populations.

Table 10
NOISE IMPACTS TO MINORITY POPULATION HOUSEHOLDS IN 2021 AND 2030
LaGuardia Airport

ALTERNATIVE	TOTAL POPULATION	MINORITY POPULATION	PERCENT MINORITY
2021			
No Build/No Action - 65 DNL	7,924	6,951	88%
Proposed Action - 65 DNL	7,924	6,951	88%
2030			
No Build/No Action - 65 DNL	7,236	6,318	87%
Proposed Action - 65 DNL	9,165	8,000	87%

Source: U.S. Census Bureau, Landrum & Brown analysis.

According to 2010 U.S. Census data, the median household income for the area located in the 2030 No Build/No Action 65 DNL noise contour is approximately $45,700 per year.[3] The low-income poverty threshold, as established by the U.S. Census Bureau for a one-person household in 2012, is $11,945. A household containing four persons would be considered below the poverty level, by the U.S. Census Bureau in 2012, if their household income were less than $23,681. Therefore, no further income analysis will be conducted because the area within the 65+ DNL noise contour of the 2030 No Action Alternative is not identified as a low-income community.

[3] Source: U.S. Census Bureau, *2011 American Community Survey 1-Year Estimates*, computed weighted average of the median household income of Bronx County, and Queens County, New York.

7. NOISE EXPOSURE AT POTENTIAL SECTION 4(F) RESOURCES

Section 4(f) of the *Department of Transportation Act of 1966* (DOT Act), which was recodified and renumbered as section 303(c) of 49 U.S.C., provides that "...the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land from an historic site of national, state, or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use." FAA Order 1050.1E, Change 1; FAA Order 5050.4B and this EA continue to refer to Section 4(f) because it would create needless confusion to do otherwise since the policies under 4(f) are widely referred to as "section 4(f)" matters.

The Proposed Action being considered in this EA would not cause a physical taking of Section 4(f) resources or direct use of Section 4(f) resources. However, in accordance with FAA Order 1050.1E and FAA Order 5050.4B, constructive use is evaluated by determining if the impacts would substantially impair a Section 4(f) resource. If there would be no substantial impairment to the 4(f) resource, the action would not constitute a constructive use and would not invoke Section 4(f) of the DOT Act. Substantial impairment occurs only when the features of the resource that contribute to its significance or enjoyment are substantially diminished. The FAA's Land Use Compatibility Guidelines[4] indicate that most recreational uses are compatible with noise levels up to 75 DNL. For this analysis, a resource would be considered substantially impaired if the Proposed Action would result in the resource receiving noise levels that are considered incompatible according to FAA's Part 150 guidelines.

The Noise analysis prepared in this EA indicates that there are 11 potential Section 4(f) resources that are located within 65+ DNL of the Proposed Action noise contour in 2030. Of the resources in the area, three (Main Street Subway Station, Castle Hill Park, and the James A. Bland House Playground) are located in an area where change in noise levels would occur from the Proposed Action. See **Table 11** for a list of the resources and the noise levels.

The Main Street Subway Station at Main Street and Roosevelt Avenue in Flushing, Queens, is listed on the National Register of Historic Places. This site would go from being located outside the 65+ DNL of the 2030 No Build/No Action noise exposure contour to being located within the 65-70 DNL of the 2030 Proposed Action Noise Exposure Contour; however the increase in noise would be less than 1.5 DNL. Main Street Subway Station is not a noise-sensitive use and a quiet setting is not a unique feature attribute of the resource. Therefore no adverse impacts with respect to noise would result from the Proposed Action.

[4] FAA Land Use Compatibility Guidelines, 14 CFR Part 150.

The Castle Hill Park is located in the Bronx on Castle Hill Point between Westchester Creek to the east and Pugsley Creek to the west. The park includes greenspace and bike trails. This site would go from being located outside the 65+ DNL of the 2030 No Build/No Action noise exposure contour to being located within the 65-70 DNL of the 2030 Proposed Action Noise Exposure Contour; however the increase in noise would be less than 1.5 DNL. All of the uses at the park are considered compatible with noise levels between 65-70 DNL. Therefore no adverse (constructive use) impacts with respect to noise would result from the Proposed Action.

The James A. Bland House Playground includes basketball courts, playground equipment, and handball courts. The park was named after a historic writer and there is a historical plaque there in his honor, but the park itself is not considered historic. This site would go from being located outside the 65+ DNL of the 2030 No Build/No Action noise exposure contour to being located within the 65-70 DNL of the 2030 Proposed Action Noise Exposure Contour; however the increase in noise would be less than 1.5 DNL. All of the uses at the park are considered compatible with noise levels between 65-70 DNL. Therefore no adverse impacts with respect to noise would result from the Proposed Action.

Table 11
SUMMARY OF NOISE EXPOSURE AT POTENTIAL SECTION 4(F) RESOURCES
LaGuardia Airport

RESOURCE NAME	EXISTING (2012/13) BASELINE	2021 NO ACTION/ PROPOSED ACTION	2030 NO BUILD/NO ACTION	2030 PROPOSED ACTION
Historic Properties				
Jackson Heights Historic District	Below 65 DNL	65-70 DNL	65-70 DNL	65-70 DNL
Main Street Subway Station	Below 65 DNL	65-70 DNL	***Below 65 DNL***	***65-70 DNL***
Marine Air Terminal	65-70 DNL	65-70 DNL	65-70 DNL	65-70 DNL
St. George's Church	Below 65 DNL	65-70 DNL	65-70 DNL	65-70 DNL
Parks / Recreational Facilities				
Castle Hill Park	Below 65 DNL	65-70 DNL	***Below 65 DNL***	***65-70 DNL***
Flushing Meadows/Corona Park	65-70 DNL	70-75 DNL	70-75 DNL	70-75 DNL
Grand Central Parkway	75+ DNL	75+ DNL	75+ DNL	75+ DNL
James A Bland Houses Playground	Below 65 DNL	65-70 DNL	***Below 65 DNL***	***65-70 DNL***
LaGuardia Landing Lights Park	70-75 DNL	70-75 DNL	70-75 DNL	70-75 DNL
Planeview Park	75+ DNL	75+ DNL	75+ DNL	75+ DNL
Pugsley Creek Park	65-70 DNL	65-70 DNL	65-70 DNL	65-70 DNL
Soundview Park	65-70 DNL	65-70 DNL	65-70 DNL	65-70 DNL

Sources: National Park Service, National Register of Historic Places; New York City Department of Parks & Recreation; Landrum & Brown analysis, 2014.

8. CONCLUSION

The Proposed Action would not significantly change noise exposure over noise sensitive land uses in the vicinity of the Airport. The results of the preceding analysis indicate that the levels of noise change associated with the 2021 and 2030 Proposed Action would be below FAA's threshold of significance of a 1.5 dB DNL increase over a noise sensitive land use within the 65 DNL level. In fact, the 1.5 dB DNL change area within the DNL 65 dB noise exposure contour would be entirely contained over Airport property. No Section 4(f) properties would be directly impacted by the Proposed Action, nor would any Section 4(f) properties experience a constructive use due to a noise increase above the applicable threshold of significance. Therefore, no significant noise impacts would occur as a result of the Proposed Action.

Areas which would experience an increase in noise of less than 1.5 dB would occur within the 65 DNL and these areas do include minority populations; however, these minority populations would not be disproportionately impacted. Furthermore, there are no concentrations of any low-income population that would be disproportionately impacted.

ATTACHMENT 2: Supporting Documentation

Table E2-1: Database of Equipment Noise Emissions and Usage Factors

Equipment	Use Factor (%)	L_{max} at 50ft (dBA)
All Other Equipment > 5 HP	50	85
Auger Drill Rig	20	85
Backhoe	40	80
Bar Bender	20	80
Blasting	-- N/A –	94
Boring Jack Power Unit	50	83
Chain Saw	20	85
Clam Shovel (dropping)	20	93
Compactor (ground)	20	83
Compressor (air)	40	80
Concrete Batch Plant	15	83
Concrete Mixer Truck	40	85
Concrete Pump Truck	20	82
Concrete Saw	20	90
Crane	16	85
Dozer	40	85
Drill Rig Truck	20	84
Drum Mixer	50	80
Dump Truck	40	84
Excavator	40	85
Flat Bed Truck	40	84
Front End Loader	40	80
Generator	50	82
Generator (<25KVA, VMS signs)	50	73
Gradall	40	85
Grader	40	85
Grapple (on backhoe)	40	87
Horizontal Boring Hydraulic Jack	25	82
Hydra Break Ram	10	90
Impact Pile Driver	20	101
Jackhammer	20	89
Man Lift	20	85
Mounted Impact Hammer (hoe ram)	20	90
Pavement Scarafier	20	90
Paver	50	85
Pickup Truck	40	75
Pneumatic Tools	50	85
Pumps	50	81
Refrigerator Unit	100	82

Table E2-1: Database of Equipment Noise Emissions and Usage Factors (continued)

Equipment	Use Factor (%)	L_{max} at 50ft (dBA)
Rivet Buster/chipping gun	20	85
Rock Drill	20	85
Roller	20	85
Sand Blasting (Single Nozzle)	20	96
Scraper	40	85
Shears (on backhoe)	40	96
Slurry Plant	100	78
Slurry Trenching Machine	50	82
Soil Mix Drill Rig	50	80
Tractor	40	84
Vacuum Excavator (Vac-truck)	40	85
Vacuum Street Sweeper	10	82
Ventilation Fan	100	85
Vibrating Hopper	50	87
Vibratory Concrete Mixer	20	80
Vibratory Pile Driver	20	101
Warning Horn	5	85
Welder / Torch	40	74

Source: FHWA Roadway Construction Noise Model User's Guide. January 2006.

Table E2-2: Construction Equipment Inventory Database

Type of Equipment	Hourly Maximum per Year							
	Construction Year							
	2014	2015	2016	2017	2018	2019	2020	2021
Aircraft Apron								
Asphalt paver, 130 HP	0	1	0	1	1	1	1	1
Dozer, 300 HP	0	1	0	1	1	1	1	1
Front end loader, 1.5 cy, crl	0	1	0	1	1	1	1	1
Grader, 30,000 lb	0	1	0	1	1	1	1	1
Paving machinery & equipment	0	1	0	1	1	1	1	1
Pneumatic wheel roller	0	1	0	1	1	1	1	1
Roller, vibratory	0	1	0	1	1	1	1	1
Tandem roller, 10 ton	0	1	0	1	1	1	1	1
Tractor truck, 240 HP	0	1	0	1	1	1	1	1
Water tank truck, 5000 gal	0	1	0	1	1	1	1	1
CTB Foundations								
Concrete pump, small	0	1	1	1	0	0	0	0
Crane, 90-ton	0	3	3	3	0	0	0	0
Diesel hammer, 41k ft-lb	0	3	3	3	0	0	0	0
Gas engine vibrator	0	2	2	2	0	0	0	0
Hydraulic excavator, 3.5 cy	0	1	1	1	0	0	0	0
CHRP Foundations								
Concrete pump, small	0	1	1	1	0	0	0	0
Crane, 90-ton	0	1	1	1	0	0	0	0
Diesel hammer, 41k ft-lb	0	1	1	1	0	0	0	0
Gas engine vibrator	0	1	1	1	0	0	0	0
Hydraulic excavator, 3.5 cy	0	1	1	1	0	0	0	0
West Garage Foundations								
Concrete pump, small	1	0	0	0	0	0	0	0
Crane, 90-ton	3	0	0	0	0	0	0	0
Diesel hammer, 41k ft-lb	3	0	0	0	0	0	0	0
Gas engine vibrator	2	0	0	0	0	0	0	0
Hydraulic excavator, 3.5 cy	1	0	0	0	0	0	0	0
CTB Structure								
Compressor, 160 cfm	0	2	3	3	2	2	0	3
Concrete pump, small	0	1	1	1	1	1	0	1
Crane, 90-ton	0	2	3	3	2	2	0	3

Table E2-2: Construction Equipment Inventory Database (continued)

Type of Equipment	Hourly Maximum per Year							
	Construction Year							
	2014	2015	2016	2017	2018	2019	2020	2021
CTB Structure (continued)								
Gas engine vibrator	0	1	1	1	1	1	0	1
Gas welding machine	0	3	5	5	3	3	0	5
CHRP Structure								
Compressor, 160 cfm	0	0	0	0	1	1	0	0
Concrete pump, small	0	0	0	0	1	1	0	0
Crane, 90-ton	0	0	0	0	1	1	0	0
Gas engine vibrator	0	0	0	0	1	1	0	0
Gas welding machine	0	0	0	0	1	1	0	0
West Garage Structure								
Compressor, 160 cfm	0	5	0	0	0	0	0	0
Concrete pump, small	0	4	0	0	0	0	0	0
Crane, 90-ton	0	5	0	0	0	0	0	0
Gas engine vibrator	0	1	0	0	0	0	0	0
Gas welding machine	0	9	0	0	0	0	0	0
Demolition								
Crane, hydraulic, 33 ton	0	0	0	1	0	1	1	1
Front end loader, TM, 2.5cy	0	0	0	1	0	1	1	1
Elevated Roadways								
Compressor, 160 cfm	2	6	6	6	3	2	0	0
Concrete pump, small	1	1	1	1	1	1	0	0
Crane, 90-ton	2	6	6	6	3	2	0	0
Diesel hammer, 41k ft-lb	1	1	1	1	1	1	0	0
Gas engine vibrator	1	1	1	1	1	1	0	0
Gas welding machine	2	7	7	7	4	2	0	0
Hydraulic excavator, 3.5 cy	1	1	1	1	1	1	0	0
At-Grade Roadways								
Asphalt paver, 130 HP	1	1	1	1	0	0	1	0
Dozer, 300 HP	1	1	1	1	0	0	1	0
Front end loader, 1.5 cy, crl	1	1	1	1	0	0	1	0
Grader, 30,000 lb	1	1	1	1	0	0	1	0
Hydraulic excavator, 3.5 cy	1	1	1	1	0	0	1	0
Pneumatic wheel roller	1	1	1	1	0	0	1	0
Roller, vibratory	1	1	1	1	0	0	1	0
Tandem roller, 10 ton	1	1	1	1	0	0	1	0

Table E2-2: Construction Equipment Inventory Database (continued)

Type of Equipment	Hourly Maximum per Year							
	Construction Year							
	2014	2015	2016	2017	2018	2019	2020	2021
At-Grade Roadways (continued)								
Tractor truck, 240 HP	1	1	1	1	0	0	1	0
Water tank truck, 5000 gal	1	1	1	1	0	0	1	0

Source: Calculations by AECOM (Rob Forstner, December 28, 2012).

Appendix F.
Supporting Data

APO TAF Quick Data Summary Report - Facility

For National Forecast 2011 -- 2011 Scenario

Region State: AEA-NY
City: NEW YORK

LOCID: LGA Limited Radar Towers
Airport: LA GUARDIA

2010 Based Aircraft: 0

	-- ENPLANEMENTS --			-- AIRPORT OPERATIONS --									-- TRACON --
				-- Itinerant Operations --					-- Local Operations --				
Fiscal Year	Air Carrier	Commuter	Total	Air Carrier	AT & Comm	GA	Military	Total	Civil	Military	Total	Total OPS	Total OPS
2007	10,121,081	2,543,036	12,664,117	201,374	188,975	10,700	361	401,410	0	0	0	401,410	-
2008	9,387,115	2,476,803	11,863,918	205,348	175,691	9,200	289	390,528	0	0	0	390,528	-
2009	8,374,506	2,560,504	10,935,010	196,122	155,621	6,928	324	358,995	0	0	0	358,995	-
2010	8,803,513	2,997,799	11,801,312	209,318	147,957	7,028	349	364,652	0	0	0	364,652	-
2011 *	9,001,862	3,153,684	12,155,546	242,305	121,170	6,401	311	370,187	0	0	0	370,187	-
2012 *	9,377,710	3,308,214	12,685,924	247,327	123,110	5,989	311	376,737	0	0	0	376,737	-
2013 *	9,596,960	3,354,528	12,951,488	251,575	123,138	5,989	311	381,013	0	0	0	381,013	-
2014 *	9,718,287	3,364,591	13,082,878	253,034	121,765	5,989	311	381,099	0	0	0	381,099	-
2015 *	9,850,889	3,378,049	13,228,938	254,701	120,498	5,989	311	381,499	0	0	0	381,499	-
2016 *	10,091,200	3,428,719	13,519,919	259,332	120,627	5,989	311	386,259	0	0	0	386,259	-
2017 *	10,182,522	3,483,578	13,666,100	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2018 *	10,244,633	3,532,348	13,776,981	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2019 *	10,307,125	3,581,801	13,888,926	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2020 *	10,370,000	3,631,946	14,001,946	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2021 *	10,433,260	3,682,793	14,116,053	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2022 *	10,496,908	3,734,352	14,231,260	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2023 *	10,560,948	3,786,633	14,347,581	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2024 *	10,625,380	3,839,646	14,465,026	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2025 *	10,690,206	3,893,401	14,583,607	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2026 *	10,755,431	3,947,909	14,703,340	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2027 *	10,821,056	4,003,180	14,824,236	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2028 *	10,887,084	4,059,225	14,946,309	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2029 *	10,953,515	4,116,054	15,069,569	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2030 *	11,020,355	4,173,679	15,194,034	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2031 *	11,087,604	4,232,111	15,319,715	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2032 *	11,155,266	4,291,361	15,446,627	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2033 *	11,223,343	4,351,440	15,574,783	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2034 *	11,291,838	4,412,360	15,704,198	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2035 *	11,360,753	4,474,133	15,834,886	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2036 *	11,430,091	4,536,771	15,966,862	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2037 *	11,499,854	4,600,286	16,100,140	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2038 *	11,570,045	4,664,690	16,234,735	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2039 *	11,640,667	4,729,996	16,370,663	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
2040 *	11,711,722	4,796,216	16,507,938	259,904	120,893	5,989	311	387,097	0	0	0	387,097	-
GR1	0.95	1.57	1.12	0.72	-0.67	-0.53	-0.38	0.19	0.00	0.00	0.00	0.19	0.00
GR2	0.91	1.45	1.06	0.24	-0.00	-0.22	0.00	0.15	0.00	0.00	0.00	0.15	0.00

Table 1
New York LaGuardia Airport

Forecasts of Design Day and Annual Commercial Aircraft Operations

Aircraft Type	Seating Capacity	34 MAP Activity Level		30 MAP Activity Level	
		Design Day Operations	Design Day Seats	Design Day Operations	Design Day Seats
B767-300	240	76	18,240	48	11,520
B757-200	186	-	-	38	7,068
A321	183	40	7,320	40	7,320
B737-900	180	136	24,480	102	18,360
B737-800	154	114	17,556	72	11,088
A320	150	110	16,500	90	13,500
MD80/83/88	140	-	-	-	-
B737-700	135	94	12,690	60	8,100
A319	131	112	14,672	124	16,244
B717-200	117	-	-	-	-
B737-500	114	-	-	-	-
ERJ-190	97	72	6,984	70	6,790
CRJ-900	77	42	3,234	40	3,080
ERJ175	76	168	12,768	168	12,768
ERJ170	73	-	-	-	-
CRJ-700	67	28	1,876	30	2,010
Q400	63	142	8,946	142	8,946
Q300	50	36	1,800	36	1,800
Q200	37	-	-	-	-
Saab 340	34	-	-	-	-
CRJ/ERJ	50	-	-	110	5,500
ERJ145	50	-	-	-	-
ERJ140	44	-	-	-	-
ERJ135	37	-	-	-	-
		1,170	147,066	1,170	134,094
Design Day to Annual Ratio	299.4				
Annual Commercial Aircraft/Seats		350,298	44,032,000	350,298	40,148,000
Load Factor			77.2%		75.0%
Annual Passengers			34,000,000		30,111,000

Source: Landrum & Brown Analysis
December, 2012

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Memorandum

To	Fang Yang	Page	1
CC			
Subject	LaGuardia CTB EA Construction Estimate		
From	Robert Forstner		
Date	September 19, 2012 [Initial Issue] December 27, 2012 [Version 6]		

A construction estimate to identify construction vehicle traffic related to the LaGuardia Airport Central Terminal Building (CTB) Redevelopment Program has been completed. This memo documents the assumptions made in developing the list of major construction items, and delivery traffic necessary to supply the construction. Major items (in particular, steel and concrete, which are expected to constitute the bulk of material deliveries) are estimated based on some basic design information provided the "Alternative Concept Development" (Step 2) document dated September 30, 2010. In lieu of a detailed, site-specific estimate, deliveries associated with other construction activities are estimated based on prototype buildings previously estimated for other projects, and focus mainly on interior finishes and building systems installation. Equipment, material and manpower estimates for these items are included in the attached spreadsheet; this memo serves to document calculations and assumptions made in the development of the estimates. All estimates are based on the assumption that Alternative C (Pier Configuration) is the preferred alternative.

Where appropriate, estimates as to construction crew (trade workers only) and equipment requirements and productivity are based on data presented in

- "2003 RSMeans Facilities Construction Cost Data", R.S. Means Co., Inc., 2002
- "2011 RSMeans Facilities Construction Cost Data", R.S. Means Co., Inc., 2010

For delivery traffic estimates based on gross material requirements, the following assumptions have been made to convert material quantities to truck trips:

- Concrete – Assumes an average net load of 12 CY per truck (14 CY standard sized truck, reduced to 12 CY to allow for losses, short loads and rejected loads)
- Structural and pile steel – Assumes an average net load of 20 tons per truck (40 ton total limit operable over city streets, less typical tare weight of the tractor and trailer (10 and 3 tons respectively), and a further allowance of 7 tons for incomplete or short loads as structural steel loadings will be limited by the pieces required on a given day, preventing optimal (i.e., full) loads).
- Miscellaneous Loads – Assumes an average net load of 24 tons per truck (same truck type as for structural steel, but more optimal loading possible due to smaller per-piece weight of reinforcing and decking steel, and other non-structural steel items to be delivered).

- Debris removal and aggregate/fill delivery (including asphalt) – Assumes an average net load of 22 tons per truck (32 ton gross weight typical for dump trucks, less 10 tons for tare weight); for typical aggregate weight of 125 lbs/CF, average volume per load is 13 CY.

The following sections identify the primary elements of the construction, which are then each phased as reasonably possible according to the draft schedule provided in the Concept Development document and additional schedule data that has been developed separately (dated November 26, 2012). The schedule detail is estimated to the nearest month for these calculations, assuming month 1 is January 2014.

Aircraft Apron Pavement

A total of 407,580 SY of aircraft apron, aircraft taxilane and vehicle service road (VSR) pavement is required. The design pavement sections calls for 18 inches of Portland Cement Concrete (PCC), 8 inches of bituminous base course, 12 inches of crushed aggregate base course and 12 inches of compacted sub-grade. The total excavation is equal to the proposed pavement section; however, it is assumed that half of the excavated material will be recycled on-site. This volume eliminates the need to import any fill for the compacted sub-grade. Total volumes and corresponding delivery volumes are as follows, based on the typical section:

- 18 inches of Portland Cement Concrete (PCC) – 203,790 CY or 16,983 concrete trucks
- 8 inches of bituminous base course – 187,486.7 tons or 6,967 dump trucks
- 12 inches of crushed aggregate base course – 135,860 CY or 10,451 dump trucks
- 12 inches of compacted sub-grade – 135,860 CY; no dump trucks are associated with material import due to recycling of excavated material
- Hauling of excavated material (half of 566,083 CY) is 283,042 CY, or 21,772 trucks
- Apron pavement phased evenly from months 15 through 25, 34 through 36, 49 through 53, 55 through 57, 59 through 61, 63 through 69, and 89 through 92
- A remaining quantity of 147,182 CY of excavated material is available for reuse as backfill as needed across the site, and is not exported. Although not specifically accounted for elsewhere in this estimate, it is assumed that incidental needs for backfill or compacted sub-grade at other on-airport sites (CTB, garages, etc.) will be sufficient to accommodate all of this material.

Existing Structure Demolition

RS Means demolition productivity rate for a mixed steel/concrete building is 20,100 CF per day using 2 dump trucks and a 20-mile haul. It is assumed that a 10-mile haul without any increase in productivity due to regional traffic conditions is a more realistic estimate for this project, and that 8 operating hours per truck reflects an average of 4 round trips per day. Based on construction estimates, the existing CTB has a total building volume of 13,943,958 CF. The existing parking garage is approximately 470 ft by 500 ft and has four levels; assuming a net height of 60 feet, total building volume is 14,100,000 CF, Hangars 2 & 4 have a total building volume is 10,269,000 CF, and Hangar 1 has a a total building volume of 2,077,279 CF. Therefore, truck traffic associated with building demolition is as follows:

- CTB Demolition – 694 crew days equals 11,104 dump truck operating hours, or 5,552 trips; phase 40 percent of CTB demolition evenly from months 16 through 18, 34 through 39, 53 through 56, 58 through 67, 76 through 78, and 86 through 92.

- Garage Demolition – 702 crew days equals 11,232 dump truck operating hours, or 5,616 trips; phase Garage Demolition evenly across months 15 to 21.
- Hangars 2 & 4 demolition – 511 crew days equals 8,176 dump truck operating hours, or 4,088 trips; phase Hangars 2 & 4 demolition evenly across months 3 through 6.
- Hangar 1 demolition – 104 crew days equals 1,664 dump truck operating hours, or 832 trips; phase Hangar 1 demolition evenly across months 63 through 66

New Foundations

The "Step 2" document does not discuss foundation design specifics; however, subsequent engineering design estimates do specify that pile foundations will be utilized and provide rough quantities of foundation elements (including number of piles and foundation-related excavation). For estimating purposes, it is assumed that 150-ft long 12.75-in concrete-filled steel piles are used. It is further assumed that the pile steel weighs approximately 30 lbs/LF and that each pile requires 49 CF (1.8 CY) of concrete, plus 40 LF of 4' x 3' grade beams per pile with 100 lbs of rebar per LF of grade beam (i.e., 17.8 CY of grade beam and 2 tons of rebar per pile). It is assumed that of all materials excavated for foundation construction, half will be retained for use as backfill on the site and half will be exported for disposal.

- For the CTB, 4,272 piles are required.
  - Total weight of pile steel is 9,612 tons, so 481 trucks for pile steel delivery
  - Total weight of rebar is 8,544 tons, so 356 trucks for rebar delivery
  - Total pile concrete volume is 7,690 CY and grade beam concrete is 76,042 CY, so 6,978 trucks for pile concrete delivery
  - Total volume of excavation is 76,042 CY, of which half (38,021 CY) will be exported, so 2,925 trucks for fill export
  - Phase all terminal foundation work evenly across months 15 through 42.
- For the East Garage, 652 piles are required. While described in the "Step 2" document as a single integral structure including the garage itself as well as the Central Heating and Refrigeration Plant (CHRP) and East End Substation, the estimate of 652 piles addresses only the East Garage itself; based on total plan area, it is assumed that the CHRP requires half again as many piles as the East Garage by itself.
  - Total weight of pile steel is 1,467 tons for the garage (74 trucks) and 734 tons (37 trucks) for CHRP pile steel.
  - Total weight of rebar is 1,304 tons for the garage (66 trucks) and 652 tons (33 trucks) for CHRP foundation rebar.
  - Total pile concrete volume is 1,174 CY and grade beam concrete is 11,606 CY (12,780 CY total), for the garage, so 587 CY for piles and 5,803 CY for grade beams (6,390 CY total) for the CHRP; truck totals are 1,065 for the garage and 533 for CHRP foundation concrete.
  - Total volume of excavation is 11,606 CY for the garage and 5,803 CY for the CHRP; assuming on-site reuse of half of this material for backfill, net export volumes are 5,803 CY (447 trucks) and 2,902 CY (224 trucks) for soil export.
  - Phase East Garage foundation work over months -13 to -3 (prior to the intitiation of CTB Redevelopment Program construction) and CHRP foundation work over months 22 through 31.
- For the West Garage, 1,200 piles are required
  - Total weight pile steel is 2,700 tons, so 135 trucks for pile steel delivery

- Total weight of rebar is 2,400 tons, so 100 trucks for rebar delivery
- Total pile concrete volume is 2,169 CY and grade beam concrete is 21,360 CY, so 1,961 trucks for pile concrete delivery
- Total volume of excavation is 21,360 CY, of which half (10,680 CY) will be exported, so 822 trucks for fill export
- Phase all west garage foundation work evenly across months 7 through 11.

New Buildings – Gross Material Requirements

- Structural Steel – Based on information provided in the Concept Development document, building steel weight is approximately 33.5 lbs/SF of floor area on average in the headhouse areas, 13 lbs/SF on average in the concourse areas, and 14 lb/SF in the garages. A precise breakdown of areas is not provided, but by inspection of schematic drawings the breakdown of areas appears to be approximately 60% to headhouse and 40% to concourses. The total building floor area is 1,412,700 SF.
  - Headhouse steel – 847,620 SF x 33.5 lbs/SF = 14,198 tons or 710 trucks
  - Concourse steel – 565,080 SF x 13 lbs/SF = 3,673 tons or 184 trucks
  - East parking garage steel – Total deck area is 165,000 SF x 6 levels = 990,000 SF x 14 lbs/SF = 6,930 tons or 347 trucks – 278 trucks for garage and 69 for CHRP.
  - West parking garage steel – Total deck area is 208,000 SF x 8 levels = 1,664,000 SF x 14 lbs/SF = 11,648 tons or 583 trucks
- Steel decking – Based on total building areas excluding level 1 (expected to be slab on grade), weights (assuming 3 lbs/SF of decking) are as follows:
  - Terminal building – [619,200 SF (Level 2) + 245,200 SF (Level 3)] = 864,400 SF x 3 lbs/SF = 1,297 tons. Add 619,200 SF for overall roofing enclosure (equal to building footprint), so 929 tons. Total decking weight is 2,226 tons or 93 trucks
  - East parking garage – 990,000 x 3 lbs/SF = 1,485 tons or 62 trucks – 50 trucks for garage and 12 for CHRP.
  - West parking garage – 1,664,000 x 3 lbs/SF = 2,496 tons or 104 trucks
- Concrete – Based on information provided in the Concept Development document, concrete floor slabs in buildings will be 8.5 thick for elevated slabs. No slab thickness for garages specified, but assume 10 inches for estimate purposes. Level 1 slab thickness either in building or garages not specified, and is assumed to be a 15-inch slab on grade.
  - Terminal building – 548,300 SF x 15 in. = 25,384 CY (Level 1) + 864,400 SF x 8.5 in. (Levels 2 and 3) = 22,677 CY, for a total of 48,061 CY, or 4,006 concrete trucks.
  - East parking garage – 990,000 SF for elevated slabs (see above for total quantity) x 10 in. = 30,556 CY plus 165,000 SF (Level 1) x 15 in. = 7,639 CY for a total of 38,195 CY or 3,183 concrete trucks – 2,546 for garage and 637 for CHRP.
  - West parking garage – 1,664,000 SF for elevated slabs (see above for total quantity) x 10 in. = 51,358 CY plus 208,000 SF (Level 1) x 15 in. = 9,630 CY for a total of 60,988 CY or 5,083 concrete trucks.
- Concrete reinforcement – Assume on average there are 8 LF of #8 rebar for every square foot concrete slab, or 21.36 lb/SF.
  - Terminal building – 1,412,700 SF x 21.36 lb/SF = 15,088 tons of rebar, so 629 rebar trucks
  - East parking garage = 1,155,000 SF x 21.36 lb/SF = 12,335 tons, so 514 rebar trucks – 411 for garage and 103 for CHRP.

  - West parking garage = 1,872,000 SF x 21.36 lb/SF = 19,993 tons, so 834 rebar trucks
- Phase new east garage gross material deliveries evenly across months 0 through 13.
- Phase new west garage gross material deliveries evenly across months 11 through 27.
- Phase new CTB gross material deliveries evenly across months 15 through 57 and 62 through 77; intensity varies, as depicted in detailed schedule.

New Buildings – Enclosures and Finishes

For the purposes of estimating delivery truck traffic for delivery of building enclosure materials (other than roofing, included above) and interior finishes (e.g., drywall, studs, flooring, mechanical systems, etc.), and construction equipment requirements for installation of same, an estimate has been developed by scaling from typical prototype buildings used in previous estimates for other buildings, and are itemized in the attached spreadsheet. The total number of truck deliveries is estimated at 17,282. Interior finish items should be phased evenly on a monthly basis across months 29 through 56 and 67 through 86.

Elevated Roadway Construction

For the purposes of estimating material deliveries and equipment usage requirements for the construction of elevated roadways, it is assumed that a traditional concrete and corrugated steel decking on steel girder construction is employed, and that this design is "repeatable," allowing for any net length or width of elevated roadway that is required to be constructed.

On average, elevated roadways are to be framed assuming 20-ft clear spans in all directions, with 6-ft deep header beams across the roadway width, 3-ft deep girders on 5-ft centers spanning between headers, and 2-ft deep stringers on 5-ft centers spanning between girders. The concrete wearing surface of the elevated roadways is provided by a 7-inch thick (on average, to account for decking ribbing) concrete slab on steel decking, which lies directly upon the framing system. The header beams are supported by two concrete-encased steel columns with a height of 20 feet, with steel columns encased in a 3-ft diameter concrete column. The columns in turn rest upon a pile cap spanning across the full 20-ft width of the header beam, with dimensions of 3-ft by 5-ft.

Therefore, each repeatable 20-ft length of 20-ft wide roadway includes one 20-ft header, five 20-ft girders (100 ft total), four rows of 5-ft long stringers in the four spans between girders (80 ft total) and two 20-ft long columns (40 ft total). Assuming weights of steel per linear foot are 500 lb/ft for header beams, 220 lb/ft for girders, 100 lb/ft for stringers and 425 lb/ft for columns, the total weight of framing steel is 28 tons per span. The total volume of concrete is 10.5 CY for column encasement and 9 CY for the roadway, or 19.5 CY per segment. The weight of steel decking, at 3 lbs/sf, is 0.6 tons per segment. The 20-ft long, 3-ft x 5-ft grade beam per pile requires 100 lbs of rebar per LF of grade beam (i.e., 11.1 CY of grade beam and 1 ton of rebar per segment), plus an equivalent volume of excavated soil/fill removed from the site for export.

Assuming a working dead plus live load of 700 psf of roadway surface, the net load to be supported by each pile cap is 140 tons; assuming 60-ft piles with a working capacity of 20 tons each are used, 7 piles per cap are required. It is further assumed that the pile steel weighs approximately 30 lbs/LF

and that each pile requires 49 CF (1.8 CY) of concrete. Therefore, the total weight of pile steel is 6.3 tons per segment, and the volume of pile concrete is 12.6 CY per segment.

Per the construction estimate, the total square footage of elevated roadway is 457,960 SF (inclusive of service and CTB frontage roads). In addition, 46,822 SF of off-property elevated access roadway to and from the Grand Central Parkway is to be constructed, bringing the total roadway area to 442,200 SF. Each repeatable segment is 400 SF; therefore, all quantities are to be multiplied by 1,106 to obtain the final total material quantities for the entire project.

- Structural Steel – 34.3 tons per segment (28 tons above grade plus 6.3 tons of piling), or 37,936 tons total = 1,897 trucks total
- Steel decking – 0.6 tons per segment, or 663.6 tons total = 28 trucks total
- Concrete – 19.5 CY for above grade structure, 11.1 CY for pile caps and 12.6 CY of pile concrete (43.2 CY total) per segment, or 47,780 CY total = 3,982 trucks
- Concrete reinforcement – 1 ton per segment or 1,106 tons total = 47 trucks total.
- Excavation for pile caps – 11.1 CY per segment of 12,277 CY total = 945 trucks total
- Phase elevated roadway deliveries and equipment across months 6 to 55; intensity varies, as depicted in detailed schedule.

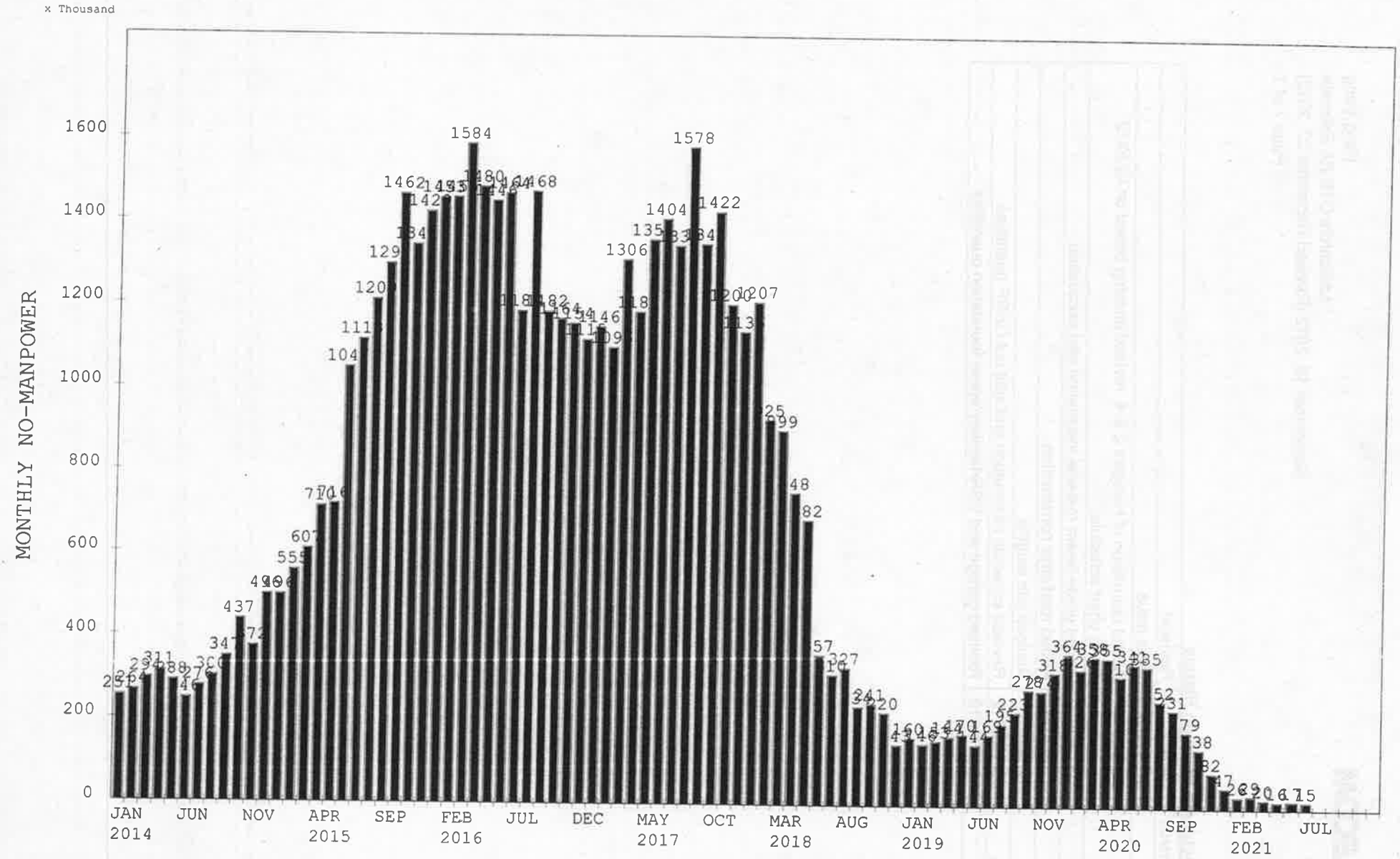
At-Grade Roadway Construction

For the purposes of estimating roadway construction material deliveries and equipment usage requirements, it is assumed that at-grade roadways have a design section of 4 inches of bituminous surface course, 10 inches of bituminous base course, 6 inches of crushed aggregate base course and 12 inches of compacted sub-grade. Per the construction estimate, the total square footage of at-grade roadway and off-property access roadways to and from the Grand Central Parkway is 739,000 SF, or 82,112 SY. The total excavation is equal to the proposed pavement section; however, it is assumed that half of the excavated material will be recycled on-site. This volume eliminates the need to import any fill for the compacted sub-grade. Total volumes and corresponding delivery volumes are as follows, based on the typical section:

- 4 inches of bituminous surface course – 9,124 CY or 702 trucks
- 10 inches of bituminous base course – 22,809 CY or 1,755 trucks
- 6 inches of crushed aggregate base course – 13,686 CY or 1,053 trucks
- 12 inches of compacted sub-grade – 27,371 CY; no dump trucks are associated with material import due to recycling of excavated material
- It is assumed that excavation is equivalent to the volume of roadway materials, with half of the excavated material reused on site and half exported as unsuitable material. Total excavation is 72,990 CY, so 36,495 CY is to be exported, or 2,808 trucks
- At-grade roadways deliveries are phased across months 4 through 46 and 60 to 66; intensity varies, as depicted in detailed schedule.

Document Revision History

Version	Date	Revision
1	9/19/2012	Initial issue.
2	9/26/2012	Added demolition of Hangars 2 & 4, revised phasing based on 02Jul12 Gantt chart schedule.
3	10/19/2012	Added grade beam material installation and excavation.
4	11/8/2012	Added roadways construction.
5	12/5/2012	Revised pile lengths.
5A	12/10/2012	Revised schedule information and split out CHRP quantities
6	12/27/2012	Revised garage and VSR/taxiway/apron foundation quantities

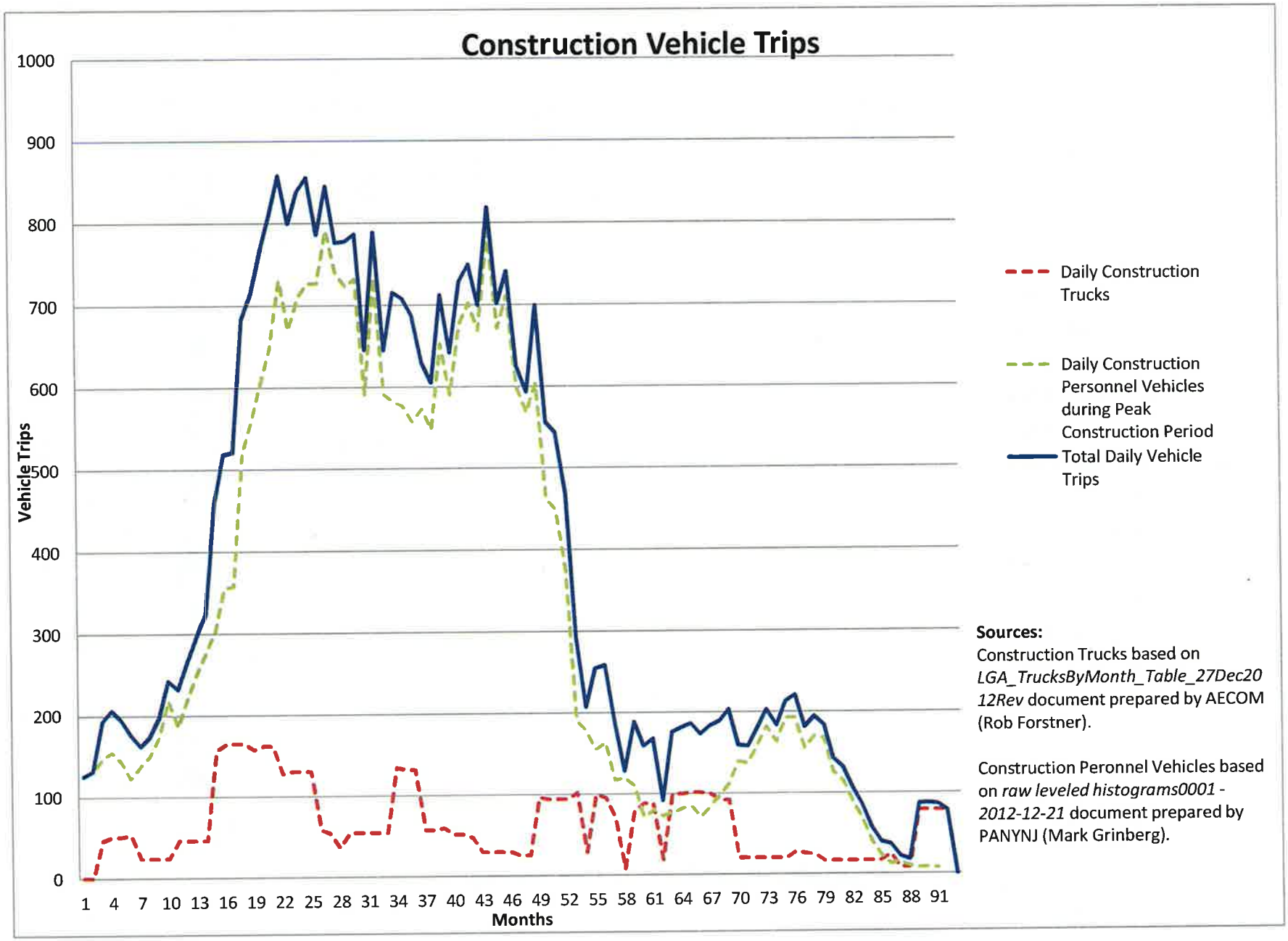


NO SHIFT/ALT TRANSP

Project Start 1SEP09 Project Finish 30JUL21 Data Date 30OCT12 Plot Date 21DEC12 (c) Primavera Systems, Inc.	Schedule dates	TS14	PORT AUTHORITY OF NY AND NJ LGA REDEVELOPMENT PROGRAM HISTOGR-TRADESMEN & CM& SUPPT(EARLY)

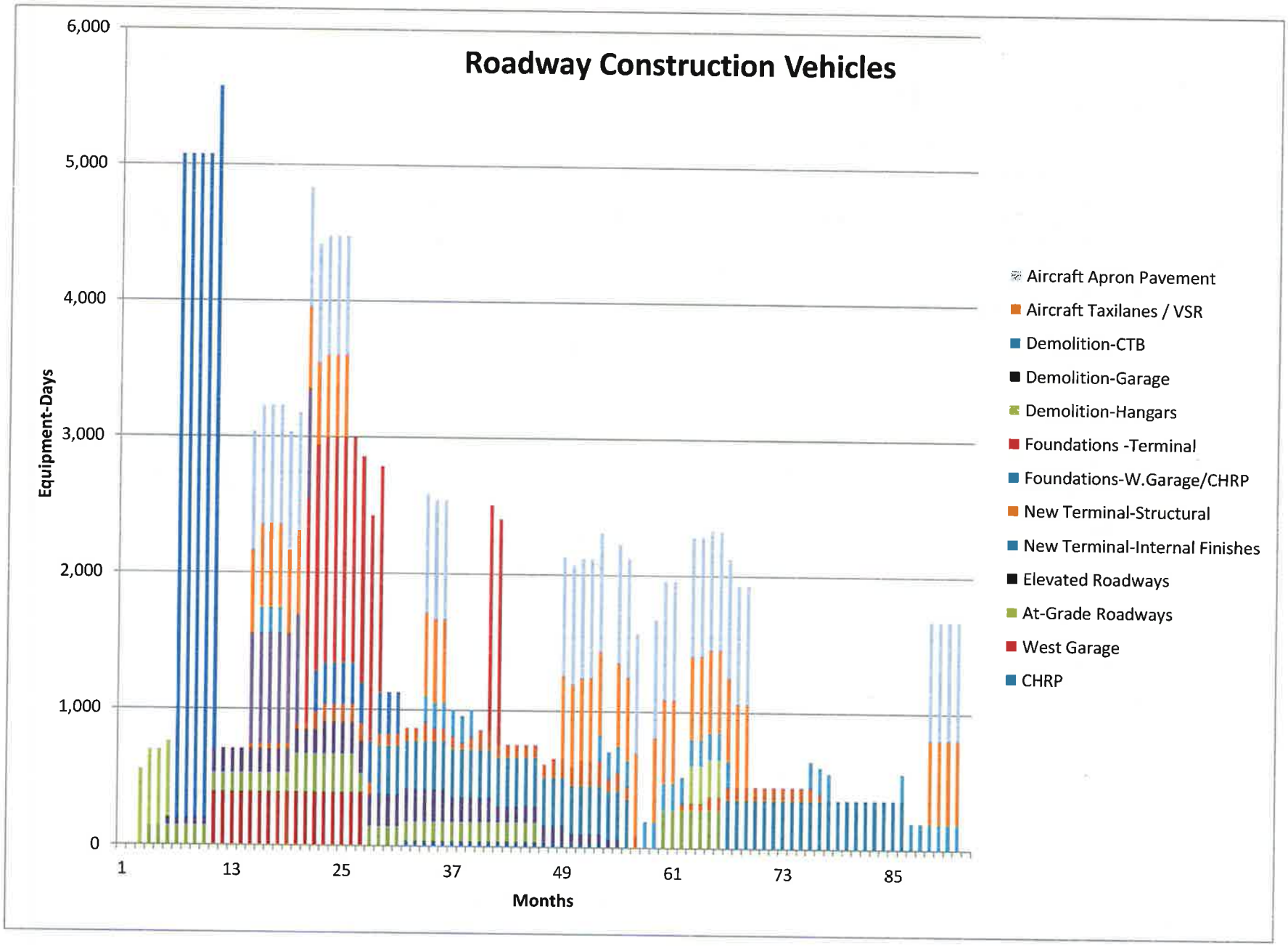
Sheet 1 of 1

Date	Revision	Checked	Approved



Sources:
Construction Trucks based on *LGA_TrucksByMonth_Table_27Dec2012Rev* document prepared by AECOM (Rob Forstner).

Construction Peronnel Vehicles based on *raw leveled histograms0001 - 2012-12-21* document prepared by PANYNJ (Mark Grinberg).


Roadway Construction Vehicles
6,000
5,000
4,000
3,000
2,000
1,000
0
Equipment-Days
1
13
25
37
49
61
73
85
Months
Aircraft Apron Pavement
Aircraft Taxilanes / VSR
Demolition-CTB
Demolition-Garage
Demolition-Hangars
Foundations -Terminal
Foundations-W.Garage/CHRP
New Terminal-Structural
New Terminal-Internal Finishes
Elevated Roadways
At-Grade Roadways
West Garage
CHRP

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To	Nicole Weymouth	Page	1
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Subject	LaGuardia CTB Construction Phasing, Equipment, and Waste		
From	Robert Forstner		
Date	February 21, 2013		

Construction activities for the CTB Redevelopment Program are expected to begin in January, 2014 and continue through August, 2012 – a period of 92 months. In general terms, the CTB Redevelopment Program will construct a new terminal and apron that replaces the existing parking garage, the existing CTB, Hangars 1, 2 and 4, and relocates parking spaces to multi-level structures that replace existing surface lots.

Typically, construction projects begin with demolition of existing structures or pavement, and then progress through foundation construction (including subgrade work where necessary), superstructure erection, building finish construction, and pavement installation. Normal airport operations will be maintained throughout the CTB Redevelopment Program, requiring a minimum number of in-service passenger gates and aircraft remote over-night (RON) parking spots to be maintained at all times throughout construction. As a result, the a phased approach will be taken to the CTB Redevelopment Program that essentially breaks the overall project into several sections, which will each proceed through the traditional construction sequence individually. As a result, on a program-wide basis, the various phases of construction will be occurring to some degree continuously throughout the duration of the project.

Phasing

The overall sequence calls for the construction of the new parking structures first, in turn allowing for the demolition of the existing garage. The new terminal will then be constructed by demolishing the existing CTB, garage and hangars and constructing the new terminal and apron in phases. This work will be accomplished over 9 distinct phases, during which portions of existing facilities are demolished and new facilities constructed in an incremental manner. The work to be accomplished in each phase is described as follows:

- **Phase 1:** This phase consists mainly of work to relocate some services in advance of the initial phases of demolition and construction. Hangars 2 & 4 are demolished in preparation for construction of the first portions of the new terminal building and temporary mechanical plants. Valet parking areas are prepared at lots 10E and P3, and the initial stages of roadway work on the Grand Central Parkway (GCP) and access roads begin. Work the new east garage, Central Heating and Refrigeration Plant (CHRP) and East-End Electrical Substation (EES) also begins. *(3 months, 35 gates and 12 RONs operational)*
- **Phase 2:** Construction continues at the CHRP. Parking is relocated to the temporary valet lots and the existing garage is demolished. Construction of the new headhouse and adjacent surface roads begins at the location of the former garage, and Piers 1 & 2 and adjacent airfield pavement are constructed at the former location of Hangars 2 & 4. By the end of Phase 2 the surface roads at the new headhouse are complete and operational, and Pier 2 is temporarily connected to the existing CTB and becomes operational. The west garage is constructed at the location of the former P1 lot and becomes operational at the end of Phase 2, along with the east garage and EES, and the valet parking operation at the former P3 lot is discontinues. *(18 months, 34 gates and 15 RONs operational)*
- **Phase 3:** Construction of the new headhouse continues, and construction of elevated frontage roads at the headhouse begins. Pier A of the existing terminal is removed from service, demolished, and replaced by new airfield. Construction of the new CHRP continues, and surface access roads to the EES, CHRP and east garage become operational. The connection between Piers 1 & 2 is constructed, and Pier 1 becomes operational at the end of Phase 3. *(3 months, 35 gates and 12 RONs operational)*
- **Phase 4:** Construction of the new headhouse and adjacent elevated access roads continues. The new CHRP is completed and becomes operational. Most of the existing Pier C is demolished, and new airfield and the outer end of Pier 3 are constructed in its place. Elevated airport roadways near the EES, CHRP and east garage and the access ramp from the GCP are complete and operational by the end of Phase 4. At the end of Phase 4, the outer end of Pier 3 is temporarily connected to the existing CTB and operational. *(18 months, 34 gates and 12 RONs operational)*
- **Phase 5:** The remainder of existing Pier C is demolished and new airfield is constructed in its place. Construction of the new headhouse and frontage roadways are completed and become operational at the end of Phase 5; all remaining vehicular traffic to the existing headhouse is rerouted upon completion of the new headhouse and associated frontage roads. A temporary connection between the existing and new headhouses is opened at the end of this phase to maintain access to existing Piers B & D (which remain operational) and the new Pier 3. *(3 months, 34 gates and 12 RONs operational)*
- **Phase 6:** Demolition of access roads to the existing headhouse begins. With Piers 1 & 2 now directly connected to the new headhouse, the eastern third of the existing

headhouse (including the existing CHRP) is demolished. New airfield constructed in this area allows for the opening of several gates at the rear of the new headhouse (replacing the gates at existing Pier D) at the end of Phase 6. *(5 months, 36 gates and 12 RONs operational)*

- **Phase 7:** The existing Pier D, the western third of the existing headhouse, Hangar 1 and the remaining existing CTB access roads are demolished, and new airfield is constructed in the former location of Pier D. *(4 months, 34 gates and 10 RONs operational)*
- **Phase 8:** The remainder of Pier 3 is constructed and connected to the new headhouse in the former location of the existing CTB. New airfield is constructed in the former location of Hangar 1. Permanent connections between buildings are completed and remaining temporary connections are demolished. *(18 months, 34 gates and 13 RONs operational)*
- **Phase 9:** The remainder of the existing CTB and Pier B is demolished and new airfield constructed in their place. *(6 months, 33 gates and 13 RONs operational)*
- **Project Complete:** The CTB Redevelopment Program is complete, and the new terminal, new garages, supporting infrastructure and all roadways are in service. *(At completion of month 78, 35 gates and 20 RONs operational)*

Equipment

Various types of construction equipment and personnel will be to complete the CTB Redevelopment Program, but the work can generally be described by the various major components of the planned work:

- **Demolition:** Interior finishes such as drywall partitions, suspended or drywall ceilings, and other miscellaneous finishes such as plumbing fixtures, carpeting, etc., will generally be demolished using hand-held equipment such as power saws and sledgehammers. High-value items such as plumbing, electrical wiring and bulk metal items (e.g., restroom stall partitions and appliances) will typically be removed separately wherever possible for salvage. Debris will then be consolidated and loaded out using small motorized equipment (e.g., front-end loaders, or "Bobcats"). Concrete slabs would then be demolished by jackhammers and/or saw-cutting. Steel framing would be torch-cut and removed by crane for salvage. Cranes would also remove large pieces of building equipment (chillers, compressors, etc.) for salvage as they become accessible from the exterior as demolition progresses. Steel and glass curtain wall components will generally be demolished by hand and salvaged. Residual waste (mostly concrete and masonry rubble) will be consolidated and loaded out using heavy equipment (e.g., front-end loaders, bulldozers, backhoes, etc.).

- **New Foundations (Buildings and Roadways):** It is assumed that driven-pile foundations will be necessary for all structures, based on the design of other structures at the airport. Foundation construction will begin with excavation to create space for substructures (pile caps and grade beams) using heavy equipment such as backhoes. Excavated material will be stockpiled or exported from the airport by dump truck as necessary, depending on the availability of on-site reuse opportunities. Piles will be driven by pile hammers mounted on large cranes (typically, crawler cranes). Formwork and reinforcement for subgrade elements will then be installed using a variety of equipment, typically including smaller cranes to move and hoist materials, and hand-held tooling such as impact hammers and welding machines for assembly. Foundations elements are then completed by concreting; depending on site accessibility, concrete will most typically be placed by direct pour or pumping from concrete delivery trucks, though in areas with limited access buckets (including crane-lifted buckets) may also be used. Finally, backfill will be placed using backhoes, dozers, compactors and vibrators after concrete elements have cured sufficiently. Previously-excavated material will be used for backfill wherever possible (generally, all areas except where structural fill is required).

- **Surface Roadways and Airfield:** The general approach to construction of surface roadways (highways lanes and airport access roads) and airfield (taxiways and aprons) is the same, though the design cross-sections and volume of materials to be handled on a unit area basis differs with use. First, where necessary the site will be excavated to reach the design subgrade elevation by backhoes or loaders. The site will be graded by dozers, and subgrade material (using on-site material wherever possible) will be placed and compacted to the design subgrade thickness using compactors or rollers. Aggregate base course (typically an engineered mix of material imported by dump truck) will then be placed on the subgrade, spread by dozer, and then compacted in manner similar to the subgrade. Next, a bituminous base course of smaller aggregates bound by bitumen and also generally imported by dump truck will be placed by a paving machine, and compacted by roller. Finally, the surface course is placed. For asphalt roadways, a surface course of bituminous material will be placed in a manner similar to the base course. For concrete roadways, apron and taxiway, concrete will be delivered by concrete trucks and placed by direct-pour or pumping. Compaction and surface finish of the concrete pavement will then generally be achieved with vibratory truss screeds, though powered hand-push equipment may be employed in limited access areas (around foundation elements, adjacent to structures, etc.).

- **Elevated Roadways:** The design of elevated roadways will vary based on the application of the roadway itself (highway access ramp, terminal frontage) and the space beneath (terminal building, surface roadway, etc.), but will generally be supported on concrete or steel columns. Steel and pre-cast concrete column elements will generally be delivered on flatbed trucks, lifted into place by crane and secured using hand-held equipment (which may be powered in some applications; e.g., tooling for post-stressing

or injecting grout into pre-cast concrete elements). Cast-in-place columns will be constructed by erecting formwork (typically with a small crane to lift pieces and hand-held tooling for connections), installation of reinforcement (also typically by hand-held tooling), and placement of concrete (typically by pumping or crane-lifted buckets). A structural frame (typically, steel or precast concrete girder sections) will delivered on flatbed truck and placed atop the columns by crane, and then the roadway surface installed. Most typically, the roadway surface will be created by placing light, corrugated metal sections across the frame to serve as the bottom of a slab, followed by placement of reinforcement (by hand) and concrete (by direct-pour, pumping, or crane-lifted buckets). For long spans (such as highway overpasses), an alternate means of roadway construction may utilize precast roadway sections (essentially, "slices" of the roadway's complete structural cross-section) delivered on flat-bed truck and hoisted by means of large cranes or a purpose-built gantry system; the individual sections are then secured by post-tensioning as the roadway extends beyond the columns.

- **New Building Structures:** The new buildings will generally be of frame construction. Prior to erection of framing, the subgrade will be prepared in a manner similar to that used for roadway construction. A slab-on-grade will be placed using direct pour, pumping or bucket transfer from concrete delivery trucks, and finished using powered, hand-pushed equipment. The columns and horizontal framing will be constructed in a manner similar to the elevated roadways, utilizing steel, pre-cast concrete or cast-in-place concrete members. Elevated slabs will also be constructed in a manner similar to that used for elevated roadways. Large pieces of equipment, such as chillers, air-handlers, compressors, and other mechanical equipment delivered on flat-bed trucks will be placed within the buildings using cranes for lifting prior to installation of the building envelope.

- **New Building Envelopes:** The terminal building's envelope will consist primarily of glass curtain walls. Typically, premanufactured panels will be delivered to the site on flat-bed trucks, hoisted by crane and then attached to the structural frame using hand-held tooling to complete the building envelope. In some areas (particularly service or mechanical areas not generally meant for public occupancy) the building envelope may be constructed of concrete masonry unit (CMU) walls instead; in this case, materials will be delivered by flatbed truck, transported within the site by forklift or other small- to medium-sized construction vehicles, and installed by hand, though powered equipment will be used for certain tasks (such as mixing mortar). For garage structures, partial building enclosures are common; often, this takes the form of pre-cast architectural panels delivered on flat-bed trucks, hoisted by crane and attached to the outside of the structure by hand. Depending on structural requirements, reduced-height CMU walls may also be installed behind the architectural panels.

- **Interior Finishes:** The interior finishes include installation of mechanical system conveyances (conduit, wiring, plumbing, piping, ducting, etc.), non-structural partitions (walls and other dividers) and passenger amenities (restrooms, chairs, information systems, fit-out of retail outlets, etc.). This material will be delivered by flatbed or box trucks, and staged and transported within the construction zone using powered equipment (e.g., forklifts). Most typically, final installation is by hand, with powered hand tools (impact wrenches, drills, welding machines, etc.) where appropriate. Heavier equipment will be necessary for access reasons; in particular, man-lifts (both scissor and cherry-picker style) are essential for overhead work.

As noted previously, because of the need to incrementally phase the project in order to maintain the required number of passenger gates and RONs throughout the duration of the project, the CTB Redevelopment Program may be more accurately thought of as a project to replace several independent structures on a rotating basis. As a result, the general construction activities described above will be occurring simultaneously to a large degree throughout the project, as reflected in the highly-choreographed construction phasing program described above. The phasing plan described in the previous section, the operational areas available in each phase, and the construction activities described above that are associated with each phase of the project are summarized below, in Table 1.

Table 1
Construction Phasing and Activities Summary

Phase	Duration (Months)	Operational Terminal Areas	Operational Roadways	Construction Activities
1	3	Existing Headhouse Piers A-D	Existing roadways and GCP access ramps to all terminals.	Hangars 2 & 4 are demolished and construction of portions of the new terminal and temporary mechanical plant begins. Valet parking areas are prepared at lots 10E and P3, and work on the GCP ramps and airport roadways begins. Construction begins at the new east garage, CHRP and EES.
2	18	Existing Headhouse Piers A-D	Existing frontage roads and GCP access ramps for the CTB. New GCP access ramps to Terminals C & D. New access to west garage opens during Phase 2.	Parking relocated to temporary valet lots and existing garage demolished. Construction of CHRP and airport roadways continues. Construction of the new headhouse begins at the location of the former garage. Surface roads at the new headhouse, EES, CHRP and east garage are constructed. Pier 2 is constructed and temporarily connected to the existing CTB. Pier 1 is constructed. The east garage and EES are completed. The new west garage is constructed at the location of the former P1 lot.
3	3	Existing Headhouse Piers B-D Pier 2 via Existing Headhouse	Existing frontage roads and GCP access ramps for the CTB. New GCP access ramps to Terminals C & D. New access to west garage opens during Phase 2.	Construction of the new headhouse continues, and construction of elevated frontage roads at the headhouse begins. Pier A is demolished and replaced by new airfield. Construction of the CHRP and airport roadways continues. Surface roadways near the EES, CHRP and east garage become operational. The connection between Piers 1 & 2 is constructed, and by the end of Phase 2 Pier 1 becomes operational.
4	18	Existing Headhouse Piers B & D Part of Pier C Piers 1 & 2 via Existing Headhouse	Existing frontage roads and GCP access ramps for the CTB. New GCP access ramps to Terminals C & D. New access to west garage opens during Phase 2.	Construction of the new headhouse and adjacent elevated access roads continue. The new CHRP becomes operational after construction is completed. Most of the existing Pier C is demolished, and new airfield and the outer end of Pier 3 of the new terminal are constructed in its place. Elevated airport roadways near the EES, CHRP and east garage and the access ramp from the GCP are complete and operational by the end of Phase 4. The outer end of the new Pier 3 is complete, temporarily connected to the existing headhouse and operational by the end of Phase 4.
5	3	Existing Headhouse Piers B & D Piers 1 & 2 via Existing Headhouse Part of Pier 3 via Existing Headhouse	New terminal frontage roads and GCP access ramps for all terminals.	The remainder of existing Pier C is demolished and new airfield is constructed in its place. Construction of the new headhouse and frontage roadways are completed and become operational at the end of Phase 5; all remaining vehicular traffic to the existing headhouse is rerouted upon completion of the new headhouse and associated frontage roads. A temporary connection between the existing and new headhouses is opened at the end of this phase to maintain access to Piers B & D of the existing terminal (which remain operational) and Pier 3 of the new terminal. (3 months, 34 gates and 12 RONs operational)
6	5	New Headhouse Piers 1 & 2 via new Headhouse; Piers B & D and part of Pier 3 via part of existing Headhouse	New terminal frontage roads and GCP access ramps for all terminals.	Demolition of access roads to the existing headhouse begins. With Piers 1 & 2 now directly connected to the new headhouse, the eastern third of the existing headhouse (including the existing CHRP) is demolished. New airfield constructed in this area allows for the opening of several gates at the rear of the new headhouse (replacing the gates at existing Pier D) at the end of Phase 6.

Phase	Duration (Months)	Operational Terminal Areas	Operational Roadways	Construction Activities
7	4	New Headhouse; Piers 1 & 2, Pier B and part of Pier 3 via part of existing Headhouse	New terminal frontage roads and GCP access ramps for all terminals.	The existing Pier D, the western third of the existing headhouse, Hangar 1 and the remaining existing CTB access roads are demolished, and new airfield is constructed in the former location of Pier D.
8	18	New Headhouse; Piers 1 & 2, Pier B and part of Pier 3 via part of existing Headhouse	New terminal frontage roads and GCP access ramps for all terminals.	The remainder of Pier 3 is constructed and connected to the new headhouse in the former location of the existing CTB. New airfield is constructed in the former location of Hangar 1. Permanent connections between buildings are completed and remaining temporary connections are demolished.
9	6	New Headhouse; Piers 1 -3	New terminal frontage roads and GCP access ramps for all terminals.	The remainder of the existing CTB and Pier B is demolished and new airfield constructed in their place.
10	0	New Headhouse; Piers 1 -3	New terminal frontage roads and GCP access ramps for all terminals.	The CTB Redevelopment Program is complete, and the new terminal, new garages, supporting infrastructure and all roadways are in service.

Solid Waste

Solid waste generated by the CTB Redevelopment Program will include excess excavated material, debris from the demolition of existing structures and pavement, and incidental waste (packaging, trimmings, etc.) accumulated during construction of new structures. Construction waste may be stored in and removed from the site by a variety of methods, depending on the nature of the waste and where it is generated. The main types of waste storage and conveyance have specific advantages and disadvantages, and all are likely to be employed during construction of the CTB Redevelopment Program.

- **Dump trucks** have a large open-top storage trailer that is integral to the vehicle and that can be tilted to dump materials out at the disposal or transfer site. Dump trucks are available in a variety of configurations and capacities, but in practice roadway load limits and maneuverability requirements limit the net payload of dump trucks used for local material transport on typical construction projects in New York City to about 22 tons (approximately 13 cubic yards (CY), depending on the density of the material being hauled).
- **Roll-off containers** are large, open-top rectangular containers that can be pulled on to a truck by means of a hook and removed from the site in its entirety. They are available in a variety of sizes; 30 and 40 CY are the sizes most likely to be employed on a project of this type. Roll-offs are generally immobile except when being serviced, meaning waste must be brought to the container by another conveyance (most commonly by wheelbarrows or by hand). Roll-offs must also be placed in truck-accessible locations. The volume of the container notwithstanding, roadway load limits generally limit the net payload of roll-off containers to 22 tons.
- **Dumpsters** are bins, typically wheeled, that can be used to store and convey and transport waste within a site. They are available in various sizes from less than one to several CY. While generally smaller, dumpsters (especially in the smaller sizes) have the advantage of being able to be wheeled to the area where waste is being generated, and are therefore preferable when conducting interior demolition or when working in limited-access areas. Unlike roll-offs, dumpsters need not be removed from the site to be emptied. They are typically emptied by wheeling them to a collection vehicle (usually, a packer truck similar to those used to collect residential solid waste), which picks up and tilts the dumpster by use of a hook or similar device. In this manner, multiple dumpsters at the site may be emptied and returned to service in a short period of time. Because of the shorter wheelbase packer trucks as compared to the trucks used for roll-off pickups, the net payload per vehicle trip for dumpster hauling is lower – on the order of about 10 tons.

Excavated Materials

To the maximum extent practicable, excavated material will be stockpiled on-site and used for backfill where appropriate. However, between a need to remove demolished pavement for off-site crushing and processing, the likelihood that some material will not be reusable due to contamination or insufficient geotechnical properties, and the displacement of excavation volume by structural elements or structural fills, it is assumed that only half of excavated materials will be reused on-site, and the remainder will be exported for off-site management. Excess excavated materials and demolished pavement suitable for recycling would generally be removed from the site in dump trucks and brought to either construction and demolition (C&D) transfer stations or aggregate recycling operations, where they will be crushed (if necessary) and screened to segregate the materials by size for reuse. Materials deemed unsuitable (due to contamination and/or physical properties) would generally be transported to and disposed of at an appropriately-permitted facility. Based on preliminary designs, it is expected that a total of approximately 389,220 CY of excess material will need to be transported off-site using 29,893 trucks over the full 92-month duration of the project. Depending on the rate of excavation work, material will be either directly loaded to dump trucks by the excavation equipment, or stockpiled in a separate location and rehandled into dump trucks when convenient.

Structural Demolition

The demolition of existing structures will generate a variety of solid waste, composed mainly of building materials such as concrete, steel, wood, drywall, and interior furnishings. Waste generation rates for demolition of non-residential structures varies significantly; a 2009 United States Environmental Protection Agency (USEPA, 2009)[1] survey of construction and demolition waste generation rates found that demolition of non-residential buildings generated between 36 to 358 pounds of waste per square foot of building area for building types that included warehouses, department stores and offices, among other uses. This variation notwithstanding, the average generation rate of 158 lbs/SF calculated by the USEPA in its study was identical to that calculated in a separate 2004 survey conducted by the Associated General Contractors.

A generation rate of 158 lbs/SF is similar (albeit lower) than the estimated unit weight of the new terminal building, which was calculated at 188 lbs/SF based on rough quantities of building materials estimated from conceptual for the purposes of estimating construction-related truck traffic. However, the generation rate of 158 lbs/SF is considered a better benchmark for the calculation of waste to be generated during demolition of the existing CTB and parking garage because it is based directly on studies of actual demolition projects.

[1] USEPA, "Estimating 2003 Building-Related Construction And Demolition Materials Amounts", 2009

Hangar will have a lower waste generation rate because these buildings are designed to provide large, open spaces suitable for the storage and maintenance of airplanes. No relevant and directly comparable waste generation rates for this type of building could be identified; however, the USEPA survey did identify a warehouse and army buildings with demolition waste generation rates of 36 and 63 lbs/SF, respectively. The construction of these buildings is expected to more closely resemble hangar construction than the other non-residential buildings included in this survey. For purposes of conservatism, a generation rate of 63 lbs/SF for hangars is used for this analysis.

The quantities of waste material to be generated by demolition for the CTB Redevelopment Program are summarized below in Table 2. Also included in Table 2 is the maximum amount of waste that is expected to be disposed of in landfills, or otherwise not recycled. In its' survey of construction and demolition waste generation, the USEPA found that on average 48% of construction waste is recovered for reuse. While data specific to New York was not provided in this survey, the USEPA did find that the recovery rates are 78.6% in New Jersey and 82.3% in Massachusetts. The market conditions that drive such high recovery rates in New Jersey and Massachusetts as compared to the national average (primarily, the cost of landfilling due to lack of capacity, the cost of transport to landfills, and savings from beneficial reuse as compared to costs for new material) similarly impact construction in New York City; however, for conservatism, it is assumed that waste materials generated by the CTB Redevelopment Program will be recovered at the national rate. Although salvage of high-value materials (plumbing, mechanical equipment, etc.) is expected to occur, salvage operations will nevertheless require the removal of such material from the project site, and therefore would be considered to be a component of material recovery.

Table 2
Demolition-Generated Waste

Structure	Floor Area (SF)	Waste Generation Rate (lbs/SF)	Total Demolition Waste (tons)	Estimated Disposal Quantity (48% Recovery) (tons)
Existing CTB	851,000	158	67,229	34,959
Existing Parking Garage	1,154,600	158	91,213	47,431
Hangars 2 & 4	146,700	63	4,621	2,403
Hangar 1	58,300	63	1,836	955
		Total	**164,899**	**85,748**

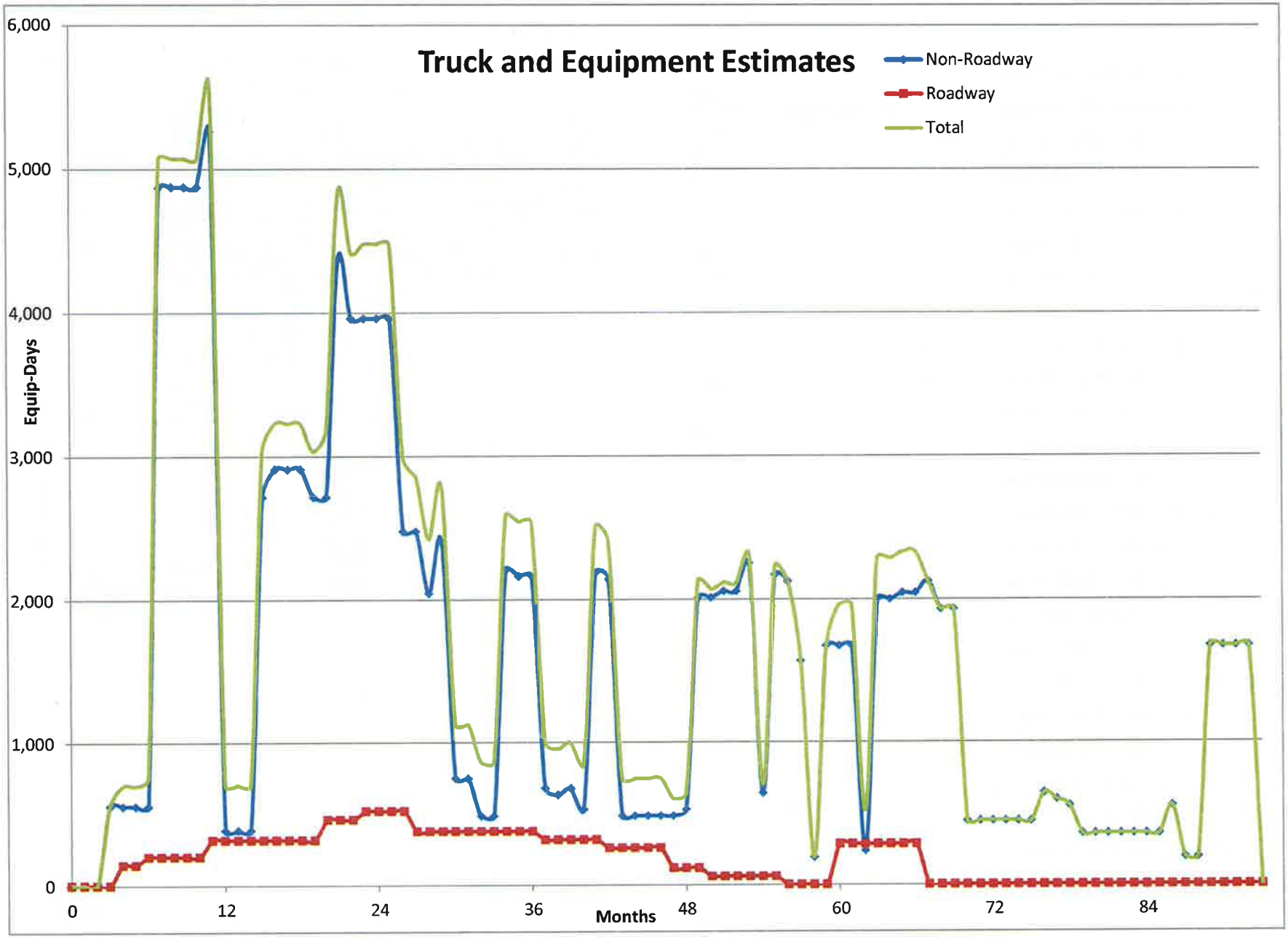
New Construction

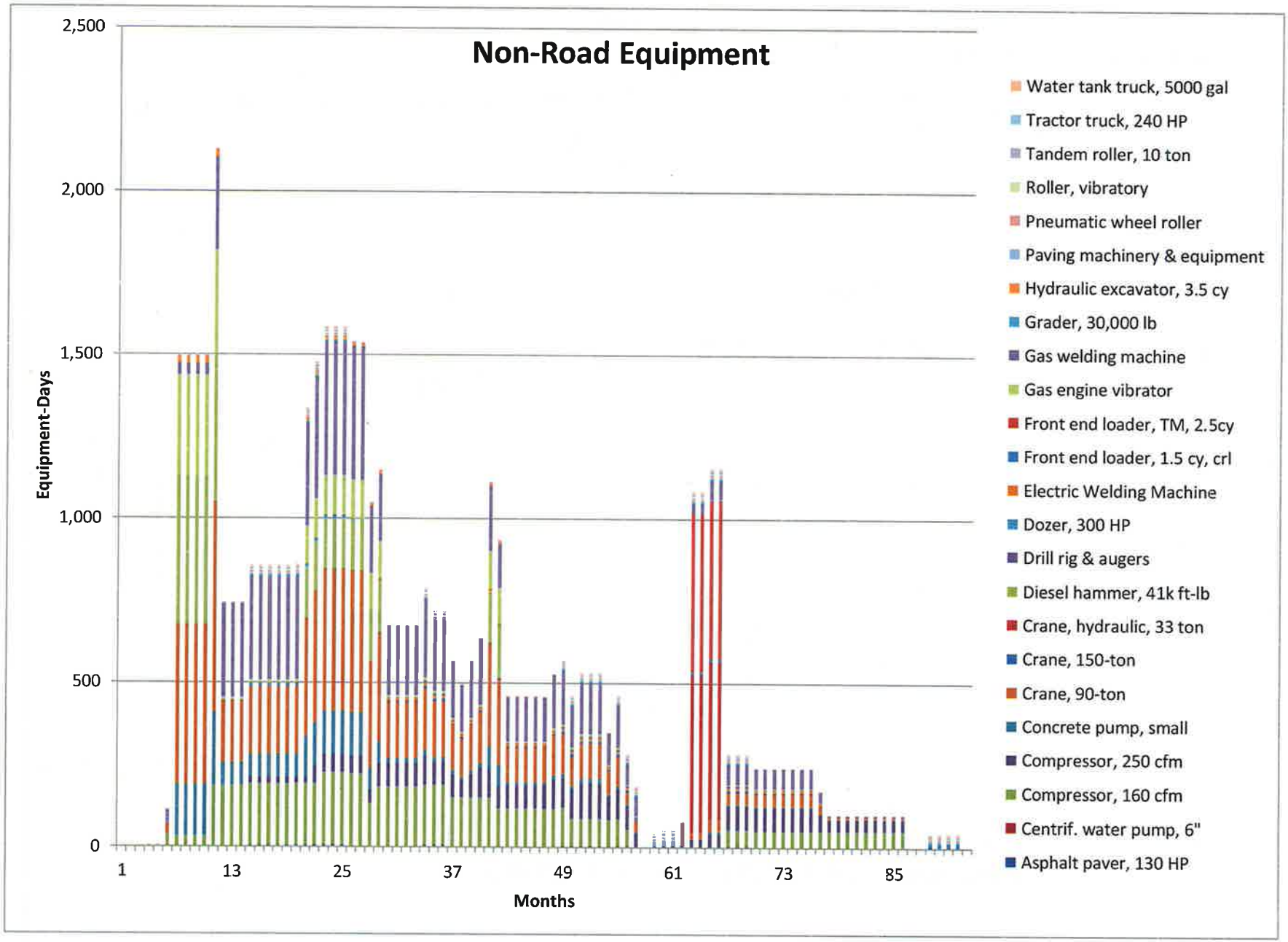
Sources of solid waste during construction of new structures include material packaging, trimmings, and other extra materials. While of significantly less quantity than generated by demolition, the waste generated by new building construction is nonetheless non-trivial. The USEPA found in its' survey of construction and demolition waste generation rates that non-residential construction projects generate an average of 4.34 lbs/SF of solid waste.

The quantities of waste material to be generated by construction of new structures for the CTB Redevelopment Program are summarized below in Table 3. Because waste materials generated during construction will generally include trimmings, remainders or other pieces that are no longer in saleable conditions, it is not expected that salvage would play a significant role in the recovery of waste materials; however, because they are uncontaminated, it is expected that such waste will be readily recoverable through traditional C&D debris management techniques; therefore, the national-average materials recovery rate of 48% is applied to construction debris as well.

Table 3
Waste Material from New Construction

Structure	Floor Area (SF)	Waste Generation Rate (lbs/SF)	Total Demolition Waste (tons)	Estimated Disposal Quantity (48% Recovery) (tons)
New Terminal	1,412,700	4.34	3,066	1,594
West Garage	1,872,000	4.34	4,062	2,112
CHRP	231,000	4.34	501	261
		Total	**7,629**	**3,967**


Truck and Equipment Estimates
Non-Roadway
Roadway
Total
6,000
5,000
4,000
3,000
2,000
1,000
0
Equip-Days
0
12
24
36
48
60
72
84
Months


Non-Road Equipment
2,500
2,000
1,500
1,000
500
0
Equipment-Days
1
13
25
37
49
61
73
85
Months
Water tank truck, 5000 gal
Tractor truck, 240 HP
Tandem roller, 10 ton
Roller, vibratory
Pneumatic wheel roller
Paving machinery & equipment
Hydraulic excavator, 3.5 cy
Grader, 30,000 lb
Gas welding machine
Gas engine vibrator
Front end loader, TM, 2.5cy
Front end loader, 1.5 cy, crl
Electric Welding Machine
Dozer, 300 HP
Drill rig & augers
Diesel hammer, 41k ft-lb
Crane, hydraulic, 33 ton
Crane, 150-ton
Crane, 90-ton
Concrete pump, small
Compressor, 250 cfm
Compressor, 160 cfm
Centrif. water pump, 6"
Asphalt paver, 130 HP

Appendix G.
Agency Consultation

Appendix G. Agency Consultation

G.1 Federal Agencies

Advisory Council on Historic Preservation

Ms. LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs
1100 Pennsylvania Avenue NW, Suite 803
Washington, DC 20004

Federal Aviation Administration

Ms. Marie Jenet
Environmental Specialist
New York Airports District Office
600 Old Country Road, Suite 446
Garden City, NY 11530

U.S. Department of Commerce

Ms. Kimberly Damon-Randall
Acting Assistant Regional Administrator
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Region
55 Great Republic Drive
Gloucester, MA 01930-2276

U.S. Department of the Interior

Mr. Andrew L. Raddant
Regional Environmental Officer
U.S. Department of the Interior
Office of the Secretary
Office of Environmental Policy and Compliance
15 State Street, Suite 400
Boston, MA 02109-3572

U.S. Environmental Protection Agency

Ms. Grace Musumeci
Chief, Environmental Review Section
U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, NY 10007-1866

G.2 State and Regional Agencies

New York State Historic Preservation Office

Ms. Ruth Pierpont
Deputy Commissioner for Historic Preservation
New York State Office of Parks, Recreation and Historic Preservation
Peebles Island Resource Center
P.O. Box 189
Waterford, NY 12188-0189

Ms. Beth Cumming
Historic Site Restoration Coordinator
New York State Division for Historic Preservation
New York State Office of Parks, Recreation and Historic Preservation
Peebles Island Resource Center
P.O. Box 189
Waterford, NY 12188-0189

Mr. Phillip Perazio
Historic Preservation Program Analyst – Archaeology Unit
New York State Office of Parks, Recreation and Historic Preservation
Peebles Island Resource Center
P.O. Box 189
Waterford, NY 12188-0189

Mr. Eric Kuchar
Historic Preservation Technical Specialist
New York State Division for Historic Preservation
New York State Office of Parks, Recreation and Historic Preservation
Peebles Island Resource Center
P.O. Box 189
Waterford, NY 12188-0189

New York State Department of Conservation

Mr. Nicholas B. Conrad
Information Services
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor
Albany, NY 12233-4757

New York State Department of State

Mr. Jeffrey Zappieri
Manager, Consistency Review Unit
New York State Department of State
Division of Coastal Resources
1 Commerce Plaza, Suite 1010
Albany, NY 12231-0001

New York State Department of Transportation

Ms. Sonia A. Pichardo, P.E.
Regional Director, Region 11
New York State Department of Transportation
47-40 21st Street
Long Island City, NY 11101

G.3 Local Agencies (County and Municipality)

New York City Department of City Planning

Mr. Michael Marrella
Director, Waterfront and Open Space Division
New York City Department of City Planning
22 Reade Street
New York, NY 10007-1216

Ms. Mary Kimball
City Planner, Waterfront and Open Space Division
New York City Department of City Planning
22 Reade Street
New York, NY 10007-1216

New York City Department of Parks and Recreation

Ms. Alyssa Cobb Konon
Assistant Commissioner
City of New York Parks & Recreation
The Arsenal, Central Park
New York, NY 10065

New York City Department of Transportation

Mr. Naim Rasheed
Director, Traffic Planning
New York City Department of Transportation
55 Water Street, 6th Floor
New York, NY 10041

New York City Landmarks Preservation Commission

Ms. Amanda Sutphin
Director of Archaeology
NYC Landmarks Preservation Commission
1 Centre Street
9th Floor North
New York, NY 1007

Ms. Gina Santucci
Environmental Review Coordinator
NYC Landmarks Preservation Commission
1 Centre Street
9th Floor North
New York, NY 1007

Consolidated Edison Company of New York, Inc.

Manhattan Major Services
Law Department
4 Irving Place
New York, NY 10003

The City of New York, Office of the Mayor

Mr. Chris Reo
Interim Director
Mayor's Office of Environmental Coordination
100 Gold Street, 2nd Floor
New York, NY 10038

U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
600 Old Country Rd, Suite 446
Garden City, New York 11530
Telephone: 516-227-3800
Fax: 516-227-3813

August 22, 2013

John M. Fowler, Executive Director
Advisory Council on Historic Preservation
Old Post Office Building
1100 Pennsylvania Avenue, NW
Suite 803
Washington D.C. 20004

Re: Notice of Adverse Effect
Environmental Assessment: Central Terminal Building Redevelopment Program
LaGuardia Airport, Queens, New York

Dear Mr. Fowler:

The Federal Aviation Administration (FAA) New York Airports District Office herewith notifies the Advisory Council on Historic Preservation (ACHP) of an adverse effect finding for the Central Terminal Building Redevelopment Program involving the proposed demolition of Hangars 1, 2 and 4 at LaGuardia Airport in New York.

The New York State Historic Preservation Office has determined that the Hangars are eligible for listing on the State and National Register of Historic Places. This notification is in accordance with 36 CFR Part 800.6, regulations implementing Section 106 of the National Historic Preservation Act. The undertaking involves the demolition of Hangars 1, 2 and 4 in order to allow the redevelopment of the aged LaGuardia Airport Central Terminal Building to safely and efficiently accommodate forecast aviation passenger demand.

As part of our notification, I am enclosing documentation required under Section 800.11(e) including a packet with photographs prepared by the airport's consultant, AECOM.

Section 800.11(e) requires the Federal agency to submit six areas of documentation, which are provided in the enclosure, as follows:

1. *A description of the undertaking, specifying the Federal involvement, and its area of potential effect, including photographs, maps, and drawings, as necessary:*
   The federal involvement with this undertaking is the approval by FAA of the Airport Layout Plan (ALP) and the potential provision of federal funds. Further description of the proposed project can be found in the enclosure.

2. *A description of the steps taken to identify historic properties:*
   See enclosure

3. *A description of the affected historic properties, including information on the characteristics that qualify them for the National Register:*
   See enclosure

4. *A description of the undertaking's effects on the historic properties:*
   See enclosure

5. *An explanation of why the criteria of adverse effect were found applicable or inapplicable, including any conditions or future actions to avoid, minimize, or mitigate adverse effects:*
   See enclosure

6. *Copies or summaries of any views provided by consulting parties and the public:*
   See enclosure

Thank you for your attention to this matter. We look forward to your reply.

Sincerely,

Steven M. Urlass, Manager
New York Airports District Office

Enclosure

cc: L. Johnson, ACHP
B. Cumming, NYSHPO
E. Knoesel, PANYNJ
A.Tabachnick, AECOM

Preserving America's Heritage

September 18, 2013

Steven M. Urlass, Manager
New York Airports District Office
Federal Aviation Administration
600 Old Country Road, Suite 446
Garden City, NY 44530

Ref: *Proposed Demolition of Hangars 1, 2 & 4- Central Terminal Building Redevelopment Program LaGuardia Airport, Queens, New York*

Dear Mr. Urlass:

The Advisory Council on Historic Preservation (ACHP) has received your notification and supporting documentation regarding the adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, if we receive a request for participation from the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Additionally, should circumstances change, and it is determined that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the New York State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA, and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with the notification of adverse effect. If you have any questions or require further assistance, please contact Najah Duvall-Gabriel at 202-606-8585 or at ngabriel@achp.gov.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION

1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone 202-606-8503 • Fax 202-606-8647 • achp@achp.gov • www.achp.gov

AMY S. GREENE
ENVIRONMENTAL
CONSULTANTS.

June 20, 2012

United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Region
55 Great Republic Drive
Gloucester, MA 01930-2276

Re: LaGuardia Airport
Central Terminal Building Redevelopment Program
Borough of Queens
Queens County, New York
ASGECI #3450

Dear Sir/Madam:

Our company would like to obtain a complete list of all significant habitats, critical environmental areas, and/or federally listed threatened and endangered species reported within the immediate vicinity of the referenced project. A copy of the appropriate USGS maps (Central Park and Flushing topographic quadrangles) and aerial photograph that depict the study area are attached for your use.

The Port Authority of New York/New Jersey proposes to redevelop the existing Central Terminal Building and other facilities at LaGuardia Airport. We need this information to fulfill the requirements for a NEPA compliant Environmental Assessment. No proprietary location data will be published without your consent.

Please contact me at 908-788-9676 ext. 32 if you have any questions regarding this request. Thank you for your assistance.

Sincerely,
AMY S. GREENE ENVIRONMENTAL
CONSULTANTS, INC.

Lynn Brass-Smith
Senior Project Manager

enc

cc: Tom Brodde, Project Director, ASGECI

908.788.9676 fax 908.788.6788 mail@amygreene.com 4 Walter E. Foran Blvd. Suite 209 Flemington, NJ 08822
Pennsylvania Office: 2204 Market St., 2nd Floor Camp Hill, PA 17011 717.525.8162 fax 717.525.8163

-5450

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2276

JUL 27 2012

Lynn Brass-Smith
Amy S. Greene Environmental
4 Walter E. Foran Blvd
Suite 209
Flemington, New Jersey 08822

Dear Ms. Smith,

This is in response to your letter dated June 20, 2012, requesting information on the presence of species listed by NOAA's National Marine Fisheries Service (NMFS) in the vicinity of the existing Central Terminal Building at LaGuardia Airport, Borough of Queens, Queens County, New York.

No federally listed or proposed threatened or endangered species and/or designated critical habitat for listed species under the jurisdiction of NMFS are known to exist in the vicinity of your proposed project. As such, NMFS Protected Resources Division does not intend to offer additional comments on this proposal. Should project plans change or new information become available that changes the basis for this determination, further coordination should be pursued. If you have any questions regarding these comments, please contact Liz Sullivan at (978) 675-2181.

Sincerely,

Kimberly Damon- Randall
Acting Assistant Regional Administrator
for Protected Resources

RECEIVED
AUG 01 2012
AMY S. GREENE
ENVIRONMENTAL CONSULTANTS, INC.

EC: Sullivan
File Code: Sec 7\Sullivan\Technical Assistance

#3450

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
55 Great Republic Drive
Gloucester, MA 01930-2290

RESPONSE TO INFORMATION REQUEST

This standard form is provided in response to your request for information regarding the presence and distribution of essential fish habitat (EFH) and fishery resources in the vicinity of your proposed action.

Essential Fish Habitat
A complete list of species and life stages for which EFH has been designated can be found on the National Marine Fisheries Service (NMFS) Habitat Conservation Division website at: http://www.nero.noaa.gov/hcd/webintro.html. The website also contains information on descriptions of EFH for each species, guidance on the EFH consultation process including EFH assessments, and information relevant to other NMFS mandates.

The Magnuson-Stevens Fisheries Conservation and Management Act (MSA) and the Fish and Wildlife Coordination Act (FWCA) require federal agencies to consult with the NMFS on their proposed activities. Insofar as a project involves EFH, this process is guided by the requirements of our EFH regulations at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in this consultation procedure.

The required contents of an EFH assessment include: 1) a description of the action; 2) an analysis of the potential adverse effects of the action on EFH and the managed species; 3) the federal agency's conclusion regarding the effects of the action on EFH; and 4) proposed mitigation, if applicable. Other information that should be contained in the EFH assessment, if appropriate, includes: 1) the results of on-site inspections to evaluate the habitat and site-specific effects; 2) the views of recognized experts on the habitat or the species that may be affected; 3) a review of pertinent literature and related information; and 4) an analysis of alternatives to the action that could avoid or minimize the adverse effects on EFH. Upon submittal of an EFH assessment by the federal action agency, the NMFS will provide conservation recommendations for the proposed project, as necessary.

Protected Species
Information regarding the Endangered Species Act or Marine Mammal Protection Act will be provided under separate cover from the NMFS Protected Resources Division. Questions regarding Endangered Species Act Section 7 consultations should be directed to Julie Crocker, Julie.Crocker@noaa.gov, 978-281-9300 x 6530.

Additional Information
Should you require additional information regarding EFH or FWCA consultations, please contact Lou Chiarella, New England Field Office Supervisor for Habitat Conservation, Lou.Chiarella@noaa.gov, 978-281-9277.

RECEIVED
JUL 05 2012
AMY S. GREENE
ENVIRONMENTAL CONSULTANTS, INC.

U. S. Department
of Transportation

**Federal Aviation
Administration**

New York Airports District Office
159-30 Rockaway Blvd, Suite 111
Jamaica, New York 11434

April 10, 2014

Mr. Willie R. Taylor
Director, Office of Environmental Policy and Compliance
U.S. Department of the Interior
1849 C. Street, NW (MS 2462)
Washington, DC 20240

Re: Laguardia Airport, Queens, NY
Central Terminal Building Redevelopment Program
Draft 4(f) Statement

Dear Mr. Taylor:

Enclosed please find a Draft 4(f) Statement for the proposed Central Terminal Building Redevelopment Project, located in Queens, New York.

The proposed project necessitates the demolition of historic Hangars 1, 2, and 4 which constitutes a use under Section 4(f). Accordingly, a Section 4(f) Statement has been prepared and is submitted for Department of the Interior review. The proposed project is also subject of an environmental assessment which can be found at http://www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessment.pdf

Thank you in advance for your comments and input. Should you have any questions, please contact Ms. Marie Jenet of my staff at (718) 995-5777 or at marie.jenet@faa.gov.

Sincerely,

Steven M. Urlass, Manager
New York Airports District Office

cc: E. Knoesel, PANYNJ
B. Oscarson, AECOM
E. Kuchar, NYSHPO

United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
15 State Street – Suite 400
Boston, Massachusetts 02109-3572

TAKE PRIDE IN AMERICA

May 20, 2014

9043.1
ER 14/0247

Marie Jenet
US Department of Transportation
Federal Aviation Administration
New York Airports District Office
Jamaica, New York, 11434

RE: Section 4(F) Evaluation, Proposed LaGuardia Airport Central Terminal Building Redevelopment Program, Queens County, NY

Dear Ms. Jenet:

The U.S. Department of the Interior (Department) has reviewed the Draft Section 4(f) Evaluation for proposed improvements to LaGuardia Airport. The Port Authority of New York and New Jersey (PANYNJ), in coordination with the Federal Aviation Administration (FAA) proposes to redevelop a portion of LaGuardia Airport, in the Borough of Queens, New York. We offer the following comments on this project for your consideration.

Section 4(f) Evaluation Comments

The Department concurs that there is no prudent and feasible alternative to the proposed use of 4(f) lands, which consists of Airport Hangers 1, 2 and 4. These structures are eligible for listing in the National Register of Historic Places. All three structures will be removed as part of the proposed redevelopment, which constitutes a transportation use and adverse effect to these historic properties.

We note that measures to minimize harm to these historic resources are being executed in a Memorandum of Agreement (MOA) developed in consultation with the New York State Historic Preservation Officer (NY-SHPO) and concurred with, as appropriate, by the Advisory Council on Historic Preservation. We recommend that a signed copy of the agreement document be included in the final documentation for this project to reflect the procedures for protecting cultural resources determined in consultation with the NY-SHPO.

Thank you for the opportunity to review and comment on this project. Should you have questions about these comments, please contact Missy Morrison, National Park Service, at (215) 597-7067. Please contact me at (617) 223-8565 if I can be of further assistance.

Sincerely,

Andrew L. Raddant
Regional Environmental Officer

CC: SHPO-NY (ruth.pierpont@parks.ny.gov)
PANYNJ (LGACTB@panynj.gov)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAY 1 5 2014

Edward Knoesel
Manager, Environmental Programs
Port Authority of New York & New Jersey
233 Park Avenue South, 9th Floor
New York, NY 10009

Subject: LaGuardia Airport Central Terminal Building Redevelopment Program Draft Environmental Assessment and DOT Section 4(f) Evaluation

Dear Mr. Knoesel:

The Environmental Protection Agency has reviewed the LaGuardia Airport Central Terminal Building Redevelopment Program Draft Environmental Assessment and DOT Section 4(f) Evaluation prepared in compliance with the National Environmental Policy Act.

The Port Authority of New York & New Jersey proposes to redevelop the passenger terminal building, airside apron, landside roadways, and parking garage within the main terminal area at LaGuardia Airport in Bronx, New York. The Proposed Action involves replacing the existing terminal building with a three-level, 1.3 million square foot terminal, reconfiguring the terminal airside apron to accommodate larger aircraft at 35 contact gate positions, removing and replacing arrival and departure roadways, constructing a new West Parking Garage containing 2,900 spaces, and demolishing and relocating various hangars, utility and service areas, and airport access points.

Based on our review of the DEA, EPA finds that the Proposed Action is compatible with existing conditions and land use at the site, and that no significant, long-term adverse impacts will result. We commend your commitment to sustainable practices and environmental stewardship as you undertake a project of this scale.

Thank you for the opportunity to comment on the DEA. If you have any questions, please contact Shane Nelson at (212) 637-3130.

Sincerely yours,

Grace Musumeci, Chief
Environmental Review Section

Internet Address (URL) • http://www.epa.gov
Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 50% Postconsumer content)

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

January 03, 2013

Thomas Bosco
Port Authority of NY & NJ
LaGuardia International Airport
LaGuardia Road
New York, New York 11371

CC: lgacth@panynj.gov

Re: FAA, PA
Central Terminal Building at LaGuardia Airport
LaGuardia Airport/QUEENS, Queens County
12PR05127

Dear Mr. Bosco:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP) concerning your project's potential impact/effect upon historic and/or prehistoric cultural resources. Our staff has reviewed the documentation that you provided on your project. Preliminary comments and/or requests for additional information are noted on separate enclosures accompanying this letter. A determination of impact/effect will be provided only after ALL documentation requirements noted on any enclosures have been met. Any questions concerning our preliminary comments and/or requests for additional information should be directed to the appropriate staff person identified on each enclosure.

In cases where a state agency is involved in this undertaking, it is appropriate for that agency to determine whether consultation should take place with OPRHP under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law. In addition, if there is any federal agency involvement, Advisory Council on Historic Preservation's regulations, "Protection of Historic and Cultural Properties" 36 CFR 800 requires that agency to initiate Section 106 consultation with the State Historic Preservation Officer (SHPO).

When responding, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Deputy Commissioner for Historic Preservation

Enclosure

An Equal Opportunity/Affirmative Action Agency

printed on recycled paper

REQUEST FOR ADDITIONAL INFORMATION
BUILDINGS/STRUCTURES/DISTRICTS

PROJECT NUMBER 12PR05127

(Central Terminal Building at LaGuardia Airport/LaGuardia Airport/QUEENS)

In order for us to complete our evaluation of the historic signification of all buildings/structures/districts within or adjacent to your project area we will need the following additional information

- ☐ Full project description showing area of potential effect.
- ☐ Clear, original photographs of buildings/structures 50 years or older.
  - ☐ within or ☐ immediately adjacent to the project area
  - ** *key all photographs to a site map*
- ☐ Clear, original photographs of the surroundings looking out from the project site in all direction, *keyed to a site map.*
- ☐ Date of construction.
- ☐ Brief history of property.
- ☐ Clear, original photographs of the following:

  Current exterior and interior photos of the Central Terminal Building(CTB)keyed to plans.
- ☑ Other:

  1) A detailed narrative description of the exterior and interior of the Central Terminal Building(CTB).
  2) Date(s) of construction and a discussion of any major alterations and their dates.
  3)A historic overview of LaGuardia Airport including a hitory of CTB and its potential historic/architectural significance.
  4)Copies of historic photos of CTB so we can compare current conditions with its earlier appearance.

Please provide **only** the additional information checked **above.** If you have any question concerning this request for additional information, please **call** Kathy **Howe at** 518-237-8643, **ext** 3266

PLEASE BE SURE TO REFER TO THE PROJECT NUMBER NOTED ABOVE WHEN RESPONDING TO THIS REQUEST

http://sphinx/PR/PMReadForm.asp?iPrn=1&iFId=22039&sSFile=form3.htm 1/2/2013

THE PORT AUTHORITY OF NY & NJ

April 9, 2013

Dr. Ruth Pierpont
New York State Division for Historic Preservation
New York State Office of Parks, Recreation & Historic Preservation
Peebles Island State Park
P.O. Box 189
Waterford, NY 12188-0189

Re: Project Number 12PROS127 – LaGuardia Airport Central Terminal Redevelopment Project

Dear Dr. Pierpont,

This is in response to your January 3, 2013 letter to Thomas Bosco, the General Manager of LaGuardia Airport, regarding the project referenced above. As you know, the Port Authority of New York and New Jersey is proposing to undertake a Central Terminal Redevelopment Program at LaGuardia Airport (LGA) in Queens, New York. The project will entail the provision of federal funding, and a Federal Aviation Administration (FAA) approval of a change to the Airport Layout Plan, which are federal actions requiring compliance with the National Environmental Policy Act. Thus, the Port Authority is required to prepare an Environmental Assessment, with the FAA as lead federal agency. The Proposed Action also is subject to Section 106 of the National Historic Preservation Act (Section 106). Per 36 CFR 800.8(c), the FAA intends to use the NEPA process to satisfy Section 106 requirements in a manner consistent with 36 CFR 800.

The Central Terminal Building (CTB) is almost 50 years old and has exceeded its useful life and design capacity. Capacity constraints throughout the LGA system – landside, terminal, and airside -- cause unacceptable levels of passenger delays today and threaten future levels of airline and passenger activity. These fundamental problems cannot be addressed by simply renovating the existing terminal. In order to effectuate the redevelopment of the CTB, demolition of Hangars 1, 2, and 4 are also proposed. The attached draft Technical Memorandum prepared by our consultant includes information about the Hangars, as well as the requested information on the Central Terminal Building.

225 Park Avenue South
New York, NY 10003

- 2 -

If you or Ms. Howe have any questions or comments, please do not hesitate to contact me via phone at 212.435.3747, via e-mail at eknoesel@panynj.gov, or at the address noted above.

Sincerely,

Edward Knoesel
Manager, Environmental Services
Aviation Department

cc: T. Bosco, PANYNJ
M. Moran, PANYNJ
B. Oscarson, AECOM
M. Jenet, FAA - NYADO

Encl.: Draft Technical Memorandum

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643

www.nysparks.com

May 10, 2013

Edward Knoesel
Port Authority of NY & NJ
225 Park Avenue South
New York, NY 10003

Re: FAA/PA
LaGuardia Airport Central Terminal Redevelopment
Queens County
12PR05127

Dear Mr. Knoesel,

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO) for the proposed work at LaGuardia Airport in Queens. We have reviewed the submitted materials in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include other potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental quality Review Act (New York Environmental Conservation Law Article 8).

We note that hangers 1, 2, 3, 4 and 5 at LaGuardia Airport, Grand Central Parkway are eligible for listing on the State and National Registers of Historic Places. The Resource Evaluation for these hangers is attached for your use. We further note that the Marine Air Terminal is listed on the State and National Registers of Historic Places.

We understand the current project proposes to demolish hangers 1, 2 and 4. Demolition of a National Register eligible building is deemed an Adverse Effect which triggers an exploration of alternative that might avoid or reduce project impacts. We note that if these three hangers were removed this would be a major loss leaving little of the original LaGuardia era plan. If no prudent and feasible alternatives are identified, we would enter into an Memorandum of Agreement (MOA) which would identify proper mitigation measures to be incorporated into the work. As a matter of policy and practice, this exploration must occur before mitigation measure can be developed and before demolition can occur.

At this point, we recommend moving ahead with an exploration of alternatives. If anyone has any questions, please call me at (518) 237-8643, ext. 3282.

Sincerely,

Beth A. Cumming
Historic Site Restoration Coordinator
beth.cumming@parks.ny.gov

via e-mail only

enc: Resource Evaluation

cc: M. Jenet - FAA

An Equal Opportunity Employer/Affirmative Action Agency

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks,
Recreation and Historic Preservation
Historic Preservation Field Services Bureau • Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

RESOURCE EVALUATION

DATE: April 25, 2013
PROPERTY: Hangars 1, 2, 3, 4, 5
ADDRESS: LaGuardia Airport, Grand Central Parkway
PROJECT REF: 12PR05127

STAFF: Kathy Howe
MCD: Queens
COUNTY: Queens
USNs: 08101.011711
08101.011712
08101.011713
08101.011714
08101.011715

I. ☐ Property is individually listed on SR/NR:
name of listing:
☐ Property is a contributing component of a SR/NR district:
name of district:

II. ☒ Property meets eligibility criteria.
☐ Property contributes to a district which appears to meet eligibility criteria.
Pre SRB: ☐ Post SRB: ☐ SRB date

Criteria for Inclusion in the National Register:

A. ☒ Associated with events that have made a significant contribution to the broad patterns of our history;
B. ☐ Associated with the lives of persons significant in our past;
C. ☒ Embodies the distinctive characteristics of a type, period or method of construction; or represents the work of a master; or possess high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction;
D. ☐ Have yielded, or may be likely to yield information important in prehistory or history.

STATEMENT OF SIGNIFICANCE:

Significance Statement for Hangars 1, 2, 3, 4, and 5
Hangars 1, 2, 3, 4, and 5 at LaGuardia Airport were built in 1939 and 1940 and designed in the Art Deco style by architects Delano & Aldrich. Retaining a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association, the complex of hangars meets Criterion A in the area of aviation history and Criterion C as representations of early twentieth century industrial design. Hangars 2 and 4 are located east of the Central Terminal Building (CTB/a.k.a. Terminal B) while Hangars 1, 3, and 5 are located west of the CTB.

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Another hangar, Hangar 6, located east of Hangar 4 was demolished in the early 1990s.

While the five surviving hangars are National Register-eligible, the Central Terminal Building/Terminal B, originally constructed in 1964 to the design of Harrison & Abramowitz, does not meet the NR criteria due to major alterations in the 1970s-1990s. Along with the previously National Register-listed Marine Air Terminal, the hangars are significant historical features of LaGuardia Airport.

The design of all five surviving hangars consists of buff-colored brick with contrasting dark brick accents. The north façades front the airfield and are dominated by industrial steel sash and large hangar doors while the south façades, facing Grand Central Parkway, have two-story brick projections with ribbon windows. The shed portion of the hangars is a large, open space with exposed steel trusswork for the arched roof while the projecting brick blocks on the south side house office space. The hangars have been leased by various airlines including American Airlines, United/Continental, Delta, and TWA through the years for airplane maintenance and to house administrative offices.[1]

History of LaGuardia Airport

LaGuardia Airport opened in 1939 as North Beach Airport and was soon after given the name New York City Municipal Airport – LaGuardia Field. It was the first airport in the United States to have been financed, designed, and built with the full participation of the federal government using Works Progress Administration funding. Plans for the airport were promoted by Mayor Fiorello H. La Guardia as one aspect of a vast municipal transportation improvement campaign. The site offered easy access to the Triborough Bridge and to proposed highways. The airport initially covered 558 acres, part of which consisted of landfill from Rikers Island and from subway excavations.

The airport was designed by Delano & Aldrich and "reflected the latest functionalist thinking. The scheme consisted of a main terminal with a central administration building flanked by crescent like ranges containing three hangars on each side and a Marine Air Terminal about a half mile away. The hangars, with simple brickwork, horizontally banded metal windows, and low-vaulted roofs, convincingly mediated their inherent machine-shop atmosphere and monumentality deemed appropriate to a municipal gateway. The administration building was a long rectangular mass, one side of which opened in a semicircular shape onto the landing field."[2]

Plans for a major reconstruction for the airport began in 1957. Although the reconstruction demolished Delano & Aldrich's central terminal building, it retained five of the hangars designed by that firm as well as the Marine Air Terminal. New buildings erected as part of this reconstruction included Harrison & Abramowitz's control tower (1963) and an arc-shaped curving Central Terminal Building (1964).

If you have any questions concerning this Determination of Eligibility, please call Kathy Howe at (518) 237-8643, ext. 3266.

---

[1] See Paul Barrett's entry on LaGuardia Airport in Kenneth T. Jackson, ed., *The Encyclopedia of New York City* (New Haven: Yale University Press, 1955) 651.

[2] Robert A.M. Stern, Gregory Gilmartin, Thomas Mellins, *New York 1930: Architecture and Urbanism Between the Two World Wars* (New York: Rizzoli, 1987) 704.

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189
518-237-8643

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

18 July 2013

Mr. Edward Knoesel
Manager, Environmental Services
Aviation Department
Port Authority of NY & NJ
225 Park Avenue South
New York, NY 10003

Re: FAA, PA
Central Terminal Building at LaGuardia Airport
Borough of Queens, Queens County
12PR05127

Dear Mr. Knoesel:

The State Historic Preservation Office (SHPO) has reviewed the information submitted for this project (*Phase IA Archaeological Survey Report, LaGuardia Airport Central Terminal Building Redevelopment, Queens Borough, New York City*; dated June 2013; prepared by AECOM). Our review has been in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

SHPO has the following comments and requests for additional information regarding this report.

1. We concur with the report's recommendations regarding the "Areas of Archaeological Potential" 1-4 (p. 32). Please provide details regarding the depth of planned excavation in Area 1 when these become available so that consideration may be given to the need for archaeological monitoring.
2. SHPO requests additional information regarding the portions of the Area of Potential Effects (APE) encompassing areas that were open water prior to filling (Figure 8). During the early to mid Holocene much or all of this area would have been dry land. Post-glacial sea level rise would have gradually inundated this area, depositing sediments which could contain archaeological materials. These sediments appear to be represented by the "Organic Clays and Silts" described in the geotechnical report (Appendix B). Please provide a comparison of the vertical APE in these areas with the documented depths of the organic deposits. If the vertical APE intersects the organic deposits, please provide a geoarchaeological assessment of whether archaeological sites might be preserved in this context.

SHPO will continue consultation regarding this project once the requested information has been received.

If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio, Historic Preservation Program Analyst – Archaeology Unit
Phone: 518-237-8643 x3276; FAX: 518-233-9049
Email: Philip.Perazio@parks.ny.gov

Cc: John Lawrence, AECOM (via email)
Brinn Albright, AECOM (via email)

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THE PORT AUTHORITY OF NY & NJ

July 26, 2013

Mr. Philip A. Perazio
Historic Preservation Program Analyst – Archaeology Unit
New York State Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation
P.O. Box 189
Waterford, NY 12188-0189

Re. Phase IA Archaeological Survey Report
Central Terminal Building at LaGuardia Airport
Borough of Queens, Queens County,
12PRO5127

Dear Mr. Perazio:

This letter is in response to your correspondence of 18 July 2013, in review of the *Phase IA Archaeological Survey Report, LaGuardia Airport Central Terminal Building Redevelopment, Queens Borough, New York City*, dated June 2013.

We understand that your office requires additional information in order to establish a vertical Area of Potential Effects (APE) for the proposed undertaking, in order to assess whether additional archaeological monitoring or testing may be required. Current development plans will require three different types of impacts to the existing soil profile within the project APE:

- Site grading (cutting or filling the existing ground surface)
- Utility trenching
- Pile-driving to support new structures

Each of these activities will contribute to the formulation of a vertical APE. We are currently assembling all available design specifications for the horizontal and vertical extent for each of the three activities listed above. We anticipate that this information will be available for submittal to you in two weeks as an addendum to the *Phase IA Archaeological Survey Report*. The proposed addendum will contain all relevant available design plans and graphic illustrations of the horizontal and vertical limits of each activity. The addendum will also contain a comparison of the vertical limits of the APE with the elevation of the "Organic Clays and Silts" horizon encountered in the geotechnical borings. We believe that this information will be sufficient to determine if, and where archaeological monitoring or geomorphological assessment may be required.

We look forward to continuing consultation with your office on this project of great importance

225 Park Avenue South
New York, NY 10003

THE PORT AUTHORITY OF NY & NJ

to the Port Authority and the travelling public of the region. Please don't hesitate to contact me if you have any questions or concerns regarding this matter. Thank you very much.

Edward Knoesel
Manager, Environmental Services – Aviation Department
Phone: (212) 435-3747
Email: eknoesel@panynj.gov

Cc: John Lawrence, AECOM
Brian Albright, AECOM
Angel Martinez, PANYNJ

THE PORT AUTHORITY OF NY & NJ

August 14, 2013

Mr. Philip A. Perazio
Historic Preservation Program Analyst – Archaeology Unit
New York State Office of Parks, Recreation and Historic Preservation
Division for Historic Preservation
Peebles Island Resource Center
Delaware Avenue
Cohoes, NY 12047

Re. Phase IA Archaeological Survey Report
Central Terminal Building at LaGuardia Airport
Borough of Queens, Queens County,
12PRO5127

Dear Mr. Perazio:

On July 26 2013, I responded to your July 18 2013 letter in which you requested additional information in order to establish a vertical Area of Potential Effects for LaGuardia Airport Central Terminal Building Redevelopment project in Flushing, New York. I indicated in my letter that the information you requested would be submitted to you as an addendum to the *Phase IA Archeological Survey Report.*

The enclosed disk contains the draft addendum report containing the information you requested, including all relevant available design plans and graphic illustrations of the horizontal and vertical limits of site grading, utility trenching, and pile-driving to support new structures. It also contains the following:

1) definition of the vertical APE within the area of archaeological sensitivity;
2) definition of the vertical APE in areas formerly pertaining to Flushing Bay, which were in-filled during the twentieth-century and;
3) the relationship of the vertical APE to a possibly intact, Early Holocene land surface with the potential to contain archaeological deposits.
4) the opinion of a professional geomorphologist on the potential for early archaeological deposits in previous inundated areas, based on the setting and geotechnical information available.

This draft addendum report presents all currently-available information requested by NYSOPRHP. Design specification for elements of proposed construction with the capacity to impact the existing land surface are presented to define the vertical APE as accurately as possible. The same design features have also been brought into GIS to compare the vertical APE with the elevation of the possible Early Holocene surface, as requested.

We look forward to continuing consultation with your office on this project of great importance

225 Park Avenue South
New York, NY 10003

THE PORT AUTHORITY OF NY & NJ

to the Port Authority and the travelling public of the region. Please don't hesitate to contact me if you have any questions or concerns regarding this matter. Thank you very much.

Edward Knoesel
Manager, Environmental Services – Aviation Department
Phone: (212) 435-3747
Email: eknoesel@panynj.gov

cc: Marie Jenet, FAA
John Lawrence, AECOM
Brian Albright, AECOM
Angel Martinez, PANYNJ

Enc.

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189
518-237-8643

5 September 2013

Mr. Edward Knoesel
Manager, Environmental Services
Aviation Department
Port Authority of NY & NJ
225 Park Avenue South
New York, NY 10003

Re: FAA, PA
Central Terminal Building at LaGuardia Airport
Borough of Queens, Queens County
12PR05127

Dear Mr. Knoesel:

The State Historic Preservation Office (SHPO) has reviewed the information submitted for this project (*Addendum Phase IA Archaeological Survey Report, LaGuardia Airport Central Terminal Building Redevelopment, Queens Borough, New York City*; dated August 2013; prepared by AECOM). Our review has been in accordance with Section 106 of the National Historic Preservation Act and relevant implementing regulations.

Thank you for providing this additional information. Based on this and the previously submitted Phase IA report, SHPO concurs that archaeological concerns regarding the proposed project are restricted to the Area of Archaeological Potential #1 defined in the original report (Table 3) and designated as Archaeological Sensitivity Area 1 in the addendum report. SHPO also concurs with the recommendation that archaeological monitoring should be conducted in those portions of Area 1 where planned ground disturbance may intersect archaeologically sensitive soil contexts.

Please provide a monitoring protocol which includes provisions to allow the archaeologist to halt construction activities in areas of suspected significant archaeological materials for a sufficient time to make a preliminary assessment of their nature. The protocol should also include provision for consultation with this office regarding the need for further investigation prior to the resumption of construction activities.

These comments address only the potential for archaeological sites. SHPO comments regarding buildings and structures will be provided separately.

If you have any questions please don't hesitate to contact me.

Sincerely,

Philip A. Perazio, Historic Preservation Program Analyst – Archaeology Unit
Phone: 518-237-8643 x3276; FAX: 518-233-9049
Email: Philip.Perazio@parks.ny.gov

Cc: Marie Jenet, FAA (via email)
John Lawrence, AECOM (via email)
Alan Tabachnick, AECOM (via email)

Andrew M. Cuomo
Governor

Rose Harvey
Commissioner

New York State Office of Parks, Recreation and Historic Preservation

Division for Historic Preservation
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643
www.nysparks.com

February 03, 2014

Edward Knoesel
Port Authority of NY & NJ
225 Park Avenue South
New York, New York 10003
(*via e-mail only*)

Re: FAA, PA
Central Terminal Building at LaGuardia Airport
LaGuardia Airport, Queens County
12PR05127

Dear Mr. Knoesel:

Thank you for continuing to consult with the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. The intent of this letter is to provide written documentation of the Adverse Effect finding.

On August 21, 2013, we received the Cultural Resources Technical Memorandum dated July 26, 2013 for the LaGuardia Airport Central Terminal Building Redevelopment Program in response to our letter dated May 10, 2013 requiring an exploration of alternatives in response to the proposed demolition of the National Register Eligible hangers 1, 2, and 4.

As noted in **section 6.0** – *Summary of proposed action, impacts to historic properties and consultation process*, none of the seven (7) options will meet the project's Purpose and Need. As such there are no prudent and feasible alternatives. Furthermore, the SHPO participated via telephone on September 26, 2013 and attended an on-site consulting parties meeting and tour of facilities on October 29, 2013. It is the SHPO's opinion the project will have an Adverse Effect upon properties in or eligible for inclusion in the National Register of Historic Places as noted verbally during the consulting parties meeting on October 29, 2013. As a result, our office concurs with the findings of the report and is willing to enter into a Memorandum of Agreement that recognizes the associated adverse effect and lists mitigation measures.

If you have any questions, I can be reached at (518) 237-8643, ext. 3260. Please refer to the SHPO Project Review (PR) number in any future correspondences regarding this project.

Sincerely,

Eric N. Kuchar
Historic Preservation Technical Specialist

CC: Marie Janet, FAA (*via e-mail only*)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

Joe Martens
Commissioner

July 11, 2012

RECEIVED
JUL 13 2012
AMY S. GREENE
ENVIRONMENTAL CONSULTANTS, INC.

Lynn Brass Smith
Amy S Greene Environ. Consultnts
4 Walter Foran Blvd, Suite 209
Flemington, NJ 08822

Dear Ms. Smith:

In response to your recent request, we have reviewed the New York Natural Heritage Program database, with respect to an Environmental Assessment for the proposed Re-development Program at the La Guardia Airport Terminal, # 3450, area as indicated on the map you provided, located in the Borough of Queens, New York City.

We have no records of rare or state listed animals or plants, significant natural communities or other significant habitats, on or in the immediate vicinity of your sites.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,
Nicholas B. Conrad, Information Services
NYS Department Environmental Conservation

Enc.
cc: Reg. 2, Wildlife Mgr.

623

THE PORT AUTHORITY OF NY & NJ

Engineering Department

UPS OVERNIGHT DELIVERY

August 6, 2013

FILE COPY
PROJECT # 60181178
PHASE # 0009.6
File # B.4.4

Mr. Jeffrey Zappieri
Supervisor, Consistency Review Unit
New York State Department of State
Division of Coastal Resources
1 Commerce Plaza, Suite 1010
Albany, NY 12231-0001

SUBJECT: LGA AIRPORT – CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM

Dear Mr. Zappieri:

The Port Authority of NY & NJ (Port Authority) is proposing the Central Terminal Building (CTB) Redevelopment Program at LaGuardia Airport (LGA). The Central Terminal Building Redevelopment Program is needed to improve safety, security, and the flow passengers through LaGuardia Airport. Over the next ten years, the CTB, roadways, and parking garage are scheduled to be replaced in-kind with new facilities designed and constructed to meet the latest federal standards for airport safety and security, and to enhance the overall level of service for passengers and visitors alike. The proposed site for the CTB Redevelopment project is located within the southern portion of LGA adjacent to LaGuardia Road and the Grand Central Parkway.

The proposed project requires a change in the airport layout plan and, therefore, must be approved by the Federal Aviation Administration. In addition, the proposed project will be funded, in part, using federal funds. The Port Authority has reviewed the project in light of the New York State Department of State (NYSDOS) coastal zone policies and the New York City Waterfront Revitalization Program (NYCWRP) coastal zone policies and determined that there would be no foreseeable adverse effects on coastal resources from this project.

Enclosed are project drawings, a completed Federal Consistency Assessment Form (FCAF) and policy evaluation, and a completed New York City Waterfront Revitalization Program Consistency Assessment Form (NYCWRPCAF) and policy evaluation to assist in your review of the proposed project.

The project site is located within a developed area that is inland of the shoreline. Therefore, the work will not require permits from the U.S. Army Corps of Engineers or the New York State Department of Environmental Conservation.

Two Gateway Center
Newark, NJ 07102

THE PORT AUTHORITY OF NY & NJ

Thank you for your assistance in this matter. If you have any questions or require additional information, please contact the undersigned by e-mail at mhelman@panynj.gov or by telephone at (973) 565 - 7564.

Very truly yours,

Marc Helman
Supervisor, Permits and Governmental Approvals
Environmental Engineering Unit

Enclosures:
1) Project Drawings
2) FCAF and policy evaluation
3) NYC WRPCAF and policy evaluation

cc: Michael Marrella, NYCDCP

THE PORT AUTHORITY OF NY & NJ

UPS OVERNIGHT DELIVERY

Engineering Department

August 6, 2013

Mr. Michael Marrella
Director, Waterfront and Open Space Division
New York City Department of City Planning
22 Reade Street
New York, NY 10007-1216

SUBJECT: LGA AIRPORT – CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM

Dear Mr. Marrella:

The Port Authority of NY & NJ (Port Authority) is proposing the Central Terminal Building (CTB) Redevelopment Program at LaGuardia Airport (LGA). The Central Terminal Building Redevelopment Program is needed to improve safety, security, and the flow passengers through LaGuardia Airport. Over the next ten years, the CTB, roadways, and parking garage are scheduled to be replaced in-kind with new facilities designed and constructed to meet the latest federal standards for airport safety and security, and to enhance the overall level of service for passengers and visitors alike. The proposed site for the CTB Redevelopment project is located within the southern portion of LGA adjacent to LaGuardia Road and the Grand Central Parkway.

The proposed project requires a change in the airport layout plan and, therefore, must be approved by the Federal Aviation Administration. In addition, the proposed project will be funded, in part, using federal funds. The Port Authority has reviewed the project in light of the New York State Department of State (NYSDOS) coastal zone policies and the New York City Waterfront Revitalization Program (NYCWRP) coastal zone policies and determined that there would be no foreseeable adverse effects on coastal resources from this project.

Enclosed are project drawings, a completed Federal Consistency Assessment Form (FCAF) and policy evaluation, and a completed New York City Waterfront Revitalization Program Consistency Assessment Form (NYCWRPCAF) and policy evaluation to assist in your review of the proposed project.

The project site is located within a developed area that is inland of the shoreline. Therefore, the work will not require a permit from the U.S. Army Corps of Engineers or from the New York State Department of Environmental Conservation.

Two Gateway Center
Newark, NJ 07102

THE PORT AUTHORITY OF NY & NJ

Thank you for your assistance in this matter. If you have any questions or require any additional information, please contact the undersigned by e-mail at mhelman@panynj.gov or by telephone at (973) 565 - 7564.

Very truly yours,

Marc Helman

Marc Helman
Supervisor, Permits and Governmental Approvals
Environmental Engineering Unit

Enclosures:
1) Project Drawings
2) NYC WRPCAF
3) FCAF

cc: Jeffrey Zappieri, NYSDOS

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Federal Consistency Assessment Form

An applicant, seeking a permit, license, waiver, certification or similar type of approval from a federal agency which is subject to the New York State Coastal Management Program (CMP), shall complete this assessment form for any proposed activity that will occur within and/or directly affect the State's Coastal Area. This form is intended to assist an applicant in certifying that the proposed activity is consistent with New York State's CMP as required by U.S. Department of Commerce regulations (15 CFR 930.57). It should be completed at the time when the federal application is prepared. The Department of State will use the completed form and accompanying information in its review of the applicant's certification of consistency.

A APPLICANT (please print)

1. Name: The Port Authority of New York & New Jersey ATTN: Marc Helman

2. Address: 2 Gateway Center, 14th Floor, Newark, NJ 07102

3. Telephone: Area Code (973) 565 - 7564

B. PROPOSED ACTIVITY

1. Brief description of activity:

The existing Central Terminal Building (CTB) terminal building, roadways, and parking garage are scheduled to be replaced in the course of the next 10 years.

The CTB Redevelopment Program is divided into three functional areas: 1) terminal building, 2) airside apron, 3) landside roadways and parking facilities.

See Attachment A for a more complete description of the project.

2. Purpose of activity:

See Attachment A for a discussion of the purposes of the project.

3. Location of activity:

Queens County	Flushing 11369	LaGuardia Airport
County	City, Town, or Village	Street or Site Description

4. Type of federal permit/license required: FAA Approval of change to Airport Layout Plan (ALP) and possible funding.

5. Federal application number, if known:

6. If a state permit/license was issued or is required for the proposed activity, identify the state agency and provide the application or permit number, if known:

Stormwater Pollution Prevention Plan (SWPPP) as required by the LGA's Stormwater Pollution Discharge Elimination System Permit

C. COASTAL ASSESSMENT Check either "YES" or "NO" for each of these questions. The numbers following each question refer to the policies described in the CMP document (see footnote on page 2) which may be affected by the proposed activity.

	YES	NO
1. Will the proposed activity result in any of the following:		
a. Large physical change to a site within the coastal area which will require the preparation of an environmental impact statement? (11, 22, 25, 32, 37, 38, 41, 43)	☐	☑
b. Physical alteration of more than two acres of land along the shoreline, land under water or coastal waters? (2, 11, 12, 20, 28, 35, 44)	☐	☑
c. Revitalization/redevelopment of a deteriorated or underutilized waterfront site? (1)	☐	☑
d. Reduction of existing or potential public access to or along coastal waters? (19, 20)	☐	☑
e. Adverse effect upon the commercial or recreational use of coastal fish resources? (9,10)	☐	☑
f. Siting of a facility essential to the exploration, development and production of energy resources in coastal waters or on the Outer Continental Shelf? (29)	☐	☑
g. Siting of a facility essential to the generation or transmission of energy? (27)	☐	☑
h. Mining, excavation, or dredging activities, or the placement of dredged or fill material in coastal waters? (15, 35)	☐	☑
i. Discharge of toxics, hazardous substances or other pollutants into coastal waters? (8, 15, 35)	☐	☑
j. Draining of stormwater runoff or sewer overflows into coastal waters? (33)	☑	☐
k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials? (36, 39)	☑	☐
l. Adverse effect upon land or water uses within the State's small harbors? (4)	☐	☑
2. Will the proposed activity affect or be located in, on, or adjacent to any of the following:	YES	NO
a. State designated freshwater or tidal wetland? (44)	☑	☐
b. Federally designated flood and/or state designated erosion hazard area? (11, 12, 17,)	☑	☐
c. State designated significant fish and/or wildlife habitat? (7)	☐	☑
d. State designated significant scenic resource or area? (24)	☐	☑
e. State designated important agricultural lands? (26)	☐	☑
f. Beach, dune or barrier island? (12)	☐	☑
g. Major ports of Albany, Buffalo, Ogdensburg, Oswego or New York? (3)	☐	☑
h. State, county, or local park? (19, 20)	☑	☐
i. Historic resource listed on the National or State Register of Historic Places? (23)	☑	☐
3. Will the proposed activity require any of the following:	YES	NO
a. Waterfront site? (2, 21, 22)	☐	☑
b. Provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (5)	☐	☑
c. Construction or reconstruction of a flood or erosion control structure? (13, 14, 16)	☐	☑
d. State water quality permit or certification? (30, 38, 40)	☐	☑
e. State air quality permit or certification? (41, 43)	☐	☑
4. Will the proposed activity occur within and/or affect an area covered by a State approved local waterfront revitalization program? (see policies in local program document)	☑	☐

D. ADDITIONAL STEPS

1. If all of the questions in Section C are answered "NO", then the applicant or agency shall complete Section E and submit the documentation required by Section F.

2. If any of the questions in Section C are answered "YES", then the applicant or agent is advised to consult the CMP, or where appropriate, the local waterfront revitalization program document*. The proposed activity must be analyzed in more detail with respect to the applicable state or local coastal policies. On a separate page(s), the applicant or agent shall: (a) identify, by their policy numbers, which coastal policies are affected by the activity, (b) briefly assess the effects of the activity upon the policy; and, (c) state how the activity is consistent with each policy. Following the completion of this written assessment, the applicant or agency shall complete Section E and submit the documentation required by Section F.

E. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with the State's CMP or the approved local waterfront revitalization program, as appropriate. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification can be made, complete this Section.

"The proposed activity complies with New York State's approved Coastal Management Program, or with the applicable approved local waterfront revitalization program, and will be conducted in a manner consistent with such program."

Contact
~~Applicant/Agent's~~ Name: Marc Helman

Address: 2 Gateway Center, 14th Floor, Newark, NJ 07102

Telephone: Area Code (973) 565 - 7564

Contact
~~Applicant/Agent's~~ Signature: _____ Date: _____

F. SUBMISSION REQUIREMENTS

1. The applicant or agent shall submit the following documents to the New York State Department of State, Office of Coastal, Local Government and Community Sustainability, Attn: Consistency Review Unit, 1 Commerce Plaza - Suite 1010, Albany, New York 12231.

a. Copy of original signed form.
b. Copy of the completed federal agency application.
c. Other available information which would support the certification of consistency.

2. The applicant or agent shall also submit a copy of this completed form along with his/her application to the federal agency.

3. If there are any questions regarding the submission of this form, contact the Department of State at (518) 474-6000.

*These state and local documents are available for inspection at the offices of many federal agencies, Department of environmental Conservation and Department of State regional offices, and the appropriate regional and county planning agencies. Local program documents are also available for inspection at the offices of the appropriate local government.

C:\OFFICE\WPWIN\WPDOCS\fca2 (revised 10/29/08)

For Internal Use Only:
Date Received: _____

WRP no: _____
DOS no. _____

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM
Consistency Assessment Form

Proposed actions that are subject to CEQR, ULURP or other local, state or federal discretionary review procedures, and that are within New York City's designated coastal zone, must be reviewed and assessed for their consistency with the *New York City Waterfront Revitalization Program (WRP)*. The WRP was adopted as a 197-a Plan by the Council of the City of New York on October 13, 1999, and subsequently approved by the New York State Department of State with the concurrence of the United States Department of Commerce pursuant to applicable state and federal law, including the Waterfront Revitalization of Coastal Areas and Inland Waterways Act. As a result of these approvals, state and federal discretionary actions within the city's coastal zone must be consistent to the maximum extent practicable with the WRP policies and the city must be given the opportunity to comment on all state and federal projects within its coastal zone.

This form is intended to assist an applicant in certifying that the proposed activity is consistent with the WRP. It should be completed when the local, state, or federal application is prepared. The completed form and accompanying information will be used by the New York State Department of State, other state agencies or the New York City Department of City Planning in their review of the applicant's certification of consistency.

A. APPLICANT

1. Name: The Port Authority of New York & New Jersey ATTN: Marc Helman
2. Address: 2 Gateway Center, 14th Floor, Newark, NJ 07102
3. Telephone: 973 565 7564 Fax: 973 565 7649 E-mail: mhelman@panynj.gov
4. Project site owner: The Port Authority of New York & New Jersey

B. PROPOSED ACTIVITY

1. Brief description of activity:
   See Attachment A.

2. Purpose of activity:
   See Attachment A.

3. Location of activity: (street address/borough or site description):
   LaGuardia Airport
   Queens County
   Flushing, NY 11369

WRP consistency form - January 2003 1

Proposed Activity Cont'd

4. If a federal or state permit or license was issued or is required for the proposed activity, identify the permit type(s), the authorizing agency and provide the application or permit number(s), if known:

   Federal Aviation Administration Approval for Airport Layout Plan changes and project funding.

5. Is federal or state funding being used to finance the project? If so, please identify the funding source(s).

   Federal Aviation Administration through Passenger Facility Charges.

6. Will the proposed project require the preparation of an environmental impact statement?
   Yes _____ No ✓ If yes, identify Lead Agency:

7. Identify city discretionary actions, such as a zoning amendment or adoption of an urban renewal plan, required for the proposed project.

   N/A

C. COASTAL ASSESSMENT

Location Questions:	Yes	No
1. Is the project site on the waterfront or at the water's edge?	✓	
2. Does the proposed project require a waterfront site?		✓
3. Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land underwater, or coastal waters?		✓

Policy Questions	Yes	No
The following questions represent, in a broad sense, the policies of the WRP. Numbers in parentheses after each question indicate the policy or policies addressed by the question. The new Waterfront Revitalization Program offers detailed explanations of the policies, including criteria for consistency determinations. Check either "Yes" or "No" for each of the following questions. For all "yes" responses, provide an attachment assessing the effects of the proposed activity on the relevant policies or standards. Explain how the action would be consistent with the goals of those policies and standards.		
4. Will the proposed project result in revitalization or redevelopment of a deteriorated or under-used waterfront site? (1)		✓
5. Is the project site appropriate for residential or commercial redevelopment? (1.1)		✓
6. Will the action result in a change in scale or character of a neighborhood? (1.2)		✓

WRP consistency form - January 2003 2

Policy Questions cont'd	Yes	No
7. Will the proposed activity require provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (1.3)		✓
8. Is the action located in one of the designated Significant Maritime and Industrial Areas (SMIA): South Bronx, Newtown Creek, Brooklyn Navy Yard, Red Hook, Sunset Park, or Staten Island? (2)		✓
9. Are there any waterfront structures, such as piers, docks, bulkheads or wharves, located on the project sites? (2)	✓	
10. Would the action involve the siting or construction of a facility essential to the generation or transmission of energy, or a natural gas facility, or would it develop new energy resources? (2.1)		✓
11. Does the action involve the siting of a working waterfront use outside of a SMIA? (2.2)		✓
12. Does the proposed project involve infrastructure improvement, such as construction or repair of piers, docks, or bulkheads? (2.3, 3.2)		✓
13. Would the action involve mining, dredging, or dredge disposal, or placement of dredged or fill materials in coastal waters? (2.3, 3.1, 4, 5.3, 6.3)		✓
14. Would the action be located in a commercial or recreational boating center, such as City Island, Sheepshead Bay or Great Kills or an area devoted to water-dependent transportation? (3)		✓
15. Would the proposed project have an adverse effect upon the land or water uses within a commercial or recreation boating center or water-dependent transportation center? (3.1)		✓
16. Would the proposed project create any conflicts between commercial and recreational boating? (3.2)		✓
17. Does the proposed project involve any boating activity that would have an impact on the aquatic environment or surrounding land and water uses? (3.3)		✓
18. Is the action located in one of the designated Special Natural Waterfront Areas (SNWA): Long Island Sound- East River, Jamaica Bay, or Northwest Staten Island? (4 and 9.2)		✓
19. Is the project site in or adjacent to a Significant Coastal Fish and Wildlife Habitat? (4.1)		✓
20. Is the site located within or adjacent to a Recognized Ecological Complex: South Shore of Staten Island or Riverdale Natural Area District? (4.1and 9.2)		✓
21. Would the action involve any activity in or near a tidal or freshwater wetland? (4.2)	✓	
22. Does the project site contain a rare ecological community or would the proposed project affect a vulnerable plant, fish, or wildlife species? (4.3)		✓
23. Would the action have any effects on commercial or recreational use of fish resources? (4.4)		✓
24. Would the proposed project in any way affect the water quality classification of nearby waters or be unable to be consistent with that classification? (5)		✓
25. Would the action result in any direct or indirect discharges, including toxins, hazardous substances, or other pollutants, effluent, or waste, into any waterbody? (5.1)		✓
26. Would the action result in the draining of stormwater runoff or sewer overflows into coastal waters? (5.1)	✓	
27. Will any activity associated with the project generate nonpoint source pollution? (5.2)		✓
28. Would the action cause violations of the National or State air quality standards? (5.2)		✓

WRP consistency form - January 2003 3

Policy Questions cont'd	Yes	No
29. Would the action result in significant amounts of acid rain precursors (nitrates and sulfates)? (5.2C)		✓
30. Will the project involve the excavation or placing of fill in or near navigable waters, marshes, estuaries, tidal marshes or other wetlands? (5.3)		✓
31. Would the proposed action have any effects on surface or ground water supplies? (5.4)		✓
32. Would the action result in any activities within a federally designated flood hazard area or state-designated erosion hazards area? (6)	✓	
33. Would the action result in any construction activities that would lead to erosion? (6)		✓
34. Would the action involve construction or reconstruction of a flood or erosion control structure? (6.1)		✓
35. Would the action involve any new or increased activity on or near any beach, dune, barrier island, or bluff? (6.1)		✓
36. Does the proposed project involve use of public funds for flood prevention or erosion control? (6.2)		✓
37. Would the proposed project affect a non-renewable source of sand ? (6.3)		✓
38. Would the action result in shipping, handling, or storing of solid wastes, hazardous materials, or other pollutants? (7)		✓
39. Would the action affect any sites that have been used as landfills? (7.1)		✓
40. Would the action result in development of a site that may contain contamination or that has a history of underground fuel tanks, oil spills, or other form or petroleum product use or storage? (7.2)	✓	
41. Will the proposed activity result in any transport, storage, treatment, or disposal of solid wastes or hazardous materials, or the siting of a solid or hazardous waste facility? (7.3)	✓	
42. Would the action result in a reduction of existing or required access to or along coastal waters, public access areas, or public parks or open spaces? (8)		✓
43. Will the proposed project affect or be located in, on, or adjacent to any federal, state, or city park or other land in public ownership protected for open space preservation? (8)		✓
44. Would the action result in the provision of open space without provision for its maintenance? (8.1)		✓
45. Would the action result in any development along the shoreline but NOT include new water-enhanced or water-dependent recreational space? (8.2)		✓
46. Will the proposed project impede visual access to coastal lands, waters and open space? (8.3)		✓
47. Does the proposed project involve publicly owned or acquired land that could accommodate waterfront open space or recreation? (8.4)		✓
48. Does the project site involve lands or waters held in public trust by the state or city? (8.5)		✓
49. Would the action affect natural or built resources that contribute to the scenic quality of a coastal area? (9)		✓
50. Does the site currently include elements that degrade the area's scenic quality or block views to the water? (9.1)		✓

WRP consistency form - January 2003 4

Policy Questions cont'd	Yes	No
51. Would the proposed action have a significant adverse impact on historic, archeological, or cultural resources? (10)	✓	
52. Will the proposed activity affect or be located in, on, or adjacent to an historic resource listed on the National or State Register of Historic Places, or designated as a landmark by the City of New York? (10)	✓	

D. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with New York City's Waterfront Revitalization Program, pursuant to the New York State Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If the certification can be made, complete this section.

"The proposed activity complies with New York State's Coastal Management Program as expressed in New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program, and will be conducted in a manner consistent with such program."

Contact ~~Applicant/Agent~~ Name: Marc Helman

Address: 2 Gateway Center, 14th Floor

Newark, NJ 07102 Telephone 973 565 7564

Contact ~~Applicant/Agent~~ Signature: Date:

WRP consistency form - January 2003 5

NEW YORK STATE DEPARTMENT OF STATE
COASTAL ZONE MANAGEMENT PROGRAM

Coastal Assessment Responses

1. Will the proposed activity result in any of the following:
j. Draining of stormwater runoff or sewer overflows into coastal waters? (33)
Stormwater at LaGuardia Airport does not flow directly into the outfalls except for some discharges on the west side of the airport. The stormwater is conveyed into holding areas and ultimately pump houses equipped with pumps with high level indicator. When the water reaches a specified level in the pump house, the pumps are activated and the stormwater is discharged to an outfall. When stormwater is discharged from the pump house to the outfall sampling, required by SPDES Permit No. NY 0008133 issued to the Port Authority, is conducted to ensure that water quality standards are not contravened. LGA also has BMPs in place for stormwater management – specifically BMP 7 (Elimination of Non-Storm Water Discharges to Storm Drains) and BMP 15 (Stormwater Pollution Prevention Education). There are no combined sewer system overflows (CSOs) from LGA into receiving waters and wastewater from LGA is directed to a city-operated wastewater treatment plant (WWTP) and not a combined sewer system.

After completion of the project, stormwater will be managed the same manner as described above and LGA will continue to comply with the requirements of the SPDES Permit.

The proposed project will ensure the control of stormwater and will not allow combined sewer overflow. Therefore, the project is consistent with Policy 33.

k. Transport, storage, treatment, or disposal of solid wastes or hazardous materials?
Asbestos and lead will be abated to the extent practicable and incidental abatement will be conducted during construction. The proposed project will generate solid waste (primarily excess soil and construction and demolition debris) that will be managed and disposed of in accordance with local, state and federal regulations and rules. An Environmental Management Plan that will include procedures for the proper handling of waste and a response plan for spills will be prepared and implemented during the proposed project. At no time will the filling of wetlands or littoral areas be allowed during the project.

The proposed project will have procedures in place to ensure the proper management and disposal of solid waste and hazardous materials. Therefore, the project is consistent with Policy 36 and Policy 39.

2. Will the proposed activity affect or be located in, on, or adjacent to any of the following:
a. State designated freshwater or tidal wetland?
LaGuardia Airport is surrounded on three sides by State designated tidal wetlands. However, the proposed project site is not located in the designated wetlands and is separated by a minimum of 1,000 feet from the State designated wetlands by buildings, runways, taxiways, and roadways.

The proposed project will not impact State designated wetlands. Therefore, the Project is consistent with Policy 44.

NEW YORK STATE DEPARTMENT OF STATE
COASTAL ZONE MANAGEMENT PROGRAM

b. Federally designated flood and/or state designated erosion hazard area? Portions of the project site (LaGuardia Airport) are below sea level and in a designated federal hazard area. The area of the proposed action would encroach in the flood hazard area subject to inundation by the 100-year storm. Approximately 121 acres out of 147 acres (82%) of the total project site is within the 100-year tidal floodplain.

The proposed action would involve implementation of various strategies to minimize and mitigate for potential flood hazards because it is not practical to locate the proposed project outside the floodplain. The American Society of Civil Engineers (ASCE) standards for construction of buildings in a floodplain call for adding a 1-foot freeboard to the design flood elevation set in accordance with Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management Agency (FEMA). The Port Authority has determined that the proposed project would incorporate a design elevation 18 inches over and above the current 1-foot freeboard elevation wherever possible. Thus, the proposed project would be 2.5 feet above the current FEMA 100-year floodplain level. However, because tidal flooding controls the 100-year floodplain surrounding LGA, the proposed project would not increase or decrease the 100-year flood elevation.

In areas or facilities that cannot be raised above the design flood elevation, dry-flood proofing would be undertaken to protect critical infrastructure. The East Field Lighting Vault is a structure that would be constructed at grade and contained in a dry flood-proofed room because it is impractical to elevate the structure or locate the facility outside the floodplain.

The U.S. Department of Transportation (USDOT) in Order 5650.2 sets criteria used to determine if if there is a "significant encroachment" on the floodplain in those situations where it is not practicable to avoid it. A significant encroachment would not occur for the proposed project because: 1) there is a low probability of loss of human life, 2) the project has been designed to avoid or minimize future, extensive damage and costs (including damage that could interrupt service), and 3) there would be no notable adverse impacts on natural resources or on the floodplains natural and beneficial values. Based on these criteria, the proposed project would not constitute a significant encroachment on the floodplain.

Based on the foregoing, the proposed project would be consistent with Policies 11, 12, and 17.

h. State, county, or local park?
A two acre area identified by the New York City Department of Parks and Recreation as parkland lies between the Grand Central Parkway and the Airport. Currently the area serves as a buffer between LGA and the Grand Central Parkway. The parkland serves as a buffer between the Airport and the Parkway, it is considered a transportation use and is not accessible to the public. As the proposed project will construct Airport roadways and connections to the Grand Central Parkway on the site of this parkland, it will not change the current use.

Elmjack Field located adjacent to Flushing Bay is primarily used for recreational purposes and is within the airport leasehold. Elmjack Field is separated from the proposed project site by roadways and a parking lot and the proposed project will not interfere with access to the park.

Overlook Park, a 2.33 acre publically accessible park elevated to overlook the Airport and surrounding environments, is located approximately 0.1 miles away from the location of the proposed project. The proposed project will not impact Overlook Park.

NEW YORK STATE DEPARTMENT OF STATE
COASTAL ZONE MANAGEMENT PROGRAM

The proposed project is making use of parkland currently considered as being part of a transportation use. The proposed project will not alter public access to the site and because the site is considered a transportation use, a Section 4(f) evaluation is not considered necessary for impacts to parkland. Similarly, the proposed project will not interfere with public access to Elmjack Field and Overlook Park and, therefore, a Section 4(f) evaluation is not necessary. Therefore, the project is consistent with Policy 19 and Policy 20.

i. Historic resource listed on the National or State Register of Historic Places?
The proposed project is located approximately 3000 feet east of the Marine Air Terminal, which was listed in the Register of Historic Places in 1982. The Area of Potential Effect (APE) for the project does not include the area of the Marine Air Terminal. Therefore, the Marine Air Terminal will not be affected by the proposed project either directly or indirectly.

There are a total of six known archeological sites located within a one-mile radius of the proposed project area. However, only one of the sites is located within the project's APE with only a portion of it having moderate to high potential for resource recovery. Due to the substantial amount of filling activities that have occurred in this location over the past 50 years, any intact soils would be significantly below grade. Thus the potential for impacts to occur overall is low but would be contingent upon the depth of construction It is anticipated that a minimum of 15 feet of cover would need to be removed to expose potential resources. The New York State Office of Parks, Recreation and Historic Preservation (NYSOPR&HR) will be consulted to determine if it would be appropriate to monitor the site for archaeological resources during construction. However, it is anticipated, based in part on the prior extent of filling, that the proposed project would have no or minimal impact to archeological sites.

The proposed project will require the demolition of Hangars 1, 2 and 4, which are eligible to be listed on the National Register as per NYSOPR&HR. The Port Authority is currently evaluating alternatives that might avoid and/or reduce impacts to the buildings. If no prudent or feasible alternatives are available, the Port Authority would enter into a consultation leading to a Memorandum of Agreement (MOA) with the NYSOPR&HR to identify proper mitigation measures.

As the proposed project will minimize impacts to listed sites and archeological resources where practicable and the Port Authority will identify alternatives to minimize the adverse impacts and/or enter in an MOA with the NYSOPR&HR to define mitigation for unavoidable impacts if prudent, feasible alternatives cannot be identified, this project is consistent with Policy 23.

4. Will the proposed activity occur within and/or affect an area covered by a State approved local waterfront revitalization program?

The proposed project will occur in New York City, which has an approved waterfront revitalization program. A copy of the New York City Waterfront Revitalization Program Consistency Assessment Form and responses to Policy Questions has been provided with this request of concurrence.

The proposed project is consistent with New York City's program. Therefore, the project would also be consistent with New York State's program, as there are no conflicts with any of the state policies.

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM

Location Question Responses

Location Question 1
Is the project site on the waterfront or at the water's edge?

The airport is located on a manmade peninsula surrounded on three sides by water (Flushing Bay/East River). The project site is a minimum of 1,000 feet from the waterway and is separated from the water's edge by buildings, runways, taxiways and roadways. No work will take place in the waterway or at the water's edge.

Policy Question Responses

Policy Question 9 (Policy 2)
Are there any waterfront structures, such as piers, docks, bulkheads or wharves, located on the project sites?

There are piers present at LGA that are used for navigational aids and for mooring vessels involved in maintaining waterside security for the airport. The project will not change the current functions of these piers and the proposed project area is separated from the piers by buildings, runways, taxiways and roadways.

As the proposed project will not change the function of the existing waterfront structures, the proposed project is consistent with Policy 2.

Policy Question 21 (Policy 4.2)
Would the action involve any activity in or near a tidal or freshwater wetland?

LaGuardia Airport is located on a peninsula that is surrounded by State designated tidal wetlands. However, the proposed project site is not located in the designated wetlands or the tidal wetland adjacent area. The proposed project site is separated by a minimum of 1,000 feet from State designated wetlands by buildings, runways, taxiways and roadways.

The proposed project will not impact State designated wetlands. Therefore, the Project is consistent with Policy 4.2.

Policy Question 26 (Policy 5.1)
Would the action result in the draining of stormwater runoff or sewer overflows into coastal waters?

Stormwater at LaGuardia Airport does not flow directly into outfalls except for some discharges on the west side of the airport. The stormwater is conveyed into holding areas and, ultimately, to pump houses equipped with pumps with high level indicators. When the water reaches a specified level in the pump house, the pumps are activated and the stormwater is discharged to an outfall. At the time of discharge from the pump house to the outfall sampling, required by SPDES Permit No. NY 0008133 issued to the Port Authority, is conducted to ensure that water quality standards are not contravened.

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM

LGA also has BMPs in place for stormwater management – specifically BMP 7 (Elimination of Non-Storm Water Discharges to Storm Drains) and BMP 15 (Stormwater Pollution Prevention Education). There are no combined sewer system overflows (CSOs) from LGA into receiving waters and wastewater from LGA is directed to a City-operated wastewater treatment plant (WWTP) and not a combined sewer system.

After completion of the project, the stormwater will be managed in the same manner as described above and LGA will continue to comply with the requirements of the SPDES Permit.

The water surrounding LGA Airport is currently brackish and the volume of fresh (storm) water being put into the brackish water is not sufficient to cause impact to the salinity or the fish habitat.

The proposed project will ensure the control of stormwater and will manage direct and indirect discharges. Therefore, the proposed project is consistent with Policy 5.1.

Policy Question 32 (Policy 6)
Would the action result in any activities within a federally designated flood hazard area or state designated erosion hazards area?

Portions of the project site (LaGuardia Airport) are below sea level and in a designated federal hazard area. The area of the proposed action would encroach in the flood hazard area subject to inundation by the 100-year storm. However, the Proposed Action is not considered a "critical action", as defined in the Water Resources Council Floodplain Management Guidelines.

The proposed action would involve implementation of various strategies to minimize and mitigate for potential flood hazards because it is not practical to locate the proposed project outside the floodplain. The American Society of Civil Engineers (ASCE) standards for construction of buildings in a floodplain call for adding a 1-foot freeboard to design flood elevations set in accordance with Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management Agency (FEMA). The Port Authority has determined that the proposed project would incorporate a design elevation 18 inches over and above the current 1-foot freeboard elevation wherever possible. Thus, the proposed project would be 2.5 feet above the current FEMA 100-year floodplain level. However, because tidal flooding controls the 100-year floodplain surrounding LGA, the proposed project would not increase or decrease the 100-year flood elevation.

In areas or facilities that cannot be raised above the design flood elevation, dry-flood proofing would be undertaken to protect critical infrastructure. The East Field Lighting Vault is a structure that would be constructed at grade and contained in a dry flood-proofed room because it is impractical to elevate the structure or locate the facility outside the floodplain.

The U.S. Department of Transportation (USDOT) in Order 5650.2 sets criteria used to determine if if there is a "significant encroachment" on the floodplain in those situations where it is not practicable to avoid it. A significant encroachment would not occur for the proposed project because: 1) there is a low probability of loss of human life, 2) the project has been designed to avoid or minimize future, extensive damage and costs (including damage that could interrupt service), and 3) there would be no notable adverse impacts on natural resources or on the floodplains natural and beneficial values. Based on these criteria, the proposed project would not constitute a significant encroachment on the floodplain.

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM

Based on the foregoing, the proposed project is consistent with Policy 6.

Policy Question 40 (Policy 7.2)
Would the action result in development of a site that may contain contamination or that has a history of underground fuel tanks, oil spills, or other form or petroleum product use or storage?

One portion of the project site has underground storage tanks (USTs) that contain petroleum and one portion of the project site is an area of a New York State Department of Environmental Conservation (NYSDEC) Spill Case. The petroleum USTs will either be removed or permanently decommissioned prior to the start of construction. The spill is currently being remediated in accordance with a plan approved by the NYSDEC. An Environmental Management Plan that will include procedures for working in the spill areas and in the area of the USTs will be prepared and implemented for the proposed project.

Any contamination that may be present in the project area will be addressed to the extent practicable prior to the start of the proposed project. Measures to be described in the Environmental Management Plan will be implemented to address contamination that may be discovered during construction activities. Therefore, the proposed project is consistent with Policy 7.2.

Policy Question 41 (Policy 7.3)
Will the proposed activity result in any transport, storage, treatment, or disposal of solid wastes or hazardous materials, or the siting of a solid or hazardous waste facility?

The proposed project will generate solid waste consistent with construction projects. The disposal of this solid waste will be managed in accordance with local, state and federal regulations. The Environmental Management Plan that will be prepared for the project will include procedures for the management and disposal of solid and hazardous waste expected to be generated as part of the demolition of the existing CTB and Hangers 1, 2, and 4, including requirements for the transport of the solid waste to avoid coastal areas. At no time will a waste facility be created as part of this project. Therefore, the proposed project is consistent with Policy 7.3.

Policy Question 51. (Policy 10)
Would the proposed action have a significant adverse impact on historic, archeological, or cultural resources?

The proposed project is located approximately 3000 feet east of the Marine Air Terminal, which was listed in the Register of Historic Places in 1982. The Area of Potential Effect (APE) for the project does not include the area of the Marine Air Terminal. Therefore, the Marine Air Terminal will not be affected by the proposed project either directly or indirectly.

There are a total of six known archeological sites located within a one-mile radius of the proposed project area. However, only one of the sites is located within the project's APE with only a portion of it having moderate to high potential for resource recovery. Due to the substantial amount of filling activities that have occurred in this location over the past 50 years, any intact soils would be significantly below grade. Thus the potential for impacts to occur overall is low but would be contingent upon the depth of construction It is anticipated that a minimum of 15 feet of cover would need to be removed to

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM

expose potential resources. The New York State Office of Parks, Recreation and Historic Preservation (NYSOPR&HR) is being consulted to determine if it would be appropriate to monitor the site for archaeological resources during construction. However, it is anticipated, based in part on the prior extent of filling, that the proposed project would have no or minimal impact to archeological sites.

The proposed project will require the demolition of Hangars 1, 2 and 4, which are eligible to be listed on the National Register as per NYSOPR&HR. Demolition of the hangars would be considered an Adverse Effect by NYSOPR&HP. The Port Authority is currently evaluating alternatives that might avoid and/or reduce impacts to the buildings. If no prudent or feasible alternatives are available, the Port Authority would enter into consultation that would result in a Memorandum of Agreement (MOA) with the NYSOPR&HR to identify proper mitigation measures.

As the Port Authority and the NYSOPR&HR are working to avoid, minimize, and, if necessary, mitigate adverse impacts that would result from the demolition of Hangars 1, 2 and 4, the proposed project is consistent with Policy 10.

Policy Question 52 (Policy 10)
Will the proposed activity affect or be located in, on, or adjacent to an historic resource listed on the National or State Register of Historic Places, or designated as a landmark by the City of New York?

The proposed project is located approximately 3000 feet east of the Marine Air Terminal, which is listed on the Register of Historic Places and is a New York City Landmark. The proposed project limits and the APE for the project do not include the area of the Marine Air Terminal. Therefore, the Marine Air Terminal will not be affected by the proposed project.

There are a total of six known archeological sites located within a one-mile radius of the proposed project area. The proposed project will have minimal impacts to the archeological sites (see response to Policy Question 51).

The proposed project will require the demolition of Hangars 1, 2 and 4, which are eligible to be listed on the National Register as per NYSOPR&HR. The Port Authority is currently evaluating alternatives that might avoid and/or reduce impacts to the buildings. If no prudent or feasible alternatives are available, the Port Authority would enter into a consultation that would result in a MOA with the NYSOPR&HR to identify proper mitigation measures.

As the proposed project will minimize impacts to listed sites and archeological resources where practicable and the Port Authority will identify alternatives to minimize the adverse impacts or enter in an MOA with the NYSOPR&HR to define mitigation measure if an alternative cannot be identified, this project is consistent with Policy 10.

LaGuardia Airport
Central Terminal Building Redevelopment Program
Attachment A

Project Description
The Proposed Project includes a series of projects divided into three functional areas:
(1) terminal building,
(2) airside apron, and
(3) landside roadways and parking.

There is also a list of support projects needed to complete the Program.

The Proposed Action elements are depicted in the attached Figure (Figure 1-3, Proposed Terminal Redevelopment), and are described below:

- Terminal Building: *The existing CTB will be demolished and replaced with a new 1.3 million square foot passenger three-level terminal building.* The new terminal building will be designed to meet passenger demand, comply with TSA requirements and provide gates that can accommodate the current airline fleet in use at LGA. The new terminal will also provide for a pedestrian bridge to the proposed West Garage and an enclosed passenger walkway that connects the new terminal to adjacent Terminal C.

- Airside Apron: *The airside apron will be redesigned to be compliance with FAA standards, ensure maximum efficiency and operational safety, and to allow the airlines to provide cost-effective standards of service.* The apron area will be reconfigured to provide dual taxilanes to permit optimal aircraft maneuvering thereby reducing aircraft congestion and gate delays. The airside apron will be reconfigured to allocate space for remote-overnight parking for up to 20 aircraft and to install point of use airline service equipment at each gate. The project will construct a restricted service road for use by airport vehicles and ground service equipment, two fixed locations for snow melting equipment and two fixed locations for disposing of lavatory waste into the municipal sanitary sewer system. A ramp control tower will be constructed to provide controllers with unobstructed line-of-sight of aircraft, vehicles, and ground service equipment activity on the aircraft parking apron and terminal area taxilanes.

- Landside Roadways and Parking: *The landside roadways and parking areas will be redesigned to provide fast, safe, and efficient access to the new terminal building.* The existing CTB parking garage will be removed and replaced by a new West Garage with 2,900 spaces with a pedestrian bridge to the new CTB. The roadway modifications include removing the current arrival and departure roadways (including the elevated bridge structures) and replacing them with at-grade terminal frontage roads and ramps, elevated terminal frontage roads and ramps and connecting roads to the Marine Air Terminal Road and the Grand Central Parkway. Additionally portions of the 94th Street and 102nd Street bridges will be reconstructed. In front of the new terminal, the curb frontage will be lengthened to provide more space for passenger loading and unloading, bypass/travel lanes are added to improve traffic circulation and flow and a separate lower-level roadway for charter busses, hotel shuttles and other high occupancy vehicles will be constructed. The new roadways will be located on existing airport property and property along the GCP right-of-way – no new airport entrances or exits included in the plan.

LaGuardia Airport
Central Terminal Building Redevelopment Program
Attachment A

Ancillary and support projects include demolishing existing buildings (Hangar 1, 2 and 4), relocating the Central Heating and Refrigeration Plant (CHRP), relocating the East Airfield Lighting Vault, relocating the Taxi Hold Lot, providing for new in-ground utilities and other miscellaneous improvements and changes needed to complete the Program.

All 35 gates, passenger handling facilities, and roadways and parking must remain open and operational during construction. To accomplish this, the project is divided into nine major phases and will take approximately eight years to complete. The Total Program Cost is $3.6 billion—$2.4 billion for the terminal building and apron projects and $1.2 billion for infrastructure improvements including roadways and utilities.

Purpose and Need

The purpose of the Proposed Project is to enable LaGuardia Airport to safely and effectively accommodate forecast passenger demand at acceptable levels of service by:

- Improving airline efficiency and operational safety on the terminal airside apron
- Improving passenger throughput capacity and convenience throughout terminal
- Improving traffic circulation and flow along the terminal landside roadways

The Proposed Action is needed because the existing CTB and ancillary facilities are severely constrained and LaGuardia Airport is unable to adequately meet current or projected passenger demands without incurring unacceptable levels of delay. In order for LaGuardia Airport to safely and effectively accommodate forecast passenger demand at acceptable levels of service, the following airside, terminal, and landside needs must be met:

Airside Apron

The terminal airside apron needs to be expanded and reconfigured to optimize the ability of aircraft to maneuver efficiently and safely around the apron area in accordance with FAA requirements. The proposed project will not create additional gates; it will only create additional space around the gates. The proposed project will also improve ramp operations by creating adequate space (including service roads and parking, and provisions for facilities and services) for airline vehicles and ground service equipment.

Terminal Building

The existing CTB needs to be replaced with new facilities designed to interface effectively between the airside apron and the landside roadways and parking garage, thus allowing passengers and their baggage to be processed through the terminal as quickly and efficiently as possible. The terminal concourses/gates should be able to accommodate the projected aircraft fleet mix, and the terminal head house should have the capacity to handle projected peak hour passenger volumes. There should be adequate public space for passenger amenities, convenient locations for concessionaires, and plenty of seating and restrooms. There should also be sufficient space for airport and airline functions, and allowance for TSA requirements to respond to specific threat and vulnerability levels as well as routine screening of passengers and bags. Ideally, the terminal should be designed and constructed in ways that

LaGuardia Airport
Central Terminal Building Redevelopment Program
Attachment A

safeguard flexibility to adapt to variations in aviation demand and the changing needs of passengers, airlines, and aircraft.

Landside Roadways and Parking

The landside roadways need to be reconfigured to optimize the ability for different types of vehicles to access, egress, and circulate through the central terminal area. There should be convenient access to the terminal curbside and other destinations such as parking, and sufficient throughput capacity in the roadway system to provide safe and efficient operations even as volumes increase during busy hours of the day. Curbside roadways should be vertically separated to interface with each level of the terminal — with departures on the upper level, arrivals on the middle level, and ground transportation on the lower level. There should be a parking garage adjacent and connected to the terminal but located such that it does not interfere with the optimal layout and function of the terminal.

Helman, Marc

From: MARY KIMBALL [MKIMBAL@planning.nyc.gov]
Sent: Thursday, October 03, 2013 5:38 PM
To: Helman, Marc
Cc: MICHAEL MARRELLA; Jeffrey.Zappieri@dos.ny.gov; David Hopkins; O'Brien, Wesley
Subject: LGA Central Terminal Redevelopment Program - WRP Review

Hi Marc –

We (also) received the WRP assessment for the LGA Central Terminal Redevelopment Program and have the following comment:

- What is meant by "current FEMA 100-year floodplain level" (policy 6 analysis). The project design should consider FEMA Best Available Flood Hazard Data in place of the effective FIRMs.

Let me know if you have any questions.

Thanks,
Mary

Mary Kimball
City Planner | Waterfront and Open Space Division | NYC Department of City Planning
mkimball@planning.nyc.gov | 212-720-3623

THE PORT AUTHORITY OF NY & NJ

Engineering Department

UPS OVERNIGHT DELIVERY& E-MAIL

October 24, 2013

Ms. Mary Kimball
City Planner
New York City Department of City Planning
Waterfront and Open Space Division
22 Reade Street
New York, NY 10007-1216

SUBJECT: LGA AIRPORT – CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM: RESPONSE TO COMMENT

Dear Ms. Kimball:

This letter is in response to your e-mail of October 3, 2013 (copy attached), regarding the Port Authority of NY & NJ's (Port Authority) concurrence request for the Central Terminal Building (CTB) Redevelopment Program at LaGuardia Airport (LGA). In your e-mail, you question "[w]hat is meant by "current FEMA [Federal Emergency Management Agency] 100-year floodplain level' (policy 6 analysis)". Your e-mail also advised that "[t]he project design should consider FEMA Best Available Flood Hazard Data in place of the effective FIRMs".

With respect to the proposed CTB Redevelopment Program, the Port Authority is aware of FEMA's revised Advisory Base Flood Elevations (ABFEs) and will, to the maximum extent possible attempt to construct the CTB at least one foot above the ABFEs for the LGA area. However, because of operational considerations (e.g. aircraft parking ramp elevations) and geotechnical considerations (groundwater levels), it may not be possible to design for construction of 1 foot above the recommended 1% ABFE elevation. Should it be necessary to construct certain parts of the facility below the recommended elevations the Port Authority would endeavor to provide the maximum amount of floodproofing possible to minimize potential damage in the event of flooding.

Please note that the Port Authority has, even prior to Hurricane Sandy, acted to protect its' facilities in the event of future sea level rise and increasing flood elevations. Attached is a Port Authority Engineering/Architecture Design Division memo dated June 19, 2009. The memo directs Port Authority personnel designing new construction and major rehabilitation projects to evaluate the impact of potential climate change variables into project plans including an increase of 18 inches above "…the current FEMA 100-year flood level plus one-foot criteria (Current FEMA 100 year flood level plus 2.5')".

Two Gateway Center
Newark, NJ 07102

THE PORT AUTHORITY OF NY & NJ

As you can see, the Port Authority is cognizant of the potential hazards caused by flooding and will endeavor to minimize potential impacts to critical infrastructure that may be caused by flooding due to storms. The Port Authority will also design in a manner to prevent additional flooding from occurring in areas adjacent to airport property.

If you have any questions or require any additional information, please contact the undersigned by e-mail at mhelman@panynj.gov or by telephone at (973) 565 - 7564.

Very truly yours,

Marc Helman
Supervisor, Permits and Governmental Approvals
Environmental Engineering Unit

Enclosures:
1) M. Kimball E-mail dated October 21, 2013
2) J. Buchsbaum Memo dated June 19, 2009

cc: Michael Marella, NYCDCP (E-mail only)
Jeffrey Zappieri, NYSDOS (E-mail only)
Ed Knoesel, Port Authority (E-mail only)

THE PORT AUTHORITY OF NY & NJ

MEMORANDUM

Engineering/Architecture Design Division

To: All Staff

From: Jack Buchsbaum

Date: June 19, 2009

Subject: **Project Design Evaluation - Climate Change Projections**

Copy To: F. Lombardi, P. Zipf, D. Berger, S. Murrell, R. Chercio, B. McLaughlin, S. DesRoches

The Port Authority of NY & NJ is participating in two climate change studies for New York City and New York State. The results of these studies will assist the agency in adapting to the impacts that climate change will present for our infrastructure. The following climate change projections have been developed from information provided to the City of New York by the Columbia Center for Climate Change Systems Research.

The design of all new construction and major rehabilitation projects is to be evaluated based on the following climate change variables impact:

Air Temperature

- Mean air temperature (annual) is projected to increase from a baseline of 55°F to 61°F by the 2080's.

Precipitation

- Mean precipitation (annual) is projected to increase by 10% by the 2080's from the current baseline of 46.5 in/year.

Flood Elevation

- Mean sea level elevation is anticipated to increase by 18" over the current MHW. Accordingly, designs shall consider an 18" increase over the current FEMA 100-year flood level plus one-foot criteria (Current FEMA 100 year flood level plus 2.5').

Where prohibiting factors preclude the application of these design criteria to all project elements, focus should be centered on critical project elements, those for which disruption of service would result in significant impacts to facility operations.

These interim design criteria are based upon current climate change projections and will be in effect until further information is available. These projections will be reviewed and/or updated on a two-year basis.

STATE OF NEW YORK
DEPARTMENT OF STATE
ONE COMMERCE PLAZA
99 WASHINGTON AVENUE
ALBANY, NY 12231-0001

ANDREW M. CUOMO
GOVERNOR

CESAR A. PERALES
SECRETARY OF STATE

November 15, 2013

Marc Helman, Supervisor
Environmental Engineering Unit
Port Authority of NY & NJ
Two Gateway Center
Newark, New Jersey 07102

Re: F-2013-0650(FA)
Port Authority of NY & NJ
Replace existing terminal building, roadways, and parking garage
Borough of Queens
General Concurrence - No Objection To Funding

Dear Mr. Helman:

The Department of State received the information you submitted regarding the above matter on 8/19/2013.

The Department of State has determined that this proposal meets the Department's general consistency concurrence criteria. Therefore, the Department of State has no objection to the use of FAA funds for this financial assistance activity. This concurrence pertains to the financial assistance activity for this project only. If federal permits or other form of federal agency authorization is required for this activity, the Department of State will conduct a separate review for those permit activities. In such a case, please forward a copy of the federal application for authorization, a completed Federal Consistency Assessment Form, and all supporting information to the Department at the same time it is submitted to the federal agency from which the necessary authorization is requested.

When communicating with us regarding this matter, please contact Jeffrey Zappieri at (518) 474-6000 and refer to our file #F-2013-0650(FA).

Sincerely,

Jeffrey Zappieri
Manager, Consistency Review Unit
Division of Coastal Resources

JZ/TS/dc

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STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
REGION 11
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SONIA A. PICHARDO, P. E.
REGIONAL DIRECTOR

JOAN MCDONALD
COMMISSIONER

April 4, 2014

Edward C. Knoesel
Manager, Environmental & Noise Programs
Aviation Department
Port Authority of NY & NJ
233 Park Avenue South, 9th Floor
New York, NY 10003

SUBJECT: NYSDOT CONCURRENCE ON LAGUARDIA AIRPORT CENTRAL TERMINAL BUILDING REDEVELOPMENT PROJECT

Dear Mr. Knoesel:

New York State Department of Transportation (NYSDOT) Region 11 is pleased to have been given the opportunity to coordinate with the Port Authority of NY & NJ (PANYNJ) on the transportation analyses conducted for the Environmental Assessment (EA) prepared for the redevelopment of the Central Terminal Building (CTB) at LaGuardia Airport. We understand that the Port Authority has a pressing need for this project, given that the current CTB opened in 1964, and is currently an obsolete airport terminal. In a series of twelve meetings with Port Authority staff between April 2012 and August 2013, we reviewed the project, including proposed revised connections to and from the airport from the Grand Central Parkway.

We understand that the PANYNJ has also coordinated the preparation of the EA with New York City Department of Transportation (NYCDOT), and that the PANYNJ will receive approval of the scope and assumptions for roadways and intersections under the jurisdiction of NYCDOT, in accordance with NYC City Environmental Quality Review (CEQR) guidelines.

For the purpose of future planning, it is the NYSDOTs desire that a modeling effort more robust than HCM of the Grand Central Parkway (GCP), on-airport roadways and adjacent roadways be performed by PANYNJ using the VISSIM simulation software. The Port Authority has agreed, and that work has commenced. In addition, we were pleased to also provide comment and feedback on the scope and assumptions for the VISSIM modeling effort. NYSDOT contends that the VISSIM analysis is necessary to identify future highway operational improvements to support anticipated growth along the GCP corridor in the vicinity of the Airport.

Therefore, based on the proposed description of the CTB Redevelopment Program, which includes replacement of the CTB and improvements to on- airport roadways and roadways connecting the GCP, and the HCM modeling performed, we assert that impacts to NYSDOT facilities, namely the GCP, from the proposed LGA CTB Redevelopment Project would not be significant.

Sincerely,

Sonia A. Pichardo P.E.
Regional Director

NYC Parks

Alyssa Cobb Knoen
Assistant Commissioner
Planning & Parklands

T 212.360.3402
F 212.360.3453

E alyssa.cobb@parks.nyc.gov

City of New York
Parks & Recreation

The Arsenal
Central Park
New York, NY 10065
www.nyc.gov/parks

June 2, 2014

Mr. Edward C. Knoesel
Manager, Environmental & Noise Programs
Aviation Department
The Port Authority of New York & New Jersey
233 Park Avenue South, 9th Floor
New York, New York 10003

RE: Central Terminal Building Redevelopment Program at LaGuardia Airport (the "Program")
NYC Department of Parks and Recreation Determination of Section 4(f) Non-Applicability

Dear Mr. Knoesel:

This letter is in regard to ongoing coordination efforts between the New York City Department of Parks & Recreation (DPR) and the Port Authority of New York and New Jersey (Port Authority) related to the Environmental Assessment (EA) being prepared for the redevelopment of the Central Terminal Building (CTB) at LaGuardia Airport. This coordination effort includes consideration by DPR as to whether property owned by the City of New York (the City) and managed by DPR (the "embankment area") as shown on the attached Exhibit A is parkland potentially subject to evaluation under Section 4(f) of the United States Department of Transportation Act of 1966 in connection with the proposed Program.

On October 8, 2013, staff from the Port Authority met with staff from the New York City Economic Development Corporation (EDC), DPR, and the New York City Law Department (Law Department). During this meeting, you shared the project plans and provided a review of the Program, and described the proposed on-airport roadway network and its various connections between the airport and the Grand Central Parkway (GCP). After discussing the project and its potential impact, all parties came to an understanding that the new roadway system cannot avoid the area due to the severe site constraints and required roadway construction standards. Accordingly, the project will inevitably result in an infringement to the embankment area. The embankment area to be impacted includes an unpaved parcel of the Grand Central Parkway of up to 2.1 acres.

After review of property records for the embankment area and discussing the matter with appropriate DPR and Law Department staff, DPR has determined that the embankment area is not designated parkland and does not qualify for Section 4(f) protection (23 CFR Par 774) as explained below. Rather, the embankment area is designated parkway and provides a visual

amenity to automobile drivers as they pass by on the GCP. DPR has taken no action to develop the property for either park or recreational purposes. DPR has never made the embankment area formally accessible to the public. The embankment area is not used by the public for any recreational purposes. Based upon these factors, it is DPR's position that Section 4(f) would not apply to the area in question.

Please provide a copy of the Final Environmental Assessment and any Federal Aviation Administration determination that may stem from it when they become available so we can ensure that the final project conforms with our understanding and to ensure that the Program has not changed in any way that would constitute different or additional impacts. DPR understands that the Port Authority has committed to develop a plan with DPR to address local impacts to City trees. This plan will include provisions for restitution for the loss of those trees in the embankment area pursuant to Chapter 5 of Title 56 of the Rules of the City of New York (NYCDPR Rules) and Local Law 3 of 2010. In addition, the PANYNJ is committed to allocating to NYCDPR $2.5 million for park improvements in the vicinity of the airport in 2014.

Please contact Daniel Grulich, DPR's Interagency Coordinator at 718-760-6927 if you have any follow-up questions regarding necessary Parks approvals for the construction of the project. If you have any questions pertaining to Parks' comments to the NEPA environmental review, please contact Owen Wells, Director of Environmental Review, at 212-360-3492.

Sincerely,

Alyssa Cobb Konon
Assistant Commissioner

Acknowledged and Agreed:

The Port Authority of New York & New Jersey

Name: ANGEL MARTINEZ

Title: Program Director

Cc: Thomas L. Bosco, PANYNJ
Lysa Scully, PANYNJ
Dorothy Lewandowski, DPR

Legend
NYSDOT Right-of-Way (from Maintenance Jurisdiction Plan dated 05/21/2009)
LGA Demised Premises (from Vollmer Assoc. Exhibit A 11/23/2004)
NYC Parks (from NYC Dept of City Planning)
Impacts to CBE Airport Park Property
At-Grade Areas = 0.39 acres
Elevated Areas = 0.66 acres
At-Grade and Elevated Areas = 1.05 acres
LAGUARDIA AIRPORT CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
IMPACTS TO PARKS PROPERTY
Date 11/21/2013
EXHIBIT A

NEW YORK CITY DOT **Department of Transportation**

POLLY TROTTENBERG, Commissioner

To: Chris Reo, Interim Director
Mayor's Office of Environmental Coordination

From: Naim Rasheed, Director
Traffic Planning

Re: LaGuardia Airport – Central Terminal Building (CTB) Redevelopment Program
Environmental Assessment (EA)

Date: August 22, 2014

The Office of Project Analysis/CEQR has completed its review of the above referenced EA. The Port Authority of New York and New Jersey (PANYNJ) is proposing to redevelop the existing passenger terminal, airside apron, landside roadways, and parking garage within LaGuardia Airport's central terminal area. These facilities would be demolished and replaced with new facilities more efficiently designed and located to both meet the latest federal standards for airport safety and security and to accommodate forecasted passenger demand at acceptable levels of service. The goal of the proposed action is to design and build a new terminal that would efficiently utilize the limited space within the central terminal area to provide new airside and landside facilities that could meet the 2030 demand level of 17.5 Million Annual Passengers. The proposed CTB Redevelopment Program is expected to be completed and fully operational by the end of 2021. However, the future analysis year for full operation of the new terminal is 2030, because it is projected to take approximately nine years following the opening of the terminal to fully realize all of the associated forecasted passenger growth.

The proposed project identifies traffic improvement measures at the following locations in 2030:

- Bowery Bay Boulevard/Runway Drive and Marine Terminal Road (under PANYNJ jurisdiction);
- Ditmars Boulevard and Marine Terminal Road;
- Astoria Boulevard North/Grand Central Parkway westbound off-ramp/82nd Street/Ditmars Boulevard; and
- Astoria Boulevard/82nd Street and 24th Avenue.

The proposed traffic improvement measures involve signal timing and parking regulation modifications, and restriping, which would improve traffic conditions at the above mentioned locations. As agreed to, PANYNJ will implement a traffic monitoring program in coordination with NYCDOT following the opening of the new CTB in 2021. The monitoring program should commence when the CTB is fully constructed and operational and would involve the collection and evaluation of traffic data at locations where improvements were recommended to determine the need for and timing of implementation of the identified improvements or similar measures. The monitoring efforts should be conducted annually or at an agreed-upon frequency to be determined as part of future coordination efforts between PANYNJ and NYCDOT. In addition,

NYC Department of Transportation
Division of Traffic and Planning
55 Water Street, 6th Floor, New York, NY 10041
T:212- 839-7710 F: 212-839-7777
www.nyc.dot.gov

Chris Reo, Interim Director
Mayor's Office of Environmental Coordination
Re: LaGuardia Airport-Central Terminal Building (CTB) Redevelopment Program
Environmental Assessment (EA)
August 22, 2014

Page 2 of 3

PANYNJ Traffic Engineering is developing a comprehensive Transportation Management Plan (TMP) for the CTB program following completion of the EA. The TMP will incorporate a series of face-to-face meetings with key staff from NYCDOT, NYSDOT, the MTA, the PANYNJ, and other agencies and key stakeholders. The TMP will provide an opportunity for round-table discussions to identify, collectively discuss, and agree on resolutions to various transportation-related questions. PANYNJ should coordinate with these entities beginning with Preliminary Design.

Construction at LaGuardia Airport would begin in 2014 and continue through 2021. Traffic improvement measures are proposed at 12 locations during construction. These measures involve signal timing and parking regulation modifications, restriping and the installation of a new traffic signal at the intersection of 19th Avenue and 45th Street. In addition, in order to accommodate the proposed signal timing/phasing at the intersection of 19th Avenue and Hazen Street, a new traffic signal controller will be installed. As agreed to, PANYNJ will implement a traffic monitoring program in coordination with NYCDOT throughout the duration of the construction period. This monitoring program would quantify the volume of construction workers vehicles parked at the Ingraham's Mountain site and the need for and timing of implementation of the identified improvements, or similar measures. The monitoring efforts should be conducted annually, or at an agreed-upon frequency to be determined as part of on-going coordination efforts between the PANYNJ and NYCDOT during the construction period. PANYNJ must conduct another traffic signal warrant study for NYCDOT review and approval prior to the installation of the traffic signal at the intersection of 19th Avenue and 45th Street. However, during construction regardless if the signal is warranted the PANYNJ will install signal foundation and conduit work at this location.

PANYNJ should coordinate with NYSDOT regarding modifications to the Grand Central Parkway (GCP) and 94th Street Bridge. PANYNJ will perform a VISSIM analyses at the request of NYSDOT. PANYNJ should also submit these analyses to NYCDOT. As agreed to, PANYNJ will include the westbound GCP between the 94th Street entrance ramp and the 82nd Street exit ramp among the locations to be monitored during construction as well as after the project is complete and fully operational.

NYCDOT will participate in the review process relating to proposed geometric reconfiguration, reconstruction, signal design/installation as well as design and construction drawings. PANYNJ should submit all of the required drawings/design as per AASHTO and NYCDOT specifications for NYCDOT review and approval, where applicable. PANYNJ will be responsible for all costs associated with monitoring and the design and traffic improvements.

NYC Department of Transportation
Division of Traffic and Planning
55 Water Street, 6th Floor, New York, NY 10041
T:212- 839-7710 F: 212-839-7777
www.nyc.dot.gov

Chris Reo, Interim Director
Mayor's Office of Environmental Coordination
Re: LaGuardia Airport-Central Terminal Building (CTB) Redevelopment Program
Environmental Assessment (EA)
August 22, 2014

Page 3 of 3

PANYNJ should submit a scope of work for NYCDOT review and approval before commencing any monitoring program. All signal work shall be done by an approved electrical contractor and under the supervision of NYCDOT Electrical Inspection. PANYNJ should inform NYCDOT six months prior to the completion and occupancy of the CTB.

If you have any questions or need additional information, please call me at (212) 839-7710 or Michele Samuelsen-Jaiswal at (212) 839-7758.

c: A/C R. Russo, B/C D. Hall, E. Athanailos, S. Barkho, J. Benson, D. Nguyen, E. Makarious, L. Stuurman, S. Ahmed, M. Samuelsen-Jaiswal, File

e \Samuelsen\LGAredevelopment sign off

NYC Department of Transportation
Division of Traffic and Planning
55 Water Street, 6th Floor, New York, NY 10041
T:212- 839-7710 F: 212-839-7777
www.nyc dot.gov

NYC Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ARCHAEOLOGY

Project number: FEDERAL AVIATION AUTHORITY / 106-Q
Project: LAGUARDIA AIRPORT CENTRAL TERMINAL BLDG REDEVELOPM
Address: GRAND CENTRAL PKWY, **BBL:** 4009260001
Date Received: 4/17/2014

This document only contains Archaeological review findings. If your request also requires Architecture review, the findings from that review will come in a separate document.

[ ] No archaeological significance

[ ] Designated New York City Landmark or Within Designated Historic District

[ ] Listed on National Register of Historic Places

[X] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[X] May be archaeologically significant; requesting additional materials

Comments: The LPC is in receipt of the Draft Environmental Assessment and Section 4(f) Evaluation Volume 1- Technical Report dated April 2014. The text pertaining to archaeology, including the construction monitoring protocol dated February 2014 and the Draft MOA text dated 4/4/14, is fine.

Cc: NYSHPO

Amanda Sutphin 4/28/2014

SIGNATURE DATE
Amanda Sutphin, Director of Archaeology

File Name: 28794_FSO_ALS_04252014.doc

NYC Landmarks Preservation Commission

1 Centre Street
9th Floor North
New York, NY 10007

Voice (212)-669-7700
Fax (212)-669-7960
http://nyc.gov/landmarks

ENVIRONMENTAL REVIEW

Project number: FEDERAL AVIATION AUTHORITY / 106-Q
Project: LAGUARDIA AIRPORT CENTRAL TERMINAL BLDG REDEVELOPM
Address: GRAND CENTRAL PKWY, **BBL:** 4009260001
Date Received: 4/17/2014

[ ] No architectural significance

[ ] No archaeological significance

[x] In radius Designated New York City Landmark or Within Designated Historic District

[x] In radius Listed on National Register of Historic Places

[X] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[X] May be archaeologically significant; requesting additional materials

Comments:

The LPC is in receipt of the Draft Environmental Assessment and Section 4(f) Evaluation Volume 1- Technical Report dated April 2014.

Regarding treatment of architectural resources, LPC defers to the SHPO. In the immediate vicinity of the APE and thus to be disclosed: Marine Air Terminal, LPC interior and exterior landmark, and the Malcolm X House, 23-11 97 Street, LPC eligible.

The text pertaining to archaeology, including the construction monitoring protocol dated February 2014 and the Draft MOA text dated 4/4/14, is acceptable.

Cc: SHPO

Revised 5/20/14

Gina Santucci

5/20/2014

SIGNATURE
Gina Santucci, Environmental Review Coordinator

DATE

File Name: 28794_FSO_GS_04302014.doc

THE PORT AUTHORITY OF NY & NJ

Patrick J. Foye
Executive Director

August 21, 2013

Consolidated Edison Company of New York, Inc.
Manhattan Major Services
4 Irving Place, 10th Floor North
New York, NY 10003

Consolidated Edison Company of New York, Inc.
Law Department, Room 1815-5
4 Irving Place
New York, NY 10003

Att: Kwame Agyeman-Budu, Customer Project Manager
Cc: Susan Vercheak, Assistant General Counsel
Cc: Thomas Mimnagh, Regional Engineering, Department Manager
Cc: Thomas McAndrews, Section Manager, Energy Services
Cc: John McConkey, Port Authority Engineering
Cc: Eduard Fayfman, Port Authority Engineering
Cc: Audrey Dagnachew, Port Authority Aviation

Subject: PANYNJ LaGuardia Airport - East End Substation
Attachment: LGA- East End Substation - Ductbank Layout Sketch SKE002 (7-26-13)

Dear Mr. Agyeman-Budu:

Pursuant to the Consolidated Edison Company of New York, Inc., Schedule for Electric Service. P.S.C. No.10 – Electricity (the "Tariff"), the Port Authority of New York and New Jersey ("Authority") hereby requests that Consolidated Edison Company of New York ("Con Edison") (collectively the "Parties") provide additional electrical service to LaGuardia Airport.

Con Edison proposed a design to address the request by providing two additional feeders at the existing point of entry at the West side of the Airport utilizing available capacities of the Long Island City Con Edison network. The Authority prefers a design that will require Con Edison to furnish and install feeders at the new point of entry at the East side of the Airport closer to the location of the to-be-constructed new East End Substation (EES). This design will require Con Edison to extend six feeders in its Jackson Heights network to the new point of entry to support a proposed 24 MVA loading of the new EES substation under normal and/or second contingency emergency conditions. Once the new substation is energized and operational, the existing Central Electric Substation (CES) will be removed from service.

225 Park Avenue South, 15th Floor
New York, NY 10003
T 212 435 7271 F 212 435 6870

THE PORT AUTHORITY OF NY & NJ

The Authority hereby requests that Con Edison accommodate the Authority's preferred design, in consideration of payment in the amount of $1,572,049.65 (to be made by the Authority on or about September 30, 2013).

Upon receipt of this advance payment, Con Edison will make reasonable efforts to provide six feeders to the new point of entry on the corner of 23rd Avenue and Ditmars Boulevard (in accordance with attached Sketch SKE002, which shows the point of entry electrical manholes EES-5A, EES-5B and EES-5C) no later than October 15, 2014. Once the new High Tension EES substation has been accepted and authorized for energization, Con Edison will begin energizing all of the feeders as they are installed. Con Edison will make reasonable efforts to energize all six feeder positions by May 22, 2015.

Neither the Commissioners of the Authority nor any officer, agent, or employee thereof shall be charged personally by Con Edison with any liability or held liable to it under any term or provision of this agreement between the Parties, or because of execution or attempted execution or because of any breach of this agreement or attempted or alleged breach of any term or provision of this agreement or otherwise. Neither the trustees of Con Edison nor any officers, employees, or agents thereof shall be charged personally by the Authority with any liability or held liable to it under any term or provision of this agreement between the Parties, or because of execution or attempted execution or because of any breach of this agreement or attempted or alleged breach of any term or provision of this agreement or otherwise.

Please forward the invoice for payment.

The Port Authority of New York and New Jersey

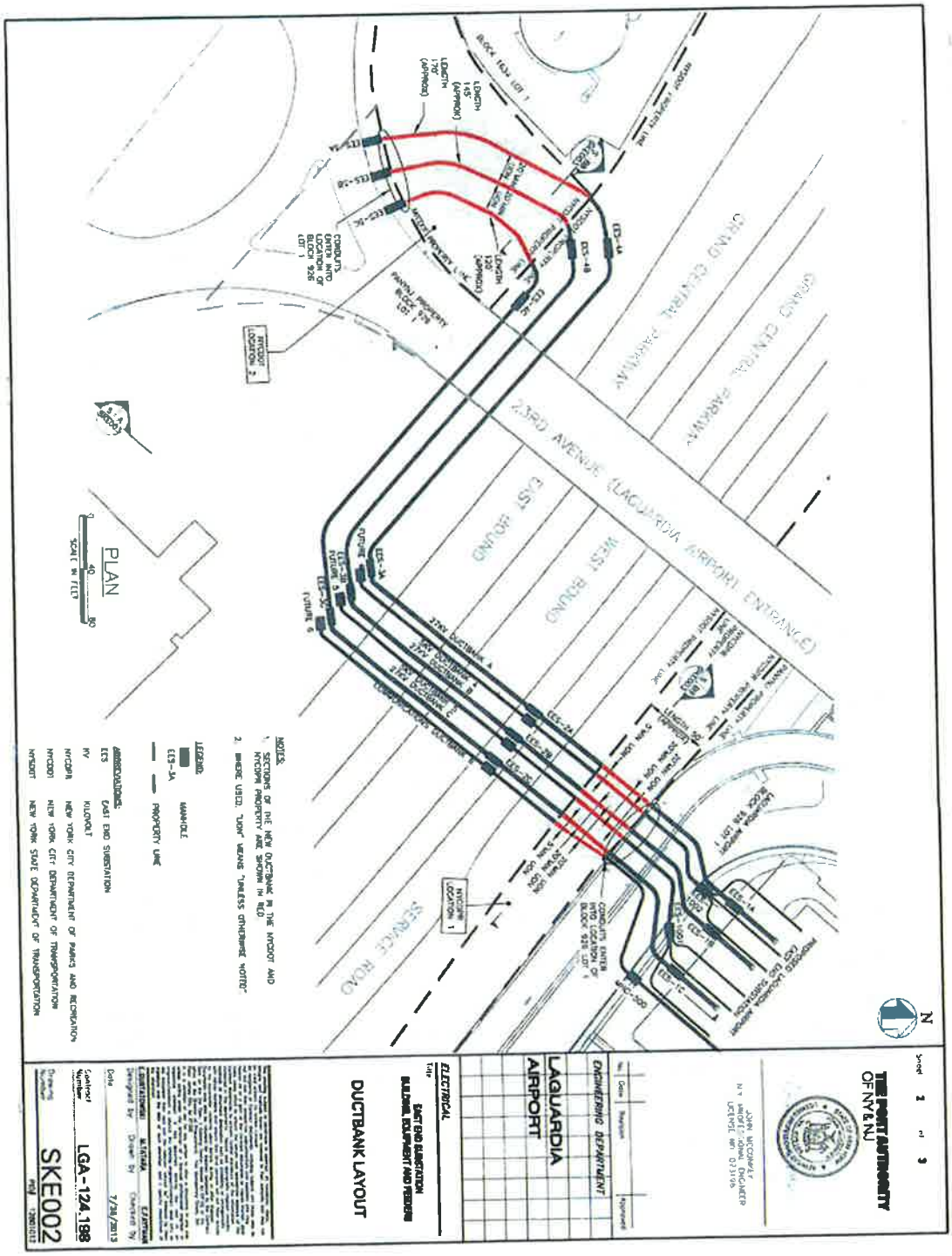
By: _____ Date 9/10/13
Name: Patrick J. Foye
Title: Executive Director

APPROVED
TERMS AED FORM F.F.

Agreed and accepted:

Consolidated Edison Company of New York, Inc Date 9/13/13

By: _____
Name: Robert D. Schimmenti
Title: Vice President of Engineering and Planning


PLAN
SCALE IN FEET
NOTES:
1. SECTIONS OF THE NEW DUCTBANK IN THE NYCDOT AND NYCDPR PROPERTY ARE SHOWN IN RED.
2. WHERE USED, "DUCTBANK" MEANS "UNLESS OTHERWISE NOTED"
LEGEND:
MANHOLE
PROPERTY LINE
ABBREVIATIONS:
EES EAST END SUBSTATION
KV KILOVOLT
NYCDPR NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION
NYCDOT NEW YORK CITY DEPARTMENT OF TRANSPORTATION
NYSDOT NEW YORK STATE DEPARTMENT OF TRANSPORTATION
THE PORT AUTHORITY OF NY & NJ
LAGUARDIA AIRPORT
ENGINEERING DEPARTMENT
ELECTRICAL
EAST END SUBSTATION
BUILDING EQUIPMENT AND FEEDERS
DUCTBANK LAYOUT
LGA-124.198
SKE002
3RD AVENUE (LAGUARDIA AIRPORT ENTRANCE)
GRAND CENTRAL PARKWAY
EAST BOUND
WEST BOUND
SERVICE ROAD

THE CITY OF NEW YORK
OFFICE OF THE MAYOR
NEW YORK, NY 10007

NEGATIVE DECLARATION

CEQR Number: 15DME001Q Date Issued: August 22, 2014

NAME: LaGuardia Airport Central Terminal Building Redevelopment

LOCATION: LaGuardia Airport, Flushing, NY 11371
Borough of Queens
Bounded by Community Districts 1, 3, and 7 (water boundary) (LaGuardia Airport designated as Joint Interest Area)
Tax Block 926, part of Lot 1

SEQR CLASSIFICATION: Type I Action as determined by 6NYCRR 617.4 (b)(6)(v) and (b)(9)

Description

The proposed project is the redevelopment of the existing passenger terminal (Terminal B), airside apron, landside roadways, and parking garage within LaGuardia Airport's central terminal area. These facilities would be demolished and replaced with new facilities more efficiently designed and located to meet the latest federal standards for airport safety and security and to accommodate forecast passenger demand at acceptable levels of service. The New York City discretionary action prompting CEQR is one or more transfers of interest in property either to and/or from the City that will occur in connection with the proposed project's roadway network changes planned within parkway land on the north embankment of the Grand Central Parkway.

Statement of No Significant Effect

Pursuant to Executive Order 91 of 1977, as amended, and the Rules of Procedure for City Environmental Quality Review, found at Title 62, Chapter 5 of the Rules of the City of New York and 6NYCRR, Part 617, State Environmental Quality Review, the Office of the Deputy Mayor for Housing and Economic Development assumed the role of lead agency for the environmental review of the proposed project. Based on a review of information about the project contained in an Environmental Assessment Statement dated August 22, 2014, as well as the *Draft Final Environmental Assessment and Section 4(f) Evaluation for the Central Terminal*

Building Redevelopment Program at LaGuardia Airport (Volumes I – Technical Report, Volume II – Appendices; June 2014) prepared for the U.S. Department of Transportation, Federal Aviation Administration, and *Air Quality Impact Analysis Memorandum* (August 12, 2014), the Office of the Deputy Mayor for Housing and Economic Development has determined that the proposed action would not have a significant adverse impact on the environment.

Reasons Supporting this Determination

The above determination is based on an EAS and supporting documents dated August 22, 2014, *Draft Final Environmental Assessment and Section 4(f) Evaluation for the Central Terminal Building Redevelopment Program at LaGuardia Airport* (Volumes I – Technical Report, Volume II – Appendices; June 2014), and *Air Quality Impact Analysis Memorandum* (August 2014), and incorporated by reference herein. The EAS finds that:

1. The proposed project would not have significant adverse impacts in the following areas: Land Use, Zoning and Public Policy; Socioeconomic Conditions; Community Facilities and Services; Open Space; Shadows; Historic and Cultural Resources; Hazardous Materials; Natural Resources; Water and Sewer Infrastructure; Solid Waste and Sanitation Services; Energy; Transportation; Air Quality; Greenhouse Gas Emissions; Noise; Public Health; Neighborhood Character or Construction Impacts.

2. Although the proposed project is located within the City's Coastal Management Zone, it would not substantially hinder the achievement of any Waterfront Revitalization Program policies and is consistent with the Local Waterfront Revitalization Program designed to protect coastal zone areas.

3. Adverse effects on historic properties (National Register-eligible Hangars 1, 2, 3, 4, and 5) have been addressed by the lead agency in coordination with the State Historic Preservation Office, which has also consulted with the New York City Landmarks Preservation Commission. SHPO continues to serve as the lead technical agency in this study area. Moreover, any effects would be resolved through the execution of a Memorandum of Agreement (MOA) that specifies the conditions that will allow the proposed project to proceed. NYC Landmarks Preservation Commission will be a consulting party to the MOA.

4. The removal of trees under the jurisdiction of NYC Department of Parks and Recreation (DPR) would comply with *New York City Rules Governing Tree Replacement* and would not occur without the applicable Construction and Forestry Permits. The Port Authority of New York and New Jersey has committed to develop a plan with DPR to address removal of City trees, including provisions for restitution for their loss. Compliance with DPR permit requirements, including replacement or other appropriate measures, provides adequate assurance that there will be no significant adverse impacts on City trees.

5. Detailed traffic analyses performed in consultation with NYC Department of Transportation demonstrated that construction traffic during the peak year 2015 and operational traffic effects for the analysis year 2030, accounting for anticipated increases in traffic volumes, significant planned future developments, and transportation-improvement projects within the study area, would not be significant.

CEQR Number: 15DME001Q
LaGuardia Airport Central Terminal Building Redevelopment

Page 3

6. An air quality assessment performed in consultation with the NYC Department of Environmental Protection demonstrated that mobile source impacts for the future operational condition and pollutant concentrations from the stationary source Central Heating and Refrigeration Plant would not exceed *de minimis* thresholds. In addition, ambient air quality impacts from construction activities would be temporary in nature and do not warrant further analysis. Construction-related mobile source emissions would not be significant.

7. No other significant effects upon the environment that would require the preparation of a Draft Environmental Impact Statement are foreseeable.

This Negative Declaration has been prepared in accordance with Article 8 of the New York State Environmental Conservation Law (SEQRA).

Chris Reo, Interim Director
Mayor's Office of Environmental Coordination

8-22-14

Appendix H.
Public Involvement

H.1 Public Information Open House Summary (December 12, 2012)

H.2 Public Hearing Summary (May 8, 2014)

H.3 Public Comments

Meeting Summary of the LaGuardia Airport Central Terminal Building Redevelopment Program and Environmental Assessment

Introduction

The Port Authority of New York and New Jersey hosted a *Public Information Open House* regarding the LaGuardia Airport Central Terminal Redevelopment Program and Environmental Assessment. This introductory meeting, held prior to the completion of a Draft Environmental Assessment, presented the need for and considerations in the development of plans to improve the Central Terminal Building at LaGuardia Airport.

Meeting Logistics

The Open House, held on Wednesday, December 12, 2012, took place from 3:00 pm to 5:00 pm and again from 6:00 pm to 8:00 pm. The meeting was held at the LaGuardia Airport Marriott Hotel, located at 102-05 Ditmars Boulevard, in East Elmhurst, New York, minutes from LaGuardia Airport.

The Open House, which took place on the lower level in the Queen's Suite, consisted of approximately 13 storyboards, found in the Appendix, on the following topics:

- Welcome Board
- History of the CTB
- Airport Community and Context
- Purpose and Need
- Concepts for Redevelopment
- Concept Evaluation
- Preferred Concept Elements and Renderings
- Categories for Environmental Study
- Timeline
- Environmental Assessment Process
- Next Steps

At each station, which included two or three storyboards, members of the Port Authority project team were on hand to answer questions and listen to comments from the attendees. Those in attendance

were largely supportive of the project noting that a redevelopment project of this magnitude was long overdue in order improve the passenger experience at LaGuardia Airport. Several attendees noted that given the enormous changes that have occurred in airport management over the last decade, and given that LaGuardia Airport is New York City's downtown airport, this project is one that is warranted and necessary.

Meeting Notification

To ensure the widest possible notification of the meeting, emails and/or hard copy mailings were sent to over 260 individuals and organizations including members of the local Queens Chamber of Commerce; representatives of the three most adjacent Queens Community Boards (3, 7 and 11); officials from the City, State, and Federal agencies with interest and/or involvement in the review process; airline and airport industry personnel; elected officials from the City, State and Federal legislative bodies with jurisdictional interests in LaGuardia Airport; and other stakeholders who have previously expressed interest in development activities at the Airport.

The posted mailing included a letter of invitation with the logistical information, and a flyer. The mailed invitations were sent on November 20, 2012. A copy of all mailed invitations is included in the Appendix.

The email notifications included all logistical information and were sent on December 5 and December 11. A copy of the notification list, which includes both email address and direct mail addresses, is included in the appendix.

Paid Notices

In addition, paid notices were placed in ten local newspapers. The following table identifies the name of the publication, its area or subject circulation, and the date the advertisement was published in the newspaper.

Publication	Circulation Area	Date
The Daily News	Queens and Long Island	12/6/12
El Especialito	Spanish Speaking Communities	12/7/12
National Herald	Greek communities	12/7/12
Queens Chronicle	Queens	12/6/12
Western Queens Tribune	Western Queens	12/6/12
Queens Tribune	Queens	12/6/12
Times Newsweekly	Queens	12/6/12
Queens Courier	Queens	12/6/12
Queens Forum	South and Western Queens	12/6/12
The Queens Gazette	Queens	12/5/12

Copies of all notification materials are located in the Appendix.

Attendees

There were 51 attendees at the meeting, including residents and representatives of the following agencies and organizations:

Type	Name
Academic Institutions	Aviation High School
	Vaughn College
Business Organizations	Flushing LDC
	Queens Chamber of Commerce
Community Organizations	Community Board 3
Construction and Consulting Firms	Airport and Aviation Professionals
	Queens Botanical Garden
	AECOM
	Cole Technologies
	Keller Williams Real Estate
	Kiewit
	Kimley-Horn
	Parsons
	Paulistania
	Tully
	Turner
	VHB
Elected Officials	New York City Council
	US Congress
	NYS Assembly
Agencies	New York City Department of City Planning
	New York City Department of Environmental Protection
	New York City Department of Transportation
	New York City Economic Development Corporation
	New York City Transit
	New York State Department of Transportation
	Federal Aviation Administration
Media	Queens Courier

Appendix

Storyboards

LAGUARDIA AIRPORT

CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM

Welcome to the Public Information Open House for the LaGuardia Airport Central Terminal Building Redevelopment Program and Environmental Assessment

THE PORT AUTHORITY OF NY & NJ

Bringing you a CLEANER, GREENER, more EFFICIENT and SECURE Airport for the 21st Century

HISTORY OF THE CTB

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM

THE PORT AUTHORITY OF NY & NJ

Bringing you a CLEANER, GREENER, more EFFICIENT and SECURE Airport for the 21st Century

LAGUARDIA AIRPORT COMMUNITY

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM

THE PORT AUTHORITY OF NY & NJ

Bringing you a CLEANER, GREENER, more EFFICIENT and SECURE Airport for the 21st Century

LAGUARDIA AIRPORT

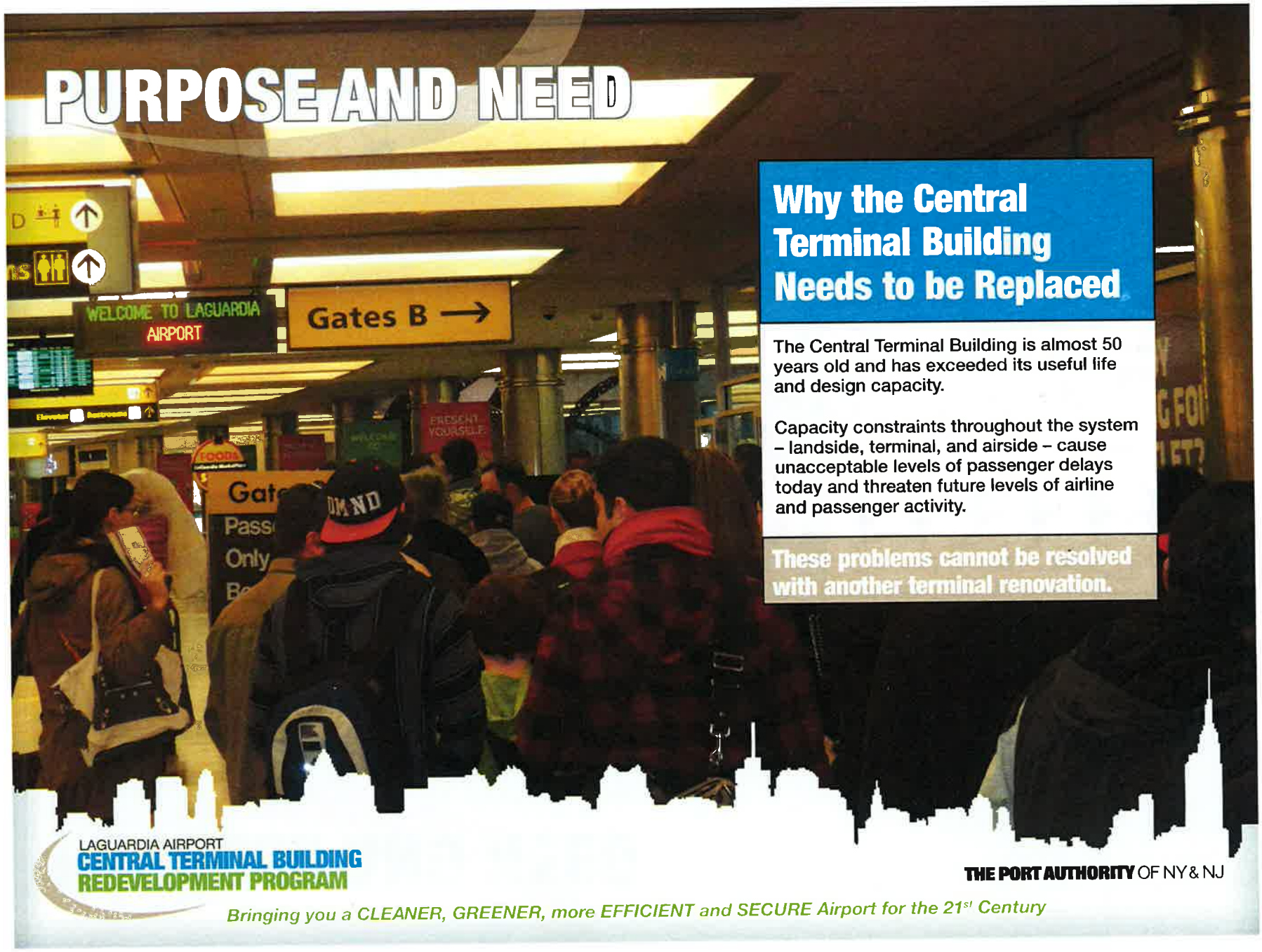
PROGRAM ELEMENTS:

- Demolition of CTB, garage, and Hangers 1, 2, and 4
- New Terminal Building with 1.3M Sq. Ft.
- CTB Apron Modification
- In-ground Aircraft Fueling System
- Frontage Roads and other Roadway Improvements
- West Garage
- Utilities
- Central Heating & Refrigeration Plant

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM

THE PORT AUTHORITY OF NY & NJ

Bringing you a CLEANER, GREENER, more EFFICIENT and SECURE Airport for the 21st Century


PURPOSE AND NEED
WELCOME TO LAGUARDIA AIRPORT
Gates B →
Why the Central Terminal Building Needs to be Replaced
The Central Terminal Building is almost 50 years old and has exceeded its useful life and design capacity.
Capacity constraints throughout the system – landside, terminal, and airside – cause unacceptable levels of passenger delays today and threaten future levels of airline and passenger activity.
These problems cannot be resolved with another terminal renovation.
LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ
Bringing you a CLEANER, GREENER, more EFFICIENT and SECURE Airport for the 21st Century

PURPOSE AND NEED

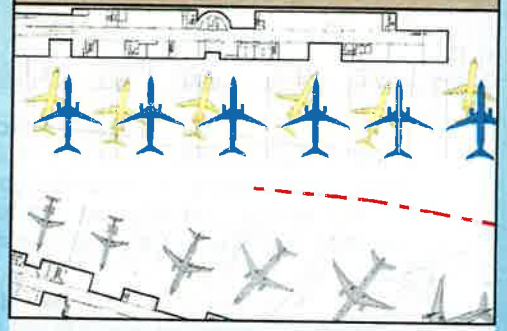
Landside Deficiencies

- Roadways create conflicts between pedestrians and vehicles
- Existing roadways are congested and need to be redesigned
- Insufficient curb frontage impedes passenger pick-up and drop-off

Terminal Deficiencies

- Long lines at ticket areas
- Post 9/11 changes to baggage and passenger screening impact circulation
- Insufficient number of concession options past security
- Gate hold areas cannot accommodate future demand

Airside Deficiencies



- Gate positions cannot accommodate modern aircraft fleet
- Existing aircraft taxilanes are small and narrow
- Minimal start-up positions
- Numerous tow-in gates
- Inefficient aircraft parking positions
- Some gates require pushback onto taxiways

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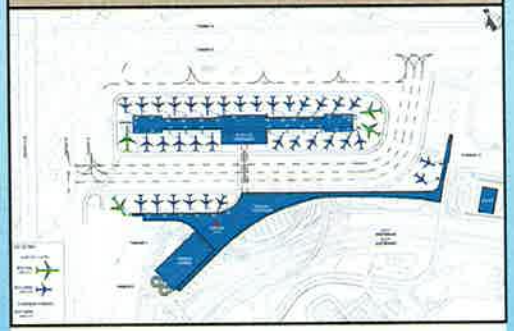
THREE CONCEPTS

A. Re-use/ Redevelopment

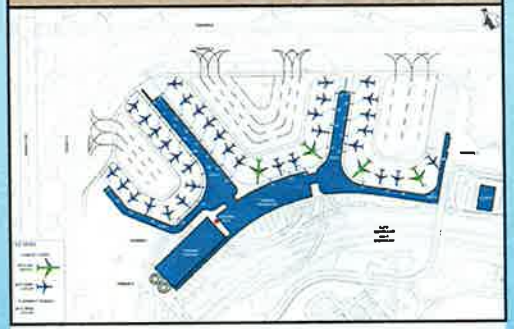
- Reconstruct the terminal in the same location
- Build five (5) short concourses
- Renovate existing CTB parking garage and add additional garage
- Maximize use of existing roadway system

B. Island



- Construct a new terminal south of the existing CTB
- Build new concourse with pedestrian bridge connected to the terminal
- Provide new roadways and parking with direct access to the new CTB

C. Concourses



- Construct a new terminal south of the existing CTB
- Build four (4) concourses
- Provide new roadways and parking with direct access to the new CTB

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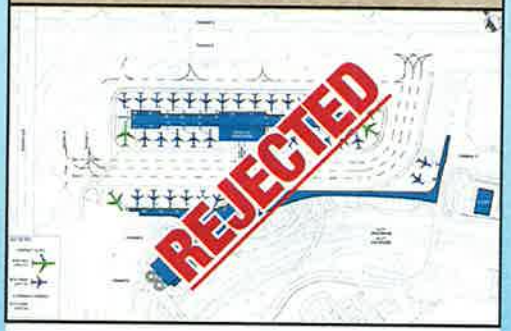
CONCEPT EVALUATION

A. Re-use/ Redevelopment

- Insufficient terminal square footage
- Insufficient aircraft parking and aircraft taxilane area
- Single taxilanes cause delays
- Traffic delays from at-grade pedestrian crossings
- Not enough road frontage
- Does not meet Purpose and Need

B. Island



- Airfield site constraints limit aircraft fleet mix and flexibility for aircraft parking and aircraft taxilane areas
- Layout causes conflict between aircraft and ground service equipment
- Demanding engineering requirements
- Site constraints dictate inefficient terminal layout
- Does not meet Purpose and Need

C. Concourses

- Aircraft parking and taxilane area provides highest capacity and efficiency
- Terminal layout accommodates state-of-the-art passenger processing and future flexibility
- Shortest construction time and simplest phasing
- Provides enhanced terminal frontage
- Improves passenger and pedestrian experience
- Meets Purpose and Need

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PREFERRED CONCEPT

Landside

- Elevated roadways improve pedestrian safety
- Improved traffic flow
- Separate and dedicated Ground Transportation (Bus, Shuttles, Taxis, etc.) access to the Terminal
- Additional and dedicated drop-off and pick-up sites improve passenger experience and safety
- Connecting bridges at 94th and 102nd Streets remain
- Eastbound flyover from GCP continues to provide access to Airport
- No additional entry/exit points to Airport
- Replacement parking garage

Terminal

- 35 gates
- Connection to Delta Terminal C
- 1.3 million sq. ft. of terminal space
- State-of-the-Art Passenger and Baggage Screening facilities
- Improved and Expanded Concessions
- Enlarged Gate Hold Areas improve passenger comfort
- Terminal design will meet sustainability goals

Airside

- Improved aircraft taxiing circulation
- Optimal aircraft parking positions
- Multiple startup positions
- Power-in gates
- Provisions for in-ground aircraft fueling system

MODIFIED CONCEPT C, CONCOURSE-TYPE LAYOUT

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CONCEPT RENDERINGS

New Terminal Construction at LaGuardia Airport Creates Local Jobs

AN AIRPORT WORTHY OF A WORLD CLASS CITY

JULY 2021

LAGUARDIA AIRPORT IMPROVES PASSENGER EXPERIENCE WITH STATE-OF-THE-ART TERMINAL

NEW YORK, FRIDAY SEPTEMBER 2019 75 CENTS

STIMULATES LOCAL AND REGIONAL ECONOMY

SUSTAINABLE TERMINAL DESIGN IS ENERGY EFFICIENT

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CATEGORIES FOR ENVIRONMENTAL STUDY

THE ENVIRONMENTAL ASSESSMENT WILL EVALUATE THE FOLLOWING:

- Air Quality
- Biotic Resources
- Coastal Barriers
- Coastal Zone Management
- Compatible Land Use
- Construction-related air, noise, and water pollution
- Cumulative Effects
- Energy Supply/Natural Resources
- Environmental Justice
- Farmlands
- Floodplains
- Hazardous Materials
- Historic Resources
- Increased traffic volumes during/after construction
- Light Emissions & Visual Effects
- Noise
- Parkland
- Secondary (Induced) Impacts
- Social Impacts
- Solid Waste
- Threatened/Endangered Species
- Water Quality
- Wetlands
- Wild & Scenic Rivers

There will be a Public Comment period to review the Draft Environmental Assessment before it is finalized.

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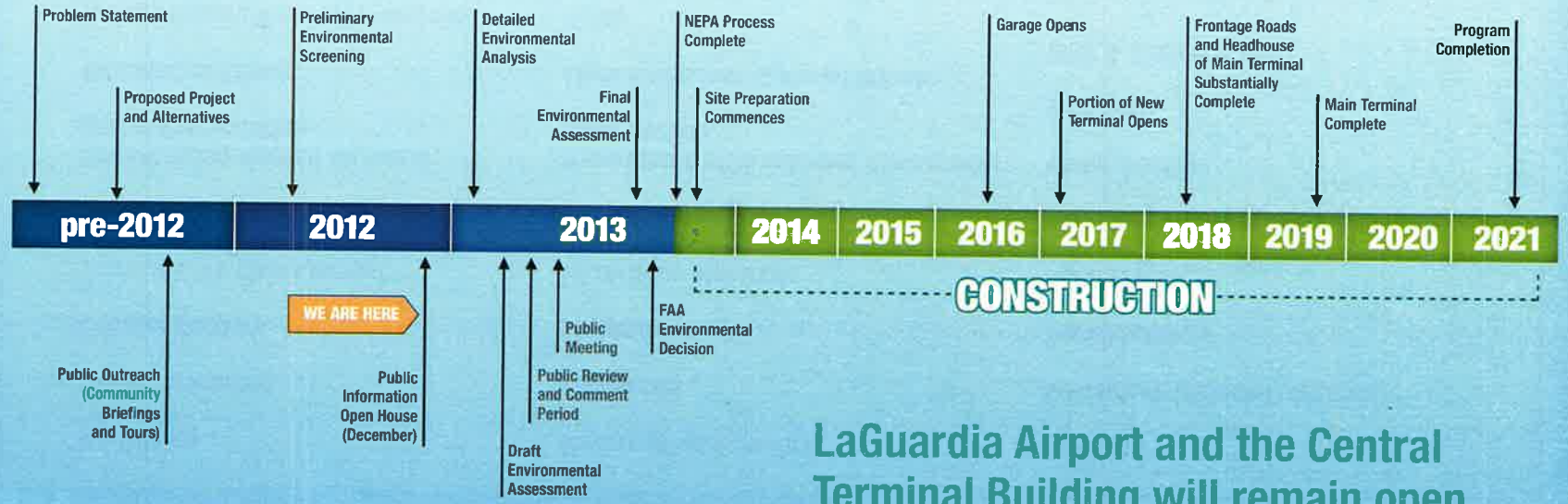
TIMELINE AND ENVIRONMENTAL ASSESSMENT PROCESS



LaGuardia Airport and the Central Terminal Building will remain open throughout construction

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NEXT STEPS

Prepare the Environmental Assessment for Public Review

Follow the progress of the CTB Redevelopment Program at our website:
www.panynj.gov/lgactb
lgactb@panynj.gov
Thank you for your interest.

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Materials for publicizing the event

- Flyer
- Email notification
- Notification List
- Color ad
- Black and white ad
- Sample Letter
- Copies of all mailed letters of invitation

LAGUARDIA AIRPORT

CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM

YOU ARE INVITED

Public Information OPEN HOUSE LaGuardia Airport Central Terminal Building Redevelopment Program and Environmental Assessment. Learn why the Central Terminal Building needs to be replaced and review concepts for a new Terminal.
For more information, please visit: **www.panynj.gov/lgactb**

Wednesday, December 12, 2012
3:00 to 5:00 pm and 6:00 to 8:00 pm
LaGuardia Airport Marriott
102-05 Ditmars Boulevard
East Elmhurst, NY

Bringing you a CLEANER, GREENER, more EFFICIENT and SECURE Airport for the 21st Century

THE PORT AUTHORITY OF NY & NJ

You are Invited!
Public Information
OPEN HOUSE

The Port Authority of New York and New Jersey invites you to a Public Information Open House for the LaGuardia Airport Central Terminal Building Redevelopment Program and Environmental Assessment.

When: Wednesday, December 12, 2012

Time: 3:00 pm to 5:00 pm and 6:00 pm to 8:00 pm

Where: LaGuardia Airport Marriott
102-05 Ditmars Boulevard
East Elmhurst, NY 11369
Link to Google Maps

Learn why the Central Terminal Building needs to be replaced and review concepts for a new Terminal.

Agency	Title	First	Last	Address 1	Address 2	City	State	zip	phone	email	cc
Air Carrier Representatives	need from Patty / Ralph										
Borough President's Aviation Advisory Council	need from Patty / Ralph										
FAA NYADO	Environmental Specialist	Marie	Jenet	600 Old Country Road	Suite 446	Garden City	NY	11530	516-227-3811	marie.jenet@faa.gov	
FAA NYADO	Civil Engineer	John	Moretto	600 Old Country Road	Suite 446	Garden City	NY	11530	516-227-3806		
FAA NYADO	Supervisory Civil Engineer	Otto	Suriani	600 Old Country Road	Suite 446	Garden City	NY	11530	516-227-3809	otto.suriani@faa.gov	
FAA/NYADA	Manager of NY Airports District	Steven	Urlass	600 Old Country Road	Suite 446	Garden City	NY	11530	516-227-3803		
Mayor's Office of Environmental Coordination	Director	Robert	Kulikowski	253 Broadway	14th Floor	New York	NY	10007	212-720-3423		
Mayor's Office of Long Range Planning & Sustainability	Director	David	Bragdon	253 Broadway	10th Floor	New York	NY	10007	212-788-3069		
New York City Landmarks Preservation Commission	Chairman	Robert	Tierney	One Centre Street	9th Floor	New York	NY	10007	212-669-7700 / 669-7938		Elisabeth de Bourbon
New York Industrial Retention Network		Vicki	Weiner	Pratt Center	200 Willoughby Avenu	Brooklyn	NY	11205	718-636-3486		
NYC DEP	Chief of the Division of Review & Construction Compliance	David	Ramia	59-17 Junction Boulevard	3rd Floor Low-Rise	Flushing	NY	11373	718-595-5211		Janet Amaro
NYC DEP	Commissioner	Carter	Strickland	59-17 Junction Boulevard	13th Floor	Flushing	NY	11373	718-595-6565 / 595-6575		Donna Carrieri, Ex. Asst. to Commish
NYC DEP Bureau of Planning Assessment	Director of Air & Noise Planning Analysis	Chung	Chan	59-17 Junction Boulevard	13th Floor	Flushing	NY	11373	718-595-4479		
NYC Department of City Planning	Commissioner	Amanda	Burden	22 Reade Street		New York	NY	10007	212-720-3300		
NYC Department of City Planning	Queens Borough Office	John	Young	DCP Queens Borough Office	120-55 Queens Blvd.	Kew Gardens	NY	11424	718-720-3300		
NYC DOT	Deputy Director, CEQR/Project Analysis	Shakil	Ahmed	55 Water Street		New York	NY	10004	212-839-7705 / 77	sahmedz@dot.nyc.gov	
NYC DOT	Director of Transit Development	Eric	Beaton						212-839-6697	ebeaton@dot.nyc.gov	
NYC DOT	Queens Borough Commissioner's Deputy	Dalia	Hall						212-839-2515	dhall@dot.nyc.gov	
NYC DOT		TJ	Jassel							tjassel@dot.nyc.gov	
NYC DOT		Tom	Maguire							tmaguire@dot.nyc.gov	
NYC DOT		Naim	Rasheed						212-839-7710	nrasheed@dot.nyc.gov	
NYC DOT		Aaron	Sugiera							asugiera@dot.nyc.gov	
NYC DOT Queens Borough	Borough Commissioner	Maura	McCarthy	120-55 Queens Blvd.	Room 285	Kew Gardens	NY	11424	212-839-25100	mmccarthy@dot.nyc.gov	
NYC EDC	check with Patty / Ralph										
NYC Landmarks Preservation Commission	Environmental Review Coordinator	Gina	Santucci	1 Centre Street	9N	New York	NY	10007		gsantucci@lpc.nyc.gov	
NYC Parks and Recreation	Queens Borough Commissioner	Dorothy	Lewandowski	Olmstead Center	Flushing Meadows Cor	Flushing	NY	11368			
NYC Parks and Recreation	Commissioner	Veronica	White	The Arsenal at Central Park	830 Fifth Avenue	New York	NY	10065	212-360-1311		
NYS DEC	Regional Director	Venetia	Lannon	1 Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4949		
NYS DEC	Commissioner	Joe	Martens	625 Broadway		Albany	NY	12233	518-402-8545		
NYS DEC Region 2	Regional Air Engineer	Sam	Lieblich	1 Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101			
NYS DOT		Luis	Calderon	Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4690	lcalderon@dot.state.ny.us	
NYS DOT		Olu	Fajolu	Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4742	ofajolu@dot.state.ny.us	

NYS DOT		Ian	Francis	Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4627	ifrancis@dot.state.ny.us				
NYS DOT		Uchenna	Madu						718-482-4562	umadu@dot.state.ny.us				
NYS DOT	Commissioner	Joan	McDonald	NYSDOT Main Office	50 Wolf Road	Albany	NY	12232						
NYS DOT	Governmental Relations	Charles	O'Shea	Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4526	coshea@dot.state.ny.us				
NYS Office of Parks, Recreation and Historic Preservation	Technical Assistance and Compliance Group	Beth	Cummings	Peebles Island State Park	P. O. Box 189	Waterford	NY	12188	518-237-8643 x 3289					
NYS Office of Parks, Recreation and Historic Preservation	Commissioner	Rose	Harvey	Peebles Island State Park	P. O. Box 189	Waterford	NY	12188	518-237-8643 x 3269					
Queens Borough President's Aviation Advisory Council	need from Patty / Ralph													
Queens Borough President's Office	President	Helen	Marshall	120-55 Queens Boulevard		Kew Gardens	NY	11415	718-286-3000					
Queens Borough President's Office	Planning and Development	Irving	Poy	120-55 Queens Boulevard		Kew Gardens	NY	11415	718-286-2860					
Queens Community Board 1	District Manager	Lucille	Hartmann	45-02 Ditmars Boulevard	LL Suite 125	Astoria	NY	11105	718-626-1021					
Queens Community Board 1	Chairperson	Vinicio	Donato	45-02 Ditmars Boulevard	LL Suite 125	Astoria	NY	11105	718-626-1021					
Queens Community Board 11	District Manager	Susan	Seinfeld	46-21 Little Neck Parkway		Little Neck	NY	11362	718-225-1054	qn11@cb.nyc.gov				
Queens Community Board 11	Chairperson	Jerry	Iannece	46-21 Little Neck Parkway		Little Neck	NY	11362	718-225-1054	qn11@cb.nyc.gov				
Queens Community Board 3	District Manager	Gionanna	Reid	82-11 37th Avenue	Suite 606	Jackson Heights	NY	11372	718-458-2707					
Queens Community Board 3	Chairperson	Marta	Lebreton	82-11 37th Avenue	Suite 606	Jackson Heights	NY	11372	718-458-2707					
Queens Community Board 7	District Manager	Marilyn	Bitterman	133-32 41st Road		Flushing	NY	11355	718-359-2800					
Queens Community Board 7	Chairperson	Eugene	Kelty, Jr.	133-32 41st Road		Flushing	NY	11355	718-359-2800					
Queens Economic Development Corporation		Seth	Bornstein	120-55 Queens Blvd.	Suite 309	Kew Gardens	NY	11424	718-263-0546					
Queensborough Chamber of Commerce		Jacqueline	Donado	75-20 Astoria Blvd	Suite 140	Jackson Heights	NY	11370		jdonado@queenschamber.org				

Body	District #	Title	First	Last	Address 1	Address 2	City	State	zip	phone	email
City Council, Queens	Council District 21	Council Member	Julissa	Ferreras	32-33A Junction Blvd.		East Elmhurst	NY	11369	718-651-1917	jferreras@council.nyc.gov
City Council, Queens	Council District 19	Council Member	Daniel	Halloran	166-08 24th Road		Whitestone	NY	11357	718-631-6703	dhalloran@council.nyc.gov
City Council, Queens	Council District 22	Council Member	Peter	Vallone, Jr.	22-45 31st Street		Astoria	NY	11105	718-274-4500	Vallone4NY2gmail.com
City Council, Bronx	Council District 13	Council Member	James	Vacca	3040 East Tremont Ave	Room 104	Bronx	NY	10461	718-931-1721	jvacca@council.nyc.gov
NYS Assembly	36th Assembly District	Assemblymember	Aravella	Simotas	21-73 31 Street	Suite 107	Astoria	NY	11105	718-545-3889	simotasa@assembly.state.ny.us
NYS Assembly	26th Assembly District	Assemblymember	Edward	Braunstein	213-33 39th Avenue	Suite 238	Bayside	NY	11361	718-357-3588	braunstein@assembly.state.ny.us
NYS Assembly	39th Assembly Distrct	Assemblymember	Francisco	Moya	82-11 37th Avenue	Suite 709A	Jackson Height	NY	11372	718-458-2371	no email address
NYS Assembly	37th Assembly District	Assemblymember	Catherine	Nolan	41-02 Queens Blvd	Suite 2B	Sunnyside	NY	11104	718-784-3194	nolanC@assembly.state.ny.us
State Senate	District 12	Senator	Michael	Gianaris	21-77 31st Street		Astoria	NY	11105	718-728-0960	
State Senate	District 11	Senator	Tony	Avella	38-05 Bell Boulevard	Suite C	Bayside	NY	11361	718-357-3094	
State Senate	District 13	Senator	Jose	Peralta	188 State Street	32-37 Junction Bou	East Elmhurst	NY	11369	718-205-3881	
State Senate	District 16	Senator	Toby Ann	Stavisky	144-36 Willets Point Blvd.		Flushing	NY	11357	718-445-0004	
Federal Congress	District 5	Senator	Gary	Ackerman	218-14 Northern Blvd.		Bayside	NY	11361	718-423-2154	
Federal Congress	District 14	Senator	Carolyln	Maloney	1651 3rd Avenue	Suite 311	New York	NY	10128	212-860-0606	
Federal Senate		Senator	Charles	Schumer	780 Third Avenue	Suite 2301	New York	NY	10017	212-486-4430	
Federal Senate	Senator's Aide	Director of Economic D	Gerard	Petrella	322 Hart Senate Office Building		Washington	DC	20510	202-224-0059	gerry_petrella@schumer.senate.gov
Federal Senate		Senator	Kirsten	Gillibrand	780 Third Avenue	Suite 2601	New York	NY	10017	212-688-6262	
Assembly	District 35	Assemblyman	Jeffrion	Aubry	98-09 Northern Blvd		Corona	NY	11368	718-457-3615	AubryJ@assembly.state.ny.us
NYC Council	District 29	Council Member	Karen	Koslowitz	118-35 Queens Blvd.		Queens	NY	11375	718-544-8800	Koslowitz@council.nyc.gov
Federal Congress	NY 7th District	Congressman	Joseph	Crowley	74-09 37th Ave	Suite 306-B	Queens	NY	11372	(718) 779-1400	
NYC Council	District 25	Council Member	Daniel	Dromm	37-32 75th St		Jackson Heights	NY	11372	718-803-6373	
Federal Congress	NY 18th District	Congresswoman	Nita	Lowey	222 Mamaroneck Avenue		White Plains	NY	10605	914-428-1707	
Community Board Office	United Community Civic Associa	President	Rose Marie	Poveromo	22-32 81st Street		Jackson Heights	NY	11370		

Mary Nicholson Gregory Lavine

Kate Winkler

Elizabeth Stanley

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	Alek	Shapiro	(718) 359-9703	BJ's Wholesale Club	137-05 20th Ave.		College Point	NY	11356
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Johnfellin@caterit.com	John	Fellin	(718) 335-0505	Bruno's On the Boulevard	88-25 Astoria Boulevard		Jackson Heights	NY	11369
wneitzel@bulova.com	Warren	Neitzel	(718) 204-4633	Bulova Corporation	One Bulova Avenue		Woodside	NY	11377
shanta@bunch-of-balloons.com	Shanta	Speller	(718) 809-7855	Bunch of Balloons	75-22 37th Suite 318		Jackson Heights	NY	11372
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csi27ave@yahoo.com	John	Rohe	(718) 321-0307	Consolidated Security Inc.	154-57 27 Avenue		Flushing	NY	11354
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service.info@cdsysinc.com	Carl	Smith	(646) 825-5570	Corporate Development Systems, Inc.	22-26 76th Street	Suite A3	Jackson Heights	NY	11370
bhandler@laguardia.meyerjacara.c	Robert	Handler	(718) 446-4800	Courtyard by Marriott at LaGuardia Airport	90-10 Ditmars Blvd.		East Elmhurst	NY	11369
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stevechen@crystalwindows.com	Steve	Chen	(718) 961-7300	Crystal Window & Door Systems, Ltd.	31-10 Whitestone Expressway		Flushing	NY	11354
vinnie@dacortahardware.com	Vinnie	DeRiggi	718-429-0707	DaCorta Bros. Hardware Inc.	91-07 Astoria Blvd.		East Elmhurst	NY	11369
drinaldo@verizon.net	Daniel	Rinaldo	(718) 457-4475	Dan Rinaldo Co., Inc.	56-27 Roosevelt Avenue		Woodside	NY	11377
	Felix	Devito	718-274-0000	De Vito Fuel Oil Co., Inc.	70-01 Astoria Blvd.		Jackson Heights	NY	11370
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graywg@donhauserinc.com	William	Gray	(718) 278-0515	Donhauser Land Services Inc.	71-01 Astoria Boulevard		East Elmhurst	NY	11370
	Joseph	Donovan	(718) 429-9339	Donovan's Pub	57-24 Roosevelt Avenue		Woodside	NY	11377
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	Michael	Buonassisi	(718) 392-1000	Pepsi Cola Bottling Co. of NY	117-02 15th Avenue	College Pt.	NY	11356
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gianna@pibbs.com	Damiano	Petruccelli	(718) 445-8046	Pibbs Industries	133-15 32 Avenue	Flushing	NY	11354
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	Erasto	Torres	(718) 779-4900	Ponce De Leon Federal Savings Bank	37-60 82 Street	Jackson Heights	NY	11372
jim@prest-o-sales.com	James	Madison	(718) 721-8100	Prest-O-Sales & Service, Inc.	40-14 19 Avenue	Long Island City	NY	11105
	James	Lynn	(718) 281-7350	Principal Building Services	One New York Times Plaza	College Point	NY	11354
jmawere@qbecf.com	Jonathan	Mawere	(718) 205-0288	Queens Blvd. Extended Care Facility	61-11 Queens Boulevard	Woodside	NY	11377
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santago@bocnet.org	Rodney	Santago	(718) 205-3773	Queens Business Outreach Center Network Inc.	96-11 40th Road	Corona	NY	11368
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	Carole	White	(718) 204-7900	White Coffee Corp.	18-35 Stalnway Pl.	Astoria	NY	11105
	Gerard	Tully, Sr.	(718) 767-7600	Whitestone Properties Associates Inc.	150-45 Cross Island Parkway	Whitestone	NY	11357
info@woodsideonthemove.org	Rosa	Reyes	(718) 476-8449	Woodside On The Move	39-42 59 Street 2 Floor Ste.S	Woodside	NY	11377
					29-20 23rd Ave. Ste 301	Astoria	NY	11105
					28-66 College Point Blvd.	College Point	NY	11354
					75-20 Astoria Boulevard	Jackson Heights	NY	11370

Public Information OPEN HOUSE LaGuardia Airport Central Terminal Building Redevelopment Program and Environmental Assessment. Learn why the Central Terminal Building needs to be replaced and review concepts for a new Terminal.
For more information, please visit **www.panynj.gov/lgactb**

Wednesday, December 12, 2012
3:00 pm to 5:00 pm and 6:00 pm to 8:00 pm
LaGuardia Airport Marriott
102-05 Ditmars Boulevard
East Elmhurst, NY 11369

Bringing you a CLEANER, GREENER, more EFFICIENT and SECURE Airport for the 21st Century

LAGUARDIA AIRPORT
Central Terminal Building
REDEVELOPMENT PROGRAM

THE PORT AUTHORITY OF NY & NJ

YOU ARE INVITED

Public Information OPEN HOUSE
LaGuardia Airport Central Terminal Building Redevelopment Program and Environmental Assessment. Learn why the Central Terminal Building needs to be replaced and review concepts for a new Terminal. For more information, please visit **www.panynj.gov/lgactb**

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LAGUARDIA AIRPORT
Central Terminal Building
REDEVELOPMENT PROGRAM

THE PORT AUTHORITY OF NY & NJ

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM
THE PORT AUTHORITY OF NY & NJ

November 16, 2012

Recipient Name
Address
City, State Zip

Dear [name],

The Port Authority of New York and New Jersey invites you to a **Public Information Open House** for the LaGuardia Airport Central Terminal Building Redevelopment Program and Environmental Assessment on **Wednesday, December 12** from **3:00 to 5:00 P.M.** and **6:00 to 8:00 P.M.** at the LaGuardia Marriott, 102-05 Ditmars Boulevard, East Elmhurst, New York.

The Port Authority is committed to providing the highest quality transportation facilities in the world. As part of this mission and in recognition that the time has come to replace the Central Terminal Building at LaGuardia Airport, the Port Authority has embarked on a program to replace the existing aging terminal to accommodate future demand. The new facilities will be cleaner, greener, more secure and efficient, designed for the 21st Century. Over the next ten years, the existing terminal building, roadways, and parking garage, are scheduled to be replaced in-kind with new facilities designed and constructed to meet the latest Federal, State and local standards for safety and security, and to enhance the overall level of service for passengers and visitors alike. Our architects and engineers have explored concepts for the new Central Terminal Building and preliminary planning efforts are underway. An environmental assessment is also being prepared in compliance with Federal, State and local rules and regulations.

This Public Information OPEN HOUSE will provide an opportunity to learn more about the Redevelopment Program and the National Environmental Policy Act (NEPA) process leading to the preparation of a draft Environmental Assessment. There will be display boards outlining key information concerning the proposed project and the environmental review process. Airport officials, engineers, and environmental specialists, will be available to answer questions and to listen to your comments or concerns. This will be the first of two events planned. When the Draft Environmental Assessment is complete next year, we will make the report available for review and comment, and we will hold a second Public Information OPEN HOUSE to present our findings and accept your comments for the public record.

A flyer about this event is included in this letter of invitation. Please feel free to share this announcement with others who may be interested. For more information about the Open House, or to request special assistance, please email lgactb@panynj.gov .

Sincerely,

Thomas L. Bosco
General Manager, LaGuardia Airport
enclosure

Public Information Session and Public Hearing for the LaGuardia Airport Central Terminal Building Redevelopment Program Draft Environmental Assessment and Section 4(f) Evaluation

May 8, 2014

Introduction

The Port Authority of New York and New Jersey (PANYNJ) hosted a Public Information Session and Public Hearing regarding the LaGuardia Airport Central Terminal Building Redevelopment Program Draft Environmental Assessment (EA) and Section 4(f) Evaluation. This meeting, held in conjunction with the public comment period for the Draft EA, provided an opportunity for public to learn about the plans for improving the Central Terminal Building at LaGuardia Airport, discuss any potential impacts to the community, and submit formal comments as part of the National Environmental Policy Act (NEPA) process.

Meeting Logistics

The meeting took place on Thursday, May 8, 2014 at the LaGuardia Airport Marriott Hotel, located at 102-05 Ditmars Boulevard, in East Elmhurst, New York. The Public Information Session took place from 3:00 pm to 6:00 pm and the Public Hearing took place from 7:00 pm to 9:00 pm.

The Public Information Session consisted of 26 storyboards (see Attachment 1), on the following topics:

- Welcome
- History of the CTB
- Airport Community and Context
- Environmental Requirements
- Purpose and Need
- No Action
- Concepts for Redevelopment
- Concept Evaluation
- Visual Impacts Assessment/Concept Renderings
- Noise Assessment
- Air Quality Assessment
- Water Quality Assessment
- Traffic and Transportation Assessment
- Historic, Architectural and Cultural Resources
- Hazardous Materials Assessment
- Energy and Sustainable Design
- Natural Resources
- Timeline
- Opportunities to Comment

At each station, which included two or three storyboards, members of the PANYNJ project team were on hand to answer questions and listen to comments from the attendees.

During the Public Hearing portion, the public was able to given formal testimony before PANYNJ panelists Ed Knoesel (Senior Manager of Environmental Services, Aviation Department) and Angel Martinez (Assistant Director of the LaGuardia Airport Redevelopment Program). The Hearing Officer, Deborah Howes (AECOM), convened the hearing and presented the regulatory context and procedures for the hearing. Next, Mr. Martinez gave a presentation on the CTB Redevelopment Program and a summary of the Draft EA findings (the presentation followed the storyboards from the Public Information Session, Attachment 1). After the presentation, public comments were heard. A stenographer recorded the entire public hearing session and a transcript was prepared (see Attachment 2).

Meeting Notification

Multiple methods were used to publicize the Public Information Session and Public Hearing (see copies in Attachment 3). A Notice of Availability, Request for Comment and Notice of Public Hearing was published in 13 local newspapers. The following table identifies the name of the publication, its area or subject circulation, and the date the advertisement was published in the newspaper.

Publication	Circulation Area	Date
Daily News (Queens)	Queens and Long Island	04/09/2014
Newsday (Queens)	Queens	04/09/2014
Queens Courier (west edition)	Western Queens	04/10/2014
Queens Chronicle (2 editions)	Queens	04/10/2014
Queens Gazette	Queens	04/09/2014
Queens Tribune (NNW editions)	Western Queens	04/10/2014
Queens Times Ledger (west edition)	Western Queens	04/11/2014
Queens Ledger	Queens	04/10/2014
El Especialito	Spanish Speaking Communities	04/10/2014
Greek National Herald	Greek Communities	04/09/2014
Sing Tao Daily	Chinese Communities	04/09/2014
Newark Star Ledger	Newark, NJ	04/09/2014
Bergen Record	Bergen, NJ	04/09/2014

Emails and mailings were sent to over 800 individuals and organizations, including members of the local Queens Chamber of Commerce; representatives of the five adjacent Queens Community Boards (1, 3, 4, 7 and 11); officials from the City, State and Federal agencies with interest and/or involvement in the review process; airline and airport industry personnel; elected officials from the City, State, and Federal legislative bodies with jurisdictional interests in LaGuardia Airport; and other stakeholders who have previously expressed interest in development activities at the Airport. A copy of the notification list, which includes both email and direct mail addresses, is included as Attachment 4.

The posted mailing included a letter of invitation with the logistical information, and a flyer. The mailed invitations were sent on April 18, 2014. The email notifications included all logistical information and were sent on April 17, 2014, with reminders on May 1 and May 8, 2014.

In addition, PANYNJ issued a press release regarding the public hearing on May 6, 2014.

Attendees

There were 53 attendees at meeting, including local residents and representatives of the following agencies and organizations.

Type	Name
Academic Institutions	CUNY Aviation Institute at York College
	Vaughn College
Business Organizations Community Organizations	Queens Civic Congress
	Community Board 3
	Quietskies.net
Businesses	American Airlines
	AECOM
	Delta Air
	Holiday Inn
	MarketPlace Development
	Mercury
	Parson Brinckerhoff
	Queens Botanical Garden
	Signs and Decals
	Skanska USA
	URS
Elected Officials	New York State Assembly
	US Congress
Agencies	Federal Aviation Administration
	New York City Department of City Planning
	New York City Department of Transportation
	New York State Department of Transportation
	New York City Economic Development Corporation
Media	PIX
	Queens Ledger
	Reuters
	Times Ledger
	WABC

Attachment 1
Storyboards/Public Hearing Presentation

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Welcome to the Public Information Session and Public Hearing for the LaGuardia Airport Central Terminal Building Redevelopment Program, Draft Environmental Assessment, Section 4(f) Evaluation, and Section 106 Historic Resource Evaluation
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FROM THE PAST TO THE FUTURE
CENTRAL TERMINAL BUILDING
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ENVIRONMENTAL REQUIREMENTS

National Environmental Policy Act of 1969 (NEPA)

NEPA is a federal requirement applicable to any action that requires federal funds or approvals. The Council on Environmental Quality (CEQ), an office of the White House, is responsible for coordinating federal environmental efforts by overseeing the implementation of all NEPA actions and acting as a referee when federal agencies disagree over elements of the assessment of any resource.

NEPA promotes better decision-making by ensuring that:

- A full set of reasonable alternatives is evaluated
- Potential impacts are understood before decisions are made
- Impacts are avoided, minimized or mitigated
- Opportunities for public participation are provided
- Consultation with appropriate federal and state agencies and the affected community are conducted

The Lead Agency, responsible for undertaking, funding or approving this NEPA action is the Federal Aviation Administration (FAA). The Port Authority of NY & NJ (PANYNJ) is the Project Sponsor.

Special Purpose Laws

In addition to NEPA, there are other federal environmental requirements that can apply to some actions; these requirements are known as Special Purpose Laws. The following Special Purpose Laws apply to the Proposed Action to redevelop the Central Terminal Building (CTB) at LaGuardia Airport:

- Section 106 of the National Historic Preservation Act (NHPA) requires consideration of any historic building or structure included in, or eligible for inclusion on the National Register of Historic Places. Consultation with the state and/or federal agencies responsible for historic reviews is required; in this case the New York State Historic Preservation Office (SHPO).
- Section 4(f) of the Department of Transportation (DOT) Act of 1966 requires specific review and evaluation processes for the use of any publicly owned park, or historically significant site or property, including:
  - Proof that there is no reasonable alternative which does not make use of the historic land or site
  - All possible measures to minimize harm to any property that is taken
  - Consultation with the SHPO or appropriate agency with jurisdiction over parkland areas; in this case, the New York City Department of Parks and Recreation (NYCDPR) and the New York State Department of Transportation (NYSDOT)

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PURPOSE AND NEED

The CTB Redevelopment Program (the Proposed Action) is **needed** to respond to decreasing efficiency and passenger convenience in LaGuardia Airport's central terminal area and to meet projected increases in passenger demand levels over the next 20 years. The **existing facilities constructed decades ago** do not match current needs, and continued use of these facilities **would result in substantially worsened conditions and an inability to meet future demand levels.**

The CTB Redevelopment Program is intended to resolve existing deficiencies in the central terminal area by replacing the existing terminal building and ancillary facilities with new facilities designed and constructed to meet the latest federal standards for airport safety and security, and to accommodate the forecasted increase in aircraft size and passenger demand levels at acceptable levels of service. The Proposed Action would allow LaGuardia Airport to better serve both the aircraft and passengers currently accommodated by the existing airfield and those the airfield is expected to accommodate through the forecast period.

> "Our airports are the gateways to New York for nearly 30 million people each year. Unfortunately, the state of New York has fallen behind. LaGuardia Airport is ranked as the worst airport in America. Believe it or not. That is a disgrace, my friends, and it is unacceptable, and it's going to change."
>
> – Governor Andrew Cuomo

The **purpose** of the Proposed Action is to efficiently enable the CTB to safely and effectively accommodate forecasted increases in aircraft size and passenger demand at acceptable levels of service by:

- Improving airline efficiency and operational safety on the terminal airside area in order to transition to larger aircraft
- Improving passenger throughput capacity and convenience throughout the terminal
- Improving parking operations and traffic circulation and flow along the terminal's landside roadways

The Proposed Action is **needed** because the existing CTB and ancillary facilities are already severely constrained and unable to adequately handle current air service and future passenger demands.

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ELEMENTS OF THE PURPOSE AND NEED

Landside Deficiencies

- Existing roadways are congested and cannot accommodate additional demand
- Roadways create conflicts between pedestrians and vehicles
- Insufficient curb frontage for pickup and drop-off

LANDSIDE ROADWAYS AND CURBSIDE AREAS NEED TO BE REDESIGNED

Terminal Deficiencies

- Not enough room at ticket counters
- Current layout cannot accommodate post-9/11 changes in baggage and passenger screening
- Few concession options post security
- Boarding areas cannot accommodate current and future demand

THE TERMINAL NEEDS TO BE LARGER AND MORE ACCOMMODATING

Airside Deficiencies

- Larger aircraft cannot fit side-by-side
- Current and future fleet mix cannot be accommodated which contributes to delays
- Aircraft must be pushed back or towed in due to maneuverability issues, which adds time to arrivals and departures

AIRSIDE AREAS NEED TO BE REDESIGNED

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NO ACTION

The term No Action means that the current conditions and trends would be maintained into the future with no major redevelopment.

If the Proposed Action of redeveloping the CTB is not taken, conditions at the CTB will continue to deteriorate and no significant improvements will occur.

- CTB would be modernized but only within the existing terminal footprint
- Terminal building infrastructure and support facilities (including mechanical/electrical systems) would be maintained in a state of good repair through continuous servicing
- Expensive renovations to the terminal would continue, with no increase in service, comfort, efficiency, or improvements for passenger security screening - resulting in gridlock during peak periods
- Road traffic congestion and delays would increase
- Aircraft maneuverability and parking areas would not be redeveloped or enlarged
- Air traffic congestion and delays would increase
- Passengers would not be accommodated and their experience would continue to decline

No Action is not a viable alternative and does not meet the Purpose and Need.

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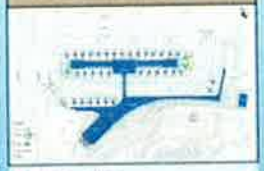
THREE CONCEPTS CONSIDERED

A. Reconstruction/ Reuse

- Reconstruct the terminal in the same location
- Maximize concourse space by adding fill to concourse
- Renovate existing CTB parking and circulation roadways

B. Island/Satellite



- Construct new terminal
- New concourse with pedestrian bridge and baggage conveyor tunnel connected to the terminal
- Provide new roadways and parking with direct access to the new terminal

C. Finger/Pier Concourses

- Construct a new terminal south of the existing CTB
- Build four (4) concourses
- Maximize aircraft movement areas
- Provide new roadways and parking with direct access to the new terminal

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CONCEPT EVALUATION

After thorough analysis, over 60 concepts and alternatives were studied, and Concept C was chosen as the Preferred Alternative.

A. Reconstruction/ Reuse

- Insufficient terminal square footage
- Inadequate aircraft parking and roadways
- Traffic delays from at-grade pedestrian crossings
- Not enough road frontage
- Construction Duration: 8-9 years

Does not meet Purpose and Need

B. Island/Satelite

- Airfield layout constraints limit aircraft size and constrict movement
- Terminal layout causes conflict between aircraft and ground service equipment
- Increased costs due to tunneling and elevated pedestrian bridge requirements
- Construction Duration: 8-9 years

Does not meet Purpose and Need

C. Finger/Pier Concourses

- Aircraft parking and gateways provide required capacity and efficiency
- Terminal layout accommodates state-of-the-art passenger services
- Provides ample and functional frontage for improved passenger and pedestrian experience
- Flexibility to adapt to future needs
- Construction Duration: 6-7 years

Meets Purpose and Need

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PREFERRED CONCEPT

Landside

- Elevated roadways improve pedestrian safety (Eliminates conflict between pedestrians and vehicles)
- Improved traffic flow for current and future demand
- Expands and indicates Ground Transportation (Buses, Shuttles, Taxis, etc.) access to the Terminal
- Additional and dedicated drop-off and pick-up sites improve passenger experience and safety
- Connecting bridges at 94th and 102nd Streets remain
- Eastbound Ramps from the Grand Central Parkway continues to provide access to Airport
- No additional entrance points to Airport
- Replacement parking garage
- Does not preserve future mass transit corridor

Terminal

- Retains same number of gates (33) and accommodates passenger demand
- Connection to Delta Terminal C
- Approximately 400,000 square feet of additional terminal space
- State-of-the-Art Passenger and Baggage Screening facilities
- Improved and Expanded Concessions
- Enlarged Boarding Areas improve passenger comfort
- Terminal design meets sustainability goals

Airside

- Improved aircraft threshold area accommodates modern fleet
- Optimal aircraft parking positions
- Added aircraft startup positions
- Power in gates allow for aircraft to pull directly to gate without requiring pushing assistance

MODIFIED CONCEPT C, CONCOURSE-TYPE LAYOUT

PROGRAM ELEMENTS

- Demolition of CTB, Garage, Hangars 1, 2, and 3
- New Terminal Building
- Aircraft Parking Modification
- Positioning for in-ground aircraft Parking Systems
- Frontage Roads and Other Roadway Improvements
- New Garage
- Utilities Legislated and Relocated
- Cannot Hinding and Reimpression Plant (CHRP)

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CATEGORIES FOR DRAFT ENVIRONMENTAL ASSESSMENT

THE DRAFT ENVIRONMENTAL ASSESSMENT HAS EVALUATED THE FOLLOWING:

Air Quality	Farmlands	Secondary (Induced) Impacts
Coastal Resources	Fish, Wildlife and Plants	Socioeconomic Impacts
Compatible Land Use	Floodplains	Solid Waste
Construction-related air, noise, and water pollution	Hazardous Materials	Traffic and Transportation
Cumulative Effects	Historic Resources (Section 106)	Threatened/Endangered Species
Energy Supply/Natural Resources/ Sustainable Design	Light Emissions & Visual Effects	Water Quality
Environmental Justice	Noise	Wetlands
	Section 4(f)	Wild & Scenic Rivers

The Public Comment period will be open April 9, 2014 - May 23, 2014.

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VISUAL IMPACTS ASSESSMENT

- Light Emissions
  - Light emissions from the new CTB would be similar to existing conditions
  - Not expected to cause or contribute to off-site annoyances or present a potential danger to persons living or driving in the vicinity of the airport
- Visual Impacts
  - Modern building with complementary architecture
  - Views from communities south of the Grand Central Parkway not appreciably different

No major changes to the Grand Central Parkway main line roadways, although the eastbound flyover ramp to the airport would be realigned to feed into the reconfigured terminal area roadway system.

View from Dimmers Blvd. at Overlook Park showing existing conditions, looking north toward LaGuardia Airport and the Air Traffic Control Tower

Concept rendering of view from Dimmers Blvd. at Overlook Park, looking north toward future Central Terminal Building

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CONCEPT RENDERINGS

Concept rendering of view from the south looking north toward future Central Terminal Building and West Garage

Concept rendering looking north toward future West Garage and Central Terminal Building

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NOISE ASSESSMENT

Noise levels at and around LaGuardia Airport are a result of the airport being located in an urban area close to a major highway (the Grand Central Parkway), as well as the aircraft operations taking place on the airfield.

- Noise monitors were installed adjacent to the Grand Central Parkway and the surrounding neighborhood to monitor ambient noise levels
- The increase in passenger traffic would result in minor noise increments on the local roadways surrounding LaGuardia
- The use of larger aircraft would not result in a significant noise impact (less than 1.5 dB within DNL 65 dB contour)
- Construction activities would result in minor temporary off-site noise increments above background

The noise analysis done for this Draft Environmental Assessment was conducted in accordance with Federal Aviation Administration (FAA) requirements and found no significant noise impacts as defined by FAA guidelines. The noise analysis includes changes resulting from implementation of the TNNIS climb departure procedure.

Measuring Noise

- dB = a unit for measuring the intensity of a sound
- The Day-Night Average Sound Level (DNL) is FAA's accepted noise metric representing the cumulative noise energy of a 24-hour period (annual average day)
- 10 dB is used as a general rule for noise comparisons. Noise levels above 70 dB are increasingly loud to some people
- The Port Authority routinely has [illegible] aircraft (GIA) and monitors its noise [illegible] possible impacts in the communities surrounding the Airport

Sound Levels and Relative Loudness of Typical Noise Sources

- Conversation or reflected office background noise, air conditioning unit at 100 feet = 60 dB
- Intercity passenger train = 70 dB
- Passenger car traveling at 65 mph on freeway 100 feet from pavement edge = 70 dB
- Heavy Truck at 50 feet = 90 dB
- Boeing 737-800 (a commercial service jet) at takeoff at (GIA) = 75.8 dB (in takeoff with thrust [illegible] Pratt & Whitney JT8D-15 engine at 1,000 ft. AFL at 6.5 nm from start of takeoff) (Source: Boeing)

Aircraft Noise Exposure Contours

The Noise Analysis can be found on Page 5-50 and Appendix E of the Draft Environmental Assessment.

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AIR QUALITY ASSESSMENT

An air quality assessment was conducted and found that the Proposed Action conforms to the New York State Implementation Plan and the Clean Air Act.

- Airlines are using larger aircraft to accommodate future passenger demand
- Aircraft emissions would potentially increase due to larger aircraft; however, reduced fuel consumption and ultimately fewer air emissions would result from:
  - Reduced aircraft taxi times due to expanded aircraft movement area around gates
  - Electric Ground Service Equipment (terminal equipped with charging stations)
  - Power units and pre-conditioned air built into gates (reduce need to run auxiliary power units on aircraft)
  - New energy-efficient Central Heating and Refrigeration Plant (CHRP)
- Design of new airport roadways and access to/from the Grand Central Parkway will accommodate additional traffic volumes, while reducing traffic congestion and delay on terminal area roadways with no significant increase in tailpipe emissions

No significant impacts are expected and no General Conformity Determination is required.

Construction

- During construction, contractors will be required to use ultra-low sulfur diesel fuel and off-road equipment retrofitted with emission control devices
- An emissions inventory calculated for the peak year of construction (Year 3) [illegible] construction workers, on-road vehicles, and non-road equipment) shows emissions will be below air quality pollutant thresholds

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WATER QUALITY ASSESSMENT

Water Quality/Stormwater

- Sustainable Design Plan includes measures to retain and reuse storm runoff for non-potable water use.
- Installation of new water quality devices and implementation of initiatives to reduce potential increases in runoff by retaining stormwater for infiltration or gray water reuse.
- Project-induced changes in storm runoff during the construction and operational phases would be minor and the effects mitigated through water quality best management practices and control measures.

Wetlands

- Tidal wetlands are located near the east end of the project site where the airport borders Flushing Bay; however, no wetlands are present within the project site and no impacts would occur.

Coastal Barriers and Coastal Zone Management

- Most of project area lies within Coastal Zone Management Area.
- Port Authority of NY & NJ (PANYNJ) submitted a state Consistency Assessment Form to the New York State Department of State (NYSDOS) and the New York City Department of City Planning (NYCDCP).
  - NYSDOS found that the CTB plan is consistent with the approved state and local coastal zone management programs on November 15, 2013.
  - NYCDCP recommended that the Proposed Action be found consistent with the Waterfront Revitalization Program (WRP) policies.

Floodplains

- Large portion of project area within 100-year tidal floodplain.
- The tidal floodplain is not anticipated to be adversely affected by minor displacement and development; no potential property loss or human safety risks.

Wild and Scenic Rivers

- None in vicinity of airport.

There are no significant impacts expected to water quality within the airport vicinity.

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TRAFFIC AND TRANSPORTATION ASSESSMENT

Operations

- Local intersections and the Grand Central Parkway were analyzed for traffic impacts.
- Results indicate that additional trips can be accommodated during peak hours without any significant impacts.
- Ongoing consultation with New York City Department of Transportation (NYCDOT) and New York State Department of Transportation (NYSDOT) during the process will ensure coordination and appropriate mitigation measures are implemented.

Roadway Improvements

- Improvements only apply to airport property.
- The Port Authority of NY & NJ (PANYNJ) is working with New York City Department of Parks and Recreation (NYCDPR) to identify and implement mitigation opportunities.
- Proposed design will incorporate landscaping wherever appropriate.

No significant impacts are expected to traffic and the transportation network as a result of a new and modern Central Terminal Building.

Construction

- On-road construction vehicles limited to NYCDOT truck routes (Grand Central Parkway).
- Construction workers will park at Ingraham's Mountain and be shuttled to site.
- Analysis of local roads shows no significant impact during peak hours.

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HISTORIC, ARCHITECTURAL AND CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act (NHPA)

- Hangars 1, 2, 3, 4, 5, and 7 (built 1939/1940) were determined to be eligible for listing in the National Register of Historic Places
- The Port Authority of NY & NJ (PANYNJ) examines numerous options and alternatives in an attempt to meet the project's objectives without impacting the historic properties
- Federal Aviation Administration (FAA) invited six entities to participate as consulting parties (at two meetings held during the fall of 2013) in accordance with Section 106 of NHPA
  - The National Trust for Historic Preservation, The Municipal Art Society of New York, The New York Landmarks Conservancy, The New York City Landmarks Preservation Commission, The Queens Borough President's Office, and American Airlines

Memorandum of Agreement (MOA) between PANYNJ, FAA and New York State Historic Preservation Office (SHPO)

- Any consulting party may sign as a consulting party to the MOA
- Identifies mitigation for the adverse effect on historic properties

There will be impacts to the hangars, but they will be mitigated.

Section 4(f) DOT Act

- Requires use of land including public parks, recreation areas, wildlife/waterfowl refuge areas, or historic sites
- National Register-eligible hangars are Section 4(f) resources
  - Direct use (demolition) of Hangars 1, 2, and 4
- Avoidance alternatives and least overall harm analysis demonstrated hangars cannot be avoided while meeting the transportation need
- Draft Section 4(f) Evaluation available for public comment

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HISTORIC, ARCHITECTURAL AND CULTURAL RESOURCES

Impacts

- Hangars 1, 2, and 4 would be adversely affected by demolition and removal
- Hangars 3 and 5 would remain but would be indirectly affected by the development
- There would be no impacts to Hangar 7

Mitigation

- Since the project will have an Adverse Effect on Historic Properties, mitigation measures were discussed with the Consulting parties and include:
  - Hangars 1, 2, 3, 4, 5, and 7 will be documented according to Level III Historical Architectural Building Survey/Historic American Engineering Records Standards of the National Park Service
  - Archeological Monitoring of select Areas of Sensitivity during select construction activity
  - Establish a Demolition/Construction Management Plan to avoid impacts to Hangars 3 and 5
  - Create an Interpretative Display on the History of LaGuardia Airport to illustrate significance of CTB and Hangars

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HAZARDOUS MATERIALS ASSESSMENT

- During demolition, it is possible that asbestos and lead paint may be encountered
  - Abatement of the asbestos would be conducted prior to removal
  - Abatement of lead-containing paint would be conducted prior to disturbance, or the appropriate requirements from federal, state and local regulations would be followed
- Excess soil and construction debris may be disposed of as solid waste
  - Wastes could include: demolition debris, fluorescent lamps and ballasts, scrap metal, and HVAC system-related waste (e.g., refrigerants and used oil)
  - Soil and construction debris will be reused or recycled to the greatest extent possible
  - Petroleum-contaminated soil may be encountered during excavation
    - Soils to be tested and disposed of in accordance with New York State Department of Environmental Conservation (NYSDEC) requirements
  - Project-induced waste streams that do not contain hazardous substances would be disposed of according to local and state regulations

Protocols for pollution prevention and waste management will be implemented.

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ENERGY AND SUSTAINABLE DESIGN

- Executive Order 13123, Greening the Government Through Efficient Energy Management, encourages each federal agency to expand the use of renewable energy in its facilities and for its actions
- Federal Aviation Administration (FAA) policy directs a review of a federal action to discern the conservation of resources, use of pollution prevention measures, minimization of aesthetic effects, and address public (both local and traversing) sensitivity to these concerns
- The Port Authority of NY & NJ (PANYNJ) will implement a design for the CTB Redevelopment Program that results in the construction and operation of the airport in a sustainable manner through conservation of natural resources and protection of the environment
  - A Sustainable Design Plan has been prepared
  - Energy use and goals of the New York State Climate Action Plan on greenhouse gas (GHG) reduction and mitigation of environmental impacts have been acknowledged and identified as project goals
  - Pursue Leadership in Energy and Environmental Design (LEED) Gold rating for new terminal with a minimum required rating of Silver
- Key design strategies may include
  - Optimized building envelope components, high-performance HVAC systems, and building automation and control systems partnered to meet a 30% reduction in energy cost compared to similar buildings
  - Purchase green power to meet LEED goal of providing 35% of the project's electricity from renewable sources
  - Water efficient plumbing fixtures, stormwater harvesting, and gray water reuse to reduce potable water for sewage conveyance by 50%, and potable water use in the building by more than 40% compared to similar buildings
  - Replacement of the existing non-pervious salt splash towers with pervious pavers to enhance percolation rates and protect the vegetation and open areas

While the Program is required to attain a Silver Leadership in Energy and Environmental Design (LEED) rating, it will strive for a Gold rating.

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NATURAL RESOURCES

The operation of an airport requires energy in the form of electricity, natural gas, aviation fuel, diesel fuel, and gasoline to power, cool, heat, and provide lighting.

- According to Federal Aviation Administration (FAA) Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*, the use of natural resources other than for fuel need be examined only if the project or action involves a need for unusual materials or those in short supply.
- The construction of the Proposed Action would not require any scarce or unusual building materials and the volume of consumable materials would be available from local or regional suppliers.
- Potential increases in fuel consumption associated with the use of larger aircraft, and/or additional traffic volumes would be offset by decreases in fuel consumption resulting from efficiencies associated with the airside, terminal, and landside elements of the plan. For example:
  - Average airport-wide gasoline and diesel fuel consumed by conventional bag tractors, belt loaders, and push back tractors would be reduced by approximately half because comparable electric ground support equipment (eGSE) would be used exclusively at the new terminal building, which accounts for half the aircraft parking positions (gates) serviced by these types of equipment.
  - Average daily gasoline and diesel fuel consumed by arriving and departing vehicles would not change appreciably due to improved levels of service on the terminal area roadways.

There would be no significant increase in the demand for electricity or natural gas.

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CENTRAL TERMINAL BUILDING
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OTHER CATEGORIES ASSESSED

CATEGORY	ASSESSMENT
COMPATIBLE LAND USE	• No changes in land use on or off the Airport and no changes to local zoning plans
ENVIRONMENTAL JUSTICE (EJ)	• While the surrounding neighborhood is largely minority, the Proposed Action would not contribute to a disproportionate adverse effect on EJ communities
FARMLANDS	• No farmlands are in the vicinity of the Airport
FISH, WILDLIFE AND PLANTS	• Limited natural habitat on project site (mostly landscaped medians) • Wildlife temporarily displaced during construction
THREATENED/ENDANGERED SPECIES	• Piping plover (federally-threatened) is the only federally-listed species reported at the Airport: no impact to habitat from Proposed Action
SOCIAL IMPACTS	• No private property would be acquired and no residences or commercial areas outside of the Airport would be relocated • No direct or indirect impacts have been identified that would cause or contribute to disproportionate health or safety risks to children • Traffic analysis indicates that the Proposed Action would not worsen, and in some instances would provide improved levels of service on local roadways when compared to the Future No-Action Alternative
INDUCED SOCIOECONOMIC	• The Proposed Action would contribute more than $4.2 billion to the local and regional economies over the 6-year construction period • Construction would provide 6,270 direct job-years and 14,650 indirect job-years • The Program will strive to meet 12% MBE and 5% WBE goals for participation
CUMULATIVE EFFECTS	• No potentially significant adverse impacts have been linked to the CTB Redevelopment Program and it is unlikely that the incremental impact of the Proposed Action would cause or contribute to a significant adverse impact on the environment when added to future projects or actions involving LaGuardia Airport and/or the Grand Central Parkway

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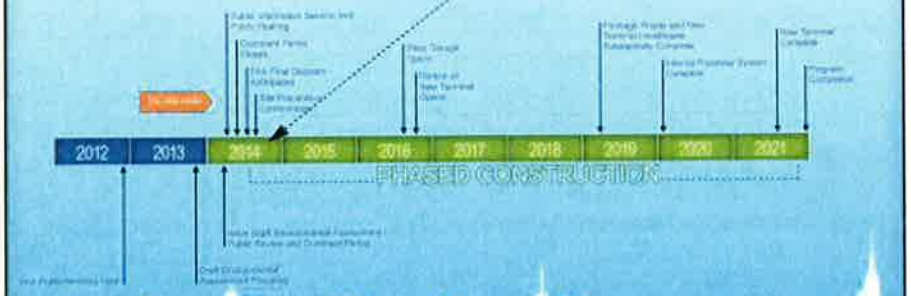
TIMELINE

LaGuardia Airport and the Central Terminal Building will remain open throughout construction.



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PROVIDE US WITH YOUR COMMENTS

Comments are due by 5:00 pm on Friday, May 23, 2014

Use one or more of the following methods:

- Fill out a comment card and leave it in the comment box today
- Mail a comment card to:

  ATTN: LGA CTB EA Comment
  Edward Knoesel
  Manager of Environmental Programs
  Port Authority of NY & NJ
  Aviation Department
  225 Park Avenue South, 9th Floor
  New York, NY 10003

- Scan your comment card and email it to us: LGACTBEA@panynj.gov

Follow the progress of the CTB Redevelopment Program at our website:
www.panynj.gov/airports/lgactb

Thank you for your interest.

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Attachment 2
Public Hearing Transcript

LAGUARDIA AIRPORT

CENTRAL TERMINAL BUILDING

REDEVELOPMENT PROGRAM

PUBLIC INFORMATION SESSION AND PUBLIC HEARING

/

PUBLIC HEARING

Held on Thursday, May 8, 2014, at the Laguardia Marriott Airport Hotel, 102-05 Ditmars Boulevard, East Elmhurst, New York, commencing at 3:00 p.m., before Maria R. Lucarelli, Court Reporter and Notary Public in and for the State of New York.

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APPEARANCES:

HEARING OFFICER:

DEBORAH HOWES

DIRECTOR OF COMMUNITY PLANNING FOR AECOM

125 Broad Street

New York, New York 10004

HEARING PANELISTS:

ED KNOESEL,

SENIOR MANAGER OF ENVIRONMENTAL SERVICES

AVIATION DEPARTMENT

PORT AUTHORITY OF NEW YORK AND NEW JERSEY

225 Park Avenue South, 9th Floor

New York, New York 10003

ANGEL MARTINEZ,

ASSISTANT DIRECTOR OF THE LAGUARDIA

REDEVELOPMENT PROGRAM

PORT AUTHORITY OF NEW YORK AND NEW JERSEY225

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PUBLIC HEARING

MAY 8, 2014

(Whereupon, the Public Information Session commenced at 3:00 p.m. and closed at 6:00. p.m.)

(Whereupon, the Public Hearing commenced at 7:00 p.m. as follows:)

HEARING OFFICER HOWES: Hello. We are going to ask you to take a seat, and welcome to the public hearing for the LaGuardia Airport Central Terminal Building Redevelopment Program, the Draft Environmental Assessment, Section 4(f), Evaluation, and Section 106 Historic Resource Evaluation. Thanks very much for coming. I'm the Director of Community Planning for AECOM, and we've been assisting the Port Authority of New York and New Jersey in the preparation of this Draft Environmental Assessment for the LaGuardia Airport Central Terminal Building Redevelopment. We welcome you here tonight to hear the Port Authority's presentation on the Redevelopment Program and provide you with an opportunity to make

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formal comments on the Draft Environmental Assessment for the official record.

This hearing has been convened by the Port Authority of New York and New Jersey as a component in fulfilling public involvement requirements of the National Environmental Policy Act of 1969, as amended; the National Historic Preservation Act of 1966 and in particular, Section 106 related to historic properties; and the Department of Transportation Act of 1966, specifically Section 4(f) of that Act.

From the Port Authority of New York and New Jersey, the sponsoring agency of this Draft EA, we have Angel Martinez, Assistant Director of the LaGuardia Redevelopment Program, and Edward Knoesel, the Senior Manager of Environmental and Noise Program for the Aviation Department.

In a few minutes, Angel Martinez, Assistant Director of the LaGuardia Redevelopment Program, will be making the Port Authority's official presentation on the project.

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PUBLIC HEARING

The Port Authority's proposed project consists of replacement of the Central Terminal Building at LaGuardia Airport. Included in the project is phased demolition of the Central Terminal Building, construction of a new terminal with the same number of gates as the CTB, which is 35, the demolition of Hangars 1, 2, and 4, construction of a new Central Heating and Refrigeration Plant, demolition of Parking Lot 2, and construction of a new West Garage. Also included are landside roadways and airside aircraft taxi lanes serving the new terminal will be redesigned and made more efficient. This project will not entail any work on the runway system at the airport. Each runway will remain at their current 7,000 foot length.

However, before Mr. Martinez makes his presentation, there are a couple of official statements we must make in conformance with the National Environmental Policy Act of 1969 or NEPA. NEPA, which some of us call the modern-day equivalent of

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the "environmental Magna Carta," establishes procedural requirements for all federal governmental agencies in their decision-making process. Those requirements govern the preparation of the Environmental Assessment, this public hearing, and ultimately in the decision-making process to determine whether or not to grant approval to the Port Authority to pursue this action.

Pursuant to those requirements, notices for this hearing were published on the Port Authority's website and in the following newspapers: Newark Star Ledger, Bergen Record, Daily News Queens Edition, Newsday Queens Edition, Queens Courier West, Queens Chronicle, Queens Gazette, Queens Tribune, Queens Times Ledger West, Queens Ledger, El Especialito, Greek National Herald, Sing Tao.

The Environmental Assessment was made available for public review beginning on April 9, 2014 at the following locations: The Port Authority of New York and New Jersey Aviation Department, 225 Park Avenue

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South in New York City, and the Port Authority of New York and New Jersey Terminal Redevelopment Program Office at LaGuardia Airport, Hanger 7, 2nd Floor office at the Marine Air Terminal Area in Flushing, New York. Also, at the Queens Borough Public Library, The following branches: At 35-51 81st Street in Jackson Heights and 41-17 Main Street in Flushing. In addition, the Draft Environmental Assessment is also available on the Port Authority's website at www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessment.pdf. You got that all down? It is written in many places around the room and in the comment cards.

The Draft Environmental Assessment will continue to be available for public comment until Friday, May 23rd at 5:00 p.m., and we look forward to listening to and recording your comments here tonight. If you don't wish to speak tonight or if you have additional comments, we have comment cards at the registration desk which you can fill out

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tonight or take with you. You can send them, along with any other written or printed materials, by mailing or e-mailing them to the Port Authority by 5:00 p.m. on May 23rd, 2014 at the following; for e-mail, please send your comments to LGACTBEA@panynj.gov, or by mail, to Mr. Edward Knoesel, Manager of Environmental Services, Aviation Department, the Port Authority of New York and New Jersey, 225 Park Avenue South, 9th Floor, New York, New York 10003. As I said, you can find this information on the comment cards or at the website at www.panynj.gov/airports/lgactb.

Now, I'm going to briefly cover the procedure that we're going to follow during this hearing. First, we're going to hear a presentation on the Environmental Assessment. Then, we will hear from those persons registered on the speaker's list, beginning with any elected officials who will be allowed five minutes to make their brief comments. Other persons who registered to speak will then be called in the order that

they registered and receive three minutes each to comment. If you would like to comment and give testimony, but have not yet done so, please see Ms. Kelly Burnes. And, there's Kelly (indicating). And, she'll be sitting there. She has a list for you. You can see her at anytime during this meeting.

Relinquishing of time by one speaker to another is not permitted. The Port Authority and the FAA, the Federal Aviation Department, will be listening to each of the speakers, but will not be responding directly to any comments or answering questions during the public comment period. There is a timer that will count down how much time you have left and I will let you know when you're out of time.

Before you begin your remarks, before we put the timer on, we ask that you speak clearly and slowly into this microphone and provide your name and the organization you represent, if any. Please note that any personal information, such as your name,

address, or telephone number, that you provide in your statement may be releasable to the public under the Freedom of Information Act.

We will also ask that there should be no demonstrations; clapping, cheering, et cetera, during or at the conclusion of anyone's presentation. These rules are intended to promote an orderly system of holding a public hearing and to give every person an opportunity to be heard and to ensure that no individual is embarrassed by exercising their right of speech.

We have a court reporter here, Maria --

Thank you, Maria -- who will be making a verbatim transcript of the hearing, and your comments will become part of that public record. You can purchase the public record, if you want, from Accurate Court Reporting, Inc., whose telephone number is 888-227-3335. The transcript will also be included as part of the Public Involvement Section of the Final Environmental Assessment,

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in the public hearing report, the public document, which will be posted on the project's website. Hard copies of the Final Environmental Assessment will also be available upon request. If you have written comments, please hand them to the court reporter before or after you speak, that way she can be absolutely sure she got exactly what you said.

And, following a review of the testimony and comments on the Draft Environmental Assessment by the Port Authority, a Final Environmental Assessment will be prepared and submitted to the Federal Aviation Administration, the lead federal agency for this NEPA process. The Final EA will include all testimony and comments and will be subject to an independent review by FAA and a subsequent federal environmental determination.

So, now we are ready to start the presentation. Mr. Angel Martinez, the Assistant Director of the LaGuardia Redevelopment Program, will present to you

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the LaGuardia Airport Central Terminal Building Redevelopment Program and a summary of the Draft Environmental Assessment.

Thank you very much.

MR. MARTINEZ: Thank you, Deborah.

(Whereupon, PowerPoint presentation starts.)

Welcome and thank you for joining us tonight for the public hearing of the LaGuardia Central Terminal Building Redevelopment Program, Draft Environmental Assessment, Section 4(f) Evaluation, and Section 106 Historic Evaluation.

Now, for those of you who weren't here earlier, I'm going to provide a brief recap of what was provided at the Public Information Session, which we conducted earlier this afternoon.

Many of the boards are still up. The existing Central Terminal Building, known to many of you as Terminal B, opened in 1964 with the design capacity of 8 million annual air passengers. The 50 year old building, air field concourses, and terminal were

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designed for a different era in aviation. Expansion in the 1990s added 100,000 square feet to the 750,000 square foot terminal. In 2013, the Central Terminal Building served approximately 13 million annual air passengers with the expected growth of 17.5 million annual air passengers by 2030.

The time has come to replace the Central Terminal Building at LaGuardia. The LaGuardia Redevelopment Program provides for an in-kind replacement of the terminal, parking garage, roadways and several ancillary facilities. Since its original construction, the area around LaGuardia has developed into a culturally rich community. To assist you in getting your bearings, the airport itself is along the Grand Central Parkway, in yellow. The Central Terminal Building and its associated parking garage are located near the Air Traffic Control Tower, in the center of the map, and the Central Terminal Building, Central Heating, Refrigeration Plant, West Garage Airside Improvements and associated roads are the subject of this EA.

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To the east, there is Delta's terminals, or Terminals C and D, and to the west, is Terminal A, or the Marine Air Terminal, Delta Shuttle.

I will defer addressing this slide. My colleague, Ed Knoesel, will introduce you to the environmental process for which we are here today.

Purpose in need. There is a strong and well-defined purpose in need for this project, which is fully described in the Draft Environmental Assessment. The existing facilities constructed decades ago do not match the current needs and continued use of these facilities will result in substantially worsening conditions and an inability to meet future demand levels. As described in detail in the Draft EA, the terminal is currently deficient in all areas; landside terminal and airside. Not doing anything is not a viable alternative because the terminal will still require extensive investment in order to keep running. It's much more prudent to spend that money on a newly designed modern

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terminal that accommodates the demand.

During our analysis, we explored multiple terminal designs. The finger pier design was selected because it best met the purpose in need. The selected design concept maintains the same number of gates at 35, but the layout is more efficient for air travel. The Draft Environmental Assessment looked closely at impacts separated in 23 categories as required by the National Environmental Policy Act, known as NEPA, with the FAA in this case acting as the lead federal agency. From a visual perspective, there are no major changes to the Grand Central Parkway mainline roadways, although the eastbound flyover ramp to the airport would be realigned to feed into the reconfigured terminal area roadway system.

These are some of the artist interpretations of what LaGuardia might look like with a new terminal.

The noise analysis done for this Draft Environmental Assessment was conducted in accordance with FAA requirements and found

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no significant noise impacts as defined by FAA guidelines. The noise analysis includes changes resulting from the implementation of the Tennis Climb Departure Procedure, and a full blown analysis is contained in the Draft EA. An Air Quality Assessment was conducted and found that the proposed action does not cause emissions to exceed levels requiring a general conformity analysis. Air emissions are also described in great detail in the Draft EA. There would be no significant impacts to water quality as a result of construction or operation of the proposed project. No significant impacts are expected to traffic and the transportation network as a result of a new and modern Central Terminal Building. There would be impacts to the hangars, but they would be mitigated. The Draft EA describes impacts and mitigation required by the Memorandum of Agreement among the FAA, the New York State Historic Preservation Office, and the Port Authority. The Draft EA described that there is no prudent or feasible alternative to the

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demolition of Hangers 1, 2, and 4. Prior to demolition, we would: One, document the hangars with the Historic Architectural Building Survey; two, have archeological monitoring of select areas during construction; and three, create an interpretative display of the history of LaGuardia Airport, which will be located in a prominent public location at the airport. Protocols for pollution prevention and waste management would be implemented during construction and operation of the new terminal. While the program is required to obtain a silver leadership in energy environmental design rating, it will strive for a gold rating. There would be no significant increase in the demand for electricity or national gas. We evaluated the following categories; compatible land use, environmental justice, farm lands, fish, wild life, and plants threatened and endangered species, social impacts, induced social economic impacts, accumulative effects. No significant impacts were identified in all

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these categories.

The next step is to receive all public comments on the Draft EA. Comments will be recorded here at this public meeting and will also be accepted via e-mail or in writing until May 23rd. As described in the next slide, the timeline represents Phase Construction upon a favorable determination by the FAA. This board is located in the back of the room. We are providing you with multiple options to submit your comments on this Draft EA for your convenience; you can have your comment recorded here tonight at this public hearing, mail in a comment card to the Port Authority using the postal mailing address provided on this board, scan your comment card and e-mail it to us using the e-mail address provided on this board. All comments, no matter how they are received, will be included in the official public record if the Port Authority receives them within the prescribed comment period.

I will now turn the microphone to Ed Knoesel, who will briefly describe the next

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steps in the NEPA process and then we will then continue by taking and recording your comments.

Thank you very much.

(Whereupon, PowerPoint presentation ends.)

MR. KNOESEL: Good evening and thank you for coming. We are about two-thirds of the way through the comment period of the Draft Environmental Assessment. If there's anybody here in the room that would like a hardcopy, we do have about 12 of them on hand. And, Ms. Kelly Burnes, you could just ask her and get a copy. As mentioned before, we are looking to get any comments that anybody has on the Draft EA, and every one of those comments will be addressed in the Final EA. The Port Authority will take all those comments, work with our consultant, we'll collate those comments and then we will respond to those comments. At that point, the FAA will evaluate the EA and make their final decision.

Thank you.

HEARING OFFICER HOWES: Okay. So, do we have anybody signed up yet (perusing)?

Stephen Sigmund?

MR. SIGMUND: Stephen Sigmund.

(Whereupon, Stephen Sigmund handed his comments to the Court Reporter.)

(Whereupon, Stephen Sigmund approached the podium.)

HEARING OFFICER HOWES: I will let you know when the microphone is on.

Okay.

MR. SIGMUND: Hello. Thank you. I'm Stephen Sigmund, Executive Director of Global Gateway Alliance. There's no more important project in the country than the modernization of the half century old Central Terminal Building at LaGuardia, and the Global Gateway Alliance fully supports its redevelopment.

The outdated CTB has become a symbol of our nation's decaying infrastructure. This is despite the airport is serving more than 25 million passengers a year and

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hundreds of millions of dollars in investment in new modern interiors to the other main terminals at LaGuardia.

The current terminal simply does not have the capacity it needs. The bottom line is: The airport can't handle growing from 25 million to an expected 35 million passengers without the greater gate capacity and larger aircraft the new CTB accommodates.

Global Gateway Alliance has a number of core principles that we believe should be included as part of a new LaGuardia CTB: First, the terminal should rival new world class airports in modern and efficient design; second, there should be a transportation link that finally connects LaGuardia to the city's mass transit system; third, the new CTB needs to allow passengers to move smoothly from parking and taxi areas, through security and to their gates; fourth, the public-private partnership, its financing, building and operating the terminal must deliver as promised to become a model for other infrastructure projects in the region;

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and finally, the new terminal needs stage-of-the-art amenities to substantially improve the passenger experience at the airport.

Taken together, GGA believes that all of these elements will mean a CTB at LaGuardia that becomes recognized as world class.

Thank you.

HEARING OFFICER HOWES: Is there anybody else who would like to make comments tonight?

(No response.)

HEARING OFFICER HOWES: If not, then we will close the hearing and we look forward to receiving your comments between now and May 23rd. Thank you very much for coming. Sorry. We will keep the hearing open until 9:00, but there won't be activity between now -- unless somebody wants to come and testify, so we will be here. So, the hearing remains open. I reopened the hearing and it will be open until 9:00.

(Whereupon, Pause in proceeding.)

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PUBLIC HEARING

HEARING OFFICER HOWES: It is 9:00 p.m. on Thursday, May 8th, 2014 and if there is no one else who would like to testify in the matter of the LaGuardia Airport Central Terminal Building Redevelopment Program and Environmental Assessment, I hereby declare this public hearing closed.

(No response.)

HEARING OFFICER HOWES: Hearing no objection, you are all free to go home. Have a great evening.

(Whereupon, the Public Hearing closed at 9:00 p.m.)

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PUBLIC HEARING

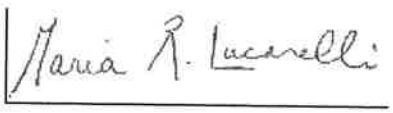
CERTIFICATE

STATE OF NEW YORK:

COUNTY OF NEW YORK:

I, MARIA R. LUCARELLI, a Notary Public for and within the State of New York, do hereby certify that the foregoing is a true and accurate transcript of the within proceedings as reported by me stenographically at the place and on the date hereinbefore set forth.

IN WITNESS WHEREOF, I have hereunto set my hand this 13th day of May, 2014.



MARIA R. LUCARELLI

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Attachment 3
Meeting Notifications

THE PORT AUTHORITY OF NY & NJ

NOTICE OF AVAILABILITY, REQUEST FOR COMMENT and NOTICE OF PUBLIC HEARING
Draft Environmental Assessment
Draft DOT Section 4(f) Evaluation
CENTRAL TERMINAL BUILDING REDEVELOPMENT PROGRAM
LaGuardia Airport, Flushing, New York

In accordance with the National Environmental Policy Act and the National Historic Preservation Act, notice is hereby given that copies of a Draft Environmental Assessment (EA), including a Draft Department of Transportation Section 4(f) Evaluation for the redevelopment of the Central Terminal Building (CTB) at LaGuardia Airport are available for public review and comment at the following locations:

The Port Authority of NY &NJ
Aviation Department
233 Park Avenue South, 9th Floor
New York, NY 10003
Attn: Edward Knoesel
Hours: 9:00 am to 5:00 pm

The Port Authority of NY & NJ
Terminal Redevelopment Program
LaGuardia Airport
Hangar 7, 2nd Floor (Marine Air Terminal area)
Flushing, NY 11371
Attn: Andrew Chiurazzi
Hours: 8:00 am to 4:00 pm

Queens Borough Public Library
35-51 81st Street
Jackson Heights, NY 11372
Hours: Check with library branch

Queens Borough Public Library
41-17 Main Street
Flushing, NY 11355
Hours: Check with library branch

The Draft EA document for this project will be available at these locations until the close of the comment period, which is 5:00PM on Friday, May 23, 2014. In addition, a copy of this document may be viewed online at: http://www.panynj.gov/about/pdf/lga-ctb-redvelopment-environmental-assessment.pdf

The Draft EA document responds to all of the requirements of the Federal Aviation Administration for preparation of an Environmental Assessment (EA) under NEPA, and also documents compliance with Section 106 of the National Historic Preservation Act; Federal Executive Order 11988: Floodplain Management; and Department of Transportation Act of 1966, Section 4(f).

INFORMATION SESSION AND PUBLIC HEARING

Additional information regarding this project, an opportunity to ask questions about the project, and an opportunity to comment on the project for the official record will be available through an Information Session and a Public Hearing. The details of the date, times, and location are listed below.

DATE: Thursday, May 8, 2014

TIMES: **INFORMATION SESSION 3:00PM - 6:00PM**
PUBLIC HEARING 7:00PM - 9:00PM

LOCATION: New York LaGuardia Airport Marriott
102-05 Ditmars Boulevard, East Elmhurst, NY 11369
Phone: (718) 565-8900

Comments on the project may be submitted in writing, or verbally at the Public Hearing. Sign language, oral interpretation, and translation services can be made available at the Public Hearing. If you are in need of assistance or require a reasonable accommodation, contact Edward Knoesel at The Port Authority of NY & NJ, 225 Park Avenue South, 9th Floor, New York, NY 10003 at least ten (10) days prior to the Public Hearing.

Written comments on the draft EA and draft DOT Section 4(f) Analysis can also be sent directly to Edward Knoesel of the Port Authority, 233 Park Avenue South, 9th Floor, New York, NY 10003. In addition, comments may be emailed to LGACTBEA@panynj.gov with the subject heading "LGA CTB EA COMMENT." **The comment period closes at 5:00PM on Friday, May 23, 2014.** If you have any questions on this notice please contact Edward Knoesel at (212) 435-3747.

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM

April 17, 2014

Dear:

The Port Authority of NY & NJ has embarked on a program to replace the existing Central Terminal Building at LaGuardia Airport and upgrade its aging infrastructure to accommodate future demand. The new facilities will be cleaner, greener, more efficient and secure, designed for the 21st Century.

You are invited to attend a **Public Information Session** and **Public Hearing** on the Draft Environmental Assessment and Section 4(f) Evaluation for the Central Terminal Building (CTB) Redevelopment Program on **Thursday, May 8** – Public Information Session from **3 to 6 PM**; Public Hearing from **7 to 9 PM** – at the New York LaGuardia Airport Marriott, 102-05 Ditmars Blvd., East Elmhurst, NY.

The Draft Environmental Assessment is currently available online for review and comment at www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessment.pdf. Copies are available at the Queens Borough Public Library branches in Flushing, NY (41-17 Main St.,) and Jackson Heights, NY (35-51 81st St.).

Your ideas are important to us and we want make sure they are recorded as part of the process. Please share your comments using one of the methods below:

- Oral or written testimony at the Public Hearing
- Send comments in writing to:
  ATTN: LGA CTB EA Comment
  Edward Knoesel
  Manager of Environmental Programs
  Port Authority of NY & NJ
  Aviation Department
  233 Park Avenue South, 9th Floor
  New York, NY 10003
- Email comments to: LGACTBEA@panynj.gov

The public will have until 5 PM on May 23 to provide comments.

A flyer about this event is included with this invitation letter. Please feel free to share this announcement with others who may be interested. For more information about the Public Information Session and Public Hearing, or to request special assistance, please contact us at least ten days prior to the hearing at LGACTBEA@panynj.gov.

Sincerely,

Ed Knoesel

Ed Knoesel
Manager of Environmental Programs
Port Authority of NY & NJ
Aviation Department

More information about the CTB Redevelopment Program can be found at http://www.panynj.gov/airports/lgactb/

Bringing you a CLEANER, GREENER, more EFFICIENT and SECURE Airport for the 21st Century

Flyer

LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM

You are Invited to a **PUBLIC INFORMATION SESSION** and **PUBLIC HEARING** for the LaGuardia Airport Central Terminal Building (CTB) Redevelopment Program.

THURSDAY, May 8, 2014
- 3:00 to 6:00 PM Public Information Session
- 7:00 to 9:00 PM Public Hearing

LAGUARDIA MARRIOTT
102-05 Ditmars Boulevard
East Elmhurst, NY 11369

The Draft Environmental Assessment has been placed at the Queens Borough Public Library Branches at Flushing and Jackson Heights. The document can also be accessed online:
http://www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessment.pdf

If you are unable to attend the Public Information Session or the Public Hearing, you may send your comments to: →

ATTN: LGA CTB EA Comment
Edward Knoesel
Manager of Environmental Programs
Port Authority of NY & NJ
Aviation Department
233 Park Avenue South, 9th Floor
New York, NY 10003

You can also email comments to: LGACTBEA@panynj.gov

THE PORT AUTHORITY OF NY & NJ

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Visit our website: http://www.panynj.gov/airports/lgactb/ • **Email:** LGACTBEA@panynj.gov • **Contact:** Ed Knoesel at 212-435-3747

Email Blast

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LAGUARDIA AIRPORT
CENTRAL TERMINAL BUILDING
REDEVELOPMENT PROGRAM

You're Invited!

Public Information Session and Public Hearing

The Port Authority of NJ & NJ has embarked on a program to replace the existing aging Central Terminal Building at LaGuardia Airport to accommodate future demand. The new facilities will be cleaner, greener, more efficient and secure, designed for the 21st Century.

You are invited to attend a Public Information Session and Public Hearing on the Draft Environmental Assessment and Section 4(f) Evaluation for the Central Terminal Building (CTB) Redevelopment Program.

When: Thursday, May 8, 2014

Where: New York LaGuardia Airport Marriott
102-05 Ditmars Blvd., East Elmhurst, NY 11369

Time: Information Session 3:00 to 6:00 PM
Public Hearing from 7:00 to 9:00 PM

The document is currently available online -- click here to view. Copies have also been placed at the Queens Borough Public Library branches at Flushing and Jackson Heights.

Your Voice Counts

To make sure your comments are recorded as part of the process, you may:

- Give oral testimony at the Public Hearing

- Send comments in writing to:
  Attn: LGA CTB EA Comment
  Edward Knoesel
  Manager of Environmental Programs
  Port Authority of NY & NJ
  Aviation Department
  233 Park Avenue South, 9th Floor
  New York, NY 10003

- Email comments to: LGACTBEA@panynj.gov

Comments are due by 5:00 PM on May 23rd.

More information on the CTB Redevelopment Program - click here.

If you have any questions or concerns, or need special assistance at the Public Hearing, please contact us at least ten days prior to the hearing at LGACTBEA@panynj.gov.

Sincerely,

Ed Knoesel

Ed Knoesel
Manager of Environmental Programs
Port Authority of NY & NJ
Aviation Department

Click here for the printable flyer announcing the Public Information Session and Public Hearing.

Bringing you a CLEANER, GREENER, more EFFICIENT and SECURE Airport for the 21st Century

www.panynj.gov/airports/lgactb

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THE PORT AUTHORITY
OF NEW YORK & NEW JERSEY

FOR IMMEDIATE RELEASE
May 6, 2014

CONTACT: Port Authority of New York and New Jersey
212-435-7777

PORT AUTHORITY TO HOLD INFORMATIONAL MEETING AND PUBLIC HEARING ON THURSDAY, MAY 8 FOR LAGUARDIA AIRPORT CENTRAL TERMINAL BUILDING AND REDEVELOPMENT PROJECT

Sessions for $3.6 billlon project will be held at LaGuardia Airport Marriott

The Port Authority will host an information meeting on Thursday afternoon with a public hearing to follow in the evening on the agency's proposed $3.6 billion public-private partnership to build a new Central Terminal Building within an overall redevelopment of LaGuardia Airport for the 21st century.

The sessions' focus will be on the project's pending draft environmental impact on Thursday, May 8 from 3-6 pm with the public hearing from 7-9 p.m., with both events at the LaGuardia Airport Marriott, located at 102-05 Ditmars Boulevard across the Grand Central Parkway from the airport.

Opened a half-century ago, the current Central Terminal Building has become obsolete, handling roughly five million passengers more annually than the eight million it was designed to accommodate. The new terminal will easily handle the projected 17 million passengers anticipated by 2030 by accommodating larger aircraft at state-of-the-art gates.

The Port Authority anticipates a private consortium will take on the $2.5 billion cost of the new terminal, while the agency covers approximately $1.1 billion of related infrastructure costs for the redevelopment. Requests for Proposals from three project finalists are due this month.

####

Founded in 1921, the Port Authority of New York and New Jersey builds, operates, and maintains many of the most important transportation and trade infrastructure assets in the country. The agency's network of aviation, ground, rail, and seaport facilities is among the busiest in the country, supports more than 550,000 regional jobs, and generates more than $23 billion in annual wages and $80 billion in annual economic activity. The Port Authority also owns and manages the 16-acre World Trade Center site, where construction crews are building the iconic One World Trade Center, which is now the tallest skyscraper in the Western Hemisphere. The Port Authority receives no tax revenue from either the State of New York or New Jersey or from the City of New York. The agency raises the necessary funds for the improvement, construction or acquisition of its facilities primarily on its own credit. For more information, please visit http://www.panynj.gov.

Attachment 4
Mailing Lists

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
1010 Wins AM		Tom	Byrne	345 Hudson St. 10th F.		New York	NY	10014		tbyrne@wins.com	
48-18 Properties, LLC		David	Taub	48 Harbor Park Drive		Port Washington	NY	11050		dtaub@palmbay.com	
4squared flavors		khalil	nayl	45-12 greenpoint ave		sunnyside	NY	11104		khalil.nayl@4squaredflavors.com	
5 Borough Pawn LLC		Rebecca	Cabrera	93-45A 104 Street		Ozone Park	NY	11416		5boroughpawn@gmail.com	
82nd Street Dist. Management Assoc.		Seth	Taylor	37-06 82 Street, 3 Floor		Jackson Heights	NY	11372		seth@82ndstreet.org	
A Healthy Alternative, LLC		Sheldon	Bock	118-14 83rd Avenue	Suite 6F	Kew Gardens	NY	11415		ahealthy@aol.com	
A M Exclusive Business Machines, Inc.		Jaclyn	Miccio	79-63 77 Avenue		Glendale	NY	11385		jaclyn@amexclusive.com	
A.N.I.B.I.C.		Vincent	Tancredi	61-35 220th Street		Bayside	NY	11364		vtancredi@anibic.org	
A.S.K. Construction, Inc.		Ioannis	Kotaridis	48-51 36th Street		Long Island City	NY	11101		askconstruction@yahoo.com	
Able Steel Equipment Co , Inc.		Bonnie	Tarkenton	50-02 23 Street		Long Island City	NY	11101		ablesteel@aol.com	
Accion East		Kevin	McLoughlin	80 Maiden Lane, STE 903		New York	NY	10038		kmcloughlin@accionusa.org	
Accounting Taxes And Management LLC - Jocelyne E. Pierre, CPA		Jocelyne	Pierre	656 Seneca Ave, Ste F Left		Ridgewood	NY	11385		jepierre.cpa@verizon.net	
Active Fire Control		Mildred	Munich	5-16 47 Avenue		Long Island City	NY	11101		mmunich@activefire.com	
Active Staffing Services		Elliot	Elzweig	41 West 33 Street		New York	NY	10001		elliot@activestaffing.com	
Adelphi University		James	Mcgowan	Levermore Hall - Room 304	1 South Avenue	Garden City	NY	11530		mcgowan2@adelphi.edu	
Adirondack Oral and Maxillofacial Surgery		Betsy	Miller	95-25 Queens Boulevard	11th Fl	Rego Park	NY	11374		info@adirondackoralsurgery.com	
Advanced Cardiovascular Diagnostics, PLLC		Perry	Frankel	410 Lakeville Road	Suite 209	Lake Success	NY	11042		drperryfrankel@advancedcardiodiag.com	
Advantages Printing Inc		Fran	Biderman-Gross	7838 Parsons Blvd		Flushing	NY	11366		fran@advantages.net	
Aetna Insurance Company		Karen	Taylor	9 Entin Road, Suite 203		Parsippany	NJ	7054		taylork5@aetna.com	
Affinity Health Plan		Abdoulaye	Ndao	2500 Halsey Street		Bronx	NY	10461		andao@affinityplan.org	
Aflac		Laura	Walsh	66 Powerhouse Rd.		Roslyn	NY	11577		lwaflac@aol.com	
After-School All-Stars of NYC, Inc.		Alan	Fields	8000 Utopia Parkway -SJH 216		Jamaica	NY	11439		fieldsaj@stjohns.edu	
AHRC Employment & Bus ness Operations		Susan	Ingrao-Woods	252 West 29 Street		New York	NY	10001		susan.ingrao@ahrcnyc.org	
Airway Maintenance Corp./Airway Cleaners Inc.		Fred	Catanese	15 Clinton Avenue		Rockville Centre	NY	11570		fcatanese@aol.com	
Akerman Senterfitt, LLP		Steven	Sinacori	335 Madison Ave.		New York	NY	10017		steven.sinacori@akerman.com	
Alfred A. Puglisi, CPA		Alfred	Puglisi	3438 81st Street		Jackson Heights	NY	11372		aapdep@aol.com	
All Car Rent-A-Car		Miriam	Pena	96-18 63 Drive		Rego Park	NY	11374		mpena@allcarny.com	
All Service HVAC/ R		Julia	Dawson	PO Box 564109	18-16 127th Street	College Point	NY	113569		don@allservicerefrigeration.com	
All Star Reporters, Inc.		Marc	Schafler	15 Verbena Avenue		Floral Park	NY	11001		marcschafler@allstarreporters.com	
Allen Ngai Photography		Allen	Ngai	4218 165 Street Apt 2R		Flushing	NY	11358		mcseallen@aol.com	
Allied Properties		Tim	Ziss	9322 Third Avenue		Brooklyn	NY	11209		timziss@alliedpropertiesllc.net	
Alma Bank		Silvana	Giergji	213-11 Northern Blvd.		Bayside	NY	11361		jlimpert@almabank.com	
Altria Client Services, Inc.		Molly	Slingerland	677 Broadway	Suite 1207	Albany	NY	12207		sands@forumstrategies.com	
America Works of New York, Inc.		Matthew	Silverstein	228 East 45th Street, 16th Floor		New York	NY	10017		msilverstein@americaworks.com	
American Heart Association		meredith	McCaslin	125 E. Bethpage Road	Suite 100	Plainview	NY	11803		meredith.mccaslin@heart.org	
AMG Medical Group		Jeffrey	Meena	80-02 Kew Gardens Rd.	Concourse Level	Kew Gardens, N.Y.	NY	11415		jeffmeena@yahoo.com	
Amna Construction Corp		Henry	Wan	141-07 20th Avenue Suite 406		Whitestone	NY	11357		wangroup@cs.com	
Anchin, Block & Anchin LLP		Gregory	Wank	1375 Broadway		New York	NY	10018		greg.wank@anchin.com	
Anchor Contractors		Larry	Guadagno	280 W. Jamaica Avenue		Valley Stream	NY	11580		larryanchor@msn.com	
Apple-Metro, Inc.		Krista	Bueti	550 Mamaroneck Avenue	Suite 204	Harrison	NY	10528		kbueti@applemetro.com	
Architects Rule, PC		Paul	Athineos	219-03 Northern Blvd.	Suite 4	Bayside	NY	11361		paul@ArchitectsRule.com	
ASP Tax Prep. LLC doing business as HRB		Victoria	Chichester	44-11 Kissena Blvd		Flushing	NY	11355		victoria.chichester@tax.hrblock.com	
Assembly District 35	Assemblyman	Jeffrion	Aubry	98-09 Northern Blvd		Corona	NY	11368	718-457-3615	AubryJ@assembly.state.ny.us	Mary Nicholson
Assn. for Advancement of Blind & Retarded		Thomas	McAlvanah	15-08 College Point Blvd., Box 560247		College Point	NY	11356		AABRDevelopment@aol.com	
Astoria Energy LLC		Chuck	McCall	17-10 Steinway Street		Astoria	NY	11105		cmcall@astoriaenergy.com	
Astoria Federal Savings		Mayra	DiRico	1 Astoria Federal Plaza		Lake Success	NY	11042		kmeyers@astoriafederal.com	
AT&T		Elizabeth	Segal	AT&T Services, Inc.	630 Fifth Avenue, 16th Floor	New York	NY	10111		elizabeth.segal@att.com	
ATCO Properties & Management		Leonard	Bernacke	70-36 83rd Street		Glendale	NY	11385		lbernacke@atco555.com	
ATCO Properties & Management		Damon	Hemmerdinger	555 Fifth Ave.	16th Fl.	New York	NY	10017		damon@atco555.com	
ATCO Properties & Management		Dale	Hemmerdinger	555 5th Ave. 16th Floor		New York	NY	10017		dale@atco555.com	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Atco Properties Accounts Payable				70-34 83 Street Building 19		Glendale	NY	11385		invoice@atco555.com	
Audrey Lee Jacobs & Associates, PLLC		Audrey	Jacobs	1979 Marcus Avenue	Suite 210	Lake Success	NY	11042		ajpropertylaw@gmail.com	
Austin's Ale House		John	Ryan	82-70 Austin St.		Kew Gardens	NY	11415		jltrsr@aol.com	
Aviation Development Council		William	Huisman	141-07 20 Avenue, Suite 404		Whitestone	NY	11357		bhuismanadc@aol.com	
Awisco New York Corp.		Lloyd	Robinson	55-15 43 Street		Maspeth	NY	11378		sales@awisco.net	
B & B Coverage LLC		Judith	Densky	166-40 Powells Cove Blvd.		Whitestone	NY	11357		jdensky@bbcoverage.com	
B'Above WorldWide Institute Inc.		Malikka	Karteron	134-11 Kew Gardens Road		Richmond Hill	NY	11418		mdk@babove.com	
Barbara Pryor, Esq		Barbara	Pryor	65-49 Grand Avenue		Maspeth	NY	11378		bpryoresq@yahoo.com	
Baybridge Optical Inc		Madelyn	Gonzalez	208-36 Cross Island Parkway		Bayside	NY	11364		baybridgeoptical@yahoo.com	
Bayside Business Association		David	Solano	41-16 Bell Blvd		Bayside	NY	11361		info@BaysideBA.Com	
BBDM Consulting		Thomas	Eagar	243 Mason Drive		Manhasset	NY	11030		skygazer11030@yahoo.com	
Beacon Eldercare, Inc.		Joseph	Drop	19 Hudson Road		Bellerose Village	NY	11001		joe@beaconeldercare.com	
Beardslee Transmission Equip. Co.		William	Beardslee	27-22 Jackson Avenue		Long Island City	NY	11101		beardsleetransmission@verizon.net	
Bellido Insurance Brokerage, Inc.		Ricardo L.	Bellido	8000 Cooper Ave. Bldg # 8 Ste 301		Glendale	NY	11385		ricardo@bellidoins.com	
Benefits Advisory Service, Inc.		Sher	Sparano	70-20 108 Street #5"O"		Forest Hills	NY	11375		sher@benefitsadvisory.com	
Ben's Best Delicatessen		Jay	Parker	96-40 Queens Boulevard		Rego Park	NY	11374		bensbest@gmail.com	
Bergman, Bergman, Goldberg & Lamonsoff, LLP		Michael	Bergman	108-18 Queens Boulevard, #903		Forest Hills	NY	11375		mike@selectattorney.com	
Best Western - Jamaica Inn		Rey	Torres	87-07 Van Wyck Expressway		Jamaica	NY	11435		33141@hotel.bestwestern.com	
Big Apple Fire Sprinkler Co. Inc.		Alan	Levitt	64-20 Laurel Hill Blvd.		Woodside	NY	11377		alevitt@bigapplesprinkler.com	
Bigman Bros., Inc.		Michael	Bigman	43-40 34 Street		Long Island City	NY	11101		bigmanelectric@aol.com	
B-I-L Office Furniture, Inc		Stanley	Potash	61-65 Metropolitan Avenue		Middle Village	NY	11379		stanley@bilofficefurniture.com	
BizGro Partners, Inc.		RIchard	Strautman	31 Harbor Hills Drive		Portr Washington	NY	11050		rstrautman@bizgropartners.com	
Black Bear Co., Inc.		Barret	Schleicher	27-10 49 Avenue		Long Island City	NY	11101		jet@blackbearoil.com	
Blake Agency, Inc.		William	Blake II	2001 Marcus Ave. Ste W180		Lake Success	NY	11042		wblake@cuagency.com	
Blue Book Building & Construction Network		Lisa	Luttinger	P.O. Box 500		Jefferson Valley	NY	10535		lluttinger@mail.thebluebook.com	
Bluestone Organization, Inc.		Eric	Bluestone	193-04 Horace Harding Expwy. POB 650454		Fresh Meadows	NY	11365		eric@bluestoneorg.com	
Bob Coccia's Appliance Center		Robert	Coccia	215-03 Horace Harding Boulevard		Bayside	NY	11364		cocciasale@aol.com	
Bombardier Transportation		Kevin	Kirwan	Operations & Maintenance	Pan Am Road, Bldg #402	Jamaica	NY	11430		pat.thompson@us.transport.bombardier.com	
Booth Flower Shop		Chris	Tsouratakis	25-63 Francis Lewis Blvd.		Flushing	NY	11358		christos@boothflowershop.com	
Borough Excursions		Doris	Rivera Del Valle	3218 146th Street		Flushing	NY	11354		doris@boroughexcursions.com	
Borough President's Aviation Advisor		Elisa	Velazquez							evelazquez@queensBP.org	
Boro-Wide Recycling Corp.		Bob	Cristina	3 Railroad Place		Maspeth	NY	11378		info@borowiderecycling.com	
Bourbon Street Cafe		Mark	Bocca	40-12 Bell Blvd.		Bayside	NY	11361		mark@bourbonstreetny.com	
Boys and Girls Club of Metro Queens		Carol	Simon	110-04 Atlantic Avenue		Richmond Hill	NY	11419		csimon@sqbgc.net	
Boys Town New York, Inc.		Cynthia	Armijo	281 Park Avenue South, 5th Floor		New York	NY	10010		cynthia.armijo@boystown.org	
Brandt, Steinberg & Lewis LLP		Peter E.	Blond	1430 Broadway 6th Floor		New York	NY	10018		pblond@bsl-taxcert.com	
Brandywine Assisted Living at the Savoy		Maureen	Rizzo	55-15 Little Neck Parkway		Little Neck	NY	11362		rizzom@brandycare.com	
Briarwood Organization		Vincent	Riso	36-35 Bell Boulevard		Bayside	NY	11361		vriso@ebriardwood.com	
Bridge Enterprises		Ted (Tai-Kyuk)	Han	39-24 Bell Blvd.		Bayside	NY	11361		navyofficer86201@yahoo.com	
Briguglio Construction Corp.		Cristine	Briguglio	241-02 Northern Boulevard		Douglaston	NY	11362		cbrig15@aol.com	
Broadview Networks		Earl	Penceal	175 Pinlawn Road Suite 408		Melville	NY	11747		idavis@broadviewnet.com	
Brooklyn Chamber of Commerce		Veronica	Harris	25 Elm Place, Suite 200		Brooklyn	NY	11201		vharris@brooklynchamber.com	
Brown Harris Stevens Commercial Real Estate		David	Sargoy	99 Powerhouse Road	STE 305	Roslyn Heights	NY	11577		dsargoy@bhsusa.com	
Bruno's On the Boulevard		John	Fellin	88-25 Astoria Boulevard		Jackson Heights	NY	11369		johnfellin@caterit.com	
Bulova Corporation		Warren	Neitzel	One Bulova Avenue		Woodside	NY	11377		wneitzel@bulova.com	
Bunch of Balloons		Shanta	Speller	75-22 37th Avenue	Suite 318	Jackson Heights	NY	11372		info@bunch-of-balloons.com	
Business Only Broadband		Robin	Radeen-Group	999 Oak Creek Drive		Lombard	IL	60148		rradeen-group@bobbroadband.com	

Email Notification .ist

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Butler Associates		Thomas	Butler	204 East 23 Street		New York City	NY	10010		butler@butlerassociates.com	
C&G Cleaning Service		Neil	Grant	94-22 212th Street		Queens Village	NY	11428		info@cgcleaningsvc.com	
Canvas Agency		Octavian	Pavelescu	87-24 94th Street		Woodhaven	NY	11421		contact@canvasagency.com	
Capital Bankcard of New York		Hiawatha	Colbert	114-61 225th Street		Cambria Heights	NY	11411		support@cbnewyork.com	
Capitol Fire Sprinkler Co., Inc.		Richard	Levine	51-51 59 Place		Woodside	NY	11377		richardlevine@capitolfire.com	
Card Works Merchant Services		David	Greenberg	1462 Sherwood Drive		East Meadow	NY	11554		dg.cardworks@gmail.com	
Carr Business Systems		Philip	Daniele	130 Spagnoli Road		Melville	NY	11747		pdaniele@carrxerox.com	
Cassone Leasing , Inc.		Lynn	Cassone	1950 Lakeland Ave.		Ronkonkoma	NY	11779		lynn@cassone.com	
Catholic Cemeteries		Stephen	Comando	80-01 Metropolitan Avenue		Middle Village	NY	11379		scc@ccbklyn.org	
CCI Energy Solutions		Thomas	Grech	333 Earle Ovington Blvd.	Suite 1025	Uniondale	NY	11553		tgrech@breakwater-ventures.com	
CDI Development, Inc.		John	Belanich	525 Northern Boulevard		Great Neck	NY	11021		jdbelanich@bellrealtyny.com	
Center for Automotive Education & Training		Jayne	Ruconich	15-30 Petracca Place		Whitestone	NY	11357		jayne@autoedcenter.com	
Center for Automotive Education and Training		Kristine	Liggio	15-30 Petracca Place		Whitestone	NY	11357		kristine@autoedcenter.com	
Center for Wealth Preservation		Bruce	Smith	6800 Jericho Tpke.	Suite 202W	Syosset	NY	11791		brucedsmith2@financialguide.com	
Central Holidays		Marc	Evangelista	250 Moonachie Road		Moonachie	NJ	7074		mevangelista@centralholidays.com	
Champagnie Dawkins, CPAs, PLLC		Karen	Dawkins	One Cross Island Plaza, Suite 316		Rosedale	NY	11422		kdg@champagniedawkins.com	
Chapin Home for the Aging		Janet	Unger	165-01 Chapin Parkway		Jamaica	NY	11432		junger@chapinhome.org	
Child Center of NY The		Jennifer	Dudley	60-02 Queens Boulevard, Lower Level		Woodside	NY	11377		jenniferdudley@childcenterny.org	
Christie & Co Salon		Lois	Christie	23-64 Bell Blvd.		Bayside	NY	11360		lois@intercoiffure.com	
Christine Baumann Interiors, LLC		Christine	Baumann	8921 Shore Parkway		Howard Beach	NY	11414		info@christinebaumanninteriors.com	
Ciampa Organization		Benjamin	Ciampa	136-26 37 Avenue		Flushing	NY	11354		christine@ciampaorganization.com	
Ciampa Organization		Christine	Ciampa	136-26 37 Avenue		Flushing	NY	11354		cciampa@ciampaorganization.com	
Ciampa Organization		Douglas	Ciampa	136-26 37 Avenue		Flushing	NY	11354		cchristine@ciampaorganization.com	
Citibank, N.A.		Eileen	Auld	One Court Square 45th Flr. Zone 14		Long Island City	NY	11120		eileen.auld@citigroup.com	
Citibank, N.A.		Karol	Ciechanowski	1 Court Square 42nd floor		Long Island City	NY	11120		karol.ciechanowski2CITI.COM	
Citibank, N.A.		Dennis	Nochowitz	1 Court Square 42nd Floor		Long Island City	NY	11120		dennis.nochowitz@citigroup.com	
City Council, Bronx Council District 13	Council Member	James	Vacca	3040 East Tremont Ave	Room 104	Bronx	NY	10461	718-931-1721	jvacca@council.nyc.gov	
City Council, Queens Council District 19	Council Member	Paul	Vallone	42-40 Bell Blvd	Suite 507	Bayside	NY	11361	718-619-8611	district19@council.nyc.gov	
City Council, Queens Council District 21	Council Member	Julissa	Ferreras	32-33A Junction Blvd.		East Elmhurst	NY	11369	718-651-1917	jferreras@council.nyc.gov	
City Underwriting Agency, Inc.		Nash	Roe	2001 Marcus Avenue, Suite W. 180	Suite W180	Lake Success	NY	11042		nroe@cuagency.com	
City View Pharmacy		Harry	Xidias	23-07 Astoria Blvd.		Astoria	NY	11102		info@cityviewpharmacy.com	
Clarion LaGuardia		Cynthia	Romito	9400 Ditmars Blvd.		East Elmhurst	NY	11369		cynthia@newyorkclarion.com	
Clark Investigation & Security Corp.		Joseph	Finn	34-10 56 Street		Woodside	NY	11377		clarksecurity@Sprynet.com	
Clarke & Associates		Millicient	Clarke	11 West Sunrise Highway		Freeport	NY	11520		mclarke4@optonline.net	
Club Ground & Pound		Anita	Srivastava	PO Box 540904		Linden Hill	NY	11354		11heclub@gmail.com	
Club LaBoom / Zamora Entertainment		Pablo	Romano	5615 Northern Blvd.		Woodside	NY	11377		pablo@zamorausa.com	
Coalition for Queens, Inc.		Jukay	Hsu	42-65 Kissena Blvd Apt 223		Flushing	NY	11355		jukay@coalitionforqueens.org	
Coalition of Hope Foundation, Inc		David	Perez	1155 Camino Del Mar, #418		Del Mar	CA	92014		david.perez@COHglobal.org	
Coldwell Banker R. Weir Realty		Robert	Weir	36-36 Bell Boulevard		Bayside	NY	11361		weirrealty@aol.com	
Coldwell Banker Residential Brokerage		Dennis	Fassett	140 Jericho Tpke		Syosset	NY	11791		dennis.fassett@cbmoves.com	
Community National Bank		Rosalina	Hernandez	43-01 Bell Blvd.		Bayside	NY	11361		rhernanadez@cnbny.com	
Compass Forwarding		Richard	Shelala	159-15 ROCKAWAY BLVD		JAMAICA	NY	11434		ris@compassfwd.com	
Compucolor		Dennis	Launer	47-50 30th Street		Long Island City	NY	11101		dlauner@compucolor.com	
Con-Dea Supply Corp.		Joseph	Chalpin	21-21 44 Road		Long Island City	NY	11101		condeacorp@aol.com	
Connect Me		Eugene	Erichsen	198 Route 9 SIE 105		Manalpapan	NJ	7726		eugene@connectmevoice.com	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Consolidated Edison Co. of NY, Inc.		Elizabeth	Church	The Learning Center	43-82 Vernon Boulevard	Long Island City	NY	11101		churche@coned.com	
Consolidated Edison Co. of NY, Inc.		Carol Ann	Conslato	59-17 Junction Boulevard		Elmhurst	NY	11373		conslatoc@coned.com	
Consolidated Edison Co. of NY, Inc.		General	Manager	88-11 165 Street		Jamaica	NY	11432		mangera@coned.com	
Consolidated Edison Co. of NY, Inc.		Thomas	Newell	30 Flatbush Avenue, Room 609		Brooklyn	NY	11217		newellt@coned.com	
Consolidated Security Inc.		John	Rohe	154-53 27 Avenue		Flushing	NY	11354		csi27ave@yahoo.com	
Constant Contact		Ellen	DePasquale	NYC Corporate Office	122 Hudson Street	New York	NY	10013		edepasquale@constantcontact.com	
Construction Services Company		Frank	Macchio	28-38 Bell Blvd.		Bayside	NY	11360		constructionservices@earthlink.net	
Consulate General of India		A M	Gondane - DCG	3 East 64th Street		New York	NY	10065		dcg@indiacgny.org	
Conway Funeral Home		Michael	Heredia	82-19 Northern Blvd.		Jackson Heights	NY	11372		michael.heredia@sci-us.com	
Cook & Krupa LLC		John	Cook	81 Jericho Turnpike		Mineola	NY	11501		jcook@cookandkrupa.com	
Cord Meyer Development LLC		Sal	Panico	PO Box 10		Forest Hills	NY	11375		spanico@cordmeyer.com	
Corey B. Bearak, ESq.		Corey	Bearak	254-10 Northern Blvd. Suite 204		Little Neck	NY	11362		bearak@aol.com	
Corporate Development Systems, Inc.		Carl	Smith	22-26 76th Street Suite A3		Jackson Heights	NY	11370		service.info@cdsysinc.com	
Council for Airport Opportunity, Inc.		John	Perry	90-04 161st Street,	Suite 201	Jamaica	NY	11432		pkarteron@caony.com	
County Clare Consultants, Inc.		Clare	Browne	85-16 55th Avenue		Elmhurst	NY	11373		cebccc@aol.com	
County Fair Air Conditioning		Ronald	Nathan	2700 Shames Drive		Westbury	NY	11590		rnathan@countyfair.com	
Courtyard by Marriott at JFK Airport		Timothy	McGlinchey	145-11 North Conduit Avenue		Jamaica	NY	11436		timothy.mcglinchey@marriott.com	
Courtyard by Marriott at LaGuardia Airport		Robert	Handler	90-10 Ditmars Blvd.		East Elmhurst	NY	11369		bhandler@laguardia.meyerjabara.com	
CPR Cell Phone Repair		Terry	Celestin	34-12 Steinway Street		Astoria	NY	11101		repairs@cpr-astoria.com	
Cristom Construction Services		Thomas	DeVito	151-01 14 Avenue		Whitestone	NY	11357		tomdevito@cristomconstruction.com	
Cross County Savings Bank		Anthony	Milone	79-21 Metropolitan Avenue		Middle Village	NY	11379		amilone@crosscounty.com	
Crowne Plaza JFK Airport		Olga	Angelinas	138-10 135th Avenue		Jamaica	NY	11436		salesmgr@cpjfkairport.com	
Cruise Planners		Sherryann	Simon	110-03 Colfax Street		Queens Village	NY	11429		ssimon@cruiseplanners.com	
Crystal Window & Door Systems, Ltd.		Steve	Chen	31-10 Whitestone Expressway		Flushing	NY	11354		stevechen@crystalwindows.com	
CUNY COPE Program/LaGuardia Comm. College		Nolan	Rhodes	31-10 Thomson Avenue, MB 13		Long Island City	NY	11101		nrhodes@lagcc.cuny.edu	
D & F Development Group, The		Leonard	D'Amico	100 Schoolhouse Road		Levittown	NY	11756		info@thedfdfroup.com	
D&D Glass Co. Inc.		Michael	Demetriou	84-14 Queens Blvd.		Elmhurst	NY	11373		MJD8414@aol.com	
DaCorta Bros. Hardware Inc.		Vinnie	DeRiggi	91-07 Astoria Blvd.		East Elmhurst	NY	11369		info@dacortahardware.com	
Dale Carnegie Training		Brenda-Liegh	Johnson	780 Third Avenue Concourse Level 1		New York City	NY	10017		brenda.leigh.johnson@dalecarnegie.com	
Daniels, Norelli, Scully & Cecere C		Albert F.	Pennisi	97-77 Queens Boulevard, Ste 620		Rego Park	NY	11374		afpennisi@dnsclaw.com	
DaniPad LLC		Dani	Horowitz	3825 Bell Blvd.		Bayside	NY	11361		bizdev@daniwebmail.com	
Davidoff Malito & Hutcher		Sean	Crowley	605 Third Ave. 34th Floor		New York	NY	10158		sec@dmlegal.com	
Davis & Warshow, Inc.		Frank	Finkel	57-22 49 Street		Maspeth	NY	11378		ffinkel@daviswarshow.com	
DCD Marketing LTD		Mitchell	Vilinsky	73 Wortman Avenue		Brooklyn	NY	11207		mitch@dcdad.com	
De Boccia Electrical Construction Corp		Elaine	DeRosa	33-16 38th Avenue		Long Island City	NY	11101		boccia4deboccia@optonline.net	
Delta Air Lines Inc		Gail	Grimmett	125 West 55th Street 2nd Floor		New York	NY	10019		gail.grimmett@delta.com	
DeMatteis Organizations		Richard	DeMatteis	820 Elmont Road		Elmont	NY	11003		info@dematteisorg.com	
DeSales Media Group		Debra	Sito	1712 10th Ave.		Brooklyn	NY	11215		dsitd@desalesmdia.org	
Digital Natives		Vlad	Lackovic	522 46th Avenue		Long Island City	NY	11101		vlad@nativesgroup.com	
Dignity Home Care		Patricia	La Rosa	585 Stewart Ave. Suite 630		Garden City	NY	11530		patricia.larosa@sunriseseniorliving.com	
Donnelly Mechanical Corp.		Dan	Donnelly	96-59 222 Street		Queens Village	NY	11429		ddonnelly@donnellymech.com	
Dr Marsha Bienenstock		Marsha	Bienenstock	46 Henrietta Ave.		Oceanside	NY	11572		mars2001@aol.com	
Driscoll Group, The		William T.	Driscoll	Forest Hills Tower	118-35 Queens Blvd, STE 940	Forest Hills	NY	11375		bill@driscollgroupny.com	
Durante Rentals		John	Durante	717 Hutchinson River Parkway		Bronx	NY	10465		jdurante@duranterentals.com	
Du-Rite Realty Company		Vincent J.	Gianelli	25-68 Francis Lewis Boulevard		Flushing	NY	11358		doritereal@aol.com	
DY Realty Services, L.L.C.		Gary	Diana	45-18 Court Square		Long Island City	NY	11101		gdiana@dyrealty.com	
E. Gluck Corporation		Murray	Stimler	6105 Little Neck Parkway		Little Neck	NY	11362		mstimler@egluck.com	
East River Development Alliance		Elizabeth	Chominski	12-11 40 Avenue		Long Island City	NY	11101		elizabeth@erdallisnce.org	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
East West Bank		John	Pastor	535 Madison Avenue	8th Floor	NYC	NY	10022		john.pastor@eastwestbank.com	
Eastern American Data Voice Inc.		Paul	Schmidt	42-50 27 Street		Long Island City	NY	11101		pschmidt@eadv.com	
Edible Arrangements - Glen Oaks		Tricia	Dhanraj	253-22 Union Turnpike		Glen Oaks	NY	11004		tricia.planb@yahoo.com	
Edmar		Judy	Simon	50-05 47 Avenue		Woodside	NY	11377		judy@edmarclean.com	
Edward Jones		William	Manolopoulos	29-20 23rd Ave. Ste 301		Astoria	NY	11105		william.manolopoulos@edwardjones.com	
Elderplan		Agata	Michalik	745 64th Street		Brooklyn	NY	11220		amichali@mjhs.org	
Elite Limousine Plus, Inc.		Shafquat	Chaudhary	32-72 Gale Avenue		Long Island City	NY	11101		schaudhary@eliteny.com	
Elliott Integrators Inc | DBA Security 101		Peter	Hong	143-30 38th Avenue		Flushing	NY	11354		Phong@security101.com	
Ellis, Ged & Bodden, P.A.		Dana	Rhinesmith	591 Midland Ave		Staten Island	NY	10306		spetosa@ellisandged.com	
Elmhurst Hospital Center		Chris	Constantino	79-01 Broadway		Elmhurst	NY	11373		constanc@nychhc.org	
Emerging Technologies Institute Inc.		Lyonel	Coriolan	116-16 Queens Blvd. Ste 200-B		Forest Hills	NY	11375		lcoriolan@emergingtech.edu	
Employee Screening Services		Daniel	Stevens	7618 17th Avenue		Brooklyn	NY	11214		dan@employeescreening.com	
Empower Solar		Tara	Bono	221 Long Beach Rd.		Island Park	NY	11558		adccarlo@cmpower-solar.com	
Endurance International Group		Craig	Millman	10 Covpovatc Drive		Burlington	MA	1833		cmillman@maileis.com	
Eneslow Foot Comfort Centers		Robert	Schwartz	470 Park Ave. South		New York	NY	10016		rss@eneslow.com	
European Expert Care,Inc		Yolanta	Maczynska-Khalil	110 Norman Ave		Brooklyn	NY	11222		mail@eecare.com	
Executive Office Center		Mary	Abrams	Executive Office Center Fresh Meadows	61-43 186 Street	Fresh Meadows	NY	11365		mary.abrams@eocfm.com	
Exit Realty - First Choice		Barbara	Sontag	180-32 Union Turnpike		Fresh Meadows	NY	11366		sontagpi@aol.com	
Exit Realty Success		Alejandra	Fermin	106-12 Corona Avenue		Corona	NY	11368		afermin@exitrealtysuccesshome.com	
ExxonMobil Corporation		Kevin	Thompson	38 Varick Street		Brooklyn	NY	11249		kevin.m.thompson@exxonmobil.com	
F & T Group		Michael	Meyer	136-20 38th Ave. 12th fl.		Flushing	NY	11354		michael.meyer@fandtgroup.com	
FAA NYADO	Environmental Specialist	Marie	Jenet	600 Old Country Road	Suite 446	Garden City	NY	11530	516-227-3811	marie.jenet@faa.gov	
FAA NYADO	Supervisory Civil Engineer	Otto	Suriani	600 Old Country Road	Suite 446	Garden City	NY	11530	516-227-3809	otto.suriani@faa.gov	
Fabulous Fitness NYC		Candice	Woods	146-92 Guy R Brewer Blvd		Jamaica	NY	11434		info@fabfitnyc.com	
Fairfield Inn		William	Xu	28-66 College Point Blvd.		College Point	NY	11354		wxu@fairfieldinnlga.com	
Fairfield Inn By Marriott LaGuardia Airport Astoria		Steve	Kaye	45-20 Astoria Blvd.		Astoria	NY	11103		steve.kaye@marriott.com	
Fairway Market		Jackie	Donovan	240-02 61st Avenue		Douglaston	NY	11362		marketing@fairwaymarket.com	
Family Home Improvement Corp		Jan	Arden	434 Elmont Road		Elmont	NY	11003		janarden1@aol.com	
Family Residences and Essential Enterprises, Inc. (FREE)		Patrice	Radowitz	191 Bethpage-Sweet Hollow Road		Old Bethpage	NY	11804		pradowitz@familyres.org	
Farber Rosen & Kaufman P.C.		Joseph	Farber, Esq.	97-77 Queens Boulevard		Rego Park	NY	11374		jfarber@frklaw.com	
Farrell Fritz, P.C.		Charlotte	Biblow	1320 RXR Plaza		Uniondale	NY	11556		cbiblow@farrellfritz.com	
Farrell Fritz, P.C.		Thomas	Killeen	1320 RXRPlaza		Uniondale	NY	11556		tkilleen@farrellfritz.com	
Farrell Fritz, P.C.		Louis	Vlahos	1320 RXR Plaza	14th Floor West Tower	Uniondale	NY	11556		lvlahos@farrellfritz.com	
Fashion Societé		Cathy	Berger	PO BOX 342		Roslyn	NY	11577		cathy@fashionsociete.com	
Federal Senate Senator's Aide	Director of Economic Development	Gerard	Petrella	322 Hart Senate Office Building		Washington	DC	20510	202-224-6542	gerry_petrella@schumer.senate.gov	
Federation of NY Housing Cooperatives		Gregory	Carlson	61-20 Grand Central Parkway		Forest Hills	NY	11375		crealty@nyc.rr.com	
Ferrari Driving School, Inc.		Domenico	Pinto	32-32 Steinway Street		Astoria	NY	11103		mpinto@ferraridrivingschool.com	
Fidelis Care, New York		Maximo	Luna	95-25 Queens Blvd.		Rego Park	NY	11374		mluna@fideliscare.org	
Fillmore's Tavern		Rick	Reichenbach	166-02 65 Avenue		Fresh Meadows	NY	11365		fillmorestavern@aol.com	
Financial Services of Long Island		Richard	Grebinger	34 Merrick Avenue		Merrick	NY	11566		rgrebing@optonline.net	
Finer Grafx		Michael	Feinberg	70-25 Yellowstone Boulevard, Ste. 19-0		Forest Hills	NY	11378		finergrafx@mac.com	
First Development Corp.		Bruce	Pollack	1328 Motor Pkwy		Hauppauge	NY	11749		bp@fdcrealty.com	
Flushing Bank		Patricia	Mezeul	1979 Marcus Avenue Suite E140		Lake Success	NY	11042		pmezeul@flushingbank.com	
Flushing Bank		John	Buran	1979 Marcus Avenue		Lake Success	NY	11042		jburan@flushingbank.com	
Flushing Council On Culture & The Arts		Ellen	Kodabek	137-35 Northern Boulevard		Flushing	NY	11354		info@flushingtownhall.org	
Flushing House Senior Retirement Residence		Robert	Salant	38-20 Bowne Street		Flushing	NY	11354		rsalant@uam.org	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Flushing Savings Bank		Ram	Mohan	188-08 Hollis Ct Blvd.		Auburndale	NY	11358		rmohan@flushingsavings.com	
Flushing Savings Bank		David	Fry	1979 Marcus Avenue		Lake Success	NY	11042		dfry@flushingbank.com	
Flushing YMCA		William	Nelson	138-46 Northern Boulevard		Flushing	NY	11354		wnelson@ymcanyc.org	
Fodera Foods		Tony	Fodera	129-02 Northern Boulevard		Corona	NY	11368		tony@foderafoods.com	
Food Craft Inc. Worlds Fair Marina Restaurant		Pankaj	Bhatara	1 Worlds Fair Marina		Flushing	NY	11368		pankaj@1wfm.com	
Foot & Ankle Surgeons of New York		Dr. Fred J.	DeLucia	3003 New Hyde Park Road	Suite 312	New Hyde Park	NY	11042		info@faasny.com	
Ford Lincoln of Queens		Michael	Naclerio	139-40 Queens Blvd.		Jamaica	NY	11435		mike@fordofqueens.com	
Forest Hills Chamber of Commerce		Leslie	Brown	PO Box 751123		Forest Hills	NY	11375		fhchamber@aol.com	
Forest Hills Financial Group Inc.		Nathan	Perlmutter	95-25 Queens Boulevard, 10 Floor		Rego Park	NY	11374		nperlmutter@fhfg.com	
Forest Hills Hospital		Ted	Lehmann	102-01 66th Road		Forest Hills	NY	11375		tlehmann@nshs.edu	
Forestdale, Inc.		Anstiss	Agnew	67-35 112th Street		Forest Hills	NY	11375		aagnew@forestdaleinc.org	
Forever Cheese		Michele	Buster	36-36 33 Street		Long Island City	NY	11106		info@forevercheese.com	
Four Points Long Island City Queensboro Bridge		Donna	Michaels	27-05 39th Ave.		Long Island City	NY	11101		dmichaels@fourpointslongislandcity.com	
Frank J. Ruggieri MBA, CPA, P.C.		Frank	Ruggieri	1979 Marcus Avenue Suite #210		Lake Success	NY	11042		frankrcpa@verizon.net	
Freelancers Health Service Corp		Nadege	Noel	112 W 34ST Flr 17, Suite 17058		New York	NY	17058		nnoel@newyorkcoop.org	
French & Casey, LLP		Joseph A.	French	29 Broadway 27th fl.		New York	NY	10006		jfrench@frenchcasey.com	
Fresh Pond Crematory		Joseph	Di Troia	61-40 Mount Olivet Crescent		Middle Village	NY	11379		j.ditrola@verizon.net	
FROMMVIDEO		Richard	Fromm	26-53 202 Street		Bayside	NY	11360		richard@frommvideo.com	
Futures in Education		Priscilla	Uy	310 Prospect Park West		Brooklyn	NY	11215		puy@futuresineducation.org	
Gabrielli Truck Sales, Ltd.		Armando	Gabrielli	153-20 South Conduit Avenue		Jamaica	NY	11434		sales@gabriellitruck.com	
Galasso Trucking, Inc.		Frank	Galasso	2 Galasso Place		Maspeth	NY	11378		fgalasso@galasso.com	
Galeas Consulting LLC		Bruno	Scap	P.O. Box 2219		Astoria	NY	11102		eop@galeasconsulting.com	
Gateway Investments, LLC		Thomas	Santucci	200 Garden City Plaza Ste 402		Garden City	NY	11530		tjt@gatewayinv.com	
Gentle Dental Family Care		Dana	Simhon	118-60 Metropolitan Ave. #1B		Kew Gardens	NY	11415		info@gentledentalfamilycare.com	
Geo. E. Payne & Son, Inc.		Carmela	Schneider	200-15 32 Avenue		Bayside	NY	11361		cschneider@geoepayne.com	
Gerald J. Caliendo, R.A., A.I.A.		Gerald	Caliendo	138-72 Queens Boulevard		Briarwood	NY	11435		info@caliendoarchitects.com	
Get Taxi		Jing Wang	Herman	C/O Al 149 Fifth Avenue		New York	NY	10010		jing@gettaxi.com	
Global Gateway Alliance	Executive Director	Stephen	Sigmund							sigmund@globalgatewayalliance.org	
GM Printing		K.	Chow	31-16 Hunters Point Ave.		Long Island City	NY	11101		kychow@gmgroupny.com	
Gold Star Electrical,Inc		Samy	Mounas	59-24 57th Street		Maspeth	NY	11378		samy@goldstarelectrical.com	
Golden Touch Transportation of NY, Inc.		Thomas	Herrschaft	45-02 Ditmas Blvd.		Astoria	NY	11105		therrschaftgtt@goldentouchofny.com	
Goodwill Industries of Greater NY & N. NJ		David	Schoch	4-21 27 Avenue		Astoria	NY	11102		dschoch@goodwillny.org	
Gordon & McCarthy Inc.		Bruce	Gordon	63-48 Alderton Street		Rego Park	NY	11374		bgordon@gordonmccarthy.com	
Gotte's Cafe		Vincent	Gottesman	75-20 Astoria Blvd		Jackson Heights	NY	11370		gottevents@aol.com	
Graf & Lewent Architects		Howard	Graf, A.I.A.	90-30 161st Street		Jamaica	NY	11432		h.graf@glarchitects.com	
Grant Associates/Queens Business Solutions Ctr		Diane	Edelson	60 Madison Avenue Suite 703		New York	NY	10010		dedelson@grantassociatesinc.com	
Grassi & Co.		Frank	Vitale	50 Jericho Quadrangle - Suite 200		Jericho	NY	11753		fvitale@grassicpas.com	
Greater Jamaica Development Corp.		Andrew	Manshel	90-04 161 Street		Jamaica	NY	11432		amanshel@gjdc.org	
Greater New York Councils Boy Scouts of America		Joseph	Schiltz	350 Fifth Ave. Suite 7830		New York	NY	10118		jschiltz@bsa-gnyc.org	
Greater NY Automobile Dlrs Assn.		Mark	Schienberg	18-10 Whitestone Expressway		Whitestone	NY	11357		ines@gnyada.com	
Grimaldi Bakery Corp.		Joseph	Grimaldi	21-01 Menahan Street		Ridgewood	NY	11385		josephg824@msn.com	
GuildNet, Inc.		Joselyn	Salazar	15 W 65th Street		New York	NY	10023		jsalazar@jgb.org	
HAI - Hospital Audiences, Inc		Josh	Keller	33-02 Skillman Avenue		Long Island City	NY			jkeller@hainyc.org	
Hankin & Mazel, PLLC		Mark	Hankin	60 Cutter Mill Road Suite 505		Great Neck	NY	11021		mhankin@hhmlegal.com	
HealthPlus Amerigroup		Dominic	Bardowell	241 37th Street	3rd Floor	Brooklyn	NY	11232		dominic.bardowell@amerigroup.com	
Heartland Payment Systems		Armando	Tejeda	107-22 75th Street		Ozone Park	NY	11417		armando.tejeda@e-hps.com	
Helms Bros., Inc.		Douglas	Callahan	208-24 Northern Boulevard		Bayside	NY	11361		dcallahan@helmsbros.com	
HF Management Services LLC		Tanya	Whitmore	100 Church Street 16th Floor		New York	NY	10007		twhitmore@healthfirst.org	
Hillside Honda		Danielle	Ginocchio	139-07 Hillside Avenue		Jamaica	NY	11435		danielle_sales@hillsidehonda.com	
Hilo Materials Handling Group		Cindy	Eisele	45-54 37th Street		Long Island City	NY	11101		ceisele@hilousa.com	
Holiday Inn Express		Milan	Patel	59-40 55th Road		Maspeth	NY	11378		milan.mpatel@gmail.com	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Holiday Inn Express LaGuardia Airport		Amit	Ghandi	113-10 Horace Harding Expressway		Flushing	NY	11368		aghandi@holidayinnexpressiga.com	
Holiday Inn LaGuardia Airport		Gladys	Gomez	37-10 114th Street		Corona	NY	11368		sales@holidayiga.com	
Holiday Inn LaGuardia Airport		Driana	Santos	37-10 114th Street		Corona	NY	11368		exec@holidayiga.com	
Holiday Inn LaGuardia Airport		Maria	Shea	37-10 114 Street		Corona	NY	11368		sales@holidayiga.com	
Holy Cross High School		Gail	Sicoli	26-20 Francis Lewis Blvd.		Flushing	NY	11358		alumni@holycrosshs.org	
Home Plus Merchandise Corp.		Anthony	Choi	31-85 Whitestone Expressway		Flushing	NY	11354		tonychoi@seoulgrocery.com	
Hon. Claire Shulman		Claire	Shulman	14-16 162 Street		Whitestone	NY	11357		MDMSMD2005@yahoo.com	
HRAD Construction		Wayne	Adderley	12-06 149 Street		Whitestone	NY	11357		hradconstruction@aol.com	
HSBC Bank USA, N.A.		David	Byers	22-15 43rd Avenue		Long Island City	NY	11101		david.x.byers@us.hsbc.com	
HSBC Bank USA, N.A.		Mayra	Dirico	22-15 43rd Avenue		Long Island City	NY	11101		mayra.dirico@us.hsbc.com	
HSBC Bank USA, N.A.		Elizabeth	Lee	11 East Broadway 3rd Floor		New York	NY	10038		elizabeth.lee@us.hsbc.com	
HSBC Bank USA, N.A.		Jeff	Needham	452 5th Avenue		New York	NY	10018		jeff.needham@us.hsbc.com	
HSBC Bank USA, N.A.		Jay	Yarnell	452 5th Avenue		New York	NY	11101		charles.f.ryan@us.hsbc.com	
IBI Armored Services, Inc.		John	Brooks	37-06 61 Street		Woodside	NY	11377		john.brooks@ibiarmored.com	
Independence Residences, Inc.		Raymond	DeNatale	93-22 Jamaica Avenue, 2 Floor		Woodhaven	NY	11421		rjdenatale@in-res.org	
Industrial Management & Training Institute Inc.		Marcel	Veronneau	43-82 Vernon Boulevard		Long Island City	NY	11101		marcelveronneau@yahoo.com	
Intercity Agency Inc.		Nicolas	Estevez	42-40 Bell Boulevard Ste 103		Bayside	NY	11361		hne@intercityagency.com	
Interstate Envelope Mfg. Corp.		Alfred	Wilkowski	56-15 55 Drive		Maspeth	NY	11378		alfredw@interstate-envelope.com	
Investors Bank		Deena	Sattaur	Court Street Branch	81 Court Street	Brooklyn	NY	11201		dsattaur@myinvestorsbank.com	
Jackson Lewis		John	Porta	58 South Service Road		Melville	NY	11747		portaj@jacksonlewis.com	
James F. Capalino & Assoc.		James F.	Capalino	233 Broadway, Suite 710		New York	NY	10279		jfcapalino@aol.com	
JCF Electric, Inc.		Bernadette	Jeronimo	86-18 Atlantic Avenue		Ozone Park	NY	11416		info@jcfelectric.com	
JFA Insurance Brokerage & Associates Inc.		Francine	Salomon	25-31 Francis Lewis Blvd.		Bayside	NY	11358		fran@jfainsurance.com	
Jib Lanes		John M.	LaSpina	67-19 Parsons Blvd.		Flushing	NY	11365		info@bowljib.com	
John A. Vassilaros & Son, Inc.		John	Vassilaros	29-05 120 Street		Flushing	NY	11354		customerservice@vassilaroscoffee.com	
John C. Chen Architect, PLLC		John	Chen	41-22 Fuller Place 3rd Fl.		Flushing	NY	11355		jccar05@yahoo.com	
John Carusone, Architect, P.C.		John	Carusone	31-87 30 Street		Long Island City	NY	11106		jcarch@nyc.rr.com	
Johnstone Supply		Drew	Garda	27-01 BQE West		Woodside	NY	11377		store60@johnstonesupply.com	
Joseph P. Day Realty Corp.		Frank	Zimbaro	9 East 40 Street, 8 Floor		New York	NY	10016		ffz@jpday.com	
Juvenile Diabetes Research Foundation-Qns. Branch		Rebecca	Kane	432 Park Avenue South, 15th Floor		New York	NY	10016		rkane@jdrf.org	
JW Lee State Farm Agency		JW	Lee	242-07 Northern Blvd		Douglaston	NY	11363		jw.lee.k2o8@statefarm.com	
Kaled Management Corp.		Edward	Kalikow	7001 Brush Hollow Road		Westbury	NY	11590		ed@kaled.com	
Kalmon Dolgin Affiliates Inc.		Neil	Dolgin	101 Richardson Street		Brooklyn	NY	11211		neil@kalmondolgin.com	
Kamco Supply Corp		Evan	Meyers	80 21st Street		Brooklyn	NY	11232		emeyers@kamco.com	
Kanta Electric Corp.		Prakash	Kapadia	34-21 56th Street		Woodside	NY	11377		pk@kantaelectric.com	
Kaufman Astoria Studios Inc.		Hal	Rosenbluth	34-12 36 Street		Astoria	NY	11106		maria@kaufmanastoria.com	
Keller Williams Realty Landmark		Helen	Keit	32-55 Francis Lewis Blvd.		Flushing	NY	11358		helen.kelt@kw.com	
Koeppel Nissan Inc.		Mark	Lacher	74-15 Northern Boulevard		Jackson Heights	NY	11372		marklacher@koeppelnissan.com	
Korean Central Daily News, Inc. dba.The Korean Daily		John	Villafane	43-27 36th Street		Long Island City	NY	11101		villafane.john@koreadaily.com	
La Nueva Radio International		Horacio	Poveda	76-11 37th Avenue	Office 201	Jackson Heights	NY	11370		echica@lanuevari.com	
LaGuardia Community College		Gail	Mellow	31-10 Thomson Avenue		Long Island City	NY	11101		gmellow@LaGCC.CUNY.EDU	
LaGuardia Community College		Eneida	Rivas	31-10 Thomson Avenue, Room E511		Long Island City	NY	11101		eneidar@lagcc.cuny.edu	
LaGuardia Corporate Ctr. Assoc.		Michael	Dumelle	75-20 Astoria Boulevard, Suite 50		Jackson Heights	NY	11370		NYHELP@3DGNET.Com	
Laurino & Laurino		Louis	Laurino	229 Seventh Street, Suite 201		Garden City	NY	11530		louislaurino@laurinoandlaurino.com	
Law Office of Anthony Mafilio		Jack	Grossman, Esq.	163-09 Northern Boulevard		Flushing	NY	11358		jgross5099@aol.com	
Law Office of Vincent L. Petraro, PLLC		Vincent	Petraro, Esq.	350 7th Avenue, Suite 1703		New York	NY	10001		vpetraro@gmail.com	
Law Offices of Jason W. Stern & Associates		Jason	Stern	108-18 Queens Blvd. Ste. 902		Forest Hills, N.Y. 11375	NY	11375		j1stern@aol.com	
Legal Shield		Cheryl	Miller	164-38 108th Avenue		Jamaica	NY	11433		cherylmiller@legalshieldassociate.com	
Leo F. Kearns, Inc.		Thomas	Kearns	103-33 Lefferts Boulevard, POB 190086		Richmond Hill	NY	11419		tlk@leofkearns.com	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Levine Builders		Jeffrey	Levine	42-09 235 Street		Douglaston	NY	11363		JeffLevine@levinebuilders.com	
Lewis & Murphy Realty		Diane	Macari	95-40 Roosevelt Avenue		Jackson Heights	NY	11372		dmacari@lewismurphyrealty.com	
Lewis & Murphy Realty		Louis	Macari	95-40 Roosevelt Avenue		Jackson Heights	NY	11372		dmacari@lewismurphyrealty.com	
Lexington School for the Deaf/Ctr. for the Deaf		Karelle	Gordon	30 Avenue & 75 Street		Jackson Heights	NY	11370		kgordon@lexnyc.org	
Liberty Mutual		Bruce	Smith	6800 Jericho Turnpike		Syosset	NY	11791		jmiccio@financialguide.com	
Life's Worc		Peter	Smergut	1501 Franklin Avenue		Garden City	NY	11530		smergut@aol.com	
Lin + Associates Architects, P.C.		Emily	Lin	8375 117th Street Unit 7A		Richmond Hill	NY	11418		info@linarchitects.com	
Lincoln Technical Institute		James	Morrissey	15-30 Petracca Place		Whitestone	NY	11357		jmorrissey@lincolntech.com	
Linear Lighting Corp.		Lois	Shorr	31-30 Hunters Point Avenue		Long Island City	NY	11101		lois@linearltg.com	
London Lennie's Seafood Rest.		Leslie	Barnes	63-88 Woodhaven Boulevard		Rego Park	NY	11374		leslie@londonlennies.com	
London Towncars, Inc.		Stephen	Spencer	40-14 23 Street		Long Island City	NY	11101		slspencer@londontowncars.com	
Long Island Business Institute		Monica	Foote	136-18 39th Avenue		Flushing	NY	11354		mfoote@libi.edu	
Long Island City Partnership		Elizabeth	Lusskin	27-01 Queens Plaza		Long Island City	NY	11101		ELusskin@licpartnership.org	
Lorraine Gregory Corp.		Gregory	Demetriou	Communications Group	100 Schmitt Blvd	Farmingdale	NY	11735		greg@americanmail.com/greg@lorrainegregorycorp.com	
Louis Armstrong House Museum		Jennifer	Walden	34-56 107th Street		Corona	NY	11368		jennifer.walden@qc.cuny.edu	
Lowery Liquor & Wine Co.		Anthony	Lodati	40-14 Queens Boulevard		Sunnyside	NY	11104		anthonylsr@lowerywfo.com	
M & T Bank		Stuart	Harker	10-30 Jackson Ave.		Long Island City	NY	11101		sharker@mtb.com	
M & T Bank		Nicholas	Marrone	845 Franklin Ave.		Garden City	NY	11530		nmarrone@mtb.com	
M & T Bank		Gene	Sullivan	350 Park Ave.		New York	NY	11022		esullivan@mtb.com	
M. Shafique, CPA, PLLC		Mohammad	Shafique	74-09 37TH AVENUE	SUITE 306F	JACKSON HEIGHTS	NY	11372		info@shafiquecpa.com	
Madelaine Chocolate Novelties		Norman	Gold	96-03 Beach Channel Drive		Rockaway Beach	NY	11693		ngold@madelainechocolate.com	
Madison Square Garden Company		Annette	Juraico	Two Pennsylvania Plaza	16th Floor	New York	NY	10121		annette.juriaco@msg.com	
Magic Pest Management LLC		Andrew	Deluca	5901 Kissena Blvd		Flushing	NY	11355		adeluca@magicexterminating.com	
Major Automotive Group		Bruce	Bendell	43-40 Northern Boulevard		Long Island City	NY	11101		bbendell@majorauto.com	
Manhattan Chamber of Commerce		Nancy	Ploeger	1375 Broadway, 3 Floor		New York	NY	10018		np@manhattancc.org	
Manhattan Fire Safety Corp.		Dick	Wachtell	242 W. 30th Street Fl. #7		New York	NY	10001		dickwachtell@aol.com	
Maple Grove Cemetery Association		Bonnie	Thompson Dixon	127-15 Kew Gardens Road		Kew Gardens	NY	11415		bonnie@maplegrovecenter.org	
Marathon Energy Corporation		Jeff	Grygier	868 39th Street		Brooklyn	NY	11232		mauricio@mecny.com	
Marbren Tire Co., Inc.		Mark	Brenner	32-16 Hunters Point Avenue		Long Island City	NY	11101		marbren@verizon.net	
Maria Cristina Alvanos		Cristina	Alvanos	13-21 125th St		College Point	NY	11356		cristinalvanos@aol.com	
Market Place Development		Lillian	Tan	LaGuardia Airport	Central Terminal Building/3rd Fl. West	Flushing	NY	11371		ltan@marketplacedev.com	
Martha Taylor, ESQ.		Martha	Taylor	175-14 Mayfield Road		Jamaica	NY	11432		marthataylor1@verizon.net	
Martin A. Gleason Funeral Home LLC		John	Golden	149-20 Northern Boulevard		Flushing	NY	11354		gleasonfh@aol.com	
Mary Louis Academy, The		Kathleen	McKinney	176-21 Wexford Terrace		Jamaica	NY	11432		principal@tmla.org	
Mash City Business Systems		Howard	Mann	1 Enterprise Place	STE E	Hicksville	NY	11801		mashmann2@aol.com	
Maspeth Federal Savings		Kenneth	Rudzewick	56-18 69th Street		Maspeth	NY	11378		mfsweb@maspethfederal.com	
MatchMySpirit, Inc.		Naini	Nakagawa	211-21 45th Road		Bayside	NY	11361		matchmyspirit@gmail.com	
Mattone Group, LLC		Carl	Mattone	141-07 20th Avenue Suite 507		Whitestone	NY	11357		cmattone@mattonegroup.com	
Mattone Group, LLC		Joseph	Mattone, Esq.	134-01 20 Avenue		College Point	NY	11356		jmattonesr@mattonegroup.com	
MechoShade Systems, Inc.		Norman	Rathfelder	42-03 35 Street		Long Island City	NY	11101		norman@mechoshade.com	
Medi Sys Health Network		Youngim	Park	45-00 Parson Blvd.		Flushing	NY	11355		yparkflushing@jhmc.org	
Mediamorphosis LLC		Adris	Chakraborty	39-15 29th St. 2nd Floor		Long Island City	NY	11101		adris@mediamorphosisinc.com	
Medical Society/County of Queens		Evangeline	Rosado-Tripp	112-25 Queens Boulevard		Forest Hills	NY	11375		jregosin@queensmd.org	
Melrose Credit Union		Alan	Kaufman	139-30 Queens Boulevard		Briarwood	NY	11435		alank@melrosecu.org	
Meltzer Accounting & Tax Service		Joel	Meltzer	38-08 Bell Blvd. Apt 6		Bayside	NY	11361		meltzeracting100@aol.com	
Michelle's Bookkeeping and Accounting Services		Michelle	Wilson	234-15 131st Avenue		Rosedale	NY	11422		Michelle@michellesbookkeeping.com	
Micro Center		Tom	Eckert	71-43 Kissena Blvd		Flushing	NY	11367		teckert@microcenter.com	
Microsoft Queens Center Mall		Bennett	Dixon	9015 Queens Blvd.		Elmhurst	NY	11373		bedixon@microsoft.com	
Middle Village Chamber of Commerce		Al	Gentile	75-25 Metropolitan Avenue		Middle Village	NY	11379		agentile@astoriafederal.com	
Mike The Glazier		Lance	Lerner	35-18 Linden Place		Flushing	NY	11354		lancemtg@aol.com	
Milad Contracting Corp.		Monet	Milad	59-01 39 Avenue		Woodside	NY	11377		miladcorp@aol.com	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Minuteman Press of Bellerose		Scott	Levine	248-02 Union Turnpike		Bellerose	NY	11426		jscott@minutemanbellerose.com	
Mobile Now		Krista Altok	Tassa	157-61 17th Avenue		Whitestone	NY	11357		krista.tassa@mobilenowsolutions.com	
Monroe College		Evan	Jerome	Monroe College - King Graduate School	135-16 Roosevelt Ave.	Flushing	NY	11354		ejerome@monroecollege.edu	
Montrose Surveying Co. LLP		Saeid	Jalilvand	116-20 Metropolitan Ave.		Richmond Hill	NY	11418		saeid@montrosesurveying.com	
Mount Sinai Hospital of Queens		John	Kump	25-10 30th Avenue		Long Island City	NY	11102		john.kump@mountsinai.org	
Mount Sinai Hospital of Queens		Caryn	Schwab	25-10 30 Avenue		Long Island City	NY	11102		caryn.schwab@mountsinai.org	
Mount Sinai Hospital of Queens		Deborah	Tarulli	31-60 21 Street		Astoria	NY	11106		deborah.tarulli@mountsinai.org	
Mount Sinai Hospital of Queens		Judy	Trilivas	25-10 30 Avenue		Long Island City	NY	11102		judy.trilivas@mountsinai.org	
MTA Long Island Rail Road		Helena	Williams	Jamaica Station Building		Jamaica	NY	11435		cpapand@lirr.org	
MTM Printing Co., Inc.		Steven	Kolman	23-21 College Point Boulevard		College Point	NY	11356		info@mtmprinting.com	
Museum of the Moving Image		Christina	Marouda	36-01 35th Avenue		Astoria	NY	11106		members@movingimage.us	
Muss Development Company		Joshua	Muss	118-35 Queens Boulevard		Forest Hills	NY	11375		carolyn@muss.com	
Mutual of Omaha		Tonya	Perry	888 Veterans Highway	Ste. 515	Hauppague	NY	11788		tonya.perry@mutualofomaha.com	
National Grid		Andrew	Barnes III	One Metro Tech Center		Brooklyn	NY	11201		Andrew.Barnes@us.ngrid.com	
Neighborhood Housing Services of Northern Queens		Ygmar	Wiel	60-20 Woodside Avenue 2 Floor		Woodside	NY	11377		ygmar_wiel@nhsnyc.org	
Nemo Tile Co., Inc.		Bert	Karlin	177-02 Jamaica Avenue		Jamaica	NY	11432		bkarlin@nemotile.com	
Neustar		Myles Gene	Kearon	21575 Ridgetop Circle		Sterling	VA	20166		myles.kearon@neustar.biz	
New Bronx Chamber of Commerce, The		Lenny	Caro	1200 Waters Place	Ste 106	Bronx	NY	10461		mail@bronxchamber.org	
New England Wealth Strategies		Jon	Postyn	50 Charles Lindbergh Blvd. Ste 600 Office 113		Uniondale	NY	11553		jpostyn@yahoo.com	
New York Community Bank		Garry	Fredrickson	136-65 Roosevelt Avenue		Flushing	NY	11354		mgr0101@mynycb.com	
New York Advisory Services, Inc.		Richard	Chernoff	551 Fifth Avenue		New York	NY	10176		rchernoff@nyasi.com	
New York City Recruiting Battallion (1G6)		Michael	Gallucci	BLDG 212 GENERAL LEE AVENUE		FORT HAMILTON	NY	11252		michael.v.gallucci.mil@mail.mil	
New York Community Bank		Joseph	Ficalora	615 Merrick Avenue		Westbury	NY	11590		jficalora@mynycb.com	
New York Community Bank		Georgiana	Reese	32 Hathaway Lane		Manhasset	NY	11030		creese1225@aol.com	
New York Daily News		JoAnn	DiNapoli	4 New York Plaza 6th Fl. Advertising		New York	NY	10004		jdinapoli@nydailynews.com	
New York Grant Company		Jonathan	Breshin	29 Broadway Ste 2222		New York	NY	10006		jonathan@nygrants.com	
New York Hall of Science		Dan	Wempa	47-01 111 Street		Queens	NY	11368		dwempa@nyscience.org	
New York Hospital Queens		Stephen	Mills	56-45 Main Street		Flushing	NY	11355		smills@nyp.org	
New York Hospital Queens		General	Manager	56-45 Main Street		Flushing	NY	11355		dec9067@nyp.org	
New York Hospital Queens		George	Rozansky	41-61 Kissena Blvd.		Flushing	NY	11355		ger9008@nyp.org	
New York Industrial Retention Network		Anne	Seifried	11 Park Place		New York	NY	10007	212-404-6990	aseifried@nyirn.org	
New York LaGuardia Airport Marriott		David	Salcfas	102-05 Ditmars Boulevard		East Elmhurst	NY	11369		mike.payne@marriott.com	
New York LaGuardia Airport Marriott		Tom	Walsh	102-05 Ditmars Boulevard		East Elmhurst	NY	11369		tom.p.walsh@marriott.com	
New York Life Insurance / Hispanic Market		Hugo	Clavijo	100 Jericho quadrangle	Suite 325	Jericho	NY	11753		Hugo_clavijo@newyorklife.com	
New York Mets		David	Newman	Citi Field	123-01 Roosevelt Avenue	Flushing	NY	11368		dnewman@nymets.com	
New York Plumbing, Heat ng, Cooling Corp.		Chris	Perosi	87-71 Lefferts Blvd.		Richmond Hill	NY	11418		chrisp@nyplumbing.com	
New York Power Authority		Edward J.	Birdie	31-03 20 Avenue		Astoria	NY	11105		ed.birdie@nypa.gov	
New York Racing Assn. Inc.		Joanne K.	Adams	PO Box 90		Jamaica	NY	11417		jadams@nyrainc.com	
New York Times, The		Terry	Augustyn	1 New York Times Plaza		Flushing	NY	11354		augustf@nytimes.com	
New York Times, The		Mike	Connors	1 New York Times Plaza		Flushing	NY	11354		connem@nytimes.com	
New York Times, The		Nicholas	D'Andrea	1 New York Times Plaza		Flushing	NY	11354		dandrnd@nytimes.com	
News Corporation -Times Ledger		Ralph	Donofrio	41-02 Bell Blvd.		Bayside	NY	11361		rdonofrio@cnglocal.com	
Newtown Creek Group		Kara	Grippen	261 Fifth Avenue 2nd Fl.		New York	NY	10016		kara_grippen@dkcnews.com	
NFH Real Estate Solutions		Norman	Hanlon, MAI	50-12 193 Street		Fresh Meadows	NY	11365		nfhcommre@aol.com	
NORAMPAC New York City Inc.		John	Klevorn	55-15 Grand Avenue		Maspeth	NY	11378		John_klevorn@norampac.com	
North Shore- LIJ Health System		William J.	Cunningham	145 Community Drive		Great Neck	NY	11021		wcunningham@nshs.edu	
North Shore-LIJ Health System		Terence	Lynam	145 Community Drive		Great Neck	NY	11021		tlynam@nshs.edu	
Northern Lights Publisher New York, The		Victor R.	Muravin	33-82 164 Street		Flushing	NY	11358		charityarmy@live.com	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
NorthStar LaGuardia, LLC/DBA Clarion Hotel		VANESSA	PENSON	9400 Ditmars Blvd.		East Elmhurst	NY	11369		david@newyorkclarion.com	
NRG Astoria Gas Turbines Operations Inc.		Michael	Schatz	31-01 20 Avenue		Astoria	NY	11105		michael.schatz@nrgenergy.com	
NY Graph X Corporation		William	Vitale	166-65 21st Road		Whitestone	NY	11357		contact@nygraphx.com	
NY Non Slip Solution LLC		Alan	Ong	69-22 183rd Street		Fresh Meadows	NY	11365		Alan@NYNonSlipSolution.com	
NYC Council District 29	Council Member	Karen	Koslowitz	118-35 Queens Blvd.	17th Floor	Queens	NY	11375	718-544-8800	Koslowitz@council.nyc.gov	Gregory Lavine
NYC DEP	Chief, Engineering Division, Review & Construction Compliance	David	Ramia	59-17 Junction Blvd	3rd Floor Low-Rise	Flushing	NY	11373	718-595-5211	jamaro@dep.nyc.gov	Janet Amaro
NYC DEP Bureau of Planning Assessment	Director of Air & Noise Planning Analysis	Chung	Chan	59-17 Junction Blvd	13th Floor	Flushing	NY	11373	718-595-4479	chungc2@dep.nyc.gov	
NYC DOT	Deputy Director, CEQR/Project Analysis	Shakil	Ahmed	55 Water Street		New York	NY	10004	212-839-7705 / 7777	sahmedz@dot.nyc.gov	
NYC DOT	Director of Transit Development	Eric	Beaton						212-839-6697	ebeaton@dot.nyc.gov	
NYC DOT	Queens Borough Commissioner	Dalia	Hall						212-839-2510	dhall@dot.nyc.gov	
NYC DOT		TJ	Jassel							tjassel@dot.nyc.gov	
NYC DOT		Tom	Maguire							tmaguire@dot.nyc.gov	
NYC DOT		Naim	Rasheed						212-839-7710	nrasheed@dot.nyc.gov	
NYC DOT		Aaron	Sugiera							asugiera@dot.nyc.gov	
NYC DOT Queens Borough	Borough Commissioner	Dalila	Hall	120-55 Queens Blvd	Room 285	Kew Gardens	NY	11424	212-839-2510	dhall@dot.nyc.gov	
NYC Landmarks Preservation Commission	Environmental Review Coordinator	Gina	Santucci	1 Centre Street	9N	New York	NY	10007		gsantucci@lpc.nyc.gov	
NYC Waste Match		Adannna	Roberts	CCNY Steinman Hall Rm 188	140th and Convent Avenue	New York	NY	10031		wmadmin@ce.ccny.cuny.edu	
NYCO Plumbing & Heating Corp.		Nicholas	Yavaldakis	30-43 14 Street		Astoria	NY	11102		mrnyco@aol.com	
NYS Assembly 26th Assembly District	Assemblymember	Edward	Braunstein	213-33 39th Avenue	Suite 238	Bayside	NY	11361	718-357-3588	braunsteine@assembly.state.ny.us	
NYS Assembly 36th Assembly District	Assemblymember	Aravella	Simotas	31-19 Newtown Ave	Suite 401	Astoria	NY	11102	718-545-3889	simotasa@assembly.state.ny.us	
NYS Assembly 37th Assembly District	Assemblymember	Catherine	Nolan	41-02 Queens Blvd	Suite 2B	Sunnyside	NY	11104	718-784-3194	nolanc@assembly.state.ny.us	
NYS Assembly 39th Assembly Distrct	Assemblymember	Francisco	Moya	82-11 37th Avenue	Suite 709A	Jackson Heights	NY	11372	718-458-5637	moyaf@assembly.state.ny.us	
NYS DOT	Regional Director - Region 11	Joseph	Brown	Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4526	joseph.brown@dot.ny.gov	
NYS DOT		Luis	Calderon	Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4690	lcalderon@dot.state.ny.us	
NYS DOT		Olu	Fajolu	Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4742	ofajolu@dot.state.ny.us	
NYS DOT		Ian	Francis	Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4627	ifrancis@dot.state.ny.us	
NYS DOT		Uchenna	Madu						718-482-4562	umadu@dot.state.ny.us	
NYS DOT	Government and Public Affairs Officer - Region 11	Charles	O'Shea	Hunter's Point Plaza	47-40 21st Street	Long Island City	NY	11101	718-482-4526	charles.oshea@dot.ny.gov	
NYSED ACCESS - VR		Jessica	Randolph	59-17 Junction Blvd. 20th Floor		Corona	NY	11368		jrandolp@mail.nysed.gov	
Obena Office Supply Co		John	Davis	31-18 38 Avenue		Long Island City	NY	11101		theobena@aol.com	
OrthoBalance Physical Therapy		Attilio	Pensavalle	287 Northern Blvd	Suite 104	Great Neck	NY	11021		NYPTM@yahoo.com	
Pace Accounting & Tax Services, Inc.		Raymond	Pace	66-70 Queens Midtown Expressway		Maspeth	NY	11378		info@paceaccounting.com	
Pandora Media		Lauren	Henn	19 Union Square West	10th Floor	New York	NY	10003		lhenn@pandora.com	
Parker Jewish Institute for Health Care & Rehab.		Ronald	Shafran	271-11 76 Avenue		New Hyde Park	NY	11040		rshafran@parkerinstitute.org	
Parsons Preschool		Beatrice	Pascucci	84-60 Parsons Boulevard		Jamaica	NY	11432		Meechelee@aol.com	
Partnership For New York City		Andrew	Sullivan	One Battery Park Plaza 5th Floor		New York	NY	10004		asullivan@pfnyc.org	
Patco Tapes, Inc		Wendy	Vigil	59-27 56th Street		Maspeth	NY	11378		info2@patcogroup.com	
Patrick B. Jenkins & Associates		Patrick	Jenkins	114-35 140th Street		Jamaica	NY	11436		patrick@pbjenkins.com	
People's Alliance Federal Credit Union		Judy	Smolinski	JFK Airport	Building 14 West Wing, RM 4A	Jamaica	NY	11430		jsmolinski@pafcu.org	
Personal Touch Home Care Inc.		Monica	Wiedeman	186-18 Hillside Avenue		Jamaica	NY	11432		mwiedeman@pthomecare.com	
Petro Energy Solutions		Bryant	Elder	55-60 58th St		Maspeth	NY	11378		belder@petroheat.com	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Petrocelli Group, Inc.		Richard	Petrocelli	162-01 Sanford Avenue		Flushing	NY	11358		richp@petrocelli.com	
Pfeil & Holing, Inc.		Sy	Stricker	58-15 Northern Boulevard		Woodside	NY	11377		info@cakedeco.com	
Pibbs Industries		Damiano	Petruccelli	133-15 32 Avenue		Flushing	NY	11354		gianna@pibbs.com	
Pickman Realty Corp.		Christopher	Winchester	118-21 Queens Boulevard Ste 316		Forest Hills	NY	11375		pickmanrealty@hotmail.com	
Pinnacle Realty Of New York LLC		James	Tack	46-34 11th Street		Long Island City	NY	11101		jtack@pinnaclereny.com	
Plaxall Inc.		Andrew	Kirby	5-46 46th Avenue		Long Island City	NY	11101		akirby@plaxall.com	
Plaza College		Charles	Callahan III	74-09 37 Avenue		Jackson Heights	NY	11372		cec3@plazacollege.edu	
Plaza College		Charles E.	Callahan IV	74-09 37 Avenue		Jackson Heights	NY	11372		cec4@plazacollege.edu	
Plaza College		Correne	Cavalieri	74-09 37 Avenue		Jackson Heights	NY	11372		ccavalieri@plazacollege.edu	
Ponticello Ristorante		Josip	Honovic	46-11 Broadway		Astoria	NY	11103		ponticello1@aol.com	
Popular Community Bank		Dawn	Carrillo	120 Broadway 16th Floor		New York	NY	10271		dcarrillo@bpop.com	
Port Authority of NY & NJ	General Manager	Thomas	Bosco	LaGuardia Airport	Hanger 7 Center, 3rd Floor	Flushing	NY	11371	718-533-3401 / 917-573-0264	tbosco@panynj.gov	
Port Authority of NY & NJ		Thomas	Bosco	LaGuardia Airport - Hangar 7 Center - 3rd Fl.		Flushing	NY	11371		tbosco@panynj.gov	
Port Authority of NY & N.	Senior Advisor for Aviation Policy	Patty	Clark	225 Park Ave South	9th Floor	New York	NY	10003		pclark@panynj.gov	
Port Authority of NY & N.		Warren	Kroeppel	LaGuardia Airport - Hangar 7C		Flushing	NY	11371		wkroeppel@panynj.gov	
Port Authority of NY & N.	Lead Engineer/Transportation Planner	Edward	Peralta	225 Park Avenue South	18th Floor	New York	NY	10003	973-565-7858	eperalta@panynj.gov	
Port Authority of NY & N.		Ralph	Tragale	225 Park Avenue South, 18th Floor		New York	NY	10003		rtragale@panynj.gov	
Port Authority of NY & NJ	Assistant Director of Aviation	Ralph	Tragale	225 Park Avenue South	18th Floor	New York	NY	10003	212-435-3731	pclark@panynj.gov	
Port Authority of NY & NJ	Transportation Policy Manager	Lou	Venech	225 Park Avenue South	9th Floor	New York	NY	10003	212-435-4422	lvench@panynj.gov	
Portnoy, Messinger, Pearl & Assoc., Inc.		Alan	Pearl	6800 Jericho Turnpike, Ste 218E		Syosset	NY	11791		abpearl@pmphr.com	
Pratt Center for Community Development	Deputy Director	Vicki	Weiner	Pratt Center	200 Willoughby Ave	Brooklyn	NY	11205	718-637-8645	vweiner@prattcenter.net	
Precision Auto Works L.L.C.		Michael	Giannakos	37-46 9th Street at 38th Avenue		Long Island City	NY	11101		precisionautowks@yahoo.com	
Prest-O-Sales & Service, Inc.		James	Madison	40-14 19 Avenue		Long Island City	NY	11105		sales@prest-o-sales.com	
Principal Building Services		James	Lynn	One New York Times Plaza		College Point	NY	11354		lynnj@times.com	
Progressive Martial Arts		Kathryn	Sacoulas	175-25 Horace Harding Expressway		Fresh Meadows	NY	11365		Ks@progressivemartialarts.com	
QSIDE Federal Credit Union		Mark	Johnson	211-31 Jamaica Avenue		Queens Village	NY	11428		mjohnson@qsidefcu.org	
Queens Air Services Development Office (ASDO)		Dolores	Hofman	JFK Airport, Bldg. 141, 1 Floor		Jamaica	NY	11430		dolores.hofman@asdoonline.com	
Queens Blvd. Extended Care Facility		Jonathan	Mawere	61-11 Queens Boulevard		Woodside	NY	11377		jmawere@qbecf.com	
Queens Borough President's Office	President	Melinda	Katz	120-55 Queens Blvd		Kew Gardens	NY	11415	718-286-3000	katz@queensBP.org	
Queens Borough President's Office	Planning and Development	Irving	Poy	120-55 Queens Blvd		Kew Gardens	NY	11415	718-286-2860	info@queensbp.org	
Queens Botanical Garden Soc., Inc.		Susan	Lacerte	43-50 Main Street		Flushing	NY	11355		slacerte@queensbotanical.org	
Queens Business Outreach Center Network Inc.		Rodney	Santago	96-11 40th Road		Corona	NY	11368		santago@bocnet.org	
Queens Centers For Progress		Charles	Houston	81-15 164 Street		Jamaica	NY	11432		lhearey@queenscp.org	
Queens Chamber of Commerce	Strategic Program Coordinator	Jacqueline	Donado	75-20 Astoria Blvd	Suite 140	Jackson Heights	NY	11370	718-898-8500	jdonado@queenschamber.org	
Queens Chamber of Commerce	President	Albert	Pennisi	75-20 Astoria Blvd	Suite 140	Jackson Heights	NY	11370	718-459-6000	apennisi@queenschamber.org	
Queens College CUNY		Vincent	Angrisani	65-30 Kissena Blvd.		Flushing	NY	11367		vincent.angrisani@qc.cuny.edu	
Queens College CUNY		Thomas	Cracovia	65-30 Kissena Boulevard		Flushing	NY	11367		thomas.cracovia@qc.cuny.edu	
Queens College CUNY		Evangelos	Gizis	65-30 Kissena Boulevard		Flushing	NY	11367		evangelos.gizis@qc.cuny.edu	
Queens College CUNY		Sue	Henderson	65-30 Kissena Blvd., Kiely Hall 1200		Flushing	NY	11367		sue.henderson@qc.cuny.edu	
Queens College Kupferberg Center for the Arts		Vivian	Charlop	65-30 Kissena Blvd.		Flushing	NY	11367		vcharlop@kupferbergcenter.org	
Queens College, CUNY		Karen	Kennedy	65-30 Kissena Boulevard		Flushing	NY	11367		karen.kennedy@qc.cuny.edu	
Queens Comfort Inc.		Donnie	DAlessio	4009 30th Avenue		Astoria	NY	11103		queenscomfort@gmail.com	
Queens Community Board 1	Chairperson	Vinicio	Donato	45-02 Ditmars Blvd	LL Suite 125	Astoria	NY	11105	718-626-1021	qn01@cb.nyc.gov	
Queens Community Board 1	District Manager	Lucille	Hartmann	45-02 Ditmars Blvd	LL Suite 125	Astoria	NY	11105	718-626-1021	qn01@cb.nyc.gov	
Queens Community Board 11	Chairperson	Christine	Haidler	46-21 Little Neck Parkway		Little Neck	NY	11362	718-225-1054	qn11@cb.nyc.gov	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Queens Community Board 11	District Manager	Susan	Seinfeld	46-21 Little Neck Parkway		Little Neck	NY	11362	718-225-1054	qn11@cb.nyc.gov	
Queens Community Board 3	Chairperson	Stephen	Kulhanek	82-11 37th Avenue	Suite 606	Jackson Heights	NY	11372	718-458-2707	communityboard3@nyc.rr.com	
Queens Community Board 3	District Manager	Giovanna	Reid	82-11 37th Avenue	Suite 606	Jackson Heights	NY	11372	718-458-2707	communityboard3@nyc.rr.com	
Queens Community Board 4	District Manager	Christian	Cassagnol	46-11 104th Street		Corona	NY	11368	718-760-3141	qn04@cb.nyc.gov	
Queens Community Board 4	Chairperson	Louis	Walker	46-11 104th Street		Corona	NY	11368	718-760-3141	qn04@cb.nyc.gov	
Queens Community Board 7	District Manager	Marilyn	Bitterman	133-32 41st Road	Suite 3B	Flushing	NY	11355	718-359-2800	qn07@cb.nyc.gov	
Queens Community Board 7	Chairperson	Eugene	Kelty, Jr.	133-32 41st Road	Suite 3B	Flushing	NY	11355	718-359-2800	qn07@cb.nyc.gov	
Queens Community House		Irma E.	Rodriguez	108-25 62nd Drive		Forest Hills	NY	11375		irodriguez@queenscommunityhouse.org	
Queens County Savings Bank/Div. of NY Comm. Bank		John	Careddu	106-19 Continental Avenue		Forest Hills	NY	11375		jcareddu@mynycb.com	
Queens County Savings Bank/Div. of NY Comm. Bank		John	D'Angelo	98-16 101st Avenue		Ozone Park	NY	11416		john.dangelo@mynycb.com	
Queens Courier		Victoria	Schneps	38-15 Bell Boulevard		Bayside	NY	11361		vickischneps@queenscourier.com	
Queens Economic Development Corp.		Seth	Bornstein	120-55 Queens Boulevard, Suite 309		Kew Gardens	NY	11424		sbornstein@queensny.org	
Queens Library		Thomas	Galante	89-11 Merrick Boulevard		Jamaica	NY	11432		thomas.w.galante@queenslibrary.org	
Queens Museum of Art		Tom	Finkelpearl	Flushing Meadows Corona Park		Flushing	NY	11368		tf@queensmuse.org	
Queens Public Communications Corp.		Daniel	Leone	41-61 Kissena Boulevard Ste 2077		Flushing	NY	11355		dleone@qptv.org	
Queens Quiet Skies	President	Janet	McEneaney							queensquietskies@aol.com	
Queens Theatre		Taryn	Sacramone	14 United Nations Avenue South	Flushing Meadows Corona Park	Flushing	NY	11368		tsacramone@queenstheatre.org	
Queens Tribune Publications		Michael	Nussbaum	150-50 14th Road		Whitestone	NY	11357		mschenkler@queenstribune.com	
Queens Typewriter Co., Inc.		Joseph	Carbone	422 Graham Avenue		Brooklyn	NY	11211		queenstype@aol.com	
Queens Village Committee For Mental Health		Diane	Gonzalez	231-35 Merrick Boulevard		Laurelton	NY	11413		dgonzalez@lcapprograms.com	
Queensboro Toyota, Inc.		Gilbert	Louzoun	62-10 Northern Blvd.		Woodside	NY	11377		queensboro@earthlink.com	
Queensborough Community College		Diane	Call	222-05 56 Avenue		Bayside	NY	11364		dcall@qcc.cuny.edu	
Queensborough Community College		Denise	Ward	220-05 56 Avenue, Room A-407		Bayside	NY	11364		dward@qcc.cuny.edu	
Quinn Fogarty Funeral Home		Robert	Hogan	162-14 Sanford Avenue		Flushing	NY	11358		robert.hogan@sci-us.com	
Rago Foundations, LLC		Justin	Chernoff	18-15 27 Avenue		Long Island City	NY	11102		justin@ragoshapewear.com	
Raich Ende Malter & Co. LLP		Andrew	Levine	1375 Broadway		New York	NY	10018		ALEVINE@REM-CO.COM	
Raymond Irrera & Associates Architects P.C.		Raymond	Irrera	14 East 38th Street - 11th Floor		New York	NY	10016		rirrera@designria.com	
RCC Billing Solutions, LLC		Pamela	Lewis	169-95 137th Avenue Suite 1		Rochdale Village	NY	11434		RCCUSCORP@hotmail.com	
RCN		Jihan	Mitchell	22-15 43 Avenue 4th Floor		Long Island City	NY	11101		derek.haff@rcn.net	
RCN		Anthony	Ontiveros	22-15 43rd Ave. 4th Fl.		Long Island City	NY	11101		anthony.ontiveros@rcn.net	
RDS Industries, Inc.		Richard	De Castro	43-01 162 Street		Flushing	NY	11358		rdsindustries@worldnet.att.net	
Real Hospitality Group		Natalie	Serse	The Parc Hotel	39-16 College Point Blvd.	Flushing	NY	11354		nserse@rhgcorp.com	
Recon Construction Corp.		Gloria	Kemper	42-12 192nd Street		Flushing	NY	11358		gkemper@reconrebar.com	
Regal Heights Rehabilitation & Health Care Ctr.		Kwang	Lee	70-05 35 Avenue		Jackson Heights	NY	11372		kclee@regalheightsrehab.com	
Regional Alliance for Small Contractors, Inc.		Earle	Walker	625 8th Ave. PABT NW 2nd Floor		New York	NY	10018		ewq071@aol.com	
Register Abstract Co. Inc.		Norman	Horwitz	38-50 Bell Blvd.		Bayside	NY	11361		nhorowitz@titlesny.com	
Related Retail Corporation		Dean	Vanderwarker	60 Columbus Circle		New York	NY	10023		dvanderwarker@related.com	
Renaissance Event Hall		Teresa	Lisson	27-34 21st Street		Long Island City	NY	11102		Teresa@renaissanceeventhall.com	
Resolve It, Inc.		Joshua	Bienstock	85 Choir Lane		Westbury	NY	11590		bienlaw@aol.com	
Resorts World Casino New York		Michelle	Stoddart	110-00 Rockaway Blvd.		Jamaica	NY	11420		Michelle.Stoddart@rwnewyork.com	
Riccardo's By the Bridge		Anthony	Corbisiero	21-01 24 Avenue		Astoria	NY	11102		tonyc1961@aol.com	
Riddell Group LLC		Glenn	Riddell	119 Washington Avenue		Albany	NY	12210		theriddellgroup@gmail.com	
Ridgewood Savings Bank		Laura	Camelo	71-02 Forest Avenue		Ridgewood	NY	11385		lcamelo@ridgewoodbank.com	
Ridgewood Savings Bank		Joseph	Curcio	71-02 Forest Avenue		Ridgewood	NY	11385		jcurcio@ridgewoodbank.com	
Ridgewood Savings Bank		William	McGarry	71-02 Forest Avenue		Ridgewood	NY	11385		pschweickert@ridgewoodbank.com	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Rochdale Dental Care, PLLC		Marlene	Cox	165-44A Baisley Blvd.		Jamaica	NY	11434		rochdaledental@verizon.net	
RoGallery.com		Robert	Rogal	47-15 36 Street		Long Island City	NY	11101		art@rogallery.com	
Romano Paving & Contracting Corp.		Charles	Romano	12-19 31 Drive		Long Island City	NY	11106		romanocont@aol.com	
Roosevelt Building Maint.Co.,Inc.		Kenneth	Koenig	62-07 Woodside Avenue		Woodside	NY	11377		roosevelt.cleaning@verizon.net	
Rosovich & Associates, Inc.		Laura	Rosovich	261-02 Union Turnpike		Floral Park	NY	11004		llr@rosovichassociates.com	
Ross, Legan, Rosenberg, Zelen & Flaks, LLP		Stanley	Legan, Esq.	41-60 Main Street, 210-A		Flushing	NY	11355		silegan@gmail.com	
Royal Waste Services, Inc.		Peter L.	Reali	187-40 Hollis Ave.		Hollis	NY	11423		peter@royalwaste.com	
Runway Tire Service Co. Inc.		Benjamin	Germano	41-15 19 Avenue		Astoria	NY	11105		runwaytire@aol.com	
Runway Tire Service Co. Inc.		Gerard	Thornton	41-15 19 Avenue		Astoria	NY	11105		runwaytire@aol.com	
Russo's On The Bay		Lauren	Taylor	162-45 Crossbay Boulevard		Howard Beach	NY	11414		lauren@russosonthebay.com	
Ryan Consulting Engineers		William	Ryan, P.E.	299 Broadway Ste 1500		New York	NY	10007		wfryan@ryance.com	
Ryan J. Walsh		Ryan	Walsh, Esq	70-50 Austin Street		Forest Hills	NY	11375		rjwesq@gmail.com	
S & L Aerospace Metal, LLC		Ted	Varvatsas	120-12 28th Ave.		Flushing	NY	11354		ted@slaerospace.com	
Samuel Field Ym & Ywha, Inc.		Steven	Goodman	58-20 Little Neck Parkway		Little Neck	NY	11362		drg@sfy.org	
Sandwire		Adam	Schwam	20 Hempstead Turnpike		Farmingdale	NY	11735		adam.schwam@sandwire.com	
Santander		Maria	Gargiulo	1535 Richmond Ave.		Staten Island	NY	10314		mgargiul@santander.us	
School For Language and Communication Dev.		Laura	Abrams	70-24 47th Avenue		Woodside	NY	11377		labrams@slcd.org	
Schumacher & Farley Plumb/Heat		Frederick R.	Dobler	36-52 37 Street		Long Island City	NY	11101		sfph3652@aol.com	
SDS Global Logistics, Inc.		Tony	Racioppo	52-09 31 Place		Long Island City	NY	11101		tonyr@sdsgl.com	
Servpro Ozone Park/Jamaica Bay		Raymond	Wardell	87-17 97th Ave.		OzonePark	NY	11416		servpro10156@gmail.com	
SHAREing & CAREing		Anna	Kril	45-02 Ditmars Blvd, Suite 1015		Astoria	NY	11005		tlc@shareing-careing.com	
Sheraton LaGuardia East Hotel		Karen	Ng, DOS	135-20 39 Avenue		Flushing	NY	11354		hcangelosi@sheratonlaguardia.com	
Sholom & Zuckerbrot Realty LLC		Gail A.	Roseman	35-11 35 Avenue		Long Island City	NY	11106		groseman@s-z.com	
Sholom & Zuckerbrot Realty LLC		Lawrence	Smith	35-11 35 Avenue		Long Island City	NY	11106		lsmith@s-z.com	
Sholom & Zuckerbrot Realty LLC		Sanford	Zuckerbrot	35-11 35 Avenue		Long Island City	NY	11106		szuckerbrot@s-z.com	
Shops at Atlas Park		Peter	DeLucia	7119 80th St	STE 8038	Glendale	NY	11385		peter.delucia@macerich.com	
Signs and Decal Corp		Babu	Khalfan	410 Morgan Ave		Brooklyn	NY	11211		babu@signsanddecal.com	
Silvercup Studios		Gary	Kesner	42-22 22nd Street		Long Island City	NY	11101		gkesner@silvercupstudios.com	
Silvercup Studios		Stuart Match	Suna	42-22 22 Street		Long Island City	NY	11101		sms@silvercupstudios.com	
Silvercup Studios		Alan	Suna	42-22 22 Street		Long Island City	NY	11101		asuna@silvercupstudios.com	
Sinai Chapels		Sy	Resnick	162-05 Horace Harding Expressway		Fresh Meadows	NY	11365		sinai@jewishfunerals.com	
SL Green Realty Corp.		Jeremy	Bier	420 Lexington Ave.		New York	NY	10170		jeremy.bier@slgreen.com	
SL Green Realty Corp.		Marc	Holliday	420 Lexington Ave.		New York	NY	10170		marc.holliday@slgreen.com	
Sole Grano		Harun	Ekici	16-00 Pollitt Drive		Fair Lawn	NJ	7410		harun@solegrano.com	
Southwest Airlines		Jill	Simonson	1461 First Avenue #355		New York	NY	10075		jill.simonson@wnco.com	
Sovereign Bank		Gabriel	Jaramillo	650 Madison Ave. 22nd Floor		New York	NY	10022		gjaramillo@gmail.com	
Special Needs Housing Consultants of NY		Anthony	Gesuale	1015 W Park Ave		Long Beach	NY	11561		info@specialneedshousing.com	
SpringHill Suites by Marriott New York LaGuardia Airport		Allison	Mitchell	112-15 Northern Boulevard		Corona	NY	11368		allison.m.mitchell@marriott.com	
St. John's University		Brian	Browne	8000 Utopia Parkway	Newman Hall Room #155A	Jamaica	NY	11439		browneb@stjohns.edu	
St. John's University		Joseph	Sciame	8000 Utopia Parkway		Queens	NY	11439		sciamej@stjohns.edu	
Staffpro inc.		Jan	Hernstat	431 Beach 20th St.		Far Rockaway	NY	11691		jan@staffproonline.com	
Star Training Center		Yen	Chou	41-70 Main Street	STE b320	Flushing	NY	11355		professorchou@gmail.com	
State Senate District 11	Senator	Tony	Avella	38-50 Bell Boulevard	Suite C	Bayside	NY	11361	718-357-3094	avella@nysenate.gov	
State Senate District 12	Senator	Michael	Gianaris	31-19 Newtown Ave	Suite 402	Astoria	NY	11102	718-728-0960	gianaris@nysenate.gov	
State Senate District 13	Senator	Jose	Peralta	32-37 Junction Boulevard		East Elmhurst	NY	11369	718-205-3881	jperalta@nysenate.gov	
State Senate District 16	Senator	Toby Ann	Stavisky	142-29 37th Ave	Suite 1	Flushing	NY	11354	718-445-0004	stavisky@senate.state.ny.us	
Staten Island Chamber of Commerce		Linda	Baran	130 Bay Street		Staten Island	NY	10301		lbaran@sichamber.com	
Steinway Court Veterinarian		Sara	Glasser	32-41R Steinway Street		Long Island City	NY	11103		saraglasser@verizon.net	
Steinway Family Dental Center		Carrie	Moncrieffe	32-50 Steinway St		Astoria	NY	11103		pr.steinwayfamilydentalcenter@gmail.com	
Steinway Moving & Storage Corp.		James	Benatti	42-45 12 Street		Long Island City	NY	11101		steinwaymover@aol.com	
Stepping Stones Networking		Mark	Krieger	81-16 265 Street		Floral Park	NY	11004		mbkrieger@verizon.net	
Sterling National Bank		Adriana	Forero	500 Seventh Ave.	3rd Floor	New York	NY	10018		aforero@snb.com	
Sterling National Bank		Jorge	LaCourt	30-30 47 Avenue		Long Island City	NY	11101		jlacourt@snb.com	
Steve Madden LTD.		Arvind	Dhana	52-16 Barnett Ave.		Long Island City	NY	11104		kannasagastone@stevemadden.com	
Stillwell Supply Corp.		Robert	Conforti	44-68 Vernon Boulevard		Long Island City	NY	11101		info@stillwell.net	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
Stony Brook State University of New York		Karen	Clemente	W-0550 Melville Library		Stony Brook	NY	11794		karen.clemente@stonybrook.edu	
Storage Deluxe		Todd	Baker	26 W 17th St. Ste 801		New York	NY	10011		tbaker@storagedeluxe.com	
Student Sponsor Partners		Angel	Francis	424 Madison Avenue	STE 1002	New York	NY	10017		afrancis@sspnyc.org	
Sunnyside Chamber of Commerce		Swain	Weiner	P.O. Box 4399		Sunnyside	NY	11104		sunnysidechamberofcommerce@gmail.com	
Sunnyside Community Services		Judy	Zangwill	43-31 39 Street		Sunnyside	NY	11104		jzangwill@scsny.org	
Sunrise Chevrolet		Milan	Suga	105 20 Queens Boulevard		Forest Hills	NY	11375		milan219@aol.com	
Super-Tek Products, Inc.		Harry	Paulison	25-44 Borough Place		Woodside	NY	11377		hpaulison@super-tek.com	
Swim Strong Foundation, Inc.		Shawn	Slevin	30-17 89 Street		East Elmhurst	NY	11369		shawn.slevin@theswimstrongfoundation.org	
Tano Group Architects		Gaetano	Ragusa	1801 Kings Highway		Brooklyn	NY	11229		ragusa@tgarch.com	
TaxAdvocate Group		Salvatore	Candela	75-16 Metropolitan Ave.		Middle Village	NY	11379		scandela@e-taxadvocate.com	
TCE Systems, Inc.		Mary	Vavruska	48-19 25 Avenue		Astoria	NY	11103		tcesystems@bizland.com	
TD Bank N.A.		Richard K.	Dzwlewicz	108-36/50 Queens Blvd.		Forest Hills	NY	11375		richard.dzwlewicz@td.com	
TD Bank, N.A.		Stephen	Martin	108-36 Queens Blvd.		Forest Hills	NY	11375		Stephen.Martin@td.com	
TD Bank, N.A.		Margaret	McGowan	31-04 Ditmars Boulevard		Astoria	NY	11105		margaret.mcgowan@yesbank.com	
TD Bank, N.A.		Peter	Meyer	317 Madison Avenue 42nd & Madison		New York	NY	10017		peter.meyer@td.com	
TD Bank, N.A.		Jack	Rainey	317 Madison Ave.		New York	NY	10017		jack.rainey@yesbank.com	
TD Bank, N.A.		Yvonne	Riley-Tepie	211 Montague Street		Brooklyn	NY	11201		yvonne.riley-tepie@ytd.com	
Ten Ren Tea And Ginseng Co., Inc.		Mark	Lii	135-18 Roosevelt Avenue		Flushing	NY	11354		mtealii@aol.com	
Terrace on the Park				52-11 111 Street	Flushing Meadows Park	Flushing	NY	11368		info@terraceonthepark.com	
Terrace On The Park		Demitri	Kaloidis	52-11 111 Street	Flushing Meadows Park	Flushing	NY	11368		info@terraceonthepark.com	
Terrace On The Park		George	Makkos	52-11 111 Street	Flushing Meadows Park	Flushing	NY	11368		info@terraceonthepark.com	
TGI Office Automation		Vincent	Valenti	120 3rd Street		Brooklyn	NY	11231		vvalenti@tgioa.com	
Thomas Coaching Company		Patricia	Thomas	P. O. Box 690145		East Elmhurst	NY	11369		pcoachpat@aol.com	
Thomson Strategies, LLC.		Terri	Thomson	176-25 Union Turnpike Ste 200		Fresh meadows	NY	11366		terri@thomsonstrategies.com	
Three T's by TMF, LLC		Tereska	Flood	177-36 Troutville Road		Jamaica	NY	11415		terryf35@yahoo.com	
Time Warner Cable of NYC		Cathleen	DeVito	120 E. 23 Street		New York	NY	10010		cathleen.sims@twcable.com	
Times Newsweekly/Ridgewood Times		Maureen	Walthers	PO Box 860299		Ridgewood	NY	11386		info@timesnewsweekly.com	
Touchstone Healthcare Partnerships		Windy	Long	One North Lexington Avenue 12th Floor		White Plains	NY	10601		wlong@touchstoneh.com	
Tourette Syndrome Assn. Inc.		Mark	Levine	42-40 Bell Boulevard		Bayside	NY	11361		mark.levine@tsa-usa.org	
Transitional Services for NY Inc.		Larry	Grubler, Ph.D.	10-16 162 Street		Whitestone	NY	11357		lgrubler@tsiny.org	
Triangle Equities		Lester	Petracca	30-56 Whitestone Expressway		Flushing	NY	11354		Lpetracca@triequities.com	
TriNet		Mark	Green	60 South Service Road	STE 100	Melville	NY	11747		mark.green@trinet.com	
Trinity Tax & Financial Solutions, Inc.		Sushil	Kumar	116-16 Queens Blvd	Suite 245	Forest Hills	NY	11375		sushil@bestcpasolutions.com	
TruFund Financial Services, Inc.		Aisha	Benson	915 Broadway 18 Floor		New York	NY	10010		abenson@seedco.org	
Tully Construction Co. Inc.		Laura E.	Imperiale	127-50 Northern Blvd.		Flushing	NY	11368		laura@tullyconstruction.com	
Tully Construction Co. Inc.		Dan	Scully	127-50 Northern Blvd.		Flushing	NY	11368		danscully@tullyconstruction.com	
Tully Construction Co. Inc.		Peter	Tully	127-50 Northern Boulevard		Flushing	NY	11368		petertully@tullyconstruction.com	
TVC dba Net		Gary	Arkin	1712 Tenth Ave.		Brooklyn	NY	11215		garkin@netnv.net	
TYCO Integrated Security		Alan	Siegel	47-40 21 Street		Long Island City	NY	11101		asiegel@tyco.com	
U.S. Columbarium Co. @ Fresh Pond Crematory		Joseph	Di Troia	P.O. Box 28	61-40 Mt. Olivet Crescent	Middle Village	NY	11379		j.ditrola@verizon.net	
Ultimate Champions Tae Kwon Do Flushing		Chan	Ro	150-15 Northern Blvd		Flushing	NY	11354		masterrho@gmail.com	
Unishippers		Brian	Bailey	75-30 Metropolitan Ave	Suite 102	Middle Village	NY	11379		brian.bailey@unishippers.com	
United Airlines		Monica	Slater Stokes	Newark Liberty International Airport	1 Terminal C	Newark	NJ	7114		kathleen.Agudo@united.com	
United Asset Strategies, Inc.		Lee	De Lorenzo	666 Old Country Road, Suite 104		Garden City	NY	11530		leed@unitedfinancialgroup.com	
United Health Care		Gary	Summers	6 International Drive		White Plains	NY	10601		gsummers@uhc.com	
United Metro Energy Corp		Robert	Leavy	500 Kingsland Avenue		Brooklyn	NY	11222		metroenergy@metroenergy.com	

Email Notification List

Agency	Title	First	Last	Address 1	Address 2	City	State	Zip	Phone	Email	cc
United Print Group Inc.		Bill	Linet	36-36 33rd Street		Long Island City	NY	11106		blinet@unitedpg.com	
UPS Store, The		Jerry	Arty	125-28 Queens Blvd.		Kew Gardens	NY	11415		jerryarty@msn.com	
US Powergen Astoria Generating Company		Liam	Baker	300 Atlantic Street 5th floor		Stamford	CT	6901		lbaker@uspowergen.com	
US Powergen Astoria Generating Company		Thomas	O'Connor	18-01 20 Avenue		Astoria	NY	11105		toconnor@uspowergen.com	
USTA National Tennis Center, Inc.		Daniel	Zausner	Flushing Meadows-Corona Park	123-01 Roosevelt Avenue	Flushing	NY	11368		zausner@usta.com	
Valente Yeast Co., Inc.		Dominic	Valente	61-26 Maurice Avenue		Maspeth	NY	11378		Dominic@ValenteYeast.com	
Valley National Bank		Edward	Barbier	75-20 Astoria Boulevard		Jackson Heights	NY	11370		ebarbier@valleynationalbank.com	
Valley National Bank		Edward	Barbier	75-20 Astoria Boulevard		Jackson Heights	NY	11370		ebarbier@valleynationalbank.com	
Vallo Transportation, Ltd.		Linda	DeSabato	151-17 Sixth Road		Whitestone	NY	11357		vallotrans@aol.com	
VAN UDEN CENTER		ALFONSO	VAN UDEN	9859 CORONA AVE		QUEENS	NY	11368		info@vanudencenter.com	
Variety Boys & Girl Club Of Queens, Inc.		Terence	Hughes	21-12 30 Road		Long Island City	NY	11102		thughes517@earthlink.net	
Vaskro International		Dylys	Koney	224-14 Merrick Blvd, Ste 1		Laurelton	NY	11413		dkoney@vaskro.com	
Vaughn College of Aeronautics and Technology		Sharon	DeVivo	86-01 23 Avenue		East Elmhurst	NY	11369		sharon.devivo@vaughn.edu	
Verizon Communications		Richard	Windram	140 West Street		New York	NY	10007		richard.windram@verizon.com	
Veta Brome Real Estate		Veta	Brome	98-06 Astoria Boulevard		East Elmhurst	NY	11369		VetaBrome@aol.com	
VHB		David	Buttacavoli	Two Penn Plaza		New York	NY	10121		dbuttacavoli@vhb.com	
Visiting Nurse Service of NY		Dominic	Mascara	1250 Broadway	Floor 14	New York	NY	10001		naama.francois@vnsny.org	
Wagner and Kelly Real Estate		MD Aminul	Hoque	60-01 Roosevelt Avenue		Woodside	NY	11377		newyork124@gmail.com	
Waste Management of New York LLC		Rachel	Amar	123 Varick Avenue		Brooklyn	NY	11237		ramar@wm.com	
Waste Management Of New York, LLC		Jim	Van Woert	123 Varick Ave.		Brooklyn	NY	11237		jvanwoer@wm.com	
Watch Guard 24/7 LLC		John	Rafferty	71-16 Myrtle Ave.		Glendale	NY	11385		John@watchguard247.com	
Wave Publishing Co. (The Wave)		Susan	Locke	88-08 Rockaway Beach Boulevard		Rockaway Beach	NY	11693		sbl@rockawave.com	
Wayland Incorporated		Michael	Sheldon	45-35 11 Street		Long Island City	NY	11101		mssheldon@alpind.com	
Webline Designs, Inc.		Neil	Levin	31-00 47 Avenue		Long Island City	NY	11101		neil@webline-designs.com	
Weeks-Lerman Group, LLC		Sidney	Lerman	58-38 Page Place		Maspeth	NY	11378		sid@weekslerman.com	
Werber Management		David	Werber	40-52 75 Street		Elmhurst	NY	11373		dwerber18@aol.com	
West Side Tennis Club		Mauro	Piccininni	1 Tennis Place		Forest Hills	NY	11375		generalmanager@foresthillstennis.com	
Western Queens Gazette		Tony	Barsamian	42-16 34 Avenue		Long Island City	NY	11101		qgazette@aol.com	
WhereItzAt Media Group		Clive	Williams	219-10 South Conduit Avenue		Springfield Gardens	NY	11413		clive@whereitzatlive.com	
White Castle System Inc.		Lisa	Bray	69-01 34th Avenue		Woodside	NY	11377		brayl@whitecastle.com	
White Castle System Inc.		John	Vogt	69-01 34 Avenue		Woodside	NY	11377		vogtj@whitecastle.com	
White, Ricotta & Marks, P.C.		Vincent	White	86-12 37th Ave	Second Floor	Jackson Heights	NY	11372		VWhite@NewYorkStateEmploymentAttorney.com	
William T Chen CPA, LLC		William	Chen	160-19 25th Drive		Flushing	NY	11358		cntn78@hotmail.com	
Winson Surnamer, Inc.		Lawrence	Levinson	44-02 11 Street		Long Island City	NY	11101		winsonsur@aol.com	
Woodside On The Move		Rosa	Reyes	39-42 59 Street 2 Floor Ste.5		Woodside	NY	11377		info@woodsideonthemove.org	
World Financial Group		Esther	Charles	189 Montague St	STE 220	Brooklyn	NY	11201		estherchomes@gmail.com	
WWRL 1600 AM		Adriane	Gaines	333 7 Avenue 14 Floor	14th Flr	New York	NY	10001		adriane@wwrl1600.com	
YMCA of Greater N Y - LIC Branch		Ebony	Conely-Young	32-23 Queens Boulevard		Long Island City	NY	11101		eyoung@ymcanyc.org	
YMCA of Greater New York-Jamaica Branch		Cedric	Dew	89-25 Parsons Boulevard		Jamaica	NY	11432		cdew@ymcanyc.org	
YMCA of Greater NY-Cross Island Branch		Dana	Feinberg	238-10 Hillside Avenue		Bellerose	NY	11426		dfeinberg@ymcanyc.org	
York Scaffold Equipment Corp.		Kenneth	Buettner	37-20 12 Street		Long Island City	NY	11101		kjbuettner@yorkscaffold.com	
Z NYC Hotel		Lisa	Gneo	11-01 43rd Ave.		Long Island City	NY	11101		lisa@zhotelny.com	
Zee N Kay Management		Kunal	Kapoor	18 Angler Lane		Port Washington	NY	11050		zeenkay@gmail.com	
Zodiac Aviation Support, Inc.		Yilma	Kassaye	11 Sunrise Plaza Suite 306		Valley Stream	NY	11580		yilmak@zasusa.com	
		Marsha	Bienenstock	46 Henrietta Ave.		Oceanside	NY	11572		mars2001@aol.com	

Direct Mailing List

Agency	Title	First	Last	Address 1	City	State	Zip
Adv. Allergy & Asthma Assessment & Diagnost. PC		Charles	Shapiro, M.D.	202-28 45th Blvd.	Bayside	NY	11361
Ahern Painting Contractors Inc.		Timothy	Ahern	69-24 49 Ave.	Woodside	NY	11377
American Elevator & Machine Corp.		Mike	Hoover	36-26 31 St.	Long Island City	NY	11106
Amoruso Contracting Co.		Dan	Amoruso	131-36 20 Ave.	College Point	NY	11356
Antun's Queens Village		Joe	King	96-43 Springfield Blvd.	Queens Village	NY	11429
Astoria Sports Complex Inc.		Steve	Poliseno	34-38 38 St.	Astoria	NY	11101
Bayside Building Materials Inc.		Nicholas	Sudano	200-09 47 Ave.	Bayside	NY	11361
Briguglio Consulting Corp.		Frank	Briguglio	241-02 Northern Blvd.	Douglaston	NY	11362
CAP Equipment Leasing Corp.		Frank	Caporaso	18-25 43rd St.	Astoria	NY	11105
Carlin Properties Inc.		Carmine	Savino	161-19 29 Ave, Ste 1	Flushing	NY	11358
Cebco Check Casher Corp.		Charles	Boisselle	369 Palmetto St.	Brooklyn	NY	11237
City Counc., Queens Counc. Dist. 22	Counc. Member	Costa	Constantinides	31-09 Newtown Ave, Ste 209	Astoria	NY	11102
Comfort Inn & Suite		Serena	Kao	60-30 Maurice Ave	Maspeth	NY	11378
Community Board Office United Community Civic Assoc.	Pres.	Rose Marie	Poveromo	22-32 81st St.	Jackson Heights	NY	11370
Community Federal Savings Bank		Anna	Celano	89-07 Jamaica Ave.	Woodhaven	NY	11421
Cool Wind Ventilation Corp.		David	Sullivan	83-12 72nd Dr.	Glendale	NY	11385
Cornell NYC Tech		Meghan	French	111 8th Ave.	New York	NY	10011
De Vito Fuel Oil Co., Inc.		Felix	Devito	70-01 Astoria Blvd.	Jackson Heights	NY	11370
Dignity Memorial Funeral Providers of Queens		Kevin	Mack	1895 Flatbush Ave.	Brooklyn	NY	11210
Dual Purpose Corp.		Mike	Hadjandreas	33-11 Francis Lewis Blvd.	Flushing	NY	11358
Dynasty Meat Corp.		Mike	Siad	46-02 Queens Blvd.	Sunnyside	NY	11104
Edward Jones		Vincent	Renda	47-01 Queens Blvd, Ste 203	Sunnyside	NY	11104
EnterSolar		Paul	Ahern	600 Third Ave, 2nd Fl.	New York	NY	10016
FAA NYADO	Civil Engineer	John	Moretto	600 Old Country Rd, Ste 446	Garden City	NY	11530
FAA/NYADA	Mgr. of NY Airports Dist.	Steven	Urlass	600 Old Country Rd, Ste 446	Garden City	NY	11530
Fed. Congress NY 7th Dist.	Rep.	Nydia	Velazquez	266 Broadway, Ste 201	Brooklyn	NY	11211
Federal Congress Dist. 14	Sen.	Joseph	Crowley	82-11 37th Ave, Ste 402	Queens	NY	11372
Federal Congress Dist. 5	Sen.	Gregory	Meeks	150-01 Jamaica Ave, 2nd Fl.	Jamaica	NY	11432
Federal Congress NY 18th Dist.	Rep.	Sean	Maloney	1529 Longworth House Office Bldg.	Washington	DC	20515
Federal Senate	Sen.	Kirsten	Gillibrand	780 Third Ave, Ste 2601	New York	NY	10017
Federal Senate	Sen.	Charles	Schumer	780 Third Ave, Ste 2301	New York	NY	10017
First Pioneer Properties, Inc.		Suresh	Sani	34-09 Queens Blvd.	Long Island City	NY	11101
Flushing Manor Nursing Home & Rehab. Inc.		Esther	Benenson	35-15 Parsons Blvd.	Flushing	NY	11354

Direct Mailing List

Agency	Title	First	Last	Address 1	City	State	Zip
Georgia Diner		Demitri	Kaloidis	86-55 Queens Blvd	Elmhurst	NY	11373
Governor of NYS	Honorable	Andrew M.	Cuomo	NYS State Capitol Bldg, Washington Ave	Albany	NY	12224
Industrial Tractor Parts Co., Inc.		Mickey	Dana	28-15 14 St.	Long Island City	NY	11102
Jad Corporation of America		Joseph	Dee, Jr.	20-48 119 St.	College Point	NY	11356
Jet Blue Airways		Evan	Jarashow	27-01 Queens Plaza North	Long Island City	NY	11101
JetBlue	Mgr. of Flight Standards Compliance	Joe	DeVito	11829 Queens Blvd.	Forest Hills	NY	11375-7212
John Bretone Plumbing & Heating		John	Bretone	42-01 31 Ave.	Long Island City	NY	11103
Keller Williams Landmark II		Marco	Gomez	32-35 Francis Lewis Blvd	Bayside	NY	11358
King Apartments Co.		Irving	Domnitch	80-15 41 Ave.	Jackson Heights	NY	11373
Larkin Cold Storage Co. Inc.		Joseph	Moskowitz	47-55 27 St.	Long Island City	NY	11101
Lico Contracting Inc.		Mario	Bruno	29-10 20 Ave.	Astoria	NY	11105
Long Island Board of Realtors, Inc.		Joseph	Mottola	300 Sunrise Hwy.	West Babylon	NY	11704
Long Island Concrete		Thomas	Perno	31-31 48th Ave.	Long Island City	NY	11101
Mack Management & Construction Corp.		Paul	Jerkovich	2115 Linwood Ave, Ste 110	Fort Lee	NJ	7024
Maspeth Chamb. of Comm.		Michael	Terry	PO Box 780265	Maspeth	NY	11378
Mayor's Office of Envtl. Coordination	Dir.	Robert	Kulikowski	100 Gold St, 2nd Fl.	New York	NY	10038
Mayor's Office of Long Range Planning & Sustainability	Dir.	Sergej	Mahnovski	253 Broadway, 10th Fl.	New York	NY	10002
Michael Della Vecchia & Son Inc.		Michael	DellaVecchia	77-15 19 Rd.	Jackson Heights	NY	11370
Midway Co. LLC		Murray	Alon	163-06 71 Ave, 1st Fl.	Flushing	NY	11365
MTA Long Island Rail Road		Bob	Brenna	Jamaica Station #1131B	Jamaica	NY	11435
NY Community Bank		Jean	Parnther	615 Merrick Ave.	Westbury	NY	11590
NYC Counc. Dist. 25	Counc. Member	Daniel	Dromm	37-32 75th St.	Jackson Heights	NY	11372
NYC DEP	Comm.	Carter	Strickland	59-17 Junction Blvd, 13th Fl.	Flushing	NY	11373
NYC Dept. of City Planning	Dir.	Carl	Weisbrod	22 Reade St.	New York	NY	10007
NYC Dept. of City Planning		John	Young	120-55 Queens Blvd, Rm 201	Kew Gardens	NY	11424
NYC DOT	Comm.	Polly	Trottenberg	55 Water St, 9th Fl.	New York	NY	10041
NYC EDC	Pres.	Kyle	Kimball	110 William St.	New York	NY	10038

Direct Mailing List

Agency	Title	First	Last	Address 1	City	State	Zip
NYC Landmarks Preservation Comm.	Chairman	Robert	Tierney	1 Centre St, 9th Fl.	New York	NY	10007
NYC Parks & Rec.	Queens Borough Comm.	Dorothy	Lewandowski	Olmsted Center, Flushing Meadows Corona Park	Flushing	NY	11368
NYC Parks & Recreation	Comm.	Mitchell	Silver	The Arsenal at Central Park, 830 5th Ave.	New York	NY	10065
NYS DEC	Comm.	Joe	Martens	625 Broadway	Albany	NY	12233
NYS DEC Reg. 2	Reg. Dir.	Venetia	Lannon	1 Hunter's Point Plaza, 47-40 21st St.	Long Island City	NY	11101
NYS DEC Reg. 2	Reg. Air Engineer	Sam	Lieblich	1 Hunter's Point Plaza, 47-40 21 St.	Long Island City	NY	11101
NYS DOT	Comm.	Joan	McDonald	NYSDOT Main Office, 50 Wolf Rd.	Albany	NY	12232
NYS Office of Parks, Rec. & Historic Preservation	Tech. Asst. & Compliance Unit	Beth	Cumming	Peebles Island State Park, P. O. Box 189	Waterford	NY	12188
NYS Office of Parks, Rec. & Historic Preservation	Tech. Asst. & Compliance Unit	Eric	Kuchar	Peebles Island State Park, P. O. Box 189	Waterford	NY	12188
NYS Parks/Rec. & Historic Preservation	Comm.	Rose	Harvey	NYS Office of Parks, Rec. & Historic Preservation	Albany	NY	12238
Pepsi Cola Bottling Co. of NY		Michael	Buonassisi	117-02 15th Ave.	College Pt.	NY	11356
Petracca & Sons Inc.		Eugene A.	Petracca, Jr. P.E.	18-02 Petracca Pl.	Whitestone	NY	11357
Pilot Products Inc.		Carolyn	Hebel	2413 46 St.	Long Island City	NY	11103
Pistilli Realty Group		Joseph	Pistilli	35-01 30 Ave, 3rd Fl.	Astoria	NY	11103
Ponce De Leon Federal Savings Bank		Erasto	Torres	37-60 82 St.	Jackson Heights	NY	11372
Port Authority of NY & NJ	Deputy Airport General Mgr.	Lysa	Scully	LaGuardia Airport, Hanger 7 Center, 3rd Fl.	Flushing	NY	11371
Queens Center Mall		Jeffrey	Owen	90-15 Queens Blvd.	Elmhurst	NY	11373
Queens Chamb. of Comm.	Chief of Operations	Sophia	Ganosis	75-20 Astoria Blvd, Ste 140	Jackson Heights	NY	11370
Queens Economic Devel. Corp.	Exec. Dir.	Seth	Bornstein	120-55 Queens Blvd, Ste 309	Kew Gardens	NY	11424
Reg. Alliance for Small Contractors	Pres.	Eagle	Walker	625 8th Ave, PABT NW 2nd Fl.	New York	NY	10018
Reno General Construction Corp.		Renos	Georgiou	34-26 200 St.	Bayside	NY	11361
Rubie's Costume Co., Inc.		Marc	Beige	120-08 Jamaica Ave.	Richmond Hill	NY	11418
Shinda Management Corp.		Richard	Bramwell	221-10 Jamaica Ave	Queens Village	NY	11428
Skanska USA Civil Northeast Inc.		Michael	Lembo	75-20 Astoria Blvd.	East Elmhurst	NY	11370
Sovereign Bank		General	Manager	195 Montague St.	Brooklyn	NY	11201
Stan Deutsch Associates, Inc.		Rosemarie	Falussy	31-30 Hunters Point Ave.	Long Island City	NY	11101
United Community Civic Assoc.	Pres.	Rose Marie	Poveromo	22-32 81st St.	Jackson Heights	NY	11370

Direct Mailing List

Agency	Title	First	Last	Address 1	City	State	Zip
Urban Foundation/Engineering, LLC		V. B.	DiGiorgio	32-33 111 St.	East Elmhurst	NY	11369
US Powergen Astoria Generating Co.		Harry	Morrison	18-01 20 Ave.	Astoria	NY	11105
Vice President		Joseph	Biden, Jr.	1 Observatory Cir.	Washington	DC	20500
Victory Pharmacy		Edward	Gutierrez	90-20 Elmhurst Ave.	Jackson Heights	NY	11372
Virtual Healthcare Tours		Anthony	Passeri	2429 26th St, Ste 2	Astoria	NY	11102
Walgreens		Sydnie	Corcoan	1983 Marcus Ave, Ste 200	New Hyde Park	NY	11042
Welsh Bros. Realty Co.		James	Coleman	31-31 48th Ave.	Long Island City	NY	11101
Western Beef		Peter	Castellana, Jr.	47-05 Metropolitan Ave.	Ridgewood	NY	11385
White Coffee Corp.		Carole	White	18-35 Steinway Pl.	Astoria	NY	11105
Whitestone Properties Associates Inc.		Gerard	Tully, Sr.	150-45 Cross Island Pkwy.	Whitestone	NY	11357
York College - CUNY		Marcia	Keizs	94-20 Guy R. Brewer Blvd.	Jamaica	NY	11451
		Franklin	Regan, Jr.	14 Morley Ct.	Albertson	NY	11507

H.3 PUBLIC COMMENTS

Comments on the *LaGuardia Airport Central Terminal Building Redevelopment Program Draft Environmental Assessment and Section 4(f) Evaluation* (April 2014) were accepted during the Public Review and Comment Period from April 9 to May 23, 2014 (45 days). The following organizations and individuals provided comments on the documents:

- New Jersey Coalition Against Aircraft Noise (email dated April 27, 2014)
- Eileen Mosler (email dated April 21, 2014)
- Rob Daniel (email dated May 3, 2014)
- Queens Economic Development Corporation (email dated May 7, 2014)
- Michael Kroposki (email dated May 9, 2014)
- Rob MacKay (Queens Economic Development Corporation) (letter)
- quietskies.net (letter dated May 20, 2014)
- Members of Congress (letter dated May 22, 2014)
- MarketPlace Development (letter dated May 23, 2014)
- City of New York, Mayor's Office of Environmental Coordination (letter dated May 23, 2014)
- General Contractors Association of New York, Inc. (letter dated May 20, 2014)
- Rob Daniel (email dated May 26, 2014)
- Queens Quiet Skies (letter dated May 23, 2014)

As identified in the Public Hearing transcript (Attachment 2 to Appendix H.2), public comments were also heard from the Global Gateway Alliance (Mr. Stephen Sigmund) on May 8, 2014.

All public comments received on the April 2014 Draft EA and Section 4(f) Evaluation are included in this appendix followed by a table with responses. All comments were considered in the preparation of the Final EA.

NJ Coalition Against Aircraft Noise

From: robert belzer [mailto:54pine@msn.com]
Sent: Sunday, April 27, 2014 6:05 AM
To: LGACTBEA
Subject: LGA CTB EA COMMENT

New Jersey Coalition Against Aircraft Noise
P.O. Box 554 Scotch Plains, New Jersey 07076

RE: LGA CTB EA Comment

These comments are made in response to the Central Terminal Building Redevelopment Program at LaGuardia Airport Draft Environmental Assessment and Section 4(f) Evaluation.

1 The Federal Aviation Administration's (FAA's) threshold for an increase of 1.5 decibels in the 65 decibel noise contour to identify significant impacts is way too high. This impact threshold can only be found in the immediate vicinity of an airport—essentially right off of the end of a runway. Health impacts are generated at 55 decibels and higher. We believe that the FAA is well aware of this and sticks to the 65 decibel metric for economic reasons, in our opinion. Please lower the significant impact threshold to 55 decibels.

2 Please justify relying on the 65 decibel noise metric in detailed studies to continue to rely upon this metric when recent studies indicate that adverse health impacts are generate at and above 55 decibels.

Yours truly,

Robert Belzer
President

Eileen Mosler

From: EMosler@rainbowservicesdv.org [mailto:EMosler@rainbowservicesdv.org]
Sent: Monday, April 21, 2014 4:55 PM
To: LGACTBEA
Subject: La Guardia

To whom it may concern:

1 I wanted to express my support for the La Guardia Redevelopment Program. As a frequent traveler to La Guardia, I see the need for a new terminal. The current terminal is cramped, old and uncomfortable. There are always delays in the terminal and never enough seating. It is time the problem is fixed since New York is a travel destination for so many business and tourist travelers.

Thank you,

Eileen Mosler

Eileen Mosler
Development Director

Rainbow Services, Ltd.
562 W. 8th Street
San Pedro, CA 90731

Direct (424) 284-0636
Fax (310)548-0611
Web www.RainbowServicesDV.org

Visit Us on Facebook

1

Daniel

From: Beth and Robert Daniel. [mailto:daniel.b.and.r@outlook.com]
Sent: Saturday, May 03, 2014 3:48 PM
To: LGACTBEA
Subject: LGA CTB EA COMMENT

To whom it may concern,

1 First, I would like to express that it is quite difficult to place an 866 page Environmental Assessment document as the ONLY option to be downloaded for public comment.
http://www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessment.pdf
This should be presented as separate chapters each available for download along with the option to download the primary, complete, file.

2 The main page, should also make clear where, and if there are other locations for the draft copies to be examined.... unless that procedure is only followed for the formal EIS review stage.
http://www.panynj.gov/about/studies-reports.html
It would be helpful - if there are other options - to make them available - and to have another option of downloading - BESIDES 866 pages - available.

Detailed comments to follow.
Thank you.
Rob Daniel, PhD, AICP

QEDC

Queens Economic Development Corporation Statement on the Redevelopment of LaGuardia Airport

Historically, the aviation sector has played a primary role in the Queens economy. By locating New York City's first municipal airport – now known as LaGuardia Airport - in the borough at the then North Beach site in 1937, Queens was destined to become a center for transportation. The development of what is now known as JFK International Airport on the south shore in 1948, solidified the borough's prominence as the entry point for domestic and international travelers arriving in the New York metropolitan region.

LaGuardia Airport was a model urban airport of its time. The landmarked Marine Air Terminal is testimony to the elegant early days of air travel. Over the last eighty years air travel has dramatically changed. Though efforts have been made enlarge, expand and modernize LaGuardia Airport it is clear to anyone – from the casual flyer to industry expert – that if New York City is remain a world class city, it must have a world-class airport that can support the region in every way. For this reason, the Queens Economic Development supports the redevelopment of LaGuardia Airport.

New York City has and will always be a destination for business people and travelers. As such, we need insure that our ports of entry are always state-of –the-art. The upgrading of the Central Terminal is crucial. Travelers demand and expect ease of usage in airline terminals, safe and attractive environments and quality and choice in goods and services. We will not be able to compete on a domestic or international level if the services and facilities at our airline terminals are below current standards, bare-boned and devoid of anything but basic essentials. Currently airports serving cities far smaller than New York City offer better services and facilities. We need to reach – and exceed - their levels.

The local Queens economy is heavily dependent on the aviation sector. Of the 450,000 jobs in Queens it is estimated that over one fifth are in related to the aviation industry – whether on the airports or off airport. It is a safe assumption to that most Queens residents are familiar with a relative, friend or neighbor that works in the aviation industry – be it an executive at an airline, counter representative, baggage handler or off-site hotel employee. It should be noted that the recent explosion in visitor travel to Queens is directly related to having the airports in the borough. In the last ten years we have seen the development of over 80 new hotels – the majority is part of international chains. Many are located nearby the airports. Travelers, especially those from abroad, see the value in staying in Queens as our hotels are almost always less expensive than those in Manhattan. With additional dollars to spend, these same travelers are exploring new neighborhoods in the borough and creating new tourism revenue.

The importance of the aviation industry to the Queens economy was brought home to all when it as noted that after 9/11, Queens was second to Manhattan in economic losses. This was directly

QEDC

attributed to closing of the airports and subsequent decrease in air travel in the months and years following. The aviation sector has grown steadily since the events of 2001. And the economy of Queens has benefited from this growth. But the redevelopment of LaGuardia Airport is necessary to keep on this trajectory.

1 As with any major infrastructure project there will be inconveniences and issues that will impact travelers, residents and local businesses. The QEDC will work with the Port Authority to minimize any negative impacts – especially in the provision of small business assistance. The QEDC also looks forward to promoting new small business opportunities that can positively impact Queens - whether in the hiring of local businesses during construction or new businesses that are sure to be part of the redeveloped terminal. The QEDC has an excellent knowledge of the local community and can be a resource to Port Authority of New York and New Jersey, both during construction and in ongoing operations.

Seth Bornstein

Executive Director

May 7, 2014

From: Seth Bornstein [mailto:sbornstein@queensny.org]
Sent: Wednesday, May 07, 2014 9:09 AM
To: LGACTBEA
Subject: Queens Economic Development Corporation statement on the LAG redevelopment

Attached please find a statement prepared by the Queens Economic Development Corporation in reference to the LaGuardia Airport Central Terminal Building Redevelopment Program.

Please contact me via email or at 718 263 0546 if there are any questions.

Seth Bornstein
Executive Director

Kroposki

From: MICHAEL G KROPOSKI [mailto:mkroposki@sbcglobal.net]
Sent: Friday, May 09, 2014 3:08 PM
To: LGACTBEA
Subject: Central Terminal Building (CTB) Redevelopment Program at LaGuardia Airport

RE: Central Terminal Building (CTB) Redevelopment Program at LaGuardia Airport
Draft Environmental Assessment

Dear Sirs:

The comments below are in response to the draft EA for the above mentioned project. This draft is significantly incomplete as indicated below and requires revision to comply with NEPA.

1

1. The principle premise articulated in the draft EA as the need for the project is that increased passenger traffic will be accommodated by "upgauging" the aircraft fleet at LGA. The terminal gates have to be enlarged to accommodate the larger aircraft. In particular, the 737-900 is cited as the aircraft to be designed for. However the 737-900 and the 767-400, the other upgauge mentioned, both require a take off runway longer than the 7000' LGA presently has. In order for these aircraft to operate at LGA they must take off with load restrictions, either reduced passengers, cargo or fuel. Reduced passenger load will undercut the basic upgauging premise mentioned above. The degree that this occurs must be fully stated in the EA. The only obvious long term solution to the load restrictions is extension of the runways. Operating larger aircraft with load restrictions is also fuel inefficient. NEPA requires a careful assessment of the project's fuel use impacts 40 CFR 1502.16(e)(f). This consideration must be fully stated in a revised EA which is not the case now with the draft EA.

2

2. The INM noise study is based upon obsolete data. The default algorithm in INM for take off weight uses a 65% load factor for estimating aircraft take off weight. While this estimate may have been accurate when it was developed in the early 1970's, the rising cost of fuel has forced airlines to operate aircraft with larger loads. In 1970 the passenger load factor was about 70%, today it has risen to about 84% with many more aircraft departing with 100% passenger loads. Heavier aircraft means more noise is generated by each. INM recognizes that take off weight is highly determinative of the amount of noise generated by a jet aircraft, that is why it adjusts the aircraft weight used in the noise calculation according to the stage length. However the INM stage length assignment now has to be corrected for a reasonable estimation of current aircraft weights. This should be a relatively easy task since all aircraft which depart from an FAA controlled airports must record their actual take off weight in the load manifest which must be kept on record for three months[14 CFR 1211.693 and 121.697]. A survey of the

1

Kroposki

actual take off weights for one or two days would yield an appropriate adjustment factor for take off weight estimation by INM.

For example United flight 1625 , a 737-900, from EWR to DEN on Aug 25,2013 had a full load of passengers and a take off weight of 172,531 lbs. By stage length for the 1605 mile trip INM would estimate the take off weight as 156,700 which is a 4.53% underestimation! This yields an underestimation of noise of about 2dB in the SEL.

2 A recent FAA Uncertainty Quantification for AEDT software which uses essentially the same noise calculation methodology as INM has shown that variability in the take off weight is one of the two largest factors contributing to variations in the DNL determined by the noise study. Since the loudest noise sources predominate in the DNL, underestimation of the take off weight will lead to significant underestimation of the DNL. In order to achieve the Scientific Integrity required by NEPA the aircraft take weights must be determined as accurately as reasonably possible [40 CFR 1502.24].

3. The draft EA at page xv cites noise increases of about 0.5 dB as determined by INM but fails to mention that INM's DNL calculations have only an accuracy of +/- 3 to 5 dB! (see attachment Boston BLANS Protocol at page 1-4, statement of SAE-21 cited with approval by FAA in their response to a comment on confidence Intervals for INM in the Boston Logan Runway 33L RNAV SID EA)

After take off weight and headwind, the level of accuracy for INM is largely determined by NPD curves which are the primary source of noise levels generated by each aircraft. NPN curves have an accuracy of +/- 1.5 dB at 90% Confidence level [2db+ at 95% which is the level commonly used in scientific work](see FAA Noise Certification Guidelines, AC36-4C section A36.5.4.2).

A statement of the limits of INM's accuracy in the present study must be added to the draft EA [40 CFR 1502.22, and in accordance with The Information Quality Act. Public Law 106-554]. The US Department of Transportation's Memorandum directing compliance with the Information Quality Act states:

3

- "The [DOT] Department will communicate scientific and technological findings by including a clear explanation of underlying assumptions, including **accurate contextualization of uncertainties**, and describing the probabilities associated with both optimistic and pessimistic projections" [see http://www.rita.dot.gov/rdt/memo/scientific_integrity_policy.html].

The OMB's **Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies [http://www.whitehouse.gov/omb/fedreg_reproducible]** in accordance with the Information Quality Act. Public Law 106-554 state:

With regard to analysis of risks to human health, safety and the environment maintained or disseminated by the agencies, agencies shall either adopt or adapt the quality principles applied by Congress to risk information used and disseminated pursuant to the Safe Drinking Water Act Amendments of 1996 (42 U.S.C. 300g-1(b)(3)(A) & (B))."

2

3 "**Health, Safety, and Environmental Information**. We note, in the scientific context, that in 1996 the Congress, for health decisions under the Safe Drinking Water Act, adopted a basic standard of quality for the use of science in agency decisionmaking. Under 42 U.S.C. 300g-1(b)(3)(A), an agency is directed, "to the degree that an Agency action is based on science," to use "(i) the best available, peer-reviewed science and supporting studies conducted in accordance with sound and objective scientific practices; and (ii) data collected by accepted methods or best available methods (if the reliability of the method and the nature of the decision justifies use of the data)."

We further note that in the 1996 amendments to the Safe Drinking Water Act, Congress adopted a basic quality standard for the dissemination of public information about risks of adverse health effects. Under 42 U.S.C. 300g-1(b)(3)(B), the agency is directed, "to ensure that the presentation of information [risk] effects is comprehensive, informative, and understandable." The agency is further directed, "in a document made available to the public in support of a regulation **[to] specify, to the extent practicable** - (i) each population addressed by any estimate [of applicable risk effects]; (ii) **the expected risk or central estimate of risk for the specific populations [affected]; (iii) each appropriate upper-bound or lower-bound estimate of risk; (iv) each significant uncertainty identified in the process of the assessment of [risk] effects** and the studies that would assist in resolving the uncertainty; and (v) peer-reviewed studies known to the [agency] that support, are directly relevant to, or fail to support any estimate of [risk] effects and the methodology used to reconcile inconsistencies in the scientific data."

Environmental Assessments (EAs) are required to meet the same standards as Environmental Impact Statements (EISs). Since EISs are disseminated by the EPA in accordance with NEPA, the EA must meet the above stated standards. In particular the EA must state a confidence Interval with a level of significance for the DNL's used in the determination of level of significance of aircraft noise increases in accordance with FAA Order 1050.1E, paragraph 14.3.

Respectfully submitted,
Michael Kroposki Esq.

QEDC

QEDC

Queens Economic
Development Corporation

120-55 Queens Boulevard, Suite 309
Kew Gardens, NY 11424

Tel 718 263 0546
Fax 718 263 0551

www.queensny.org

Hello,

My name is Rob MacKay, and I am the public relations director for the Queens Economic Development Corporation, which strives to create, retain, and attract jobs to the world's most diverse county. In this position, I also spearhead the Queens Tourism Council, which fosters economic opportunities, travel and tourism by organizing promotional efforts with local businesses, cultural institutions and government.

Thus, it is with great pleasure that I support the Central Terminal Building Redevelopment Project at LaGuardia Airport. In every part of the world, airports are main arteries for tourism, bringing domestic and/or international visitors to the region. Queens is fortunate to have two of the most important airports in the country: John F. Kennedy International and LaGuardia. These airports, together with Newark Liberty International, served more than 112 million passengers last year. Nearly 7 million regional visitors flew through LaGuardia alone.

Unfortunately, LaGuardia visitors were greeted by a 50-year-old Central Terminal Building that is outdated, inadequately sized and over capacity.

Luckily, the Port Authority of NY & NJ has developed a plan to replace the terminal, improve the nearby circulation roads, and potentially reduce taxiing delays, all while keeping the airport operational. It is a prudent plan that will produce a state-of-the-art, 1.3 million-square-foot terminal to welcome 4 million additional air passengers to the region without adding additional flights. This new terminal will change the face of LaGuardia and will result in more tourists visiting Queens and the region.

This project should be approved as quickly as possible so that this much needed project can be realized sooner.

Thank you for your consideration.

Rob MacKay

quietskies

quietskies.net
53 Birch Street Port Washington, NY 11050 516 944 3570

5/20/2014

Edward Knoesel, Manager
Environmental and Noise Programs Aviation Department
Port Authority New York New Jersey
233 Park Avenue South
New York, N.Y. 10003

Gentlemen:

The comments below address the Noise Analysis Technical Report (NATR) portion of the "Central Terminal Building Redevelopment Program at LaGuardia Airport; Draft Environmental Assessment and Section 4(f) Evaluation Volume I – Technical Report", dated April 2014.

1

As you may know the FAA has recently posted information regarding new improvements to the New York Airspace[1]. This posting may signal that information on future changes are now available and help make the NATR more relevant for the time frame considered in the NATR.

Please note that the questions and comments below were prepared before the posting was available to us. Hopefully the FAA will make the changes known to the PANYNJ so that the changes can be incorporated into the NATR.

2

1- New procedures/operations/technologies associated with the Airspace Redesign and NextGen have been scheduled from the present to 2016 and beyond. The time period examined in the NATR is from 2012-2013 through 2030.

Some of the new elements will likely include:

- The New York Area Metroplex
- North Gate for LaGuardia Airport
- RNAV Procedures with new RNP requirements
- Continuous Descent Approaches (CDA)

Apparently the new elements were not considered in the NATR because it uses flight tracks and data as they existed in 2012-2013. Why weren't the upcoming changes considered?

Further, the NATR could not possibly have had a full year of TNNIS since the FAA only started testing TNNIS in February 2012 and it wasn't in full use until later in the year. It therefore seems logical that neither the baseline nor future contours included full use of TNNIS. What was the assumed usage of TNNIS in the 2012-2013 and what was the actual usage of TNNIS for 2013?

[1] See http://www.faa.gov/news/updates/?newsId=77344

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2- The 65 DNL noise contours for 2012-2013, 2021 and 2030 show less penetration into Flushing then the contours of 2008. This is strange because TNNIS picked up traffic from reduced use of the Whitestone Climb and use of TNNIS was increased due to usage of the 22's at JFK.

3 The NATR results also appear to be in conflict with the TARGETS analysis for TNNIS. This analysis showed a 1.5 dB increase when going from Whitestone and Flushing climbs to basic TNNIS and another 1.5 dB when going from TNNIS to TNNIS with increased usage. The cumulative impact would be a 3 dB increase and could be expected to cause the tip of the 65 DNL contour to protrude further into Flushing. The NATR baseline for 2012-2013 does not, however, even reach the projection shown in 2008.

Said another way, since TNNIS was not available in 2008 how could the penetration of the 65 DNL contour (in 2012-2013) into Flushing be less than that shown in the 2008 contour? Can the PANYNJ help us understand the apparent discrepancy?

4 3- The NATR often states that the analysis is based on a fixed number of slots. Given that the PANYNJ and aviation lobbyists are promoting the removal of slot controls, does that assumption really seem realistic? [2]

5 4- If, in fact, slot limits are eliminated, will the proposed changes for LaGuardia accommodate the increased flights resulting from an increase in slot limits or will further changes to the airport be required?

6 5- Page 4 of the NATR states that radar data was extracted from the TAMIS system from June 2012, September 2012, December 2012 and March 2013. Why wasn't at least July and August of 2012 included especially since they are two of the busiest months of the year for travel by air.

7 6- We request that PANYNJ add 60 and 55 DNL contours to the noise exposure maps in the draft NATR. The FAA rules for a Part 150 study allow for the addition of other contours. Also please provide all noise results in Excel format with census track information so that we can study noise impacts at locations away from the contour lines.

8 7- A principle premise of the NATR is that increased passenger traffic will be accommodated by "upgauging" the aircraft fleet using LGA. The 737-900 and 767-300, two of the aircraft mentioned to handle the increased traffic, both require runway lengths greater than 7000' when operating at maximum gross weight. It therefore appears that the shorter distances flown from LGA (perimeter restrictions) inherently allow use of reduced fuel load and hence lower takeoff weights. Does the PANYNJ see any possibility that the LGA perimeter rules may be changed?

It is recognized however that larger modern aircraft may operate more efficiently at longer, rather than shorter ranges, and that NEPA requires a careful assessment of a project's fuel use impacts per 40 CFR 1502.16(e)(f). If the aircraft will in fact be

[2] FAA Chided for Extending Flight Limits, Newsday, April 8, 2014.

8 operating less efficiently than then normally expected, the degree that this occurs should be addressed in the NATR.

9 8- It is known that variability in aircraft take off weight is one of the largest factors contributing to variations in DNL values determined by the INM. Since the loudest noise sources predominate in the DNL, underestimation of the take off weight can lead to significant underestimation of the DNL. We therefore note that the default load factor used by the INM is 65% but the NATR projects 77.2% and 75% for 2021 and 2030 respectively. Since load factor can have a significant impact on weight, and weight can have a significant impact on noise, please confirm that the appropriate load factor is used for each aircraft.

Thank you for the opportunity to respond to the Environmental Assessment for the Central Terminal Building Redevelopment Program at LaGuardia Airport,

Sincerely,

Len Schaier, President
quietskies.net

Members of Congress

Congress of the United States
Washington, DC 20515

May 22, 2014

Mr. Edward Knoesel
Manager of Environmental Programs
Port Authority of New York & New Jersey
Aviation Department
225 Park Avenue South, 9th Floor
New York, New York 10003

Dear Mr. Knoesel:

We are writing to express support for the Central Terminal Building Redevelopment Program at LaGuardia Airport (LGA). The plan proactively addresses landside, terminal, and airside deficiencies in order to create a 21st-century airport for Queens and the New York metropolitan area. The economic impact of redevelopment will have a positive impact on jobs and economic activity for the region, and it will improve the travel experience for New Yorkers and visitors.

The current Central Terminal Building opened in 1964 with a design capacity for 8 million annual air passengers. Yet, in 2013, the Central Terminal Building accommodated 13 million passengers. This overcrowding causes congestion at the ticketing, passenger screening and baggage screening areas, as well as limits the size of gate hold areas and availability of post-security concessions. These problems are likely to grow worse in the future. Moderate forecasts indicate the Central Terminal Building may have to accommodate 34 million annual air passengers by 2030. Clearly this exponential growth in travelers coming and going from LGA requires upgrades to the airport's infrastructure.

Given the size of the project, we are pleased to have been informed that the Central Terminal redevelopment will be accomplished without substantial changes to the airfield runways or taxiways, air navigation aids, or aircraft flight procedures to or from the airport. This is because passenger growth at LGA will happen through up-gauging of airplanes that must meet evolving noise standards rather than an expansion of landing/takeoff infrastructure.

We also expect the Port Authority of New York & New Jersey to use the newly established LaGuardia Airport Community Roundtable, which we had previously called for, to address potential issues before they arise, take into account the concerns of the community, and help communicate the progress of the project to the community. We respectfully request that you offer us regular briefings on the status of the different elements of the project in order to make sure that this program stays true to its billing: to meet all required safety, security and other critical operational requirements, and to increase economic activity, regional jobs and annual wages and salaries, all while minimizing impacts on area residents.

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Members of Congress

Lastly, we strongly support fair pay for all work being done on this project, including by prime and subcontractors. The Port Authority has recently taken important steps toward meeting the wage needs of airport workers, and we believe that progress should continue. By paying fair wages, the Port Authority can do its part to ensure these workers develop a respectable quality of life and promote New York's long-term economic success.

We thank you for taking our comments into consideration and look forward to working with you as development continues.

Sincerely,

JOSEPH CROWLEY
Member of Congress

STEVE ISRAEL
Member of Congress

GRACE MENG
Member of Congress

MARKETPLACE DEVELOPMENT

MarketPlace Development, Inc.
One Wells Avenue
Newton, Massachusetts 02459

TEL 617-243-7400
FAX 617-243-7459

www.marketplacedevelopment.com

May 23, 2014

To Whom It May Concern:

MarketPlace Development is a Massachusetts-based development company that is responsible for the concessions programs at LaGuardia Airport's Terminal B, Philadelphia International Airport, Ronald Reagan Washington National Airport, and Washington Dulles International Airport. We have had the privilege of being the private partner of The Port Authority of NY and NJ in the redevelopment and management of the food and retail program at LaGuardia Airport's Terminal B since 1995.

Over the years, we have seen and experienced the benefits that the Port Authority implemented as part of the major redevelopment of the terminal during the 90s and further improvements it has made in the intervening years. MarketPlace and the Port Authority continue to invest as necessary in order to keep the terminal in a condition that can handle the more than 12 million passengers that travel through it each year. But the 60 year old terminal has reached a point at which it is increasingly difficult to provide the outstanding travel experience that passengers deserve, especially in a world class city like New York. The base building infrastructure is long past its useful life and the physical layout is at odds with the best practices of terminal design today. Traffic is often congested due to the convoluted roadway system that is overwhelmed by the sheer volume of vehicles. The terminal is in stress.

The traveling public is demanding more today than ever before. Passengers are more sophisticated today and know what they want, a pleasant terminal that is easy to access. One in which they can accomplish the necessary travel activities – checking in, eating/drinking, shopping, boarding their flight – in a comfortable and welcoming environment. They want to be visually stimulated and entertained. This demand for an outstanding travel experience is being expressed by the traveling public throughout the United States. And it is being expressed here at LaGuardia.

The need for a terminal that can handle more passengers, more efficiently, and with more amenities will only grow. It is time for Terminal B to be replaced with a modern, state-of-the-art terminal that will provide the necessary infrastructure to enable airlines to fly larger, more efficient, and quieter aircraft; create a passenger experience that rivals those at the best airports in the world; generate more jobs; and enhance the economic base of this critically important region.

We strongly support the plans of the Port Authority and Governor Cuomo to erect a new terminal at LaGuardia Airport that will provide the City and State of New York and the traveling public with a premier airport experience of which all can be proud.

Sincerely,

Paul O. McGinn
President

THE CITY OF NEW YORK
OFFICE OF THE MAYOR
NEW YORK, NY 10007

May 23, 2014

The Port Authority of New York & New Jersey
233 Park Avenue South, 9th Floor
New York, NY 10003

Attention: Edward Knoesel

Reference: **Draft Environmental Assessment for the**
LaGuardia Airport Central Terminal Building Redevelopment Project
Queens, NY 11371
Tax Block 926, Lot 1

By electronic mail only

Ladies and Gentlemen:

Thank you for the opportunity to provide comments on the Draft Environmental Assessment ("EA") for the LaGuardia Central Terminal Building Redevelopment Project.

This letter consolidates the various New York City agencies' comments on the Draft EA, which have been consolidated by this office and represents the overall position of New York City ("the City"). General Comments are provided first, followed by comments on specific sections.

General Comments

1 1. As the proposed project will include discretionary City actions, environmental review pursuant to the City Environmental Quality Review (CEQR) procedure is required. Please provide a completed CEQR Environmental Assessment Statement (EAS) Form to the New York City Mayor's Office of the Deputy Mayor for Housing and Economic Development, which will act as the lead agency for this environmental review (please email the document to Esther Brunner for review, ebrunner@cityhall.nyc.gov). The EAS Form will identify which technical areas need to be analyzed under CEQR. For analysis methodologies refer to the 2014 CEQR Technical Manual. Completion of the CEQR analysis, review, and approval process is required before the discretionary City actions will take place.

2. The following paragraph needs to be included wherever relevant in the Final EA to illustrate that the proposed project also includes discretionary City actions:

2

> *We understand that one or more transfers of interest in property either to and/or from the City may occur in connection with the proposed project's roadway network changes planned for the Grand Central Parkway. Such transfers would be discretionary City actions requiring analysis pursuant to the State Environmental Quality Review Act, 6 NYCRR Part 617 and the Rules of Procedure for City Environmental Quality Review.*

3. The Final EA should acknowledge that while the affected portion of the Grand Central Parkway right-of-way is not classified as a 4(f) resource, the PANYNJ will be providing compensation for the use of the right-of-way. Suggested language could include the following:

3

> *Implementation of the project would require the use of approximately 2.1 acres of unpaved Grand Central Parkway right-of-way. To compensate for this encroachment, the PANYNJ is committed to allocating $2.5 million to New York City Department of Parks and Recreation (NYCDPR) for park improvements in the vicinity of the airport.*

4

4. Clarification is needed as to whether the proposed project will result in additional sanitary flow, and whether the existing City infrastructure has the capacity for this additional flow. This should be discussed in the Environmental Consequences section (which currently does not mention sanitary sewers) of the Final EA.

5

5. The stormwater section of the Final EA should include a discussion of the volume and loadings into Flushing Bay, and should mention that all approvals for stormwater will come through New York State, as part of the State Pollutant Discharge Elimination System (SPDES) permit.

6

6. New York City Department of Environmental Protection (NYCDEP) staff met with PANYNJ on February 19, 2014, and went over additional analysis necessary for air quality under CEQR review. The status of that analysis and the anticipated review timeframe should be provided (please email information to Esther Brunner, ebrunner@cityhall.nyc.gov).

Specific Comments

7

7. Draft EA, Section 1, Introduction and Background, pg. 1-1: Provide State Environmental Quality Review Act (SEQRA) Classification of the proposed project; add a paragraph that explains why environmental review will be required under the CEQR framework and discuss discretionary City actions (refer to language provided in Comment #3).

8

8. Draft EA, Section 1.1, LaGuardia Airport and Its Terminals, pg. 1-1, bottom of 2nd paragraph: Provide more details about the generation of 109,000 jobs.

9

9. Draft EA, Section 1.6, Required Land Use/Environmental Permits, pg. 1-13, paragraph after bullet-point list: Include a description of discretionary City actions.

10

10. Draft EA, Section 1.7, Requested Federal Action and Timing, pg. 1-14: A paragraph (potentially a sub-header) should be included here discussing the required CEQR analysis and approximate time line.

11

11. Draft EA, Section 4.2.7, Floodplains, pg. 4-8: Ensure that the latest FEMA Flood Insurance Rate Maps are used (refer to 2014 CEQR Technical Manual, Chapter 18, page 18-2).

12. Draft EA Section 5.9 Hazardous Materials, Pollution Prevention and Solid Waste, pg. 5-39: Using Table 14-1 in Chapter 14 (Solid Waste and Sanitation Services) of the 2014 CEQR Technical Manual, please discuss (by providing supporting data, such as current retail space and concessions versus proposed retail space and concessions) how you arrived at the conclusion that after construction of the proposed action "the quantity and type of solid waste generated [...] would not be appreciably different from the No-Action Alternative." This discussion may, for example, note whether the proposed increase in retail space and concessions at the new Central Terminal Building would be expected to draw members of the general public beyond the flying public.

12

13. Draft EA, Section 5.9.2.2, Operations, pg. 5-42: Please note that the current New York City Solid Waste Management Plan covers a period of 20 years (2006 – 2025), and not 10 years as indicated on page 5-42.

13

14. Draft EA, pages xiii, 4-8, and 5-33: The narrative on these pages indicate that 63 trees located off airport property would be removed. The Final EA should confirm that this reflects the most recent and final calculation of the number of trees under New York City Department of Parks and Recreation (NYCDPR) jurisdiction that are proposed to be removed.

14

15. It is also suggested that the discussion of the Grand Central Parkway 4(f) status be clarified as indicated below (inserts shown in underline, deletions with ~~strikethrough~~):

    - Draft EA, Section 4.2.5 DOT Act, Section 4(f) Resources, Footnote on Page 4-7: The unpaved portion of the Grand Central Parkway right-of-way along the southern boundary of the airport is under the jurisdiction of the New York City Department of Parks and Recreation (NYCDPR); however, it is not designated nor intended for public ~~use,~~ access, or recreation. The City of New York has reviewed ~~its records and~~ the Proposed Action and has determined that the affected area was originally acquired for "park and parkway purposes," which is ~~not~~ distinct from a designation of the area as parkland. The access improvements to and from the Parkway are a legislatively authorized use of the land ~~and does not constitute park alienation under State law.~~ See Section 5.5.2 for additional discussion.

    - Draft EA, Section 5.5.2 Identification of Section 4(f) Resources, Page 5-27: LaGuardia Airport is located immediately adjacent to the Grand Central Parkway, which consists of travel lanes as well as grassy medians and landscaped sections. Due to the proposed roadway improvements, the project limits for the Proposed Action extend south of the Airport property line to encompass an unpaved portion of the Parkway right-of-way. While the unpaved embankment adjacent to the Grand Central Parkway is under the jurisdiction of NYCDPR, it is not designed nor intended for public ~~use,~~ access, ~~or~~ recreation; rather ~~and only~~ it provides a visual amenity to automobile drivers as they pass by.

      NYCDPR has reviewed ~~its records and~~ the Proposed Action and has determined that the affected portion of the Grand Central Parkway right-of-way was originally acquired with legislative direction for "park and parkway purposes," which is ~~not~~ distinct from a designation of the area as parkland. The access improvements to and from the Parkway are a legislatively-authorized use of the land ~~and, therefore, does not constitute park alienation under State law~~. On October 8, 2013, staff from PANYNJ met with representatives of multiple City agencies. All attendees came to an understanding that

15

there would be impacts to the Grand Central Parkway embankment area as a result of the Proposed Action. It was also acknowledged that the embankment area is not designated a public park or recreation area of local significance and does not qualify for protection under Section 4(f) of the DOT Act (23 CFR Part 774).

15 The Proposed Action was specifically designed to limit new construction in a manner that minimizes the amount of Parkway right-of-way to be taken for the roadway improvements. Because the Proposed Action would result in the loss of approximately 63 trees in the Parkway right-of-way, and acknowledging and respecting NYCDPR's jurisdiction over the property, PANYNJ ~~will~~ commits to provide restitution for the loss of those trees in the project area pursuant to Chapter 5 of Title 56 of the Rules of the City of New York (NYCDPR Rules) and Local Law 3 of 2010. ~~To be consistent with the intent of the Parkway corridor, a~~ A landscape plan to enhance remaining and reclaimed landscape will be developed in coordination with the NYCDPR. No removal of trees would occur without obtaining required NYCDPR Construction and Forestry permits.

16 16. Draft EA, Section 5.10.1 Architecture: Figure 5-7 should show the New York City Landmarks Preservation Commission (NYCLPC) eligible resource Malcolm X House.

17 17. Include the attached NYCLPC Environmental Review Letter (dated 05/20/2014) and Archaeology Comment Letter (dated 04/28/2014) in the Appendix of the Final EA.

18 18. Draft EA, Section 3.2, No-Build/No-Action Alterative, pg. 3-15, in connection to first bullet point under "It is not acceptable to allow the existing CTB to constrain forecast passenger demand for two reasons": Section 28 of the lease could also be noted in which the PANYNJ is tasked with ensuring that LGA and JFK operate as first class airports.

19 19. Draft EA, Section 5.9.2.1, Construction, pg. 5-42, regarding construction debris from receiving landfills: It is not clear where the issue of transport of this construction debris has been discussed. In the briefing that the New York City Economic Development Corporation (NYCEDC) had about the project, the concept of barging some of this waste from the dock near the Marine Air Terminal was discussed. Is this still a possibility? If so it should it be mentioned in the Final EA.

20 20. Draft EA, Section 5.15 Socioeconomic Impacts, Environmental Justice and Children's Environmental Health and Safety Risks, Relocation of Residences or Businesses in the Community, pg. 5-70: This language should be reviewed in order to confirm that it accurately describes the jurisdictional situation.

21 21. Draft EA, Section 5.20.2 Traffic and Transportation, Operations Traffic Analysis, pg. 5-96, third paragraph from the bottom (starting with "In addition, between 2012 and 2030, it is expected that..."): Is the total growth until 2030 5.91 percent or is the annual growth each year that amount? Please clarify.

22 22. New York City Department of Transportation (NYCDOT) Comments: A NYCDOT Comment Letter dated 05/09/2014 and accompanying signal time information for Astoria Boulevard from the NYCDOT Bureau of Traffic Operations were provided to Ed Knoesel, PANYNJ, via email on 05/15/2014. For consistency purposes, these two documents are also attached to this comment letter.

MOEC

If you have any questions or concerns in regard to this comment letter and/or would like to start consultation in connection to the required CEQR analysis, please contact Esther Brunner at 212-788-2641 or by email at ebrunner@cityhall.nyc.gov.

Again, thank you for the opportunity to comment.

Sincerely,

Chris Reo
Interim Director
Mayor's Office of Environmental Coordination

THE GENERAL CONTRACTORS ASSOCIATION OF NEW YORK, INC.
60 East 42nd Street • New York, NY 10165 • Tel: (212) 687-3131 • Fax: (212) 808-5267 • Website: www.gcany.com

May 20, 2014

Mr. Ed Knoesel
Aviation Department
Port Authority of New York & New Jersey
225 Park Ave South, 9th Fl
NY, NY. 10003

I write on behalf of The General Contractors Association (GCA) of NY in support of the Port Authority of NY & NJ's plan to redevelop the Central Terminal Building (CTB) at LaGuardia Airport. For over 100 years, the GCA has been a strong advocate for its 225 member contractors who have built the very foundations of New York's transportation and utility infrastructure. We are dedicated to promoting infrastructure investment, private development, fair contract provisions, enhanced bidding opportunities and a safe work environment. The CTB project, an excellent example of a Public-Private Partnership, embodies all of these ideals.

LaGuardia Airport is a key node in the regional and national transportation infrastructure. Last year alone more than 26 million passengers flew through LaGuardia. Unfortunately, half were greeted by the 50-year old CTB built for another era. Given the limitations of the existing terminal and FAA-imposed operational limitations, the airport will literally turn away four million passengers annually only four years from now. When you consider that for every 1 million passengers served at the New York area airports approximately 4,000 jobs are created, we stand to lose 4 million jobs in the region.

The Port Authority has found a prudent way to accommodate these passengers without increasing the number of operations – by developing a plan to replace the CTB with a new terminal providing gates and facilities that can accommodate larger planes. A new, sustainable 1.3 million square foot CTB with state-of-the-art amenities will serve the forecasted demand. The project will generate $4.2 billion in economic activity over its 8-year construction period and create 6,270 direct and 14,850 indirect job-years.

The Port Authority has patiently and prudently analyzed how to fix LaGuardia's problem and the GCA supports its preferred solution - replacement of the CTB. It is a project that has been needed for years, and might have even been delivered by now if the Port Authority, had had the ability to impose a higher Passenger Facility Charge (PFC).

I appreciate the opportunity to comment and urge the FAA to issue a Finding of No Significant Impact so this much needed project can commence as soon as possible.

Sincerely,

Denise M Richardson

Denise M. Richardson
Managing Director

Daniel

From: Beth and Robert Daniel. [mailto:daniel.b.and.r@outlook.com]
Sent: Monday, May 26, 2014 5:37 PM
To: LGACTBEA
Cc: rlynch@tstc.org; kathi@tstc.org
Subject: LGA CTB EA COMMENT

To whom it may concern,

The new terminal should include the provision of an enhanced mass transit link. To entirely dismiss the subject of mass transportation through a brief discussion in subsection A.4 on the 326th page of 865 page draft environmental impact statement does not do justice to the importance of this issue.

3 To cite: "*LaGuardia Airport is not directly accessible via subway, and no modifications to subway service are proposed under the Action condition. Therefore, detailed subway analyses are not warranted for the Proposed Action.*"

The magnitude and scope of the expansion of the CTB warrant the examination of the extension of the subway to the airport or some sort of mass transportation alternative.

Thank you.

Robert S. Daniel, PhD, AICP

Queens Quiet Skies

QUEENS QUIET SKIES
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BAYSIDE, NEW YORK 11360
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5/23/2014

Edward Knoesel, Senior Manager
Environmental and Noise Programs
Port Authority New York New Jersey
Aviation Department
225 Park Avenue South (19th Street), 9th Floor
New York, N.Y. 10003
Email to: LGACTBEA@panynj.gov
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Subject: Response to LGA CTB EA

By this letter, we are responding to the Environmental Assessment (EA) prepared by the Port Authority of New York and New Jersey for the Central Terminal Building Redevelopment Program at LaGuardia Airport.

1 We agree that the condition and efficiency of the existing central terminal building are greatly in need of improvement. On the whole, we are satisfied with the Port Authority's plans to bring LGA facilities to a level that answers the needs of airline passengers in the 21st century. However, the project should not proceed without certain amendments and additions to the EA and its supporting technical information.

1. **Slot controls.**

2 EA descriptions of the Port Authority's intentions about slot controls do not match what the Port Authority has stated recently in the media. On page 5-63 the EA states:

> As previously discussed, slot controls are in place to help the FAA manage congestion at LaGuardia Airport by limiting the number of takeoffs and landings that may occur per hour. Instead of adding flights, forecast passenger demand would be accommodated through the use of larger aircraft with increased passenger loads ("upgauging").

However, the Port Authority was quoted last month in major metropolitan newspapers as supporting the removal of FAA flight caps at LGA. These public statements are inconsistent with the statement in the EA that the agency expects the number of slots at LGA to remain the same. We would like the PA to resolve this inconsistency.

2. **Passenger projections.**

3 Projections in the EA for increased numbers of aviation passengers appear to be understated. The EA shows a projected increase of LaGuardia passengers from 23.6 million annual passengers in 2010 to 34 MAP in 2030, a compound growth rate of 1.8% per year. However, the Federal Aviation Administration predicts system -wide growth after 2014 of 2.7% per year and Boeing Aircraft predicts system-wide growth of 5% per year. The differences in

3 projected increases using the three different forecasts are substantial. These discrepancies ought to be addressed in the EA with additional supporting data.

3. **Best-In-Class Noise Monitoring and Noise Contours.**

The Port Authority should adopt more effective methods to prepare and monitor Noise Exposure Maps. Many U.S. airports use techniques that we will call "Best-In-Class" to monitor the impact of noise on local communities. None of the following are found in the EA:

4
- Incorporating real time noise monitor data in noise contours.
- Real time noise contours reported more than just once a year. Existing data would allow monthly and even daily reporting of noise contours.
- Matching public complaints to noise monitor and noise contour data. It is possible to match noise complaints to noise monitor locations and noise contours.
- Extending the study area of noise impacts out to 60 DNL or 55 DNL. The Port Authority has already prepared noise contours to 60 DNL, as is done by many airports throughout the country. European countries have adopted 55 DNL contours and some U.S. airports plan to this level of detail.

These methods should be included in the EA for the Central Terminal Building Redevelopment Plan.

4. **The relationship between CTB EA assumptions for LGA and regional airports.**

5 La Guardia Airport depends on passenger traffic from regional airports. Many of them struggle because of decreased traffic demand caused by local economic conditions. If, as outlined in the EA, slots remain limited and the number of passengers increases because of larger aircraft, then the impact of larger aircraft on regional airports must be addressed before the assumptions made in the EA can be taken seriously. Regional airports throughout the country would have to invest in runway extensions, runway strengthening, and other airfield improvements, as well as terminal building improvements. Is this a realistic expectation? It is not addressed in the document.

Thank you for the opportunity to present this response.

Sincerely, Queens Quiet Skies

Submitted by:

Janet McEneaney, President Robert Whitehair, Vice President

COMMENT #	COMMENT	RESPONSE
PUBLIC COMMENT PERIOD (APRIL 9 - MAY 23, 2014)		
NJ Coalition Against Aircraft Noise (email 04/27/14) 1	The Federal Aviation Administration's (FAA's) threshold for an increase of 1.5 decibels in the 65 decibel noise contour to identify significant impacts is way too high. This impact threshold can only be found in the immediate vicinity of an airport—essentially right off of the end of a runway. Health impacts are generated at 55 decibels and higher. We believe that the FAA is well aware of this and sticks to the 65 decibel metric for economic reasons, in our opinion. Please lower the significant impact threshold to 55 decibels.	In order for the EA to be approved, the noise analysis must be conducted in accordance with FAA's standard process for evaluating aircraft noise impacts. As an airport operator, the PANYNJ has no discretion over the FAA's significance threshold for aircraft noise. 65 DNL is the required threshold for NEPA studies according to FAA Order 1050.1E, Appendix A, *Noise*.
NJ Coalition Against Aircraft Noise 2	Please justify relying on the 65 decibel noise metric in detailed studies to continue to rely upon this metric when recent studies indicate that adverse health impacts are generate at and above 55 decibels.	As discussed in the Draft EA documents, the evaluation of noise impacts is based on Title 14, CFR Part 150 land use compatibility guidelines established by the FAA in consultation with the U.S. EPA. There is no justification to deviate from the current Federal guidelines.
Eileen Mosler (email 04/21/14) 1	I wanted to express my support for the La Guardia Redevelopment Program. As a frequent traveler to La Guardia, I see the need for a new terminal. The current terminal is cramped, old and uncomfortable. There are always delays in the terminal and never enough seating. It is time the problem is fixed since New York is a travel destination for so many business and tourist travelers.	Comment noted.
Rob Daniel (email 05/03/14) 1	First, I would like to express that it is quite difficult to place an 866 page Environmental Assessment document as the ONLY option to be downloaded for public comment. http://www.panynj.gov/about/pdf/lga-ctb-redevelopment-environmental-assessment.pdf This should be presented as separate chapters each available for download along with the option to download the primary, complete, file.	PANYNJ has taken steps to reduce the file size of the CTB EA on our website and will provide a separate file of each chapter as suggested.

COMMENT #	COMMENT	RESPONSE
Daniel 2	The main page, should also make clear where, and if there are other locations for the draft copies to be examined.... unless that procedure is only followed for the formal EIS review stage. http://www.panynj.gov/about/studies-reports.html It would be helpful – if there are other options – to make them available – and to have another option of downloading – BESIDES 866 pages – available.	PANYNJ tries to make it as easy as possible for all interested stakeholders to access documents for comment. The Notice of Availability published in local newspapers and the Executive Summary of the Draft EA (page xvii) identified PANYNJ offices and library addresses where a printed copy of the Draft EA could be viewed in its entirety. In addition, the cited website included an email address to be used for any questions or concerns.
Queens Economic Development Corporation (QEDC) (email 05/07/14)	Support letter from Seth Bornstein, Executive Director.	Comments noted.
QEDC 1	As with any major infrastructure project there will be inconveniences and issues that will impact travelers, residents and local businesses. The QEDC will work with the Port Authority to minimize any negative impacts – especially in the provision of small business assistance. The QEDC also looks forward to promoting new small business opportunities that can positively impact Queens - whether in the hiring of local businesses during construction or new businesses that are sure to be part of the redeveloped terminal. The QEDC has an excellent knowledge of the local community and can be a resource to Port Authority of New York and New Jersey, both during construction and in ongoing operations.	General contractors are encouraged to divide projects into smaller portions to facilitate the formation of joint ventures, partnerships or similar arrangements among subcontractors in order to increase the likelihood of achieving established goals, which, in turn, enhances opportunities for small business enterprises. In addition, there are good faith minority and women business enterprise goals (12% and 5%, respectively) for the project.

COMMENT #	COMMENT	RESPONSE
Michael Kroposki (email 05/09/14) 1	The principle premise articulated in the draft EA as the need for the project is that increased passenger traffic will be accommodated by "upgauging" the aircraft fleet at LGA. The terminal gates have to be enlarged to accommodate the larger aircraft. In particular, the 737-900 is cited as the aircraft to be designed for. However the 737-900 and the 767-400, the other upgauge mentioned, both require a take off runway longer than the 7000' LGA presently has. In order for these aircraft to operate at LGA they must take off with load restrictions, either reduced passengers, cargo or fuel. Reduced passenger load will undercut the basic upgauging premise mentioned above. The degree that this occurs must be fully stated in the EA. The only obvious long term solution to the load restrictions is extension of the runways. Operating larger aircraft with load restrictions is also fuel inefficient. NEPA requires a careful assessment of the project's fuel use impacts 40 CFR 1502.16(e)(f). This consideration must be fully stated in a revised EA which is not the case now with the draft EA.	There is no plan or proposal to extend the runways at LaGuardia Airport. The types of aircraft used for the analysis of future conditions are capable of operating safely on the existing 7,000 foot runways, albeit with less than maximum payloads. The airlines are aware of the CTB Redevelopment Program and they participated in the preparation of the forecasts. Their input on future fleets assumed the existing runway lengths. It is not appropriate to presume how an airline would balance the passenger, cargo, fuel calculation for the airports they are serving. The commentator assumes a reduction in passengers is the answer when it could be cargo or fuel or a combination of all three. PANYNJ does not agree that "operating larger aircraft with load restrictions is [also] fuel inefficient." Instead, it is inefficient to carry more fuel than is necessary to safely complete each flight segment (the extra weight decreases performance and increases the amount of fuel needed to complete the flight). The Draft EA discusses aircraft fuel consumption in Section 5.12.2. Impacts are normally not significant unless there would be a significant increase in demand or resources are in short supply. Jet fuel consumption levels were extracted from the FAA's Emissions Dispersion Modeling System (EDMS) used to prepare the air quality analysis. For the 2030 forecast year, 121,110 tons of jet fuel would be consumed under the Proposed Action, while 125,666 tons of jet fuel would be consumed under the No-Action Alternative. The results indicate jet fuel consumption would be reduced by 3 to 4 percent (-4,556 tons) under the Proposed Action. These results support the statement in the Draft EA that jet fuel consumption would not be appreciably different with or without the proposed project; and because jet fuel is not in short supply, no significant impacts are anticipated.

COMMENT #	COMMENT	RESPONSE
Kroposki 2	The INM noise study is based upon obsolete data. The default algorithm in INM for take off weight uses a 65% load factor for estimating aircraft take off weight. While this estimate may have been accurate when it was developed in the early 1970's, the rising cost of fuel has forced airlines to operate aircraft with larger loads. In 1970 the passenger load factor was about 70%, today it has risen to about 84% with many more aircraft departing with 100% passenger loads. Heavier aircraft means more noise is generated by each. INM recognizes that take off weight is highly determinative of the amount of noise generated by a jet aircraft, that is why it adjusts the aircraft weight used in the noise calculation according to the stage length. However the INM stage length assignment now has to be corrected for a reasonable estimation of current aircraft weights. This should be a relatively easy task since all aircraft which depart from an FAA controlled airports must record their actual take off weight in the load manifest which must be kept on record for three months [14CFR 1211.693 and 121.697]. A survey of the actual take off weights for one or two days would yield an appropriate adjustment factor for take off weight estimation by INM. For example United flight 1625, a 737-900, from EWR to DEN on Aug 25, 2013 had a full load of passengers and a take off weight of 172,531 lbs. By stage length for the 1605 mile trip INM would estimate the take off weight as 156,700 which is a 4.53% underestimation! This yields an underestimation of noise of about 2dB in the SEL. A recent FAA Uncertainty Quantification for AEDT software which uses essentially the same noise calculation methodology as INM has shown that variability in the take off weight is one of the two largest factors contributing to variations in the DNL determined by the noise study. Since the loudest noise sources predominate in the DNL, underestimation of the take off weight will lead to significant underestimation of the DNL. In order to achieve the Scientific Integrity required by NEPA the aircraft take weights must be determined as accurately as reasonably possible [40 CFR 1502.24].	First, the FAA requires the use of the INM for NEPA documents. Second, LGA has historically had a lower load factor than the national average and the other PANYNJ airports. Even under the projected 34 MAP forecast the design day load factor is assumed to be 77% and the annual load factor is only assumed to be 75%. Third, the average weight calculation includes more than passenger load factor. It also includes the weight of the aircraft, cargo, and fuel. Noise calculations are sensitive to many noise modeling input variables. It is not technically sound to look at one variable, e.g., takeoff weight, in isolation. The commenter has not provided a source for the sample of recent actual departure and the relationship with the stated 1-2 dB noise levels. The commenter's assumption that calculated DNLs are significantly underestimated is not accurate and appears to be based on the assumption that the passenger load factor is the prevailing variable in the noise model. Noise calculations are sensitive to many noise modeling input variables. For example, the noise model uses a conservative value of 100% thrust for departure procedures, although airlines typically do not use 100% power in takeoff. Thrust reduction at takeoff varies. Therefore, the 100% thrust assumption will result in higher noise calculations than may occur for particular departures. The goal of the noise analysis is to capture the average-annual conditions at the airport.
Kroposki 3	The draft EA at page xv cites noise increases of about 0.5 dB as determined by INM but fails to mention that INM's DNL calculations have only an accuracy of +/- 3 to 5 dB! (see attachment Boston BLANS Protocol at page 1-4, statement of SAE-21 cited with approval by FAA in their response to a comment on confidence Intervals for INM in the Boston Logan Runway 33L RNAV SID EA)	There is no official statement regarding the accuracy of the Integrated Noise Model. The commenter references an SAE-21 cited comment from a draft document prepared for another airport by a consultant. The FAA did not author or publish the report. The reference cited

COMMENT #	COMMENT	RESPONSE
Kroposki 3 (continued)	After take off weight and headwind, the level of accuracy for INM is largely determined by NPD curves which are the primary source of noise levels generated by each aircraft. NPN curves have an accuracy of +/- 1.5 dB at 90% Confidence level [2db+ at 95% which is the level commonly used in scientific work](see FAA Noise Certification Guidelines, AC36-4C section A36.5.4.2). A statement of the limits of INM's accuracy in the present study must be added to the draft EA [40 CFR 1502.22, and in accordance with The Information Quality Act. Public Law 106-554]. The US Department of Transportation's Memorandum directing compliance with the Information Quality Act states: "The [DOT] Department will communicate scientific and technological findings by including a clear explanation of underlying assumptions, including **accurate contextualization of uncertainties**, and describing the probabilities associated with both optimistic and pessimistic projections" [see http://www.rita.dot.gov/rdt/memo/scientific_integrity_policy.html]. The OMB's **Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies [http://www.whitehouse.gov/omb/fedreg_reproducible]** in accordance with the Information Quality Act. Public Law 106-554 state: "With regard to analysis of risks to human health, safety and the environment maintained or disseminated by the agencies, agencies shall either adopt or adapt the quality principles applied by Congress to risk information used and disseminated pursuant to the Safe Drinking Water Act Amendments of 1996 (42 U.S.C. 300g-1(b)(3)(A) & (B))." **"Health, Safety, and Environmental Information**. We note, in the scientific context, that in 1996 the Congress, for health decisions under the Safe Drinking Water Act, adopted a basic standard of quality for the use of science in agency decisionmaking. Under 42 U.S.C. 300g-1(b)(3)(A), an agency is directed, "to the degree that an Agency action is based on science," to use "(i) the best available, peer-reviewed science and supporting studies conducted in accordance with sound and objective scientific practices; and (ii) data collected by accepted methods or best available methods (if the reliability of the method and the nature of the decision justifies use of the data)." We further note that in the 1996 amendments to the Safe Drinking Water	in the draft document refers to the SAE's comments regarding the difference between analytical models and measured noise levels. While SEA-21 methodologies are incorporated into the Integrated Noise Model, in no place does it state the accuracy of the Integrated Noise Model. It does however go on to say that the expected differences between modeled and measured noise levels may not be significant and that, "Neither estimate can be presumed to be the absolute: each has errors in the estimate it represents." Therefore, while neither a model nor a measurement are without potential errors, the fact remains that the Integrated Noise Model remains the best and required tool for predicting aircraft noise levels.

COMMENT #	COMMENT	RESPONSE
Kroposki 3 (continued)	Act, Congress adopted a basic quality standard for the dissemination of public information about risks of adverse health effects. Under 42 U.S.C. 300g-1(b)(3)(B), the agency is directed, "to ensure that the presentation of information [risk] effects is comprehensive, informative, and understandable." The agency is further directed, "in a document made available to the public in support of a regulation **[to] specify, to the extent practicable** - (i) each population addressed by any estimate [of applicable risk effects]; (ii) **the expected risk or central estimate of risk for the specific populations [affected]; (iii) each appropriate upper-bound or lower-bound estimate of risk; (iv) each significant uncertainty identified in the process of the assessment of [risk] effects** and the studies that would assist in resolving the uncertainty; and (v) peer-reviewed studies known to the [agency] that support, are directly relevant to, or fail to support any estimate of [risk] effects and the methodology used to reconcile inconsistencies in the scientific data." Environmental Assessments (EAs) are required to meet the same standards as Environmental Impact Statements (EISs). Since EISs are disseminated by the EPA in accordance with NEPA, the EA must meet the above stated standards. In particular the EA must state a confidence Interval with a level of significance for the DNL's used in the determination of level of significance of aircraft noise increases in accordance with FAA Order 1050.1E, paragraph 14.3.	
QEDC (letter from Rob MacKay)	Support letter from Rob MacKay, Public Relations Director.	Comments noted.

COMMENT #	COMMENT	RESPONSE
quietskies.net (letter 05/20/14) 1	The comments below address the Noise Analysis Technical Report (NATR) portion of the "Central Terminal Building Redevelopment Program at LaGuardia Airport; Draft Environmental Assessment and Section 4(f) Evaluation Volume I – Technical Report", dated April 2014. As you may know the FAA has recently posted information regarding new improvements to the New York Airspace[1]. This posting may signal that information on future changes are now available and help make the NATR more relevant for the time frame considered in the NATR. Please note that the questions and comments below were prepared before the posting was available to us. Hopefully the FAA will make the changes known to the PANYNJ so that the changes can be incorporated into the NATR. 1. See http://www.faa.gov/news/updates/?newsId=77344	No changes have been made to the Noise Technical Report (see response below).
quietskies 2	1- New procedures/operations/technologies associated with the Airspace Redesign and NextGen have been scheduled from the present to 2016 and beyond. The time period examined in the NATR is from 2012-2013 through 2030. Some of the new elements will likely include: • The New York Area Metroplex • North Gate for LaGuardia Airport • RNAV Procedures with new RNP requirements • Continuous Descent Approaches (CDA) Apparently the new elements were not considered in the NATR because it uses flight tracks and data as they existed in 2012-2013. Why weren't the upcoming changes considered? Further, the NATR could not possibly have had a full year of TNNIS since the FAA only started testing TNNIS in February 2012 and it wasn't in full use until later in the year. It therefore seems logical that neither the baseline nor future contours included full use of TNNIS. What was the assumed usage of TNNIS in the 2012-2013 and what was the actual usage of TNNIS for 2013?	The noise analysis includes all reasonably foreseeable operations. PANYNJ cannot include upcoming changes that they have no information on regarding time of implementation, aircraft that will use new elements, etc. The noise modeling study for this project started in the early summer of 2013. At that time, the latest available data including TNNIS procedure was from April 2012 and March 2013. FAA conducted testing on TNNIS departure procedure from February 13, 2012 until August 10, 2012. The TNNIS procedure was made permanent on September 20, 2012. The contour for the 2012/2013 condition is accurately reflecting what actually occurred during those time periods (roughly 30% utilization of the TNNIS corridor). For the twc future years (2021 and 2030), the model used the same utilization of essentially the TNNIS corridor as in the baseline condition. There was no reason or information from FAA that indicated how

COMMENT #	COMMENT	RESPONSE
quietskies 2 (continued)		much TNNIS procedure will be utilized during future conditions. Selection of procedures falls solely under FAA's purview and it can be depend on many variables such as weather, air traffic in the area, procedures at nearby airports, aircraft type, pilot preference, etc. As discussed above, even IF there was an increased utilization of the TNNIS procedure, it would be included in both the No Action and Proposed Action cases. There would be no effect on the results of the 1.5 DNL test.
quietskies 3	2- The 65 DNL noise contours for 2012-2013, 2021 and 2030 show less penetration into Flushing then the contours of 2008. This is strange because TNNIS picked up traffic from reduced use of the Whitestone Climb and use of TNNIS was increased due to usage of the 22's at JFK. The NATR results also appear to be in conflict with the TARGETS analysis for TNNIS. This analysis showed a 1.5 dB increase when going from Whitestone and Flushing climbs to basic TNNIS and another 1.5 dB when going from TNNIS to TNNIS with increased usage. The cumulative impact would be a 3 dB increase and could be expected to cause the tip of the 65 DNL contour to protrude further into Flushing. The NATR baseline for 2012-2013 does not, however, even reach the projection shown in 2008. Said another way, since TNNIS was not available in 2008 how could the penetration of the 65 DNL contour (in 2012-2013) into Flushing be less than that shown in the 2008 contour? Can the PANYNJ help us understand the apparent discrepancy?	Differences between 2008 and 2012/2013 are not due to one factor, such as the flight track utilization. There are also fleet mix changes, differences in numbers of operations, differences in percent of nighttime operations, runway end utilization, etc. In particular, there was significant decrease in use of much noisier aircraft (MD80s and 90s) between 2008 and 2012/2013.
quietskies 4	3- The NATR often states that the analysis is based on a fixed number of slots. Given that the PANYNJ and aviation lobbyists are promoting the removal of slot controls, does that assumption really seem realistic?[2] 2. FAA Chided for Extending Flight Limits, Newsday, April 8, 2014.	PANYNJ has to model what is reasonably foreseeable. FAA has given no indication that it is considering removing or changing slots at LGA. Noise was modeled based on existing operating levels for the 2012/2013 baseline and approved forecasts of activity. Speculation about slots and their removal would have to be captured in the FAA-approved forecast to be modeled.

COMMENT #	COMMENT	RESPONSE
quietskies 5	4- If, in fact, slot limits are eliminated, will the proposed changes for LaGuardia accommodate the increased flights resulting from an increase in slot limits or will further changes to the airport be required?	On March 27, 2014, the FAA issued a notice in the Federal Register amending the Order Limiting Operations at New York LaGuardia Airport (LGA) that was published on May 14, 2013. The Order remains effective until the final Rule on Slot Management and Transparency for LaGuardia Airport, John F. Kennedy International Airport, and Newark Liberty International Airport becomes effective but not later than October 29, 2016. According to The Report of DOT Significant Rulemaking, this rule making has been underway since 2011. It is not reasonably foreseeable that the rule will be published and finalized in the foreseeable future, nor that the final Rule will materially change the number of passengers using LaGuardia.
quietskies 6	5- Page 4 of the NATR states that radar data was extracted from the TAMIS system from June 2012, September 2012, December 2012 and March 2013. Why wasn't at least July and August of 2012 included especially since they are two of the busiest months of the year for travel by air?	Radar data were selected for those months to show representative corridors for developing flight tracks and utilization of flight tracks. They represented seasonal periods that might affect the location of different routes. Numbers of operations, fleet mix, and runway end utilization was based on a calendar year of data and therefore did include the busiest months of the year for air travel.
quietskies 7	6- We request that PANYNJ add 60 and 55 DNL contours to the noise exposure maps in the draft NATR. The FAA rules for a Part 150 study allow for the addition of other contours. Also please provide all noise results in Excel format with census track information so that we can study noise impacts at locations away from the contour lines.	65 DNL is the required analytical data point for NEPA studies according to FAA Order 1050.1E, Appendix A, *Noise*. Rules for NEPA and Part 150 are not analogous.

COMMENT #	COMMENT	RESPONSE
quietskies 8	7- A principle premise of the NATR is that increased passenger traffic will be accommodated by "upgauging" the aircraft fleet using LGA. The 737-900 and 767-300, two of the aircraft mentioned to handle the increased traffic, both require runway lengths greater than 7000' when operating at maximum gross weight. It therefore appears that the shorter distances flown from LGA (perimeter restrictions) inherently allow use of reduced fuel load and hence lower takeoff weights. Does the PANYNJ see any possibility that the LGA perimeter rules may be changed? It is recognized however that larger modern aircraft may operate more efficiently at longer, rather than shorter ranges, and that NEPA requires a careful assessment of a project's fuel use impacts per 40 CFR 1502.16(e)(f). If the aircraft will in fact be operating less efficiently than then normally expected, the degree that this occurs should be addressed in the NATR.	PANYNJ has stated that they have no plans to change the Perimeter Rule for LaGuardia Airport. PANYNJ would not agree that "modern aircraft may operate more efficiently at longer, rather than shorter ranges." Instead, it is inefficient to carry more fuel than is necessary to safely complete each flight segment (the extra weight decreases performance and increases the amount of fuel needed to complete the flight). As discussed in the response to the 'Kroposki 1' comment above, jet fuel consumption would be *reduced* by 3 to 4 percent (-4,556 tons) under the Proposed Action.
quietskies 9	8- It is known that variability in aircraft take off weight is one of the largest factors contributing to variations in DNL values determined by the INM. Since the loudest noise sources predominate in the DNL, underestimation of the take off weight can lead to significant underestimation of the DNL. We therefore note that the default load factor used by the INM is 65% but the NATR projects 77.2% and 75% for 2021 and 2030 respectively. Since load factor can have a significant impact on weight, and weight can have a significant impact on noise, please confirm that the appropriate load factor is used for each aircraft.	The average weight calculation includes more than passenger load factor. See response to the 'Kroposki 2' comment above.
Members of Congress (letter May 22, 2014)	Support letter signed by U.S. Representatives Joseph Crowley, Steve Israel, and Grace Meng.	Comments noted.
MarketPlace Development (letter May 23, 2014)	Support letter from a development company that is responsible for the concessions programs at LaGuardia Airport Terminal B.	Comments noted.

COMMENT #	COMMENT	RESPONSE
Mayor's Office of Environmental Coordination (MOEC) (letter May 23, 2014) 1	As the proposed project will include discretionary City actions, environmental review pursuant to the City Environmental Quality Review (CEQR) procedure is required. Please provide a completed CEQR Environmental Assessment Statement (EAS) Form to the New York City Mayor's Office of the Deputy Mayor for Housing and Economic Development, which will act as the lead agency for this environmental review (please email the document to Esther Brunner for review, ebrunner@cityhall.nyc.gov). The EAS Form will identify which technical areas need to be analyzed under CEQR. For analysis methodologies refer to the 2014 CEQR Technical Manual. Completion of the CEQR analysis, review, and approval process is required before the discretionary City actions will take place.	A CEQR Full Form EAS for a Type I Action was submitted and a negative declaration was issued on August 22, 2014.
MOEC 2	The following paragraph needs to be included wherever relevant in the Final EA to illustrate that the proposed project also includes discretionary City actions: *We understand that one or more transfers of interest in property either to and/or from the City may occur in connection with the proposed project's roadway network changes planned for the Grand Central Parkway. Such transfers would be discretionary City actions requiring analysis pursuant to the State Environmental Quality Review Act, 6 NYCRR Part 617 and the Rules of Procedure for City Environmental Quality Review.*	The text has been added to Section 1.6, Required Land Use/Environmental Permits.
MOEC 3	The Final EA should acknowledge that while the affected portion of the Grand Central Parkway right-of-way is not classified as a 4(f) resource, the PANYNJ will be providing compensation for the use of the right-of-way. Suggested language could include the following: *Implementation of the project would require the use of approximately 2.1 acres of unpaved Grand Central Parkway right-of-way. To compensate for this encroachment, the PANYNJ is committed to allocating $2.5 million to New York City Department of Parks and Recreation (NYCDPR) for park improvements in the vicinity of the airport.*	The text has been added to Section 5.5.2 and referenced in Sections 5.4.1 and 5.7.1. In addition, the letter from NYCDPR dated June 2, 2014 has been included in Appendix G of the Final EA and referenced in the text.

COMMENT #	COMMENT	RESPONSE
MOEC 4	Clarification is needed as to whether the proposed project will result in additional sanitary flow, and whether the existing City infrastructure has the capacity for this additional flow. This should be discussed in the Environmental Consequences section (which currently does not mention sanitary sewers) of the Final EA.	Sanitary sewer is addressed in the description of the Proposed Action in Section 3.1.4 of the EA. As described in Section 5.12, Natural Resources, Energy Supply and Sustainable Design, key design strategies for the Proposed Action include water efficient plumbing fixtures, stormwater harvesting, and gray water reuse to reduce potable water for sewage conveyance by 50 percent and potable water use in the building by more than 40 percent.
MOEC 5	The stormwater section of the Final EA should include a discussion of the volume and loadings into Flushing Bay, and should mention that all approvals for stormwater will come through New York State, as part of the State Pollutant Discharge Elimination System (SPDES) permit.	Volumes and loadings into Flushing Bay are expected to be the same or improved under the No-Action and Proposed Action Alternatives, respectively. Incremental flows from the proposed project would be managed on site, such that no improvements or changes to the Airport's drainage system beyond the limits of the project site are necessary. More detailed analysis will be conducted during the project's design and permitting phase. The Final EA clarifies that permits and approvals will come through the State as part of the Airport's existing SPDES permit.
MOEC 6	New York City Department of Environmental Protection (NYCDEP) staff met with PANYNJ on February 19, 2014, and went over additional analysis necessary for air quality under CEQR review. The status of that analysis and the anticipated review timeframe should be provided (please email information to Esther Brunner, ebrunner@cityhall.nyc.gov).	The additional air quality analysis, including modeling of the CHRP, *de minimis* criteria impact analysis for CO and roadway network $PM_{2.5}$ hot spot screening analysis, was performed as part of the CEQR Full Form EAS for a Type I Action. The findings were reviewed by NYCDEP and a negative declaration was issued by MOEC on August 22, 2014.
MOEC 7	Draft EA, Section 1, Introduction and Background, pg, 1-1: Provide State Environmental Quality Review Act (SEQRA) Classification of the proposed project; add a paragraph that explains why environmental review will be required under the CEQR framework and discuss discretionary City actions (refer to language provided in Comment #3).	The Introduction and Background section of the EA has been edited. A paragraph explaining why environmental review will be required under CEQR and the discretionary City action has been included, along with a statement that there is no separate state action under SEQRA.

COMMENT #	COMMENT	RESPONSE
MOEC 8	Draft EA, Section 1.1, LaGuardia Airport and Its Terminals, pg. 1-1, bottom of 2nd paragraph: Provide more details about the generation of 109,000 jobs.	The estimate of job-years has been determined by PANYNJ's economic impact model covering the 18 counties that approximate the Port District. The Economics Group of the PANYNJ runs the model that is based on regional input-output analysis covering all major industrial sectors of the economy. The model estimates direct, indirect and induced job-year figures. The total of 109,000 is the sum of the three employment categories. Clarifying text has been added to the existing footnote for the sentence.
MOEC 9	Draft EA, Section 1.6, Required Land Use/Environmental Permits, pg. 1-13, paragraph after bullet-point list: Include a description of discretionary City actions.	The paragraph has been edited to include that the City informed PANYNJ on June 19, 2014 that the City action is the City's acceptance of an easement from NYSDOT for property along the Grand Central Parkway for airport use.
MOEC 10	Draft EA, Section 1.7, Requested Federal Action and Timing, pg. 1-14: A paragraph (potentially a sub-header) should be included here discussing the required CEQR analysis and approximate time line.	A new paragraph has been included. In addition to the NEPA analysis, CEQR analysis was completed with a Full Form Environmental Assessment Statement submitted and a negative declaration issued by MOEC on August 22, 2014.
MOEC 11	Draft EA, Section 4.2.7, Floodplains, pg. 4-8: Ensure that the latest FEMA Flood Insurance Rate Maps are used (refer to 2014 CEQR Technical Manual, Chapter 18, page 18-2).	The latest Preliminary FIRM is presented in Figure 5-6. References to the "Preliminary Work Maps" in Section 4.2.7 and Section 5.8 have been corrected to "Preliminary FIRM" dated December 5, 2013.
MOEC 12	Draft EA Section 5.9 Hazardous Materials, Pollution Prevention and Solid Waste, pg. 5-39: Using Table 14-1 in Chapter 14 (Solid Waste and Sanitation Services) of the 2014 CEQR Technical Manual, please discuss (by providing supporting data, such as current retail space and concessions versus proposed retail space and concessions) how you arrived at the conclusion that after construction of the proposed action "the quantity and type of solid waste generated [...] would not be appreciably different from the No-Action Alternative." This discussion may, for example, note whether the proposed increase in retail space and concessions at the new Central Terminal Building	Assuming the projected volume of municipal solid waste (MSW) is a function of the number of employees (as per Table 14-1 in the CEQR Technical Manual) then MSW would not be appreciably different because the Proposed Action is not expected to result in any net increase (or decrease) in airport employment (see Section 5.1.1: Transportation Planning Assumptions). Further discussion was provided in the CEQR EAS to comply with CEQR requirements.

COMMENT #	COMMENT	RESPONSE
MOEC 12 (continued)	would be expected to draw members of the general public beyond the flying public.	The proposed increase in retail and concessions space is not expected to attract non-flying members of the general public. Under the Proposed Action, less than 2 percent of the retail/concessions sales are expected to occur pre-security because 90-95 percent of the retail and concessions space is planned to be located beyond the security check-points (secure areas for ticketed passengers only). It is also worth noting that LGA historically draws fewer well-wishers (4.8 percent) than either JFK or EWR airports (the average is 8 percent).
MOEC 13	Draft EA, Section 5.9.2.2, Operations, pg. 5-42: Please note that the current New York City Solid Waste Management Plan covers a period of 20 years (2006 - 2025), and not 10 years as indicated on page 5-42.	The text has been revised.
MOEC 14	Draft EA, pages xiii, 4-8, and 5-33: The narrative on these pages indicate that 63 trees located off airport properly would be removed. The Final EA should confirm that this reflects the most recent and final calculation of the number of trees under New York City Department of Parks and Recreation (NYCDPR) jurisdiction that are proposed to be removed.	PANYNJ has confirmed that the numbers of trees is correct for the project described in the EA.
MOEC 15	It is also suggested that the discussion of the Grand Central Parkway 4(f) status be clarified as indicated below (inserts shown in underline, deletions with ~~strikethrough~~): • Draft EA, Section 4.2.5 DOT Act, Section 4(f) Resources, Footnote on Page 4-7: The unpaved portion of the Grand Central Parkway right-of-way along the southern boundary of the airport is under the jurisdiction of the New York City Department of Parks and Recreation (NYCDPR); however, it is not designated nor intended for public ~~use,~~ access~~,~~ or recreation. The City of New York has reviewed ~~its records and~~ the Proposed Action and has determined that the affected area was originally acquired for "park and parkway purposes," which is ~~not~~ distinct from a designation of the area as parkland. The access improvements to and from the Parkway are a legislatively authorized use of the land ~~and does not constitute park alienation under State law~~. See Section 5.5.2 for additional discussion.	Edits have been made.

COMMENT #	COMMENT	RESPONSE
MOEC 15 (continued)	• Draft EA, Section 5.5.2 Identification of Section 4(f) Resources, Page 5-27: LaGuardia Airport is located immediately adjacent to the Grand Central Parkway, which consists of travel lanes as well as grassy medians and landscaped sections. Due to the proposed roadway improvements, the project limits for the Proposed Action extend south of the Airport property line to encompass an unpaved portion of the Parkway right-of-way. While the unpaved embankment adjacent to the Grand Central Parkway is under the jurisdiction of NYCDPR, it is not designed nor intended for public ~~use,~~ access~~,~~ or recreation; rather ~~and only~~ it provides a visual amenity to automobile drivers as they pass by. NYCDPR has reviewed ~~its records and~~ the Proposed Action and has determined that the affected portion of the Grand Central Parkway right-of-way was originally acquired with legislative direction for "park and parkway purposes," which is ~~not~~ distinct from a designation of the area as parkland. The access improvements to and from the Parkway are a legislatively-authorized use of the land ~~and, therefore, does not constitute park alienation under State law~~. On October 8, 2013, staff from PANYNJ met with representatives of multiple City agencies. All attendees came to an understanding that there would be impacts to the Grand Central Parkway embankment area as a result of the Proposed Action. It was also acknowledged that the embankment area is not designated a public park or recreation area of local significance and does not qualify for protection under Section 4(f) of the DOT Act (23 CFR Part 774). The Proposed Action was specifically designed to limit new construction in a manner that minimizes the amount of Parkway right-of-way to be taken for the roadway improvements. Because the Proposed Action would result in the loss of approximately 63 trees in the Parkway right-of-way, and acknowledging and respecting NYCDPR's jurisdiction over the property, PANYNJ ~~will~~ commits to provide restitution for the loss of those trees in the project area pursuant to Chapter 5 of Title 56 of the Rules of the City of New York (NYCDPR Rules) and Local Law 3 of 2010. ~~To be consistent with the intent of the Parkway corridor, a~~ A landscape plan to enhance remaining and reclaimed landscape will be developed in coordination with the NYCDPR. No removal of trees would occur without obtaining required NYCDPR Construction and Forestry permits.	Edits have been made.

COMMENT #	COMMENT	RESPONSE
MOEC 16	Draft EA, Section 5.10.1 Architecture: Figure 5-7 should show the New York City Landmarks Preservation Commission (NYCLPC) eligible resource Malcolm X House.	The figure has been revised and the text updated to include the NYCLPC-eligible resource.
MOEC 17	Include the attached NYCLPC Environmental Review Letter (dated 05/20/2014) and Archaeology Comment Letter (dated 04/28/2014) in the Appendix of the Final EA.	The letters have been included in Appendix G.
MOEC 18	Draft EA, Section 3.2, No-Build/No-Action Alterative, pg. 3-15, in connection to first bullet point under "It is not acceptable to allow the existing CTB to constrain forecast passenger demand for two reasons": Section 28 of the lease could also be noted in which the PANYNJ is tasked with ensuring that LGA and JFK operate as first class airports.	This section has been revised to include the referenced lease obligation.
MOEC 19	Draft EA, Section 5.9.2.1, Construction, pg. 5-42, regarding construction debris from receiving landfills: It is not clear where the issue of transport of this construction debris has been discussed. In the briefing that the New York City Economic Development Corporation (NYCEDC) had about the project, the concept of barging some of this waste from the dock near the Marine Air Terminal was discussed. Is this still a possibility? If so it should it be mentioned in the Final EA.	There is no plan or proposal to use barges to construct the proposed project—whether to bring materials into or to transfer waste away from the construction site. For this reason, barging is not included or otherwise discussed in the Draft EA. Section 5.9.2.1, Construction, has been revised to clarify the EA assumption that on-road vehicles (trucks) would be used to transport waste to receiving landfills. Appendix F: Supporting Data, provides estimated quantities of building materials and demolition waste, including associated truck trips, which are included in the assessment of impacts on traffic and traffic-related air emissions. If the selected third-party developer proposes barging as an option, the corresponding sections of the Final EA (and CEQR analysis) would have to be re-evaluated accordingly.
MOEC 20	Draft EA, Section 5.15 Socioeconomic Impacts, Environmental Justice and Children's Environmental Health and Safety Risks, Relocation of Residences or Businesses in the Community, pg. 5-70: This language should be reviewed in order to confirm that it accurately describes the jurisdictional situation.	In Section 5.15, under *Relocation of Residences or Businesses in the Community*, references to jurisdiction over the affected properties have been removed.
MOEC 21	Draft EA, Section 5.20.2 Traffic and Transportation, Operations Traffic Analysis, pg. 5-96, third paragraph from the bottom (starting with "In addition, between 2012 and 2030, it is expected that..."): Is the total growth until 2030 5.91 percent or is the annual growth each year that amount? Please clarify.	It is total growth. The text has been revised.

COMMENT #	COMMENT	RESPONSE
MOEC 22	New York City Department of Transportation (NYCDOT) Comments: A NYCDOT Comment Letter dated 05/09/2014 and accompanying signal time information for Astoria Boulevard from the NYCDOT Bureau of Traffic Operations were provided to Ed Knoesel, PANYNJ, via email on 05/15/2014. For consistency purposes, these two documents are also attached to this comment letter.	The NYCDOT comments have been addressed and incorporated into Appendix A and the Final EA, as appropriate.
General Contractors Association of New York, Inc. (letter May 20, 2014)	Support letter from organization that promotes infrastructure investment, private development, fair contract provisions, enhanced bidding opportunities, and a safe work environment.	Comment noted.
Rob Daniel (email May 26, 2014) 3	The new terminal should include the provision of an enhanced mass transit link. To entirely dismiss the subject of mass transportation through a brief discussion in subsection A.4 on the 326th page of 865 page draft environmental impact statement does not do justice to the importance of this issue. To cite: *"LaGuardia Airport is not directly accessible via subway, and no modifications to subway service are proposed under the Action condition. Therefore, detailed subway analyses are not warranted for the Proposed Action."* The magnitude and scope of the expansion of the CTB warrant the examination of the extension of the subway to the airport or some sort of mass transportation alternative.	The capital plan for the MTA, the local transportation authority, does not include a LGA rail access project, nor was it identified in their 20-year needs assessment. However, the CTB Redevelopment Program, terminal and roadway design, does not preclude subway/rail access in the future. The MTA provides five bus lines that connect passengers and employees to the rest of the City's mass transit system, and has recently upgraded the service on the Q47 and M60 that have cut down travel time to the Airport.
Queens Quiet Skies (letter May 23, 2014) 1	We agree that the condition and efficiency of the existing central terminal building are greatly in need of improvement. On the whole, we are satisfied with the Port Authority's plans to bring LGA facilities to a level that answers the needs of airline passengers in the 21st century. However, the project should not proceed without certain amendments and additions to the EA and its supporting technical information.	Comment noted.
Queens Quiet Skies 2	1. **Slot controls.** EA descriptions of the Port Authority's intentions about slot controls do not match what the Port Authority has stated recently in the media. On page 5-63 the EA states: As previously discussed, slot controls are in place to help the FAA manage	While PANYNJ has stated that in the interest of making the airports more competitive, the FAA should remove slots, the PANYNJ is required to model what is reasonably foreseeable. FAA has given no indication that it is considering removing or changing slots at LGA, and recently extended the Order limiting aircraft operations at LaGuardia.

COMMENT #	COMMENT	RESPONSE
Queens Quiet Skies 2 (continued)	congestion at LaGuardia Airport by limiting the number of takeoffs and landings that may occur per hour. Instead of adding flights, forecast passenger demand would be accommodated through the use of larger aircraft with increased passenger loads ("upgauging"). However, the Port Authority was quoted last month in major metropolitan newspapers as supporting the removal of FAA flight caps at LGA. These public statements are inconsistent with the statement in the EA that the agency expects the number of slots at LGA to remain the same. We would like the PA to resolve this inconsistency.	
Queens Quiet Skies 3	**2. <u>Passenger projections.</u>** Projections in the EA for increased numbers of aviation passengers appear to be understated. The EA shows a projected increase of LaGuardia passengers from 23.6 million annual passengers in 2010 to 34 MAP in 2030, a compound growth rate of 1.8% per year. However, the Federal Aviation Administration predicts system -wide growth after 2014 of 2.7% per year and Boeing Aircraft predicts system-wide growth of 5% per year. The differences in projected increases using the three different forecasts are substantial. These discrepancies ought to be addressed in the EA with additional supporting data.	The FAA's system-wide average forecast represents the average growth across the entire nation and is not specific to LaGuardia. The same holds true for the Boeing forecast. However, the forecast that was used for LGA for the Central Terminal Building Redevelopment Program indicates a growth rate of 1.8% per year. This forecast was developed analyzing factors specific to the airport and to the airport's catchment area, such as economic indicators. In addition, this forecast was approved by the FAA.
Queens Quiet Skies 4	**3. <u>Best-In-Class Noise Monitoring and Noise Contours.</u>** The Port Authority should adopt more effective methods to prepare and monitor Noise Exposure Maps. Many U.S. airports use techniques that we will call "Best-In-Class" to monitor the impact of noise on local communities. None of the following are found in the EA: • Incorporating real time noise monitor data in noise contours. • Real time noise contours reported more than just once a year. Existing data would allow monthly and even daily reporting of noise contours. • Matching public complaints to noise monitor and noise contour data. It is possible to match noise complaints to noise monitor locations and noise contours.	In order for the EA to be approved, the noise analysis must be conducted in accordance with FAA's standard process for evaluating aircraft noise impacts. The following addresses the commenter's points more specifically: • The FAA requires the use of the Integrated Noise Model (INM) for NEPA documents which does not allow for incorporating real time noise monitor data. • While PANYNJ has the ability to generate real time noise contours at any time through the RealContours™ software, such reporting is not appropriate for NEPA purposes. • Public complaints are subjective. FAA requirements do not require the airport operator to incorporate noise complaints into the noise analysis.

COMMENT #	COMMENT	RESPONSE
Queens Quiet Skies 4 (continued)	• Extending the study area of noise impacts out to 60 DNL or 55 DNL. The Port Authority has already prepared noise contours to 60 DNL, as is done by many airports throughout the country. European countries have adopted 55 DNL contours and some U.S. airports plan to this level of detail. These methods should be included in the EA for the Central Terminal Building Redevelopment Plan.	• 65 DNL is the required analytical data point for NEPA studies according to FAA Order 1050.1E, Appendix A, *Noise*.
Queens Quiet Skies 4	**4. <u>The relationship between CTB EA assumptions for LGA and regional airports.</u>** LaGuardia Airport depends on passenger traffic from regional airports. Many of them struggle because of decreased traffic demand caused by local economic conditions. If, as outlined in the EA, slots remain limited and the number of passengers increases because of larger aircraft, then the impact of larger aircraft on regional airports must be addressed before the assumptions made in the EA can be taken seriously. Regional airports throughout the country would have to invest in runway extensions, runway strengthening, and other airfield improvements, as well as terminal building improvements. Is this a realistic expectation? It is not addressed in the document.	LaGuardia Airport air traffic does not depend entirely on passengers from regional airports. Forecasts anticipate that utilization of larger aircraft will increase to meet future demand. However, the future flight schedules similarly anticipate maintaining a mix of smaller regional aircraft representing approximately 40% of the overall activity.
PUBLIC HEARING COMMENTS (MAY 8, 2014)		
Global Gateway Alliance (GGA) 1	There's no more important project in the country than the modernization of the half century old Central Terminal Building at LaGuardia, and the Global Gateway Alliance fully supports its redevelopment.	Comment noted.
GGA 2	The outdated CTB has become a symbol of our nation's decaying infrastructure. This is despite the airport serving more than 25 million passengers a year and hundreds of millions of dollars in investment in new modern interiors to the other main terminals at LaGuardia.	Comment noted.
GGA 3	The current terminal simply does not have the capacity it needs. The bottom line is: The airport can't handle growing from 25 million to an expected 35 million passengers without the greater gate capacity and larger aircraft the new CTB accommodates.	Comment noted.

COMMENT #	COMMENT	RESPONSE
GGA 4	Global Gateway Alliance has a number of core principles that we believe should be included as part of a new LaGuardia CTB: First, the terminal should rival new world class airports in modern and efficient design;	Comment noted.
GGA 5	Second, there should be a transportation link that finally connects LaGuardia to the city's mass transit system;	The capital plan for the MTA, the local transportation authority, does not include a LGA rail access project, nor was it identified in their 20-year needs assessment. However, the CTB Redevelopment Program, terminal and roadway design, does not preclude subway/rail access in the future. The MTA provides five bus lines that connect passengers and employees to the rest of the City's mass transit system, and has recently upgraded the service on the Q47 and M60 that have cut down travel time to the Airport.
GGA 6	Third, the new CTB needs to allow passengers to move smoothly from parking and taxi areas, through security and to their gates;	Comment noted.
GGA 7	Fourth, the public-private partnership, its financing, building and operating the terminal must deliver as promised to become a model for other infrastructure projects in the region; and	Comment noted.
GGA 8	Finally, the new terminal needs state-of-the-art amenities to substantially improve the passenger experience at the airport.	Comment noted.
GGA 9	Taken together, GGA believes that all of these elements will mean a CTB at LaGuardia that becomes recognized as world class.	Comment noted.