

**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL TRANSIT ADMINISTRATION  
LOWER MANHATTAN RECOVERY OFFICE**

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)  
Documentation**

**Project:** World Trade Center Vehicular Security Center and Tour Bus Parking Facility  
**Applicant:** Port Authority of New York and New Jersey  
**Project Location:** New York County, New York

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**INTRODUCTION**

Based on the *World Trade Center Vehicular Security Center and Tour Bus Parking Facility Environmental Assessment (EA)* dated November 2006 and prepared in compliance with the National Environmental Policy Act (42 U.S.C. Section 4321 et. seq.) and Federal Transit Administration's implementing regulations (23 CFR 771), the Federal Transit Administration (FTA) finds, in accordance with 23 CFR Section 771.121, that there are no significant impacts on the environment associated with the Project.

**PROJECT PURPOSE AND NEED**

The World Trade Center (WTC) Vehicular Security Center and Tour Bus Parking Facility ("the Project") is proposed by the Port Authority of New York and New Jersey (PANYNJ) to implement security precautions to protect new public investments at the WTC Site using established measures to examine vehicles entering the WTC Site in Lower Manhattan. The Project will also include a parking facility to serve tour buses that will visit the memorial at the WTC Site, which will alleviate the need for tour buses to park and/or idle on local streets. The subgrade tour bus facility will improve the operation and efficiency of the WTC complex, will enhance accessibility and circulation within Lower Manhattan, in general, and will improve the visual and aesthetic quality of the redeveloped WTC Site. The Project is critical for the redevelopment of the WTC Site because it will provide off-street screening of vehicles that will enter the WTC Site. The visible security location will lend a level of protection against threats to the WTC Site. The Project will also play an important role in improving circulation and access within Lower Manhattan by offering parking for tour buses, as well as allowing delivery truck access to subgrade loading areas for Towers 3, 4, and 5 on the WTC Site. The WTC Vehicular Security Center and Tour Bus Parking Facility was originally proposed as part of the WTC Memorial and Redevelopment Plan.

The Project was developed to address five areas of concern identified in the planning for the WTC Memorial and Redevelopment Plan as described below.

- **WTC Site Visitation:** The WTC Memorial, Memorial Center, and the Freedom Tower viewing platform are anticipated to attract a substantial number of visitors each year. In the opening year, the Memorial is estimated to attract up to 9 million visitors, but visitation is anticipated to level off to an average of 5.5 million visitors per year by 2015. Based on survey data 17.6 percent of the visitors to the Memorial are expected to arrive and depart the WTC Site by tour bus, which will generate approximately 210 and 280 tour buses on weekdays and

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Saturdays, respectively, in the opening year (2009) and approximately 130 tour buses on weekdays and 170 tour buses on Saturdays in 2015. These tour buses will require space for unloading and loading of passengers at street-level as well as for parking while passengers are visiting the Memorial.

- **Delivery Vehicles:** The WTC Memorial and Redevelopment Plan will generate cars, vans, and trucks that will provide goods movement for the various uses on the WTC Site. The planned redevelopment of the site will generate approximately 1,992 delivery vehicles on an average weekday by 2015. During the midday peak hour, there will be upwards of 207 truck deliveries at the WTC Site.
- **Access and Circulation:** Lower Manhattan's street network does not easily support large vehicles such as trucks and tour buses. Its streets are narrow and many intersections are difficult to maneuver. Furthermore, tour buses and trucks also require greater area for parking than automobiles. The trucks and buses that will visit the WTC Site in the midday peak hour (12 PM to 1 PM) will require more than 15 blocks of curbside parking in 2009 and more than 25 blocks of curbside parking in 2015, assuming that vehicles could park on both sides of the street. This demand for curbside parking itself at and near the WTC Site will be difficult to accommodate and will adversely affect City and commuter bus operations as well as taxi pick-ups and drop-offs, since these vehicles also require curbside space. Furthermore, vehicles associated with the redevelopment of the WTC Site will compete with automobiles and other delivery trucks that already occupy much of Lower Manhattan's legal supply of curbside parking, loading, and unloading.
- **Site Constraints:** The approved master plan for the WTC Site includes the programming of a Memorial, open spaces, building entrances, and retail at ground level throughout the WTC Site. The plan also strives to preserve the original Twin Tower footprint areas for Memorial uses from bedrock to street-level to the maximum extent feasible. Therefore, space within the site is severely constrained for other uses such as ground-level loading bays for trucks and surface lots or above-ground garages for buses. It will also be difficult to provide a facility elsewhere in Lower Manhattan since most areas are, or are planned to be, developed with active public and private uses.
- **Safety and Security:** Safety and security have been of paramount consideration in the redevelopment of the WTC Site. Given its history and the prominence of future uses on the WTC Site, it has been and will continue to be a high profile site within New York City. As such, screening is needed to provide adequate protection against threats by stressing visible security at sensitive locations. Absent a facility to support this operation, it may not be possible to provide the level of protection that the public will expect at the WTC Site.

The goals of the Project are to:

- Support the development of a WTC Memorial;
- Support safe and efficient delivery vehicle circulation and access at the WTC Site; and
- Minimize adverse impacts to the social, economic, and natural environment.

The objectives are to:

- Provide for secured loading and unloading;
- Minimize above-grade infrastructure for delivery vehicles.
- Accommodate the projected tour bus visitors to and from the Memorial;
- Reduce on-street bus idling or parking in the vicinity of the Memorial;
- Reduce tour bus circulation and parking on local streets;
- Enhance the visual quality and character of the Memorial;

- Provide secured tour bus parking;
- Ensure consistency with land use and public policy planning in Lower Manhattan (including the Lower Manhattan Environmental Analysis Framework and the EPCs);
- Enhance the quality of life for Lower Manhattan’s residents, workers, and visitors;
- Avoid, minimize, or mitigate adverse impacts on historic resources;
- Enhance the visual character of Lower Manhattan;
- Reduce traffic congestion;
- Improve transit and pedestrian access;
- Minimize air and noise pollution; and
- Provide for “green” and sustainable design.

## **ALTERNATIVES EVALUATED**

An evaluation of alternatives during the planning for the WTC Memorial and Redevelopment Plan considered potential alternatives for the WTC Vehicular Security Center and Tour Bus Parking Facility. As the master plan for the WTC Site evolved, PANYNJ and the Lower Manhattan Development Corporation (LMDC) considered four locations on and near the WTC Site for tour bus parking and vehicle screening. The four locations and configurations that were studied as part of the planning for the WTC Memorial and Redevelopment Plan are as follows:

- **Location 1, “Site 26”:** The Site 26 Alternative—located on the west side of Route 9A (West Street) between Vesey and Murray Streets—was considered as a location for use as a tour bus parking facility and security center in the September 2003 master plan.
- **Location 2, “West Bathtub”:** Under the West Bathtub Alternative, tour bus parking would be located on a subgrade level of the WTC Memorial. Tour buses, trucks, and private automobiles would enter the subgrade levels of the WTC Site via Vesey Street beneath the cultural center or via Liberty Street at its intersection with Route 9A. Subgrade ramps would provide access to parking areas and truck loading areas.
- **Location 3, “Southern Site”:** Under this Southern Site Alternative, a ramp serving private automobiles, trucks, and buses would be located on the north side of Liberty Street, with access from Route 9A. Up to 100 tour bus spaces would be located on multiple subgrade levels beneath the Southern Site and truck docks and automobile parking would be located on the eastern portion of the WTC Site. A separate entrance from Vesey Street would serve truck and car access to Freedom Tower.
- **Location 4, “Combined Southern Site and East Bathtub”:** Under this alternative, access would be provided from the south side of Liberty Street between Route 9A and Washington Street. To ease traffic flow in this area, Liberty Street would be converted to a two-way operation between Route 9A and Church Street. Once subgrade, buses and trucks would share a series of ramps while automobiles would use a separate ramp structure. Because the subgrade levels would need to accommodate a ramp structure, it would only be possible to locate approximately 28 bus parking spaces beneath the Southern Site, requiring an additional approximately 52 spaces to be provided beneath the WTC Transportation Hub on the eastern portion of the WTC Site. Truck loading and automobile parking would also be located on the eastern portion of the WTC Site. Similar to the Location 3 Alternative, a separate access would serve the Freedom Tower.

Subsequent planning for the coordinated redevelopment of the WTC Site, Battery Park City Site 26, Route 9A Project, and the Permanent WTC PATH Terminal rendered Locations 1, 2, and 3 infeasible for a number of reasons. Of the four locations considered, only Location 4, “Combined Southern Site and East Bathtub” remained a viable location for the bus parking and security

center, which was carried forward, along with a No Action Alternative, for detailed evaluation in the EA.

### **No Build Alternative**

Under the No Action Alternative, delivery vehicles would access the subgrade loading areas of the Freedom Tower and Tower 2 on the WTC Site via truck elevators with access from Vesey Street. Loading and unloading for Towers 3, 4, and the WTC Transportation Hub would be at-grade with access from Greenwich Street. Tower 5 would have a separate loading dock on Albany Street. It is assumed that security screening for these delivery vehicles would occur at street-level checkpoints. Tour buses would unload passengers on Greenwich Street. Buses would then travel to designated on-street and off-street locations within Manhattan, New Jersey, Brooklyn, and Staten Island to lay by while passengers visit the WTC Site. Tour buses would then return to Greenwich Street to load passengers and would then depart Lower Manhattan. It is assumed that the security screening of these tour buses would occur at street-level checkpoints. Following completion of the Deutsche Bank deconstruction, Silverstein Properties, Inc. (SPI) would construct vehicle elevators on the south side of Liberty Street to provide access to the 1,000-space, subgrade garage on the eastern portion of the WTC beneath the Transportation Hub, and Towers 3 and 4. SPI would excavate only those portions of the Southern Site needed to construct these vehicle ramps. Upon completion of subgrade levels of the Southern Site, SPI and LMDC would develop above-grade structures consistent with the master plan. These would include Tower 5 (an office building with ground level retail), a new St. Nicholas Church to replace the structure destroyed on September 11, 2001, and a new 0.95-acre park. Liberty Street would be reopened as a two-way street between Route 9A and Church Street.

### **Preferred Alternative**

The Preferred Alternative reflects the preferred location and early planning for the WTC Vehicular Security Center and Tour Bus Parking Facility as part of the World Trade Center Memorial and Redevelopment Plan. The Preferred Alternative will consist of four levels. The entrance/exit will be located on the south side of Liberty Street between Route 9A and Greenwich Street. The roof of the facility will be at street-level (approximate elevation 326 feet) and will be the base of the future Liberty Park and St. Nicholas Church. Liberty Park and St. Nicholas Church will be constructed by others at a later date. The security center will be located on the B1 level. Once vehicles have been properly screened, those that comply with security standards will be directed to a common ramp structure. The vehicles that do not meet the requirements of the security screen will be exited onto Liberty Street. Authorized trucks, buses, and automobiles will continue downward through the B2 level to the B3 level of the WTC Site. The B3 level will include a consolidated service area beneath Towers 3 and 4 as well as tour bus parking on both the Southern Site and beneath the WTC Transportation Hub. Approximately 28 tour bus parking spaces will be located within the Southern Site while the remaining approximately 52 tour bus spaces will be provided on the eastern portion of the WTC Site, beneath the WTC Transportation Hub. The Project will also include ancillary facilities and systems, such as employee spaces, mechanical rooms, emergency egress, and ventilation structures. On the Southern Site, three ventilation structures will be constructed. Two will provide for exhaust and the third will be for fresh air intake. The ventilation structures will be at least 40-feet tall and will include mechanical rooms and egress. The ventilation of the facility on the eastern portion of the WTC Site will be combined with ventilation of the WTC Transportation Hub.

### **AGENCY COORDINATION AND PUBLIC OPPORTUNITY TO COMMENT**

The PANYNJ established a Technical Advisory Committee (TAC) in September 2005. The TAC is comprised of federal, state, and city agencies, and meets to discuss Lower Manhattan issues.

To help facilitate the public's participation in Project planning, PANYNJ has maintained a mailing list of interested parties, community members, elected officials, and those who attended the Project's public informational meetings.

In addition, the outreach effort has included ongoing communications with the public on the PANYNJ website located at <http://www.panynj.gov/pathrestoration>. This website includes information about the schedule, current conditions, planned improvements, and Project documents and presentations. The EA is available on the website. These materials are one method of providing the public with updates on the Project and notifying them of upcoming events.

A Notice of Availability for the *Environmental Assessment for the World Trade Center Vehicular Security Center and Tour Bus Parking Facility* was advertised in newspapers in New York beginning on November 5, 2006. Copies of the EA were available for public review at the PANYNJ and the FTA in New York, New York. Copies were also made available at the New York Public Library, Manhattan Community Board 1, and the Manhattan Borough President's Office. The PANYNJ convened a public hearing for this Project on November 28, 2006 from 4PM to 8PM at the Borough of Manhattan Community College. Copies of the transcripts from the public hearing are on file at the FTA Lower Manhattan Recovery Office and are included in Attachment B of this FONSI.

In addition to the oral testimony at the public meetings, nine comment letters were received on the EA. The EA public review period closed on December 28, 2006. Refer to the specific resource area impact descriptions below for additional information on the comments received and Attachment A for the comments on the EA and the responses to those comments.

## **MEASURES TO MINIMIZE HARM**

PANYNJ will implement the mitigation measures described in the EA, in this Finding of No Significant Impact (FONSI), and the attached Responses to Comments. Attachment C includes a listing of all Environmental Performance Commitments (EPCs), mitigation, and key permit conditions. The FTA will require in any grant documents for the Project that it be built in a manner consistent with that described in the EA and that all committed mitigation be implemented in accordance with the EA and this FONSI. The FTA finds that with the implementation of these mitigation measures, the PANYNJ will have taken all reasonable and prudent means to avoid or minimize adverse impacts of the Preferred Alternative. The EA is incorporated by reference into this FONSI and its environmental considerations are summarized below. This FONSI assumes that the fully described mitigations in the EA and the attached responses to comments, as supplemented and outlined herein, as well as permits received for this Project will be implemented.

## **Environmental Analysis Framework and Environmental Performance Commitments**

The environmental approach for the Preferred Alternative incorporates and is consistent with the Environmental Analysis Framework for the Lower Manhattan Federal Transportation Recovery Projects (Framework). The Framework was developed by the following group of governmental entities involved with the September 11, 2001 disaster recovery in Lower Manhattan: PANYNJ, the Metropolitan Transportation Authority/New York City Transit (MTA/NYCT), the New York State Department of Transportation (NYSDOT), and LMDC. The Framework has been agreed to by these entities, and has been used in connection with each of their proposed Lower Manhattan Recovery Projects. The Framework consists of the following components:

- Green Design, Green Construction, and Sustainability Principles;
- Construction Environmental Protection Plan;
- Public Involvement and Governmental Entities Coordination Plan; and
- Baseline Assessment of Resources and Coordinated Cumulative Effects Analysis Approach.

The project sponsors also adopted common EPCs to be incorporated into project planning, design, and construction documents and contracts. The EPCs are measures to lower the potential of each project to have adverse environmental impacts, and thus lessen the potential for each project to contribute to overall adverse cumulative effects in Lower Manhattan. This approach recognizes that improvement of access to Lower Manhattan in support of economic recovery and resumed growth may cause short-term impacts before all potential benefits of improved transportation on the Lower Manhattan environment and economy are realized. The Preferred Alternative includes the incorporation of these EPCs and the analysis of the EA is consistent with the Framework. Additional measures to mitigate harm are included in the EA, EA response to comments, and are incorporated into this FONSI.

#### **Memorandum of Agreement—Section 106 of the National Historic Preservation Act**

PANYNJ will implement the stipulations of its Memorandum of Agreement (MOA) for this Project, which was prepared pursuant to Section 106 of the National Historic Preservation Act and in compliance with Section 4(f) of the U.S. Department of Transportation Act. The Section 106 consultation process for the WTC Vehicular Security Center and Tour Bus Parking Facility began in October 2005. A draft MOA was distributed to the consulting parties on January 13, 2006, and a 30-day comment period was established for review. Following the close of the comment period, FTA and PANYNJ coordinated to finalize the MOA, which was signed on June 4, 2006. The MOA was included in Attachment D of this FONSI.

#### **CLARIFICATION OF THE ENVIRONMENTAL ASSESSMENT**

Subsequent to publication of the EA, FTA notes the following clarifications.

- **Page 5E-14:** The footnote in Table 5E-4 should read, “Refer to page 5E-6 for an explanation of the PM NAAQS.”
- **Page 5E-16:** The footnote in Table 5E-5 should read, “\*\* Refer to page 5E-6 for an explanation of the PM NAAQS.”
- **Page 5E-17:** The footnote in Table 5E-6 should read, “\*\* Refer to page 5E-6 for an explanation of the PM NAAQS.”
- **Page 5E-18:** The footnote in Table 5E-7 should read, “\*\* Refer to page 5E-6 for an explanation of the PM NAAQS.”
- **Page 5E-20:** The footnote in Table 5E-8 should read, “\*\* Refer to page 5E-6 for an explanation of the PM NAAQS.”
- **Page 5E-21:** The footnote in Table 5E-9 should read, “\*\* Refer to page 5E-6 for an explanation of the PM NAAQS.”
- **Page 5E-23:** The footnote in Table 5E-10 should read, “\*\* Refer to page 5E-6 for an explanation of the PM NAAQS.”
- **Page 5F-12:** In Table 5F-8, the “FTA Impact Determination” for receptor site 5 should be “Severe Impact.”
- **Page 5F-13:** The first sentence should read as follows, “Based on FTA impact criteria, the Preferred Alternative would result in impacts at 7 receptor sites and severe impacts at 6 receptor sites.” This change corresponds to the correction to Table 5F-8.
- **Page 5L-9:** The footnote on Table 5L-3 should read, “\* Refer to page 5E-6 for an explanation of the PM NAAQS.”

- **Page 6-11:** The footnote on Table 6-7 should read, “\* Refer to page 5E-6 for an explanation of the PM NAAQS.”

## ENVIRONMENTAL EFFECTS AND FINDINGS

### Social Conditions

- **Neighborhood Character:** The majority of the Preferred Alternative will be located below ground, and its operation will not adversely impact land use patterns or zoning in this area. It will allow for the redevelopment of the WTC Site in accordance with the approved master plan. It will enhance urban design and visual quality by removing trucks and tour buses from the street level and by encouraging pedestrian retail uses at the bases of the WTC office towers. It will improve the character and quality of the WTC Memorial by reducing traffic congestion and noise in its vicinity. Overall, the Preferred Alternative is beneficial to the social environment of Lower Manhattan.
- **Acquisition and Relocation:** The Preferred Alternative will be constructed underground except for its entry/exit driveway and ventilation facilities. The majority of the Project site is owned or controlled by PANYNJ, and it does not contain residences, businesses, or institutions. Therefore, relocation will not be required. The Preferred Alternative will require a permanent easement beneath Liberty Street, Cedar Street, and 90 West Street in order to construct slurry walls and truck and bus ramps. These easements will allow for the permanent occupation of soils beneath the street and will not adversely impact development above ground. Therefore, the Preferred Alternative will not result in significant adverse impacts from property acquisition and relocation.
- **Environmental Justice** Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (February 11, 1994), requires that FTA identify and address “disproportionately high and adverse human health or environmental effects” of Federally-funded mass transportation projects “on minority populations and low-income populations,” and that FTA “conduct its programs, policies, and activities in a manner that ensures that such programs, policies and activities do not have the effect of subjecting persons . . . to discrimination . . . because of their race, color, or national origin.” The study area includes two subareas with populations that are over 50 percent minority: Chinatown (approximately 86 percent minority) and Civic Center (approximately 65 percent minority). These communities also have a relatively high proportion of persons living in poverty—33.4 percent in Chinatown and 37.5 percent in Civic Center, as compared to 20.8 percent in New York City as a whole. However, these communities are geographically removed from the Project Site and would not suffer disproportionately high and adverse impacts from implementation of the Preferred Alternative. Therefore, FTA has determined that minority and low-income populations would not be adversely impacted by implementation of the Preferred Alternative.

### Historic and Cultural Resources

Pursuant to Section 106 of the National Historic Preservation Act, it was determined, in consultation with the State Historic Preservation Officer (SHPO) and consulting parties, that the proposed Project will result in adverse effects on historic resources and may adversely impact archaeological resources. Thus, an MOA was prepared to identify measures to minimize harm.

A Phase IA Archaeological Assessment was conducted as part of the *World Trade Center Memorial and Redevelopment Plan Final Generic Environmental Impact Statement* to evaluate the archaeological potential of the Project site. This assessment found that potential 18th and 19th century shaft features may survive under former basements of Block 56. Wharf and/or cribbing features may survive under former basements on Block 56 and beneath Liberty, Washington, and

Cedar Streets. Portions of these wharves may be landfill, and wooden cribbing was likely used as a method to contain the soil. As stipulated in the Project's MOA, prior to any subsurface disturbance at any of the locations that have been determined to be sensitive for historic archaeological resources, PANYNJ will, in consultation with SHPO and the New York City Landmarks Preservation Commission (LPC), and in coordination with LMDC, as appropriate, prepare a Topic Intensive Study (TIS) to further document historic uses on the Project site in order to identify specific areas that may have archaeological sensitivity. If SHPO and LPC recommend a Phase 1B Archaeological Investigation based on the TIS, subsurface investigations to locate and identify archaeological resources and/or archaeologically sensitive areas will be undertaken. A report will be prepared and submitted to SHPO and LPC for review and comment. Based on the results of the Phase 1B study and upon the recommendation of SHPO and LPC, PANYNJ will develop and implement an Archaeological Monitoring Plan (Monitoring Plan), on recommendation by SHPO and LPC, that will specify how the monitoring is to be accomplished, protocols to be followed if archaeological resources are encountered during the monitoring, and provisions for the evaluation and treatment of any identified archaeological resources. The plan will be submitted to SHPO and LPC for comment prior to its implementation. If unanticipated archaeological deposits or features are encountered during the construction of the Preferred Alternative, PANYNJ will immediately implement the procedures described in the MOA.

Although the Preferred Alternative will not alter the location or setting of the WTC Site, its construction will impact the bathtub walls and tiebacks. Furthermore, the construction of the Preferred Alternative may result in construction-period vibration impacts on other remaining remnants and structures on the WTC Site within 90 feet of the Project's construction activities. All of the remaining remnants and structures within the WTC Site were previously documented by LMDC and PANYNJ, and this documentation has been approved by SHPO. PANYNJ will conduct all work within the WTC Site in accordance with the requirements and procedures set forth in the Project's WTC Resource Protection Plan (RPP). PANYNJ will also follow the process of the MOA for the Permanent WTC PATH Terminal to address cumulative adverse impacts to remaining remnants and structures on the WTC Site.

Construction of the Preferred Alternative may involve drilling activities below the foundation level of 90 West Street to install tie-backs for a new slurry wall. The Preferred Alternative will also result construction activities within 90 feet of the Former East River Savings Bank, St. Paul's Chapel and Graveyard, the Beard Building, and 114-118 Liberty Street. As stipulated in the MOA, PANYNJ, in consultation with SHPO and in coordination with LMDC, as appropriate, will develop a Construction Protection Plan (CPP) for the WTC Vehicular Security Center and Tour Bus Parking Facility to protect 90 West Street, the Former East River Savings Bank, St. Paul's Chapel and Graveyard, the Beard Building, and 114-118 Liberty Street from inadvertent vibration damage during construction. The CPP will detail the Project's construction procedures and other construction plans, including the installation of tie backs that may impact these historic resources. The CPP will provide for an inspection and reporting of the existing condition of elements, establish protection procedures, establish a monitoring program, and establish methods and materials to be used for any repairs. A historic architect, who meets the Secretary of the Interior's professional qualifications standards (48 FR 44716) in historic preservation, will be part of the design/construction team and will have the opportunity to review design drawings and specifications prior to construction. The CPP will empower the Project's historic architect, in consultation with the Chief Engineer of PANYNJ, to issue "stop work" orders to prevent any unanticipated damage to historic properties. Recommencement of work will only be permitted once the Chief Engineer of PANYNJ and the historic architect are assured that appropriate modifications have been made to construction techniques to assure that no further damage will occur. PANYNJ will furnish copies of the Plan to SHPO, LPC, LMDC, the Advisory Council on Historic Preservation, FTA, and the Section 106 Consulting Parties for review and comment prior to its implementation.

In the long-term, the Preferred Alternative will avoid adverse contextual impacts to historic resources in its area of potential effect (APE) as compared to the No Action Alternative. By reducing the number of idling tour buses and delivery trucks throughout the APE and Lower Manhattan, the Preferred Alternative will improve the visual character of historic resources.

### **Urban Design and Visual Character**

The Preferred Alternative will support the WTC Memorial and Redevelopment Plan by providing secured tour bus parking and off-street delivery truck loading and unloading, thereby reducing the number of tour buses and delivery vehicles on Lower Manhattan's narrow, congested streets. The visibility of the vent structures on the Southern Site will be reduced by the use of modern materials and landscaping, ongoing development associated with the WTC redevelopment, and the development by others of the park and church on the Southern Site. Therefore, the Preferred Alternative will not result in adverse impacts to urban design or visual resources, and will improve the design and character of Lower Manhattan as compared to the No Action Alternative.

### **Transportation**

This section describes the potential vehicular traffic, parking, transit, and pedestrian impacts from operation of the Preferred Alternative. The potential impacts during construction are described below in the "Construction Impacts" section.

The Preferred Alternative will not generate new vehicle trips, but it will result in changes in patterns of travel in the vicinity of the WTC Site as compared to the No Action Alternative. Generally, the Preferred Alternative will improve the level of service (LOS) and vehicle delays as compared to the No Action Alternative. There will be some increases in delay at certain locations, but these increases will not result in substantial changes to LOS. In the AM peak hour (8AM to 9AM), 8 of the 11 analysis locations will be improved under the Preferred Alternative as compared to the No Action Alternative. In the midday peak hour (12PM to 1PM), 6 of the 11 analysis locations will be improved, and in the PM peak hour (5PM to 6PM), 9 of the 11 analysis locations will be improved. The Preferred Alternative will also improve midblock operations on Vesey and Greenwich Streets since truck deliveries will not be at-grade. The Preferred Alternative may result in queues on Liberty Street at its entrance and exit driveway, but these queues will not reach the extreme levels that will be expected in the No Action Alternative. As such, the circulation of through traffic and tour buses will be substantially improved as compared to the No Action Alternative, and traffic spillovers onto adjacent roadway will be avoided.

Vehicle delays will increase at the intersection of Liberty Street and Route 9A in the AM, midday, and PM peak hours as compared to the No Action Alternative because the southbound left turn movement from Route 9A to Liberty Street will experience substantial increases in delay during these periods. The New York State Department of Transportation (NYSDOT) is currently reconstructing Route 9A along the western periphery of the WTC Site, which includes the Liberty Street intersection. The analysis presented herewith was based on plans for this location described in the *Route 9A Project Lower Manhattan Redevelopment Final Supplemental Environmental Impact Statement* (June 2004); however, NYSDOT continues to evaluate potential traffic conditions on the Route 9A corridor to achieve desirable traffic conditions with the full redevelopment of the WTC Site. This includes an ongoing evaluation of operations at the intersection of Route 9A and Liberty Street to minimize traffic delays to the maximum extent feasible. Thus, while projected vehicle delays will increase at this location with implementation of the Preferred Alternative, these delays will be offset by substantial improvements at other intersections in the study area.

With the Preferred Alternative, there will a reduction of 2,272 daily tour bus miles of travel compared to the No Action Alternative in the 2015 analysis year. This decrease is substantial on a

daily basis, and, thus, the Preferred Alternative will reduce traffic congestion, vehicle emissions, and fuel consumption. The Preferred Alternative will also result in a small reduction in vehicle miles of travel for delivery vehicles.

The Preferred Alternative will provide 80 spaces for bus parking and, based on the projected distribution of hourly arrivals and departures, the facility is not expected to reach its capacity during the average weekday. However, the facility has been designed to accommodate higher than average weekday demand accounting for higher demand during peak months of visitation and on weekends. In the Preferred Alternative, all trucks will make deliveries to the subgrade garage and will not require curbside space. By removing delivery vehicles and tour buses from curbside spaces, the Preferred Alternative will allow more space for taxi and black car pickups, drop-offs, and queuing.

The WTC Memorial is expected to open in 2009, which predates the anticipated opening of the Preferred Alternative. To address tour bus parking during this interim period, PANYNJ, in conjunction with the WTC Memorial Foundation and the New York City Department of Transportation, will prepare a tour bus management plan to address the interim need for off-site tour bus parking in the initial years of the Memorial's operation. The study will explore potential locations to accommodate tour bus parking off-site as well as programmatic and demand management strategies to reduce the effects of tour buses on Lower Manhattan during this interim period. PANYNJ is in the early phases of coordinating with the Memorial Foundation and the New York City Department of Transportation to develop a scope for this plan. The plan itself will be prepared and implemented before the opening of the WTC Memorial.

The Preferred Alternative will not impact subway, PATH, or ferry service. Because the Preferred Alternative will allow for subgrade tour bus parking and delivery operations, it will improve street-level circulation as compared to the No Action Alternative. Therefore, the Preferred Alternative will benefit the operation of Lower Manhattan's express and local bus service as compared to the No Action Alternative. Furthermore, the Preferred Alternative will reduce vehicle-pedestrian conflicts in the vicinity of the Permanent WTC PATH Terminal since it will relocate deliveries below grade. As such, access to and from the PATH Terminal and adjoining subway stations will be improved as compared to the No Action Alternative.

The Preferred Alternative will neither generate pedestrian traffic nor will it alter pedestrian circulation patterns, but because the Preferred Alternative will divert vehicular traffic to and from certain intersections, it will change the volume of conflicting turns at certain locations. However, the Preferred Alternative will not result in changes in pedestrian LOS as compared to the No Action Alternative. PANYNJ is aware of the potential conflict point between pedestrians and vehicles that may be created at the entry and exit ramp to the Vehicular Security Center and Tour Bus Parking Facility on Liberty Street and will explore design elements to ensure the safety of pedestrians crossing the facility's driveway. The facility's designers will evaluate the entrance's curvature and grade to maximize sight distances for drivers, consider the use of visual and audible devices to alert pedestrians of oncoming vehicles, and incorporate sidewalk, crosswalk and curb treatments to architecturally denote the facility's entrance, raise the profile of the crosswalk to motorists, and regulate the speed of vehicles entering and exiting the facility. Thus, the Preferred Alternative will not result in adverse impacts on pedestrian circulation or pedestrian safety.

### **Air Quality**

This section describes the potential air quality impacts from operation of the Preferred Alternative, and the potential impacts on air quality during construction are described below in the "Construction Impacts" section.

No new exceedances of the National Ambient Air Quality Standards (NAAQS) will be expected as a direct result of the Preferred Alternative. However, annual and 24-hour average PM<sub>2.5</sub> concentrations will exceed the NAAQS if current conditions persist in the future. These high PM<sub>2.5</sub> concentrations could occur region-wide and are not related to the Preferred Alternative.

Absent final detailed plans for the facility's ventilation system, the analysis of dispersion from the facility's ventilation system was based on worst-case assumptions. Under those assumptions, the peak predicted local annual PM<sub>2.5</sub> combined increment from vehicular emissions and the ventilation system could exceed the 0.3 µg/m<sup>3</sup> interim guidance threshold near the southeastern vent in a small area of the Greenwich Street and Liberty Street intersection. PANYNJ continues to advance the design of the Preferred Alternative and will incorporate measures that will avoid this impact such as:

- Locating the southeastern vent shaft a minimum of 110 feet away from residential and firehouse windows;
- Maintaining a minimum ventilation rate of 42,000 cubic feet per minute from 8 AM to 6 PM;
- Installing PM<sub>2.5</sub> sensors within the inlet and outlet airstreams to control ventilation rates based on PM<sub>2.5</sub> readings. These sensors will modify ventilation rates such that hourly PM<sub>2.5</sub> concentrations at the outlet will not exceed rates at the inlet by more than 300 µg/m<sup>3</sup>; and/or
- Air filtration system: the outlet air streams could be filtered to effectively remove a large portion of PM<sub>2.5</sub>.

As design progresses, PANYNJ will consult with the U.S. Environmental Protection Agency and the New York State Department of Environmental Conservation to ensure that measures have been incorporated into the Project such that increases in PM<sub>2.5</sub> will not exceed the guidance threshold.

Because the Preferred Alternative will result in a region-wide reduction in vehicle miles of travel for delivery vehicles and tour buses, it will result in a region-wide reduction in nitrogen oxides (NO and NO<sub>2</sub>), particulate matter (PM), and volatile organic compounds (VOC). The Preferred Alternative will also benefit local air quality since security inspection will not be at grade, which will reduce idling emissions from the street-level queuing of buses and trucks. Furthermore, the Preferred Alternative will preclude at-grade loading/unloading activities at the WTC Site, which would cause severe congestion and queuing on area streets. This congestion would increase vehicle delays, resulting in an increase in the emissions of CO and PM over a wide area for long periods of the day. Therefore, the Preferred Alternative will benefit the region as compared to the No Action Alternative, and with implementation of the above-described design measures to reduce PM<sub>2.5</sub> emissions, it will not result in adverse impacts on air quality.

## **Noise**

This section describes the potential noise impacts from operation of the Preferred Alternative, and the potential impacts from noise and vibration during construction are described below in the "Construction Impacts" section.

Noise impacts due to operation of the WTC Vehicular Security Center and Tour Bus Parking Facility were evaluated using FTA and New York City Environmental Quality Review (CEQR) noise impact criteria. FTA impact criteria are based on the type of land use, distance from the noise source, and existing noise exposure levels, and include a peak one-hour or a 24-hour value. FTA's noise impact criteria are overly conservative for projects at the WTC Site, because existing ambient noise levels are high, and the 16-acre site is vacant. Future No Action noise levels, which include redevelopment of the WTC Site, would exceed FTA's impact thresholds even without implementation of this project. CEQR impact criteria include guideline values for exterior levels

and are based on maintaining an interior noise level for the worst-case hour. However, the principal difference between the two impact criteria is the baseline used to determine impact. FTA impact criteria compare the future noise levels with the Proposed Project to the existing noise levels, whereas CEQR impact assessment compares the future noise levels with the Proposed Project to the noise levels calculated for the equivalent future year without the Project. Thus, the CEQR criteria more accurately reflects the noise impacts and conditions of this Project.

Because existing ambient noise levels are high and because traffic will increase substantially, independent of the Preferred Alternative, there will be exceedances of FTA's impact or severe impact criteria at 13 of the 25 receptor sites under the Preferred Alternative (which is the same as the No Action Alternative). However, with the subgrade loading and unloading of trucks, there will be less noise generated along Greenwich and Albany Streets. In addition, because tour buses will not park off-site, they will not increase noise at off-site locations.

Based upon CEQR impact criteria, the Preferred Alternative will result in a very small increase in noise levels (i.e., a 0.5 dBA or less increase in  $L_{eq(1)}$  values), which will be imperceptible; therefore, no adverse impact is predicted. Since the projected future noise levels with the Preferred Alternative will not be discernible from the noise levels under the No Action Alternative, the impacts are not considered significant.

### **Infrastructure**

Utilities will need to be temporarily or permanently relocated or re-routed due to the Preferred Alternative. Short-term disruptions may be necessary during construction and will be coordinated with the appropriate utility operators to avoid and minimize disruptions to nearby land uses.

### **Hazardous Materials**

Construction activities may expose localized areas of contaminated soil and groundwater or unknown underground storage tanks in areas not identified during the environmental investigations conducted at the Project site. Any such effects, if found, will be addressed by the Construction Health and Safety Plan (CHASP), which will specify appropriate testing and/or monitoring (e.g., real-time dust and organic vapor air monitoring) and detail appropriate measures to be implemented (including notification of regulatory agencies) if underground storage tanks, soil and groundwater contamination, or other unforeseen environmental conditions are encountered. In addition, PANYNJ or its contractor will prepare a dust control plan that will outline procedures to prevent the generation and dispersal of dust (which may contain above-background levels of contaminants). The Preferred Alternative will result in the construction of floor drains in the garage areas designed to collect surface run-off and discharge to the municipal sewer system. To prevent the impact of oil on the municipal sewer system, an oil-water separator will be installed to remove oil from surface run-off prior to discharge. With the implementation of these preventative and remedial measures, the construction and operation of the Preferred Alternative will not result in adverse impacts with respect to hazardous materials.

### **Natural Resources**

- **Water Quality** - Stormwater management for the Preferred Alternative will continue to be diverted to the City's combined sewer system. Pretreatment systems will remove approximately 80 percent of total suspended solids and 40 percent of total phosphorus before being discharged. If the Preferred Alternative ties into the reestablished river water cooling system for the WTC Site, its discharge will be managed by the Stormwater Pollution Discharge Elimination System (SPDES) Permit for the WTC Memorial and Redevelopment Plan, which includes measures to avoid, minimize, or mitigate any impacts on water quality and aquatic resources in the vicinity of the WTC Site. Therefore, the Preferred Alternative will not result in adverse impacts on water quality.

- **Soils, Wetlands, and Floodplains** – The Preferred Alternative will be below ground except for its entry/exit driveway and ventilation structures. Portions of the Project site are already excavated, and soils that will be removed as part of the Preferred Alternative are primarily fill material and bedrock in the project area. The Project site does not contain wetlands. Pursuant to Executive Order 11988 (Floodplain Management), 100-year floodplains and floodways were assessed. Portions of the Project site are located within the 100-year floodplain. The Preferred Alternative will incorporate federal, state, and local standards pertaining to flood protection measures. Therefore, no adverse impacts will occur to the water retention and flood control characteristics of the Project site.
- **Ecologically Sensitive Areas and Endangered Species** – The majority of the Preferred Alternative will be below ground. Any potential impacts to terrestrial resources will only be associated with the above-ground vent structures. Since noise levels emitted from the vents will not exceed surrounding noise levels, the Preferred Alternative will not adversely impact terrestrial resources. The U.S. Fish and Wildlife Service and the New York State Natural Heritage Program have indicated in correspondence (dated November 7, 2005 and November 8, 2005, respectively) that no endangered, threatened, or special concern species or significant habitats are known to occur within the Project site. Peregrine falcons that may occur are acclimated to the urban conditions characteristic of the Project site and adjacent areas. Therefore, they will not be impacted by the operation of the Preferred Alternative.

### **Coastal Zone**

The Preferred Alternative will not have adverse effects to coastal zone resources. In correspondence dated January 12, 2007 (see Attachment B), the New York State Department of State concurred with the consistency certification for the Project with the New York State Coastal Management Program pursuant to U.S Department of Commerce regulations at 15 CFR 930.57.

### **Safety and Security**

PANYNJ and its contractors will develop a detailed CHASP. The CHASPs will require that detailed work scopes be reviewed and approved by PANYNJ to ensure safety in each task, and that equipment, materials, controls, crew size, job responsibilities, operating procedures, and maintenance practices be addressed, implemented, and audited for safety. The CHASPs will identify potential safety concerns and describe methods to protect construction workers and the general public from exposure to contaminants present in air, soil, ground water, building materials, and buried structures encountered at the site. PANYNJ will also develop a maintenance and protection of traffic (MPT) plan, which will provide for alternate routes of safe and convenient pedestrian passage as well as for protection measures such as fencing and scaffolding on public sidewalks adjacent to the construction zone. PANYNJ and its contractors will continue to implement strict security procedures for access to the WTC Site, which include pre-clearance and photo identification for all personnel that visit the site, checkpoints and inspections of materials being delivered to the site, and 24-hour monitoring of activities on and near the site.

The Preferred Alternative allows for the centralized screening of trucks, buses, and automobiles. Centralized screening allows for the controlled and consistent implementation of management procedures and improves the efficiency of security operations by reducing the number of individual security checkpoints. Although PANYNJ has developed preliminary assumptions for the sizing of the security center, the operational plan, which will include the number of lanes, screening procedures and criteria, scheduling and staffing procedures, and security protocols, will be developed as the design advances. PANYNJ is planning, and will continue to plan, for the Preferred Alternative in consultation with partners at the federal, state, and local levels. PANYNJ has been engaged in active coordination with officials from the Governor's office on counter-terrorism and with officials from the New York City Police Department (NYPD).

The PANYNJ Police Department will be responsible for normal policing of the facility, and the New York City Police Department (NYPD) will provide support and/or command and control for exceptional emergency situations as determined by PANYNJ and the New York City Office of Emergency Management. To increase the effectiveness of police activities, it is envisioned that the resources of the PANYNJ Police Department, the Governor's office on counter-terrorism, NYPD, Fire Department of New York, the New York City and New York State Departments of Transportation, the MTA, and other established law enforcement, transportation, emergency response, and planning agencies will contribute through an interactive process of standards development and design review as the Project moves forward with design and implementation.

### **Construction Impacts**

In a coordinated effort, the FTA, other federal partners, and local project sponsors of the Lower Manhattan Recovery Projects identified five environmental resource areas of concern for cumulative effects during construction: access and circulation, air quality, noise and vibration, cultural and historic resources, and business and economic factors. The following summarizes the potential construction impacts for these five areas, and the potential construction period impacts for other resource area were described above in their individual resource area descriptions.

#### *Access and Circulation*

Construction of the Preferred Alternative will generate 188 vehicles per day during the peak construction period (the first two months of the 2008 critical analysis year). These trips will occur throughout the 10-hour work day (7:00 AM to 6:00 PM) such that the majority will not travel to or from the Project site during the peak commuter hours. Therefore, it is estimated that the Preferred Alternative will generate less than 30 two-way vehicle trips during peak commuter periods. During other months of the construction period, the volume of project-generated construction vehicles will be lower.

The vehicles, primarily trucks, needed to deliver materials for construction activities and remove demolition debris, will be required to adhere to established site ingress and egress truck routes. For access to the site, arriving and departing trucks will use Route 9A, Liberty Street, Cedar Street, Albany Street, Greenwich Street, and Church Street. These routes were established by PANYNJ, in coordination with other project sponsors in Lower Manhattan, to minimize levels of construction traffic on local streets and to ensure that the various Lower Manhattan Recovery Projects can be undertaken concurrently without overburdening arterial roadways.

The staging of materials will mainly occur within the Project site, but at limited times during construction, it may be necessary to stage materials on the site of the deconstructed Deutsche Bank Building at 130 Liberty Street and on Liberty or Cedar Streets. Liberty Street is currently closed to traffic and will remain closed throughout construction of the Preferred Alternative. Cedar Street is currently open to traffic; therefore, the use of Cedar Street for staging will require its temporary closure. However, given current conditions in this area, it is not anticipated that temporary closure of Cedar Street will adversely impact traffic circulation in Lower Manhattan.

Construction of the Preferred Alternative will not alter PATH, subway, or ferry service in Lower Manhattan, nor will it change local and express bus routes. Therefore, the Preferred Alternative's construction will not impact transit services.

During a period of the Preferred Alternative's construction, PANYNJ will divert pedestrians from Liberty Street to Albany Street. The Liberty Street pedestrian bridge over Route 9A will be maintained at its current location, but a new stairway will be constructed at its eastern terminus to redirect pedestrians south along Route 9A. At Albany Street, pedestrians will be able to travel east to reach Church Street. PANYNJ will provide protection walkways adjacent to the Project site. The proposed diversion of pedestrian trips from Liberty to Albany Streets is not expected to

adversely impact pedestrian circulation within Lower Manhattan. Although some pedestrians will experience a slightly longer walk between destinations, the diversion will not restrict access to the destinations themselves. Furthermore, the diversion will not limit access to the transit stations or bus stops within the vicinity of the Project site.

To manage vehicular traffic and pedestrian activity in the vicinity of the Project site during construction of the Preferred Alternative, PANYNJ will develop an MPT Plan as part of their contract documents for the Project. The Project's MPT Plan will be incorporated with the overall Traffic Management Plan (TMP), which will be developed by the Lower Manhattan Construction Command Center (LMCCC) for the Lower Manhattan Recovery Projects to address these issues in a broader sense. The TMP will be coordinated with the sponsors of the Lower Manhattan Recovery Projects, and others, as appropriate, based on updated construction scheduling and staging as the designs of individual projects are advanced.

### *Air Quality*

As described above, PANYNJ will implement EPCs as part of the Preferred Alternative to avoid or minimize potential air quality impacts during the construction period. The specific EPCs that pertain to air quality are as follows:

- Use ultra low sulfur diesel (ULSD) fuel for all non-road vehicles that operate with diesel engines.
- Develop a plan with Con Edison, as appropriate, to disperse grid power throughout the construction zone for the Preferred Alternative. In contract documents, require all contractors and subcontractors to use electrically powered equipment for air compressors, pumps, mixing, desanding and grout plants, welding machines, and any other diesel powered equipment that can be replaced with an electrically powered version.
- Use of post-1995 fuel injection engines, which meet the Tier II engine emissions standards, as defined in Title 40, Part 89.112. Exceptions will be made only for specific engines that are not yet commercially available as Tier II, and where the task cannot be reasonably accomplished using alternative engines or means which do comply with these demands. In such cases, the contractor would submit a request for an exception for review and approval prior to implementation.
- Use of Diesel Particle Filters (DPFs) or other measures with equivalent particulate matter removal efficiency for all nonroad diesel engines of 50 horsepower or greater. In cases where DPFs would not be feasible for safety considerations, mechanical reasons, or where the technology would not function properly, the contractor would submit a request for an exception for review and approval prior to implementation, and in these cases, Diesel Oxidation Catalysts (DOCs) may be used. Only in cases where, for technical reasons, neither DPFs or DOCs can be used effectively, and where the operation cannot be performed by another engine or other means, would the use of diesel engines greater than 50 horsepower be allowed without tailpipe reduction measures, subject to the above-described approval process.
- Prepare a Diesel Emission Mitigation Plan that shall address the control of emissions from all engines and vehicles including those that are not equipped with emission control devices. The Plan would limit idling times on diesel powered engines to 3 minutes and would require that contractors locate diesel powered engines away from fresh air intakes.
- Require contractors to submit a Dust Control Plan. Among other things, the Plan would contain protocols and procedures for the spraying of dust piles, containment of fugitive dust, and appropriate adjustment measures to accommodate changes in meteorological conditions.

- Continue to investigate additional means (e.g., fuel emulsions) to reduce NO<sub>x</sub> (NO and NO<sub>2</sub>) emissions, but it is not yet known whether these measures would reduce the effectiveness of the above described mitigation. Therefore, specific means to further reduce NO<sub>x</sub> have not been identified at this time. If this investigation results in additional means to reduce NO<sub>x</sub> without jeopardizing the particulate matter reduction measures, and if other constraints such as technological availability are resolved, then these additional mitigation techniques would be implemented, as appropriate.
- Implement verification procedures through construction specifications and contract documents. Verify mitigation and identify opportunities to expand its implementation as part of its ongoing oversight and auditing of the Project's construction. Implement project-specific verification procedures in accordance with decisions of the LMCCC, including procedures for reporting updates to the public.

During construction, the highest increase in PM<sub>10</sub> concentrations in the immediate vicinity of the Project site are predicted to range up to a maximum of 5.5 and 0.9 µg/m<sup>3</sup> on a 24-hour basis and an annual basis, respectively, and the predicted increase in PM<sub>2.5</sub> concentrations will be up to a maximum of 4.6 µg/m<sup>3</sup> and 0.8 µg/m<sup>3</sup> on 24-hour average and annual average basis, respectively. The predicted increases in PM<sub>2.5</sub> concentration for the annual average will exceed the interim guidance threshold value at all locations in close proximity to the Project site. Although construction activities will result in increases in PM<sub>2.5</sub>, the refined EPCs require strict control of diesel emissions, including emissions reduction technologies as well as measures aimed at minimizing diesel exhaust emissions during construction, to the extent practicable. The refined EPCs, which have been and will continue to be implemented by the Lower Manhattan Recovery Projects' sponsors, reduce PM<sub>2.5</sub> levels substantially as compared to equipment that does not include these PM-reduction technologies.

The maximum total annual average NO<sub>2</sub> concentrations will not exceed the NAAQS. The total predicted PM<sub>10</sub> concentrations will also not exceed the NAAQS; therefore, construction of the Preferred Alternative will not result in an adverse impact on NO<sub>2</sub> or PM<sub>10</sub> concentrations. This is largely due the refined EPCs strict control of both engine and fugitive dust emissions.

The most substantive new emission of pollutants other than criteria pollutants will be from diesel emissions from construction equipment. Diesel exhaust includes gaseous components, such as aldehydes, benzene, 1,3-butadiene, and formaldehyde, as well as some toxics adsorbed to the surfaces of particles. The refined EPCs of the Preferred Alternative will require strict control of diesel emissions, including emissions reduction technologies, such as DPFs and DOCs, as well as other measures aimed at minimizing diesel exhaust emissions during construction to the extent practicable. Therefore, potential exceedances are limited to the smallest and shortest duration possible.

#### *Noise and Vibration*

Peak predicted noise levels will exceed the FTA recommended 30-day L<sub>eq</sub>/L<sub>dn</sub> threshold at four of the five receptor sites using the minimum distance method, but the predicted levels will not exceed the 30-day L<sub>eq</sub>/L<sub>dn</sub> thresholds when using the average distance method. PANYNJ, in coordination with other project sponsors, is developing and refining a range of construction noise and vibration mitigation measures. Specific construction noise reduction measures being explored include:

- The use of acoustic barriers and walled enclosures around certain construction activities;
- The placement of construction equipment in shielded locations, such as below grade in the Project site;

- The installation of silencers on jackhammers, air compressors, generators, light plants and cranes to reduce noise levels at specific locations (e.g., adjacent to existing residential uses);
- The use of electrically operated equipment, rather than combustion equipment, wherever possible;
- The use of soil beds, timber planking and/or exterior rubber lining on truck body and aluminum carrying case to reduce rock impact noise during truck load/unloading operations;
- The use of drive-through street-level truck enclosures for truck loading and unloading;
- The use of sheds/enclosures at concrete pump sites during concrete truck unloading;
- The placement of most loading/unloading inside the Project site and away from noise receptors located at street level; and
- The designation of central areas for noisy activities, such as cutting steel or wood or use of noisy equipment such as impact wrenches. When feasible, use of pre-cut, pre-fabricated, or modular construction materials that minimize need for on-site fabrication or cutting methods.

The noise increases are not expected to be substantial approximately one to two blocks away from construction at the Project site due to the shielding effect of intervening buildings located between the construction site and the more distant receptors. In addition, traffic and other ambient noise in the immediate vicinity of these receptors will add to the masking effect.

Refer to the “Cultural Resources” section above for a discussion of the potential vibration effects during construction.

#### *Cultural and Historic Resources*

Refer to the “Cultural Resources” section above for a discussion of the potential vibration effects on archeological and historic resources during construction.

PANYNJ’s MPT Plan will include appropriate wayfinding measures to ensure that construction of the Preferred Alternative will not adversely affect access to cultural resources during construction.

#### *Economic Effects*

The Project site does not contain any active business uses, and construction of the Preferred Alternative will not limit access to commercial uses on surrounding blocks. Nevertheless, PANYNJ’s MPT Plan will include appropriate wayfinding measures to ensure that construction of the Preferred Alternative will not adversely affect the operation of local businesses.

### **Cumulative Impacts**

#### *Construction Period*

Access and Circulation: The *WTC Memorial and Redevelopment Plan Final Generic Environmental Impact Statement* contains a comprehensive examination of expected traffic conditions in the peak construction year for Lower Manhattan Recovery Projects. The analysis of cumulative traffic effects considered a total of 24 intersections. Overall, future conditions with the construction activities for all of the Lower Manhattan Recovery Projects will result in adverse traffic impacts at the following locations: Route 9A and Vesey Street; Church Street and Chambers Street; Church Street and Barclay Street; Church Street and Cortlandt Street; Broadway and Canal Street; and Broadway and Worth Street. The mitigation of these cumulative traffic impacts will be addressed through an ongoing, coordinated traffic management plan. The traffic management plan will be administered by the LMCCC in cooperation with the Lower Manhattan Recovery Project sponsors and other appropriate public agencies.

Construction of the Preferred Alternative will divert pedestrians from Liberty Street to Albany Street. The Liberty Street pedestrian bridge over Route 9A will be maintained at its current location, but a new stairway will be constructed at its eastern terminus to redirect pedestrians south along West Street. At Albany Street, pedestrians will be able to travel east to reach Church Street. PANYNJ will provide protection walkways adjacent to the Project site. This will include measures to ensure that safe and efficient pedestrian access and circulation is maintained throughout the construction period. PANYNJ's MPT Plan may incorporate additional measures such as signal timing adjustments, protected pedestrian walkways, and crossing guards to ensure pedestrian safety. The Plan will be administered by the LMCCC in coordination with PANYNJ, and the other Lower Manhattan Recovery Project sponsors, as appropriate.

Air Quality: The cumulative increase in NO<sub>2</sub> concentrations were predicted as a substantial adverse impact due to high increments where existing background concentrations are already high; however, the highest predicted total increase will not exceed the NAAQS for annual NO<sub>2</sub> of 100 µg/m<sup>3</sup>. Furthermore, the predicted cumulative increase in NO<sub>2</sub> will be further reduced if a greater level of electrification is achieved than was assumed in the modeled results.

In the peak year, the cumulative construction activities will result in exceedances of the 24-hour and annual PM<sub>2.5</sub> NAAQS; however background concentrations already exceed the annual PM<sub>2.5</sub> NAAQS. Cumulative construction activities will also exceed the New York State Department of Environmental Conservation's (NYSDEC's) interim guidance threshold levels for PM<sub>2.5</sub> (5 µg/m<sup>3</sup> for 24-hour and 0.3 µg/m<sup>3</sup> for annual increases). The Lower Manhattan Recovery Projects' sponsors will continue to implement the EPCs, which reduce PM<sub>2.5</sub> levels substantially as compared to equipment that does not include these PM-reduction technologies. Furthermore, the predicted impacts are conservative in that the current construction schedules for the Lower Manhattan Recovery Projects are not anticipated to simultaneously peak to the extent as previously anticipated in the original cumulative effects analysis.

The total predicted PM<sub>10</sub> concentrations are not expected to exceed the NAAQS at any location during construction; therefore, construction of the Preferred Alternative will not result in an adverse impact on PM<sub>10</sub> concentrations. This is a result of the refined EPC's strict control of both engine emissions and fugitive dust emissions. PANYNJ and the other Lower Manhattan project sponsors will continue to further their commitment to reduce the potential cumulative effects of multiple construction projects.

Noise and Vibration: Cumulative noise levels will exceed the FTA recommended 8-hour L<sub>eq</sub> and 30-day L<sub>dn</sub>/L<sub>eq</sub> thresholds at receptors adjacent to the Southern Site and the eastern portion of the WTC Site. LMCCC, PANYNJ, and the other Lower Manhattan project sponsors continue to develop construction noise and vibration mitigation measures to minimize the construction-period disruption to sensitive uses.

Pursuant to the MOA for this Project, PANYNJ will prepare a CPP for historic structures that may be affected by construction period vibrations. Because the historic resources are also located in the APE for the WTC Memorial and Redevelopment Plan, PANYNJ will coordinate treatment of these resources with LMDC. The CPP will include measures to avoid or minimize the potential cumulative effects on 90 West Street, 26 Cortlandt Street, St. Paul's Chapel and Graveyard, Beard Building, and 114-118 Liberty Street.

Cultural Resources: To address potential cumulative effects on the WTC Site, PANYNJ will comply with the process outlined in Stipulation I.G. of the Permanent WTC PATH Terminal Memorandum of Agreement. As such, PANYNJ will submit preliminary and pre-final documents for the Preferred Alternative to PANYNJ's designated staff responsible for the assessment of the Project with respect to potential for cumulative adverse effects on the WTC Site. PANYNJ will

also implement a WTC Resource Protection Plan for the Preferred Alternative to protect remaining remnants and structures that could be affected during construction.

Economic Conditions: Construction activities have the potential to disrupt business and retail operations as a result of restricted access for pedestrians (customers) and vehicles (deliveries). Construction of the Preferred Alternative itself is unlikely to directly restrict access for extended periods of time since most activities would be contained within the Project site. Some movement restriction may occur while a temporary pedestrian access way along West Street is constructed to access the pedestrian bridge at Liberty Street, but PANYNJ will coordinate with LMCCC to incorporate the Project's MPT measures with the overall TMP for the Lower Manhattan Recovery Projects to ensure that access is maintained to the maximum extent feasible.

#### *Long-Term Effects*

In the long-term, beyond the construction period, the Preferred Alternative, in tandem with the other planned Lower Manhattan Recovery Projects, will provide infrastructure and support for the many planned developments that will attract scores of residents, workers, and visitors to Lower Manhattan on a daily basis. Therefore, the Preferred Alternative will help to assure the long-term economic vitality of Lower Manhattan, which has been central to the planning and development of the Lower Manhattan Recovery Projects.

#### **Section 4(f)**

A Section 4(f) evaluation was prepared to evaluate the use of Section 4(f) resources as follows:

- A portion of the Preferred Alternative will be constructed within the boundaries of the approximately 16-acre WTC Site (National Register-eligible).
- The Preferred Alternative will be constructed within the boundaries of a planned park.
- The Preferred Alternative will result in construction beneath the foundation of 90 West Street and may result in ground-borne vibration from other construction activities within 90 feet of this historic structure.
- The Preferred Alternative's construction may result in vibration impacts to known historic buildings within 90 feet of the Project's construction zone.
- The Preferred Alternative may alter or remove of as yet undetermined archaeological resources within the Project site and beneath Liberty, Cedar, and Washington Streets.

It was determined that the Preferred Alternative will use Section 4(f) resources. Therefore, alternatives were explored to determine if the Project's goals and objectives could be met without the use of these Section 4(f) resources. Three alternatives—No Action Alternative, All On Southern Site Alternative, and Other Off-site Location Alternative—will avoid one or more of the Section 4(f) resources. Although these alternatives are feasible, they are not prudent since they will not meet the goals and objectives of this Project.

Since it has been determined that no prudent and feasible alternative will avoid the use of all of the Section 4(f) resources, PANYNJ and FTA will implement the stipulations of the Project's Section 106 MOA to avoid, minimize, and mitigate the Project's effects to the WTC site, historic buildings within 90 feet of the Project site, and potential archaeological resources that may remain beneath the Southern Site and adjacent streets.

As stated in the Section 4(f) evaluation contained in the EA for the project, Liberty Park was planned concurrently with the transportation uses in the project vicinity. Thus, the portion of the site that will be occupied by the Preferred Alternative was reserved for transportation use during

the planning of the park. Therefore, Section 4(f) does not apply to the project with regard to Liberty Park.

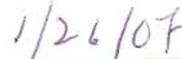
In correspondence dated January 23, 2007 (see Attachment B), the U.S. Department of Interior (DOI) concurred that there are no prudent and feasible alternatives to the proposed Project. DOI agreed with the proposed measures to minimize harm to Section 4(f) resources as described in the EA and Section 4(f) Evaluation and the stipulations of the Section 106 MOA for this Project.

**FTA FINDING**

FTA has reviewed the *World Trade Center Vehicular Security Center Environmental Assessment* and the public and interagency comments included in Attachment A of this FONSI, and finds that the Preferred Alternative, as described in these documents, will have no significant impact on the environment. In addition, FTA finds that there is no prudent and feasible alternative to the use of the Section 4(f) resources identified above, and that the Preferred Alternative includes all possible planning to minimize harm to those Section 4(f) resources.



\_\_\_\_\_  
Bernard Cohen, Director  
Lower Manhattan Recovery Office  
Federal Transit Administration



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Date: