- West 55th Street and West 54th Street adjacent to the Potamkin Building (at Eleventh Avenue).

NYSDOT has developed a traffic monitoring program that includes these locations. Baseline counts taken in November 1994 and November 1995 will be submitted to SHPO.

IV. STATUS OF ROADWAY DESIGN

Since September 1994, FHWA and NYSDOT have been engaged in developing final highway design plans. For design and construction purposes, the Corridor has been divided into seven segments from south to north (see Figure 2):

- Segment 1—State Street to Albany Street
- Segment 2—Albany Street to Harrison Street
- Segment 3—Harrison Street to Clarkson Street
- Segment 4—Clarkson Street to Horatio Street
- Segment 5—Horatio Street to 25th Street
- Segment 6—25th Street to 42nd Street
- Segment 7—42nd Street to 59th Street

Construction is to begin with Segment 4 in the spring of 1996. NYSDOT (letter from Douglas Currey, August 4, 1995) summarized the cultural resources findings for Segment 4 with regard to both archeological resources and historic structures.

A. ARCHEOLOGICAL RESOURCES

In terms of archeological resources, none of the four sites remaining for continued evaluation are in Segment 4.

B. HISTORIC PROPERTIES/STRUCTURES—WITHIN THE ROUTE 9A CORRIDOR

Two historic resources front the alignment in this segment of the Route 9A Corridor (see Figure 3): the Westbeth Building (a National Historic Landmark) and the American Seaman's Friend Society Building (State and National Register Eligible, 10/3/89). The SHPO letter of September 6, 1995, indicated only one remaining concern relevant to these properties: construction vibrations (discussed above under section III, "Historic Properties/Structures—Within the Inland Study Area").

C. HISTORIC PROPERTIES/STRUCTURES—WITHIN THE INLAND STUDY AREA

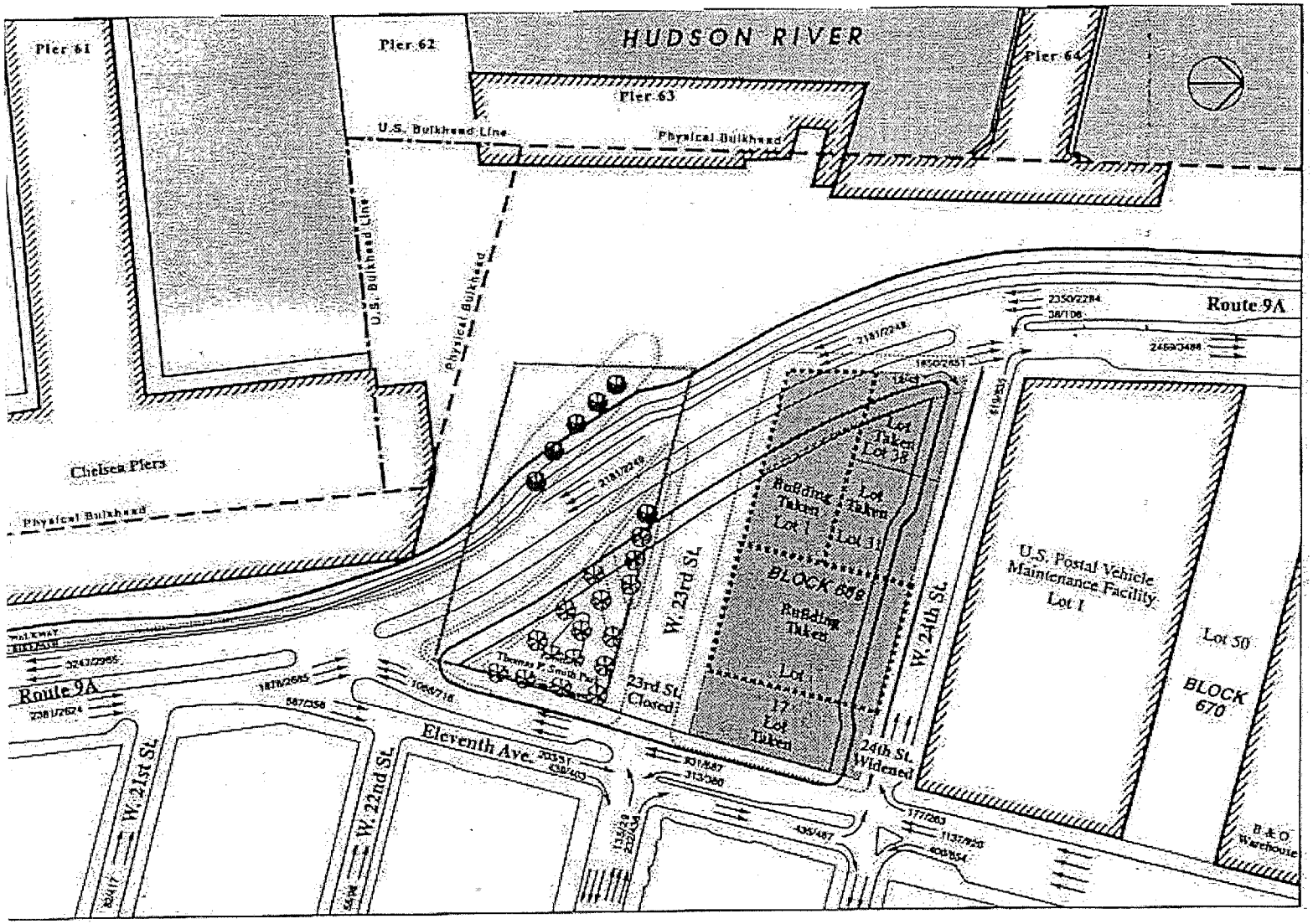
In the inland area (including historic districts), only one link in the Segment 4 area—Clarkson Street between West and Greenwich Streets—was identified as a candidate for further review with SHPO as a possible APE. It was visited during the field trip on October 13, 1994, and was described in the materials presented to SHPO on the same day. The SHPO letter of November 4, 1994, did not identify this link as one of the links requiring any additional consideration.

Legend

Building Footprint
Building Taken/Lot Taken
Lot Lines
Existing Tree
Removed Tree
Limits of Park
Existing Alignment and Park
AM/PM Volumes
Number of Lanes

Preferred Alternative thru Thomas F. Smith Park

ROUTE 9A RECONSTRUCTION PROJECT



Figure

PROJECT AND SEGMENT LOCATIONS

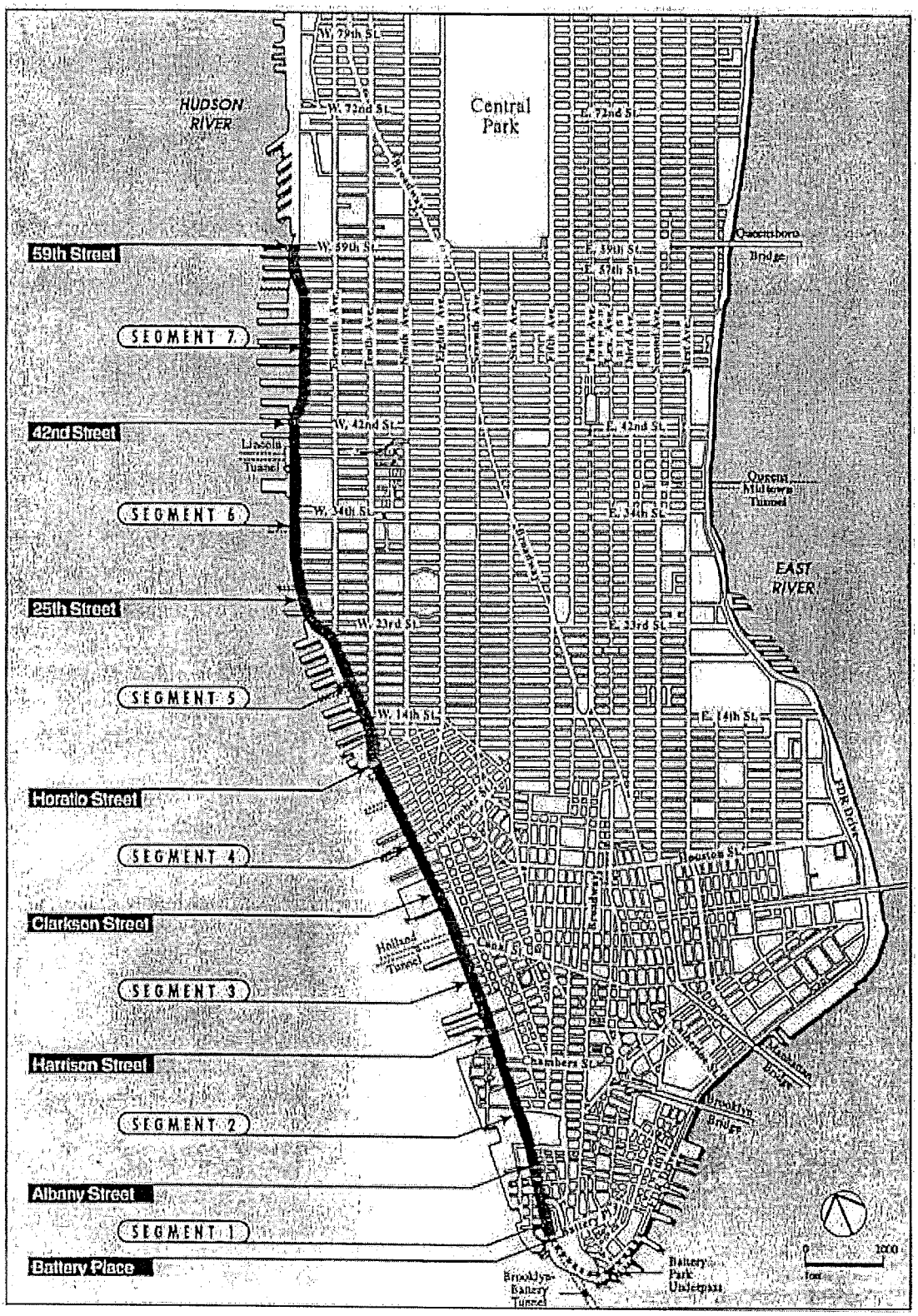
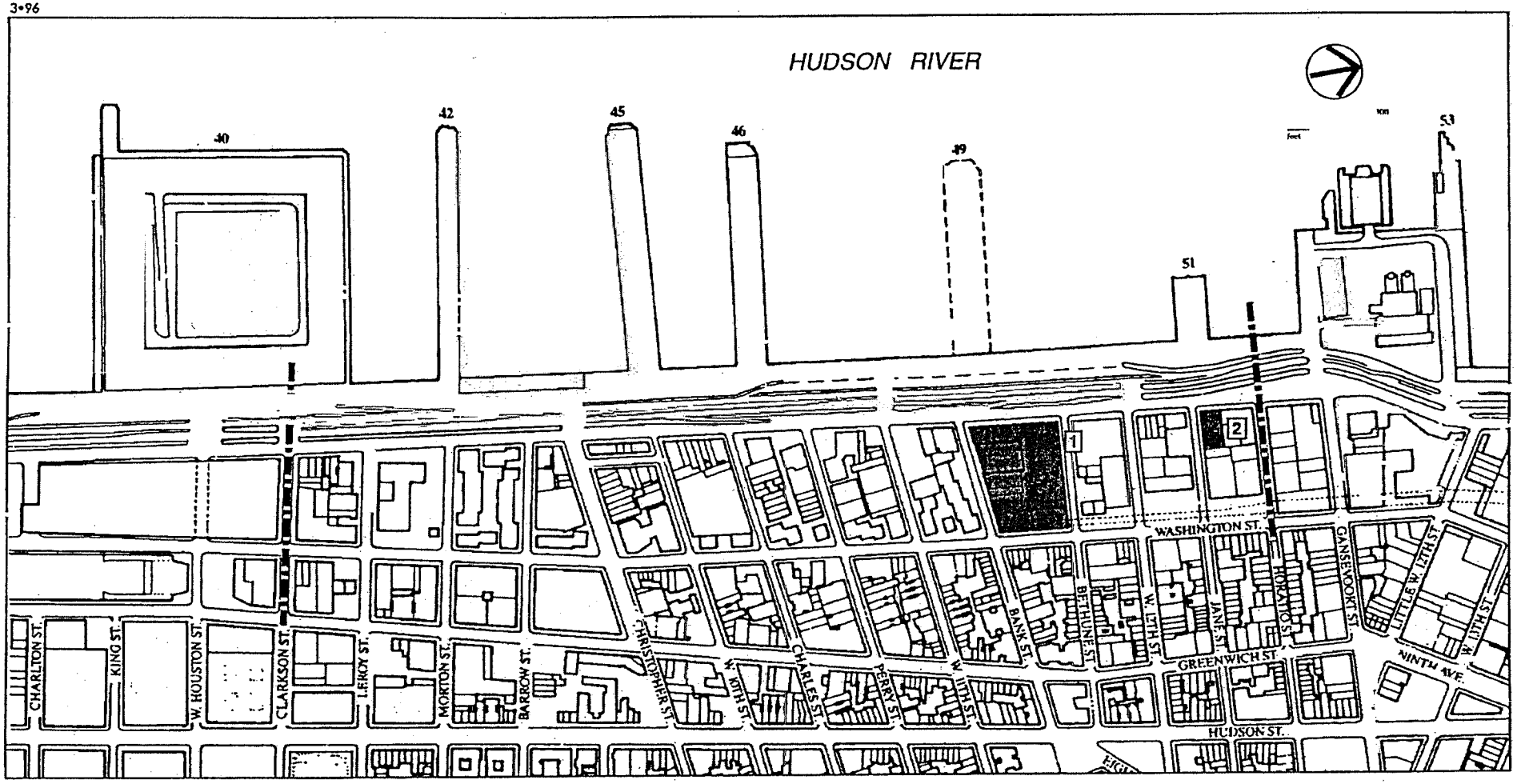


Figure 2

3•96



1 Westbeth Building - S/NR, NHL

2 American Seaman's Friend Society - S/NR eligible

ROUTE 9A RECONSTRUCTION PROJECT

Legend

Segment Boundary
(Segment 4 - Clarkson Street to Horatio Street)

Historic Properties/Structures Fronting the Alignment – Segment 4

Figure 3

Attachments

Attachment A Programmatic Agreement

Attachment B Matrix of Archeological Sites

Attachment C Historic Properties/Structures in the Route 9A Corridor (FEIS Table)

ATTACHMENT A

PROGRAMMATIC AGREEMENT

PROGRAMMATIC AGREEMENT
AMONG THE
FEDERAL HIGHWAY ADMINISTRATION,
THE
NEW YORK STATE HISTORIC PRESERVATION OFFICER,
AND THE
ADVISORY COUNCIL ON HISTORIC PRESERVATION,
REGARDING THE
RECONSTRUCTION OF ROUTE 9A
NEW YORK CITY, NEW YORK

WHEREAS, the Federal Highway Administration (FHWA) has determined that the Route 9A Reconstruction Project (Project) in New York City, New York may have an effect on properties/structures included in or eligible for inclusion in the National Register of Historic Places, and has consulted with the Advisory Council on Historic Preservation (Council) and the New York State Historic Preservation Officer (SHPO) pursuant to Sections 106 and 110(f) of the National Historic Preservation Act (16 U.S.C. 470f) and the Council's implementing regulations, "Protection of Historic Properties" (36 CFR Part 800); and

WHEREAS, the New York State Department of Transportation (DOT) has participated in the consultation and was invited to concur in this Programmatic Agreement;

WHEREAS, the FHWA, the SHPO and the Council agree that the undertaking shall be guided in principal by the methodologies outlined in the Draft Environmental Impact Statement (DEIS) / Supplemental DEIS (SDEIS) and Final Impact Statement (FEIS) for the project;

WHEREAS, the FHWA and DOT have agreed to provide all studies and other documentation to the New York City Landmarks Preservation Commission (LPC) for their information;

NOW, THEREFORE, FHWA, the SHPO and the Council agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of this Project on historic properties/structures.

STIPULATIONS

FHWA WILL ENSURE THAT THE FOLLOWING STIPULATIONS ARE IMPLEMENTED AS PART OF SUBSEQUENT PLANNING, DESIGN AND CONSTRUCTION OF THE SELECTED PROJECT ALTERNATIVE.

ARCHEOLOGICAL RESOURCES

Within the area of potential effect (APE) for archeological resources[1], a comprehensive program for the identification, evaluation, and treatment of archeological resources will be implemented in the manner set forth below.

A. Contextual Studies

To assess the large number of potential archeological sites that may exist within the APE and to refine predictions on locations of potential archeological sensitivity, FHWA and DOT will complete contextual studies for each of the following categories.

1. Prehistoric Sites.
2. Dwellings and Tenements.
3. Energy.
4. Meat Market.
5. Offices and Warehouses.
6. Land Transportation.
7. Unassociated Structures.
8. Lumber and Building Materials.
9. Manufacturing.
10. Services.
11. Piers and Wharves.
12. Landfill Devices and Sunken Ships.
13. 17th Century Fortifications and Foundations at Morris Street.

B. Review and Results of Contextual Studies

1. As the contextual studies for each category are completed, they will be provided to the SHPO for their review and comment.[2]

---

[1] The area of potential effect for archeological properties includes (1) the right-of-way; (2) streets intersecting Route 9A for a 50-foot distance east of the roadway; (3) at locations where construction may occur east of the roadway, e.g. between Battery Place and Joseph P. Ward Street, Chambers Street, between Canal and Spring Streets, between Gansevoort and 13th Streets, between 14th and 15th Streets, and Thomas F. Smith Park; (4) footprints at pedestrian over passes or other special features; and (5) construction staging areas outside of the areas listed in (1)-(4) above.

[2] In this instance and in all similar provisions provided for in this Agreement, unless otherwise noted, where comments are sought from the SHPO and/or LPC, it is understood that the party will be provided 30 days from the receipt of the request to submit comments. If no comments are submitted during this review period, it is understood that the party has no wish to comment and concurs with the recommendations or conclusions for which comments were sought. Extensions, totalling no more than 15 days, will be added to the 30-day review period in cases where timely requests are made for additional documentation deemed necessary to complete a review.

2. For each study, FHWA and DOT, based on comments received from the SHPO, will:

a. Determine the need, if any, to verify the assumptions made in the study. If the need for verification exists, an appropriate field testing methodology will be developed by FHWA and DOT in consultation with the SHPO (See Stipulation I.C. below).

b. Determine which presumed site locations do not require further consideration, Provided the SHPO agrees with these conclusions, such site locations need receive no further consideration under this Agreement.

c. Determine which presumed site locations do require further consideration. These site locations should be treated in accordance with Stipulation I.D. below.

If conclusions reached by FHWA and DOT are not consistent with comments and recommendations received from the SHPO, FHWA and DOT will consult to resolve the objection. If the objection cannot be resolved, the recommendations of the Council will be sought consistent with Stipulation V of this Agreement.

C. Field Testing Assumptions of Contextual Studies

In consultation with the SHPO, FHWA and DOT will develop and undertake a strategy for carrying out field testing. If the results of such field testing demonstrates that assumptions upon which predictions were made in the Contextual Studies are not valid, the Studies, as appropriate, will be revised in a manner acceptable to the SHPO.

The Council will be kept apprised of any such field testing that is carried out and its results and will be provided copies of field reports and any revised Contextual Studies.

D. Further Evaluation of Potential Sites

For those site locations determined to require further consideration pursuant to Stipulation I.B.2.c. and determined by FHWA and DOT, in consultation with the SHPO, to be subject to possible project impacts, field testing will be undertaken to determine site characteristics and the degree of site integrity and disturbance. This field evaluation and testing program will be carried out in consultation with the SHPO and at a level sufficient to be able to determine if sites meet the criteria for listing in the National Register of Historic Places (36 CFR Section 60.4). For each field tested site, FHWA and DOT, in consultation with the SHPO, will apply the National Register criteria and reach one of the following conclusions:

1. The site does not meet the National Register criteria; no further action is required.

2. The site does meet the National Register criteria, in which case the site will be treated in accordance with Stipulation I.E. below.

3. A dispute exists regarding whether the criteria are met, in which case the opinion of the Keeper of the National Register will be sought to resolve the disagreement, and the site treated in accordance with the Keeper's finding.

FHWA and DOT will notify the SHPO, and interested parties of conclusions regarding evaluation of all sites for National Register.

E. Data Recovery

For those sites determined to be eligible for inclusion in the National Register, FHWA and DOT, in consultation with the SHPO, shall develop and conduct a data recovery plan that is consistent with the Secretary of the Interior's Standards and Guidelines for Archeological Documentation(48 FR 44734-37) and the Council's Treatment of Archeological Properties and subsequent amendments (Advisory Council on Historic Preservation, 1980). The plan shall:

1. Be responsive to the relevant historic contextual study developed for this project;

2. Be designed to recover data sufficient to address significant research issues and to test assumptions set forth in the appropriate historic contextual study;

3. Provide adequate flexibility to allow for addressing unanticipated resource, site conditions, and alternative methods and scopes of work, as appropriate. The SHPO shall be kept apprised of any changes to the data recovery plan;

4. Include a process for consultation with the SHPO, LPC and interested parties, as appropriate, throughout the monitoring and data recovery phases; and,

5. Include a schedule of proposed data recovery efforts with reporting requirements.

6. In some cases, the data recovery plan may be implemented through a monitoring program during construction. The use of this method would be subject to approval by SHPO, DOT, and FHWA.

F. Professional Standards

DOT shall ensure that all archeology carried out pursuant to this Agreement is conducted by or under the direct supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards (48 FR 44138-9).

G. Curation

DOT shall develop and implement, in consultation with the SHPO and in accordance with 36 CFR Part 79, a plan for the analysis and curation of material and records from the archeological excavations are curated in accordance with 36 CFR Part 79.

H. Reports

DOT shall ensure that all final archeological reports resulting from the actions pursuant to this Agreement shall be provided to the SHPO, LPC and interested parties, and submission to the National Technical Information Service (NTIS). FHWA and DOT shall ensure that all such reports are responsive to contemporary professional standards, and to the Department of the Interior's Format Standards for Final Reports of Data Recovery Program (42 FR 5377-79).

I. Phasing of Construction Activities and Archeological Field Work

DOT will take all steps practical to ensure that needed archeological field analysis and data recovery can proceed in advance of construction activities. In establishing construction scheduling and staging, FHWA and DOT will fully consider, anticipate, and prepare for archeological work that must be undertaken. FHWA and DOT shall coordinate the site preparation in a manner

which allows maximum exposure of the areas to be tested at the earliest possible date. Further, FHWA and DOT will provide to the SHPO and LPC regularly scheduled status reports that will include notice about schedules, plans, and timing related to phasing archeological work with construction in order that the SHPO can better anticipate review requirements and thereby provide more timely advice.

II. HISTORIC PROPERTIES/STRUCTURES - WITHIN THE ROUTE 9A CORRIDOR

Within the area of potential effects for the Route 9A Corridor (APE) for historic properties/structures[3], a comprehensive program for assessment of effects and treatment of historic properties/structures will be implemented in the manner set forth below.

A. Analysis of Effects

In consultation with the SHPO, FHWA and DOT will determine if, there are any effects on the 39 historic properties/structures listed or determined eligible for listing in the National Register of Historic Places identified on Attachment A. Analysis of effects will be guided by the Criteria of Effect [36 CFR Section 800.9(a)]. A determination of effect will consider if there are physical takings, visual effects, vibrations resulting from construction and anticipated traffic increases, access changes, or noise impacts. These will be evaluated in light of those characteristics which make the properties/structures significant.

1. Findings of No Effect

If, after consultation with the SHPO; FHWA and DOT determines that there will be no effect to a property/structure, this finding will be documented and copies will be provided to the SHPO for review. Any objections and reasons therefore must be provided in writing within 30 days. Specific effects must be identified so that any possible mitigation measures can be considered and developed.

2. Findings of No Adverse Effect

If, after consultation with the SHPO; FHWA and DOT determines that there will be no adverse effect to a property/structure, this finding will be documented and copies will be provided to the SHPO for review. Should the SHPO object within 30 days, FHWA and DOT can either accept a finding of adverse effect for the property/structure or seek Council review pursuant to Stipulation V.

3. Findings of Adverse Effect

If, after consultation with the SHPO; FHWA and DOT determines that there will be adverse effects to a property/structure, FHWA and DOT will develop a treatment plan as set forth in Stipulation II.B.

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[3]The area of potential effect for historic structures includes the roadway frontage for the selected alternative and those areas where pedestrian bridges will be located.

B. Treatment of Adverse Effects

1. Treatment Measures

If adverse effects to historic properties/structures are identified, FHWA and DOT will consider, depending on the nature of the effect and the significance of the property/structure, mitigation measures including, but not limited to, the following:

a. Avoidance of demolition or taking through project redesign,
b. Use of noise attenuation design features,
c. Landscaping to minimize visual impacts,
d. Monitoring of seismic impacts, with modifications in construction techniques if seismic impacts are detected,
e. Signalization and other traffic control measures to reduce traffic generated impacts,
f. Use of construction materials and design features that will improve visual compatibility with adjacent historic properties/structures,
g. Documentation of existing streetscapes and/or historic properties/structures.

2. Views of Interested Parties

In considering mitigation measures for treatment of adverse effects, FHWA and DOT will take fully into account the views of interested parties, in particular LPC and owners of affected historic properties /structures. A community liaison office will be kept open during design and construction to allow input from the general public. Depending on the level of public interest, FHWA and DOT will institute means to solicit and fully consider the views of the public in arriving at appropriate treatment measures.

3. Development of Treatment Plans

Giving full consideration to the views of the property owners, FHWA and DOT, in consultation with the SHPO, will develop a treatment plan for each historic property/structure adversely affected. The treatment plan will set forth the mitigation measures that will be undertaken and will contain evidence that it has been reviewed and approved by the SHPO. An informational copy of the treatment plan will be provided to the Council. FHWA and DOT will then implement the approved treatment plan.

4. If FHWA, DOT and the SHPO are unable to agree on a treatment plan for an historic property/structure adversely affected, FHWA will complete the steps set forth in Sections 800.5(e) - 800.6 of the Council's regulations to address adverse effects to the property /structure.

III. HISTORIC PROPERTIES/STRUCTURES - WITHIN THE INLAND STUDY AREA

Using traffic data and modeling, FHWA and DOT, in consultation with the SHPO, will identify possible areas, streets, and/or locations within the inland study area where traffic changes are expected to occur as a result of the selected alternative. In determining these areas, DOT will use a criteria, which includes, functional classification changes, congestion, above normal traffic variations, land use, expected noise level changes and level of service changes.

A. Determination of APEs

The above noted parameters will indicate areas that need to be examined to determine if they are areas of potential effect (APEs). These areas will be assessed by FHWA and DOT in consultation with the SHPO. This assessment, which will include onsite reviews, will arrive at one of the following conclusions:

1. No Further Study

The areas and expected traffic condition and effects indicate the areas identified are not APEs and no further study is warranted.

2. Historic District Areas

The areas identified are in a historic district and overall effects on the historic district need to be examined.

3. Areas of Potential Effect

The area and expected traffic conditions are such that an APE is evident. Further evaluation of the APE is warranted to determine if there is a high concentration of historic properties/structures. If there is a low concentration or no historic properties/structures in the APE, no further study is warranted.

4. Additional Study Needed

If the SHPO determine that preliminary evidence is inconclusive, FHWA and DOT will undertake additional studies of properties/structures in the identified area(s) in order that the SHPO can conclude with certainty that an area is of high of low concentration.

B. Analysis of Effect

For those determined APEs that contain a high concentration of historic properties/structures, FHWA and DOT, in consultation with the SHPO, will determine the nature and extent of effects.

1. Historic Districts

a. No Effect - The cumulative affects of the expected traffic conditions on the Historic Districts are negligible and no effect is expected.

b. No Adverse Effect - There are some perceptible changes in the expected traffic conditions, but no adverse effects to the Historic District are evident.

c. Adverse Effect - Specific adverse effects will result from expected traffic conditions that will affect the character and setting of the Historic District. Possible mitigation measures will follow those steps in Stipulation II.B..

2. APEs - High Concentration of Historic Properties/ Structures

a. No Adverse Effect - The effects of the expected traffic conditions are perceptible and evident, but no specific adverse effects are expected on the specific historic properties/structures.

b. Adverse Effect - Specific adverse effects will result from expected traffic conditions that will affect the character and setting of the historic properties/structures. Possible mitigation measures will follow those steps in Stipulation II.B..

3. Views of Interested Parties

In considering mitigation measures for treatment of adverse effects, FHWA and DOT will take fully into account the views of interested parties. For those sites, the steps in Stipulation II.B.2. will be followed.

IV. REPORTING

One year from the date this agreement is concluded, and every year thereafter until project completion, DOT will provide to the Council, the SHPO, and LPC a report on activities carried under this Agreement during the preceding year. At the time the report is submitted the signatories of the Agreement will review implementation of the Agreement and determine whether revisions are needed. If revisions are needed, the parties to this Agreement will consult in accordance with 36 CFR Part 800 to make such revisions.

V. DISPUTE RESOLUTION

Should the Council or the SHPO object within 30 days to any actions proposed pursuant to this agreement, DOT and FHWA shall consult with the objecting party to resolve the objection. If FHWA determines that the objection cannot be resolved, FHWA shall forward all documentation relevant to the dispute to the Council. Within 30 days after receipt of all pertinent documentation, the Council will either:

A. provide FHWA with recommendations, which FHWA will take into account in reaching a final decision regarding the dispute; or

B. notify FHWA that it will comment pursuant to 36 CFR Section 800.6(b), and proceed to comment. Any Council comment provided in response to such a request will taken into account by FHWA in accordance with 36 CFR Section 800.6(c)(2) with reference to the subject of the dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; FHWA's responsibility to carry out all actions under this agreement that are not the subjects of the dispute will remain unchanged.

EXECUTION AND IMPLEMENTATION OF THIS PROGRAMMATIC AGREEMENT EVIDENCES THAT FHWA HAS SATISFIED ITS SECTION 106 RESPONSIBILITIES FOR THE ROUTE 9A RECONSTRUCTION PROJECT.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: _____ Date: 3-23-94

FEDERAL HIGHWAY ADMINISTRATION

By: _____ Date: 3/15/94

NEW YORK STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: 17 March '94

CONCUR:

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

By: _____ Date: 3/15/94

SEE NEXT SHEET FOR ADDED SIGNATURE IDENTIFICATION

Added After Signatures

Signature Identification

Signatories:

Robert W. Bush, Executive Director
Advisory Council on Historic Preservation

Gene K. Fong, Assistant Division Administrator
Federal Highway Administration

John Winthrop Aldrich, Deputy Commissioner for Historic Preservation
New York State Office of Parks, Recreation and Historic Preservation

Concurrence:

Robert J. Ronayne, Executive Director
Route 9A Reconstruction
New York State Department of Transportation

ATTACHMENT B

MATRIX OF ARCHEOLOGICAL SITES

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

	SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO					FIELD TESTING
Item No. (1)	Site No.	Notes	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Viability	Lack of Research Potential	Well Documented in the Literature	Out of APE (2)	Prior Disturbance	Field Recommendation
1	135.0		Mott House basement at West 54th St; in middle of St	Dwellings & Tenements	YES	7	54th					PENDING	PENDING
2	490.0		Coal conveyor tunnel	Energy	YES	7	58th/59th					PENDING	PENDING
3	328.0		Bloomingdale Flint Glass Works, on or adjacent to this block	Manufacturing	YES	7	46th/47th					PENDING	PENDING
4	137.0		Protected cave; minimal subsurface disturbances Prehistoric	Prehistoric	YES	7	West 46th St					PENDING	PENDING
5	1.0		Fort Amsterdam	17th C. Fortifications & Foundations	NO	1	Battery/State				OUT		NO
6	2.0		Well, Fort Amsterdam	17th C. Fortifications & Foundations	NO	1	Battery/State				OUT		NO
7	170.0		17th Century fortified stockade	17th C. Fortifications & Foundations	NO	1	Morris/Edgar				OUT		NO
8	171.0		Dutch stone foundations	17th C. Fortifications & Foundations	NO	1	Morris/Edgar				OUT		NO
9	172.0	(3)	Dwellings	Dwellings & Tenements	NO	1	Morris/Edgar				OUT		NO
10	234.0		Tenement	Dwellings & Tenements	NO	2	Park Pl/Murray	SHPO 8/12/92	SHPO 8/12/92				NO
11	237.0		Three Tenements	Dwellings & Tenements	NO	2	Park Pl/Murray	SHPO 8/12/92	SHPO 8/12/92				NO
12	238.0		Tenement	Dwellings & Tenements	NO	2	Park Pl/Murray	SHPO 8/12/92	SHPO 8/12/92				NO
13	400.0		Tenement	Dwellings & Tenements	NO	5	23rd/24th	SHPO 8/12/92	SHPO 8/12/92				NO
14	99.0		Coal house, Manhattan Gas Co.	Energy	YES	5	17th/18th					SHPO 8/31/95	NO
15	100.0		Retort house, Manhattan Gas Co.	Energy	YES	5	17th/18th					SHPO 8/31/95	NO
16	175.0		Building associated with coal yard	Energy	YES	5	14th/15th		SHPO 8/31/95				NO
17	347.0		Storage tanks, Manhattan Gas Co.	Energy	YES	5	16th/17th					SHPO 8/31/95	NO
18	348.0		Shed, Manhattan Gas Co.	Energy	NO	5	16th/17th		SHPO 8/12/92		Out		NO
19	349.0		Building, Manhattan Gas Co.	Energy	YES	5	16th/17th					SHPO 8/31/95	NO
20	351.0		Coal house, Manhattan Gas Co.	Energy	YES	5	17th/18th					SHPO 8/31/95	NO
21	352.0		Retort house, Manhattan Gas Co.	Energy	YES	5	17th/18th					SHPO 8/31/95	NO
22	353.0		Retort house, Manhattan Gas Co.	Energy	YES	5	17th/18th					SHPO 8/31/95	NO
23	357.0		Building- Manhattan Gas Co.	Energy	YES	5	12th/13th				Out	SHPO 8/31/95	NO
24	358.0		Shed- Consolidated Gas Co.	Energy	YES	5	12th/13th				Out	SHPO 8/31/95	NO
25	359.0		Two buildings- Manhattan Gas Co.	Energy	YES	5	18th/19th					SHPO 8/31/95	NO
26	360.0		Two story shed- Consolidated Gas Co.	Energy	YES	5	18th/19th					SHPO 8/31/95	NO
27	361.0		Shed- Consolidated Gas Co.	Energy	YES	5	18/19th					SHPO 8/31/95	NO
28	362.0		Two story shed- Consolidated Gas Co.	Energy	NO	5	18th/19th		SHPO 8/12/92		Out		NO
29	364.0		Building- Consolidated Gas Co.	Energy	YES	5	18/19th					SHPO 8/31/95	NO
30	365.0		Building- Consolidated Gas Co.	Energy	YES	5	18/19th					SHPO 8/31/95	NO
31	366.0		One story shed- Consolidated Gas Co.	Energy	YES	5	18/19th					SHPO 8/31/95	NO
32	367.0		Building- Consolidated Gas Co.	Energy	YES	5	18/19th					SHPO 8/31/95	NO
33	368.0		Three story building- Consolidated Gas Co.	Energy	YES	5	18/19th					SHPO 8/31/95	NO
34	368.0		Building- Consolidated Gas Co.	Energy	YES	5	18/19th					SHPO 8/31/95	NO
35	371.0		Building- Manhattan Gas Co.	Energy	YES	5	19th/20th				Out	SHPO 8/31/95	NO
36	373.0		Gas tank- Consolidated Gas Co.	Energy	YES	5	19th/20th					SHPO 8/31/95	NO
37	374.0		Building- Consolidated Gas Co.	Energy	YES	5	19th/20th					SHPO 8/31/95	NO
38	375.0		Building- Manhattan Gas Co.	Energy	YES	5	19th/20th					SHPO 8/31/95	NO
39	122.0		Brick building, Consolidated Gas Co.	Energy	YES	7	44th/45th					SHPO 8/31/95	NO
40	124.0		Brick building, Consolidated Gas Co.	Energy	YES	7	45th/44th	SHPO 8/31/95	SHPO 8/31/95			SHPO 8/31/95	NO
41	125.0		Brick building, Consolidated Gas Co.	Energy	YES	7	45th/45th	SHPO 8/31/95	SHPO 8/31/95				NO
42	142.0		Brick buildings, Consolidated Gas Co.	Energy	YES	7	44th/45th					SHPO 8/31/95	NO
43	429.0		Building- Consolidated Gas Co.	Energy	YES	7	45th/46th					SHPO 8/31/95	NO

nel 03/27/9

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO					FIELD TESTING
Item No. (1)	Site No.	Notes	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Viability	Lack of Research Potential	Well Documented in the Literature	Out of APE (2)	Prior Disturbance	Final Recommendation
44	430.0		Storage tanks, Consolidated Gas Co.	Energy	YES	7	45th/46th					SHPO 8/31/95	NO
45	431.0		Wood building, Consolidated Gas Co.	Energy	NO	7	45th/46th		SHPO 8/12/92		Out		NO
46	432.0		Building, Consolidated Gas Co.	Energy	YES	7	45th/46th					SHPO 8/31/95	NO
47	433.0		Two buildings-Consolidated Gas Co.	Energy	YES	7	45th/46th	SHPO 8/31/95					NO
48	434.0		Two gas storage tanks- Consolidated Gas Co.	Energy	YES	7	46th/46th					SHPO 8/31/95	NO
49	439.0		Wood shed- coal yard	Energy	YES	7	46th/47th	SHPO 8/31/95				SHPO 8/31/95	NO
50	471.0		Coal pockets in M.S.	Energy	NO	7	54th/55th		SHPO 8/12/92		Out		NO
51	80.0		Brick building, shop & dwelling, wagon builder, truckman	Land Transportation	NO	5	14th/15th		SHPO 8/12/92				NO
52	106.0		Building/freight yard	Land Transportation	NO	5	22nd/23rd	SHPO 8/12/92		SHPO 8/12/92			NO
53	107.0		Building/freight yard	Land Transportation	NO	5	22nd/23rd	SHPO 8/12/92		SHPO 8/12/92			NO
54	108.0		Car house	Land Transportation	NO	5	23rd/24th	SHPO 8/12/92	SHPO 8/12/92	SHPO 8/12/92			NO
55	314.0		Unloading platform	Land Transportation	NO	5	Little W. 12th	SHPO 8/12/92			Out		NO
56	381.0		Two buildings/freight yard	Land Transportation	NO	5	22nd/23rd	SHPO 8/12/92		SHPO 8/12/92			NO
57	382.0		Building/freight yard	Land Transportation	NO	5	22nd/23rd	SHPO 8/12/92		SHPO 8/12/92			NO
58	383.0		Building/freight yard	Land Transportation	NO	5	22nd/23rd	SHPO 8/12/92		SHPO 8/12/92			NO
59	384.0		Building/freight yard	Land Transportation	NO	5	22nd/23rd	SHPO 8/12/92		SHPO 8/12/92			NO
60	385.0		Building/freight yard	Land Transportation	NO	5	22nd/23rd	SHPO 8/12/92		SHPO 8/12/92			NO
61	424.0		Brick building/Stable, Depot & Traction Co.	Land Transportation	NO	5	42nd/43rd	SHPO 8/12/92	SHPO 8/12/92	SHPO 8/12/92			NO
62	433.0		Wood building/sales	Land Transportation	NO	7	51st/52nd		SHPO 8/12/92				NO
63	463.0		Motor Car Works	Land Transportation	NO	7	50th/51st		SHPO 8/12/92				NO
64	464.0		Garage	Land Transportation	NO	7	55th/56th		SHPO 8/12/92				NO
65	465.0		Service station	Land Transportation	NO	7	55th/56th		SHPO 8/12/92				NO
66	466.0		Republic Motor Sales Co. Service station	Land Transportation	NO	7	56th/57th		SHPO 8/12/92				NO
67	469.0		Three buildings in M.S./U.S. Army garage	Land Transportation	NO	7	57th/58th		SHPO 8/12/92				NO
68	5.0		Log cribbing	Landfill Devices & Sunken Ships	NO	1	Battery Pl/Greenwich	SHPO 8/12/92			Out		NO
69	165.0		Bulkhead/reliefing platform	Landfill Devices & Sunken Ships	NO	1	Battery Pl.	SHPO 8/12/92			Out		NO
70	14.0		Crib bulkhead	Landfill Devices & Sunken Ships	NO	2	Dey		SHPO 8/12/92				NO
71	19.0		Crib bulkhead (possible)	Landfill Devices & Sunken Ships	NO	2	Vesey		SHPO 8/12/92				NO
72	31.0		Sunken ship (possible)	Landfill Devices & Sunken Ships	NO	2	Warren/West	SHPO 8/12/92					NO
73	34.0		Sunken ship (possible), Chambers St wharf	Landfill Devices & Sunken Ships	NO	2	Chambers	SHPO 8/12/92					NO
74	49.0		Sunken ship (possible)	Landfill Devices & Sunken Ships	NO	3	Canal St	SHPO 8/12/92					NO
75	503.0		Fill retaining devices, possible	Landfill Devices & Sunken Ships	NO	3	Harrison/44th		SHPO 8/12/92				NO
76	156.0		Cast in place concrete bulkhead	Landfill Devices & Sunken Ships	NO	7	44th		SHPO 8/12/92				NO
77	167.0		Timber crib bulkhead	Landfill Devices & Sunken Ships	NO	7	58th/58th		SHPO 8/12/92				NO
78	63.0		Building associated with Lumber yard on southwest	Lumber	NO	4	Bank/Bethune		SHPO 4/24/91		Out		NO
79	65.0		Shed associated with Lumber yard on northwest	Lumber	NO	4	Bank/Bethune		SHPO 4/24/91				NO
80	166.0		Cosgraff's Lumber yard building	Lumber	NO	4	Bank/Bethune		SHPO 4/24/91		Out		NO
81	281.0		Kindling wood factory shed, Clark & Wilkins	Lumber	YES	4	11th/Bank					SHPO 8/31/95	NO
82	282.0		Kindling wood factory building, Clark & Wilkins	Lumber	YES	4	11th/Bank					SHPO 8/31/95	NO
83	285.0		Shed- Cosgraff's Lumber	Lumber	NO	4	Bank/Bethune		SHPO 4/24/91		Out		NO
84	287.0		Cosgraff's Lumber yard, 2 sheds	Lumber	NO	4	Bank/Bethune		SHPO 4/24/91				NO
85	300.0		Shed, Chapman Slate Co.	Lumber	YES	4	12th/Jane					SHPO 8/31/95	NO
86	71.0		Office building associated with Lumber yard on west part of lot	Lumber	NO	5	13th/14th		SHPO 4/24/91				NO

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO					FIELD TESTING
Item No. (1)	Site No.	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Viability	Lack of Research Potential	Was Documented in the Literature	Out of APE (2)	Prior Disturbance	Final Recommendation
87	73.0	Two story building associated with Lumber yard on north part of lot	Lumber	NO	5	13th/14th		SHPO 4/24/91				NO
88	74.0	Shed associated with Lumber yard west of previous building	Lumber	NO	5	13th/14th		SHPO 4/24/91				NO
89	75.0	Two buildings in Lumber yard	Lumber	NO	5	13th/14th		SHPO 4/24/91				NO
90	81.0	Shed of J.J. Carrol Lumber Co.	Lumber	NO	5	14th/15th		SHPO 4/24/91				NO
91	101.0	J.P. Ryan Moulding building	Lumber	NO	5	18th/19th				OUT		NO
92	109.0	Building of Rodgers & Son Lumber	Lumber	NO	5	23rd/24th		SHPO 4/24/91				NO
93	327.0	Building, Stewart's limestone yard	Lumber	NO	5	Little W.12th				OUT		NO
94	377.0	Building, J. Lynch Lumber yard	Lumber	NO	5	20th/21st		SHPO 4/24/91		Out		NO
95	378.0	Two buildings, J. Lynch Lumber yard	Lumber	NO	5	20th/21st		SHPO 4/24/91		Out		NO
96	379.0	Building, J. Lynch Lumber yard	Lumber	NO	5	20th/21st		SHPO 4/24/91		Out		NO
97	380.0	Building, J. Lynch Lumber yard	Lumber	NO	5	20th/21st		SHPO 4/24/91				NO
98	382.0	Shed, Lumber yard	Lumber	NO	5	20th/21st		SHPO 4/24/91				NO
99	383.0	Building- Lumber yard	Lumber	NO	5	21st/22nd		SHPO 4/24/91				NO
100	384.0	Building- Lumber yard	Lumber	NO	5	21st/22nd		SHPO 4/24/91				NO
101	385.0	Building- Lumber yard	Lumber	NO	5	21st/22nd		SHPO 4/24/91				NO
102	386.0	Shed- Lumber yard	Lumber	NO	5	21st/22nd		SHPO 4/24/91				NO
103	387.0	Furniture factory & planing mill	Lumber	YES	5	21st/22nd					SHPO 8/31/95	NO
104	389.0	Building- Lumber yard	Lumber	NO	5	21st/22nd		SHPO 4/24/91				NO
105	390.0	Building- Lumber yard	Lumber	NO	5	21st/22nd		SHPO 4/24/91				NO
106	123.0	Nichols Saw Mill	Lumber	YES	7	44th/45th	SHPO 8/31/95					NO
107	132.0	Saw Mill/Scaffolding Co.	Lumber	NO	7	50th/51st				OUT		NO
108	441.0	Building materials building	Lumber	NO	7	46th/47th		SHPO 4/24/91				NO
109	442.0	Brick Supply Co. building	Lumber	NO	7	47th/48th		SHPO 4/24/91				NO
110	446.0	Brick Lumber yard building	Lumber	NO	7	47th/48th		SHPO 4/24/91				NO
111	447.0	Wood building/Lumber yard	Lumber	NO	7	47th/48th		SHPO 4/24/91				NO
112	450.0	Brick saw mill	Lumber	YES	7	47th/48th	SHPO 8/31/95	SHPO 8/31/95				NO
113	453.0	Planing mill complex buildings	Lumber	YES	7	48th/49th					SHPO 8/31/95	NO
114	141.0	Brick buildings- Lumber yard	Lumber	NO	7	49th/50th		SHPO 4/24/91				NO
115	452.0	Stone works building	Lumber	NO	7	49th/50th				OUT		NO
116	457.0	Colonial sand & Stone Co. building	Lumber	NO	7	50th/51st		SHPO 4/24/91				NO
117	476.0	Sicilian Asphalt Paving Co. building	Lumber	NO	7	54th/57th		SHPO 4/24/91				NO
118	64.0	Two buildings & two sheds housing a Salamander Works	Manufacturing	NO	4	Bank/Bethune		SHPO 8/31/95	SHPO 8/31/95	Out		NO
119	56.0	C. Brooks & Co. varnish factory, extensions	Manufacturing	YES	4	12th/June					SHPO 8/31/95	NO
120	286.0	J.R.O. Leonard Rolling Mill	Manufacturing	YES	4	Bank/Bethune					SHPO 8/31/95	NO
121	288.0	J. Leonard Buildings, rolling mill	Manufacturing	YES	4	Bank/Bethune					SHPO 8/31/95	NO
122	289.0	Building, rolling mill	Manufacturing	YES	4	Bank/Bethune					SHPO 8/31/95	NO
123	290.0	Building shed, rolling mill	Manufacturing	YES	4	Bank/Bethune					SHPO 8/31/95	NO
124	291.0	John Innes Rapid Iron Works, two buildings	Manufacturing	YES	4	Bank/Bethune					SHPO 8/31/95	NO
125	292.0	Building, rolling mill	Manufacturing	YES	4	Bank/Bethune					SHPO 8/31/95	NO
126	296.0	C. Brooks & Co. varnish factory	Manufacturing	YES	4	12th/June					SHPO 8/31/95	NO
127	307.0	Marchand & Co., chemical works	Manufacturing	YES	4	Jane/Horatio					SHPO 8/31/95	NO
128	499.0	Building, New York Lead Works/Smelting Co.	Manufacturing	YES	4	Jane/Horatio					SHPO 8/31/95	NO
129	14.0	Coopersage, British Johnson	Manufacturing	NO	6	13th/14th				OUT		NO

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY						LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO					FIELD TESTING
Item No. (1)	Site No.	Notes	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Viability	Lack of Research Potential	Well Documented in the Literature	Out of APE (2)	Prior Disturbance	Final Recommendation
130	110.0		Brick buildings, auto repair, glass studio, Art, Lumber	Manufacturing	YES	5	23rd/24th				Out	SHPO 8/31/95	NO
131	305.0		Tin works/wrought iron works building	Manufacturing	YES	5	Horatio/Ganev.					SHPO 8/31/95	NO
132	310.0		Paint works building	Manufacturing	YES	5	Horatio/Ganev.					SHPO 8/31/95	NO
133	370.0		Wm. D. Stewart & Co. Pottery/Manhattan pottery	Manufacturing	YES	5	18th/19th	SHPO 8/31/95				SHPO 8/31/95	NO
134	331.0		Building, box factory	Manufacturing	NO	5	20th/21st	SHPO 2/19/93					NO
135	119.0		Brick building of Pickers etc., Higgins Carpet Co.	Manufacturing	YES	7	43rd/44th	SHPO 8/31/95	SHPO 8/31/95			SHPO 8/31/95	NO
136	120.0		Storehouse, Higgins Carpet Co.	Manufacturing	YES	7	43rd/44th	SHPO 8/31/95	SHPO 8/31/95			SHPO 8/31/95	NO
137	121.0		Brick building, Higgins Carpet Co.	Manufacturing	YES	7	43rd/44th	SHPO 8/31/95	SHPO 8/31/95			SHPO 8/31/95	NO
138	130.0		Brick building, Malt House/hygeinic Ice Co.	Manufacturing	YES	7	49th/50th					SHPO 8/31/95	NO
139	134.0		Piano Factory/Soap Works	Manufacturing	NO	7	51st/52nd	SHPO 8/10/93		SHPO 8/10/93			NO
140	460.0		Piano factory building	Manufacturing	NO	7	49th/50th	SHPO 8/10/93		SHPO 8/10/93			NO
141	465.0		Cooperage	Manufacturing	NO	7	50th/51st	SHPO 2/19/93	SHPO 2/19/93				NO
142	479.0		Milton Piano Co. building	Manufacturing	NO	7	54th/55th	SHPO 8/10/93		SHPO 8/10/93			NO
143	480.0		Two story brick building/piano Co.	Manufacturing	NO	7	54th/55th	SHPO 8/10/93		SHPO 8/10/93			NO
144	82.0		Pump house/Meat Market	Meat Market	NO	5	Ganev/Little W.12th	SHPO 8/12/92			Out		NO
145	83.0		Meat Processing Plant	Meat Market	NO	5	Little W.12th/13th	SHPO 8/12/92			Out		NO
146	85.0		Butchers shop building	Meat Market	NO	5	Little W.12th/13th	SHPO 8/12/92			Out		NO
147	86.0		Meat Market building	Meat Market	NO	5	Little W.12th	SHPO 8/12/92			Out		NO
148	87.0		Meat Market/dance hall building	Meat Market	NO	5	Little W.12th/13th	SHPO 8/12/92					NO
149	88.0		Meat storage building	Meat Market	NO	5	Little W.12th/13th	SHPO 8/12/92					NO
150	93.0		Brick cistern possibly associated with cow stables	Meat Market	NO	5	15th/16th	SHPO 8/12/92					NO
151	97.0		Cow stables on south ends of lots	Meat Market	NO	5	15th/16th	SHPO 8/12/92					NO
152	98.0		Cow stables on north ends of lots	Meat Market	NO	5	15th/16th	SHPO 8/12/92					NO
153	311.0		West Washington Market building	Meat Market	NO	5	Ganev./Bogart	SHPO 8/12/92					NO
154	312.0		West Washington Market building	Meat Market	NO	5	Ganev./Bloomfield	SHPO 8/12/92					NO
155	313.0		Meat Market building	Meat Market	NO	5	Little W.12th/13th	SHPO 8/12/92			Out		NO
156	317.0		Market buildings	Meat Market	NO	5	Ganev.	SHPO 8/12/92			Out		NO
157	339.0		Cow stables	Meat Market	NO	5	15th/16th	SHPO 8/12/92					NO
158	345.0		Cow stables on south ends of lot	Meat Market	NO	5	15th/16th	SHPO 8/12/92					NO
159	504.0		Meat Market building	Meat Market	NO	5	Ganev.	SHPO 8/12/92			Out		NO
160	505.0		Meat Market building	Meat Market	NO	5	Ganev.	SHPO 8/12/92			Out		NO
161	506.0		Meat storage building	Meat Market	NO	5	Little W.12th/13th	SHPO 8/12/92			Out		NO
162	138.0		Underground cattle pens	Meat Market	NO	6	33rd/34th	NOT NRE, SHPO 8/18/93					NO
163	435.0		Two slaughterhouses	Meat Market	NO	7	46th/47th	SHPO 8/12/92					NO
164	438.0		Cattle pens	Meat Market	NO	7	46th/47th	SHPO 8/12/92	SHPO 8/12/92				NO
165	451.0		Comm. Beef Oil Manufacturing Co. building	Meat Market	YES	7	48th/49th		SHPO 8/31/95	SHPO 8/31/95		SHPO 8/31/95	NO
166	455.0		Beef Oil Co. buildings	Meat Market	YES	7	48th/49th		SHPO 8/31/95	SHPO 8/31/95		SHPO 8/31/95	NO
167	173.0		U.S. bonded warehouse	Offices & Warehouses	NO	1	Morris/Edgar	SHPO 8/12/92	SHPO 8/12/92				NO
168	174.0		Union Sulphur Co. office building	Offices & Warehouses	NO	1	Ward/Hector	SHPO 8/12/92	SHPO 8/12/92				NO
169	283.0		Building- G.B. Lawton	Offices & Warehouses	NO	4	11th/Bank	SHPO 8/12/92	SHPO 8/12/92		Out		NO
170	296.0		Cregar & Co. storage building	Offices & Warehouses	NO	4	Belmont/13th	SHPO 8/12/92	SHPO 8/12/92				NO
171	81.0		Office building	Offices & Warehouses	NO	5	15th/16th	SHPO 8/12/92	SHPO 8/12/92				NO
172	144.0		Borden Co. building	Offices & Warehouses	NO	7	49th/50th	SHPO 8/12/92	SHPO 8/12/92				NO

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO				FIELD TESTING
Item No. (1)	Site No.	Notes	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Viability	Lack of Research Potential	Well Documented in the Literature	Out of APE (2) / Prior Disturbance	Final Recommendation
173	174.0		Red Cross warehouse in M.S.	Offices & Warehouses	NO	7	S4thS5th	SHPO 8/12/92	SHPO 8/12/92		Out	NO
174	175.0		Red Cross warehouse in M.S.	Offices & Warehouses	NO	7	S5thS6th	SHPO 8/12/92	SHPO 8/12/92			NO
175	3.0		Pier	Piers, Wharves & Pier Sheds	NO	1	Battery/Washington	SHPO 8/12/92	SHPO 8/12/92		Out	NO
176	4.0		Slip, New Brighton/Staten Island Ferry	Piers, Wharves & Pier Sheds	NO	1	Battery/Wash./West	SHPO 8/12/92	SHPO 8/12/92			NO
177	5.0		New Pier 2	Piers, Wharves & Pier Sheds	NO	1	Battery/Morris	SHPO 8/12/92	SHPO 8/12/92			NO
178	7.0		New Pier 3, Steam Ships for Bremen, N.Y., Havana, Mexico SS Line	Piers, Wharves & Pier Sheds	NO	1	Battery/Morris	SHPO 8/12/92	SHPO 8/12/92			NO
179	8.0		New Pier 4, Steam Ships for Charleston/Pennsylvania Railroad Piers	Piers, Wharves & Pier Sheds	NO	1	Battery/Morris	SHPO 8/12/92	SHPO 8/12/92			NO
180	135.0		New Pier 5, Pennsylvania Railroad Piers	Piers, Wharves & Pier Sheds	NO	1	Morris/Ward	SHPO 8/12/92	SHPO 8/12/92			NO
181	140.0		New Pier 6	Piers, Wharves & Pier Sheds	NO	1	at Ward	SHPO 8/12/92	SHPO 8/12/92			NO
182	141.0		New Pier 7	Piers, Wharves & Pier Sheds	NO	1	Ward/Rector	SHPO 8/12/92	SHPO 8/12/92			NO
183	142.0		New Pier 8, Central Railroad of New Jersey	Piers, Wharves & Pier Sheds	NO	1	Rector	SHPO 8/12/92	SHPO 8/12/92			NO
184	143.0		New Pier 10, Cromwells SS Line	Piers, Wharves & Pier Sheds	NO	1	Rector/Carlisle	SHPO 8/12/92	SHPO 8/12/92			NO
185	144.0		New Pier 11, Metropolitan Line to Boston	Piers, Wharves & Pier Sheds	NO	1	at Carlisle St	SHPO 8/12/92	SHPO 8/12/92			NO
186	169.0	(1) Possible Piers & wharves		Piers, Wharves & Pier Sheds	NO	1	Morris/Rector				OUT	NO
187	177.0		Pier	Piers, Wharves & Pier Sheds	NO	1	at Battery Pl	SHPO 8/12/92	SHPO 8/12/92			NO
188	178.0		New Pier 1	Piers, Wharves & Pier Sheds	NO	1	Battery/West	SHPO 8/12/92	SHPO 8/12/92			NO
189	179.0		Old Pier 2, Arden	Piers, Wharves & Pier Sheds	NO	1	Battery/Morris	SHPO 8/12/92	SHPO 8/12/92			NO
190	180.0		Old Pier 3, White	Piers, Wharves & Pier Sheds	NO	1	Battery/Morris	SHPO 8/12/92	SHPO 8/12/92			NO
191	181.0		Old Pier 4, White	Piers, Wharves & Pier Sheds	NO	1	Morris/Rector	SHPO 8/12/92	SHPO 8/12/92			NO
192	182.0		Old Pier 5, Schermerhorn	Piers, Wharves & Pier Sheds	NO	1	Morris/Rector	SHPO 8/12/92	SHPO 8/12/92			NO
193	184.0		Old Pier 6, Edgar	Piers, Wharves & Pier Sheds	NO	1	Morris/Rector	SHPO 8/12/92	SHPO 8/12/92			NO
194	185.0		Old Pier 7, Arden	Piers, Wharves & Pier Sheds	NO	1	Morris/Rector	SHPO 8/12/92	SHPO 8/12/92			NO
195	186.0		Old Pier 8, Kermit	Piers, Wharves & Pier Sheds	NO	1	Morris/Rector	SHPO 8/12/92	SHPO 8/12/92			NO
196	187.0		New Pier 9, Cromwells SS Line	Piers, Wharves & Pier Sheds	NO	1	Rector/Carlisle	SHPO 8/12/92	SHPO 8/12/92			NO
197	188.0		Old Pier 9	Piers, Wharves & Pier Sheds	NO	1	at Rector	SHPO 8/12/92	SHPO 8/12/92			NO
198	189.0		Old Pier 10, Schermerhorn	Piers, Wharves & Pier Sheds	NO	1	Rector/Carlisle	SHPO 8/12/92	SHPO 8/12/92			NO
199	190.0		Old Pier 11, Castle	Piers, Wharves & Pier Sheds	NO	1	Rector/Carlisle	SHPO 8/12/92	SHPO 8/12/92			NO
200	191.0		Old Pier 12	Piers, Wharves & Pier Sheds	NO	1	Carlisle/Albany	SHPO 8/12/92	SHPO 8/12/92			NO
201	196.0		Building, Pennsylvania Railroad Co. freight shed	Piers, Wharves & Pier Sheds	NO	1	Battery/Morris	SHPO 8/12/92	SHPO 8/12/92		Out	NO
202	197.0		Pier sheds, two & three stories	Piers, Wharves & Pier Sheds	NO	1	Battery/Morris	SHPO 8/12/92	SHPO 8/12/92			NO
203	198.0		Pier shed - Pennsylvania Railroad freight depot, one story	Piers, Wharves & Pier Sheds	NO	1	Morris/Rector	SHPO 8/12/92	SHPO 8/12/92			NO
204	199.0		Three story pier shed	Piers, Wharves & Pier Sheds	NO	1	Morris/Rector	SHPO 8/12/92	SHPO 8/12/92			NO
205	200.0		Pier sheds	Piers, Wharves & Pier Sheds	NO	1	Rector/Carlisle	SHPO 8/12/92	SHPO 8/12/92			NO
206	201.0		Pier sheds	Piers, Wharves & Pier Sheds	NO	1	Carlisle/Albany	SHPO 8/12/92	SHPO 8/12/92			NO
207	12.0		Old Pier 13, Swartwouts Wharf	Piers, Wharves & Pier Sheds	NO	2	Albany/Cedar	SHPO 8/12/92	SHPO 8/12/92			NO
208	17.0		New Pier 23	Piers, Wharves & Pier Sheds	NO	2	Vesey/Barclay	SHPO 8/12/92	SHPO 8/12/92			NO
209	18.0		New Pier 24, Morning Line for Albany/Fish Market	Piers, Wharves & Pier Sheds	NO	2	Vesey/Barclay	SHPO 8/12/92	SHPO 8/12/92			NO
210	20.0		Pier, may be part of Rhinelders Dock	Piers, Wharves & Pier Sheds	NO	2	Barclay/Park Pl	SHPO 8/12/92	SHPO 8/12/92			NO
211	21.0		Foundations of abdoned D.L.& W. Railroad footbridge on piles	Piers, Wharves & Pier Sheds	NO	2	Vesey/Barclay	SHPO 8/12/92	SHPO 8/12/92			NO
212	22.0		New Pier 25, part of Hoboken Ferry Complex	Piers, Wharves & Pier Sheds	NO	2	Barclay/Park Pl	SHPO 8/12/92	SHPO 8/12/92			NO
213	23.0		Two Piers, part of Hoboken Ferry Complex	Piers, Wharves & Pier Sheds	NO	2	Barclay/Park Pl	SHPO 8/12/92	SHPO 8/12/92			NO
214	24.0		Unnumbered Pier	Piers, Wharves & Pier Sheds	NO	2	at Barclay	SHPO 8/12/92	SHPO 8/12/92			NO
215	25.0		New Pier 27, Steamboats for Albany	Piers, Wharves & Pier Sheds	NO	2	Park Pl/Murray	SHPO 8/12/92	SHPO 8/12/92			NO

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO					FIELD TESTING
Item No. (1)	Site No.	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Viability	Lack of Research Potential	Well Documented in the Literature	Out of APE (2)	Prior Disturbance	Final Recommendation
216	27.0	Pier, Rhinelkers Dock	Piers, Wharves & Pier Sheds	NO	2	Park Pl/Murray	SHPO 8/12/92	SHPO 8/12/92				NO
217	28.0	New Pier 28, Steamships to Newburgh	Piers, Wharves & Pier Sheds	NO	2	Murray/Warren	SHPO 8/12/92	SHPO 8/12/92				NO
218	30.0	New Pier 29	Piers, Wharves & Pier Sheds	NO	2	Warren/Chambers	SHPO 8/12/92	SHPO 8/12/92				NO
219	32.0	Rhinelkers Shipyards (possible)	Piers, Wharves & Pier Sheds	NO	2	Warren/Chambers	SHPO 8/12/92	SHPO 8/12/92				NO
220	33.0	New Pier 30	Piers, Wharves & Pier Sheds	NO	2	Chambers/Reade	SHPO 8/12/92	SHPO 8/12/92				NO
221	35.0	New Pier 31, Erie Railroad Co.	Piers, Wharves & Pier Sheds	NO	2	Reade/Duane	SHPO 8/12/92	SHPO 8/12/92				NO
222	36.0	Unnumbered Pier	Piers, Wharves & Pier Sheds	NO	2	Reade/Duane	SHPO 8/12/92	SHPO 8/12/92				NO
223	37.0	Rhinelkers Dock (possible)	Piers, Wharves & Pier Sheds	NO	2	Jay/Harrison	SHPO 8/12/92	SHPO 8/12/92				NO
224	38.0	Pier 34, Rondout & Kingston boats	Piers, Wharves & Pier Sheds	NO	2	at Harrison	SHPO 8/12/92	SHPO 8/12/92				NO
225	145.0	New Pier 12, Philadelphia Steamboats	Piers, Wharves & Pier Sheds	NO	2	Albany/Cedar	SHPO 8/12/92	SHPO 8/12/92				NO
226	146.0	New Pier 13	Piers, Wharves & Pier Sheds	NO	2	Albany/Cedar	SHPO 8/12/92	SHPO 8/12/92				NO
227	147.0	New Pier 14, Hudson Steamboat & Barge Pier	Piers, Wharves & Pier Sheds	NO	2	at Cedar	SHPO 8/12/92	SHPO 8/12/92				NO
228	152.0	Unnumbered Pier	Piers, Wharves & Pier Sheds	NO	2	Albany/Cedar	SHPO 8/12/92	SHPO 8/12/92				NO
229	153.0	New Pier 32	Piers, Wharves & Pier Sheds	NO	2	Duane/Jay	SHPO 8/12/92	SHPO 8/12/92				NO
230	154.0	Old Pier 27	Piers, Wharves & Pier Sheds	NO	2	Duane/Jay	SHPO 8/12/92	SHPO 8/12/92				NO
231	155.0	New Pier 33/Stonington Line for Boston	Piers, Wharves & Pier Sheds	NO	2	at Jay	SHPO 8/12/92	SHPO 8/12/92				NO
232	202.0	Freight station shed	Piers, Wharves & Pier Sheds	NO	2	at Albany	SHPO 8/12/92	SHPO 8/12/92				NO
233	203.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	2	Albany/Cedar	SHPO 8/12/92	SHPO 8/12/92				NO
234	204.0	Pier shed	Piers, Wharves & Pier Sheds	NO	2	Cedar/Liberty	SHPO 8/12/92	SHPO 8/12/92				NO
235	205.0	Old Pier 15, Liberty St Pier	Piers, Wharves & Pier Sheds	NO	2	Liberty/Cortlandt	SHPO 8/12/92	SHPO 8/12/92				NO
236	206.0	Old Pier 16, "White"	Piers, Wharves & Pier Sheds	NO	2	Liberty/Cortlandt	SHPO 8/12/92	SHPO 8/12/92				NO
237	207.0	Old Pier 17, "Albany Steamboats"	Piers, Wharves & Pier Sheds	NO	2	Liberty/Cortlandt	SHPO 8/12/92	SHPO 8/12/92				NO
238	208.0	Pier shed foot of Old Pier 16	Piers, Wharves & Pier Sheds	NO	2	Liberty/Cortlandt	SHPO 8/12/92	SHPO 8/12/92				NO
239	209.0	Pier shed foot of Old Pier 17	Piers, Wharves & Pier Sheds	NO	2	Liberty/Cortlandt	SHPO 8/12/92	SHPO 8/12/92				NO
240	210.0	Ferry landing	Piers, Wharves & Pier Sheds	NO	2	Liberty/Cortlandt	SHPO 8/12/92	SHPO 8/12/92				NO
241	211.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	2	Liberty/Cortlandt	SHPO 8/12/92	SHPO 8/12/92				NO
242	212.0	New Pier 14, Powells Hook Ferry/Starins Transportation Line	Piers, Wharves & Pier Sheds	NO	2	Cortlandt/Dey	SHPO 8/12/92	SHPO 8/12/92				NO
243	213.0	Old Pier 18	Piers, Wharves & Pier Sheds	NO	2	Cortlandt/Dey	SHPO 8/12/92	SHPO 8/12/92				NO
244	214.0	New Pier 19/D. L. & W. Railroad Co.	Piers, Wharves & Pier Sheds	NO	2	Cortlandt/Dey	SHPO 8/12/92	SHPO 8/12/92				NO
245	215.0	Two pier sheds on New Pier 18	Piers, Wharves & Pier Sheds	NO	2	Cortlandt/Dey	SHPO 8/12/92	SHPO 8/12/92				NO
246	216.0	Unlabeled pier	Piers, Wharves & Pier Sheds	NO	2	Cortlandt/Dey	SHPO 8/12/92	SHPO 8/12/92				NO
247	217.0	Pier shed	Piers, Wharves & Pier Sheds	NO	2	Cortlandt/Dey	SHPO 8/12/92	SHPO 8/12/92				NO
248	218.0	Two buildings in M.S./D. L. & W. Railroad Co. freight	Piers, Wharves & Pier Sheds	NO	2	Cortlandt/Dey	SHPO 8/12/92	SHPO 8/12/92				NO
249	219.0	Old Pier 22/Vesey St Pier	Piers, Wharves & Pier Sheds	NO	2	Dey/Vesey	SHPO 8/12/92	SHPO 8/12/92				NO
250	220.0	Corporation dock/Old Pier 20	Piers, Wharves & Pier Sheds	NO	2	Dey/Vesey	SHPO 8/12/92	SHPO 8/12/92				NO
251	221.0	Corporation dock/Old Pier 19	Piers, Wharves & Pier Sheds	NO	2	at Dey	SHPO 8/12/92	SHPO 8/12/92				NO
252	222.0	Corporation dock/Old Pier 21	Piers, Wharves & Pier Sheds	NO	2	Fulton/Vesey	SHPO 8/12/92	SHPO 8/12/92				NO
253	223.0	New Pier 20	Piers, Wharves & Pier Sheds	NO	2	Dey/Vesey	SHPO 8/12/92	SHPO 8/12/92				NO
254	224.0	New Pier 21	Piers, Wharves & Pier Sheds	NO	2	Dey/Vesey	SHPO 8/12/92	SHPO 8/12/92				NO
255	225.0	New Pier 22	Piers, Wharves & Pier Sheds	NO	2	Dey/Vesey	SHPO 8/12/92	SHPO 8/12/92				NO
256	226.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	2	Dey/Vesey	SHPO 8/12/92	SHPO 8/12/92				NO
257	227.0	Two pier sheds	Piers, Wharves & Pier Sheds	NO	2	Dey/Vesey	SHPO 8/12/92	SHPO 8/12/92				NO
258	228.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	2	Vesey/Barclay	SHPO 8/12/92	SHPO 8/12/92				NO

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO				FIELD TESTING
Item No. (1)	Site No.	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Viability	Lack of Research Potential	Well-Documented in the Literature	Out of APE (2)	Prior Disturbance	Final Recommendation
259	229.0	Three sheds, one on each pier of the Hoboken ferry complex	Piers, Wharves & Pier Sheds	NO	2	Barclay/Park PL	SHPO 8/12/92	SHPO 8/12/92				NO
260	230.0	Three small buildings of Hoboken ferry landing	Piers, Wharves & Pier Sheds	NO	2	Barclay/Park PL	SHPO 8/12/92	SHPO 8/12/92				NO
261	231.0	Pier shed-New York City Railroad, Barclay St Station	Piers, Wharves & Pier Sheds	NO	2	Barclay/Park PL	SHPO 8/12/92	SHPO 8/12/92				NO
262	232.0	Pier shed	Piers, Wharves & Pier Sheds	NO	2	Park PL/Murray	SHPO 8/12/92	SHPO 8/12/92				NO
263	233.0	Pier shed-Eastern SS Corporation	Piers, Wharves & Pier Sheds	NO	2	Murray/Warren	SHPO 8/12/92	SHPO 8/12/92				NO
264	234.0	Pier shed	Piers, Wharves & Pier Sheds	NO	2	Chambers/Reade	SHPO 8/12/92	SHPO 8/12/92				NO
265	235.0	Pier shed	Piers, Wharves & Pier Sheds	NO	2	Duane/Jay	SHPO 8/12/92	SHPO 8/12/92				NO
266	236.0	Pier shed	Piers, Wharves & Pier Sheds	NO	2	Reade/Duane	SHPO 8/12/92	SHPO 8/12/92				NO
267	501.0	Old Pier 14, Lukes Wharf	Piers, Wharves & Pier Sheds	NO	2	Cedar/Liberty	SHPO 8/12/92	SHPO 8/12/92				NO
268	40.0	Pier 35, Poughkeepsie steamboats	Piers, Wharves & Pier Sheds	NO	3	at Franklin	SHPO 8/12/92	SHPO 8/12/92				NO
269	41.0	Steamship landing	Piers, Wharves & Pier Sheds	NO	3	Harrison/Franklin	SHPO 8/12/92	SHPO 8/12/92				NO
270	42.0	Pier 36, Morgan's Los Angeles & Texas Railroad & Steamship Co.	Piers, Wharves & Pier Sheds	NO	3	at North Moore	SHPO 8/12/92	SHPO 8/12/92				NO
271	44.0	Laight St Pier, Albany Day Line/Pennsylvania Railroad Co.	Piers, Wharves & Pier Sheds	NO	3	at Laight	SHPO 8/12/92	SHPO 8/12/92				NO
272	45.0	Desbrosses St Pier, public baths	Piers, Wharves & Pier Sheds	NO	3	at Desbrosses	SHPO 8/12/92	SHPO 8/12/92				NO
273	47.0	Pier 40, Coney Island/Norwich Line for Boston	Piers, Wharves & Pier Sheds	NO	3	at Watts	SHPO 8/12/92	SHPO 8/12/92				NO
274	48.0	Pier 41, Empire pier	Piers, Wharves & Pier Sheds	NO	3	Spring/Vandam	SHPO 8/12/92	SHPO 8/12/92				NO
275	112.0	West 25th St Pier	Piers, Wharves & Pier Sheds	NO	3	at 25th	SHPO 8/12/92	SHPO 8/12/92				NO
276	137.0	Pier 37, Old Dominion Line for Norfolk	Piers, Wharves & Pier Sheds	NO	3	at Beach	SHPO 8/12/92	SHPO 8/12/92				NO
277	148.0	Pier 38, Pennsylvania Railroad Co.	Piers, Wharves & Pier Sheds	NO	3	at Hubert	SHPO 8/12/92	SHPO 8/12/92				NO
278	149.0	Jersey City Ferry Complex	Piers, Wharves & Pier Sheds	NO	3	Desbrosses/Watts	SHPO 8/12/92	SHPO 8/12/92				NO
279	150.0	Pier 44, Inman SS Line	Piers, Wharves & Pier Sheds	NO	3	at Vandam	SHPO 8/12/92	SHPO 8/12/92				NO
280	151.0	Pier 45, Corp. of City of New York	Piers, Wharves & Pier Sheds	NO	3	at Charlton	SHPO 8/12/92	SHPO 8/12/92				NO
281	152.0	Pier 46, Corp. of City of New York	Piers, Wharves & Pier Sheds	NO	3	at King	SHPO 8/12/92	SHPO 8/12/92				NO
282	153.0	Pier 47	Piers, Wharves & Pier Sheds	NO	3	at Houston	SHPO 8/12/92	SHPO 8/12/92				NO
283	155.0	Pier 47	Piers, Wharves & Pier Sheds	NO	3	at Canal	SHPO 8/12/92	SHPO 8/12/92				NO
284	156.0	Canal St basin pier	Piers, Wharves & Pier Sheds	NO	3	Canal/Spring	SHPO 8/12/92	SHPO 8/12/92				NO
285	240.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	3	Harrison/Franklin	SHPO 8/12/92	SHPO 8/12/92				NO
286	241.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	3	Franklin/North Moore	SHPO 8/12/92	SHPO 8/12/92		Out		NO
287	242.0	Pier shed in M.S.	Piers, Wharves & Pier Sheds	NO	3	Franklin/North Moore	SHPO 8/12/92	SHPO 8/12/92		Out		NO
288	243.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	3	Franklin/North Moore	SHPO 8/12/92	SHPO 8/12/92		Out		NO
289	244.0	Two structures in M.S./Old Dominion SS Co.	Piers, Wharves & Pier Sheds	NO	3	North Moore/Beach	SHPO 8/12/92	SHPO 8/12/92				NO
290	245.0	Pier shed	Piers, Wharves & Pier Sheds	NO	3	North Moore/Beach	SHPO 8/12/92	SHPO 8/12/92		Out		NO
291	246.0	Building in M.S.	Piers, Wharves & Pier Sheds	NO	3	North Moore/Beach	SHPO 8/12/92	SHPO 8/12/92				NO
292	247.0	Two pier sheds	Piers, Wharves & Pier Sheds	NO	3	Beach/Hubert	SHPO 8/12/92	SHPO 8/12/92		Out		NO
293	248.0	Building in M.S.	Piers, Wharves & Pier Sheds	NO	3	Beach/Hubert	SHPO 8/12/92	SHPO 8/12/92				NO
294	249.0	Pier shed	Piers, Wharves & Pier Sheds	NO	3	Hubert/Laight	SHPO 8/12/92	SHPO 8/12/92		Out		NO
295	250.0	Pier shed	Piers, Wharves & Pier Sheds	NO	3	Laight/Vestry	SHPO 8/12/92	SHPO 8/12/92		Out		NO
296	251.0	Pier shed building in M.S.	Piers, Wharves & Pier Sheds	NO	3	Laight/Vestry	SHPO 8/12/92	SHPO 8/12/92		Out		NO
297	252.0	Building in M.S.	Piers, Wharves & Pier Sheds	NO	3	Vestry/Desbrosses	SHPO 8/12/92	SHPO 8/12/92				NO
298	253.0	Unnumbered pier	Piers, Wharves & Pier Sheds	NO	3	Vestry/Desbrosses	SHPO 8/12/92	SHPO 8/12/92				NO
299	254.0	Pier shed of Pennsylvania Railroad complex	Piers, Wharves & Pier Sheds	NO	3	Vestry/Desbrosses	SHPO 8/12/92	SHPO 8/12/92		Out		NO
300	255.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	3	Desbrosses/Watts	SHPO 8/12/92	SHPO 8/12/92		Out		NO
301	256.0	Old Pier 38	Piers, Wharves & Pier Sheds	NO	3	at Desbrosses	SHPO 8/12/92	SHPO 8/12/92				NO

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO				FIELD TESTING
Item No. (1)	Site No.	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Viability	Lack of Research Potential	Well Documented in the Literature	Out of APE (2)	Prior Disturbance	Field Recommendation
302	257.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	3	Desbrosses/Watts	SHPO 8/12/92	SHPO 8/12/92		Out		NO
303	258.0	Dept. of Docks & Ferries building in M.S.	Piers, Wharves & Pier Sheds	NO	3	Watts/Hoboken	SHPO 8/12/92	SHPO 8/12/92		Out		NO
304	259.0	Pier shed	Piers, Wharves & Pier Sheds	NO	3	Hoboken/Canal	SHPO 8/12/92	SHPO 8/12/92		Out		NO
305	260.0	Pier shed	Piers, Wharves & Pier Sheds	NO	3	Canal/Spring	SHPO 8/12/92	SHPO 8/12/92		Out		NO
306	261.0	Ventilator for Hud & Tunnel	Piers, Wharves & Pier Sheds	NO	3	Canal/Spring	SHPO 8/12/92	SHPO 8/12/92				NO
307	263.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	3	Spring/Vandam	SHPO 8/12/92	SHPO 8/12/92		Out		NO
308	264.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	3	Vandam/Charlton	SHPO 8/12/92	SHPO 8/12/92		Out		NO
309	265.0	Pier shed	Piers, Wharves & Pier Sheds	NO	3	Charlton/King	SHPO 8/12/92	SHPO 8/12/92		Out		NO
310	266.0	Building in M.S.	Piers, Wharves & Pier Sheds	NO	3	Charlton/King	SHPO 8/12/92	SHPO 8/12/92				NO
311	267.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	3	King/Houston	SHPO 8/12/92	SHPO 8/12/92		Out		NO
312	268.0	Pier shed	Piers, Wharves & Pier Sheds	NO	3	Houston/Clarkson	SHPO 8/12/92	SHPO 8/12/92		Out		NO
313	492.0	Pier 38/New York & Albany Line	Piers, Wharves & Pier Sheds	NO	3	at Vestry	SHPO 8/12/92	SHPO 8/12/92				NO
314	493.0	Hoboken Ferry Complex	Piers, Wharves & Pier Sheds	NO	3	Watts/Hoboken	SHPO 8/12/92	SHPO 8/12/92				NO
315	494.0	Pier 41/Peoples Line for Albany	Piers, Wharves & Pier Sheds	NO	3	Watts/Hoboken	SHPO 8/12/92	SHPO 8/12/92				NO
316	495.0	Hoboken Ferry landing with Bays structures	Piers, Wharves & Pier Sheds	NO	3	at Hoboken	SHPO 8/12/92	SHPO 8/12/92				NO
317	496.0	Old Pier 41	Piers, Wharves & Pier Sheds	NO	3	Hoboken/Canal	SHPO 8/12/92	SHPO 8/12/92				NO
318	497.0	Hoboken St Pier/Canal St Stable	Piers, Wharves & Pier Sheds	NO	3	at Hoboken	SHPO 8/12/92	SHPO 8/12/92				NO
319	51.0	Pier 49	Piers, Wharves & Pier Sheds	NO	4	at Leroy	SHPO 8/12/92	SHPO 8/12/92				NO
320	52.0	Pier 51	Piers, Wharves & Pier Sheds	NO	4	at Perry St	SHPO 8/12/92	SHPO 8/12/92				NO
321	154.0	Pier 50	Piers, Wharves & Pier Sheds	NO	4	Morton	SHPO 8/12/92	SHPO 8/12/92				NO
322	269.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	4	Clarkson/Leroy	SHPO 8/12/92	SHPO 8/12/92		Out		NO
323	270.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	4	Leroy/Morton	SHPO 8/12/92	SHPO 8/12/92		Out		NO
324	271.0	Pier sheds: coal station	Piers, Wharves & Pier Sheds	NO	4	Morton/Barrow	SHPO 8/12/92	SHPO 8/12/92		Out		NO
325	272.0	Pier shed building in M.S.	Piers, Wharves & Pier Sheds	NO	4	Morton/Barrow	SHPO 8/12/92	SHPO 8/12/92		Out		NO
326	273.0	Barrow St Pier	Piers, Wharves & Pier Sheds	NO	4	at Barrow	SHPO 8/12/92	SHPO 8/12/92				NO
327	274.0	Ferry landing building in M.S.	Piers, Wharves & Pier Sheds	NO	4	Barrow/Christopher	SHPO 8/12/92	SHPO 8/12/92		Out		NO
328	275.0	Hoboken Ferry landing/D.L.& W. Railroad	Piers, Wharves & Pier Sheds	NO	4	Barrow/Christopher	SHPO 8/12/92	SHPO 8/12/92				NO
329	276.0	Old Pier 50	Piers, Wharves & Pier Sheds	NO	4	Christopher/10th	SHPO 8/12/92	SHPO 8/12/92				NO
330	277.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	4	Christopher/10th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
331	278.0	Pier 51/old state prison dock	Piers, Wharves & Pier Sheds	NO	4	10th/Charles	SHPO 8/12/92	SHPO 8/12/92				NO
332	279.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	4	Perry/11th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
333	280.0	Pier 54	Piers, Wharves & Pier Sheds	NO	4	at 11th	SHPO 8/12/92	SHPO 8/12/92				NO
334	284.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	4	11th/Bank	SHPO 8/12/92	SHPO 8/12/92		Out		NO
335	285.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	4	Bank/Bethune	SHPO 8/12/92	SHPO 8/12/92		Out		NO
336	287.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	4	Bethune/12th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
337	288.0	Pier 58	Piers, Wharves & Pier Sheds	NO	4	at 12th	SHPO 8/12/92	SHPO 8/12/92				NO
338	294.0	Pier shed	Piers, Wharves & Pier Sheds	NO	4	Jane/Horatio	SHPO 8/12/92	SHPO 8/12/92		Out		NO
339	295.0	Pier 57	Piers, Wharves & Pier Sheds	NO	4	Jane/Horatio	SHPO 8/12/92	SHPO 8/12/92				NO
340	305.0	Pier shed	Piers, Wharves & Pier Sheds	NO	4	Horatio/Leroy	SHPO 8/12/92	SHPO 8/12/92		Out		NO
341	502.0	Pier 48	Piers, Wharves & Pier Sheds	NO	4	at Clarkson	SHPO 8/12/92	SHPO 8/12/92				NO
342	102.0	Old Pier 61	Piers, Wharves & Pier Sheds	NO	5	at 21st	SHPO 8/12/92	SHPO 8/12/92				NO
343	103.0	West 22nd St Central Railroad of New Jersey ferry platform & pier shed	Piers, Wharves & Pier Sheds	NO	5	at West 22nd St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
344	104.0	West 22nd to West 23rd St Erie Railroad ferry landing	Piers, Wharves & Pier Sheds	NO	5	West 22nd St	SHPO 8/12/92	SHPO 8/12/92		Out		NO

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO				FIELD TESTING
Item No. (1)	Site No.	Name	Contextual Report	Disturbance Report Completed	Segment	Street	Lack of Arch. Visibility	Lack of Research Potential	Well Documented in the Literature	Out of APE (2)	Prior Disturbance	Final Recommendation
345	111.0	West 23rd St to West 24th St Pennsylvania Railroad ferry landing	Piers, Wharves & Pier Sheds	NO	5	23rd/24th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
346	167.0	West 23rd St Erie Railroad ferry landing	Piers, Wharves & Pier Sheds	NO	5	at 23rd	SHPO 8/12/92	SHPO 8/12/92		Out		NO
347	182.0	New Pier 62	Piers, Wharves & Pier Sheds	NO	5	21st/22nd	SHPO 8/12/92	SHPO 8/12/92		Out		NO
348	328.0	Pier shed	Piers, Wharves & Pier Sheds	NO	5	13th/14th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
349	338.0	Pier shed	Piers, Wharves & Pier Sheds	NO	5	15th/16th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
350	346.0	Pier shed	Piers, Wharves & Pier Sheds	NO	5	16th/17th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
351	350.0	Pier shed	Piers, Wharves & Pier Sheds	NO	5	17th/18th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
352	354.0	New Pier 59	Piers, Wharves & Pier Sheds	NO	5	at 18th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
353	355.0	New Pier 60	Piers, Wharves & Pier Sheds	NO	5	at 19th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
354	358.0	New Pier 61	Piers, Wharves & Pier Sheds	NO	5	20th/21st	SHPO 8/12/92	SHPO 8/12/92		Out		NO
355	363.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	5	West 18th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
356	373.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	5	West 19th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
357	376.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	5	West 20th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
358	388.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	5	West 21st St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
359	396.0	West 22nd St Pier/Albany Day Line	Piers, Wharves & Pier Sheds	NO	5	at West 22nd St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
360	397.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	5	23rd/24th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
361	398.0	West 24th St Pier	Piers, Wharves & Pier Sheds	NO	5	at West 24th St	SHPO 8/12/92	SHPO 8/12/92				NO
362	399.0	Garage	Piers, Wharves & Pier Sheds	NO	5	23rd/24th	SHPO 8/12/92	SHPO 8/12/92				NO
363	401.0	Building- Consolidated Motor Lines	Piers, Wharves & Pier Sheds	NO	5	23rd/24th	SHPO 8/12/92	SHPO 8/12/92				NO
364	402.0	Pier shed	Piers, Wharves & Pier Sheds	NO	5	24th/25th	SHPO 8/12/92	SHPO 8/12/92		Out		NO
365	500.0	Gansevoort St pier	Piers, Wharves & Pier Sheds	NO	5	at Gansevoort	SHPO 8/12/92	SHPO 8/12/92				NO
366	84.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	6	West 30th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
367	89.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	6	West 31st St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
368	85.0	Old West 32nd St Pier, New York & Hudson Railroad Co.	Piers, Wharves & Pier Sheds	NO	6	at West 32nd St	SHPO 8/12/92	SHPO 8/12/92				NO
369	105.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	6	West 32nd St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
370	113.0	West 28th St Pier	Piers, Wharves & Pier Sheds	NO	6	at West 28th St	SHPO 8/12/92	SHPO 8/12/92				NO
371	114.0	Old West 30th to 31st St Pier	Piers, Wharves & Pier Sheds	NO	6	West 30th St	SHPO 8/12/92	SHPO 8/12/92				NO
372	115.0	Old West 32nd to 33rd St Pier	Piers, Wharves & Pier Sheds	NO	6	West 32nd St	SHPO 8/12/92	SHPO 8/12/92				NO
373	116.0	Old West 37th St Pier	Piers, Wharves & Pier Sheds	NO	6	at West 37th St	SHPO 8/12/92	SHPO 8/12/92				NO
374	117.0	Old West 41st St Pier	Piers, Wharves & Pier Sheds	NO	6	at West 41st St	SHPO 8/12/92	SHPO 8/12/92				NO
375	118.0	Old West 41st to 42nd St Pier	Piers, Wharves & Pier Sheds	NO	6	West 41st St	SHPO 8/12/92	SHPO 8/12/92				NO
376	154.0	Old West 35th St Pier	Piers, Wharves & Pier Sheds	NO	6	at West 35th St	SHPO 8/12/92	SHPO 8/12/92				NO
377	159.0	Old West 36th St Pier	Piers, Wharves & Pier Sheds	NO	6	at West 36th St	SHPO 8/12/92	SHPO 8/12/92				NO
378	403.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	6	West 25th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
379	404.0	Two buildings in M.S.	Piers, Wharves & Pier Sheds	NO	6	West 25th St	SHPO 8/12/92	SHPO 8/12/92				NO
380	405.0	West 26th St Pier	Piers, Wharves & Pier Sheds	NO	6	at West 26th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
381	406.0	Pier shed	Piers, Wharves & Pier Sheds	NO	6	West 26th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
382	407.0	Pier shed	Piers, Wharves & Pier Sheds	NO	6	West 28th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
383	408.0	Pier shed	Piers, Wharves & Pier Sheds	NO	6	West 29th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
384	411.0	Old West 33rd St Pier	Piers, Wharves & Pier Sheds	NO	6	at West 33rd St	SHPO 8/12/92	SHPO 8/12/92				NO
385	412.0	Pier sheds	Piers, Wharves & Pier Sheds	NO	6	West 33rd St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
386	413.0	Shed in M.S.	Piers, Wharves & Pier Sheds	NO	6	West 33rd St	SHPO 8/12/92	SHPO 8/12/92				NO
387	414.0	Old West 34th St Pier	Piers, Wharves & Pier Sheds	NO	6	at West 34th St	SHPO 8/12/92	SHPO 8/12/92				NO

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY						LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO					FIELD TESTING
Item No. (1)	Site No.	Notes	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Viability	Lack of Research Potential	Well Documented in the Literature	Out of APE (2)	Prior Disturbance	Final Recommendation
385	416.0		Cattle yard shed	Piers, Wharves & Pier Sheds	NO	1	West 34th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
389	416.0		Sheds in M.S.	Piers, Wharves & Pier Sheds	NO	1	West 34th St	SHPO 8/12/92	SHPO 8/12/92				NO
390	417.0		35th St station in pier shed	Piers, Wharves & Pier Sheds	NO	1	West 35th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
391	418.0		Loading dock/pier shed	Piers, Wharves & Pier Sheds	NO	1	West 36th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
392	419.0		Pennsylvania Railroad freight station	Piers, Wharves & Pier Sheds	NO	1	West 37th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
393	420.0		Building in M.S./pier shed	Piers, Wharves & Pier Sheds	NO	1	West 37th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
394	421.0		Old West 38th St Pier	Piers, Wharves & Pier Sheds	NO	1	at West 38th St	SHPO 8/12/92	SHPO 8/12/92				NO
395	422.0		Old West 39th St Pier	Piers, Wharves & Pier Sheds	NO	1	at West 39th St	SHPO 8/12/92	SHPO 8/12/92				NO
396	423.0		Old West 40th St Pier, Central Railroad of New Jersey	Piers, Wharves & Pier Sheds	NO	1	at West 40th St	SHPO 8/12/92	SHPO 8/12/92				NO
397	425.0		Old West 42nd St Pier, Weehawken Ferry	Piers, Wharves & Pier Sheds	NO	1	at West 42nd St	SHPO 8/12/92	SHPO 8/12/92				NO
398	426.0		Old West 38th St Pier	Piers, Wharves & Pier Sheds	NO	1	at West 38th St	SHPO 8/12/92	SHPO 8/12/92				NO
399	126.0		Pier	Piers, Wharves & Pier Sheds	NO	7	West 45th St	SHPO 8/12/92	SHPO 8/12/92				NO
400	129.0		Pier at the foot of West 47th St	Piers, Wharves & Pier Sheds	NO	7	at West 47th St	SHPO 8/12/92	SHPO 8/12/92				NO
401	161.0		Old West 43rd St Pier	Piers, Wharves & Pier Sheds	NO	7	at West 43rd St	SHPO 8/12/92	SHPO 8/12/92				NO
402	163.0		Pier	Piers, Wharves & Pier Sheds	NO	7	West 46th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
403	427.0		Old West 42nd to 43rd St Pier	Piers, Wharves & Pier Sheds	NO	7	West 42nd St	SHPO 8/12/92	SHPO 8/12/92				NO
404	428.0		Pier shed	Piers, Wharves & Pier Sheds	NO	7	West 45th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
405	473.0		Pier sheds	Piers, Wharves & Pier Sheds	NO	7	West 54th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
406	474.0		Pier	Piers, Wharves & Pier Sheds	NO	7	West 54th St	SHPO 8/12/92	SHPO 8/12/92		Out		NO
407	8.0		Prehistoric Area 1	Prehistoric	NO	1	Morris St				OUT		NO
408	10.0		Prehistoric Area 2	Prehistoric	NO	1	Carlisle St				OUT		NO
409	11.0		Prehistoric Area 3	Prehistoric	NO	1	Rector St				OUT		NO
410	144.0		Prehistoric Area	Prehistoric	NO	1	Morris St				OUT		NO
411	12.0		Prehistoric Area 5	Prehistoric	NO	2	Albany St				OUT		NO
412	15.0		Prehistoric Area 6	Prehistoric	NO	2	Liberty St				OUT		NO
413	16.0		Prehistoric Area 8	Prehistoric	NO	2	Liberty St				OUT		NO
414	23.0		Prehistoric Area 11 & 11A	Prehistoric	NO	2	Vesey St				OUT		NO
415	29.0		Prehistoric Area 10	Prehistoric	NO	2	Murray St				OUT		NO
416	30.0		Prehistoric Area 7	Prehistoric	NO	3	Vesey St				OUT		NO
417	43.0		Prehistoric Area 17	Prehistoric	NO	3	Hubert St				OUT		NO
418	45.0		Prehistoric Area 9	Prehistoric	NO	3	Laight St				OUT		NO
419	46.0		Prehistoric Area 20	Prehistoric	NO	3	Canal St				OUT		NO
420	176.0		Emigrant depot	Service	NO	1	at Battery Place	SHPO 8/12/92					NO
421	262.0		Dept. of St Cleaning	Service	NO	3	Canal St	SHPO 8/12/92	SHPO 8/12/92	SHPO 8/12/92	Out		NO
422	315.0		Adams House Hotel	Service	NO	5	Bloomfield St	SHPO 8/12/92					NO
423	136.0		Fire Dept. repair shop	Service	NO	7	West 58th St	SHPO 8/12/92					NO
424	148.0		Dept. of St Cleaning buildings	Service	NO	7	West 54th St	SHPO 8/12/92	SHPO 8/12/92	SHPO 8/12/92			NO
425	498.0		Housing station & destruction platform- Dept. of St Cleaning	Service	NO	7	West 55th St	SHPO 8/12/92	SHPO 8/12/92	SHPO 8/12/92			NO
426	404.0		Building on southwest corner of lot	Unassociated Buildings	NO	3	Hoboken St		SHPO 8/18/93		Out		NO
427	410.0		Building fronting Canal St	Unassociated Buildings	NO	3	Hoboken St		SHPO 8/18/93		Out		NO
428	37.0		Sheds	Unassociated Buildings	NO	4	West 12th St		SHPO 8/18/93		Out		NO
429	58.0		Shed	Unassociated Buildings	NO	4	Jane St		SHPO 8/18/93		Out		NO
430	58.0		Building on south half of lot	Unassociated Buildings	NO	4	Jane St		SHPO 8/18/93		Out		NO

SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO				FIELD TESTING
Item No. (1)	Site No.	Notes	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Visibility	Lack of Research Potential	Not Documented in the Literature	Out of APE (2)	Prior Disturbance	Final Recommendation
431	80.0		Sheds	Unassociated Buildings	NO	4	Horatio St			SHPO 6/18/93			NO
432	184.0		Building on southeast corner	Unassociated Buildings	NO	4	Bank St			SHPO 6/18/93			NO
433	294.0		Shed on eastern side	Unassociated Buildings	NO	4	Bank St			SHPO 6/18/93			NO
434	295.0		Building on northeastern corner	Unassociated Buildings	NO	4	Bank St			SHPO 6/18/93			NO
435	301.0		Sheds	Unassociated Buildings	NO	4	West 12th St			SHPO 6/18/93			NO
436	302.0		Buildings	Unassociated Buildings	NO	4	West 12th St			SHPO 6/18/93			NO
437	303.0		Shed	Unassociated Buildings	NO	4	West 12th St			SHPO 6/18/93			NO
438	305.0		Shed	Unassociated Buildings	NO	4	Jane St			SHPO 6/18/93			NO
439	61.0		Building at intersection of Gansevoort & West Sts	Unassociated Buildings	NO	5	Gansevoort St			SHPO 6/18/93			NO
440	70.0		Building	Unassociated Buildings	NO	5	Little West 12th St			SHPO 6/18/93	Out		NO
441	72.0		Shed north of office building	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93			NO
442	76.0		Two sheds	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93	Out		NO
443	77.0		Building & shed	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93	Out		NO
444	78.0		Building	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO
445	79.0		Shed	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO
446	82.0		Shed	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO
447	83.0		Brick shed on south end of lot	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93	Out		NO
448	84.0		Wood shed on rear of lot	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93	Out		NO
449	85.0		Shed on middle of lot	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO
450	87.0		Shed	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93	Out		NO
451	88.0		Shed	Unassociated Buildings	NO	5	West 15th St			SHPO 6/18/93			NO
452	89.0		Shed	Unassociated Buildings	NO	5	West 15th St			SHPO 6/18/93			NO
453	90.0		Shed on middle of lots	Unassociated Buildings	NO	5	West 15th St			SHPO 6/18/93			NO
454	92.0		Storage building on south ends of lots	Unassociated Buildings	NO	5	West 15th St			SHPO 6/18/93			NO
455	95.0		Shed	Unassociated Buildings	NO	5	West 15th St			SHPO 6/18/93			NO
456	96.0		Shed on north half of lot	Unassociated Buildings	NO	5	West 15th St			SHPO 6/18/93			NO
457	316.0		Building in Tenth Avenue	Unassociated Buildings	NO	5	Bloomfield St			SHPO 6/18/93			NO
458	318.0		Buildings	Unassociated Buildings	NO	5	Little West 12th St			SHPO 6/18/93			NO
459	319.0		Shed	Unassociated Buildings	NO	5	Little West 12th St			SHPO 6/18/93			NO
460	320.0		Building	Unassociated Buildings	NO	5	Little West 12th St			SHPO 6/18/93			NO
461	322.0		Shed, southeast part of lot	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93			NO
462	323.0		Building, south part of lot	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93			NO
463	324.0		Building, north part of lot	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93			NO
464	325.0		Shed	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93			NO
465	326.0		Two sheds	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93			NO
466	327.0		Building	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93			NO
467	328.0		Building	Unassociated Buildings	NO	5	West 13th St			SHPO 6/18/93	Out		NO
468	330.0		Shed	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO
469	331.0		Shed	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO
470	332.0		Shed	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO
471	333.0		Building	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO
472	334.0		Shed	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO
473	335.0		Shed	Unassociated Buildings	NO	5	West 14th St			SHPO 6/18/93			NO

ROUTE 9A RECONSTRUCTION PROJECT
MATRIX OF ARCHEOLOGICAL SITES

SITE INVENTORY					LOCATION		ELIMINATION FROM FURTHER CONSIDERATION DUE TO					FIELD TESTING
Item No. (1)	Site No.	Notes	Name	Contextual Report	Disturbance Report Generated	Segment	Street	Lack of Arch. Visibility	Lack of Research Potential	Well Documented in the Literature	Out of APE (2)	Prior Disturbance	Final Recommendation
474	334.0		Shed	Unassociated Buildings	NO	5	West 14th St					SHPO 6/18/93	NO
475	337.0		Building	Unassociated Buildings	NO	5	West 14th St					SHPO 6/18/93	NO
476	340.0		Shed	Unassociated Buildings	NO	5	West 15th St					SHPO 6/18/93	NO
477	341.0		Shed	Unassociated Buildings	NO	5	West 15th St					SHPO 6/18/93	NO
478	342.0		Shed in northwest corner of lot	Unassociated Buildings	NO	5	West 15th St					SHPO 6/18/93	NO
479	343.0		Three-story building	Unassociated Buildings	NO	5	West 15th St					SHPO 6/18/93	NO
480	344.0		Shed	Unassociated Buildings	NO	5	West 15th St					SHPO 6/18/93	NO
481	432.0		Shed in W.S.	Unassociated Buildings	NO	5	West 38th St					SHPO 6/18/93	NO
482	131.0		Brick building	Unassociated Buildings	NO	7	West 45th St					SHPO 6/18/93	NO
483	436.0		Wood shed	Unassociated Buildings	NO	7	West 46th St					SHPO 6/18/93	NO
484	437.0		Shed	Unassociated Buildings	NO	7	West 46th St					SHPO 6/18/93	NO
485	440.0		Shed	Unassociated Buildings	NO	7	West 46th St					SHPO 6/18/93	NO
486	443.0		Brick & frame building	Unassociated Buildings	NO	7	West 47th St					SHPO 6/18/93	NO
487	444.0		Wood sheds	Unassociated Buildings	NO	7	West 47th St					SHPO 6/18/93	NO
488	445.0		Building	Unassociated Buildings	NO	7	West 47th St					SHPO 6/18/93	NO
489	448.0		Wood sheds	Unassociated Buildings	NO	7	West 47th St					SHPO 6/18/93	NO
490	449.0		Wood building	Unassociated Buildings	NO	7	West 47th St					SHPO 6/18/93	NO
491	452.0		Wood shed	Unassociated Buildings	NO	7	West 48th St					SHPO 6/18/93	NO
492	454.0		Wood shed	Unassociated Buildings	NO	7	West 48th St					SHPO 6/18/93	NO
493	456.0		One story building	Unassociated Buildings	NO	7	West 48th St					SHPO 6/18/93	NO
494	457.0		Wood building	Unassociated Buildings	NO	7	West 48th St					SHPO 6/18/93	NO
495	458.0		Brick building	Unassociated Buildings	NO	7	West 48th St					SHPO 6/18/93	NO
496	459.0		Brick building	Unassociated Buildings	NO	7	West 48th St					SHPO 6/18/93	NO
497	463.0		Wood building	Unassociated Buildings	NO	7	West 49th St					SHPO 6/18/93	NO
498	466.0		Wood shed	Unassociated Buildings	NO	7	West 50th St					SHPO 6/18/93	NO
499	470.0		Brick building	Unassociated Buildings	NO	7	West 50th St					SHPO 6/18/93	NO
500	471.0		Building	Unassociated Buildings	NO	7	West 51st St					SHPO 6/18/93	NO
501	477.0		Brick building	Unassociated Buildings	NO	7	West 54th St					SHPO 6/18/93	NO
502	478.0		Wood shed	Unassociated Buildings	NO	7	West 54th St					SHPO 6/18/93	NO
503	481.0		Building	Unassociated Buildings	NO	7	West 54th St					SHPO 6/18/93	NO
504	483.0		Factory/lofts	Unassociated Buildings	NO	7	West 55th St					SHPO 6/18/93	NO
505	487.0		Three buildings in M.S.	Unassociated Buildings	NO	7	West 56th St					SHPO 6/18/93	NO
506	491.0		Building in 12th Avenue	Unassociated Buildings	NO	7	West 54th St					SHPO 6/18/93	NO

NOTES:

(1) Item Nos. are solely for the purpose of this chart. The Site Inventory Nos. refer to the initial inventory of known sites performed for the project.

(2) Capital letters "OUT" are used to signify that site was eliminated because it was out of the Project's area of potential effect (APE).
Upper and lower case "Out" are used to signify that the site was eliminated on other grounds as well as being out of the Project's APE

(3) Site 172 (Dwellings) was also evaluated and discussed in the FEIS as a potential 17th Century site.

(4) Site 168 (Piers and Wharves) was also evaluated and discussed in the FEIS as a potential 17th Century site.

nel 03/27/9

ATTACHMENT C

HISTORIC PROPERTIES / STRUCTURES IN THE ROUTE 9A CORRIDOR (FEIS Table)

Table C-1
LIST OF IDENTIFIED HISTORIC PROPERTIES/STRUCTURES
IN THE ROUTE 9A CORRIDOR APE *AND NEARBY AREA*

Map Reference Number	Name	Status
*1	Castle Clinton	S/NR, NHL, NYCL
2	Pier A	S/NR, NYCL
*3	Battery Park Control House	S/NR, NYCL
*4	U.S. Custom House	S/NR, NHL, NYCL
*5	Bowling Green Park	S/NR
*6	Bowling Green Fence	S/NR, NYCL
7	International Mercantile Marine Company Building (U.S. Lines Building)	*S/NR*
8	Cunard Building	S/NR Eligible (2/11/91)
9	29 Broadway	S/NR Eligible (2/11/91)
10	61 Broadway	S/NR Eligible (2/11/91)
11	67 Greenwich Street	S/NR Eligible (2/11/91)
12	Brooklyn-Battery Tunnel Blower House	S/NR Eligible (7/21/89)
13	Whitehall Building	S/NR Eligible (7/21/89)
14	Former St. George's Syrian Roman Catholic Church	S/NR Eligible (2/11/91)
15	West Street Building	S/NR Eligible (7/21/89)
16	New York Telephone Company (Barclay-Vesey) Building	S/NR Eligible (8/29/89), NYCL
*17	Tribeca West Historic District	NYCL
*18	Harrison Street Houses	NYCL
19	Tribeca North Historic District	NYCL
*20	416-424 Washington Street	NYCL Pending
*21	Fleming Smith Warehouse	S/NR, NYCL
*22	502-508 Canal Street (502 Canal Street is also 480 Greenwich Street)	S/NR Eligible (3/22/83), NYCL Pending

Table C-1 (Continued)
LIST OF IDENTIFIED HISTORIC PROPERTIES/STRUCTURES
IN THE ROUTE 9A CORRIDOR APE *AND NEARBY AREA*

Map Reference Number	Name	Status
*23	James Brown House	S/NR, NYCL
*24	Greenwich Village Historic District	S/NR, NYCL
25	Westbeth Building (Bell Telephone Laboratories)	S/NR, NHL
26	American Seaman's Friend Society	S/NR Eligible (10/3/89)
27	Pier 57	S/NR Eligible (2/11/91)
28	Merchants Refrigerating Company Warehouse	S/NR
29	Seamen's House YMCA	S/NR Eligible (11/20/89)
30	Piersheds of Piers 60 and 61	S/NR Eligible (2/11/91)
31	Terminal Hotel	S/NR Eligible (11/20/89)
*32	Baltimore & Ohio Railroad Warehouse	S/NR Eligible (11/20/89)
33	Baltimore & Ohio Railroad Transfer Bridge	S/NR Eligible (2/11/91)
34	Starrett-Lehigh Building	S/NR Eligible (11/20/89), NYCL
35	New York Terminal Warehouse Company, Central Stores	S/NR Eligible (11/20/89)
36	Lincoln Tunnel Ventilator Structure, foot of 39th Street (west of Twelfth Avenue)	S/NR Eligible (11/20/89)
37	*Intrepid* Aircraft Carrier	S/NR, NHL
38	USS *Edson*	S/NR, NHL
39	Consolidated Edison Power Plant (originally IRT Power Plant)	S/NR Eligible (11/20/89), NYCL Pending

Notes:

*	*Properties in the nearby area.*
S/NR	Listed on the State and National Registers of Historic Places
S/NR Eligible	Determined eligible for listing on the State and National Registers of Historic Places (and date of determination)
NHL	National Historic Landmark
NYCL	New York City Landmark
NYCL Pending	Site has had public hearing(s) on its designation as a New York City Landmark.

This table has been revised for the FEIS.

Programmatic Agreement among the United States Army Corps of Engineers, the New York State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Development of the Hudson River Park along Manhattan's West Side in New York City, New York

Appendix B-6

March 31, 2000

PROGRAMMATIC AGREEMENT AMONG THE UNITED STATES ARMY CORPS OF ENGINEERS, THE NEW YORK STATE HISTORIC PRESERVATION OFFICER AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING THE DEVELOPMENT OF THE HUDSON RIVER PARK ALONG MANHATTAN'S WEST SIDE IN NEW YORK CITY, NEW YORK

WHEREAS, pursuant to Section 10 of the Rivers and Harbors Act (33 U.S.C. §403) and Section 404 of the Clean Water Act (33 U.S.C. §1344), the United States Army Corps of Engineers ("USACE") has been requested to issue permits to facilitate the construction of the Hudson River Park by the Hudson River Park Trust ("Trust"); and

WHEREAS, as set forth in Chapter 592 of the (New York State) Laws of 1998 (the "Hudson River Park Act," annexed hereto as Exhibit 1), the Trust has been designated as the successor in interest to the Hudson River Park Conservancy ("HRPC") and the Empire State Development Corporation and is charged with the continued planning, design, construction and operation of the Hudson River Park project ("Project") ; and

WHEREAS, pursuant to Section 106 of the National Historic Preservation Act, the USACE has determined that the Project along the Hudson River on Manhattan's West Side between Battery Place and West 59th Streets, as described in the Joint Permits Application submitted in March 1998 and as modified and described in the Supplemental Public Notice issued by the USACE on February 18, 1999, may have an effect on properties listed in or eligible for inclusion in the National Register of Historic Places; and

WHEREAS, the USACE has consulted with the State Historic Preservation Officer ("SHPO") and the Advisory Council on Historic Preservation ("ACHP") in accordance with Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), and its implementing regulations, "Protection of Historic and Cultural Properties" (36 C.F.R Part 800), and USACE regulations at 33 C.F.R Part 325, Appendix C; and

JUL. 13. 2000 3:05PM HUDSON RIVER PARK TRUST NO. 2624 P. 2/14

WHEREAS, the permit area under Appendix C (1) (g) to 33 C.F.R. §325 and the Area of Potential Effect (APE) as defined by USACE under 36 C.F.R. Part 800 are within the Hudson River, bounded on the south by the north bulkhead of the Battery Park City neighborhood, on the north by a project limit line extending into the river from the foot of West 59th Street, on the west by the U.S. Pierhead Line, and on the east by (and including) the existing bulkhead or the Mean High Water line where no bulkhead is present (Annexed hereto as Exhibit 2 is a map of the APE); and

WHEREAS, the Project's construction is to be phased over an estimated five-year period and only construction in Segments 3, 4, 5, 6 and 7 is within USACE regulatory permitting jurisdiction; and

WHEREAS, identification and evaluation of historic properties within the area of the Project was initially completed by the SHPO during the Section 106 Review for the Route 9A Reconstruction Project; and

WHEREAS, the determination of historic properties for the Route 9A Reconstruction Project ("Route 9A") was memorialized in a March 23, 1994 Programmatic Agreement signed by the ACHP, the Federal Highway Administration, the SHPO and Route 9A Reconstruction Project of the New York State Department of Transportation and annexed hereto as Exhibit 3; and

WHEREAS, the SHPO updated the identification and evaluation of historic properties set forth in the Route 9A Programmatic Agreement for the Project herein by conducting a site inspection and review of the following documentation:

- Scoping document for the preparation of an environmental impact statement for the Project pursuant to the State Environmental Quality Review Act ("SEQRA") and City Environmental Quality Review ("CEQR") and their implementing regulations, issued on June 19, 1996
- Report of Historical Perspectives Incorporated: Existing Conditions Report, Archeological Resources, Hudson River Park Project (seven volumes)

- The Building/Structure Inventory Form for the New York City Hudson River Bulkhead dated March 1997
- Draft Environmental Impact Statement for the Project, dated April 1997, prepared pursuant to both SEQRA and CEQR
- New York City Landmarks Preservation Commission Environmental Review of the Project, dated April 1997
- The *Draft Design Guidelines Master Plan* and *Appendix* for the Project
- The Final Environmental Impact Statement for the Project, dated May 1998 prepared pursuant to both SEQRA and CEQR; and

WHEREAS, the SHPO has identified and the USACE has concurred that the following properties within the Project's APE are listed on or eligible for the National Register of Historic Places (Annexed hereto as Exhibit 4 is a map showing the locations of these properties):

- New York City Hudson River Bulkhead from Battery Place to West 59th Street
- Intrepid Aircraft Carrier
- U.S.S. Edson
- Lincoln Tunnel Ventilator Structure
- Baltimore and Ohio Railroad Float Transfer Bridge
- the Lightship *Frying Pan*
- Piersheds of Piers 60 and 61
- Pier 57
- Holland Tunnel Ventilator Structure
- the *Yankee* (former *Machigonne*); and

WHEREAS, the USACE and SHPO have determined that the Project does not include any activities for Piers 60 and 61, the Lincoln or Holland Tunnel ventilator structures, or any rehabilitation of historic vessels, and further that the Project will have no effect on these historic properties; and

WHEREAS, the USACE and SHPO have determined that with regard to archeological resources in the APE, the Project will have no effect on such resources based upon the documented depth of fill within the APE in relation to the depth of excavation proposed for Project construction; and

WHEREAS, the Trust, the SHPO and USACE have determined that failure to rehabilitate the bulkhead will result in the further deterioration of this resource; and

WHEREAS, the Project includes a number of beneficial activities including:

- Rehabilitation of the Hudson River Bulkhead,
- Repair, rehabilitation and interpretation of the Baltimore and Ohio Railroad Float Transfer Bridge,
- Preservation of the Pier 54 arch,
- Incorporation of available bollards and cleats in Park design,
- Beautification and improvement of pedestrian access in the area around the *Intrepid* Sea-Air-Space Museum and the *U.S.S. Edson*,
- Establishment of three mooring locations for other historic vessels at Piers 25, 54 and 97,
- Installation of interpretive signage and information at major entrances to the Project (identified on page 1-13 of the Project's Final Environmental Impact Statement prepared pursuant to both SEQRA/CEQR) and other areas,
- Facilitation of public access to historic properties within the Project area identified on page 3 of this Agreement, including improved pedestrian crossings of Route 9A; and

WHEREAS, the USACE and SHPO have determined that while the Project is in proximity to the Greenwich Village, Tribeca North, and Chelsea Historic Districts, it is not contiguous to these Districts, and further, that Route 9A represents a significant barrier separating these Districts from the APE; and

WHEREAS, based on the criteria specified in 36 C.F.R. §800.9, and as a consequence of comments made during and subsequent to the consultation meeting held on August 19, 1999, the USACE and SHPO further analyzed the potential for direct and indirect effects on the Greenwich Village, Tribeca North and Chelsea Historic Districts, and as set forth in the SHPO letter dated December 30, 1999 (annexed hereto as Exhibit 5), have determined that no historic properties will be affected within or immediately adjacent to those districts, nor will any individually listed historic properties within those districts be affected; and

WHEREAS, the Project has been designed in coordination with the Route 9A Reconstruction Project, and the location and designs for pedestrian crossings of Route 9A including several pedestrian bridges to be built by the New York State Department of Transportation as part of the Route 9A Reconstruction Project ("Route 9A") will be developed in a manner that will adhere to the Route 9A Programmatic Agreement of March 23, 1994, and the USACE and SHPO have reviewed the 1994 Programmatic Agreement and have determined that that document will govern the location and design of any such bridges; and

WHEREAS, the USACE issued a Public Notice for the Project on June 16, 1998; held two public hearings on the Project's permit applications on July 16, 1998; issued a Supplemental Public Notice on February 18, 1999; and has received written comments and oral testimony as part of its public review and historic preservation processes; and

WHEREAS, prior to the Hudson River Park Act, the State of New York and the City of New York entered into a Memorandum of Understanding in 1992 which created HRPC and established an Advisory Board consisting of local communities, parks and environmental organizations, civic and public interest groups, labor and business organizations, elected officials and other interested citizens to ensure public participation and review; and

WHEREAS, in addition, a voluntary Advisory Historical Working Group was formed and began meeting in 1993 to provide guidance to the project on historical matters, and has over the course of the succeeding six years met for that purpose; and

WHEREAS, HRPC engaged in an extensive community outreach and public participation program, which included the Advisory Board, the Advisory Historical Working Group, and the local Community Boards adjacent to the project and held over 150 community meetings and hosted a month-long Open House and published advertisements in community newspapers to solicit input on the Project and give the public the opportunity to review Project plans as they have progressed, including consideration of historic resources; and

WHEREAS, consistent with the 1992 Memorandum of Understanding, professional landscape architects were selected by each Community Board and engaged by HRPC to serve as the local communities' liaisons to the Project's design process; and

WHEREAS, the public was provided with multiple opportunities to comment on the Project and on the following Project documents, and the public will hereafter be provided with further opportunities to comment on the project pursuant to Stipulation VI of this Agreement:

- *Concept and Financial Plan* for Hudson River Park prepared in 1995
- Scoping document for the preparation of an environmental Impact statement for the Project pursuant to SEQRA and CEQR and their implementing regulations, issued on June 19, 1996
- Draft Environmental Impact Statement for the Project, dated April 1997, prepared pursuant to SEQRA and CEQR
- *Draft Design Guidelines Master Plan* and *Appendix* for the Project, prepared pursuant to SEQRA and CEQR
- Final Environmental Impact Statement for the Project, dated May 1998, prepared pursuant to SEQRA and CEQR
- Initial Public Notice for the Project issued by the USACE on June 16, 1998
- Supplemental Public Notice for the Project issued by the USACE on February 18, 1999; and

WHEREAS, in addition to the above, the Project was the subject of public hearings on the draft scoping document, the Draft Environmental Impact Statement prepared pursuant to

SEQRA and CEQR, the General Project Plan, the Zoning Text Amendment, and the application for permits from the New York State Department of Environmental Conservation; and

WHEREAS, the USACE, the SHPO and the ACHP have agreed to develop this Programmatic Agreement ("Agreement") in accordance with 36 C.F.R. §800.13, with the intention of avoiding, minimizing and/or mitigating any adverse effects on historic resources from the construction of Segment 4 of the Project within the jurisdiction of the USACE; to develop guidance for the implementation of the remaining segments of the Project within the jurisdiction of the USACE; and to develop a process for SHPO review of the remaining segments of the Project; and

WHEREAS, the USACE and SHPO, in consultation with the Trust, considered alternative treatments to the proposed rehabilitation of the bulkhead which recognize its varying types of construction, conditions, materials and proposed programming, and will continue to consider alternative treatments as Segments 3, 5, 6 and 7 of the Project are further planned; and

WHEREAS, in negotiating this Agreement, the ACHP, consistent with the procedures set forth in its Summary of Council Involvement in the American Heritage Rivers Initiative, carefully considered the distinctive features and assets of the Hudson River when evaluating effects of the Project on historic properties; and

WHEREAS, the Trust (and its predecessors in interest) also participated in the consultation and the Trust was invited to concur in this Agreement; and

WHEREAS, the USACE received requests from elected officials, organizations and individuals with an interest in the Federal historic preservation process to participate in the Section 106 review process, and the USACE acknowledged these requests by inviting such interested parties to become consulting parties to this Agreement; and

WHEREAS, such parties include but are not limited to: local residents; local elected officials including Comptroller of the City of New York, State Senators, Members of the State

Assembly, and Members of the City Council; the New York City Landmarks Preservation Commission, the Municipal Art Society, the Historic District Council, the Clean Air Campaign, the Federation to Preserve the Greenwich Village Waterfront and Great Port, and the Society for the Architecture of the City; and

WHEREAS, this Agreement pertains only to Project activities conducted within the APE as defined herein and the boundaries of the APE have been concurred with by the SHPO; and

WHEREAS, this consultation also serves as consultation under §14.09 of the New York State Parks, Recreation and Historic Preservation Act of 1980; and

WHEREAS, the Section 106 review and the State Historic Preservation Process were coordinated with the following environmental review and land use processes:

- State Environmental Quality Review Act
- City Environmental Quality Review
- Zoning Text Amendment to Section 62-412 of the City Zoning Resolution
- Article 15 and Article 25, New York State Department of Environmental Conservation permits
- Certification of Coastal Zone Consistency, New York State Department of State;

WHEREAS, pursuant to 36 C.F.R. Part 800.13, following circulation of the initial Draft Programmatic Agreement, dated August 3, 1999, the USACE and ACHP convened a Section 106 consultation meeting on August 19, 1999, and provided thereafter a period for attendees at that meeting to review and comment on that Draft Agreement; and

WHEREAS, the USACE and ACHP convened a second Section 106 consultation meeting on March 23, 2000, at which time a revised Draft Agreement dated February 14, 2000, which was circulated to the consulting parties on February 14, 2000, was discussed, and such discussion led to a final revision of the Agreement; and

WHEREAS, prospective design decisions for and review of the Project and the implementation of the stipulations set forth in this Agreement shall be guided by the Project's *Design Guidelines Master Plan*, the provisions of the Hudson River Park Act, and the principles set forth in the Secretary of the Interior's Standards, recognizing that there is no specific National Park Service guidance or interpretation of the Standards as they relate to maritime structures such as the Project's bulkhead; and

WHEREAS, in the event that there is later involvement in the Project by any additional federal agency, such agency may fulfill its Section 106 compliance responsibilities by agreeing to the provisions in this Agreement;

NOW, THEREFORE, USACE, ACHP and the SHPO agree that implementation of the undertaking covered by this Agreement shall take into account effects on historic properties and shall be administered in accordance with the following Stipulations to avoid, mitigate and minimize adverse effects and to satisfy the USACE's Section 106 responsibilities. The USACE shall condition any Section 10 and Section 404 permit it may issue regarding the Project to ensure that the following measures are carried out by the Hudson River Park Trust.

STIPULATIONS

The USACE, through the inclusion of the conditions in any Section 10 and 404 Permits issued for the Project shall ensure that the following measures are carried out:

I. RECORDATION:

A. Prior to the initiation of rehabilitation of the bulkhead, the history and appearance of the Hudson River Bulkhead shall be compiled using digitally recorded photos and information provided by the Preservation Architect (described below under II.A) as well as existing documentation. All such documentation will be developed in accordance with Level II guidelines of the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER), and shall be submitted to the SHPO for their review

and acceptance. The SHPO shall advise the Trust what additional recordation documentation, if any, shall be required, and the Trust shall provide such documentation to the SHPO for acceptance.

B. Upon acceptance by the SHPO of such documentation, the Trust shall also provide copies of such documentation to Community Boards 1, 2 and 4, the Landmarks Preservation Commission of the City of New York, and to appropriate local libraries.

C. The documentation submitted to the SHPO shall be utilized in the development of interpretive signage and exhibits for the Project. As described in the *Design Guidelines Master* Plan, interpretive information is to be incorporated, at a minimum, at the major entrances to the Project. Interpretation of historic events and sites for the Park shall be planned in coordination with the SHPO.

II. DESIGN AND TREATMENT OF THE BULKHEAD AND RELIEVING PLATFORMS:

The design and treatment of the bulkhead and relieving platforms as described below was guided by the Secretary of Interior's standards for rehabilitation, with due consideration given to the Trust's requirements regarding public safety, public access, cost, life term, and maintenance. The USACE, SHPO, and ACHP agree that adherence to the treatment plan described below will minimize harm to both the bulkhead's subsurface and above-ground features and preserve its overall integrity.

A. To ensure the appropriate implementation of the design and treatment plan described below, the Trust shall retain the services of a qualified Preservation Architect approved by the SHPO, whose scope of services shall be defined jointly by the Trust and SHPO. The qualifications of such Preservation Architect must be consistent with the Secretary of the Interior's Historic Preservation Professional Qualifications Standards. The Preservation Architect shall be responsible for the evaluation and assessment called for in the following stipulations. Additionally, the Preservation Architect shall be

charged with ensuring that digital photos are taken of both the bulkhead and relieving platforms prior to, during and following any construction.

B. In coordination with the Preservation Architect, the Trust shall rehabilitate the Project's Bulkhead, including both its subsurface and above-ground features, in accordance with the design principles and treatment plans approved by the SHPO. In proceeding with such planning, the Trust shall specifically consider such factors, identified during consultation with the SHPO and other consulting parties, including:

1. the integrity and condition of the resource;
2. the type and extent of existing materials;
3. the type of existing bulkhead construction;
4. the views of the bulkhead from the water;
5. the preference for repair over replacement whenever feasible; and
6. limiting the removal or demolition of bulkhead features only to areas where such activities are necessary to accomplish approved repair or replacement.

Generally, the treatment of the bulkhead shall consist of the following, recognizing that the plans for each segment shall be guided by the conditions specific to that segment:

(i) Large section/lengths of the existing granite Bulkhead coping shall be rehabilitated by using granite salvaged from other sections of the Bulkhead where the Preservation Architect determines that the wall is either in poor condition or where only a small length of the wall remains.

(ii) In areas where the Preservation Architect determines that the existing granite Bulkhead coping is either in deteriorated condition or is of a short length, repairs would be made with cast-in-place concrete.

(iii) All granite removed from the bulkhead shall be evaluated by the Preservation Architect for salvage and reuse in other areas of the Project.

(iv) Areas of the Bulkhead that are already concrete, such as where pierheads were once attached but no longer exist, would be reconstructed using similar cast-in-place concrete. In areas where piers were once located but no longer exist, the Trust shall memorialize such "ghost" piers by identifying the former pier number and any pertinent historical information to which the Trust and SHPO agree and in a manner to be approved by the SHPO.

C. (i) The Trust shall implement Segment 4 in accordance with the approach submitted to and approved by the SHPO, by letter dated April 15, 1998 and with the plans dated April 2, 1999.

(ii) Plans for segments other than Segment 4 will be provided to the SHPO, which will notify the Trust within 15 calendar days if there are any objections to such plans. No comment within these 15 calendar days shall constitute SHPO concurrence with such plans.

(iii) If in the planning for subsequent Project segments, the Trust and the Preservation Architect determine that design modifications are necessary, the Trust shall submit details of such proposed design changes to the SHPO for review and approval.

D. The Trust shall ensure that the Project's lookouts (or balconies) and "get downs" are located only in areas where the Preservation Architect determines that the existing granite Bulkhead coping is either in deteriorated condition or is of a short length. Siting and design of these elements, including massing and materials, shall be reviewed by the SHPO, with the exception of Segment 4, which design already meets this requirement, and which was approved by the SHPO, by letter dated April 15, 1998.

E. Plans for the physical installation of bulkhead railing and bulkhead lighting fixtures shall be developed consistent with code and safety requirements, the goals identified in the

Project's *Design Guidelines Master Plan*, the recommended approaches in the Secretary of Interior's Standards, and in consultation with the SHPO.

F. To ensure the bulkhead's long-term maintenance, the Trust shall conduct an inspection of the entire bulkhead once every five years. In the event that any structural problems are identified, the Trust shall make appropriate repairs following approval by the SHPO.

G. In the event of an unresolved objection between the SHPO and the Trust about the plans for future Project segments, the procedure described below under Section V ("Dispute Resolution") shall govern.

III. TREATMENT OF OTHER HISTORIC PROPERTIES:

A. The Trust shall ensure that treatment of the Baltimore and Ohio Railroad Float Transfer Bridge is completed in accordance with the plans entitled "Historic Railroad Transfer Floatbridge (Pier 66A) Project Description" dated December 16, 1998. This treatment was approved by the SHPO by letter of January 14, 1999. In the event that conditions necessitate any substantial changes to the preliminary design plans, the Trust shall resubmit such plans to the SHPO for review.

B. The Trust shall ensure that Project activities intended to create public access at Pier 57, as described in the USACE permit application, are developed in consultation with the SHPO. In providing for such public access at Pier 57, the Trust shall create a design which shall avoid, minimize and/or mitigate adverse effects to this historic property. Final plans shall be submitted to the SHPO for approval.

C. Upon the Trust's selection of historic vessels to be moored within the Park at Piers 25, 54 and 97, the Trust shall consult with the USACE and SHPO with respect to the placement of such vessels, and in particular with respect to their method of placement.

(i) In identifying historic vessels, the Trust shall consider in particular the method of

their placement at the piers, including the requirements of the New York State Department of Environmental Conservation permit, Special Condition 10.

(ii) In identifying historic vessels and their potential locations, the Trust shall also consider issues of public access and public safety.

D. Following the Trust's selection of historic vessels to be docked at the piers designated above within the Project, the Trust shall consult with the SHPO on all aspects of the mooring activities associated with these vessels for the purpose of avoiding any adverse effects on those historic vessels.

IV. COORDINATION OF REVIEWS:

A. Upon execution of this Agreement and the receipt of a USACE permit if issued, the Trust may proceed with those elements of the construction of Segment 4 which are within the jurisdiction of the USACE.

B. The Trust shall submit design plans to the SHPO for activities within the APE with the potential to affect any of the listed or eligible historic properties identified, unless the SHPO agrees otherwise.

C. The SHPO shall provide comments respecting any Project submissions within 15 calendar days, which comments may include recommended modifications to avoid, minimize, or mitigate adverse effects to historic properties.

(i) If the Trust cannot agree to any such proposed modifications and if further consultation with the SHPO is deemed unproductive by the SHPO, then the SHPO shall adhere to the procedures detailed under Stipulation V ("Dispute Resolution.")

(ii) If the SHPO determines that an adverse effect shall result from any such proposed modification, the Trust, in accordance with 36 C.F.R. §800.5 (e) shall consult with the SHPO to explore alternatives and seek ways to avoid or reduce the effects on historic properties, with implementation of the resulting plan following approval by the SHPO.

D. SHPO comments shall be guided by the *Design Guidelines Master Plan*, the Hudson River Park Act, and the Secretary of Interior's Standards.

E. Substantial design modifications, as determined by the Preservation Architect, to approved plans for activities with the potential to affect adversely any of the listed or eligible properties within the APE identified previously must be submitted to the SHPO, unless the SHPO agrees otherwise.

F. The Trust shall ensure that designers, contractors, owners of historic vessels and any potential lessees of space under the jurisdiction of the Trust are informed of coordination procedures required for the design and treatment of each segment.

G. If, during Project implementation, the Trust, its contractors or the Preservation Architect discover or identify any additional historic properties that may be adversely affected or any unanticipated adverse effects to a historic property, the Trust shall stop such work and shall also notify SHPO and the USACE. The Trust and the SHPO shall then develop a treatment plan for such property or condition, and shall submit such plan to the USACE and ACHP as appropriate for comment within 15 calendar days. No comment within that time period shall constitute concurrence with the proposed plan. The Trust shall also make information regarding additional historic properties or unanticipated adverse effects available to the public as described under Stipulation VI.A. The SHPO must approve all recommended treatment plans; however, all project activities other than those responsible for the above-specified adverse effects may proceed while the treatment plan is being developed or reviewed.

H. Should the Trust request an amendment to its Section 10-Section 404 permit, the USACE shall consult with the SHPO and Trust to assess what, if any, additional conditions or treatment measures related to historic properties are required for any amended permit. Such consultation shall first attempt to determine whether the condition can be addressed through Project modifications or through a permit condition established by the USACE consistent with the terms of this Agreement. Only in the event that the USACE, SHPO and Trust fail to reach agreement will the provisions of Stipulation X below be implemented. In all such cases, the Trust shall notify the public pursuant to Stipulation VI below.

I. To the extent practicable, reviews required under this stipulation shall be coordinated with other local and state administrative reviews.

J. In the event that SHPO receives written comments from the public regarding implementation of the terms of this Agreement, the SHPO shall coordinate with the USACE and Trust, consistent with Stipulation VI.B ("Public Involvement").

V. DISPUTE RESOLUTION:

A. The Trust shall notify the USACE of any instance where the SHPO objects to a proposed treatment, and the Trust and SHPO cannot resolve the objection. The USACE shall consult with the SHPO and Trust to attempt to resolve the objection. If the USACE determines that the objection cannot be resolved, the USACE shall forward all documentation relevant to the dispute to the ACHP. Within 20 calendar days after receipt of such documentation, the ACHP shall either:

(i) Provide the USACE with recommendations, which the USACE shall take into account in reaching a final decision regarding the dispute; or

(ii) Notify the USACE that it shall comment pursuant to 36 C.F.R. 800.6 (b), and proceed to comment. Any ACHP comment provided in response to such a

request shall be taken into account by the USACE in accordance with 36 C.F.R. 800.6 (c)(2) with reference to the subject of the dispute.

B. Any recommendations or comment provided by the ACHP shall be understood to pertain to the subject of the dispute; the USACE's responsibility to carry out all actions under this agreement that are not the subjects of the dispute shall remain unchanged.

VI. PUBLIC INVOLVEMENT:

A. Public Notification:

The Trust shall continue to coordinate with the community consistent with the provisions of the Hudson River Park Act, including meeting regularly with the Hudson River Park Advisory Council, and providing for meaningful public notice, participation, consultation and review in the planning, development and operation of the park, which shall include, but not be limited to (i) consultation with Manhattan Community Boards One, Two and Four, elected officials representing communities neighboring the park, and appropriate community, civic and advocacy organizations and (ii) timely and reasonable notifications to such individuals and groups and appropriate news media of each meeting of the Trust and any public hearings and (iii) in the case of any proposed significant action affecting the park, holding a public hearing on not less than 30 calendar days advance public notice.

B. Public Comments:

If the Trust receives timely and substantive written public objections regarding the treatment of historic properties, or measures taken to implement the terms of this Agreement, the Trust shall consult with the objector regarding such objections.

(i) The Trust shall respond within 30 calendar days to substantive written comments. If the Trust and the objector cannot resolve the matter, or if the matter is such that the Trust believes SHPO involvement is appropriate, the Trust shall notify the

SHPO and provide copies of the objection, and the SHPO, as appropriate, shall advise the Trust of measures, if any, that could resolve the matter.

(ii) If the Trust and the SHPO cannot resolve the issue and the SHPO determines that in the absence of such resolution there would be an adverse effect on the historic resource, the SHPO shall consult with the USACE and ACHP, as appropriate.

VII. COORDINATION OF OTHER FEDERAL REVIEWS:

A. In the event that the Trust applies for federal funds in respect of the Project, the federal funding agency may satisfy its Section 106 responsibilities by agreeing in writing to the terms of this Agreement, and notifying the SHPO and ACHP accordingly.

VIII. MONITORING:

A. During Project construction, the Trust shall submit quarterly status reports to the SHPO and the ACHP to summarize measures it has taken to comply with the terms of this Agreement. Reports shall be submitted until the project is completed. Following Project construction, reports shall be submitted to the SHPO every five years with respect to the bulkhead inspections described above in Section II ("Design and Treatment of the Bulkhead and Relieving Platforms"), Section F.

IX. TERM OF THE AGREEMENT:

A. This Agreement shall remain in force for ten years following its execution unless the USACE, SHPO and ACHP agree otherwise, in accordance with the following Stipulation X or XI.

X. AMENDMENTS TO THE AGREEMENT:

A. This Agreement may be amended at the request of any of the signatories to this Agreement, after providing no less than 30 calendar days written notification to the other signatories. Upon the receipt of a request for an amendment, the USACE shall notify all persons or organizations identified as consulting parties of the request. The signatories to this Agreement shall consult to consider such amendments in a manner consistent with 36 C.F.R. Part 800.

XI. TERMINATION OF THE AGREEMENT:

A. This Agreement may be terminated at the request of any of the signatories to this Agreement, with 30 calendar days written notification to the other signatories. In the event the Agreement is terminated, the USACE, in consultation with the Trust, shall comply with 36 C.F.R. Part 800 on a case-by-case basis for each proposed project activity within the permitted area.

EXECUTION AND IMPLEMENTATION OF THIS PROGRAMMATIC AGREEMENT EVIDENCES THAT USACE HAS SATISFIED ITS SECTION 106 RESPONSIBILITIES FOR THE HUDSON RIVER PARK PROJECT.

UNITED STATES ARMY CORPS OF ENGINEERS

By: William D. Bruce Date: 14 April 2000

NEW YORK STATE HISTORIC PRESERVATION OFFICER

By: J.W. Regan Date: 5 April 00

ADVISORY COUNCIL ON HISTORIC PRESERVATION

By: Catherine B. Slatis Date: 5 May 2000

CONCUR:

HUDSON RIVER PARK TRUST

By: Robert Balder Date: 3/31/00

Appendix B-7: Correspondence

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
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

February 9, 2004

Kevin M. Rampe, President
Lower Manhattan Development Corporation
One Liberty Plaza, 20th Floor
New York, New York 10006

Dear Mr. Rampe:

Re: LMDC
WTC Memorial and Redevelopment Plan
New York, New York
03PR02664

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). The SHPO has reviewed the Final Determination of Eligibility for the World Trade Center Site in accordance with Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations.

The SHPO appreciates the opportunity to attend and participate in the Section 106 Consulting Parties meetings on the Determination of Eligibility and for the World Trade Center Memorial and Redevelopment Plan. The meetings, and the Draft Determination of National Register Eligibility for the World Trade Center Site, which was shared with the SHPO and the Consulting Parties on January 21, 2004, have provided us with a good understanding of the intent of the document and the comments and concerns of the Consulting Parties. As is often the case, the SHPO has chosen to respond expeditiously to your submission in order to make our comments available as early as possible for the consideration of the Consulting Parties and the public.

Based upon this review, the SHPO concurs with the determination that the World Trade Center Site is eligible for the National Register of Historic Places. We recognize the unusual nature of this determination and appreciate the commitment and effort that was given to the evaluation. We are pleased to note that many of the suggestions and recommendations provided by the SHPO and the Consulting Parties were incorporated into the final determination of eligibility. In the opinion of the SHPO, the National Register criteria for evaluation and National Register guidelines were reasonably and appropriately applied to the evaluation of this unprecedented event and unique historic property. In addition to satisfactorily establishing the historical significance of the site, the determination provides sufficient information with regard to boundaries, features, and integrity to provide a basis for proceeding with the Section 106 review process.

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Providing additional time for comment on the eligibility by the Consulting Parties is appropriate given the unprecedented nature of the determination, the national significance of the events that took place at the World Trade Center Site, and the growing interest in viewing those events from an historical perspective. Any effort to augment the historical context and factual basis for the determination will be worth the effort. Therefore, the SHPO supports LMDC's decision to extend the comment period on the determination of eligibility for an additional 30-days.

It is also true that the current determination of eligibility provides an adequate basis for moving forward. As such, we feel it is appropriate to proceed with the Section 106 process and concur that it is acceptable to share a proposed Determination of Effect with the Consulting Parties. In the opinion of the SHPO the Section 106 regulations do not preclude such an action, LMDC has provided reasonable justification for this approach, and Section 800.3(g) appears to indicate that the need for such an allowance is both envisioned and accommodated by the regulations.

The SHPO looks forward to continuing to participate in the Section 106 review of the World Trade Center Memorial and Redevelopment Plan. If you have any questions, please feel free to call me at (518) 237-8643 ext. 3255.

Sincerely,

Robert Kuhn
Assistant Director
Field Services Bureau

cc: HUD
FTA
FHWA

NEW YORK STATE
Bernadette Castro
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

March 19, 2004

Christopher R. Zeppie
Chief, Environmental Policy Officer
The Port Authority of NY & NJ
Office of Policy & Planning
233 Park Avenue South, 11th Floor
New York, New York 10003

Dear Mr. Zeppie:

Re: PA/FTA
Permanent PATH Terminal Project
Manhattan, New York County
03PR04247

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). The SHPO has reviewed your correspondence of February 25, 2004, with regard to the Permanent World Trade Center PATH Terminal Project in accordance with Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations.

Based upon this review, the SHPO concurs with the Area of Potential Effect (APE) for the purposes of Section 106 review, as that APE is defined in the February 25, 2004, project submission. The SHPO looks forward to consulting with the Federal Transit Administration and the Port Authority of New York and New Jersey on this project.

When responding please be sure to refer to the SHPO project review (PR) number noted above. If you have any questions, please feel free to call me at (518) 237-8643 ext. 3255.

Sincerely,

Robert D. Kuhn

Assistant Director
Field Services Bureau

RDK:bsa
cc: C. Braegelmann, FTA

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OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
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

May 5, 2004

Christopher R. Zeppie
Chief, Environmental Policy Officer
The Port Authority of NY & NJ
Office of Policy & Planning
233 Park Avenue South, 11th Floor
New York, New York 10003

Dear Mr. Zeppie:

Re: PA/FTA
Permanent PATH Terminal Project
Manhattan, New York County
03PR04247

Thank you for requesting the comments of the New York State Historic Preservation Office (SHPO). The SHPO has reviewed the report for the Permanent World Trade Center PATH Terminal Project in accordance with Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations.

The SHPO has reviewed the report titled, *Phase IA Archaeological Assessment, Permanent World Trade Center Path Terminal, South Pedestrian Passageway*, prepared by Historical Perspectives Inc. and dated April, 2004.

Based upon this review, the SHPO accepts and approves the report and concurs with the recommendations of the report.

When responding please be sure to refer to the SHPO project review (PR) number noted above. If you have any questions, please feel free to call me at (518) 237-8643 ext. 3255.

Sincerely,

Robert D. Kuhn

Assistant Director
Field Services Bureau

RDK:bsa

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Appendix C

Transportation

Appendix C-1: PATH Ridership Estimates

A. INTRODUCTION

This memorandum describes the ridreship forecasting that was prepared by the Port Authority of New York and New Jersey (PANYNJ in support of the design and environmental analysis of a Permanent World Trade Center (WTC) PATH Terminal in Lower Manhattan.

The terrorist attacks of September 11, 2001 resulted in unique circumstances for the preparation of these ridership data. Typically, a transit agency/authority would rely upon regional projections prepared by its Metropolitan Planning Organization (MPO). In the case of PANYNJ, the New York Metropolitan Transportation Council (NYMTC) serves as the MPO. However, both PANYNJ's and NYMTC's offices were located in the WTC, meaning that most files were destroyed by the terrorist attacks.

In 2002, NYMTC, PANYNJ, and the Metropolitan Transportation Authority (MTA) met to discuss the status of transit ridership projections for the New York Metropolitan Region. At the time of the terrorist attacks, NYMTC had nearly completed projections for 2020. However, given the major economic implications of the attacks, they planned to revised these projections to account for the effects of the attacks using a horizon year of 2025. At the meeting, NYMTC indicated that this modeling effort would take 3 to 4 years to complete.

Simultaneously, PANYNJ and MTA were planning for their respective projects in Lower Manhattan and the supporting environmental documentation. Given the timeframe of these projects, it would not be feasible to wait for NYMTC projections to move forward. NYMTC agreed that PANYNJ and MTA could proceed with independent ridership estimates absent a regional model.

Since their meeting with NYMTC, PANYNJ and MTA have coordinated to forecast ridership for the Permanent WTC PATH Terminal, South Ferry Terminal, and the Fulton Street Transit Center. Throughout this process, project staff have calibrated the individual analyses, which has resulted in only minor differences in the results. PANYNJ and MTA continue to meet to refine these results and to plan for the design of their individual projects.

PANYNJ has prepared ridership estimates through the 2025 design year of the Permanent WTC PATH Terminal. Since the scoping process for the Permanent WTC PATH Terminal Environmental Impact Statement, which began in September 2003, these projections have been periodically refined to account for programmatic changes in the World Trade Center Memorial and Redevelopment Plan, revisions to the model for the South Ferry and Fulton Street Transit Center projects, and data from the temporary WTC PATH station. The following describes the estimates presented in the FEIS.

B. RIDERSHIP TRENDS

The modeling of future ridership has been guided by a number of trends that were observed with the PATH system prior to September 11, 2001 as well as plans that have put forth more recently.

LOWER MANHATTAN DEVELOPMENT TRENDS

As described in Chapter 4, "Land Use, Neighborhood Character, and Public Policy" and Chapter 5, "Socioeconomic Conditions" of the Draft Environmental Impact Statement, several projects are planned for Lower Manhattan that will be completed by 2025. More than 12,000 residential units, 1.4-million square feet of retail, and 14.9-million square feet of office space is planned south of Canal Street. These projects will result in more than 22,000 new residents and more than 67,000 new workers as compared to today.

Table 1 compares the 2025 residential and employee populations of Lower Manhattan to 2000 estimates. As shown, the area's residential population will increase by 54.9 percent from 2000 to 2025. The employee population will change from 426,000 to 421,673, a decrease of one percent.

Table 1
Projected Housing, Population, and Employment in Lower Manhattan in 2000 and 2025

Estimate	Residential (DU)	Office (sf)	Retail (sf)	Population	
				Residential	Employee
2000 (Pre-September 11, 2001)	27,143	107,512,756	7,450,000	58,618	426,000
Total 2025	44,775	107,812,850	8,570,700	90,775	421,873
Percent Change (2000 to 2025)	65.0%	0.3%	15.0%	54.9%	-1.0%

Notes: Population estimates were generated by multiplying the number of housing units by the 2000 average household size for each subarea. Employment estimates were generated by applying standard employee/square foot ratios to anticipated development.

In addition to the residents and employees who would ride PATH, the planned Memorial, museum, and cultural facilities at the WTC site are expected to generate a substantial number of daily PATH trips. PANYNJ coordinated with LMDC and its consultants to develop estimates of this patronage and to project the number of visitors by PATH. As shown in the Final Generic Environmental Impact Statement for the World Trade Center Memorial and Redevelopment Plan, these facilities would generate 2,526 daily, two-way PATH trips. It is anticipated that the majority of these trips would occur during off-peak periods.

JERSEY CITY DEVELOPMENT TRENDS

While the employee population of Lower Manhattan will decrease slightly between 2000 and 2025, the employee population of Jersey City, New Jersey is expected to increase significantly. Since the early 1990's, the Jersey City waterfront has experienced substantial growth in office space. Since 2000, a total of eleven office buildings have opened accounting for 4.9-million square feet of new space. An additional 7.6-million square feet of office is still planned and is expected to be completed before 2025.

The increased office population in Jersey City coupled with the increase in Lower Manhattan residents by 2025 is expected to generate new "reverse" commuters by PATH. Prior to

September 11, 2001, a shift in PATH ridership was occurring at the WTC station. While commuters to Lower Manhattan continued to increase, there was a more rapid increase in the "reverse" commute. A survey conducted in 1996 showed that 15 percent of PATH riders commuted from Manhattan to New Jersey. However, by 2000 it was observed that "reverse" commuters comprised nearly 20 percent of the AM peak hour ridership. Given the level of anticipated development along the Jersey City waterfront, it is expected that this trend will continue.

The expansion of office space in Jersey City has resulted in two other trends that increase PATH ridership. First, firms located in Lower Manhattan have expanded operations to occupy space in Jersey City; thus, they have offices on both sides of the Hudson River. Their employees rely on PATH for commuting between offices. Second, financial and other similar firms have located in Jersey City for its proximity to the major financial institutions in Lower Manhattan. Their employees and those employed in Lower Manhattan also rely on PATH to travel between meetings. Both of these trends have resulted in increased demand for off-peak PATH service. With the further expansion of office space in Jersey City, future increases are expected to continue.

TRANSIT NETWORK EXPANSION

Three transit expansion projects have the potential to attract new PATH riders by the 2025 design year for the Permanent WTC PATH Terminal: 1) Expansion of PATH to Newark Liberty International Airport; 2) Commuter rail connection between Lower Manhattan, JFK Airport, and Long Island; and 3) Hudson-Bergen Light Rail Extensions.

PATH EXTENSION TO NEWARK LIBERTY INTERNATIONAL AIRPORT

PANYNJ's long-range plan calls for the extension of the PATH system from Newark-Penn Station to Newark Liberty International Airport. This extension would allow for a one-seat ride between Lower Manhattan and the airport. Although some airport passengers currently use PATH to travel between Lower Manhattan and a transfer at Newark-Penn Station to commuter rail, bus, or taxi for access to the airport, It is anticipated that direct PATH service to Newark Liberty International Airport would attract new PATH riders who would divert from automobile, taxi, and commuter rail. It is expected that much of this growth in would occur during off-peak hours.

HUDSON-BERGEN LIGHT RAIL

By winter 2005, New Jersey Transit plans to open Minimum Operating Segment (MOS) 2 of the Hudson-Bergen Light Rail (HBLR) system. This segment will extend service from Hoboken Terminal to the Tonnelle Avenue Park-N-Ride in North Bergen, New Jersey. FTA and New Jersey Transit are also preparing an Environmental Impact Statement for MOS3 of the Hudson-Bergen Light Rail, which would extend service south in Bayonne from 22nd Street to 8th Street and north from Tonnelle Avenue to a terminus in Tenafly.

The Hudson-Bergen Light Rail has transfers to the PATH system at Hoboken and Exchange Place. As the expansions are completed, it is anticipated that some commuters would use HBLR and PATH for their travel to Lower Manhattan. It is expected that these commuters would divert from private automobiles or from New Jersey Transit commuter rail and buses.

JFK AIRPORT ACCESS

PANYNJ, the Lower Manhattan Development Corporation, and the Metropolitan Transportation Authority are currently studying options to provide commuter rail service between Lower Manhattan and Eastern Long Island and John F. Kennedy International Airport. This project has the potential to attract new PATH riders who would travel between New Jersey and JFK Airport via a transfer at the Permanent WTC PATH Terminal to the Lower Manhattan commuter rail terminal. Similar to the anticipated increases from the Newark Liberty International Airport Extension, this new ridership is expected to occur mostly during off-peak periods.

MODE SHIFT AND CONNECTIVITY

A principal goal in the planning for a Permanent WTC PATH Terminal and the Fulton Street Transit Center has been to improve connectivity between PATH and New York City subways. The Permanent WTC PATH Terminal will provide connections to subway lines that were not served by the pre-September 11, 2001 facility. These additional connections will improve regional mobility and may attract riders to Lower Manhattan who previously used Midtown transit services or another mode of travel for access between New Jersey and New York City.

C. RIDERSHIP PROJECTIONS

PANYNJ prepared ridership estimates by year for the weekday AM peak, midday peak, PM peak, and 24-hour periods at the WTC Terminal. As shown in Table 2 and Figure 1, the weekday, 24-hour, two-way ridership at the WTC Terminal will be approximately 161,700 passengers by 2025. Although PATH ridership at the WTC Terminal is currently much lower than before September 11, 2001, trips to and from the Terminal are expected to exceed 2000 levels by 2015. In total, daily PATH ridership will increase by 13.6 percent from 2000 to 2025.

Generally growth in PATH ridership would increase by 0.5 percent per year between 2004 and 2025. However, more rapid increases are anticipated in 2006, 2009, 2015, 2016, and 2025 with the completion of developments on the WTC site and elsewhere in Lower Manhattan. In 2006, the occupation of 7 WTC would occur, resulting in a 3.4 percent increase in daily PATH ridership. In 2009, the completion of Freedom Tower, the WTC Memorial, and cultural facilities on the WTC site will generate a 7.1 percent increase. The completion of Towers 2, 3, 4, and 5 on the WTC site would result in a total 17.5 percent increase in daily ridership between 2014 and 2016. An additional 3.1 percent increase is anticipated between 2024 and 2025 with the completion of projects at Battery Park City.

The two-way ridership for the weekday AM peak period (6 AM to 10 AM) will represent approximately 38 percent of total daily trips at the Terminal with the busiest hour being from 8AM to 9AM. The PM peak period (4PM to 7PM) will serve 31 percent of the total daily ridership with the busiest hour from 5PM to 6PM. The remaining 31 percent of PATH riders would arrive or depart the Terminal during the midday, evening, or overnight periods with the busiest hour occurring in the midday. The following describes peak hour ridership for the AM peak hour, midday peak hour, and PM peak hours since these will be the busiest at the Terminal.

As shown in Table 3 and Figure 2, the weekday, two-way AM peak hour ridership will total 29,001 by 2025 with 5,660 boardings and 23,341 alightings. Boardings will increase by 37.8 percent while alightings will increase by 3.8 percent. The rapid increase in boardings corresponds to the expected rise in "reverse" commuters. The combined change in boardings and alightings represents a 9 percent increase in AM peak hour trips between 2000 and 2025.

Table 2

PATH - World Trade Center Terminal

Weekday Daily Two-Way Ridership by Year (2000 to 2025)

Year	Boarding			Alighting			Total		
	Passengers	Percent Change from Year Prior	Percent Change from 2000	Passengers	Percent Change from Year Prior	Percent Change from 2000	Passengers	Percent Change from Year Prior	Percent Change from 2000
2000	67,000	0.0%	0.0%	75,300	0.0%	0.0%	142,300	0.0%	0.0%
2001	67,000	0.0%	0.0%	75,300	0.0%	0.0%	142,300	0.0%	0.0%
2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004*	52,534	-21.6%	-21.6%	59,042	-21.6%	-21.6%	111,576	-21.6%	-21.6%
2005	52,781	0.5%	-21.2%	59,319	0.5%	-21.2%	112,100	0.5%	-21.2%
2006	54,581	3.4%	-18.5%	61,343	3.4%	-18.5%	115,924	3.4%	-18.5%
2007	54,838	0.5%	-18.2%	61,631	0.5%	-18.2%	116,469	0.5%	-18.2%
2008	55,100	0.5%	-17.8%	61,926	0.5%	-17.8%	117,026	0.5%	-17.8%
2009	58,989	7.1%	-12.0%	66,297	7.1%	-12.0%	125,286	7.1%	-12.0%
2010	59,262	0.5%	-11.5%	66,604	0.5%	-11.5%	125,866	0.5%	-11.5%
2011	59,541	0.5%	-11.1%	66,917	0.5%	-11.1%	126,458	0.5%	-11.1%
2012	59,826	0.5%	-10.7%	67,238	0.5%	-10.7%	127,064	0.5%	-10.7%
2013	60,117	0.5%	-10.3%	67,565	0.5%	-10.3%	127,682	0.5%	-10.3%
2014	60,415	0.5%	-9.8%	67,899	0.5%	-9.8%	128,314	0.5%	-9.8%
2015	67,795	12.2%	1.2%	76,193	12.2%	1.2%	143,988	12.2%	1.2%
2016	71,001	4.7%	6.0%	79,796	4.7%	6.0%	150,797	4.7%	6.0%
2017	71,331	0.5%	6.5%	80,168	0.5%	6.5%	151,499	0.5%	6.5%
2018	71,668	0.5%	7.0%	80,547	0.5%	7.0%	152,215	0.5%	7.0%
2019	72,013	0.5%	7.5%	80,934	0.5%	7.5%	152,947	0.5%	7.5%
2020	72,365	0.5%	8.0%	81,330	0.5%	8.0%	153,695	0.5%	8.0%
2021	72,725	0.5%	8.5%	81,734	0.5%	8.5%	154,459	0.5%	8.5%
2022	73,092	0.5%	9.1%	82,147	0.5%	9.1%	155,239	0.5%	9.1%
2023	73,468	0.5%	9.7%	82,569	0.5%	9.7%	156,037	0.5%	9.7%
2024	73,852	0.5%	10.2%	83,001	0.5%	10.2%	156,853	0.5%	10.2%
2025	76,143	3.1%	13.6%	85,575	3.1%	13.6%	161,718	3.1%	13.6%

Note: * 2004 figures are compared to 2000/2001 figures since full service was not restored until November 2003.

Figure 1
PATH - World Trade Center Terminal
Weekday Daily Two-Way Ridership by Year (2000 to 2025)

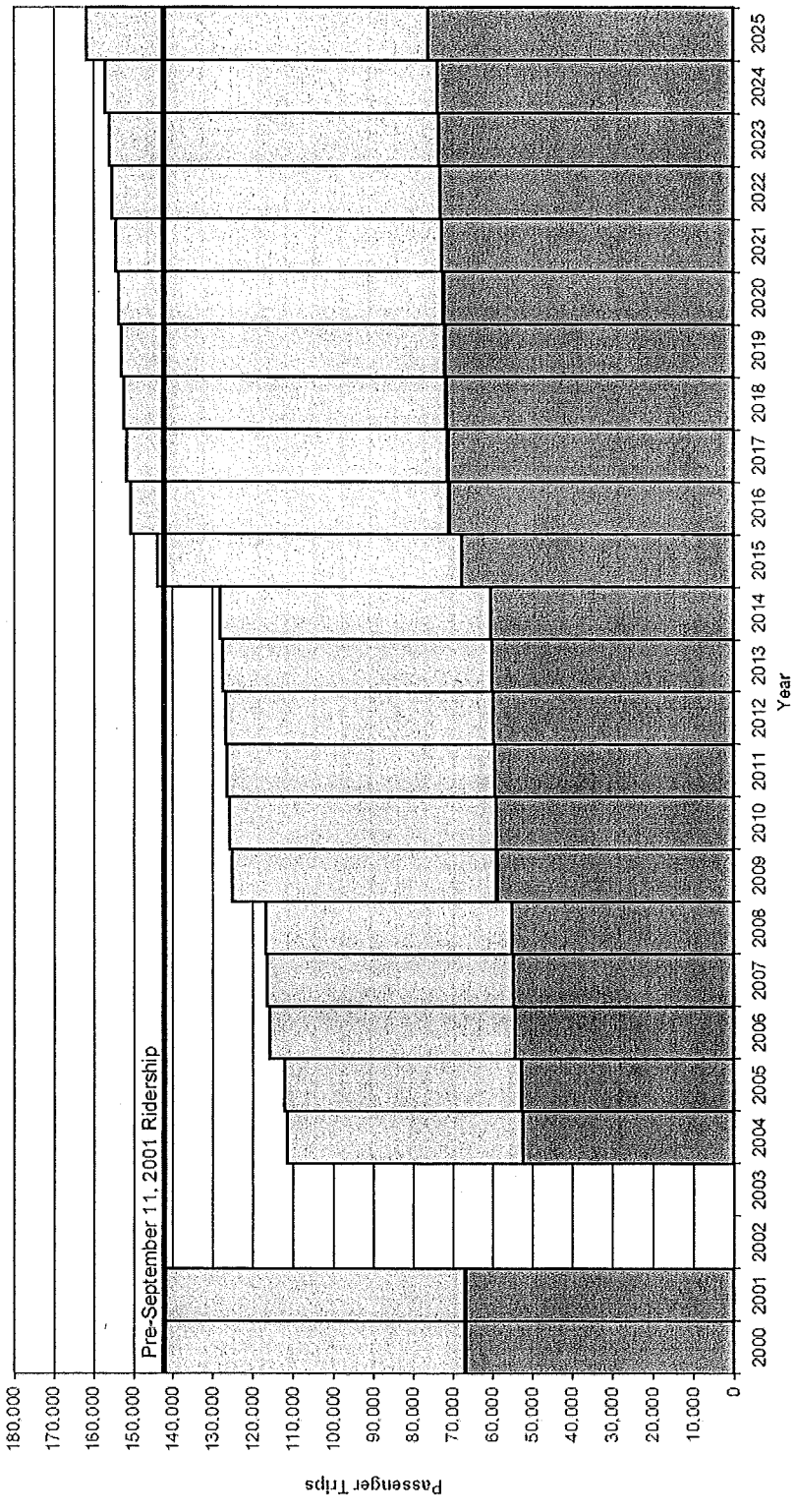


Table 3

PATH - World Trade Center Terminal

AM Peak Hour Two-Way Ridership by Year (2000 to 2025)

Year	Boarding			Alighting			Total		
	Passengers	Percent Change from Year Prior	Percent Change from 2000	Passengers	Percent Change from Year Prior	Percent Change from 2000	Passengers	Percent Change from Year Prior	Percent Change from 2000
2000	4,107	0.0%	0.0%	22,497	0.0%	0.0%	26,604	0.0%	0.0%
2001	4,107	0.0%	0.0%	22,497	0.0%	0.0%	26,604	0.0%	0.0%
2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004*	3,209	-21.9%	-21.9%	17,651	-21.5%	-21.5%	20,860	-21.6%	-21.6%
2005	3,289	2.5%	-19.9%	17,669	0.1%	-21.5%	20,958	0.5%	-21.2%
2006	3,396	3.3%	-17.3%	18,276	3.4%	-18.8%	21,672	3.4%	-18.5%
2007	3,481	2.5%	-15.2%	18,294	0.1%	-18.7%	21,775	0.5%	-18.2%
2008	3,567	2.5%	-13.1%	18,312	0.1%	-18.6%	21,879	0.5%	-17.8%
2009	3,749	5.1%	-8.7%	19,674	7.4%	-12.5%	23,423	7.1%	-12.0%
2010	3,839	2.4%	-6.5%	19,692	0.1%	-12.5%	23,531	0.5%	-11.6%
2011	3,932	2.4%	-4.3%	19,710	0.1%	-12.4%	23,642	0.5%	-11.1%
2012	4,028	2.4%	-1.9%	19,728	0.1%	-12.3%	23,756	0.5%	-10.7%
2013	4,126	2.4%	0.5%	19,745	0.1%	-12.2%	23,871	0.5%	-10.3%
2014	4,226	2.4%	2.9%	19,763	0.1%	-12.2%	23,989	0.5%	-9.8%
2015	4,451	5.3%	8.4%	22,468	13.7%	-0.1%	26,919	12.2%	1.2%
2016	4,557	2.4%	11.0%	22,486	0.1%	0.0%	27,043	0.5%	1.7%
2017	4,665	2.4%	13.6%	22,504	0.1%	0.0%	27,169	0.5%	2.1%
2018	4,775	2.4%	16.3%	22,522	0.1%	0.1%	27,297	0.5%	2.6%
2019	4,889	2.4%	19.0%	22,540	0.1%	0.2%	27,429	0.5%	3.1%
2020	5,005	2.4%	21.9%	22,558	0.1%	0.3%	27,563	0.5%	3.6%
2021	5,124	2.4%	24.8%	22,575	0.1%	0.3%	27,699	0.5%	4.1%
2022	5,246	2.4%	27.7%	22,593	0.1%	0.4%	27,839	0.5%	4.6%
2023	5,371	2.4%	30.8%	22,611	0.1%	0.5%	27,982	0.5%	5.2%
2024	5,499	2.4%	33.9%	22,629	0.1%	0.6%	28,128	0.5%	5.7%
2025	5,660	2.9%	37.8%	23,341	3.1%	3.8%	29,001	3.1%	9.0%

Note: * 2004 figures are compared to 2000/2001 figures since full service was not restored until November 2003.

Figure 2
PATH - World Trade Center Terminal
Weekday AM Peak Hour Two-Way Ridership by Year (2000 to 2025)

As shown in Table 4 and Figure 3, the weekday, two-way midday peak hour ridership will total 8,974 by 2025 with 4,097 boardings and 4,877 alightings. Total boardings in the midday peak hour will increase by 34.3 percent while the total alightings will increase by 151.7 percent. The combined change in boardings and alightings results in a 79.9 percent increase in midday peak hour trips between 2000 and 2025. Much of this increase is attributed to the planned Memorial, museum, and cultural facilities at the WTC site as well as inter-office trips between Lower Manhattan and the Jersey City waterfront.

As shown in Table 5 and Figure 4, the weekday, two-way PM peak hour ridership at the WTC Terminal will total 23,362 passengers by 2025 with 17,119 boardings and 6,243 alightings. As compared to 2000 figures, 2025 boardings will increase by 6.3 percent while alightings will increase by 45.7 percent in the PM peak hour. Similar to the AM peak hour, the rapid increase in alightings during the PM peak corresponds to the expected rise in "reverse" commuters that would return to Manhattan from New Jersey. Furthermore, the Memorial, museum, and cultural facilities at the WTC site will attract both boardings and alightings during the PM peak hour. The combined change in boardings and alightings will result in a 14.6 percent increase in PM peak hour trips between 2000 and 2025.

Ridership during non-peak periods will also increase at the WTC PATH Terminal. Total off-peak ridership will increase from 90,324 to 100,381 between 2000 and 2025, resulting in a 11.1 percent change.

Although midday and PM peak hour ridership will increase by a greater percentage than the AM peak hour between 2000 and 2025, the AM peak will continue to be the busiest period of the day at the WTC PATH Terminal. In 2025, AM peak hour ridership will represent 18 percent of the total daily trips at the Terminal as compared to 6 percent for the midday peak and 14 percent for the PM peak. Thus, the planning and design for the Terminal considered the AM hour as the peak crowding condition.

On a daily and a peak hour basis, the Newark-WTC line is expected to be the busiest of the routes serving the WTC Terminal. Table 6 shows the projected distribution of Newark-WTC and Hoboken-WTC trips for the AM, PM, and 24-hour periods. Newark service will comprise 65.5 percent of total trips in the AM peak hour and 53.3 percent in the PM peak. On a daily basis, Newark-WTC trips will represent 61.7 percent of the stations total volume.

Table 4

PATH - World Trade Center Terminal

Midday Peak Hour Two-Way Ridership by Year (2000 to 2025)

Year	Boarding			Alighting			Total		
	Passengers	Percent Change from Year Prior	Percent Change from 2000	Passengers	Percent Change from Year Prior	Percent Change from 2000	Passengers	Percent Change from Year Prior	Percent Change from 2000
2000	3,050	0.0%	0.0%	1,938	0.0%	0.0%	4,988	0.0%	0.0%
2001	3,050	0.0%	0.0%	1,938	0.0%	0.0%	4,988	0.0%	0.0%
2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004*	897	-70.6%	-70.6%	425	-78.1%	-78.1%	1,322	-73.5%	-73.5%
2005	919	2.5%	-69.9%	436	2.6%	-77.5%	1,355	2.5%	-72.8%
2006	1,318	43.4%	-56.8%	907	108.0%	-53.2%	2,225	64.2%	-55.4%
2007	1,342	1.8%	-56.0%	918	1.2%	-52.6%	2,260	1.6%	-54.7%
2008	1,366	1.8%	-55.2%	929	1.2%	-52.1%	2,295	1.5%	-54.0%
2009	2,218	62.4%	-27.3%	1,997	115.0%	3.0%	4,215	83.7%	-15.5%
2010	2,243	1.1%	-26.5%	2,009	0.6%	3.7%	4,252	0.9%	-14.8%
2011	2,269	1.2%	-25.6%	2,021	0.6%	4.3%	4,290	0.9%	-14.0%
2012	2,296	1.2%	-24.7%	2,034	0.6%	5.0%	4,330	0.9%	-13.2%
2013	2,323	1.2%	-23.8%	2,047	0.6%	5.6%	4,370	0.9%	-12.4%
2014	2,351	1.2%	-22.9%	2,060	0.6%	6.3%	4,411	0.9%	-11.6%
2015	4,134	75.8%	35.5%	4,180	102.9%	115.7%	8,314	88.5%	66.7%
2016	4,163	0.7%	36.5%	4,194	0.3%	116.4%	8,357	0.5%	67.5%
2017	4,194	0.7%	37.5%	4,208	0.3%	117.1%	8,402	0.5%	68.4%
2018	4,224	0.7%	38.5%	4,223	0.4%	117.9%	8,447	0.5%	69.3%
2019	4,256	0.8%	39.5%	4,238	0.4%	118.7%	8,494	0.6%	70.3%
2020	4,289	0.8%	40.6%	4,253	0.4%	119.5%	8,542	0.6%	71.3%
2021	4,322	0.8%	41.7%	4,269	0.4%	120.3%	8,591	0.6%	72.2%
2022	4,356	0.8%	42.8%	4,285	0.4%	121.1%	8,641	0.6%	73.2%
2023	4,391	0.8%	44.0%	4,301	0.4%	121.9%	8,692	0.6%	74.3%
2024	4,427	0.8%	45.1%	4,318	0.4%	122.8%	8,745	0.6%	75.3%
2025	4,907	10.8%	60.9%	4,877	12.9%	151.7%	9,784	11.9%	96.2%

Note: * 2004 figures are compared to 2000/2001 figures since full service was not restored until November 2003.

Figure 3
PATH - World Trade Center Terminal
Weekday Midday Peak Hour Two-Way Ridership by Year (2000 to 2025)

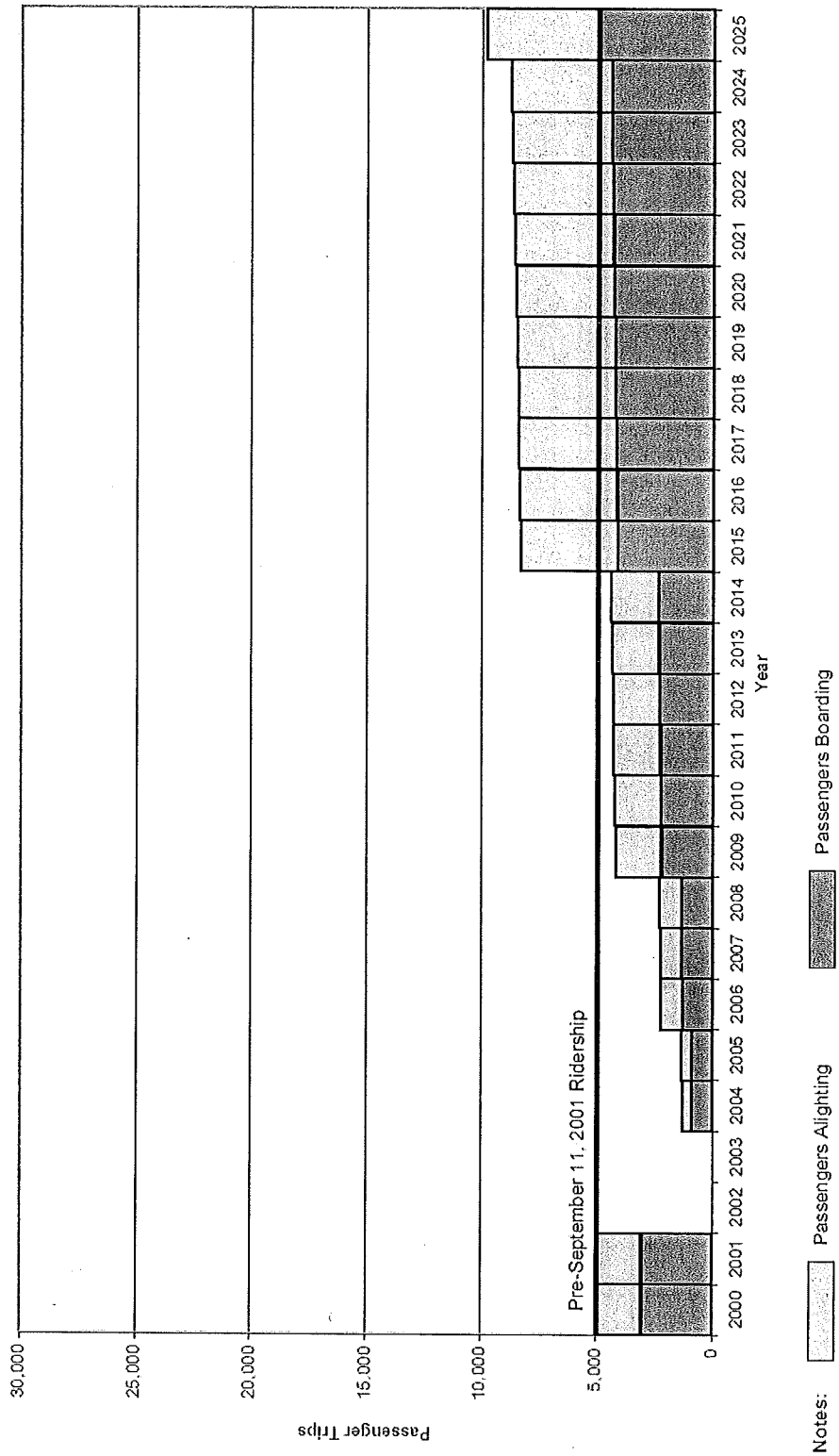


Table 5

PATH - World Trade Center Terminal

PM Peak Hour Two-Way Ridership by Year (2000 to 2025)

Year	Boarding			Alighting			Total		
	Passengers	Percent Change from Year Prior	Percent Change from 2000	Passengers	Percent Change from Year Prior	Percent Change from 2000	Passengers	Percent Change from Year Prior	Percent Change from 2000
2000	16,100	0.0%	0.0%	4,284	0.0%	0.0%	20,384	0.0%	0.0%
2001	16,100	0.0%	0.0%	4,284	0.0%	0.0%	20,384	0.0%	0.0%
2002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004*	12,192	-24.3%	-24.3%	3,450	-19.5%	-19.5%	15,642	-23.3%	-23.3%
2005	12,204	0.1%	-24.2%	3,536	2.5%	-17.5%	15,740	0.6%	-22.8%
2006	12,729	4.3%	-20.9%	3,652	3.3%	-14.8%	16,381	4.1%	-19.6%
2007	12,742	0.1%	-20.9%	3,742	2.5%	-12.7%	16,484	0.6%	-19.1%
2008	12,754	0.1%	-20.8%	3,835	2.5%	-10.5%	16,589	0.6%	-18.6%
2009	13,948	9.4%	-13.4%	4,136	7.8%	-3.5%	18,084	9.0%	-11.3%
2010	13,960	0.1%	-13.3%	4,234	2.4%	-1.2%	18,194	0.6%	-10.7%
2011	13,973	0.1%	-13.2%	4,334	2.4%	1.2%	18,307	0.6%	-10.2%
2012	13,985	0.1%	-13.1%	4,436	2.4%	3.5%	18,421	0.6%	-9.6%
2013	13,997	0.1%	-13.1%	4,542	2.4%	6.0%	18,539	0.6%	-9.1%
2014	14,009	0.1%	-13.0%	4,649	2.4%	8.5%	18,658	0.6%	-8.5%
2015	16,393	17.0%	1.8%	4,943	6.3%	15.4%	21,336	14.4%	4.7%
2016	16,405	0.1%	1.9%	5,056	2.3%	18.0%	21,461	0.6%	5.3%
2017	16,417	0.1%	2.0%	5,172	2.3%	20.7%	21,589	0.6%	5.9%
2018	16,430	0.1%	2.0%	5,291	2.3%	23.5%	21,721	0.6%	6.6%
2019	16,442	0.1%	2.1%	5,413	2.3%	26.4%	21,855	0.6%	7.2%
2020	16,455	0.1%	2.2%	5,538	2.3%	29.3%	21,993	0.6%	7.9%
2021	16,467	0.1%	2.3%	5,666	2.3%	32.3%	22,133	0.6%	8.6%
2022	16,479	0.1%	2.4%	5,797	2.3%	35.3%	22,276	0.6%	9.3%
2023	16,492	0.1%	2.4%	5,931	2.3%	38.4%	22,423	0.7%	10.0%
2024	16,504	0.1%	2.5%	6,069	2.3%	41.7%	22,573	0.7%	10.7%
2025	17,119	3.7%	6.3%	6,243	2.9%	45.7%	23,362	3.5%	14.6%

Note: * 2004 figures are compared to 2000/2001 figures since full service was not restored until November 2003.

Figure 4
PATH - World Trade Center Terminal
Weekday PM Peak Hour Two-Way Ridership by Year (2000 to 2025)

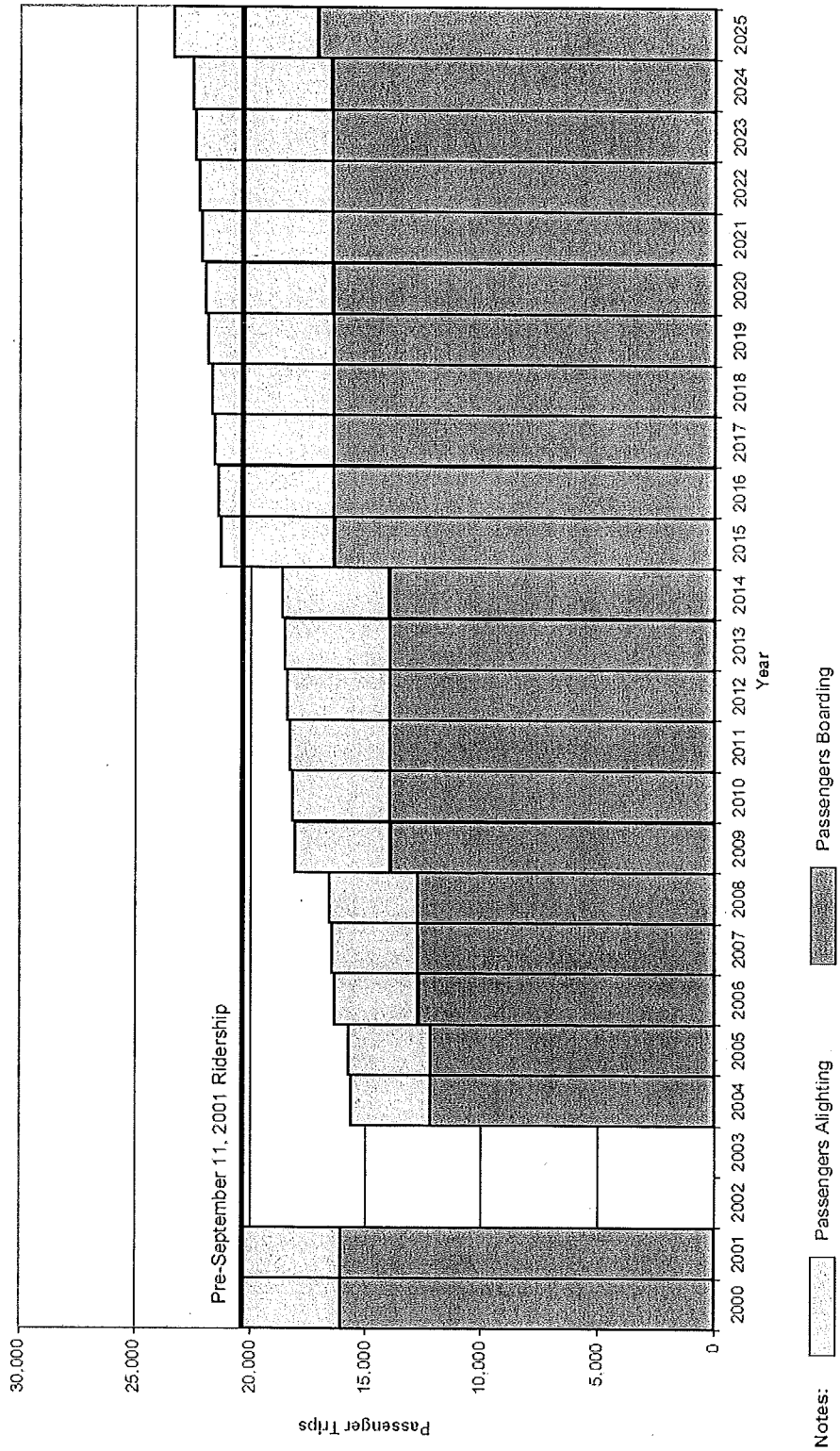


Table 6

Distribution of Newark-WTC and Hoboken-WTC Trips at the WTC Terminal

Route		AM Peak Hour	PM Peak Hour	24-Hour
Boarding	Newark-WTC	69.0%	71.0%	56.0%
	Hoboken-WTC	31.0%	29.0%	44.0%
Alighting	Newark-WTC	65.0%	49.0%	66.0%
	Hoboken-WTC	35.0%	51.0%	34.0%
Total	Newark-WTC	65.5%	53.3%	61.7%
	Hoboken-WTC	34.5%	46.7%	38.3%

*

Appendix C-2: Platform and Track Planning Requirements

A. INTRODUCTION

This document (provided as Appendix C-2 to Chapter 8, "Transportation") has been prepared to address a number of operational and engineering issues related to the track and platform configuration proposed for the Permanent World Trade Center (WTC) PATH Terminal. It reviews the basis for selecting the 5-track, 4-platform configuration that is currently proposed, as well as alternative configurations evaluated in conjunction with project planning.

Besides rebuilding the WTC Terminal, PANYNJ is planning a variety of improvements to enhance the reliability and performance of the overall PATH system. These improvements, including the procurement of new PATH cars and the upgrade of the signal system from fixed-block to Communication Based Train Control (CBTC), will result in the capacity to accommodate system-wide ridership increases, improved running times and dwell times, and enhanced reliability. Therefore, it is important that the planning decisions for Permanent WTC PATH Terminal anticipate this future context to provide adequate level of service (LOS) for the future operational and ridership conditions. (The ridership projections are included as Appendix C-1 to the Final Environmental Impact Statement.)

This assessment of the Terminal track and platform level contains the following sections:

- A description of the pre September 11, 2001 PATH Terminal's track and platform level;
- A description of the system-wide improvements planned independent of the Permanent WTC PATH Terminal;
- A description of PATH's operational and planning requirements for the Permanent WTC PATH Terminal; and
- A description of the Preferred Alternative and other schemes for the track and platform level of the Permanent WTC PATH Terminal.

B. PRE-SEPTEMBER 11, 2001 PATH OPERATIONS

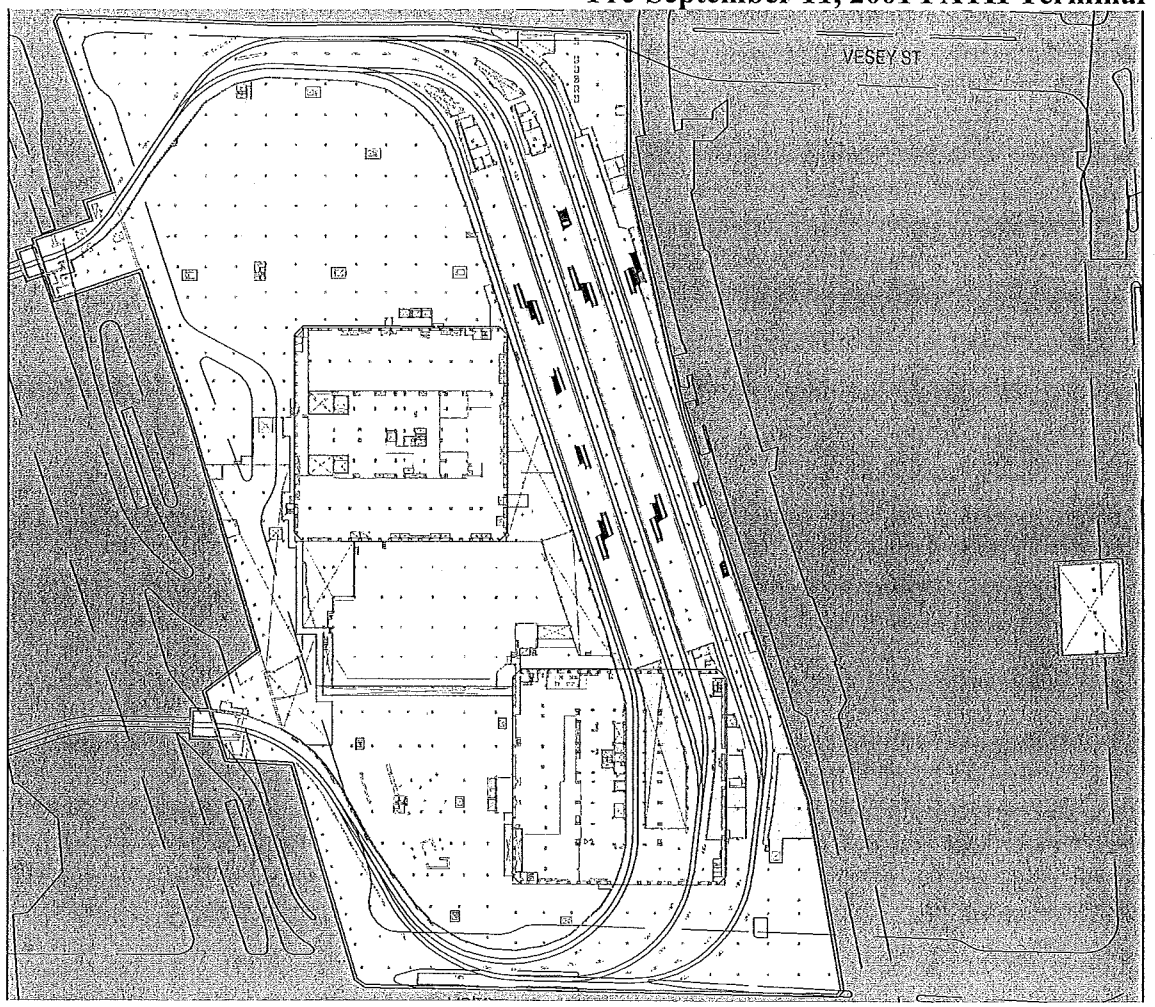
The pre-September 11, 2001 WTC PATH Terminal had three, 10-car platforms and 5 tracks. Platform A served Track 1 and was used in the event of an equipment failure, for train storage, and for alighting trains that terminated revenue service at the WTC Terminal. Platform B served Tracks 2 and 3 and served the Hoboken-WTC Line. Platform C served Tracks 4 and 5 and was used for the Newark-WTC Line. Table 1 provides information on the track and platforms dimensions, and Figure 1 presents the layout of the Pre-September 11, 2001 PATH Terminal.

In the period leading up to September 11, 2001, PATH trains and the WTC Terminal were experiencing significant crowding during peak periods. As a result, patrons would require more than three minutes of clearance time from the platform during peak hours (see Exhibit 1). PANYNJ has considered these crowding constraints in their planning for the future of the PATH system including the construction and operation of the Permanent WTC PATH Terminal.

Table 1
Pre-September 11, 2001 PATH Terminal Platform/Track Layout

Element		Platform A	Platform B	Platform C
Tracks Served		Track 1	Tracks 2 and 3	Tracks 4 and 5
Platform Length		500 feet	500 feet	500 feet
Platform Width		13 to 23 feet	30 feet	31 feet
Platform Operation		Equipment storage and Train alighting	Revenue Service (Hoboken-WTC)	Revenue Service (Newark-WTC)
Vertical Circulation Elements (VCEs)	Stairways	3	2	4
	Escalators	2	4	6

Figure 1
Pre-September 11, 2001 PATH Terminal



C. SYSTEM-WIDE IMPROVEMENT PROGRAM

Over the next several years, PANYNJ expects to implement service improvements on the PATH system that will enhance the throughput and capacity of PATH trains. These improvements include 10-car operation, a signal system upgrade, and fleet replacement as described below.

10-CAR OPERATION

The PANYNJ will continue to prepare the PATH's Newark-WTC Line for 10-car operation, a program that pre-dates the terrorist attacks of September 11, 2001. PATH also eventually plans to lengthen its Hoboken-WTC train consists from 7 to 8 cars.

Since September 11, 2001, PANYNJ lengthened the platforms at the Exchange Place station in tandem with the emergency repairs to the system that were required to restore service following the attacks. However, to fully implement 10-car operations, additional rolling stock must be acquired and the Harrison and Grove Street stations must be rehabilitated to lengthen platforms. It is anticipated that these improvements would be funded as part of the 2008 to 2013 Capital Plan with implementation by 2015.

This program will substantially increase the capacity of the Newark-WTC Line to meet growing ridership. A consequence of this improved capacity and increased ridership on the Newark-WTC Line, is that more people will use the WTC Terminal's platforms during peak travel periods.

SIGNAL SYSTEM UPGRADE

PANYNJ will continue a program to modernize its signal system. Currently, PATH operates with a fixed-block signal system but plans to upgrade to a CBTC system. The CBTC system is more flexible than the fixed-block system because it continuously updates train positions, distances, and travel speeds. This allows the system to recover more quickly from delays, because a train can follow a "delayed" train more closely without having to come to a complete stop. CBTC results in a more efficient operation that produces regular travel speed because it:

- Allows for consistent trip times in closer conformance to the operating schedule;
- Allows for a precise strategy for stopping accuracy;
- Optimizes headways, which increases capacity by allowing the trains to closely follow the safe braking distance; and
- Improves ride quality.

Under both the fixed-block and CBTC signal systems, PATH's capacity is controlled by the track junction at Exchange Place and the throughput of the Hudson River tunnels. Before September 11, 2001, PATH operated 31 trains in each direction (16 Newark-WTC trains and 15 Hoboken-WTC trains) through the World Trade Center tunnels (Tunnels E and F) in the AM peak hour; thus, trains had approximately 116-second headways. With the CBTC system, it is possible that headways could decrease to 90 seconds through the tunnels, resulting in up to 40 trains per hour. However, PATH's anticipated 2025 operating plan will result in fewer than 40 trains per hour. In the AM peak hour, PATH will operate a total of 36 trains—19 on the Newark-WTC Line and 17 on the Hoboken-WTC Line.

Perhaps the greater benefit of CBTC is the enhancement of operational flexibility to maintain PATH's on time performance. Although before September 11, 2001, the system delivered 180 second headways during peak periods, CBTC will ensure that service is reliable on a daily basis.

PATH will begin planning the implementation of CBTC concurrent with its contracts for fleet replacement. This arrangement will ensure consistency in the design of signal and train systems. It is anticipated that CBTC would be in place sometime between 2010 and 2015.

CBTC in conjunction with the 10-car train program will have the ability to increase the throughput of the PATH system, resulting in more passengers and a higher frequency of service at the WTC Terminal than before September 11, 2001. As such, platforms at the WTC Terminal will need to clear more swiftly in the future in order to maintain safe and efficient operations.

FLEET REPLACEMENT

PATH currently maintains a fleet of 327 cars, much of which are more than 30 or more years old. In order to meet future ridership needs, PATH must maximize its peak hour service plan with a high degree of reliability. However, as the fleet ages, equipment failures increase; thereby, reducing PATH's ability to adhere to scheduled headways. Furthermore, PATH plans to implement 10-car train service cannot be realized without an expansion of its fleet.

On June 17, 2004, PANYNJ announced a request for proposals to design and fabricate 246 new rail cars and to rehabilitate or replace an additional 94 cars. The new cars will have improved lighting, air conditioning and heating; cantilevered seats with room for passengers to store items under them; prerecorded station announcements; better signs; and three doors on each side. This proposal allows PATH an option to purchase additional rolling stock to meet future demands.

Three-door cars will decrease the boarding/alighting times of trains by 50 percent, which will improve dwell times and could reduce the overall travel time on PATH routes. However, the new cars are not expected to improve the platform clearance time for passengers since they will not directly affect platform area or the provision or operation of stairways and escalators. Furthermore, since the WTC Terminal is a terminal station, passenger circulation at this facility is not highly influenced by the dwell times of trains.

D. OPERATIONAL AND PLANNING REQUIREMENTS FOR THE PERMANENT WTC PATH TERMINAL

The planning and design of a Permanent WTC PATH Terminal has been guided by PATH operations criteria and by accepted industry practices. In light of the increased capacity associated with the PATH system improvements described above, it is necessary that the WTC Terminal be designed to provide for increased passenger flow levels. To meet the demand projections for the 2025 design year and beyond, the station's platform and vertical circulation must be enhanced compared to the pre-September 11, 2001 and the temporary WTC PATH facilities. Furthermore, the Terminal's design must not preclude 10-car PATH trains or the desired headways that could be achieved with CBTC.

TRACK REQUIREMENTS

PATH Operations staff reviewed several iterations of the Terminal's design and specified minimum configurations for their daily operation. Given that the WTC facility is a Terminal for two PATH routes—Newark-WTC and Hoboken-WTC—and that it supports overnight train storage, five tracks are needed for daily operation as described below.

FAILURE MANAGEMENT

In order to maintain reliable operations for its customers, PATH must plan for system failures that result in service disruptions. Disruptions can occur for a number of operational and maintenance reasons such as police actions, medical emergencies, equipment failures, routine maintenance and construction; and special operations.

In the event of car equipment failure, PATH must have facilities to layover trains if they become fully disabled. Because PATH's WTC facility is a terminal station, trains dwell at the station in order to maintain the scheduled headways. Thus, each of the Hoboken-WTC and Newark-WTC routes require two active tracks such that an incoming train can arrive before an outgoing train departs. However, if a train becomes disabled, an additional track is needed to serve the next or multiple incoming trains.

TRAIN STORAGE

During overnight hours, PATH stores trains at five locations: Newark-South Street Yard, Harrison Yard, Journal Square Yard, 33rd Street third-track, and WTC. PATH stores its Newark-WTC trains at Harrison and Newark Yards; Journal Square-33rd Street trains and Hoboken-33rd Street trains are stored at Harrison, Journal Square, and 33rd Street. Hoboken-WTC trains are stored at Journal Square and at the WTC Terminal.

Because of system-wide limitations and to allow for a more efficient operation during the start of early morning service, PATH uses four of the five tracks at the WTC for overnight storage of 6 Hoboken-WTC trains. The Terminal's fifth track is retained for revenue service on the Newark-WTC Line. Beginning at approximately 5:40 AM each morning, PATH begins revenue service on the Hoboken-WTC Line by bringing the train stored at Journal Square into the WTC Terminal. Trains are then moved from storage at the WTC to revenue service every 10 minutes following the departure of the first train until all 7 consists are operational. This plan allows PATH to more efficiently manage its labor hours and decreases the time that Hoboken-WTC trains are in non-revenue operation. If all trains were stored at Newark, Harrison, or Journal Square, PATH would need to move trains from these yards each morning, which increases operational cost without revenue benefits since trains would not carry passengers on the first run.

The use of the WTC facility for overnight storage during winter months allows PATH to establish AM peak Hoboken-WTC service without first removing snow or ice from the trains and tracks. PATH also stores trains in the Hudson River tunnels and at other enclosed locations not used for overnight revenue service to reduce potential weather-delays on other routes.

With the expansion of train consists on the Newark-WTC Line to 10 cars, space at PATH's outlying yards will be reduced in the future. Therefore, the need for train storage at the WTC Terminal would be even greater.

HEADWAY REQUIREMENTS

PATH Operations staff projected preliminary peak period headways at the Permanent WTC PATH Terminal to assist in the design of the Terminal's facilities. PATH frequently reviews its service schedule and adjusts headways as appropriate to ensure that efficient and convenient operations can be achieved. In scheduling trains, PATH considers five principal concepts:

- ***Adjusting capacity to demand:*** The basic objective is to achieve a service frequency that allows boardings at the terminal and all intermediate stations along the route on the first arriving train.
- ***Productive distribution of service:*** This strategy uses schedule and frequency coordination between routes to facilitate service and avoid overcrowding at key transfer points.
- ***Coordinate with Connecting Service:*** To the extent possible, PATH schedules are coordinated with commuter rail services to provide for convenient and predictable commuting during peak periods.
- ***Increase vehicle and crew utilization efficiency:*** Efficient vehicle and crew utilization provides opportunities to increase the number of passenger train trips during service hours and to minimize crew deadheading and light train movements.
- ***Minimize overall passenger trip time, and enhance convenience:*** Schedules strive to minimize passenger travel and wait time, and to lower passenger anxiety.

In order to plan the system-wide schedule, PATH must balance these planning principles for its four routes—Newark-WTC, Hoboken-WTC, Journal Square-33rd Street, and Hoboken-33rd Street. Thus, PATH must consider operations at points of constraint on the system such as the junctions where lines converge at Journal Square, Pavonia-Newport, and Exchange Place; the interchange west of Exchange Place; and where lines meet to enter the Hudson River tunnels.

In preparing its future schedule, PATH has relied upon the 2025 ridership projections and has made assumptions regarding the implementation of the system-wide improvements identified previously. Table 2 shows the scheduled AM peak hour service from 1995 to 2025.

PATH currently operates 7-car trains on both the Hoboken-WTC and Newark-WTC Lines. By 2006, PATH will operate 8-car trains on the Newark-WTC Line and 10-car service will be introduced in approximately 2015. Although the date is not set, PATH plans to implement 8-car service on the Hoboken-WTC Line sometime before 2025.

PATH projects that between 16 and 19 trains on the Newark-WTC route in the AM peak hour from 2004 to 2025. The number of trains will fluctuate during this period to reflect the increased capacity that results from 8-car and 10-car operation. By 2025, 19 trains per hour will serve the route on average 180-second headway.

On the Hoboken-WTC route, PATH will increase service concurrent with development efforts in Lower Manhattan including the opening of 7 World Trade Center, the build out of the WTC Memorial and Redevelopment Plan, and the completion of Site 26 at Battery Park City. As a result, PATH plans to operate 17 Hoboken-WTC trains on average 210-second to 240-second headways in 2025.

Table 2
PATH AM Peak Hour Train Schedule

Year	Newark-WTC	Hoboken-WTC	Comments
1995	18	16	Pre-September 11, 2001 Schedule
1996	18	16	
1997	17	16	
1998	17	16	
1999	17	15	

Table 2
PATH AM Peak Hour Train Schedule

Year	Newark-WTC	Hoboken-WTC	Comments
2000	17	15	
2001	16	15	
2002	N/A	N/A	Suspension of PATH service to WTC from September 11, 2001 to November 23, 2003
2003	N/A	N/A	
2004	16	10	7-car service on Hoboken-WTC Line and 8-car service on Newark-WTC Line
2005	17	10	
2006	17	12	Opening of 7 WTC
2007	17	12	
2008	17	12	
2009	19	15	Opening of Freedom Tower, WTC Memorial, and other uses on WTC site
2010	19	15	
2011	19	15	
2012	19	15	
2013	19	15	
2014	19	15	
2015	17	15	Implement 10-car service on Newark-WTC Line
2016	17	15	
2017	17	15	
2018	17	15	
2019	17	15	
2020	17	15	
2021	17	15	
2022	17	15	
2023	18	15	Continued occupation of office towers at WTC and Battery Park City
2024	18	15	
2025	19	17	

Note: Future projections are based on an average load of 83 passengers per car.

PLATFORM PLANNING REQUIREMENTS

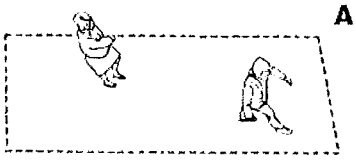
As part of the planning process for the Permanent WTC PATH Terminal, PANYNJ established design criteria for the various vertical and horizontal elements of the facility. The Terminal's platforms, fare zone, pedestrian corridors, and vertical elements are being designed for a level-of-service (LOS) C/D, which represents the breakpoint between LOS C and LOS D. Planning for operations at a peak LOS C/D is a common industry practice for new transit facilities. There are specific quantitative units of measure for each LOS as noted in the Transit Cooperative Research Program (TCRP) Report 100, *Transit Capacity and Quality of Service Manual*, 2nd Edition (*TCQSM*). The *TCQSM* was developed by transit industry professionals under the auspices of the Transit Cooperative Research Board under the sponsorship of the Federal Transit Administration. A general description of LOS standards presented in the *TCQSM* is shown in Figures 2 and 3.

Figure 2
Level of Service (LOS) for Walking Pedestrians

LEVEL OF SERVICE A — A

Pedestrian Space: ≥ 130 sq ft/ped *Flow Rate:* ≤ 2 ped/min/ft

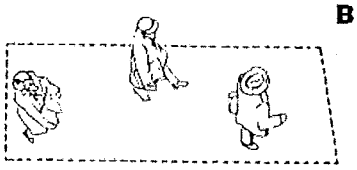
At walkway LOS A, pedestrians basically move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected, and conflicts between pedestrians are unlikely.



LEVEL OF SERVICE B — B

Pedestrian Space: ≥ 40 sq ft/ped *Flow Rate:* ≤ 7 ped/min/ft

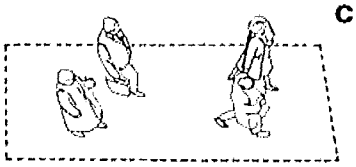
At LOS B, sufficient area is provided to allow pedestrians to freely select walking speeds, to bypass other pedestrians, and to avoid crossing conflicts with others. At this level, pedestrians begin to be aware of other pedestrians, and to respond to their presence in the selection of their walking path.



LEVEL OF SERVICE C — C

Pedestrian Space: ≥ 24 sq ft/ped *Flow Rate:* ≤ 10 ped/min/ft

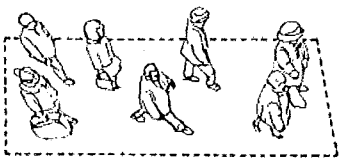
At LOS C, sufficient space is available to select normal walking speeds, and to bypass other pedestrians in primarily unidirectional streams. Where reverse-direction or crossing movements exist, minor conflicts will occur, and speeds and volume will be somewhat lower.



LEVEL OF SERVICE D — D

Pedestrian Space: ≥ 15 sq ft/ped *Flow Rate:* ≤ 15 ped/min/ft

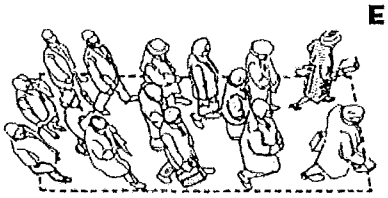
At LOS D, freedom to select individual walking speed and to bypass other pedestrians is restricted. Where crossing or reverse-flow movements exist, the probability of conflict is high, and its avoidance requires frequent changes in speed and position. The LOS provides reasonably fluid flow; however, considerable friction and interaction between pedestrians is likely to occur.



LEVEL OF SERVICE E — E

Pedestrian Space: ≥ 6 sq ft/ped *Flow Rate:* ≤ 25 ped/min/ft

At LOS E, virtually all pedestrians would have their normal walking speed restricted, requiring frequent adjustment of gait. At the lower range of this LOS, forward movement is possible only by "shuffling." Insufficient space is provided for passing of slower pedestrians. Cross- or reverse-flow movements are possible only with extreme difficulties. Design volumes approach the limit of walkway capacity, with resulting stoppages and interruptions to flow.



LEVEL OF SERVICE F — F

Pedestrian Space: ≥ 40 sq ft/ped *Flow Rate:* ≤ 7 ped/min/ft

At LOS F, all walking speeds are severely restricted, and forward progress is made only by "shuffling." There is frequent, unavoidable contact with other pedestrians. Cross- and reverse-flow movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristic of queued pedestrians than of moving pedestrians.

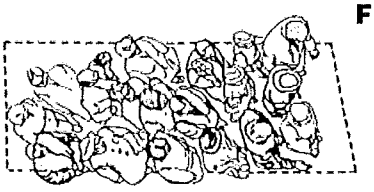
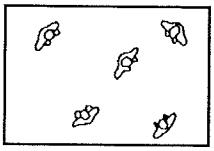


Figure 3
Level of Service (LOS) for Standing Pedestrians

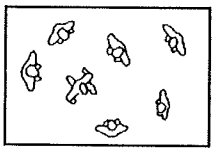
LEVEL OF SERVICE A

Average Pedestrian Area Occupancy: 13 sq ft/person or more
Average Inter-Person Spacing: 4 ft, or more
Description: Standing and free circulation through the queuing area is possible without disturbing others within the queue.



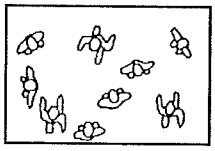
LEVEL OF SERVICE B

Average Pedestrian Area Occupancy: 10 to13 sq ft/person
Average Inter-Person Spacing: 3.5 to 4.0 ft
Description: Standing and partially restricted circulation to avoid disturbing others within the queue is possible.



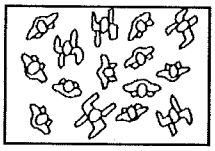
LEVEL OF SERVICE C

Average Pedestrian Area Occupancy: 7 to 10 sq ft/person
Average Inter-Person Spacing: 3.0 to 3.5 ft
Description: Standing and restricted circulation through the queuing area by disturbing others within the queue is possible; this density is within the range of personal comfort.



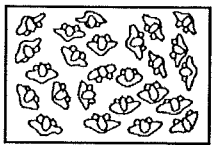
LEVEL OF SERVICE D

Average Pedestrian Area Occupancy: 3 to 7 sq ft/person
Average Inter-Person Spacing: 2 to 3 ft
Description: Standing without touching is possible; circulation is severely restricted within the queue and forward movement is only possible as a group; long term waiting at this density is discomforting.



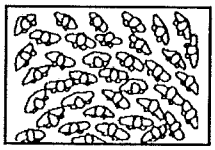
LEVEL OF SERVICE E

Average Pedestrian Area Occupancy: 2 to 3 sq ft/person
Average Inter-Person Spacing: 2 ft or less
Description: Standing in physical contact with others is unavoidable; circulation within the queue is not possible; queuing at this density can only be sustained for a short period without serious discomfort.



LEVEL OF SERVICE F

Average Pedestrian Area Occupancy: 2 sq ft/person or less
Average Inter-Person Spacing: Close contact with other persons
Description: Virtually all persons within the queue are standing in direct physical contact with those surrounding them; this density is extremely discomforting; no movement is possible within the queue; the potential for panic exists in large crowds at this density.



PLATFORMS

All elements of the platform must support safe customer circulation and access to the trains. As such the design of the platform must meet the National Fire Protection Association's (NFPA) evacuation criteria as well as PATH's criteria for clearance and crowding, which was concurred by the Federal Transit Administration (FTA).

The planning and design of the Terminal must consider the operation of the platforms during both the AM and PM periods since their use varies depending on the peak direction of travel. Although PATH has a roughly 20 percent population of reverse commuters, the peak direction of travel is exiting the WTC Terminal in the AM peak and entering the Terminal in the PM.

Platform Clearance

In the AM peak hour, trains unload passengers to the platform who must then ascend to mezzanine level. For this condition, the principal design criterion is the targeted time period within which all passengers exiting a train alight from the platform. As stairways and escalators become congested, passengers queue at the foot before they can ascend. Therefore, to avoid a lengthening of this back-up, it is important that all passengers clear the platform before arrival of the next train.

Platform clearance is measured as the combined time to unload the train, exit the platform and ascend to the mezzanine level, and the time for boarding passengers to enter the train. The basis for this analysis is the planning criteria cited in the *TCQSM.*. The Manual states that a platform (and vertical circulation) should be planned to ensure full clearance before the next train arrives. However given that passengers may not use or may not be able to use all available exits, a safety factor of 20 to 30 percent should be applied. Thus, a platform should clear fully within 70 to 80 percent of the scheduled headway.

As described above, PATH would operate 19 Newark-WTC trains by 2025 on 180-second headways during the majority of the peak hour. Applying the platform planning criteria defined above, a single, dedicated platform on the Newark-WTC Line must clear between 126 and 144 seconds after the arrival of a train. On the Hoboken-WTC Line, PATH would operate 17 trains during the AM peak hour with an average headway of 210 to 240 seconds. Thus, a single, dedicated platform on the Hoboken Line must clear within 147 to 168 seconds.

Platform Crowding

For the PM peak period, the platform design must consider queuing capacity since large numbers of passengers wait on the platform to board the next arriving train. Ideally, PATH's operations will provide for continuous boarding of dwelled trains at the Terminal throughout the peak hour. Under this operation, Train 1 would arrive at the platform, would alight passengers, and would dwell to allow for boarding. Train 2 would arrive on the opposite side of the platform near the end of Train 1's dwell period. Train 1 would depart, and passengers would then board Train 2. This operation allows passengers to wait on the trains rather than on the platform, improving station circulation.

The planning of the platforms must also consider failure management. If under the above-described scenario, Train 1 misses its headway due to system delays, equipment problems, or other operational issues, boarding passengers would queue on the platform awaiting its arrival. As the delay in service increases so would the number of passengers waiting on the platform. Eventually, the platform would fail to meet LOS C/D standards, and as crowding continues, the

safe circulation of customers would be compromised. When Train 1 arrives, additional platform area is needed for arriving passengers to clear the platform while those queued board the train.

As shown in Figures 3 and 4, the LOS C/D standard for a standing patron is 7 square feet while the LOS C/D standard for a circulation patron is 15 pedestrians per square feet per minute. Given ridership levels in 2025, PANYNJ projects that a minimum 16,355 square feet of platform area is required for the Newark-WTC service in the event of a missed headway while 10,385 square feet of area is required for the Hoboken-WTC service.

Other Design Considerations

A limiting factor in the platform design is the need to have the full-length of the train directly parallel to the platform edge. This can only be achieved when the platform is on a tangent. If a platform is placed on a horizontal curve, it introduces areas where the gap between the platform and the train exceeds Americans with Disabilities Act (ADA) standards and introduces the requirement of a mechanical extension of the platform edge to address the gap if the gap would exceed 3 inches. This is not desired from a maintenance or operations perspective since other agencies, such as New York City Transit, have experienced difficulty in the operation of mechanical platform extensions.

To meet ADA requirements, the width of the platform must include an 18-inch safety strip along the platform edge, and a minimum of 44 inches must be provided between the safety strip and the nearest stairway or escalator.

To maximize pedestrian flows, platforms should be designed with minimum obstructions and should be organized to reduce passenger decisions that cause unnecessary hesitation. Visual obstructions should be minimized and alcoves or other hidden areas on the platform avoided for orientation, safety, and security reasons. The platform area should not contain any support or non-transit functions (e.g., vending or concessions) that may obstruct, inhibit, or impede customer circulation.

Platform access points from the mezzanine level should be situated to encourage balanced train loading and unloading since customers tend to board vehicles near the points where stairways and escalators intersect the platform. Furthermore, stairways and escalators should be designed in banks of two or more units to allow for more usable platform width and to maintain circulation space outside of the vertical circulation queuing areas. Queuing areas adjacent to stairways and escalators should operate at LOS C/D or better during peak conditions. This requires that a 7 to 10 square foot area be provided per passenger.

As mentioned above, the station must be designed for failure management, meaning that it must be designed to accommodate a condition when a train is out of service in the peak period. Although an out-of-service train may not carry passengers, it would require safe access from a platform by PATH personnel. Furthermore, it is desirable to have passenger access and egress from all tracks to maximize operational flexibility during equipment or service outages.

To be consistent with the goals and objectives of the project, the Permanent Terminal must be planned around the temporary WTC PATH station, which will continue to operate during construction. Thus, the design of the Permanent platforms, tracks, and vertical circulation elements cannot preclude adequate capacity and operations within the temporary station. In planning for a Permanent Terminal, PANYNJ must consider the existing envelop of the temporary station, and the limitations that is poses on the movement or removal of its tracks, platforms, and vertical circulation elements.

VERTICAL CIRCULATION REQUIREMENTS

Vertical Circulation Elements (VCEs) are the devices, such as elevators, escalators, and stairways, used to transport customers between different levels of the Terminal. VCEs are also critical for emergency egress.

VCEs are generally sized in modular units of width corresponding to the width of the escalator planned for use in the Terminal. This unit represents the outer dimension of either a 48-inch-wide escalator (nominal) or a two-lane stair. The width of the interchangeable (stair/escalator) module may change as planning progresses, but the two-lane stair and escalator must fit within these dimensions. Furthermore, structural, mechanical, and spatial provisions must be made during design to allow for future interchangeability of stairs and escalators.

Adequate queuing and run-off space would be provided for all public stairs and escalators. Elevators would be provided with a queuing area to permit passengers disembarking the elevator to exit without interference from those waiting. To the maximum extent possible, the queuing and run-off areas for VCEs would not overlap. Therefore, the Terminal's planning has been guided by a minimum 30-foot distance between VCE units that face the same direction and a minimum 40-foot clearance for VCEs that face each other. The Terminal's VCEs would also be positioned to encourage right-hand circulation and to minimize conflicting passenger movements and cross flows.

Since reverse commuting would represent approximately 20 percent of peak hour trips, PATH would dedicate at least one VCE to the down direction in the AM peak period and one in the up direction in the PM peak. (This operation was also implemented before September 11, 2001.) At this time, PATH plans to operate this reverse-flow escalator at the north end of each platform.

Failure management is also a consideration in the design of VCEs. Besides the expectation that one VCE be dedicated to the reverse commute, station planning accounts for a condition in which one of the VCEs may be out-of-service for maintenance purposes in the peak hour.

Stairs

Public stairs are intended for normal passenger circulation when there is a reasonable rise between levels. However, stairs should not be used for normal public access (as distinguished from emergency egress) where the vertical rise exceeds 36 feet. Stairs have been planned along the normal and direct path of passenger circulation and would be visible and easily identifiable as a means of access to the levels they connect. Where feasible, stairs would be paired with escalators to facilitate efficient and economical passenger movement.

Wherever practicable, all stairs have been planned on the same modular width applied to escalators, including installation and construction tolerances, and designed to facilitate replacement with an escalator in the future. Where use of an escalator width as a modular dimension is not possible or appropriate, the minimum width of a stair would be 5 feet or more based on passenger demand, LOS, and/or emergency egress requirements.

Adequate queuing and run-off space would be provided at the top and bottom of all stairs. Where a stair is paired with an escalator, the queuing and run-off areas would coincide with that of the adjacent escalator. Where a stair is not adjacent to or does not align with an escalator, the queuing and run-off area would be equal the width of the stair or 10 feet, whichever is greater.

The following LOS performance standards have been used for planning and design of stairs:

- A stairway flow of LOS C (10 to 15 square feet per person with an average flow volume of 7 to 10 persons per foot of width per minute)
- LOS C (7 to 10 square feet per person with an average interperson spacing of 3 to 3½ feet for queuing areas.

Stairs provided for emergency egress purposes would comply with applicable codes and NFPA 130 criteria.

Escalators

Where the vertical rise between levels cannot be accommodated by a ramp, the primary mode of vertical circulation for a rise of up to 12 feet would be by stairs. For a rise of 12 feet or greater, the primary mode of vertical circulation would be by escalator.

Escalators would be located along the normal and direct path of passenger circulation and would be visible and easily identifiable as a means of access to the levels they connect. Where feasible, escalators would be paired with stairs to facilitate efficient and economical passenger movement. All escalators would be two lanes wide (40 inches wide at step).

A minimum of 30 feet of queuing and run-off space, as measured from the upper and lower escalator working points, clear to any obstruction at the top and bottom of each escalator would be provided. Where escalators are located in sequence and there are no pedestrian cross flows or other obstructions to customer movement (e.g., at intermediate landings independent of intervening customer circulation elements), the required combined queuing and run-off space may be reduced by 25 percent. The width of the queuing and run-off space would correspond to the modular width of the escalator.

The following LOS performance standards have been used for escalator planning.

- 48 inches nominal (two lane) escalator at a processing rate of 70 persons per minute (ppm); and
- LOS C (7 to 10 square feet per person with an average interperson spacing of 3 to 3½ feet for queuing areas.

The LOS C/D processing rate of 70 ppm for a 100-foot per minute escalator is an average rate for a 15-minute period. A 100-foot per minute escalator can attain a capacity of more than 70 ppm but such a rate would not be sustained for extended periods. A higher speed escalator could be used within the Terminal, which would result in greater capacity, but these escalators may reduce the LOS of queuing areas since customers must orient themselves to the higher speed.

Elevators

Elevators are intended for the use of the general public. They are provided to assist the mobility impaired, customers with baggage, packages, or who may be otherwise burdened, and to provide an enhanced quality of general customer service.

Elevators would be placed to provide effective redundancy along the accessible path from the Terminal entrance to the platform for customer convenience and to maintain accessibility in the event of breakdown or routine maintenance. Therefore, a minimum of two elevators would be provided connecting the street-level entrance(s) and the mezzanine area and a minimum of two elevators would be provided connecting the mezzanine to the platforms.

Elevators would be located as closely as possible to the direct path of travel between entry and platform in order to minimize travel distances when using the elevator, and they would be located to be visible for surveillance purposes. Where feasible, elevators would be located in a consistent manner on the platform from station to station to facilitate wayfinding and customer orientation. In general, elevators would be centered along the length of the platform adjacent to the middle cars of the train. Elevators would also be located to not obstruct general passenger circulation or visually obscure other VCEs along the path from the turnstiles to the platform.

Elevators would be of a size to comply with ADA requirements and accommodate emergency services and emergency personnel with a stretcher. Consideration has been given to local ridership characteristics in selecting elevator sizes (e.g., a high percentage of bicycle commuters, or customers with baggage may dictate the selection of larger elevators). The elevator landing depth (the queuing and discharge space at the elevator door) would be a minimum clear distance to any obstruction equal to 1½-times the depth of the car or ten feet, whichever is greater, by the width of the elevator. Elevator landings would be positioned so that the elevator queuing area does not impede general circulation, has adequate queuing space, and is not hidden from view. Queuing space would not overlap with queuing areas from other VCEs,

Queuing areas would be LOS C (i.e., 7 to 10 square feet per person, average interperson spacing of 3 to 3½ feet). Elevators are not considered a factor in stair, escalator, or platform sizing.

E. ALTERNATIVE PLATFORM AND TRACK CONFIGURATIONS

Given the operational and design requirements described above, PANYNJ reviewed several schemes for the Terminal's platform/track level. The following presents the 5-track, 4-platform configuration, which is the Preferred Alternative in the Final Environmental Impact Statement, as well as alternative schemes that were considered during project planning.

PREFERRED ALTERNATIVE

The Preferred Alternative would have four platforms (Platforms A through D) and 5 tracks (Tracks 1 through 5) as shown in Figure 4.

Platform A would effectively be a lengthening and rehabilitation of the temporary WTC PATH station platform that is adjacent to the east slurry wall. It is constrained to its east by the slurry wall and to its west by Track 1. Due to the narrowness of Platform A, it would not provide sufficient capacity to board and alight trains during peak hours. However, it is being retained as part of the Permanent Terminal for five functions: 1) as a failure management egress platform; 2) for access to trains stored on Track 1 during overnight hours; 3) as a service platform; 4) for use to alight trains that would end revenue service at the WTC Terminal; and 5) for staging the movement of trains to Harrison and Journal Square for inspection and repair.

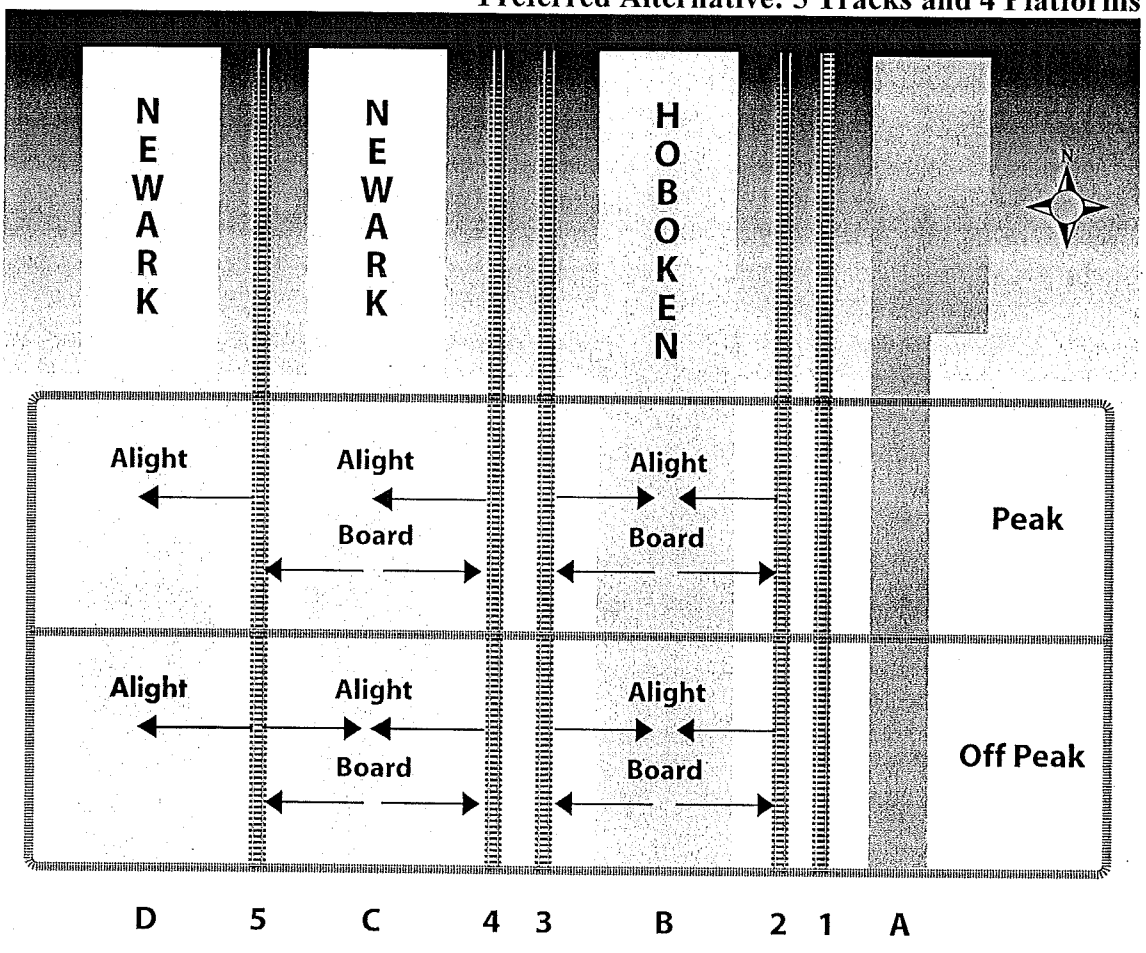
Platform B would serve Hoboken-WTC trains on Tracks 2 and 3. Platforms C and D would serve Newark-WTC trains on Tracks 4 and 5. PATH would allow both boarding and alighting to Track 4 from Platform C and dedicated boarding to Track 5. Alighting from Track 5 would be to Platform D.

Platform A would range in width from 13 to 23 feet; however, the number of location of VCEs on Platform A is not known at this time. Platforms B and D would be 30 feet wide, and Platform C would be 31 feet. These total widths account for the safety zone along each edge of the platform and the ADA mandated distance between the VCEs and the safety zone. Platforms B and C would have 10 VCEs and Platform D would have 12 VCEs. Certain structural elements

that support the levels above would touch down within Platforms B and C. As planned, these elements would intersect the platform between two vertical circulation elements, which would not allow for the collocation of three VCE elements within two of the four VCE cores on Platforms B and C. Because these structural elements do not intersect Platform D, its 4 VCE cores can each contain 3 VCE elements for a total of 12 VCEs.

Using the headway and LOS C/D design criteria defined above, an analysis was conducted of the platform clearance time for the Preferred Alternative in the AM peak period. The analysis also accounted for the system-wide improvements that would enhance the capacity of PATH trains. Thus, 10-car train sets with 3-door per car were assumed for the Newark-WTC route, and 8-car consists with 3-door cars were assumed for the Hoboken-WTC Line. (3-door cars improve train boarding and alighting as compared to the existing 2-door cars.).

Figure 4
Preferred Alternative: 5 Tracks and 4 Platforms



As noted above, Platforms B and C would have 10 VCEs (2 stairways and 8 escalators). Seven of the 8 escalators would operate in the peak direction of travel (up in the AM peak) while one escalator would serve the reverse commute. Stairs could accommodate travel in both directions. Platform D would have 12 VCEs (8 escalators and 4 stairways). Because Platform D would be used solely for alighting trains, all VCEs could serve upward movement.

As shown in Appendix C-1, the AM peak hour is expected to be the busiest hour of the day at the WTC PATH Terminal with approximately 66 percent of the riders entering or exiting the station via the Newark-WTC Line and 33 percent via the Hoboken-WTC Line. The Newark-WTC Line would carry a total 19,077 riders at the WTC Terminal in the 2025 AM peak hour with a total of 3,905 riders boarding trains and 15,172 alighting. The Hoboken-WTC Line would carry a total of 9,924 riders with 1,755 boardings and 8,169 alightings.

The AM peak hour headway on the Hoboken-WTC Line would be 210 seconds. Thus, Platform B must clear within 147 to 168 seconds to meet the *TCQSM* criteria. For the Newark-WTC service, PATH would alternate train alighting between Platforms C and D. Thus, trains would alight to either platform every 360 seconds, resulting in a maximum required clearance time would be 252 to 288 seconds for each platform.

Table 3 summarizes the factors used in the platform clearance analysis while the results are presented in Table 4. As shown in Table 4, Platform B would require 148 seconds for clearance, Platform C would require 213 seconds, and Platform D would require 136 seconds. Thus, under the proposed AM peak hour headways, all three platforms would meet the criteria set forth in the *TCQSM.*

Table 3
Preferred Alterantive: Platform Clearance Analysis Assumptions

Factor		Platform B	Platform C	Platform D
PATH Service		Hoboken-WTC	Newark-WTC	
AM Peak Hour Surge Factor		0.79	0.79	
Headway between Trains		210 seconds	360 seconds	360 seconds
Train Length		8-car	10-car	10-car
Doors per Car per Side		3	3	3
Door Capacity (Passengers/Minute)		120	120	120
VCEs	Stairways	2	2	4
	Escalators (Peak Direction)	7	7	7
	Escalators (Reverse Direction)	1	1	1
Notes: Newark-WTC trains would operate on 180-second headways; however, since trains would be served by both Platform C and Platform D, trains would arrive at each platform every 6 minutes.				

Table 4
Preferred Alternative: Platform Clearance Analysis Results

Factor	Platform B	Platform C	Platform D
Train Headway at Platform	210 seconds	360 seconds	360 seconds
Required Platform Clearance	147 – 168 seconds	252 – 288 seconds	252 – 288 seconds
Estimated Platform Clearance (AM Peak Hour)	148 seconds	213 seconds	136 seconds
Meets or Fails Criteria?	Meets	Meets	Meets

As described above, PM peak hour conditions require that the usable area of the platform accommodate passengers waiting to board a train. A platform crowding analysis was prepared for the Preferred Alternative using the assumptions presented in Table 5.

Table 6 presents the results of the platform crowding analysis. Based on the LOS C/D design criteria defined above, a total of 10,385 square feet of area is required on the Hoboken-WTC platform and a total of 16,355 square feet is required on the Newark-WTC platforms to accommodate peak crowds in the event of a missed headway. Accounting for the unusable areas of the platform (e.g., spaces occupied by VCEs and the safety buffer along the platform edge), each would provide for an effective area of 10,416 square feet.

On the Hoboken-WTC Line (Platform B), there would be sufficient capacity to meet LOS C/D criteria event of a missed headway.

Table 5
Preferred Alterantive: Platform Crowding Analysis Assumptions

Factor		Platform B	Platform C	Platform D
PATH Service		Hoboken-WTC	Newark-WTC	
PM Peak Hour Surge Factor		0.81	0.81	
Platform Length		504 feet	504 feet	504 feet
Platform Width		30 feet	30 feet	30 feet
Effective Platform Circulation Area		10,416 SF	10,416 SF	10,416 SF
VCEs	Stairways	2	2	4
	Escalators (Peak Direction)	7	7	7
	Escalators (Reverse Direction)	1	1	1
LOS C/D Criteria	Standing Passengers	7 square feet		
	Circulating Passengers	15 square feet		

Notes: The effective area is the total dimension of the platform less areas occupied by VCEs, a one-foot buffer around VCEs, and an 18-inch safety strip along the platform edge. Although the number of VCEs varies by platform, the area they occupy is the same for all platforms.

Table 6
Preferred Alternative: Platform Crowding Analysis Results

Analysis Factor			Platform B	Platform C	Platform D
Required Area	Boarding Passengers	Passengers	1,027	1,096	N/A
		Area	7,190	7,670 SF	N/A
	Alighting Passengers	Passengers	213	N/A	579
		Area	3,195	N/A	8,685 SF
	Total Required Area		10,385 SF	7,670 SF	8,685 SF
Effective Area			10,416 SF	10,920 SF	10,416 SF
Meets or Fails LOS C/D Criteria?			Meets	Meets	Meets

Notes: *The analysis assumes that in the event of extended headways that the first arriving train would arrive on Track 5 and would alight to Platform D. Thus, Platform C would not require the circulation area for alighting passengers in the event of a missed headway.

There would be sufficient capacity on the Newark-WTC Line because PATH could alight trains to Platform D and board from Platform C. As shown in Table 6, a total of 8,685 square feet is required for boarding passengers and 7,670 square feet is required for alighting passengers. It is assumed that in the event of a missed headway, PATH would manage crowding by using Track 5 (Platforms C and D) for the next arriving train. As a result, the effective width of Platform C

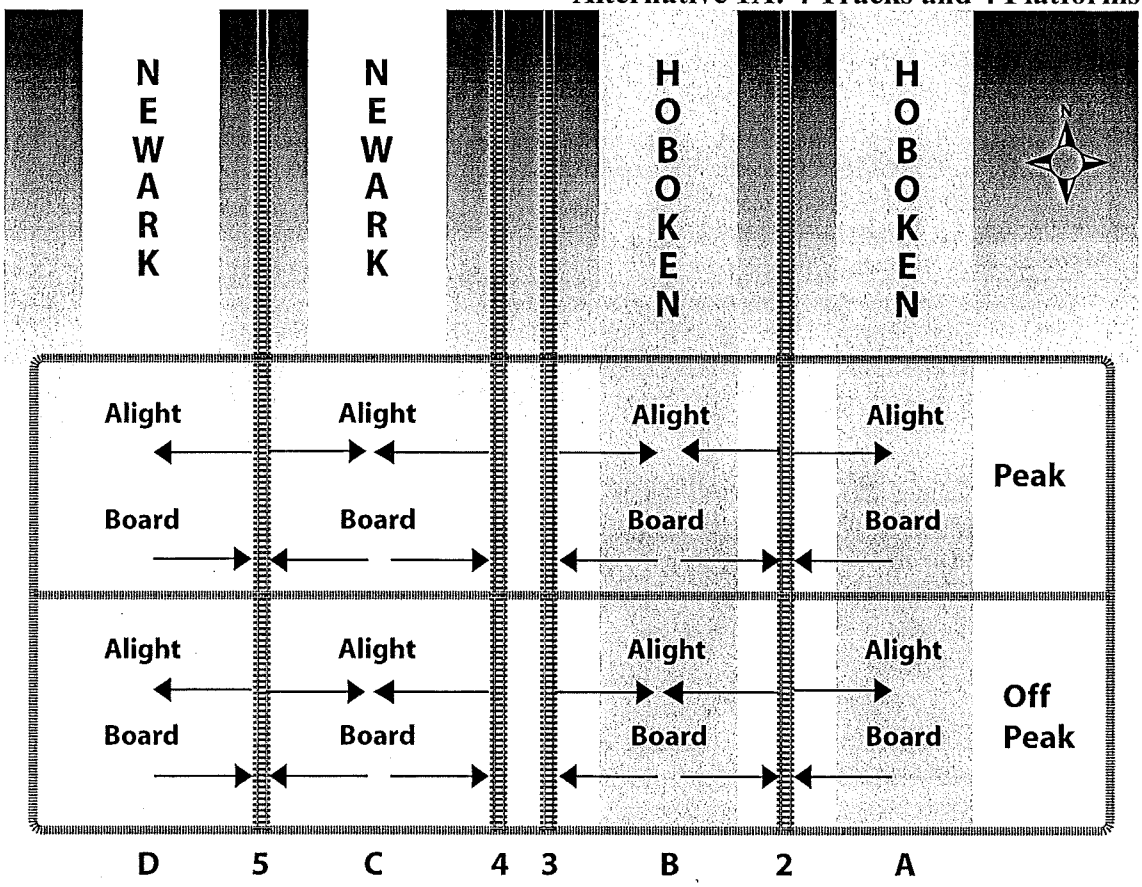
would be sufficient to support the 7,818 square feet required for boarding passengers and effective area of Platform D would be sufficient to support the 7,446 square feet required for alighting passengers.

Because the Preferred Alternative would provide 5 tracks, it would meet the minimum operating requirements of PATH. Furthermore, the 4 platform configuration would provide for adequate capacity to support platform clearance in the AM peak period as well as platform crowding in the PM peak period. As such, the Preferred Alternative would meet the planning and design criteria set forth in the *TCQSM*.

ALTERNATIVES 1A AND 1B: 4 TRACKS / 4 PLATFORMS

PANYNJ considered two options that would result in 4 platforms and 4 tracks, which are shown in Figures 5 and 6.

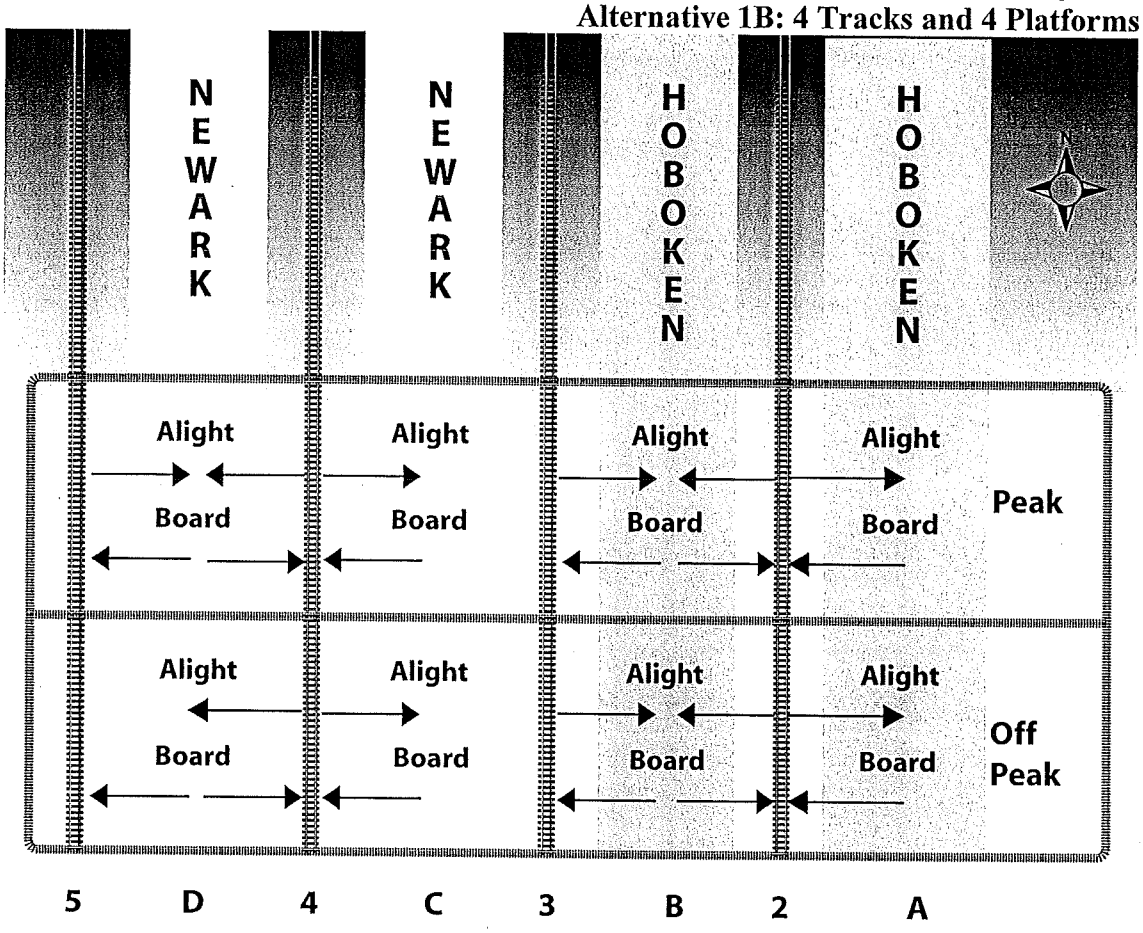
Figure 5
Alternative 1A: 4 Tracks and 4 Platforms



Under Alternative 1A, the existing Track 1 would be removed and Platform A widened. PATH would operate Hoboken-WTC service from Platforms A and B (Tracks 2 and 3) and Newark-WTC service from Platforms C and D (Tracks 4 and 5). Alternative 1B would also result in the removal of Track 1 and the widening of Platform A. PANYNJ would realign the other tracks such that Platforms A and B would be separated by Track 2; Platforms B and C by Track 3, and

Platforms C and D by Track 4. Track 5 would be located immediately west of Platform D. This configuration would allow for dedicated boarding or alighting from Platforms A, B, C and D.

Figure 6
Alternative 1B: 4 Tracks and 4 Platforms



Both of these alternatives would meet or exceed the platform clearance and platform crowding criteria. However, because they would have 4 tracks, they would not meet PATH's operational needs. Therefore, Alternatives 1A and 1B were eliminated from further consideration.

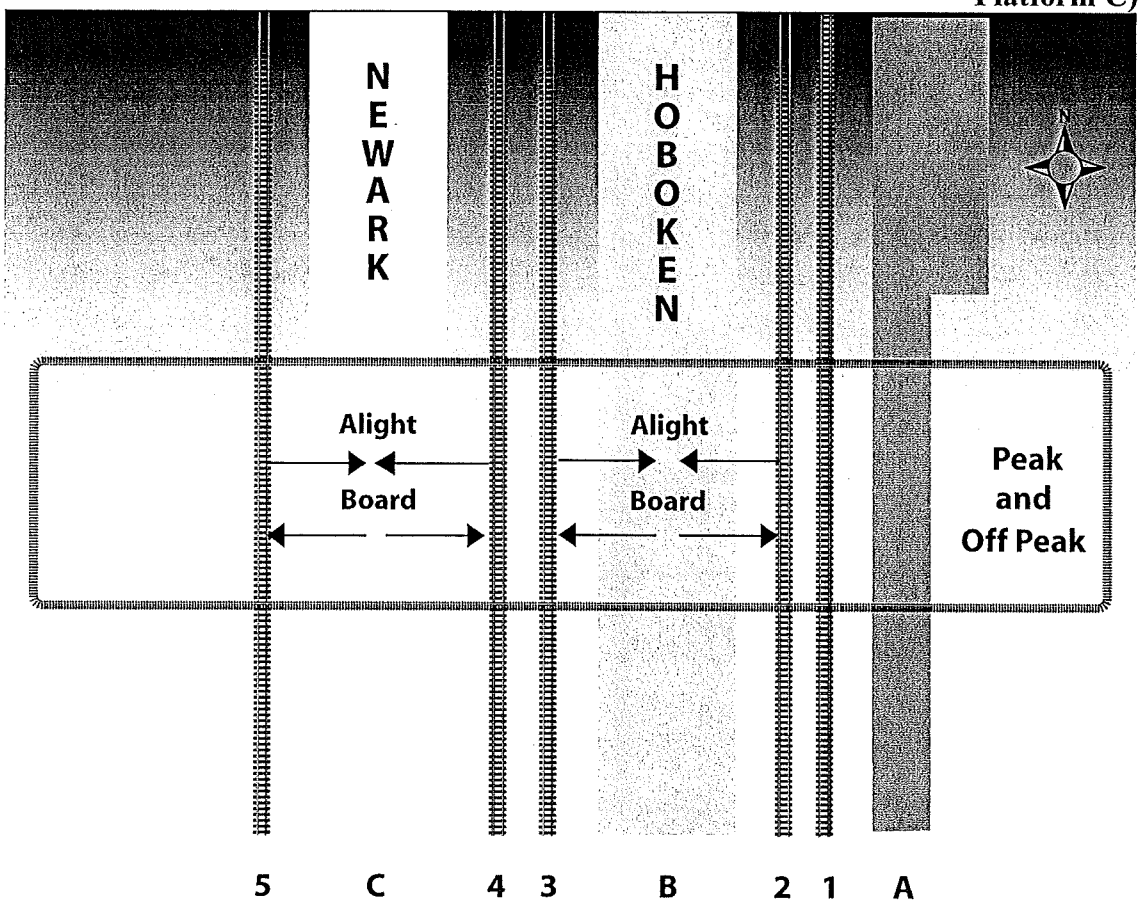
ALTERNATIVE 2A: 5 TRACKS / 3 PLATFORMS (NO SERVICE ON PLATFORM A AND 30-FOOT PLATFORM C)

Figure 7 shows the layout of the 5-Track, 3-Platform scheme for the Terminal's platform level. Under this scenario, PATH would operate the station similar to the Pre-September 11, 2001 condition. Platform A would serve as failure management and service platform; Platform B would serve Hoboken-WTC trains from Tracks 2 and 3, and Platform C would serve Newark-WTC trains from Tracks 4 and 5.

Because this plan would result in five tracks, it would meet PATH's operating requirements. However, given the projected 2025 ridership on the Newark-WTC Line, a single, dedicated

platform for this service would not be sufficient to meet the platform clearance or platform crowding criteria identified above.

Figure 7
Alternative 2A: 5 Tracks and 3 Platforms (No Service on Platform A and 30-foot Platform C)



As shown in Table 7, Platform C would require 213 seconds to clear in the AM peak hour. Because trains would arrive on both Tracks 4 and 5 and would board and alight from Platform C, the platform must clear within 126 to 144 seconds (70 to 80 percent of the 180-second headway on the Newark-WTC Line). Therefore, Platform C would fail to meet the *TCQSM* criteria. Platform B would have the same clearance time as under the Preferred Alternative and would thus meet the platform clearance criteria.

Furthermore under Alternative 2A, Platform C would fail to meet platform crowding criteria in the PM peak hour as shown in Table 8. Because trains would both board and alight to Platform C, a total of 16,355 square feet of usable area would be required in the event of a missed headway. However, the effective area of the platform would be 10,416 SF, which would not be sufficient to support peak period volumes. Platform B would have the same platform crowding conditions as under the Preferred Alternative and would thus meet the LOS C/D criteria.

Table 7
Alternative 2A: Platform Clearance Analysis Results

Factor	Platform B	Platform C
Train Headway at Platform	210 seconds	180 seconds
Required Platform Clearance	147 – 168 seconds	126 – 144 seconds
Estimated Platform Clearance (AM Peak Hour)	148 seconds	213 seconds
Meets or Fails Criteria?	Meets	Fails

Table 8
Alternative 2A: Platform Crowding Analysis Results

Analysis Factor			Platform B	Platform C
Required Area	Boarding Passengers	Passengers	1,027	1,096
		Area	7,190	7,670 SF
	Alighting Passengers	Passengers	213	579
		Area	3,195	8,685 SF
	Total Required Area		10,385 SF	16,355 SF
Effective Area			10,416 SF	10,920 SF
Meets or Fails LOS C/D Criteria?			Meets	Fails

Platform clearance could be improved by adding stairways and/or escalators to the proposed scheme. The current 30-foot width of the platform constrains the addition of elements within the planned VCE cores (i.e., 4 VCEs per core rather than 3 VCEs per core) since adequate clearance would not be provided between the VCE and the platform edge. A fifth VCE core could be added to the platform, but this would reduce the effective area of the platform by approximately 800 square feet; further degrading platform crowding conditions in the PM peak hour.

Platform crowding could be reduced under Alternative 2A with the lengthening or widening of Platform C. However, site conditions limit the benefit of a longer or wider platform as follows:

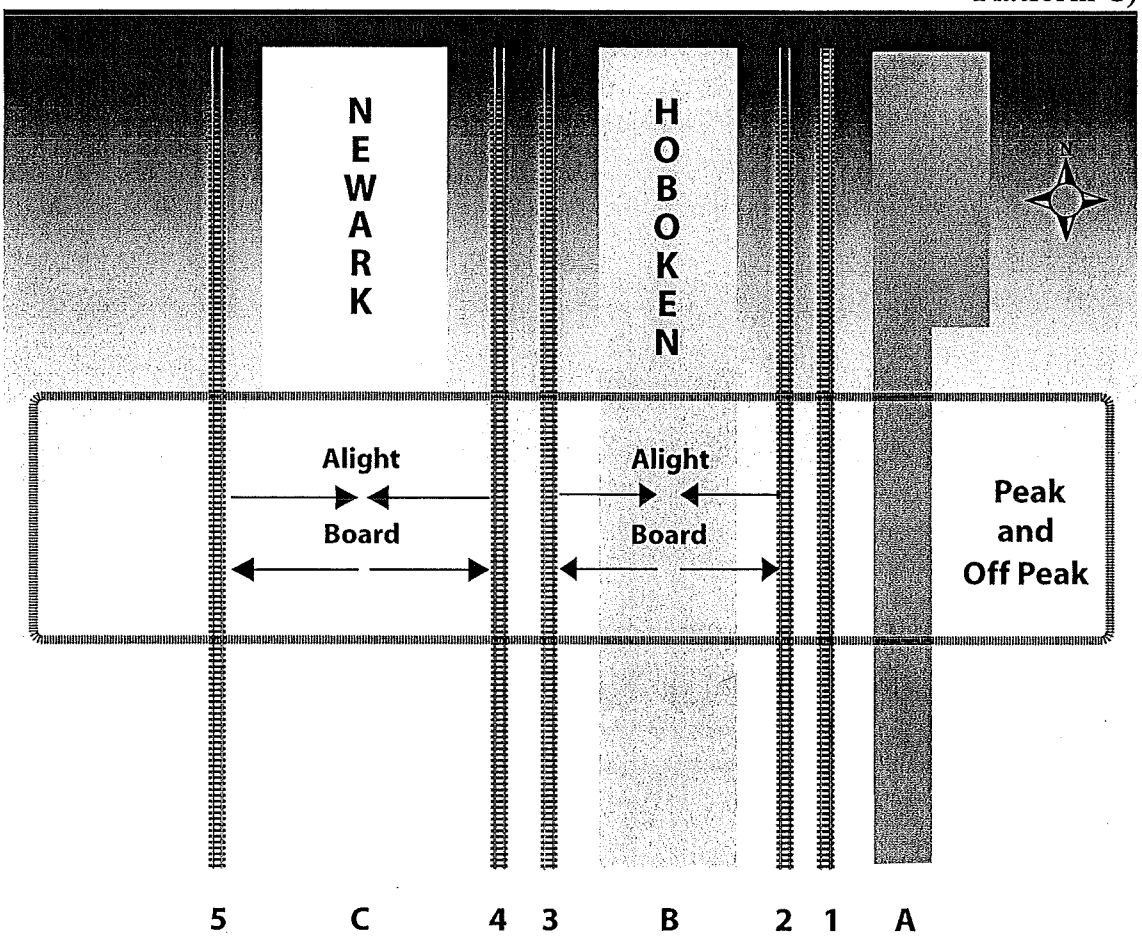
- The platforms may no longer be on a tangent. As noted earlier, this would create a gap between the train and the platform, which would not meet ADA criteria.
- The ability to extend the platform to the north is limited by both the east-west pedestrian concourse and the fare zone control at the mezzanine level.
- Platform C could be widened to the west, which would require the realignment of the existing Track 5. For safe operations, PATH would need to close Platform C of the temporary WTC PATH station, while Track 5 is reconstructed and the platform widened. In this case, PATH would operate both Newark-WTC and Hoboken-WTC trains from Platform B. However, given current ridership demand and headways, Platform B would not be sufficient to fully support both routes.

In the long-term Alternative 2A would support PATH's operational requirements since it would have five tracks, but a single platform for the Newark-WTC service would fail to meet platform clearance and platform crowding criteria. Although these criteria could be achieved by adding VCEs and widening Platform C, associated construction activities may limit or suspend temporary WTC PATH service. Thus, Alternative 2A would fail to meet the goals and objectives of the Project and was eliminated from further consideration.

ALTERNATIVE 2D: 5 TRACKS / 3 PLATFORMS (NO SERVICE ON PLATFORM A AND 42-FOOT PLATFORM C)

As shown in Figure 10, Alternative 2C would have nearly the same configuration and operation as Alternative 2A; however, Platform C would be 13-feet wider (44-feet total). Because the platform would be wider than under the Preferred Alternative, additional queuing area would be provided for boarding passengers and 3 additional VCEs (for a total of 13 VCEs) would be accommodated.

Figure 10
Alternative 2D: 5 Tracks and 3 Platforms (No Service on Platform A and 44-foot Platform C)



Because this plan would result in five tracks, it would meet PATH's operating requirements. Furthermore, this alternative would provide for adequate vertical circulation and queuing area to meet both platform clearance and platform crowding criteria.

As shown in Table 9, Platform C would require 138 seconds to clear in the AM peak hour. Because trains would arrive on both Tracks 4 and 5 and would board and alight from Platform C, the platform must clear within 126 to 144 seconds (70 to 80 percent of the 180-second headway on the Newark-WTC Line). Therefore, Platform C would meet the *TCQSM* criteria. Platform B

would have the same clearance time as under the Preferred Alternative and would also meet the platform clearance criteria.

Furthermore under Alternative 2D, Platform C would meet platform crowding criteria in the PM peak hour as shown in Table 8. Because trains would both board and alight to Platform C, a total of 16,355 square feet of usable area would be required in the event of a missed headway. Since the effective area of a 44-foot platform would be 16,734 SF, it would be sufficient to support peak period volumes. Platform B would have the same platform crowding conditions as under the Preferred Alternative and would thus meet the LOS C/D criteria.

Table 9
Alternative 2D: Platform Clearance Analysis Results

Factor	Platform B	Platform C
Train Headway at Platform	210 seconds	180 seconds
Required Platform Clearance	147 – 168 seconds	126 – 144 seconds
Estimated Platform Clearance (AM Peak Hour)	148 seconds	138 seconds
Meets or Fails Criteria?	Meets	Meets

Table 10
Alternative 2D: Platform Crowding Analysis Results

Analysis Factor			Platform B	Platform C
Required Area	Boarding Passengers	Passengers	1,027	1,096
		Area	7,190	7,670 SF
	Alighting Passengers	Passengers	213	579
		Area	3,195	8,685 SF
	Total Required Area		10,385 SF	16,355 SF
Effective Area			10,416 SF	16,734 SF
Meets or Fails LOS C/D Criteria?			Meets	Meets

Unlike Alternatives 2A, 2B, and 2C, this alternative would meet the *TCQSM* criteria for platform clearance and crowding. However, this 3-platform scheme would limit operational flexibility.

A 44-foot platform would meet PATH's projected 2025 ridership projections, but it would not facilitate the dedicated off-loading of passengers, which would reduce conflicts ("passenger friction"). As experienced at the WTC prior to September 11, 2001, the passenger friction on Platform C could jeopardize dwell times for trains to load and leave the Terminal, particularly if there are further substantial increases in the reverse commuting volumes. This would have the effect of increasing headways and reducing overall train throughput at the WTC Terminal.

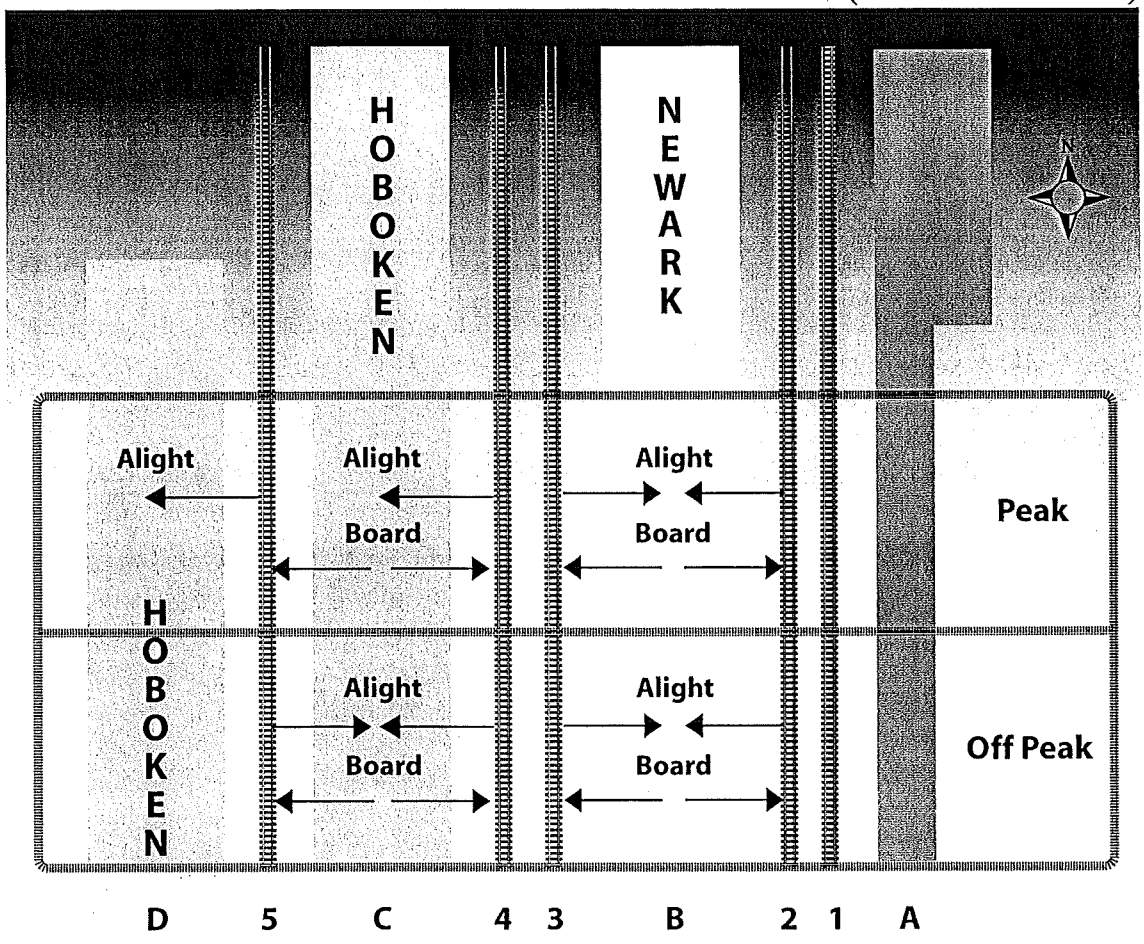
Furthermore, in order to provide temporary PATH service during construction of the Permanent Terminal, the existing track geometry must be adequately maintained to enable continuous train operations. Any major changes to this geometry, particularly those that push the tracks further west would cause outages on the existing Track 5. Moving the track 13 feet to the west of the existing Track 5 would also result in a tighter curve between the PATH projections and the station platform, which poses operational disadvantages as compared to the Preferred Alternative.

Since a 4-platform scheme provides for better operations and because the widening of Platform C may substantially limit the operation of the temporary WTC PATH station, Alternative 2D was considered to be inconsistent with the project's goals and objectives and was, therefore, eliminated from further consideration.

ALTERNATIVE 3: 5 TRACKS / 4 PLATFORMS (PLATFORM D IS 8-CAR)

As shown in Figure 11, this alternative would not result in a change in the layout of the tracks or Platforms A, B, or C as compared to the Preferred Alternative. However, Platform D would be reduced to an 8-car length. Under this alternative, PATH would operate Newark-WTC service from Platform B and Hoboken-WTC service from Platforms C and D. While, this option would improve operations for the Hoboken-WTC Line, it would fail to meet the capacity needs for Newark-WTC riders.

Figure 11
Alternative 3: 5 Tracks and 4 Platforms (Platform D is 8-Car)



Given the volume of riders on the Newark-WTC Line, this option was considered inadequate to serve future demand and was eliminated from further consideration. ✳

Appendix C-3: Vehicular Traffic and Parking

CONTENTS

Table 1	2006 No Action Traffic Level of Service
Table 2	2006 Construction (Terminal with Liberty Plaza Connection) Traffic Level of Service
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PERMANENT WTC PATH TERMINAL EIS
2006 NO ACTION TRAFFIC LEVELS OF SERVICE

		AM (8:15 - 9:15AM)				Midday (12:00PM - 1:00PM)				PM (5:00 - 6:00PM)			
INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
SIGNALIZED INTERSECTIONS													
West Street (NYS Rt. 9A) at Canal Street													
West Street (NYS Rt. 9A)	NB	T	0.65	2.4	A	T	0.45	1.7	A	T	0.63	2.5	A
	SB	T	0.57	1.8	A	T	0.39	1.5	A	T	0.67	2.6	A
Canal Street	WB	L	0.20	43.1	D	L	0.34	44.1	D	L	0.19	39.6	D
		LR	0.45	50.1	D	LR	0.84	70.7	E	LR	0.37	43.4	D
		R	0.53	53.3	D	R	0.63	56.0	E	R	0.42	45.5	D
Overall Intersection		-	**0.63**	**4.2**	A	-	**0.53**	**8.2**	A	-	**0.61**	**4.4**	A
West Street (NYS Rt. 9A) at Canal Street													
West Street (NYS Rt. 9A)	NB	TR	0.89	19.3	B	TR	0.59	11.8	B	TR	0.81	15.7	B
		R	0.41	11.3	B	R	0.41	11.4	B	R	0.23	9.1	A
	SB	L	1.02	103.7	F	L	1.01	72.5	E	L	1.01	73.8	E
		T	0.98	16.6	B	T	0.95	15.6	B	T	0.99	18.4	B
Overall Intersection		-	**0.95**	**29.1**	C	-	**0.77**	**21.9**	C	-	**0.90**	**22.6**	C
West Street (NYS Rt. 9A) at Chambers Street													
West Street (NYS Rt. 9A)	NB	TR	0.93	26.7	C	TR	0.65	16.8	B	TR	0.76	19.0	B
	SB	L	0.68	13.6	B	L	0.67	12.2	B	L	0.84	20.6	C
		TR	0.62	16.3	B	TR	0.53	15.0	B	TR	0.83	21.0	C
Chambers Street	EB	LTR	0.63	47.6	D	LTR	0.34	39.2	D	LTR	0.30	38.1	D
	WB	LT	0.73	52.8	D	LT	0.48	41.8	D	LT	0.72	54.3	D
		R	0.43	25.8	C	R	0.47	27.1	C	R	0.67	33.1	C
Overall Intersection		-	**0.88**	**24.4**	C	-	**0.66**	**17.9**	B	-	**0.81**	**22.5**	C
West Street (NYS Rt. 9A) at Vesey Street													
West Street (NYS Rt. 9A)	NB	TR	1.00	149.0	F	TR	0.99	60.4	E	TR	1.05	63.3	E
	SB	L	0.08	9.0	A	L	0.09	6.7	A	L	0.02	7.6	A
		TR	1.06	57.5	E	TR	1.05	56.7	E	TR	1.04	65.9	E
Vesey Street	EB	L	0.67	54.4	D	L	0.55	47.1	D	L	0.76	61.6	E
		TR	0.20	34.7	C	TR	0.21	34.8	C	TR	0.19	34.5	C
	WB	L	0.00	32.3	C	L	0.01	32.4	C	L	0.00	32.3	C
		TR	0.04	32.8	C	TR	0.04	32.8	C	TR	0.01	32.4	C
Overall Intersection		-	**0.98**	**102.2**	F	-	**0.93**	**57.1**	E	-	**0.98**	**63.7**	E
West Street (NYS Rt. 9A) at Liberty Street													
West Street (NYS Rt. 9A)	NB	TR	0.79	7.6	A	TR	0.58	5.1	A	TR	0.63	5.4	A
	SB	TR	0.72	6.6	A	TR	0.62	5.4	A	TR	0.94	19.0	B
Liberty Street	EB	L	0.56	42.3	D	L	0.40	38.3	D	L	0.38	37.8	D
		R	0.12	33.6	C	R	0.08	32.9	C	R	0.22	35.3	D
Overall Intersection		-	**0.72**	**9.2**	A	-	**0.56**	**7.1**	A	-	**0.78**	**14.4**	B
West Street (NYS Rt.9A) at Brooklyn Battery Tunnel													
West Street (NYS Rt.9A)	NB	T	1.05	151.5	F	T	1.00	141.7	F	T	1.07	111.8	F
		R	1.10	112.5	F	R	1.07	76.7	E	R	1.09	110.4	F
	SB	TR	1.02	68.8	E	TR	0.92	59.5	E	TR	1.03	92.2	F
Brooklyn Battery Tunnel	EB	R	0.64	27.4	C	R	0.21	22.2	C	R	0.18	13.6	B
	WB	L	1.47	410.6	F	L	1.05	199.7	F	L	1.09	221.6	F
		R	1.08	225.1	F	R	1.01	161.9	F	R	0.91	151.4	F
Overall Intersection		-	**1.32**	**231.2**	F	-	**1.07**	**126.5**	F	-	**1.09**	**130.0**	F
Church Street at Vesey Street													
Church Street	NB	LT	0.89	19.6	B	LT	0.67	15.6	B	LT	0.63	10.1	B
		R	0.36	9.3	A	R	0.68	22.9	C	R	0.24	6.9	A
Vesey Street	EB	LT	0.03	19.0	B	LT	0.00	18.7	B	LT	0.02	18.9	B
Overall Intersection		-	**0.56**	**18.6**	B	-	**0.42**	**17.2**	B	-	**0.40**	**9.8**	A
Church Street at Fulton Street													
Church Street	NB	T	0.86	23.2	C	T	0.78	19.8	B	T	0.62	14.9	B
Fulton Street	WB	R	0.14	19.6	B	R	0.61	32.5	C	R	0.24	20.9	C
Overall Intersection		-	**0.57**	**23.0**	C	-	**0.72**	**21.7**	C	-	**0.47**	**15.6**	B

PERMANENT WTC PATH TERMINAL EIS
2006 NO ACTION TRAFFIC LEVELS OF SERVICE

		AM (8:15 - 9:15AM)				Midday (12:00PM - 1:00PM)				PM (5:00 - 6:00PM)			
				Control				Control				Control	
INTERSECTION & APPROACH		Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS
SIGNALIZED INTERSECTIONS													
Church Street at Dey Street													
Church Street	NB	T	0.74	13.0	B	T	0.68	11.6	B	T	0.55	9.1	A
Dey Street	WB	R	0.00	24.2	C	R	0.00	24.2	C	R	0.00	24.2	C
Overall Intersection		-	**0.53**	**13.0**	**B**	-	**0.48**	**11.6**	**B**	-	**0.39**	**9.1**	**A**
Church Street at Cortlandt Street													
Church Street	NB	T	0.61	10.3	B	T	0.45	8.4	A	T	0.34	7.4	A
Cortlandt Street	WB	R	0.89	50.4	D	R	1.01	76.7	E	R	0.93	58.0	E
Overall Intersection		-	**0.72**	**22.3**	**C**	-	**0.67**	**35.5**	**D**	-	**0.57**	**29.0**	**C**
Church Street at Liberty Street													
Church Street	NB	T	0.58	9.8	A	T	0.49	8.8	A	T	0.34	7.4	A
		R	0.15	6.6	A	R	0.21	7.2	A	R	0.11	6.2	A
Liberty Street	EB	LT	0.07	18.7	B	LT	0.02	18.2	B	LT	0.00	18.1	B
Overall Intersection		-	**0.38**	**10.1**	**B**	-	**0.30**	**8.8**	**A**	-	**0.20**	**7.2**	**A**

(i): Control delay is measured in seconds per vehicle.
(ii): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(iii): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle (sec/veh) for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(iv): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

PERMANENT WTC PATH TERMINAL EIS
2006 CONSTRUCTION TRAFFIC LEVELS OF SERVICE

		AM (8:15 - 9:15AM)				Midday (12:00PM - 1:00PM)				PM (5:00 - 6:00PM)			
				Control				Control				Control	
INTERSECTION & APPROACH	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	
SIGNALIZED INTERSECTIONS													
West Street (NYS Rt. 9A) at Canal Street													
West Street (NYS Rt. 9A) NB	T	0.66	2.4	A	T	0.45	1.7	A	T	0.63	2.5	A	
SB	T	0.57	1.8	A	T	0.39	1.5	A	T	0.67	2.6	A	
Canal Street WB	L	0.20	43.2	D	L	0.34	44.3	D	L	0.20	39.8	D	
	LR	0.45	50.1	D	LR	0.84	70.7	E	LR	0.37	43.4	D	
	R	0.53	53.3	D	R	0.63	56.0	E	R	0.42	45.5	D	
Overall Intersection	-	**0.63**	**4.2**	A	-	**0.54**	**8.2**	A	-	**0.61**	**4.4**	A	
West Street (NYS Rt. 9A) at Canal Street													
West Street (NYS Rt. 9A) NB	TR	0.90	19.4	B	TR	0.59	11.9	B	TR	0.81	15.8	B	
	R	0.41	11.3	B	R	0.42	11.4	B	R	0.23	9.2	A	
SB	L	1.02	103.7	F	L	1.01	72.5	E	L	1.01	73.8	E	
	T	0.98	17.2	B	T	0.96	16.4	B	T	1.00	19.2	B	
Overall Intersection	-	**0.95**	**29.4**	C	-	**0.77**	**22.2**	C	-	**0.90**	**23.0**	C	
West Street (NYS Rt. 9A) at Chambers Street													
West Street (NYS Rt. 9A) NB	TR	0.93	26.9	C	TR	0.66	16.9	B	TR	0.76	19.1	B	
SB	L	0.68	13.6	B	L	0.67	12.2	B	L	0.84	20.6	C	
	TR	0.62	16.3	B	TR	0.54	15.1	B	TR	0.83	21.1	C	
Chambers Street EB	LTR	0.63	47.6	D	LTR	0.34	39.2	D	LTR	0.30	38.1	D	
WB	LT	0.73	52.8	D	LT	0.48	41.8	D	LT	0.72	54.3	D	
	R	0.43	25.8	C	R	0.47	27.1	C	R	0.67	33.1	C	
Overall Intersection	-	**0.88**	**24.5**	C	-	**0.66**	**17.9**	B	-	**0.81**	**22.5**	C	
West Street (NYS Rt. 9A) at Vesey Street													
West Street (NYS Rt. 9A) NB	TR	1.00	149.6	F	TR	0.99	61.7	E	TR	1.05	64.0	E	
SB	L	0.11	9.8	A	L	0.12	7.6	A	L	0.05	8.3	A	
	TR	1.06	58.0	E	TR	1.05	57.4	E	TR	1.05	66.5	E	
Vesey Street EB	L	0.67	54.4	D	L	0.55	47.1	D	L	0.76	61.6	E	
	TR	0.20	34.7	C	TR	0.21	34.8	C	TR	0.19	34.5	C	
WB	L	0.02	32.7	C	L	0.04	32.9	C	L	0.02	32.7	C	
	TR	0.04	32.8	C	TR	0.04	32.8	C	TR	0.01	32.4	C	
Overall Intersection	-	**0.98**	**102.6**	F	-	**0.94**	**58.0**	E	-	**0.98**	**64.2**	E	
West Street (NYS Rt. 9A) at Liberty Street													
West Street (NYS Rt. 9A) NB	TR	0.79	7.6	A	TR	0.58	5.1	A	TR	0.63	5.4	A	
SB	LTR	0.77	7.6	A	LTR	0.67	6.0	A	LTR	1.01	51.3	D	
Liberty Street EB	L	0.56	42.3	D	L	0.40	38.3	D	L	0.38	37.8	D	
	R	0.12	33.6	C	R	0.08	32.9	C	R	0.22	35.3	D	
Overall Intersection	-	**0.72**	**9.6**	A	-	**0.59**	**7.4**	A	-	**0.83**	**32.3**	C	
West Street (NYS Rt.9A) at Brooklyn Battery Tunnel													
West Street (NYS Rt.9A) NB	T	1.05	151.5	F	T	1.00	141.7	F	T	1.07	111.8	F	
	R	1.10	112.5	F	R	1.07	76.7	E	R	1.09	110.4	F	
SB	TR	1.02	68.8	E	TR	0.92	59.5	E	TR	1.03	92.2	F	
Brooklyn Battery Tunnel EB	R	0.64	27.4	C	R	0.21	22.2	C	R	0.18	13.6	B	
WB	L	1.47	410.6	F	L	1.05	199.7	F	L	1.09	221.6	F	
	R	1.08	225.7	F	R	1.01	162.7	F	R	0.92	153.2	F	
Overall Intersection	-	**1.32**	**231.4**	F	-	**1.07**	**126.7**	F	-	**1.09**	**130.3**	F	
Church Street at Vesey Street													
Church Street NB	LT	0.89	20.1	C	LT	0.67	15.7	B	LT	0.64	10.2	B	
	R	0.36	9.3	A	R	0.68	22.9	C	R	0.24	6.9	A	
Vesey Street EB	LT	0.05	19.2	B	LT	0.02	18.9	B	LT	0.04	19.1	B	
Overall Intersection	-	**0.57**	**19.0**	B	-	**0.43**	**17.3**	B	-	**0.41**	**10.0**	A	
Church Street at Fulton Street													
Church Street NB	T	0.86	23.5	C	T	0.79	19.9	B	T	0.62	15.0	B	
Fulton Street WB	R	0.14	19.6	B	R	0.61	32.5	C	R	0.24	20.9	C	
Overall Intersection	-	**0.58**	**23.3**	C	-	**0.72**	**21.8**	C	-	**0.47**	**15.7**	B	

PERMANENT WTC PATH TERMINAL EIS
2006 CONSTRUCTION TRAFFIC LEVELS OF SERVICE

		AM (8:15 - 9:15AM)				Midday (12:00PM - 1:00PM)				PM (5:00 - 6:00PM)			
				Control				Control				Control	
INTERSECTION & APPROACH	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS
SIGNALIZED INTERSECTIONS												
Church Street at Dey Street												
Church Street NB	T	0.75	13.1	B	T	0.68	11.7	B	T	0.55	9.2	A
Dey Street WB	R	0.00	24.2	C	R	0.00	24.2	C	R	0.00	24.2	C
Overall Intersection	-	**0.53**	**13.1**	**B**	-	**0.49**	**11.7**	**B**	-	**0.40**	**9.2**	**A**
Church Street at Cortlandt Street												
Church Street NB	T	0.61	10.3	B	T	0.45	8.4	A	T	0.34	7.4	A
Cortlandt Street WB	R	0.89	50.8	D	R	1.01	77.4	E	R	0.94	58.5	E
Overall Intersection	-	**0.72**	**22.4**	**C**	-	**0.67**	**35.7**	**D**	-	**0.58**	**29.1**	**C**
Church Street at Liberty Street												
Church Street NB	T	0.58	9.8	A	T	0.49	8.8	A	T	0.34	7.4	A
	R	0.15	6.6	A	R	0.21	7.2	A	R	0.11	6.2	A
Liberty Street EB	LT	0.08	18.8	B	LT	0.03	18.3	B	LT	0.01	18.2	B
Overall Intersection	-	**0.38**	**10.2**	**B**	-	**0.31**	**8.9**	**A**	-	**0.21**	**7.3**	**A**

(i): Control delay is measured in seconds per vehicle.
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(iii): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle (sec/veh) for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(iv): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

PERMANENT WTC PATH TERMINAL EIS
AM COMPARISON OF 2006 NO ACTION vs 2006 PATH CONSTRUCTION

INTERSECTION & APPROACH		Mvt.	2006 NO ACTION (8:15 - 9:15 AM) V/C	Control Delay	LOS	Mvt.	CONSTRUCTION (8:15 - 9:15 AM) V/C	Control Delay	LOS	Mvt.	MITIGATED (8:15 - 9:15 AM) V/C	Control Delay	LOS	Mitigation Measures
SIGNALIZED INTERSECTIONS														
West Street (NYS Rt. 9A) at Canal Street														
West Street (NYS Rt. 9A)	NB	T	0.65	2.4	A	T	0.66	2.4	A					- Mitigation not required.
	SB	T	0.57	1.8	A	T	0.57	1.8	A					
Canal Street	WB	L	0.20	43.1	D	L	0.20	43.2	D					
		LR	0.45	50.1	D	LR	0.45	50.1	D					
		R	0.53	53.3	D	R	0.53	53.3	D					
Overall Intersection		-	**0.63**	**4.2**	A	-	**0.63**	**4.2**	A					
West Street (NYS Rt. 9A) at Canal Street														
West Street (NYS Rt. 9A)	NB	TR	0.89	19.3	B	TR	0.90	19.4	B					- Mitigation not required.
		R	0.41	11.3	B	R	0.41	11.3	B					
	SB	L	1.02	103.7	F	L	1.02	103.7	F					
		T	0.98	16.6	B	T	0.98	17.2	B					
Overall Intersection		-	**0.95**	**29.1**	C	-	**0.95**	**29.4**	C					
West Street (NYS Rt. 9A) at Chambers Street														
West Street (NYS Rt. 9A)	NB	TR	0.93	26.7	C	TR	0.93	26.9	C					- Mitigation not required.
	SB	L	0.68	13.6	B	L	0.68	13.6	B					
		TR	0.62	16.3	B	TR	0.62	16.3	B					
Chambers Street	EB	LTR	0.63	47.6	D	LTR	0.63	47.6	D					
	WB	LT	0.73	52.8	D	LT	0.73	52.8	D					
		R	0.43	25.8	C	R	0.43	25.8	C					
Overall Intersection		-	**0.88**	**24.4**	C	-	**0.88**	**24.5**	C					
West Street (NYS Rt. 9A) at Vesey Street														
West Street (NYS Rt. 9A)	NB	TR	1.00	149.0	F	TR	1.00	149.6	F					- Mitigation not required.
	SB	L	0.08	9.0	A	L	0.11	9.8	A					
		TR	1.06	57.5	E	TR	1.06	58.0	E					
Vesey Street	EB	L	0.67	54.4	D	L	0.67	54.4	D					
		TR	0.20	34.7	C	TR	0.20	34.7	C					
	WB	L	0.00	32.3	C	L	0.02	32.7	C					
		TR	0.04	32.8	C	TR	0.04	32.8	C					
Overall Intersection		-	**0.98**	**102.2**	F	-	**0.98**	**102.6**	F					
West Street (NYS Rt. 9A) at Liberty Street														
West Street (NYS Rt. 9A)	NB	TR	0.79	7.6	A	TR	0.79	7.6	A					- Mitigation not required.
	SB	TR	0.72	6.6	A	LTR	0.77	7.6	A					
Liberty Street	EB	L	0.56	42.3	D	L	0.56	42.3	D					
		R	0.12	33.6	C	R	0.12	33.6	C					
Overall Intersection		-	**0.72**	**9.2**	A	-	**0.72**	**9.6**	A					
West Street (NYS Rt.9A) at Brooklyn Battery Tunnel														
West Street (NYS Rt.9A)	NB	T	1.05	151.5	F	T	1.05	151.5	F					- Mitigation not required.
		R	1.10	112.5	F	R	1.10	112.5	F					
	SB	TR	1.02	68.8	E	TR	1.02	68.8	E					
Brooklyn Battery Tunnel	EB	R	0.64	27.4	C	R	0.64	27.4	C					
	WB	L	1.47	410.6	F	L	1.47	410.6	F					
		R	1.08	225.1	F	R	1.08	225.7	F					
Overall Intersection		-	**1.32**	**231.2**	F	-	**1.32**	**231.4**	F					
Church Street at Vesey Street														
Church Street	NB	LT	0.89	19.6	B	LT	0.89	20.1	C					- Mitigation not required.
		R	0.36	9.3	A	R	0.36	9.3	A					
Vesey Street	EB	LT	0.03	19.0	B	LT	0.05	19.2	B					
Overall Intersection		-	**0.56**	**18.6**	B	-	**0.57**	**19.0**	B					
Church Street at Fulton Street														
Church Street	NB	T	0.86	23.2	C	T	0.86	23.5	C					- Mitigation not required.
Fulton Street	WB	R	0.14	19.6	B	R	0.14	19.6	B					
Overall Intersection		-	**0.57**	**23.0**	C	-	**0.58**	**23.3**	C					

PERMANENT WTC PATH TERMINAL EIS
AM COMPARISON OF 2006 NO ACTION vs 2006 PATH CONSTRUCTION

INTERSECTION & APPROACH		2006 NO ACTION (8:15 - 9:15 AM) Mvt.	V/C	Control Delay	LOS	CONSTRUCTION (8:15 - 9:15 AM) Mvt.	V/C	Control Delay	LOS	MITIGATED (8:15 - 9:15 AM) Mvt.	V/C	Control Delay	LOS	Mitigation Measures
SIGNALIZED INTERSECTIONS														
Church Street at Dey Street														
Church Street	NB	T	0.74	13.0	B	T	0.75	13.1	B					- Mitigation not required.
Dey Street	WB	R	0.00	24.2	C	R	0.00	24.2	C					
Overall Intersection		-	**0.53**	**13.0**	**B**	-	**0.53**	**13.1**	**B**					
Church Street at Cortlandt Street														
Church Street	NB	T	0.61	10.3	B	T	0.61	10.3	B					- Mitigation not required.
Cortlandt Street	WB	R	0.89	50.4	D	R	0.89	50.8	D					
Overall Intersection		-	**0.72**	**22.3**	**C**	-	**0.72**	**22.4**	**C**					
Church Street at Liberty Street														
Church Street	NB	T	0.58	9.8	A	T	0.58	9.8	A					- Mitigation not required.
		R	0.15	6.6	A	R	0.15	6.6	A					
Liberty Street	EB	LT	0.07	18.7	B	LT	0.08	18.8	B					
Overall Intersection		-	**0.38**	**10.1**	**B**	-	**0.38**	**10.2**	**B**					

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(iii): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle (sec/veh) for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(iv): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

PERMANENT WTC PATH TERMINAL EIS
MIDDAY COMPARISON OF 2006 NO ACTION vs 2006 PATH CONSTRUCTION

		2006 NO ACTION (12:00 - 1:00 PM)				CONSTRUCTION (12:00 - 1:00 PM)				MITIGATED (12:00 - 1:00 PM)				Mitigation Measures
INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
SIGNALIZED INTERSECTIONS														
West Street (NYS Rt. 9A) at Canal Street														
West Street (NYS Rt. 9A)	NB	T	0.45	1.7	A	T	0.45	1.7	A					- Mitigation not required.
	SB	T	0.39	1.5	A	T	0.39	1.5	A					
Canal Street	WB	L	0.34	44.1	D	L	0.34	44.3	D					
		LR	0.84	70.7	E	LR	0.84	70.7	E					
		R	0.63	56.0	E	R	0.63	56.0	E					
Overall Intersection		-	**0.53**	**8.2**	A	-	**0.54**	**8.2**	A					
West Street (NYS Rt. 9A) at Canal Street														
West Street (NYS Rt. 9A)	NB	TR	0.59	11.8	B	TR	0.59	11.9	B					- Mitigation not required.
		R	0.41	11.4	B	R	0.42	11.4	B					
	SB	L	1.01	72.5	E	L	1.01	72.5	E					
		T	0.95	15.6	B	T	0.96	16.4	B					
Overall Intersection		-	**0.77**	**21.9**	C	-	**0.77**	**22.2**	C					
West Street (NYS Rt. 9A) at Chambers Street														
West Street (NYS Rt. 9A)	NB	TR	0.65	16.8	B	TR	0.66	16.9	B					- Mitigation not required.
	SB	L	0.67	12.2	B	L	0.67	12.2	B					
		TR	0.53	15.0	B	TR	0.54	15.1	B					
Chambers Street	EB	LTR	0.34	39.2	D	LTR	0.34	39.2	D					
	WB	LT	0.48	41.8	D	LT	0.48	41.8	D					
		R	0.47	27.1	C	R	0.47	27.1	C					
Overall Intersection		-	**0.66**	**17.9**	B	-	**0.66**	**17.9**	B					
West Street (NYS Rt. 9A) at Vesey Street														
West Street (NYS Rt. 9A)	NB	TR	0.99	60.4	E	TR	0.99	61.7	E					- Mitigation not required.
	SB	L	0.09	6.7	A	L	0.12	7.6	A					
		TR	1.05	56.7	E	TR	1.05	57.4	E					
Vesey Street	EB	L	0.55	47.1	D	L	0.55	47.1	D					
		TR	0.21	34.8	C	TR	0.21	34.8	C					
	WB	L	0.01	32.4	C	L	0.04	32.9	C					
		TR	0.04	32.8	C	TR	0.04	32.8	C					
Overall Intersection		-	**0.93**	**57.1**	E	-	**0.94**	**58.0**	E					
West Street (NYS Rt. 9A) at Liberty Street														
West Street (NYS Rt. 9A)	NB	TR	0.58	5.1	A	TR	0.58	5.1	A					- Mitigation not required.
	SB	TR	0.62	5.4	A	LTR	0.67	6.0	A					
Liberty Street	EB	L	0.40	38.3	D	L	0.40	38.3	D					
		R	0.08	32.9	C	R	0.08	32.9	C					
	-	-	0.56	7.1	A	-	**0.59**	**7.4**	A					
West Street (NYS Rt.9A) at Brooklyn Battery Tunnel														
West Street (NYS Rt.9A)	NB	T	1.00	141.7	F	T	1.00	141.7	F					- Mitigation not required.
		R	1.07	76.7	E	R	1.07	76.7	E					
	SB	TR	0.92	59.5	E	TR	0.92	59.5	E					
Brooklyn Battery Tunnel	EB	R	0.21	22.2	C	R	0.21	22.2	C					
	WB	L	1.05	199.7	F	L	1.05	199.7	F					
		R	1.01	161.9	F	R	1.01	162.7	F					
Overall Intersection		-	**1.07**	**126.5**	F	-	**1.07**	**126.7**	F					
Church Street at Vesey Street														
Church Street	NB	LT	0.67	15.6	B	LT	0.67	15.7	B					- Mitigation not required.
		R	0.68	22.9	C	R	0.68	22.9	C					
Vesey Street	EB	LT	0.00	18.7	B	LT	0.02	18.9	B					
Overall Intersection		-	**0.42**	**17.2**	B	-	**0.43**	**17.3**	B					
Church Street at Fulton Street														
Church Street	NB	T	0.78	19.8	B	T	0.79	19.9	B					- Mitigation not required.
Fulton Street	WB	R	0.61	32.5	C	R	0.61	32.5	C					
Overall Intersection		-	**0.72**	**21.7**	C	-	**0.72**	**21.8**	C					

PERMANENT WTC PATH TERMINAL EIS
MIDDAY COMPARISON OF 2006 NO ACTION vs 2006 PATH CONSTRUCTION

		2006 NO ACTION (12:00 - 1:00 PM)				CONSTRUCTION (12:00 - 1:00 PM)				MITIGATED (12:00 - 1:00 PM)				Mitigation Measures
INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
SIGNALIZED INTERSECTIONS														
Church Street at Dey Street														
Church Street	NB	T	0.68	11.6	B	T	0.68	11.7	B					- Mitigation not required.
Dey Street	WB	R	0.00	24.2	C	R	0.00	24.2	C					
Overall Intersection		-	**0.48**	**11.6**	**B**	-	**0.49**	**11.7**	**B**					
Church Street at Cortlandt Street														
Church Street	NB	T	0.45	8.4	A	T	0.45	8.4	A					- Mitigation not required.
Cortlandt Street	WB	R	1.01	76.7	E	R	1.01	77.4	E					
Overall Intersection		-	**0.67**	**35.5**	**D**	-	**0.67**	**35.7**	**D**					
Church Street at Liberty Street														
Church Street	NB	T	0.49	8.8	A	T	0.49	8.8	A					- Mitigation not required.
		R	0.21	7.2	A	R	0.21	7.2	A					
Liberty Street	EB	LT	0.02	18.2	B	LT	0.03	18.3	B					
Overall Intersection		-	**0.30**	**8.8**	**A**	-	**0.31**	**8.9**	**A**					

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(iii): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle (sec/veh) for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(iv): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.

PERMANENT WTC PATH TERMINAL EIS
PM COMPARISON OF 2006 NO ACTION vs 2006 PATH CONSTRUCTION

		2006 NO ACTION (5:00 - 6:00 PM)				CONSTRUCTION (5:00 - 6:00 PM)				MITIGATED (5:00 - 6:00 PM)					Mitigation Measures
				Control				Control				Control			
INTERSECTION & APPROACH	Mvt.		V/C	Delay	LOS	Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS		
SIGNALIZED INTERSECTIONS															
West Street (NYS Rt. 9A) at Canal Street															
West Street (NYS Rt. 9A)	NB	T	0.63	2.5	A	T	0.63	2.5	A					-	Mitigation not required.
	SB	T	0.67	2.6	A	T	0.67	2.6	A						
Canal Street	WB	L	0.19	39.6	D	L	0.20	39.8	D						
		LR	0.37	43.4	D	LR	0.37	43.4	D						
		R	0.42	45.5	D	R	0.42	45.5	D						
Overall Intersection		-	**0.61**	**4.4**	A	-	**0.61**	**4.4**	A						
West Street (NYS Rt. 9A) at Canal Street															
West Street (NYS Rt. 9A)	NB	TR	0.81	15.7	B	TR	0.81	15.8	B					-	Mitigation not required.
		R	0.23	9.1	A	R	0.23	9.2	A						
	SB	L	1.01	73.8	E	L	1.01	73.8	E						
		T	0.99	18.4	B	T	1.00	19.2	B						
Overall Intersection		-	**0.90**	**22.6**	C	-	**0.90**	**23.0**	C						
West Street (NYS Rt. 9A) at Chambers Street															
West Street (NYS Rt. 9A)	NB	TR	0.76	19.0	B	TR	0.76	19.1	B					-	Mitigation not required.
	SB	L	0.84	20.6	C	L	0.84	20.6	C						
		TR	0.83	21.0	C	TR	0.83	21.1	C						
Chambers Street	EB	LTR	0.30	38.1	D	LTR	0.30	38.1	D						
	WB	LT	0.72	54.3	D	LT	0.72	54.3	D						
		R	0.67	33.1	C	R	0.67	33.1	C						
Overall Intersection		-	**0.81**	**22.5**	C	-	**0.81**	**22.5**	C						
West Street (NYS Rt. 9A) at Vesey Street															
West Street (NYS Rt. 9A)	NB	TR	1.05	63.3	E	TR	1.05	64.0	E					-	Mitigation not required.
	SB	L	0.02	7.6	A	L	0.05	8.3	A						
		TR	1.04	65.9	E	TR	1.05	66.5	E						
Vesey Street	EB	L	0.76	61.6	E	L	0.76	61.6	E						
		TR	0.19	34.5	C	TR	0.19	34.5	C						
	WB	L	0.00	32.3	C	L	0.02	32.7	C						
		TR	0.01	32.4	C	TR	0.01	32.4	C						
Overall Intersection		-	**0.98**	**63.7**	E	-	**0.98**	**64.2**	E						
West Street (NYS Rt. 9A) at Liberty Street															
West Street (NYS Rt. 9A)	NB	TR	0.63	5.4	A	TR	0.63	5.4	A	TR	0.59	2.7	A	-	Modify signal timing (Shift 5 s from EB/WB phase to NB/SB phase)
	SB	TR	0.94	19.0	A	LTR	1.01	51.3	D	TR	0.95	17.0	B		
Liberty Street	EB	L	0.38	37.8	D	L	0.38	37.8	D	L	0.45	43.4	D		
		R	0.22	35.3	D	R	0.22	35.3	D	R	0.26	40.3	D		
		-	0.78	14.4	B	-	0.83	32.3	C	-	0.83	12.5	B		
West Street (NYS Rt.9A) at Brooklyn Battery Tunnel															
West Street (NYS Rt.9A)	NB	T	1.07	111.8	F	T	1.07	111.8	F					-	Mitigation not required.
		R	1.09	110.4	F	R	1.09	110.4	F						
	SB	TR	1.03	92.2	F	TR	1.03	92.2	F						
Brooklyn Battery Tunnel	EB	R	0.18	13.6	B	R	0.18	13.6	B						
	WB	L	1.09	221.6	F	L	1.09	221.6	F						
		R	0.91	151.4	F	R	0.92	153.2	F						
Overall Intersection		-	**1.09**	**130.0**	F	-	**1.09**	**130.3**	F						
Church Street at Vesey Street															
Church Street	NB	LT	0.63	10.1	B	LT	0.64	10.2	B					-	Mitigation not required.
		R	0.24	6.9	A	R	0.24	6.9	A						
Vesey Street	EB	LT	0.02	18.9	B	LT	0.04	19.1	B						
Overall Intersection		-	**0.40**	**9.8**	A	-	**0.41**	**10.0**	A						
Church Street at Fulton Street															
Church Street	NB	T	0.62	14.9	B	T	0.62	15.0	B					-	Mitigation not required.
Fulton Street	WB	R	0.24	20.9	C	R	0.24	20.9	C						
Overall Intersection		-	**0.47**	**15.6**	B	-	**0.47**	**15.7**	B						

PERMANENT WTC PATH TERMINAL EIS
PM COMPARISON OF 2006 NO ACTION vs 2006 PATH CONSTRUCTION

INTERSECTION & APPROACI		2006 NO ACTION (5:00 - 6:00 PM) Mvt.	V/C	Control Delay	LOS	CONSTRUCTION (5:00 - 6:00 PM) Mvt.	V/C	Control Delay	LOS	MITIGATED (5:00 - 6:00 PM) Mvt.	V/C	Control Delay	LOS	Mitigation Measures
SIGNALIZED INTERSECTIONS														
Church Street at Dey Street														
Church Street	NB	T	0.55	9.1	A	T	0.55	9.2	A					- Mitigation not required.
Dey Street	WB	R	0.00	24.2	C	R	0.00	24.2	C					
Overall Intersection		-	**0.39**	**9.1**	**A**	-	**0.40**	**9.2**	**A**					
Church Street at Cortlandt Street														
Church Street	NB	T	0.34	7.4	A	T	0.34	7.4	A					- Mitigation not required.
Cortlandt Street	WB	R	0.93	58.0	E	R	0.94	58.5	E					
Overall Intersection		-	**0.57**	**29.0**	**C**	-	**0.58**	**29.1**	**C**					
Church Street at Liberty Street														
Church Street	NB	T	0.34	7.4	A	T	0.34	7.4	A					- Mitigation not required.
		R	0.11	6.2	A	R	0.11	6.2	A					
Liberty Street	EB	LT	0.00	18.1	B	LT	0.01	18.2	B					
Overall Intersection		-	**0.20**	**7.2**	**A**	-	**0.21**	**7.3**	**A**					

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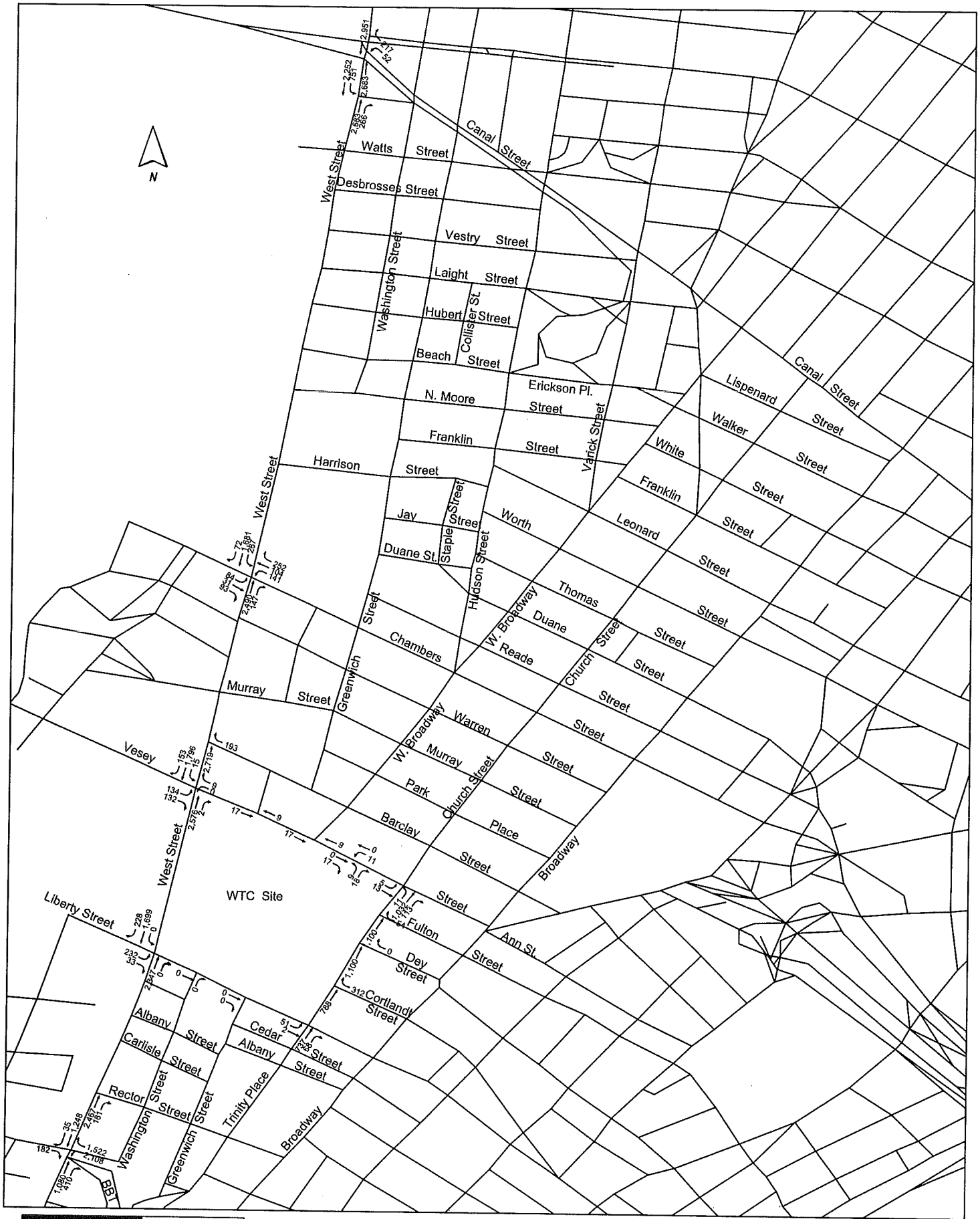
(ii): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle (sec/veh) for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(iii): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle (sec/veh) for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(iv): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.



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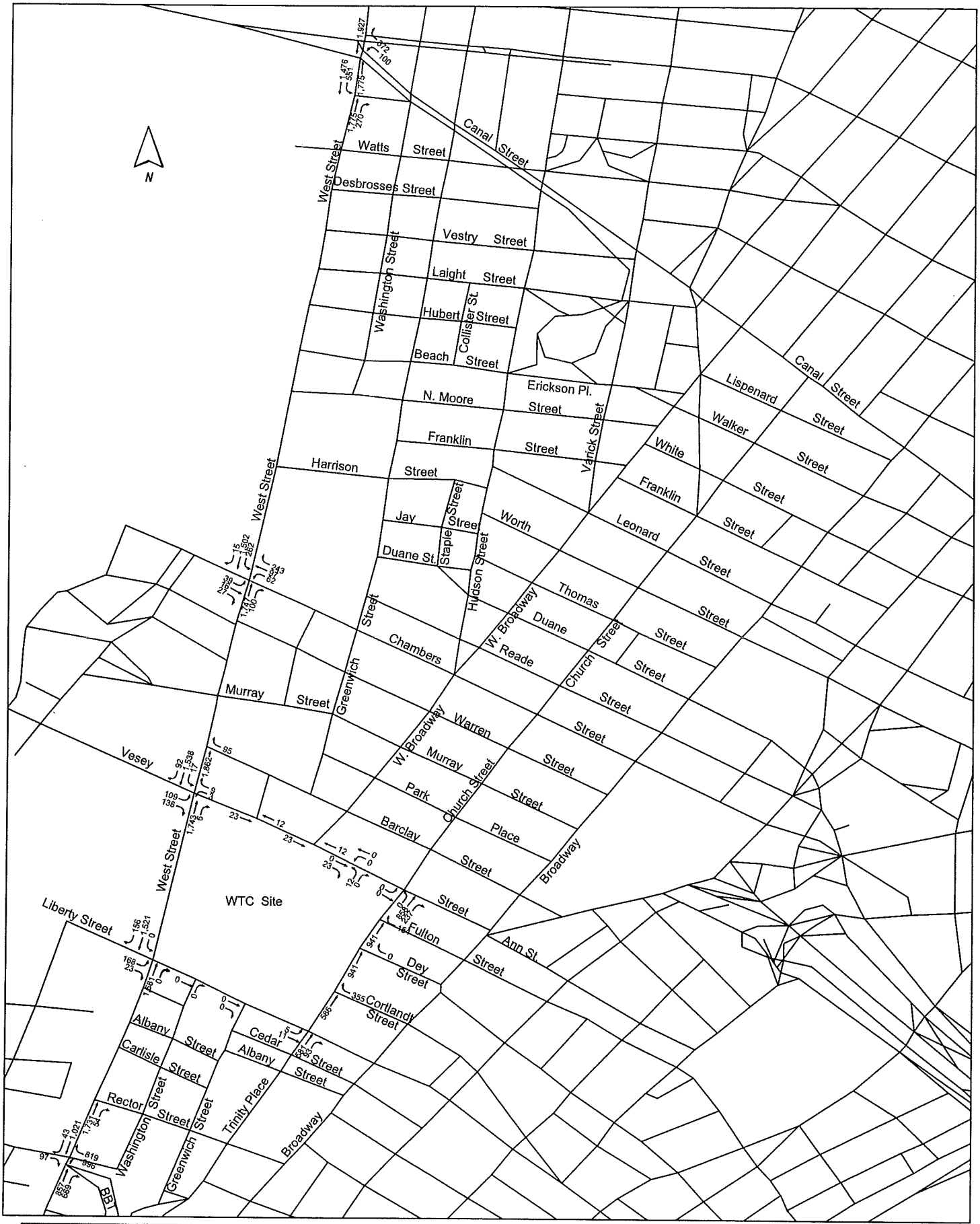
Traffic and Transportation Consultants

Permanent WTC PATH Terminal EIS
2006 AM Baseline Traffic Volumes
Figure A1



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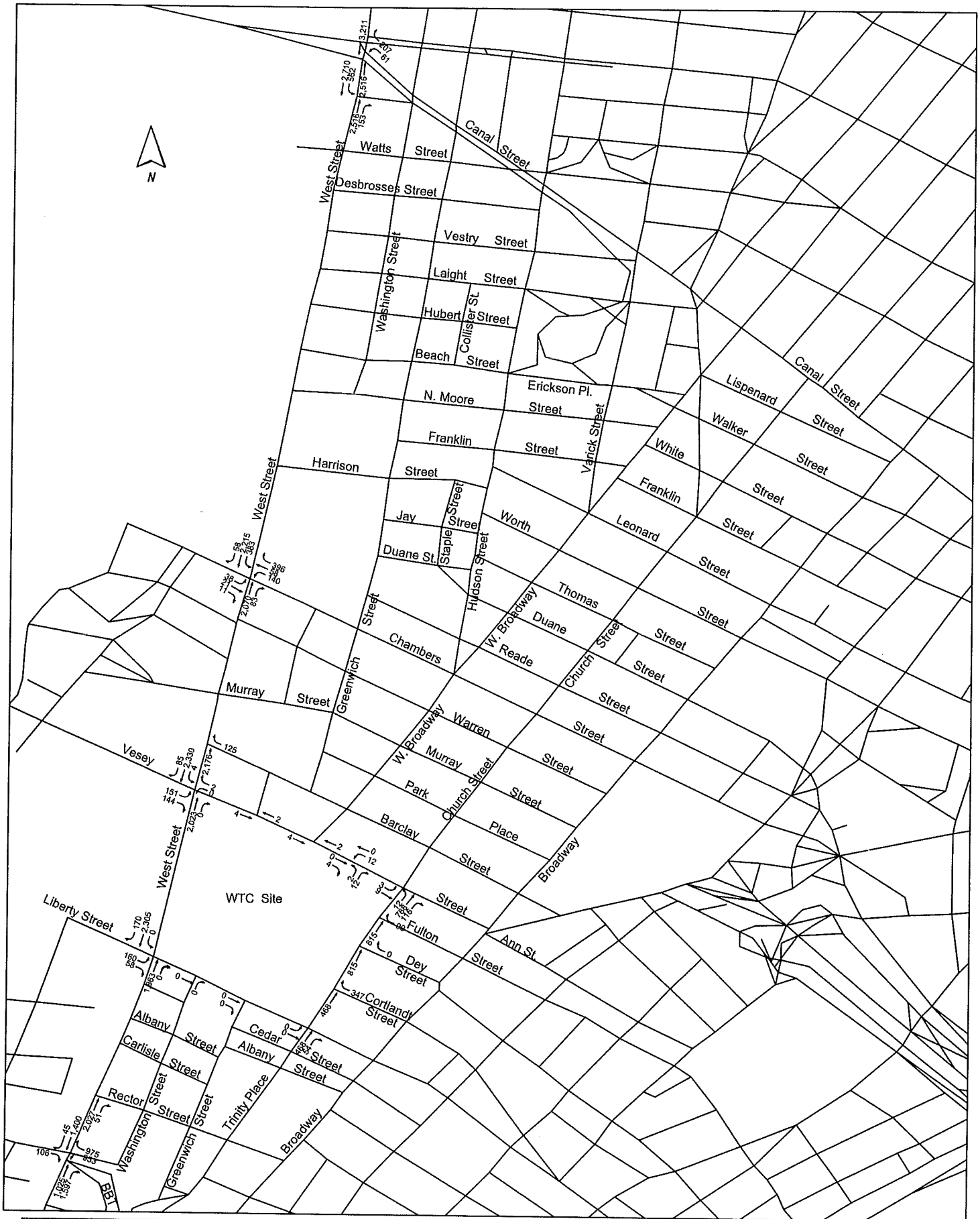
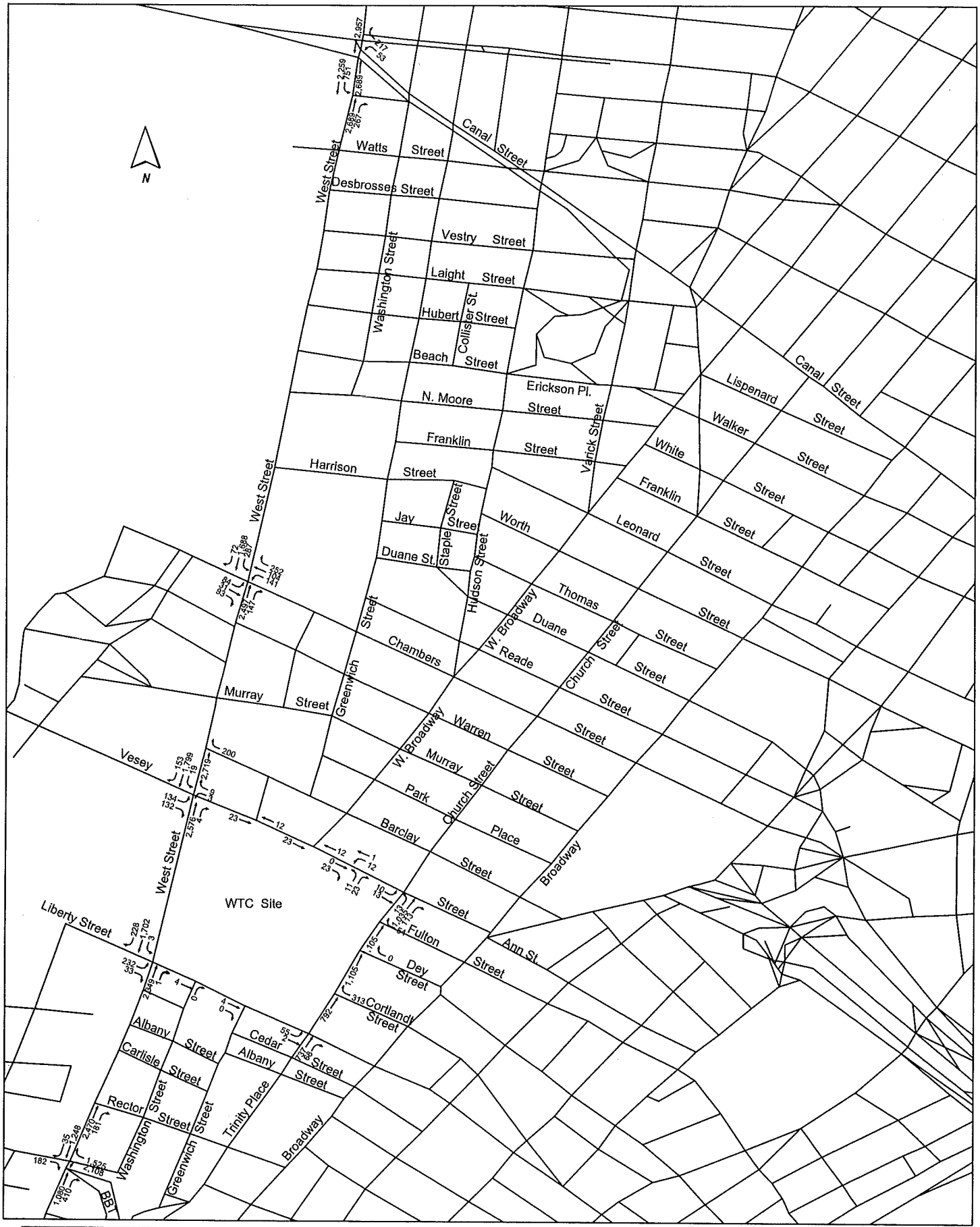
Traffic and Transportation Consultants

Permanent WTC PATH Terminal EIS
2006 Midday Baseline Traffic Volumes
Figure A2



Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Permanent WTC PATH Terminal EIS
2006 PM Baseline Traffic Volumes
Figure A3



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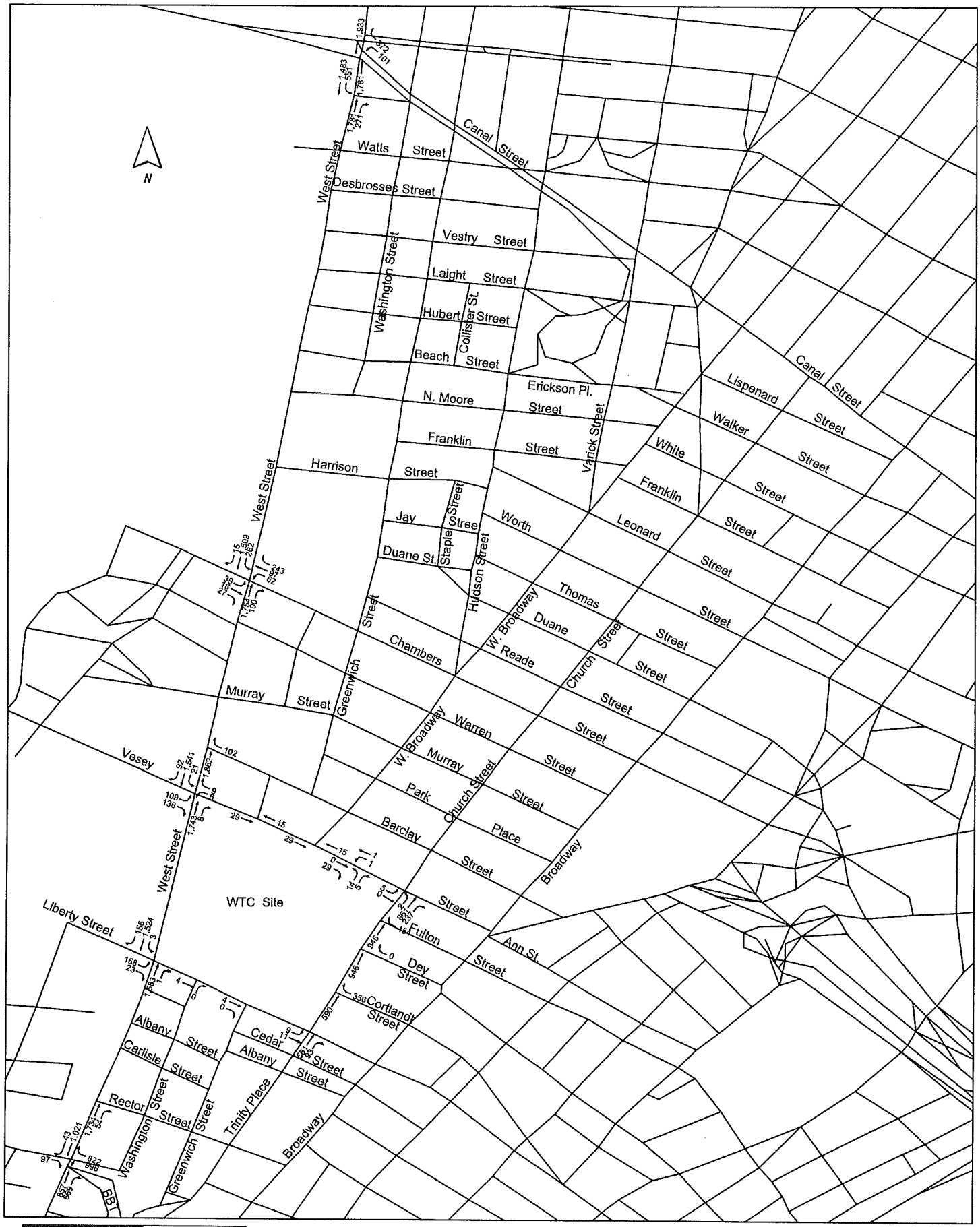
Permanent WTC PATH Terminal EIS
2006 AM Baseline with PATH Construction Volumes
Figure A4



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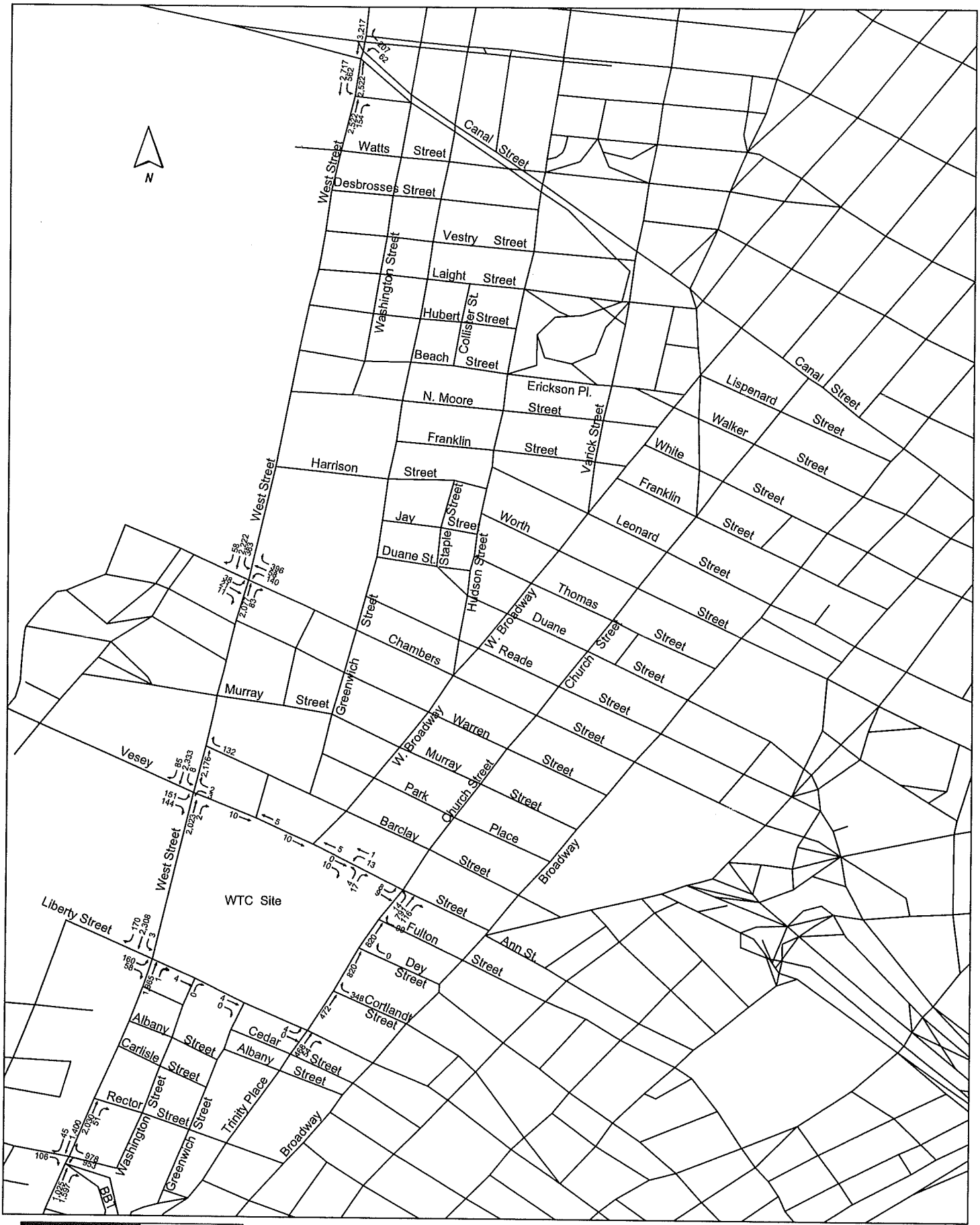
Permanent WTC PATH Terminal EIS
2006 Midday Baseline with PATH Construction Volumes
Figure A5



Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Permanent WTC PATH Terminal EIS
2006 PM Baseline with PATH Construction Volumes
Figure A6

Appendix C-4: Pedestrians

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Table 1
2006 Construction Period
No Action and Preferred Alternatives
Pedestrian Level of Service

Location 6:	Church Street and Vesey Street
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Location 10:	Church Street and Liberty Street

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 6: CHURCH STREET AT VESEY STREET
COMPARISON OF 2006 AM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northwest Corner	2006 PATH CONSTRUCTION CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 49.5 sq.ft./ped.	*Pedestrian Space* 49.5 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 14.8	North Crosswalk 14.8		
West Crosswalk 91.5	West Crosswalk 91.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 54 sq.ft./ped.	*North Crosswalk* 54 sq.ft./ped.		
West Crosswalk 5 sq.ft./ped.	*West Crosswalk* 5 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
West Crosswalk F	*West Crosswalk* F		
2006 NO ACTION CONDITIONS Northeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 56.8 sq.ft./ped.	*Pedestrian Space* 56.8 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 14.8	North Crosswalk 14.8		
East Crosswalk 13.0	East Crosswalk 13.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 54 sq.ft./ped.	*North Crosswalk* 54 sq.ft./ped.		
East Crosswalk 38 sq.ft./ped.	*East Crosswalk* 38 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk C	*East Crosswalk* C		
2006 NO ACTION CONDITIONS Southwest Corner	**2006 PATH CONSTRUCTION CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 20.7 sq.ft./ped.	*Pedestrian Space* 20.7 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 26.0	South Crosswalk 26.0		
West Crosswalk 91.5	West Crosswalk 91.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 26 sq.ft./ped.	*South Crosswalk* 26 sq.ft./ped.		
West Crosswalk 5 sq.ft./ped.	*West Crosswalk* 5 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* C		
West Crosswalk F	*West Crosswalk* F		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 47.3 sq.ft./ped.	*Pedestrian Space* 47.3 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 26.0	South Crosswalk 26.0		
East Crosswalk 13.0	East Crosswalk 13.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 26 sq.ft./ped.	*South Crosswalk* 26 sq.ft./ped.		
East Crosswalk 38 sq.ft./ped.	*East Crosswalk* 38 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* C		
East Crosswalk C	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS

STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE

LOCATION 6: CHURCH STREET AT VESEY STREET

COMPARISON OF 2006 MD PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northwest Corner	2006 PATH CONSTRUCTION CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 153.6 sq.ft./ped.	*Pedestrian Space* 153.6 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 14.0	North Crosswalk 14.0		
West Crosswalk 23.2	West Crosswalk 23.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 57 sq.ft./ped.	*North Crosswalk* 57 sq.ft./ped.		
West Crosswalk 18 sq.ft./ped.	*West Crosswalk* 18 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
West Crosswalk D	*West Crosswalk* D		
2006 NO ACTION CONDITIONS Northeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 48.9 sq.ft./ped.	*Pedestrian Space* 48.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 14.0	North Crosswalk 14.0		
East Crosswalk 16.8	East Crosswalk 16.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 57 sq.ft./ped.	*North Crosswalk* 57 sq.ft./ped.		
East Crosswalk 29 sq.ft./ped.	*East Crosswalk* 29 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk C	*East Crosswalk* C		
2006 NO ACTION CONDITIONS Southwest Corner	**2006 PATH CONSTRUCTION CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 105.8 sq.ft./ped.	*Pedestrian Space* 105.8 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 10.9	South Crosswalk 10.9		
West Crosswalk 23.2	West Crosswalk 23.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 63 sq.ft./ped.	*South Crosswalk* 63 sq.ft./ped.		
West Crosswalk 18 sq.ft./ped.	*West Crosswalk* 18 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
West Crosswalk D	*West Crosswalk* D		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 64.5 sq.ft./ped.	*Pedestrian Space* 64.5 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 10.9	South Crosswalk 10.9		
East Crosswalk 16.8	East Crosswalk 16.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 63 sq.ft./ped.	*South Crosswalk* 63 sq.ft./ped.		
East Crosswalk 29 sq.ft./ped.	*East Crosswalk* 29 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
East Crosswalk C	*East Crosswalk* C		

NOTE: ▒▒ Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 6: CHURCH STREET AT VESEY STREET
COMPARISON OF 2006 PM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northwest Corner	2006 PATH CONSTRUCTION CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 47.8 sq.ft./ped.	*Pedestrian Space 47.8 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 12.5	North Crosswalk 12.5		
West Crosswalk 83.3	West Crosswalk 83.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 64 sq.ft./ped.	*North Crosswalk 64 sq.ft./ped.*		
West Crosswalk 5 sq.ft./ped.	*West Crosswalk 5 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk B*		
West Crosswalk F	*West Crosswalk F*		
2006 NO ACTION CONDITIONS Northeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 54.6 sq.ft./ped.	*Pedestrian Space 54.6 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 12.5	North Crosswalk 12.5		
East Crosswalk 15.1	East Crosswalk 15.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 64 sq.ft./ped.	*North Crosswalk 64 sq.ft./ped.*		
East Crosswalk 33 sq.ft./ped.	*East Crosswalk 33 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk B*		
East Crosswalk C	*East Crosswalk C*		
2006 NO ACTION CONDITIONS Southwest Corner	**2006 PATH CONSTRUCTION CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 27.2 sq.ft./ped.	*Pedestrian Space 27.2 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS C*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 36.0	South Crosswalk 36.0		
West Crosswalk 83.3	West Crosswalk 83.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 19 sq.ft./ped.	*South Crosswalk 19 sq.ft./ped.*		
West Crosswalk 5 sq.ft./ped.	*West Crosswalk 5 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk D*		
West Crosswalk F	*West Crosswalk F*		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 34.9 sq.ft./ped.	*Pedestrian Space 34.9 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS C*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 36.0	South Crosswalk 36.0		
East Crosswalk 15.1	East Crosswalk 15.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 19 sq.ft./ped.	*South Crosswalk 19 sq.ft./ped.*		
East Crosswalk 33 sq.ft./ped.	*East Crosswalk 33 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk D*		
East Crosswalk C	*East Crosswalk C*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 7: CHURCH STREET AT FULTON STREET
COMPARISON OF 2006 AM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northeast Corner	2006 PATH CONSTRUCTION CONDITIONS Northeast Corner	2006 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 63.3 sq.ft./ped.	*Pedestrian Space* 63.3 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 9.2	North Crosswalk 9.2		
East Crosswalk 23.5	East Crosswalk 23.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 84 sq.ft./ped.	*North Crosswalk* 84 sq.ft./ped.		
East Crosswalk 18 sq.ft./ped.	*East Crosswalk* 18 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk D	*East Crosswalk* D		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 56.7 sq.ft./ped.	*Pedestrian Space* 56.7 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 27.7	South Crosswalk 27.7		
East Crosswalk 23.5	East Crosswalk 23.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 24 sq.ft./ped.	*South Crosswalk* 24 sq.ft./ped.		
East Crosswalk 18 sq.ft./ped.	*East Crosswalk* 18 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* D		
East Crosswalk D	*East Crosswalk* D		

NOTE: ▒▒ Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 7: CHURCH STREET AT FULTON STREET
COMPARISON OF 2006 MD PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northeast Corner	2006 PATH CONSTRUCTION CONDITIONS Northeast Corner	2006 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 72.6 sq.ft./ped.	*Pedestrian Space* 74.0 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 7.2	North Crosswalk 6.7		
East Crosswalk 22.0	East Crosswalk 19.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 107 sq.ft./ped.	*North Crosswalk* 115 sq.ft./ped.		
East Crosswalk 19 sq.ft./ped.	*East Crosswalk* 21 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk D	*East Crosswalk* D		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 89.9 sq.ft./ped.	*Pedestrian Space* 89.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 6.4	South Crosswalk 6.4		
East Crosswalk 22.0	East Crosswalk 22.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 103 sq.ft./ped.	*South Crosswalk* 103 sq.ft./ped.		
East Crosswalk 19 sq.ft./ped.	*East Crosswalk* 19 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
East Crosswalk D	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 7: CHURCH STREET AT FULTON STREET
COMPARISON OF 2006 PM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northeast Corner	2006 PATH CONSTRUCTION CONDITIONS Northeast Corner	2006 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 51.4 sq.ft./ped.	*Pedestrian Space* 53.0 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 6.9	North Crosswalk 6.5		
East Crosswalk 31.6	East Crosswalk 28.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 111 sq.ft./ped.	*North Crosswalk* 119 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 15 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk E	*East Crosswalk* E		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 46.7 sq.ft./ped.	*Pedestrian Space* 46.7 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 21.4	South Crosswalk 21.4		
East Crosswalk 31.6	East Crosswalk 31.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 31 sq.ft./ped.	*South Crosswalk* 31 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 13 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* C		
East Crosswalk E	*East Crosswalk* E		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 8: CHURCH STREET AT DEY STREET
COMPARISON OF 2006 AM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northeast Corner	2006 PATH CONSTRUCTION CONDITIONS Northeast Corner	2006 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 99.9 sq.ft./ped.	*Pedestrian Space* 99.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 14.1	North Crosswalk 14.1		
East Crosswalk 13.4	East Crosswalk 13.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 57 sq.ft./ped.	*North Crosswalk* 57 sq.ft./ped.		
East Crosswalk 27 sq.ft./ped.	*East Crosswalk* 27 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk C	*East Crosswalk* C		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 50.9 sq.ft./ped.	*Pedestrian Space* 50.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 39.8	South Crosswalk 39.8		
East Crosswalk 13.4	East Crosswalk 13.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 15 sq.ft./ped.	*South Crosswalk* 15 sq.ft./ped.		
East Crosswalk 27 sq.ft./ped.	*East Crosswalk* 27 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* D		
East Crosswalk C	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 8: CHURCH STREET AT DEY STREET
COMPARISON OF 2006 MD PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northeast Corner	2006 PATH CONSTRUCTION CONDITIONS Northeast Corner	2006 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 113.6 sq.ft./ped.	*Pedestrian Space* 113.6 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 5.4	North Crosswalk 5.4		
East Crosswalk 15.7	East Crosswalk 15.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 149 sq.ft./ped.	*North Crosswalk* 149 sq.ft./ped.		
East Crosswalk 23 sq.ft./ped.	*East Crosswalk* 23 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk A	*North Crosswalk* A		
East Crosswalk D	*East Crosswalk* D		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 70.7 sq.ft./ped.	*Pedestrian Space* 70.7 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 16.0	South Crosswalk 16.0		
East Crosswalk 15.7	East Crosswalk 15.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 38 sq.ft./ped.	*South Crosswalk* 38 sq.ft./ped.		
East Crosswalk 23 sq.ft./ped.	*East Crosswalk* 23 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* C		
East Crosswalk D	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 8: CHURCH STREET AT DEY STREET
COMPARISON OF 2006 PM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northeast Corner	2006 PATH CONSTRUCTION CONDITIONS Northeast Corner	2006 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 90.6 sq.ft./ped.	*Pedestrian Space* 90.6 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 13.1	North Crosswalk 13.1		
East Crosswalk 16.1	East Crosswalk 16.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 62 sq.ft./ped.	*North Crosswalk* 62 sq.ft./ped.		
East Crosswalk 22 sq.ft./ped.	*East Crosswalk* 22 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk D	*East Crosswalk* D		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 42.8 sq.ft./ped.	*Pedestrian Space* 42.8 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 34.6	South Crosswalk 34.6		
East Crosswalk 16.1	East Crosswalk 16.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 17 sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
East Crosswalk 22 sq.ft./ped.	*East Crosswalk* 22 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* D		
East Crosswalk D	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 9: CHURCH STREET AT CORTLANDT STREET
COMPARISON OF 2006 AM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northeast Corner	2006 PATH CONSTRUCTION CONDITIONS Northeast Corner	2006 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 183.9 sq.ft./ped.	*Pedestrian Space 183.9 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 8.6	North Crosswalk 8.6		
East Crosswalk 7.7	East Crosswalk 7.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 91 sq.ft./ped.	*North Crosswalk 91 sq.ft./ped.*		
East Crosswalk 73 sq.ft./ped.	*East Crosswalk 73 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk B*		
East Crosswalk B	*East Crosswalk B*		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 251.1 sq.ft./ped.	*Pedestrian Space 251.1 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 5.7	South Crosswalk 5.7		
East Crosswalk 7.7	East Crosswalk 7.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 88 sq.ft./ped.	*South Crosswalk 88 sq.ft./ped.*		
East Crosswalk 73 sq.ft./ped.	*East Crosswalk 73 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk B*		
East Crosswalk B	*East Crosswalk B*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 9: CHURCH STREET AT CORTLANDT STREET
COMPARISON OF 2006 MD PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northeast Corner	2006 PATH CONSTRUCTION CONDITIONS Northeast Corner	2006 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 80.2 sq.ft./ped.	*Pedestrian Space* 80.2 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 11.3	North Crosswalk 11.3		
East Crosswalk 22.9	East Crosswalk 22.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 69 sq.ft./ped.	*North Crosswalk* 69 sq.ft./ped.		
East Crosswalk 25 sq.ft./ped.	*East Crosswalk* 25 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk C	*East Crosswalk* C		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 88.0 sq.ft./ped.	*Pedestrian Space* 88.0 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 12.7	South Crosswalk 12.7		
East Crosswalk 22.9	East Crosswalk 22.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 39 sq.ft./ped.	*South Crosswalk* 39 sq.ft./ped.		
East Crosswalk 25 sq.ft./ped.	*East Crosswalk* 25 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* C		
East Crosswalk C	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 9: CHURCH STREET AT CORTLANDT STREET
COMPARISON OF 2006 PM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northeast Corner	2006 PATH CONSTRUCTION CONDITIONS Northeast Corner	2006 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 79.2 sq.ft./ped.	*Pedestrian Space* 79.2 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 14.1	North Crosswalk 14.1		
East Crosswalk 21.0	East Crosswalk 21.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 55 sq.ft./ped.	*North Crosswalk* 55 sq.ft./ped.		
East Crosswalk 27 sq.ft./ped.	*East Crosswalk* 27 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk C	*East Crosswalk* C		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 96.5 sq.ft./ped.	*Pedestrian Space* 96.5 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 10.7	South Crosswalk 10.7		
East Crosswalk 21.0	East Crosswalk 21.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 47 sq.ft./ped.	*South Crosswalk* 47 sq.ft./ped.		
East Crosswalk 27 sq.ft./ped.	*East Crosswalk* 27 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
East Crosswalk C	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET
COMPARISON OF 2006 AM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northwest Corner	2006 PATH CONSTRUCTION CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 34.0 sq.ft./ped.	*Pedestrian Space* 34.0 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 108.2	North Crosswalk 108.2		
West Crosswalk 84.6	West Crosswalk 84.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 7 sq.ft./ped.	*North Crosswalk* 7 sq.ft./ped.		
West Crosswalk 5 sq.ft./ped.	*West Crosswalk* 5 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* E		
West Crosswalk F	*West Crosswalk* F		
2006 NO ACTION CONDITIONS Northeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 19.6 sq.ft./ped.	*Pedestrian Space* 19.6 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 108.2	North Crosswalk 108.2		
East Crosswalk 15.9	East Crosswalk 15.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 7 sq.ft./ped.	*North Crosswalk* 7 sq.ft./ped.		
East Crosswalk 28 sq.ft./ped.	*East Crosswalk* 28 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* E		
East Crosswalk C	*East Crosswalk* C		
2006 NO ACTION CONDITIONS Southwest Corner	**2006 PATH CONSTRUCTION CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 12.0 sq.ft./ped.	*Pedestrian Space* 12.0 sq.ft./ped.		
Pedestrian LOS E	*Pedestrian LOS* E		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 31.0	South Crosswalk 31.0		
West Crosswalk 84.6	West Crosswalk 84.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 29 sq.ft./ped.	*South Crosswalk* 29 sq.ft./ped.		
West Crosswalk 5 sq.ft./ped.	*West Crosswalk* 5 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* C		
West Crosswalk F	*West Crosswalk* F		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 62.8 sq.ft./ped.	*Pedestrian Space* 62.8 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 31.0	South Crosswalk 31.0		
East Crosswalk 15.9	East Crosswalk 15.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 29 sq.ft./ped.	*South Crosswalk* 29 sq.ft./ped.		
East Crosswalk 28 sq.ft./ped.	*East Crosswalk* 28 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* C		
East Crosswalk C	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET
COMPARISON OF 2006 MD PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northwest Corner	2006 PATH CONSTRUCTION CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 249.8 sq.ft./ped.	*Pedestrian Space* 249.8 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 20.2	North Crosswalk 20.2		
West Crosswalk 17.1	West Crosswalk 17.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 38 sq.ft./ped.	*North Crosswalk* 38 sq.ft./ped.		
West Crosswalk 26 sq.ft./ped.	*West Crosswalk* 26 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* C		
West Crosswalk C	*West Crosswalk* C		
2006 NO ACTION CONDITIONS Northeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 88.9 sq.ft./ped.	*Pedestrian Space* 88.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 20.2	North Crosswalk 20.2		
East Crosswalk 7.4	East Crosswalk 7.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 38 sq.ft./ped.	*North Crosswalk* 38 sq.ft./ped.		
East Crosswalk 59 sq.ft./ped.	*East Crosswalk* 59 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* C		
East Crosswalk B	*East Crosswalk* B		
2006 NO ACTION CONDITIONS Southwest Corner	**2006 PATH CONSTRUCTION CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 68.1 sq.ft./ped.	*Pedestrian Space* 68.1 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 12.6	South Crosswalk 12.6		
West Crosswalk 10.3	West Crosswalk 10.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 71 sq.ft./ped.	*South Crosswalk* 71 sq.ft./ped.		
West Crosswalk 43 sq.ft./ped.	*West Crosswalk* 43 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
West Crosswalk B	*West Crosswalk* B		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 164.3 sq.ft./ped.	*Pedestrian Space* 164.3 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 12.7	South Crosswalk 12.7		
East Crosswalk 7.4	East Crosswalk 7.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 71 sq.ft./ped.	*South Crosswalk* 71 sq.ft./ped.		
East Crosswalk 59 sq.ft./ped.	*East Crosswalk* 59 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
East Crosswalk B	*East Crosswalk* B		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET
COMPARISON OF 2006 PM PEAK HOUR NO ACTION vs. PATH CONSTRUCTION vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2006 NO ACTION CONDITIONS Northwest Corner	2006 PATH CONSTRUCTION CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 79.2 sq.ft./ped.	*Pedestrian Space* 79.2 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 66.7	North Crosswalk 66.7		
West Crosswalk 52.0	West Crosswalk 52.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 11 sq.ft./ped.	*North Crosswalk* 11 sq.ft./ped.		
West Crosswalk 8 sq.ft./ped.	*West Crosswalk* 8 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* E		
West Crosswalk E	*West Crosswalk* E		
2006 NO ACTION CONDITIONS Northeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 15.5 sq.ft./ped.	*Pedestrian Space* 15.5 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 66.7	North Crosswalk 66.7		
East Crosswalk 21.1	East Crosswalk 21.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 11 sq.ft./ped.	*North Crosswalk* 11 sq.ft./ped.		
East Crosswalk 21 sq.ft./ped.	*East Crosswalk* 21 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* E		
East Crosswalk D	*East Crosswalk* D		
2006 NO ACTION CONDITIONS Southwest Corner	**2006 PATH CONSTRUCTION CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 11.6 sq.ft./ped.	*Pedestrian Space* 11.6 sq.ft./ped.		
Pedestrian LOS E	*Pedestrian LOS* E		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 18.6	South Crosswalk 18.6		
West Crosswalk 52.0	West Crosswalk 52.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 48 sq.ft./ped.	*South Crosswalk* 48 sq.ft./ped.		
West Crosswalk 8 sq.ft./ped.	*West Crosswalk* 8 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
West Crosswalk E	*West Crosswalk* E		
2006 NO ACTION CONDITIONS Southeast Corner	**2006 PATH CONSTRUCTION CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 75.3 sq.ft./ped.	*Pedestrian Space* 75.3 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 18.6	South Crosswalk 18.6		
East Crosswalk 21.1	East Crosswalk 21.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 48 sq.ft./ped.	*South Crosswalk* 48 sq.ft./ped.		
East Crosswalk 21 sq.ft./ped.	*East Crosswalk* 21 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
East Crosswalk D	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

Table 2
2009 Opening Year
No Action and Preferred Alternatives
Pedestrian Level of Service

Location 1:	Route 9A and Vesey Street
Location 2:	Route 9A and Liberty Street
Location 3:	West Broadway and Vesey Street
Location 4:	Greenwich Street and Liberty Street
Location 6:	Church Street and Vesey Street
Location 7:	Church Street and Fulton Street
Location 8:	Church Street and Dey Street
Location 9:	Church Street and Cortlandt Street
Location 10:	Church Street and Liberty Street
Location 11:	Greenwich Street and Fulton Street
Location 12:	Greenwich Street and Cortlandt Street Midblock

PATH TERMINAL EIS

STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE

LOCATION 1: WEST STREET (RTE 9A) AT VESEY STREET

COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 203.7 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 4.5	North Crosswalk 84.4		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 632 sq.ft./ped.	*North Crosswalk 28 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk A	*North Crosswalk C*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 193.6 sq.ft./ped.	*Pedestrian Space 21.8 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS D*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 4.5	North Crosswalk 84.4		
East Crosswalk 0.0	East Crosswalk 17.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 632 sq.ft./ped.	*North Crosswalk 28 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 51 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk A	*North Crosswalk C*		
East Crosswalk ####	*East Crosswalk B*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 17.6	South Crosswalk 7.5		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 175 sq.ft./ped.	*South Crosswalk 284 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk A*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 230.8 sq.ft./ped.	*Pedestrian Space -11.5 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 17.6	South Crosswalk 7.5		
East Crosswalk 0.0	East Crosswalk 17.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 175 sq.ft./ped.	*South Crosswalk 284 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 51 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk A*		
East Crosswalk ####	*East Crosswalk B*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 1: WEST STREET (RTE 9A) AT VESEY STREET
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED BUILD CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space ### sq.ft./ped.	*Pedestrian Space 203.1 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 3.2	North Crosswalk 81.1		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 903 sq.ft./ped.	*North Crosswalk 29 sq.ft./ped.*		
West Crosswalk ### sq.ft./ped.	*West Crosswalk ### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk A	*North Crosswalk C*		
West Crosswalk ###	*West Crosswalk ###*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED BUILD CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 308.7 sq.ft./ped.	*Pedestrian Space 10.6 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS E*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 3.2	North Crosswalk 81.1		
East Crosswalk 0.0	East Crosswalk 84.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 903 sq.ft./ped.	*North Crosswalk 29 sq.ft./ped.*		
East Crosswalk ### sq.ft./ped.	*East Crosswalk 11 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk A	*North Crosswalk C*		
East Crosswalk ###	*East Crosswalk E*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED BUILD CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space ### sq.ft./ped.	*Pedestrian Space 366.7 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 12.2	South Crosswalk 43.4		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 254 sq.ft./ped.	*South Crosswalk 49 sq.ft./ped.*		
West Crosswalk ### sq.ft./ped.	*West Crosswalk ### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk B*		
West Crosswalk ###	*West Crosswalk ###*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED BUILD CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 321.6 sq.ft./ped.	*Pedestrian Space -12.3 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 12.2	South Crosswalk 43.4		
East Crosswalk 0.0	East Crosswalk 84.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 254 sq.ft./ped.	*South Crosswalk 49 sq.ft./ped.*		
East Crosswalk ### sq.ft./ped.	*East Crosswalk 11 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk B*		
East Crosswalk ###	*East Crosswalk E*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 1: WEST STREET (RTE 9A) AT VESEY STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED BUILD CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 232.5 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 3.8	North Crosswalk 70.6		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 759 sq.ft./ped.	*North Crosswalk 33 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk A	*North Crosswalk C*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED BUILD CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 264.4 sq.ft./ped.	*Pedestrian Space 35.8 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS C*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 3.8	North Crosswalk 70.6		
East Crosswalk 0.0	East Crosswalk 19.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 759 sq.ft./ped.	*North Crosswalk 33 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 47 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk A	*North Crosswalk C*		
East Crosswalk ####	*East Crosswalk B*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED BUILD CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 14.8	South Crosswalk 7.1		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 209 sq.ft./ped.	*South Crosswalk 298 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk A*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED BUILD CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 251.0 sq.ft./ped.	*Pedestrian Space -15.4 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 14.8	South Crosswalk 7.1		
East Crosswalk 0.0	East Crosswalk 19.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 209 sq.ft./ped.	*South Crosswalk 298 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 47 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk A*		
East Crosswalk ####	*East Crosswalk B*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 2: WEST STREET (RTE 9A) AT LIBERTY STREET
COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 114.6 sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 38.2	North Crosswalk 1.9		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 32 sq.ft./ped.	*North Crosswalk 1112 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk A*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 50.2 sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 38.2	North Crosswalk 1.9		
East Crosswalk 0.0	East Crosswalk 0.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 32 sq.ft./ped.	*North Crosswalk 1112 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 888 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk A*		
East Crosswalk ####	*East Crosswalk A*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 285.1 sq.ft./ped.	*Pedestrian Space 208.6 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 9.6	South Crosswalk 100.6		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 127 sq.ft./ped.	*South Crosswalk 25 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk C*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 367.2 sq.ft./ped.	*Pedestrian Space -14.8 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 9.6	South Crosswalk 100.6		
East Crosswalk 0.0	East Crosswalk 0.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 127 sq.ft./ped.	*South Crosswalk 25 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 888 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk C*		
East Crosswalk ####	*East Crosswalk A*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 2: WEST STREET (RTE 9A) AT LIBERTY STREET
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED BUILD CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 170.1 sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *27.3*	North Crosswalk *3.1*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 45 sq.ft./ped.	*North Crosswalk 695 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk A*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED BUILD CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 78.3 sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *27.3*	North Crosswalk *3.1*		
East Crosswalk *0.0*	East Crosswalk *6.4*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 45 sq.ft./ped.	*North Crosswalk 695 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 118 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk A*		
East Crosswalk ####	*East Crosswalk B*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED BUILD CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 406.9 sq.ft./ped.	*Pedestrian Space 312.1 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *6.8*	South Crosswalk *68.5*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 178 sq.ft./ped.	*South Crosswalk 36 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk C*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED BUILD CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 523.5 sq.ft./ped.	*Pedestrian Space -11.2 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *6.8*	South Crosswalk *68.5*		
East Crosswalk *0.0*	East Crosswalk *6.4*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 178 sq.ft./ped.	*South Crosswalk 36 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 118 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk C*		
East Crosswalk ####	*East Crosswalk B*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 2: WEST STREET (RTE 9A) AT LIBERTY STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED BUILD CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 108.6 sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk *38.1*	North Crosswalk *3.3*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 32 sq.ft./ped.	*North Crosswalk 641 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk A*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED BUILD CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 56.9 sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk *38.1*	North Crosswalk *3.3*		
East Crosswalk *0.0*	East Crosswalk *1.5*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 32 sq.ft./ped.	*North Crosswalk 641 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 488 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk A*		
East Crosswalk ####	*East Crosswalk A*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED BUILD CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 295.6 sq.ft./ped.	*Pedestrian Space 206.5 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk *9.5*	South Crosswalk *104.3*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 128 sq.ft./ped.	*South Crosswalk 24 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk D*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED BUILD CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 263.8 sq.ft./ped.	*Pedestrian Space -20.6 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk *12.4*	South Crosswalk *104.3*		
East Crosswalk *0.0*	East Crosswalk *1.5*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 98 sq.ft./ped.	*South Crosswalk 24 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 488 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk D*		
East Crosswalk ####	*East Crosswalk A*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 3: W. BROADWAY AT VESEY STREET
COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 88.7 sq.ft./ped.	*Pedestrian Space* -6.7 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 108.9		
West Crosswalk 16.6	West Crosswalk 36.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 7 sq.ft./ped.		
West Crosswalk 52 sq.ft./ped.	*West Crosswalk* 18 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* E		
West Crosswalk B	*West Crosswalk* D		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 105.8 sq.ft./ped.	*Pedestrian Space* 22.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 108.9		
East Crosswalk 36.5	East Crosswalk 32.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 7 sq.ft./ped.		
East Crosswalk 30 sq.ft./ped.	*East Crosswalk* 20 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* E		
East Crosswalk C	*East Crosswalk* D		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -11.7 sq.ft./ped.	*Pedestrian Space* -3.6 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 28.9		
West Crosswalk 16.6	West Crosswalk 36.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 23 sq.ft./ped.		
West Crosswalk 52 sq.ft./ped.	*West Crosswalk* 18 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* D		
West Crosswalk B	*West Crosswalk* D		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -11.7 sq.ft./ped.	*Pedestrian Space* -14.1 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 28.9		
East Crosswalk 34.9	East Crosswalk 32.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 23 sq.ft./ped.		
East Crosswalk 26 sq.ft./ped.	*East Crosswalk* 20 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* D		
East Crosswalk C	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 3: W. BROADWAY AT VESEY STREET
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 96.1 sq.ft./ped.	*Pedestrian Space -9.5 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 84.1		
West Crosswalk 14.9	West Crosswalk 73.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 9 sq.ft./ped.*		
West Crosswalk 58 sq.ft./ped.	*West Crosswalk 9 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk E*		
West Crosswalk B	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 127.5 sq.ft./ped.	*Pedestrian Space 32.7 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS C*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 84.1		
East Crosswalk 29.8	East Crosswalk 41.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 9 sq.ft./ped.*		
East Crosswalk 37 sq.ft./ped.	*East Crosswalk 16 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk E*		
East Crosswalk C	*East Crosswalk D*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -8.3 sq.ft./ped.	*Pedestrian Space -7.2 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 61.0		
West Crosswalk 14.9	West Crosswalk 73.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 11 sq.ft./ped.*		
West Crosswalk 58 sq.ft./ped.	*West Crosswalk 9 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk E*		
West Crosswalk B	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -8.3 sq.ft./ped.	*Pedestrian Space -11.1 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 61.0		
East Crosswalk 14.9	East Crosswalk 41.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 11 sq.ft./ped.*		
East Crosswalk 58 sq.ft./ped.	*East Crosswalk 16 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk E*		
East Crosswalk B	*East Crosswalk D*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 3: W. BROADWAY AT VESEY STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 62.1 sq.ft./ped.	*Pedestrian Space -15.9 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 96.8		
West Crosswalk 20.9	West Crosswalk 45.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 7 sq.ft./ped.*		
West Crosswalk 41 sq.ft./ped.	*West Crosswalk 14 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk E*		
West Crosswalk B	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 100.0 sq.ft./ped.	*Pedestrian Space 38.0 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS C*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 96.8		
East Crosswalk 36.0	East Crosswalk 29.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 7 sq.ft./ped.*		
East Crosswalk 31 sq.ft./ped.	*East Crosswalk 22 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk E*		
East Crosswalk C	*East Crosswalk D*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -4.4 sq.ft./ped.	*Pedestrian Space -10.4 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 30.9		
West Crosswalk 20.9	West Crosswalk 45.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 21 sq.ft./ped.*		
West Crosswalk 41 sq.ft./ped.	*West Crosswalk 14 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
West Crosswalk B	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -4.4 sq.ft./ped.	*Pedestrian Space -3.5 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 30.9		
East Crosswalk 36.0	East Crosswalk 29.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 21 sq.ft./ped.*		
East Crosswalk 31 sq.ft./ped.	*East Crosswalk 22 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
East Crosswalk C	*East Crosswalk D*		

NOTE: Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 4: GREENWICH STREET AT LIBERTY STREET
COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 0.0 sq.ft./ped.	*Pedestrian Space 277.2 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 5.0		
West Crosswalk 1.2	West Crosswalk 20.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 149 sq.ft./ped.*		
West Crosswalk 250 sq.ft./ped.	*West Crosswalk 24 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk A*		
West Crosswalk A	*West Crosswalk D*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 0.0 sq.ft./ped.	*Pedestrian Space 260.3 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 5.0		
East Crosswalk 5.0	East Crosswalk 10.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 149 sq.ft./ped.*		
East Crosswalk 105 sq.ft./ped.	*East Crosswalk 48 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk A*		
East Crosswalk B	*East Crosswalk B*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 304.1 sq.ft./ped.	*Pedestrian Space -11.6 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 35.2		
West Crosswalk 1.2	West Crosswalk 20.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 16 sq.ft./ped.*		
West Crosswalk 250 sq.ft./ped.	*West Crosswalk 24 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
West Crosswalk A	*West Crosswalk D*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 120.9 sq.ft./ped.	*Pedestrian Space 95.6 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 35.2		
East Crosswalk 5.0	East Crosswalk 10.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 16 sq.ft./ped.*		
East Crosswalk 105 sq.ft./ped.	*East Crosswalk 48 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
East Crosswalk B	*East Crosswalk B*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 4: GREENWICH STREET AT LIBERTY STREET
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 0.0 sq.ft./ped.	*Pedestrian Space 134.1 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 6.0		
West Crosswalk 1.1	West Crosswalk 44.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 125 sq.ft./ped.*		
West Crosswalk 275 sq.ft./ped.	*West Crosswalk 11 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk B*		
West Crosswalk A	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 0.0 sq.ft./ped.	*Pedestrian Space 150.6 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 6.0		
East Crosswalk 3.6	East Crosswalk 20.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 125 sq.ft./ped.*		
East Crosswalk 145 sq.ft./ped.	*East Crosswalk 26 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk B*		
East Crosswalk A	*East Crosswalk C*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 334.1 sq.ft./ped.	*Pedestrian Space -9.0 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 25.2		
West Crosswalk 1.1	West Crosswalk 44.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 23 sq.ft./ped.*		
West Crosswalk 275 sq.ft./ped.	*West Crosswalk 11 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
West Crosswalk A	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 166.9 sq.ft./ped.	*Pedestrian Space 92.2 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 25.2		
East Crosswalk 3.6	East Crosswalk 20.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 23 sq.ft./ped.*		
East Crosswalk 145 sq.ft./ped.	*East Crosswalk 26 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
East Crosswalk A	*East Crosswalk C*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 4: GREENWICH STREET AT LIBERTY STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 0.0 sq.ft./ped.	*Pedestrian Space 288.5 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 3.7		
West Crosswalk 1.0	West Crosswalk 20.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 202 sq.ft./ped.*		
West Crosswalk 305 sq.ft./ped.	*West Crosswalk 25 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk A*		
West Crosswalk A	*West Crosswalk C*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 0.0 sq.ft./ped.	*Pedestrian Space 302.4 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 3.7		
East Crosswalk 2.9	East Crosswalk 9.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 202 sq.ft./ped.*		
East Crosswalk 183 sq.ft./ped.	*East Crosswalk 54 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk A*		
East Crosswalk A	*East Crosswalk B*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 370.6 sq.ft./ped.	*Pedestrian Space -6.0 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 34.1		
West Crosswalk 1.0	West Crosswalk 20.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 17 sq.ft./ped.*		
West Crosswalk 305 sq.ft./ped.	*West Crosswalk 25 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
West Crosswalk A	*West Crosswalk C*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 210.9 sq.ft./ped.	*Pedestrian Space 100.7 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 34.1		
East Crosswalk 2.9	East Crosswalk 9.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 17 sq.ft./ped.*		
East Crosswalk 183 sq.ft./ped.	*East Crosswalk 54 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
East Crosswalk A	*East Crosswalk B*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS

STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE

LOCATION 6: CHURCH STREET AT VESEY STREET

COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 76.1 sq.ft./ped.	*Pedestrian Space* 30.5 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 18.0	North Crosswalk 47.1		
West Crosswalk 40.5	West Crosswalk 44.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 41 sq.ft./ped.	*North Crosswalk* 18 sq.ft./ped.		
West Crosswalk 14 sq.ft./ped.	*West Crosswalk* 17 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* D		
West Crosswalk E	*West Crosswalk* D		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 55.3 sq.ft./ped.	*Pedestrian Space* 21.5 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 18.0	North Crosswalk 47.1		
East Crosswalk 15.4	East Crosswalk 32.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 41 sq.ft./ped.	*North Crosswalk* 18 sq.ft./ped.		
East Crosswalk 22 sq.ft./ped.	*East Crosswalk* 13 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* D		
East Crosswalk D	*East Crosswalk* E		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 18.1 sq.ft./ped.	*Pedestrian Space* 86.6 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 21.4	South Crosswalk 35.4		
West Crosswalk 40.5	West Crosswalk 44.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 31 sq.ft./ped.	*South Crosswalk* 21 sq.ft./ped.		
West Crosswalk 14 sq.ft./ped.	*West Crosswalk* 17 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* D		
West Crosswalk E	*West Crosswalk* D		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 63.6 sq.ft./ped.	*Pedestrian Space* 33.0 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 21.4	South Crosswalk 35.4		
East Crosswalk 15.4	East Crosswalk 32.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 31 sq.ft./ped.	*South Crosswalk* 21 sq.ft./ped.		
East Crosswalk 22 sq.ft./ped.	*East Crosswalk* 13 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* D		
East Crosswalk D	*East Crosswalk* E		

NOTE: [ ] Indicate Significant Impact.

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STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE

LOCATION 6: CHURCH STREET AT VESEY STREET

COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 52.1 sq.ft./ped.	*Pedestrian Space* 37.6 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 20.7	North Crosswalk 32.5		
West Crosswalk 58.2	West Crosswalk 34.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 36 sq.ft./ped.	*North Crosswalk* 26 sq.ft./ped.		
West Crosswalk 9 sq.ft./ped.	*West Crosswalk* 22 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* C		
West Crosswalk E	*West Crosswalk* D		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 37.5 sq.ft./ped.	*Pedestrian Space* 33.2 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 20.7	North Crosswalk 32.5		
East Crosswalk 25.6	East Crosswalk 29.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 36 sq.ft./ped.	*North Crosswalk* 26 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 14 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* C		
East Crosswalk E	*East Crosswalk* E		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 13.2 sq.ft./ped.	*Pedestrian Space* 108.0 sq.ft./ped.		
Pedestrian LOS E	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 23.4	South Crosswalk 32.8		
West Crosswalk 58.2	West Crosswalk 34.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 28 sq.ft./ped.	*South Crosswalk* 23 sq.ft./ped.		
West Crosswalk 10 sq.ft./ped.	*West Crosswalk* 22 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* D		
West Crosswalk E	*West Crosswalk* D		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 43.8 sq.ft./ped.	*Pedestrian Space* 38.7 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 23.4	South Crosswalk 32.8		
East Crosswalk 25.6	East Crosswalk 29.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 28 sq.ft./ped.	*South Crosswalk* 23 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 14 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* D		
East Crosswalk E	*East Crosswalk* E		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 6: CHURCH STREET AT VESEY STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 71.5 sq.ft./ped.	*Pedestrian Space* 16.4 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 14.2	North Crosswalk 40.7		
West Crosswalk 43.9	West Crosswalk 69.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 52 sq.ft./ped.	*North Crosswalk* 21 sq.ft./ped.		
West Crosswalk 13 sq.ft./ped.	*West Crosswalk* 11 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* D		
West Crosswalk E	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 64.2 sq.ft./ped.	*Pedestrian Space* 28.1 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 14.2	North Crosswalk 40.7		
East Crosswalk 15.5	East Crosswalk 34.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 52 sq.ft./ped.	*North Crosswalk* 21 sq.ft./ped.		
East Crosswalk 22 sq.ft./ped.	*East Crosswalk* 12 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* D		
East Crosswalk D	*East Crosswalk* E		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 18.1 sq.ft./ped.	*Pedestrian Space* 57.1 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 28.0	South Crosswalk 48.0		
West Crosswalk 43.9	West Crosswalk 69.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 24 sq.ft./ped.	*South Crosswalk* 16 sq.ft./ped.		
West Crosswalk 13 sq.ft./ped.	*West Crosswalk* 11 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* D		
West Crosswalk E	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 51.1 sq.ft./ped.	*Pedestrian Space* 29.5 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 28.0	South Crosswalk 48.0		
East Crosswalk 15.5	East Crosswalk 34.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 24 sq.ft./ped.	*South Crosswalk* 16 sq.ft./ped.		
East Crosswalk 22 sq.ft./ped.	*East Crosswalk* 12 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* D		
East Crosswalk D	*East Crosswalk* E		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 7: CHURCH STREET AT FULTON STREET
COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -10.2 sq.ft./ped.	*Pedestrian Space* -3.7 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 23.9	North Crosswalk 12.2		
West Crosswalk 0.0	West Crosswalk 11.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 32 sq.ft./ped.	*North Crosswalk* 62 sq.ft./ped.		
West Crosswalk ##### sq.ft./ped.	*West Crosswalk* 40 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* B		
West Crosswalk #####	*West Crosswalk* C		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 42.4 sq.ft./ped.	*Pedestrian Space* 73.0 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 23.9	North Crosswalk 12.2		
East Crosswalk 33.1	East Crosswalk 24.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 32 sq.ft./ped.	*North Crosswalk* 62 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 15 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* B		
East Crosswalk E	*East Crosswalk* D		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -10.5 sq.ft./ped.	*Pedestrian Space* -6.4 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 86.7	South Crosswalk 17.0		
West Crosswalk 0.0	West Crosswalk 11.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk* 44 sq.ft./ped.		
West Crosswalk ##### sq.ft./ped.	*West Crosswalk* 40 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* B		
West Crosswalk #####	*West Crosswalk* C		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 27.7 sq.ft./ped.	*Pedestrian Space* 505.6 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 86.7	South Crosswalk 17.0		
East Crosswalk 33.1	East Crosswalk 24.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk* 44 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 15 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* B		
East Crosswalk E	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 7: CHURCH STREET AT FULTON STREET
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -18.9 sq.ft./ped.	*Pedestrian Space -8.2 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *24.2*	North Crosswalk *25.5*		
West Crosswalk *0.0*	West Crosswalk *21.3*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 32 sq.ft./ped.	*North Crosswalk 29 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 21 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk C*		
West Crosswalk ####	*West Crosswalk D*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 48.1 sq.ft./ped.	*Pedestrian Space 59.0 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *24.2*	North Crosswalk *25.5*		
East Crosswalk *31.0*	East Crosswalk *23.9*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 32 sq.ft./ped.	*North Crosswalk 29 sq.ft./ped.*		
East Crosswalk 14 sq.ft./ped.	*East Crosswalk 16 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk C*		
East Crosswalk E	*East Crosswalk D*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -17.6 sq.ft./ped.	*Pedestrian Space -8.6 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *46.6*	South Crosswalk *25.5*		
West Crosswalk *0.0*	West Crosswalk *21.3*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 14 sq.ft./ped.	*South Crosswalk 29 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 21 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk C*		
West Crosswalk ####	*West Crosswalk D*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 49.2 sq.ft./ped.	*Pedestrian Space 442.4 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *46.6*	South Crosswalk *25.5*		
East Crosswalk *31.0*	East Crosswalk *23.9*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 14 sq.ft./ped.	*South Crosswalk 29 sq.ft./ped.*		
East Crosswalk 14 sq.ft./ped.	*East Crosswalk 16 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk C*		
East Crosswalk E	*East Crosswalk D*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 7: CHURCH STREET AT FULTON STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -24.1 sq.ft./ped.	*Pedestrian Space -12.6 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *22.8*	North Crosswalk *14.9*		
West Crosswalk *0.0*	West Crosswalk *10.6*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 34 sq.ft./ped.	*North Crosswalk 50 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 42 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk B*		
West Crosswalk ####	*West Crosswalk B*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 37.0 sq.ft./ped.	*Pedestrian Space 56.2 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *22.8*	North Crosswalk *14.9*		
East Crosswalk *44.5*	East Crosswalk *34.1*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 34 sq.ft./ped.	*North Crosswalk 50 sq.ft./ped.*		
East Crosswalk 9 sq.ft./ped.	*East Crosswalk 11 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk B*		
East Crosswalk E	*East Crosswalk E*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -19.5 sq.ft./ped.	*Pedestrian Space -8.7 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *76.7*	South Crosswalk *28.6*		
West Crosswalk *0.0*	West Crosswalk *10.6*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 9 sq.ft./ped.	*South Crosswalk 26 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 42 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk C*		
West Crosswalk ####	*West Crosswalk B*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 30.2 sq.ft./ped.	*Pedestrian Space 339.4 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *76.7*	South Crosswalk *28.6*		
East Crosswalk *44.5*	East Crosswalk *34.1*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 9 sq.ft./ped.	*South Crosswalk 26 sq.ft./ped.*		
East Crosswalk 9 sq.ft./ped.	*East Crosswalk 11 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk C*		
East Crosswalk E	*East Crosswalk E*		

NOTE: ☐ Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 8: CHURCH STREET AT DEY STREET
COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -10.7 sq.ft./ped.	*Pedestrian Space -4.4 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CORSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *86.0*	North Crosswalk *13.2*		
West Crosswalk *0.0*	West Crosswalk *0.9*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 9 sq.ft./ped.	*North Crosswalk 56 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 0 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk B*		
West Crosswalk ####	*West Crosswalk F*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 18.1 sq.ft./ped.	*Pedestrian Space -11.6 sq.ft./ped.*		
Pedestrian LOS D	*Pedestrian LOS F*		
CORSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *86.0*	North Crosswalk *13.2*		
East Crosswalk *23.0*	East Crosswalk *16.2*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 9 sq.ft./ped.	*North Crosswalk 57 sq.ft./ped.*		
East Crosswalk 17 sq.ft./ped.	*East Crosswalk 31 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk B*		
East Crosswalk D	*East Crosswalk C*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -9.1 sq.ft./ped.	*Pedestrian Space -6.6 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CORSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *55.0*	South Crosswalk *16.8*		
West Crosswalk *0.0*	West Crosswalk *0.9*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 11 sq.ft./ped.	*South Crosswalk 58 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 0 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk B*		
West Crosswalk ####	*West Crosswalk F*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 25.9 sq.ft./ped.	*Pedestrian Space 97.7 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS B*		
CORSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *55.0*	South Crosswalk *16.8*		
East Crosswalk *23.0*	East Crosswalk *16.2*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 11 sq.ft./ped.	*South Crosswalk 58 sq.ft./ped.*		
East Crosswalk 16 sq.ft./ped.	*East Crosswalk 31 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk B*		
East Crosswalk D	*East Crosswalk C*		

NOTE: Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 8: CHURCH STREET AT DEY STREET
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -14.9 sq.ft./ped.	*Pedestrian Space* -12.8 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CORSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 49.5	North Crosswalk 15.6		
West Crosswalk 0.0	West Crosswalk 0.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 16 sq.ft./ped.	*North Crosswalk* 47 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 0 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk D	*North Crosswalk* B		
West Crosswalk ####	*West Crosswalk* F		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 33.2 sq.ft./ped.	*Pedestrian Space* -7.9 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CORSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 49.5	North Crosswalk 15.6		
East Crosswalk 26.9	East Crosswalk 18.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 16 sq.ft./ped.	*North Crosswalk* 48 sq.ft./ped.		
East Crosswalk 14 sq.ft./ped.	*East Crosswalk* 27 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk D	*North Crosswalk* B		
East Crosswalk E	*East Crosswalk* C		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -16.5 sq.ft./ped.	*Pedestrian Space* -15.7 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CORSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 41.9	South Crosswalk 29.4		
West Crosswalk 0.0	West Crosswalk 0.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 14 sq.ft./ped.	*South Crosswalk* 33 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 0 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* C		
West Crosswalk ####	*West Crosswalk* F		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 32.0 sq.ft./ped.	*Pedestrian Space* 70.2 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* B		
CORSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 41.9	South Crosswalk 29.4		
East Crosswalk 26.9	East Crosswalk 18.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 14 sq.ft./ped.	*South Crosswalk* 33 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 27 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* C		
East Crosswalk E	*East Crosswalk* C		

NOTE: Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 8: CHURCH STREET AT DEY STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -14.6 sq.ft./ped.	*Pedestrian Space* -16.6 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 77.3	North Crosswalk 17.2		
West Crosswalk 0.0	West Crosswalk 0.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 10 sq.ft./ped.	*North Crosswalk* 43 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 0 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* B		
West Crosswalk ####	*West Crosswalk* F		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 22.9 sq.ft./ped.	*Pedestrian Space* -5.8 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 77.3	North Crosswalk 17.2		
East Crosswalk 27.7	East Crosswalk 20.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 10 sq.ft./ped.	*North Crosswalk* 43 sq.ft./ped.		
East Crosswalk 14 sq.ft./ped.	*East Crosswalk* 24 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* B		
East Crosswalk E	*East Crosswalk* C		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -23.5 sq.ft./ped.	*Pedestrian Space* -15.3 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 46.0	South Crosswalk 29.1		
West Crosswalk 0.0	West Crosswalk 0.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 13 sq.ft./ped.	*South Crosswalk* 34 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 0 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* C		
West Crosswalk ####	*West Crosswalk* F		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 31.9 sq.ft./ped.	*Pedestrian Space* 66.3 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 46.0	South Crosswalk 29.1		
East Crosswalk 27.7	East Crosswalk 20.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 13 sq.ft./ped.	*South Crosswalk* 34 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 24 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* C		
East Crosswalk E	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 9: CHURCH STREET AT CORTLANDT STREET
COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northeast Corner	2009 POST 9/11 CONDITIONS Northeast Corner	2009 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 93.0 sq.ft./ped.	*Pedestrian Space* 118.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 17.5	North Crosswalk 23.8		
East Crosswalk 13.3	East Crosswalk 7.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 45 sq.ft./ped.	*North Crosswalk* 27 sq.ft./ped.		
East Crosswalk 43 sq.ft./ped.	*East Crosswalk* 63 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* C		
East Crosswalk B	*East Crosswalk* B		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -7.8 sq.ft./ped.	*Pedestrian Space* -6.8 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 13.1	South Crosswalk 10.9		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 38 sq.ft./ped.	*South Crosswalk* 83 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* B		
West Crosswalk ####	*West Crosswalk* ####		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 125.5 sq.ft./ped.	*Pedestrian Space* -10.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 13.1	South Crosswalk 10.9		
East Crosswalk 13.3	East Crosswalk 7.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 38 sq.ft./ped.	*South Crosswalk* 83 sq.ft./ped.		
East Crosswalk 43 sq.ft./ped.	*East Crosswalk* 63 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* B		
East Crosswalk B	*East Crosswalk* B		

NOTE: ▒▒ Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 9: CHURCH STREET AT CORTLANDT STREET
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northeast Corner	2009 POST 9/11 CONDITIONS Northeast Corner	2009 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 39.1 sq.ft./ped.	*Pedestrian Space* 63.5 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 25.4	North Crosswalk 33.1		
East Crosswalk 39.3	East Crosswalk 22.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 31 sq.ft./ped.	*North Crosswalk* 19 sq.ft./ped.		
East Crosswalk 14 sq.ft./ped.	*East Crosswalk* 22 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* D		
East Crosswalk E	*East Crosswalk* D		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -11.6 sq.ft./ped.	*Pedestrian Space* -16.0 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 34.3	South Crosswalk 19.2		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 15 sq.ft./ped.	*South Crosswalk* 47 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* B		
West Crosswalk ####	*West Crosswalk* ####		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 38.4 sq.ft./ped.	*Pedestrian Space* -7.7 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 34.3	South Crosswalk 19.2		
East Crosswalk 39.3	East Crosswalk 22.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 15 sq.ft./ped.	*South Crosswalk* 47 sq.ft./ped.		
East Crosswalk 14 sq.ft./ped.	*East Crosswalk* 22 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* B		
East Crosswalk E	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 9: CHURCH STREET AT CORTLANDT STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northeast Corner	2009 POST 9/11 CONDITIONS Northeast Corner	2009 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 48.3 sq.ft./ped.	*Pedestrian Space* 58.3 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 18.2	North Crosswalk 40.6		
East Crosswalk 36.1	East Crosswalk 21.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 43 sq.ft./ped.	*North Crosswalk* 16 sq.ft./ped.		
East Crosswalk 16 sq.ft./ped.	*East Crosswalk* 24 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* D		
East Crosswalk D	*East Crosswalk* D		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -11.3 sq.ft./ped.	*Pedestrian Space* -13.7 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 18.1	South Crosswalk 17.5		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 28 sq.ft./ped.	*South Crosswalk* 51 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* B		
West Crosswalk ####	*West Crosswalk* ####		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 52.2 sq.ft./ped.	*Pedestrian Space* -9.3 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 18.1	South Crosswalk 17.5		
East Crosswalk 36.1	East Crosswalk 21.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 28 sq.ft./ped.	*South Crosswalk* 51 sq.ft./ped.		
East Crosswalk 16 sq.ft./ped.	*East Crosswalk* 24 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* B		
East Crosswalk D	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET
COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 28.6 sq.ft./ped.	*Pedestrian Space* 2.4 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 104.6	North Crosswalk 102.8		
West Crosswalk 119.7	West Crosswalk 75.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 7 sq.ft./ped.	*North Crosswalk* 7 sq.ft./ped.		
West Crosswalk 6 sq.ft./ped.	*West Crosswalk* 7 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* E		
West Crosswalk F	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 23.6 sq.ft./ped.	*Pedestrian Space* -4.1 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 104.6	North Crosswalk 102.8		
East Crosswalk 6.3	East Crosswalk 17.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 7 sq.ft./ped.	*North Crosswalk* 7 sq.ft./ped.		
East Crosswalk 105 sq.ft./ped.	*East Crosswalk* 35 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* E		
East Crosswalk B	*East Crosswalk* C		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space -2.0 sq.ft./ped.	*Pedestrian Space* 47.8 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 109.2	South Crosswalk 25.8		
West Crosswalk 119.7	West Crosswalk 75.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk* 22 sq.ft./ped.		
West Crosswalk 6 sq.ft./ped.	*West Crosswalk* 7 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* D		
West Crosswalk F	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 31.4 sq.ft./ped.	*Pedestrian Space* -6.3 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 109.2	South Crosswalk 25.8		
East Crosswalk 6.3	East Crosswalk 17.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk* 22 sq.ft./ped.		
East Crosswalk 105 sq.ft./ped.	*East Crosswalk* 35 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* D		
East Crosswalk B	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 28.6 sq.ft./ped.	*Pedestrian Space* 66.1 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 53.4	North Crosswalk 25.3		
West Crosswalk 31.1	West Crosswalk 16.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 13 sq.ft./ped.	*North Crosswalk* 27 sq.ft./ped.		
West Crosswalk 21 sq.ft./ped.	*West Crosswalk* 32 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* C		
West Crosswalk D	*West Crosswalk* C		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 35.8 sq.ft./ped.	*Pedestrian Space* -9.9 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 54.3	North Crosswalk 25.3		
East Crosswalk 11.0	East Crosswalk 7.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 14 sq.ft./ped.	*North Crosswalk* 27 sq.ft./ped.		
East Crosswalk 60 sq.ft./ped.	*East Crosswalk* 81 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* C		
East Crosswalk B	*East Crosswalk* B		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 24.6 sq.ft./ped.	*Pedestrian Space* 177.0 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 19.0	South Crosswalk 13.0		
West Crosswalk 31.1	West Crosswalk 16.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 47 sq.ft./ped.	*South Crosswalk* 44 sq.ft./ped.		
West Crosswalk 21 sq.ft./ped.	*West Crosswalk* 32 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
West Crosswalk D	*West Crosswalk* C		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 108.0 sq.ft./ped.	*Pedestrian Space* -7.8 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 19.0	South Crosswalk 13.0		
East Crosswalk 11.0	East Crosswalk 7.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 47 sq.ft./ped.	*South Crosswalk* 44 sq.ft./ped.		
East Crosswalk 60 sq.ft./ped.	*East Crosswalk* 81 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* B		
East Crosswalk B	*East Crosswalk* B		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 53.2 sq.ft./ped.	*Pedestrian Space* 24.7 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 137.3	North Crosswalk 69.1		
West Crosswalk 44.3	West Crosswalk 43.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 6 sq.ft./ped.	*North Crosswalk* 10 sq.ft./ped.		
West Crosswalk 15 sq.ft./ped.	*West Crosswalk* 12 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk F	*North Crosswalk* E		
West Crosswalk E	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 0.5 sq.ft./ped.	*Pedestrian Space* -15.3 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 137.3	North Crosswalk 69.1		
East Crosswalk 23.8	East Crosswalk 21.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 6 sq.ft./ped.	*North Crosswalk* 10 sq.ft./ped.		
East Crosswalk 28 sq.ft./ped.	*East Crosswalk* 28 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk F	*North Crosswalk* E		
East Crosswalk C	*East Crosswalk* C		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 13.7 sq.ft./ped.	*Pedestrian Space* 77.4 sq.ft./ped.		
Pedestrian LOS E	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 37.5	South Crosswalk 16.4		
West Crosswalk 44.3	West Crosswalk 43.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 24 sq.ft./ped.	*South Crosswalk* 35 sq.ft./ped.		
West Crosswalk 15 sq.ft./ped.	*West Crosswalk* 12 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* C		
West Crosswalk E	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 42.1 sq.ft./ped.	*Pedestrian Space* -9.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 37.5	South Crosswalk 16.4		
East Crosswalk 23.8	East Crosswalk 21.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 24 sq.ft./ped.	*South Crosswalk* 35 sq.ft./ped.		
East Crosswalk 28 sq.ft./ped.	*East Crosswalk* 28 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* C		
East Crosswalk C	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 11: GREENWICH STREET AT FULTON STREET
COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -4.0 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 22.1		
West Crosswalk 0.0	West Crosswalk 43.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 30 sq.ft./ped.*		
West Crosswalk 0 sq.ft./ped.	*West Crosswalk 10 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk C*		
West Crosswalk ####	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 68.8 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 22.1		
East Crosswalk 0.0	East Crosswalk 19.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 30 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 23 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk C*		
East Crosswalk ####	*East Crosswalk D*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -5.9 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 24.5		
West Crosswalk 0.0	West Crosswalk 43.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 28 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 10 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk C*		
West Crosswalk ####	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 501.8 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 24.5		
East Crosswalk 0.0	East Crosswalk 19.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 28 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 23 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk C*		
East Crosswalk ####	*East Crosswalk D*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 11: GREENWICH STREET AT FULTON STREET
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -7.6 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 45.2		
West Crosswalk 0.0	West Crosswalk 74.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 15 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 6 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk E*		
West Crosswalk ####	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 44.9 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 45.2		
East Crosswalk 0.0	East Crosswalk 21.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 15 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 21 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk E*		
East Crosswalk ####	*East Crosswalk D*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -8.9 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 21.4		
West Crosswalk 0.0	West Crosswalk 74.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 32 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 6 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk C*		
West Crosswalk ####	*West Crosswalk E*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 514.2 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 21.4		
East Crosswalk 0.0	East Crosswalk 21.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 32 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 21 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk C*		
East Crosswalk ####	*East Crosswalk D*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 11: GREENWICH STREET AT FULTON STREET
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space* -10.3 sq.ft./ped.		
Pedestrian LOS ####	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 34.6		
West Crosswalk 0.0	West Crosswalk 61.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 20 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 7 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* D		
West Crosswalk ####	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space* 58.1 sq.ft./ped.		
Pedestrian LOS ####	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 34.6		
East Crosswalk 0.0	East Crosswalk 18.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 20 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 24 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* D		
East Crosswalk ####	*East Crosswalk* C		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space* -6.0 sq.ft./ped.		
Pedestrian LOS ####	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 39.8		
West Crosswalk 0.0	West Crosswalk 61.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 7 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* D		
West Crosswalk ####	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space* 398.8 sq.ft./ped.		
Pedestrian LOS ####	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 39.8		
East Crosswalk 0.0	East Crosswalk 18.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 24 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* D		
East Crosswalk ####	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS

STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE

LOCATION 10: CHURCH STREET AT LIBERTY STREET without Liberty Plaza Connection

COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 26.6 sq.ft./ped.	*Pedestrian Space* 2.4 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 104.6	North Crosswalk 102.8		
West Crosswalk 119.7	West Crosswalk 75.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 7 sq.ft./ped.	*North Crosswalk* 7 sq.ft./ped.		
West Crosswalk 6 sq.ft./ped.	*West Crosswalk* 7 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* E		
West Crosswalk F	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 23.6 sq.ft./ped.	*Pedestrian Space* -4.1 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 104.6	North Crosswalk 102.8		
East Crosswalk 6.3	East Crosswalk 17.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 7 sq.ft./ped.	*North Crosswalk* 7 sq.ft./ped.		
East Crosswalk 105 sq.ft./ped.	*East Crosswalk* 35 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* E		
East Crosswalk B	*East Crosswalk* C		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -2.0 sq.ft./ped.	*Pedestrian Space* 47.8 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 109.2	South Crosswalk 25.8		
West Crosswalk 119.7	West Crosswalk 75.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk* 22 sq.ft./ped.		
West Crosswalk 6 sq.ft./ped.	*West Crosswalk* 7 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* D		
West Crosswalk F	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 31.4 sq.ft./ped.	*Pedestrian Space* -6.3 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 109.2	South Crosswalk 25.8		
East Crosswalk 6.3	East Crosswalk 17.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk* 22 sq.ft./ped.		
East Crosswalk 105 sq.ft./ped.	*East Crosswalk* 35 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* D		
East Crosswalk B	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS

STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE

LOCATION 10: CHURCH STREET AT LIBERTY STREET without Liberty Plaza Connection

COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 28.6 sq.ft./ped.	*Pedestrian Space 66.1 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 53.4	North Crosswalk 25.3		
West Crosswalk 31.1	West Crosswalk 16.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 13 sq.ft./ped.	*North Crosswalk 27 sq.ft./ped.*		
West Crosswalk 21 sq.ft./ped.	*West Crosswalk 32 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk C*		
West Crosswalk D	*West Crosswalk C*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 35.8 sq.ft./ped.	*Pedestrian Space -9.9 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 54.3	North Crosswalk 25.3		
East Crosswalk 11.0	East Crosswalk 7.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 14 sq.ft./ped.	*North Crosswalk 27 sq.ft./ped.*		
East Crosswalk 60 sq.ft./ped.	*East Crosswalk 81 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk C*		
East Crosswalk B	*East Crosswalk B*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 24.6 sq.ft./ped.	*Pedestrian Space 177.0 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 19.0	South Crosswalk 13.0		
West Crosswalk 31.1	West Crosswalk 16.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 47 sq.ft./ped.	*South Crosswalk 44 sq.ft./ped.*		
West Crosswalk 21 sq.ft./ped.	*West Crosswalk 32 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk B*		
West Crosswalk D	*West Crosswalk C*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 108.0 sq.ft./ped.	*Pedestrian Space -7.8 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 19.0	South Crosswalk 13.0		
East Crosswalk 11.0	East Crosswalk 7.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 47 sq.ft./ped.	*South Crosswalk 44 sq.ft./ped.*		
East Crosswalk 60 sq.ft./ped.	*East Crosswalk 81 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk B*		
East Crosswalk B	*East Crosswalk B*		

NOTE: ☐ Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET without Liberty Plaza Connection
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 53.2 sq.ft./ped.	*Pedestrian Space* 24.7 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 137.3	North Crosswalk 69.1		
West Crosswalk 44.3	West Crosswalk 43.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 6 sq.ft./ped.	*North Crosswalk* 10 sq.ft./ped.		
West Crosswalk 15 sq.ft./ped.	*West Crosswalk* 12 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk F	*North Crosswalk* E		
West Crosswalk E	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 0.5 sq.ft./ped.	*Pedestrian Space* -15.3 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 137.3	North Crosswalk 69.1		
East Crosswalk 23.8	East Crosswalk 21.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 6 sq.ft./ped.	*North Crosswalk* 10 sq.ft./ped.		
East Crosswalk 28 sq.ft./ped.	*East Crosswalk* 28 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk F	*North Crosswalk* E		
East Crosswalk C	*East Crosswalk* C		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 13.7 sq.ft./ped.	*Pedestrian Space* 77.4 sq.ft./ped.		
Pedestrian LOS E	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 37.5	South Crosswalk 16.4		
West Crosswalk 44.3	West Crosswalk 43.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 24 sq.ft./ped.	*South Crosswalk* 35 sq.ft./ped.		
West Crosswalk 15 sq.ft./ped.	*West Crosswalk* 12 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* C		
West Crosswalk E	*West Crosswalk* E		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 42.1 sq.ft./ped.	*Pedestrian Space* -9.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 37.5	South Crosswalk 16.4		
East Crosswalk 23.8	East Crosswalk 21.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 24 sq.ft./ped.	*South Crosswalk* 35 sq.ft./ped.		
East Crosswalk 28 sq.ft./ped.	*East Crosswalk* 28 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* C		
East Crosswalk C	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS

STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE

LOCATION 12: GREENWICH STREET MIDBLOCK

COMPARISON OF 2009 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -1.7 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 30.6		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 67 sq.ft./ped.*		
West Crosswalk 0 sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk B*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 0.0		
East Crosswalk 0.0	East Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 0.0		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 0.0		
East Crosswalk 0.0	East Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 12: GREENWICH STREET MIDBLOCK
COMPARISON OF 2009 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -12.6 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 43.5		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 61 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk B*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 0.0		
East Crosswalk 0.0	East Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 0.0		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 0.0		
East Crosswalk 0.0	East Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 12: GREENWICH STREET MIDBLOCK
COMPARISON OF 2009 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2009 PRE 9/11 CONDITIONS Northwest Corner	2009 POST 9/11 CONDITIONS Northwest Corner	2009 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -11.9 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 54.1		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 49 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk B*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Northeast Corner	**2009 POST 9/11 CONDITIONS Northeast Corner**	**2009 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 0.0		
East Crosswalk 0.0	East Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southwest Corner	**2009 POST 9/11 CONDITIONS Southwest Corner**	**2009 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 0.0		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
West Crosswalk ####	*West Crosswalk ####*		
2009 PRE 9/11 CONDITIONS Southeast Corner	**2009 POST 9/11 CONDITIONS Southeast Corner**	**2009 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 0.0		
East Crosswalk 0.0	East Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		

NOTE: [ ] Indicate Significant Impact.

Table 3
2025 Design Year
No Action and Preferred Alternatives
Pedestrian Level of Service

Location 1:	Route 9A and Vesey Street
Location 2:	Route 9A and Liberty Street
Location 3:	West Broadway and Vesey Street
Location 4:	Greenwich Street and Liberty Street
Location 6:	Church Street and Vesey Street
Location 7:	Church Street and Fulton Street
Location 8:	Church Street and Dey Street
Location 9:	Church Street and Cortlandt Street
Location 10:	Church Street and Liberty Street
Location 11:	Greenwich Street and Fulton Street
Location 12:	Greenwich Street and Cortlandt Street Midblock

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 1: WEST STREET (RTE 9A) AT VESEY STREET
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space* 191.7 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 4.8	North Crosswalk 89.3		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 593 sq.ft./ped.	*North Crosswalk* 26 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk A	*North Crosswalk* C		
West Crosswalk ####	*West Crosswalk* ####		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 180.2 sq.ft./ped.	*Pedestrian Space* 16.8 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 4.8	North Crosswalk 89.3		
East Crosswalk 0.0	East Crosswalk 25.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 593 sq.ft./ped.	*North Crosswalk* 26 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 36 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk A	*North Crosswalk* C		
East Crosswalk ####	*East Crosswalk* C		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space* #### sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 19.1	South Crosswalk 9.6		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 162 sq.ft./ped.	*South Crosswalk* 222 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk* A		
West Crosswalk ####	*West Crosswalk* ####		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 212.2 sq.ft./ped.	*Pedestrian Space* -8.9 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 19.1	South Crosswalk 9.6		
East Crosswalk 0.0	East Crosswalk 25.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 162 sq.ft./ped.	*South Crosswalk* 222 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 36 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk* A		
East Crosswalk ####	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 2: WEST STREET (RTE 9A) AT LIBERTY STREET
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 105.3 sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 41.1	North Crosswalk 3.9		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 30 sq.ft./ped.	*North Crosswalk 556 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk A*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 45.0 sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 41.1	North Crosswalk 3.9		
East Crosswalk 0.0	East Crosswalk 0.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 30 sq.ft./ped.	*North Crosswalk 556 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 1395 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk A*		
East Crosswalk ####	*East Crosswalk A*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 262.9 sq.ft./ped.	*Pedestrian Space 185.0 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 10.3	South Crosswalk 111.7		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 118 sq.ft./ped.	*South Crosswalk 22 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk D*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 339.1 sq.ft./ped.	*Pedestrian Space -13.9 sq.ft./ped.*		
Pedestrian LOS A	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 10.3	South Crosswalk 111.7		
East Crosswalk 0.0	East Crosswalk 0.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 118 sq.ft./ped.	*South Crosswalk 22 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 1395 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk D*		
East Crosswalk ####	*East Crosswalk A*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 2: WEST STREET (RTE 9A) AT LIBERTY STREET
COMPARISON OF 2025 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 157.4 sq.ft./ped.	*Pedestrian Space* #### sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 29.2	North Crosswalk 17.4		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 42 sq.ft./ped.	*North Crosswalk* 124 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
West Crosswalk ####	*West Crosswalk* ####		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 71.1 sq.ft./ped.	*Pedestrian Space* #### sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 29.2	North Crosswalk 17.4		
East Crosswalk 0.0	East Crosswalk 4.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 42 sq.ft./ped.	*North Crosswalk* 124 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 178 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* B		
East Crosswalk ####	*East Crosswalk* A		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 377.9 sq.ft./ped.	*Pedestrian Space* 174.4 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 7.3	South Crosswalk 117.3		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 165 sq.ft./ped.	*South Crosswalk* 21 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk* D		
West Crosswalk ####	*West Crosswalk* ####		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 486.6 sq.ft./ped.	*Pedestrian Space* -12.9 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 7.3	South Crosswalk 117.3		
East Crosswalk 0.0	East Crosswalk 4.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 165 sq.ft./ped.	*South Crosswalk* 21 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 178 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk A	*South Crosswalk* D		
East Crosswalk ####	*East Crosswalk* A		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 2: WEST STREET (RTE 9A) AT LIBERTY STREET
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 99.3 sq.ft./ped.	*Pedestrian Space* #### sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 40.9	North Crosswalk 4.5		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 30 sq.ft./ped.	*North Crosswalk* 476 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* A		
West Crosswalk ####	*West Crosswalk* ####		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 51.6 sq.ft./ped.	*Pedestrian Space* #### sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 40.9	North Crosswalk 4.5		
East Crosswalk 0.0	East Crosswalk 1.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 30 sq.ft./ped.	*North Crosswalk* 476 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 751 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* A		
East Crosswalk ####	*East Crosswalk* A		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 272.9 sq.ft./ped.	*Pedestrian Space* 188.2 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 10.2	South Crosswalk 114.2		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 119 sq.ft./ped.	*South Crosswalk* 22 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* D		
West Crosswalk ####	*West Crosswalk* ####		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 336.9 sq.ft./ped.	*Pedestrian Space* -21.4 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 10.2	South Crosswalk 114.2		
East Crosswalk 0.0	East Crosswalk 1.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 119 sq.ft./ped.	*South Crosswalk* 22 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 751 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* D		
East Crosswalk ####	*East Crosswalk* A		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 3: W. BROADWAY AT VESEY STREET
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 82.5 sq.ft./ped.	*Pedestrian Space* -8.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 126.2		
West Crosswalk 17.8	West Crosswalk 43.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 6 sq.ft./ped.		
West Crosswalk 49 sq.ft./ped.	*West Crosswalk* 15 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* F		
West Crosswalk B	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 98.2 sq.ft./ped.	*Pedestrian Space* 17.4 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 126.2		
East Crosswalk 39.2	East Crosswalk 43.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 6 sq.ft./ped.		
East Crosswalk 28 sq.ft./ped.	*East Crosswalk* 15 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* F		
East Crosswalk C	*East Crosswalk* D		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -11.7 sq.ft./ped.	*Pedestrian Space* -6.6 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 38.6		
West Crosswalk 17.8	West Crosswalk 43.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
West Crosswalk 49 sq.ft./ped.	*West Crosswalk* 15 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* D		
West Crosswalk B	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -11.7 sq.ft./ped.	*Pedestrian Space* -9.4 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 38.6		
East Crosswalk 37.4	East Crosswalk 43.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
East Crosswalk 24 sq.ft./ped.	*East Crosswalk* 15 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* D		
East Crosswalk C	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 3: W. BROADWAY AT VESEY STREET
COMPARISON OF 2025 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2006 MITIGATED BUILD CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 88.8 sq.ft./ped.	*Pedestrian Space -10.3 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *123.4*		
West Crosswalk *16.0*	West Crosswalk *91.9*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 6 sq.ft./ped.*		
West Crosswalk 54 sq.ft./ped.	*West Crosswalk 7 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk F*		
West Crosswalk B	*West Crosswalk E*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2006 MITIGATED BUILD CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 118.3 sq.ft./ped.	*Pedestrian Space 16.8 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS D*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *123.4*		
East Crosswalk *31.9*	East Crosswalk *74.1*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 6 sq.ft./ped.*		
East Crosswalk 35 sq.ft./ped.	*East Crosswalk 9 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk F*		
East Crosswalk C	*East Crosswalk E*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2006 MITIGATED BUILD CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -8.3 sq.ft./ped.	*Pedestrian Space -6.6 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *96.3*		
West Crosswalk *37.4*	West Crosswalk *91.9*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 7 sq.ft./ped.*		
West Crosswalk 54 sq.ft./ped.	*West Crosswalk 7 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk E*		
West Crosswalk B	*West Crosswalk E*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2006 MITIGATED BUILD CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -8.3 sq.ft./ped.	*Pedestrian Space -9.4 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *38.6*		
East Crosswalk *30.5*	East Crosswalk *43.2*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 17 sq.ft./ped.*		
East Crosswalk 29 sq.ft./ped.	*East Crosswalk 15 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
East Crosswalk C	*East Crosswalk D*		

NOTE: ▒▒ Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 3: W. BROADWAY AT VESEY STREET
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2006 MITIGATED BUILD CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 57.1 sq.ft./ped.	*Pedestrian Space* -14.5 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 110.8		
West Crosswalk 22.4	West Crosswalk 48.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 6 sq.ft./ped.		
West Crosswalk 39 sq.ft./ped.	*West Crosswalk* 13 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* E		
West Crosswalk C	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2006 MITIGATED BUILD CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 92.5 sq.ft./ped.	*Pedestrian Space* 29.3 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 110.8		
East Crosswalk 38.6	East Crosswalk 38.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 6 sq.ft./ped.		
East Crosswalk 29 sq.ft./ped.	*East Crosswalk* 17 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* E		
East Crosswalk C	*East Crosswalk* D		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2006 MITIGATED BUILD CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -4.4 sq.ft./ped.	*Pedestrian Space* -9.4 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 39.0		
West Crosswalk 22.4	West Crosswalk 48.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
West Crosswalk 39 sq.ft./ped.	*West Crosswalk* 13 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* D		
West Crosswalk C	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2006 MITIGATED BUILD CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -4.4 sq.ft./ped.	*Pedestrian Space* -7.3 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 39.0		
East Crosswalk 36.9	East Crosswalk 38.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
East Crosswalk 24 sq.ft./ped.	*East Crosswalk* 17 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* D		
East Crosswalk C	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 4: GREENWICH STREET AT LIBERTY STREET
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 0.0 sq.ft./ped.	*Pedestrian Space* 64.2 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 41.3		
West Crosswalk 1.1	West Crosswalk 67.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 18 sq.ft./ped.		
West Crosswalk 286 sq.ft./ped.	*West Crosswalk* 7 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* D		
West Crosswalk A	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 0.0 sq.ft./ped.	*Pedestrian Space* 57.2 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 41.3		
East Crosswalk 3.1	East Crosswalk 30.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk* 18 sq.ft./ped.		
East Crosswalk 171 sq.ft./ped.	*East Crosswalk* 17 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk* D		
East Crosswalk A	*East Crosswalk* D		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 347.2 sq.ft./ped.	*Pedestrian Space* -8.4 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 60.3		
West Crosswalk 1.1	West Crosswalk 67.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 9 sq.ft./ped.		
West Crosswalk 286 sq.ft./ped.	*West Crosswalk* 7 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* E		
West Crosswalk A	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 196.1 sq.ft./ped.	*Pedestrian Space* 43.0 sq.ft./ped.		
Pedestrian LOS A	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 60.3		
East Crosswalk 3.1	East Crosswalk 30.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk* 9 sq.ft./ped.		
East Crosswalk 171 sq.ft./ped.	*East Crosswalk* 17 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk* E		
East Crosswalk A	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 6: CHURCH STREET AT VESY STREET
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 70.6 sq.ft./ped.	*Pedestrian Space* 25.3 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 19.4	North Crosswalk 50.5		
West Crosswalk 43.4	West Crosswalk 55.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 38 sq.ft./ped.	*North Crosswalk* 17 sq.ft./ped.		
West Crosswalk 13 sq.ft./ped.	*West Crosswalk* 14 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* D		
West Crosswalk E	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 50.7 sq.ft./ped.	*Pedestrian Space* 17.6 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 19.4	North Crosswalk 50.5		
East Crosswalk 16.6	East Crosswalk 38.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 38 sq.ft./ped.	*North Crosswalk* 17 sq.ft./ped.		
East Crosswalk 21 sq.ft./ped.	*East Crosswalk* 11 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* D		
East Crosswalk D	*East Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 16.2 sq.ft./ped.	*Pedestrian Space* 69.4 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 23.1	South Crosswalk 44.1		
West Crosswalk 43.4	West Crosswalk 55.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 29 sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
West Crosswalk 13 sq.ft./ped.	*West Crosswalk* 14 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* D		
West Crosswalk E	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 58.6 sq.ft./ped.	*Pedestrian Space* 25.5 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 23.1	South Crosswalk 44.1		
East Crosswalk 16.6	East Crosswalk 38.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 29 sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
East Crosswalk 21 sq.ft./ped.	*East Crosswalk* 11 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* D		
East Crosswalk D	*East Crosswalk* E		

NOTE: ▭ Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 6: CHURCH STREET AT VESY STREET
COMPARISON OF 2025 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 48.1 sq.ft./ped.	*Pedestrian Space* 24.9 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 22.2	North Crosswalk 39.7		
West Crosswalk 62.4	West Crosswalk 52.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 33 sq.ft./ped.	*North Crosswalk* 21 sq.ft./ped.		
West Crosswalk 9 sq.ft./ped.	*West Crosswalk* 14 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* D		
West Crosswalk E	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 34.4 sq.ft./ped.	*Pedestrian Space* 25.2 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 22.2	North Crosswalk 39.7		
East Crosswalk 27.4	East Crosswalk 36.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 33 sq.ft./ped.	*North Crosswalk* 21 sq.ft./ped.		
East Crosswalk 12 sq.ft./ped.	*East Crosswalk* 11 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* D		
East Crosswalk E	*East Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 11.8 sq.ft./ped.	*Pedestrian Space* 73.7 sq.ft./ped.		
Pedestrian LOS E	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 25.1	South Crosswalk 43.1		
West Crosswalk 62.4	West Crosswalk 52.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 26 sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
West Crosswalk 9 sq.ft./ped.	*West Crosswalk* 14 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* D		
West Crosswalk E	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 40.4 sq.ft./ped.	*Pedestrian Space* 28.3 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 25.1	South Crosswalk 43.1		
East Crosswalk 27.4	East Crosswalk 36.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 26 sq.ft./ped.	*South Crosswalk* 17 sq.ft./ped.		
East Crosswalk 12 sq.ft./ped.	*East Crosswalk* 11 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* D		
East Crosswalk E	*East Crosswalk* E		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 6: CHURCH STREET AT VESY STREET
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 66.1 sq.ft./ped.	*Pedestrian Space* 14.2 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* E		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 15.2	North Crosswalk 43.3		
West Crosswalk 47.1	West Crosswalk 78.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 48 sq.ft./ped.	*North Crosswalk* 20 sq.ft./ped.		
West Crosswalk 12 sq.ft./ped.	*West Crosswalk* 10 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* D		
West Crosswalk E	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 59.2 sq.ft./ped.	*Pedestrian Space* 25.0 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 15.2	North Crosswalk 43.3		
East Crosswalk 16.7	East Crosswalk 40.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 48 sq.ft./ped.	*North Crosswalk* 20 sq.ft./ped.		
East Crosswalk 20 sq.ft./ped.	*East Crosswalk* 10 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* D		
East Crosswalk D	*East Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 16.4 sq.ft./ped.	*Pedestrian Space* 47.9 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 30.1	South Crosswalk 56.5		
West Crosswalk 47.1	West Crosswalk 78.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 22 sq.ft./ped.	*South Crosswalk* 13 sq.ft./ped.		
West Crosswalk 12 sq.ft./ped.	*West Crosswalk* 10 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* E		
West Crosswalk E	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 46.7 sq.ft./ped.	*Pedestrian Space* 24.1 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 30.1	South Crosswalk 56.5		
East Crosswalk 16.7	East Crosswalk 40.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 22 sq.ft./ped.	*South Crosswalk* 13 sq.ft./ped.		
East Crosswalk 20 sq.ft./ped.	*East Crosswalk* 10 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* E		
East Crosswalk D	*East Crosswalk* E		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 7: CHURCH STREET AT FULTON STREET
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -10.2 sq.ft./ped.	*Pedestrian Space* -5.3 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 25.6	North Crosswalk 23.9		
West Crosswalk 0.0	West Crosswalk 26.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 30 sq.ft./ped.	*North Crosswalk* 31 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 17 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* C		
West Crosswalk ####	*West Crosswalk* D		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 38.9 sq.ft./ped.	*Pedestrian Space* 51.4 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 25.6	North Crosswalk 23.9		
East Crosswalk 35.5	East Crosswalk 26.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 30 sq.ft./ped.	*North Crosswalk* 31 sq.ft./ped.		
East Crosswalk 12 sq.ft./ped.	*East Crosswalk* 14 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* C		
East Crosswalk E	*East Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -10.5 sq.ft./ped.	*Pedestrian Space* -5.5 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 92.9	South Crosswalk 17.6		
West Crosswalk 0.0	West Crosswalk 26.7		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 7 sq.ft./ped.	*South Crosswalk* 43 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 17 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* B		
West Crosswalk ####	*West Crosswalk* D		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -10.5 sq.ft./ped.	*Pedestrian Space* 470.5 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 92.9	South Crosswalk 17.6		
East Crosswalk 0.0	East Crosswalk 26.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 7 sq.ft./ped.	*South Crosswalk* 43 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 14 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* B		
East Crosswalk ####	*East Crosswalk* E		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 7: CHURCH STREET AT FULTON STREET
COMPARISON OF 2025 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -18.9 sq.ft./ped.	*Pedestrian Space* -8.1 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 26.0	North Crosswalk 55.2		
West Crosswalk 0.0	West Crosswalk 53.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 30 sq.ft./ped.	*North Crosswalk* 14 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 8 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* E		
West Crosswalk ####	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 44.4 sq.ft./ped.	*Pedestrian Space* 34.8 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 26.0	North Crosswalk 55.2		
East Crosswalk 33.3	East Crosswalk 24.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 30 sq.ft./ped.	*North Crosswalk* 14 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 15 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* E		
East Crosswalk E	*East Crosswalk* D		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -19.4 sq.ft./ped.	*Pedestrian Space* #### sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* ####		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 28.5	South Crosswalk 0.0		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 23 sq.ft./ped.	*South Crosswalk* #### sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* ####		
West Crosswalk ####	*West Crosswalk* ####		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -19.4 sq.ft./ped.	*Pedestrian Space* 413.9 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* A		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 28.5	South Crosswalk 28.5		
East Crosswalk 0.0	East Crosswalk 24.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 23 sq.ft./ped.	*South Crosswalk* 26 sq.ft./ped.		
East Crosswalk #### sq.ft./ped.	*East Crosswalk* 15 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* C		
East Crosswalk ####	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 7: CHURCH STREET AT FULTON STREET
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2006 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -24.0 sq.ft./ped.	*Pedestrian Space -10.9 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *24.6*	North Crosswalk *24.1*		
West Crosswalk *0.0*	West Crosswalk *25.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 31 sq.ft./ped.	*North Crosswalk 31 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 18 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk C*		
West Crosswalk ####	*West Crosswalk D*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2006 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 34.1 sq.ft./ped.	*Pedestrian Space 46.8 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *24.6*	North Crosswalk *24.1*		
East Crosswalk *47.8*	East Crosswalk *36.6*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 31 sq.ft./ped.	*North Crosswalk 31 sq.ft./ped.*		
East Crosswalk 9 sq.ft./ped.	*East Crosswalk 10 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk C*		
East Crosswalk E	*East Crosswalk E*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2006 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -19.5 sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *82.1*	South Crosswalk *0.0*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk ####*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2006 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -19.5 sq.ft./ped.	*Pedestrian Space 335.8 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *82.1*	South Crosswalk *25.8*		
East Crosswalk *0.0*	East Crosswalk *36.6*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk 29 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 10 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk C*		
East Crosswalk ####	*East Crosswalk E*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 8: CHURCH STREET AT DEY STREET
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -10.7 sq.ft./ped.	*Pedestrian Space -4.4 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *92.3*	North Crosswalk *19.0*		
West Crosswalk *0.0*	West Crosswalk *0.9*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 9 sq.ft./ped.	*North Crosswalk 39 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 0 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk C*		
West Crosswalk ####	*West Crosswalk F*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 15.8 sq.ft./ped.	*Pedestrian Space -13.0 sq.ft./ped.*		
Pedestrian LOS D	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *92.3*	North Crosswalk *19.1*		
East Crosswalk *24.6*	East Crosswalk *17.8*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 9 sq.ft./ped.	*North Crosswalk 39 sq.ft./ped.*		
East Crosswalk 16 sq.ft./ped.	*East Crosswalk 28 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk C*		
East Crosswalk D	*East Crosswalk C*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -9.1 sq.ft./ped.	*Pedestrian Space -7.1 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *59.0*	South Crosswalk *19.6*		
West Crosswalk *0.0*	West Crosswalk *0.9*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 10 sq.ft./ped.	*South Crosswalk 50 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 0 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk B*		
West Crosswalk ####	*West Crosswalk F*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 23.2 sq.ft./ped.	*Pedestrian Space 86.1 sq.ft./ped.*		
Pedestrian LOS D	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *59.0*	South Crosswalk *19.6*		
East Crosswalk *24.6*	East Crosswalk *17.8*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 10 sq.ft./ped.	*South Crosswalk 50 sq.ft./ped.*		
East Crosswalk 15 sq.ft./ped.	*East Crosswalk 28 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk B*		
East Crosswalk E	*East Crosswalk C*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 8: CHURCH STREET AT DEY STREET
COMPARISON OF 2025 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -14.9 sq.ft./ped.	*Pedestrian Space -13.6 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *53.1*	North Crosswalk *30.3*		
West Crosswalk *0.0*	West Crosswalk *0.2*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 15 sq.ft./ped.	*North Crosswalk 24 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 0 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk D	*North Crosswalk C*		
West Crosswalk ####	*West Crosswalk F*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 30.3 sq.ft./ped.	*Pedestrian Space -10.0 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *53.1*	North Crosswalk *30.4*		
East Crosswalk *28.9*	East Crosswalk *19.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 15 sq.ft./ped.	*North Crosswalk 25 sq.ft./ped.*		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk 26 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk D	*North Crosswalk C*		
East Crosswalk E	*East Crosswalk C*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -16.6 sq.ft./ped.	*Pedestrian Space -15.4 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *44.8*	South Crosswalk *36.6*		
West Crosswalk *0.0*	West Crosswalk *0.2*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 13 sq.ft./ped.	*South Crosswalk 27 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 0 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk C*		
West Crosswalk ####	*West Crosswalk F*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 29.3 sq.ft./ped.	*Pedestrian Space 61.1 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *44.8*	South Crosswalk *36.6*		
East Crosswalk *28.9*	East Crosswalk *19.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 13 sq.ft./ped.	*South Crosswalk 27 sq.ft./ped.*		
East Crosswalk 12 sq.ft./ped.	*East Crosswalk 26 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk C*		
East Crosswalk E	*East Crosswalk C*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 8: CHURCH STREET AT DEY STREET
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -14.6 sq.ft./ped.	*Pedestrian Space* -19.3 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 82.8	North Crosswalk 21.7		
West Crosswalk 0.0	West Crosswalk 0.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 10 sq.ft./ped.	*North Crosswalk* 34 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 0 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* C		
West Crosswalk ####	*West Crosswalk* F		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 20.6 sq.ft./ped.	*Pedestrian Space* -5.2 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 82.8	North Crosswalk 21.7		
East Crosswalk 29.6	East Crosswalk 21.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 10 sq.ft./ped.	*North Crosswalk* 35 sq.ft./ped.		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk* 23 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* C		
East Crosswalk E	*East Crosswalk* D		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -23.5 sq.ft./ped.	*Pedestrian Space* -16.5 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 49.4	South Crosswalk 29.7		
West Crosswalk 0.0	West Crosswalk 0.8		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 12 sq.ft./ped.	*South Crosswalk* 33 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* 0 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* C		
West Crosswalk ####	*West Crosswalk* F		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 29.2 sq.ft./ped.	*Pedestrian Space* 63.0 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CORSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 49.4	South Crosswalk 29.7		
East Crosswalk 29.6	East Crosswalk 21.9		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 12 sq.ft./ped.	*South Crosswalk* 33 sq.ft./ped.		
East Crosswalk 12 sq.ft./ped.	*East Crosswalk* 23 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* C		
East Crosswalk E	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 9: CHURCH STREET AT CORTLANDT STREET
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -7.4 sq.ft./ped.	*Pedestrian Space* -6.1 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 17.5	North Crosswalk 25.9		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 45 sq.ft./ped.	*North Crosswalk* 25 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* C		
West Crosswalk ####	*West Crosswalk* ####		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 85.7 sq.ft./ped.	*Pedestrian Space* 97.0 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 18.8	North Crosswalk 25.9		
East Crosswalk 14.3	East Crosswalk 11.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 41 sq.ft./ped.	*North Crosswalk* 25 sq.ft./ped.		
East Crosswalk 40 sq.ft./ped.	*East Crosswalk* 44 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk B	*North Crosswalk* C		
East Crosswalk C	*East Crosswalk* B		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -7.8 sq.ft./ped.	*Pedestrian Space* -5.7 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 14.1	South Crosswalk 15.0		
West Crosswalk 0.0	West Crosswalk 0.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 36 sq.ft./ped.	*South Crosswalk* 60 sq.ft./ped.		
West Crosswalk #### sq.ft./ped.	*West Crosswalk* #### sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* B		
West Crosswalk ####	*West Crosswalk* ####		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 116.1 sq.ft./ped.	*Pedestrian Space* -10.7 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 14.1	South Crosswalk 15.0		
East Crosswalk 14.3	East Crosswalk 11.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 36 sq.ft./ped.	*South Crosswalk* 60 sq.ft./ped.		
East Crosswalk 40 sq.ft./ped.	*East Crosswalk* 44 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk* B		
East Crosswalk C	*East Crosswalk* B		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 9: CHURCH STREET AT CORTLANDT STREET
COMPARISON OF 2025 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -10.7 sq.ft./ped.	*Pedestrian Space -12.9 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *27.2*	North Crosswalk *41.1*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 29 sq.ft./ped.	*North Crosswalk 16 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk D*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 36.0 sq.ft./ped.	*Pedestrian Space 53.2 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *27.2*	North Crosswalk *41.1*		
East Crosswalk *42.2*	East Crosswalk *24.7*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 29 sq.ft./ped.	*North Crosswalk 16 sq.ft./ped.*		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk 20 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk D*		
East Crosswalk E	*East Crosswalk D*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -11.6 sq.ft./ped.	*Pedestrian Space -14.5 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *36.7*	South Crosswalk *28.4*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 14 sq.ft./ped.	*South Crosswalk 32 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk C*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 35.3 sq.ft./ped.	*Pedestrian Space -8.3 sq.ft./ped.*		
Pedestrian LOS C	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *36.7*	South Crosswalk *28.4*		
East Crosswalk *42.2*	East Crosswalk *24.7*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 14 sq.ft./ped.	*South Crosswalk 32 sq.ft./ped.*		
East Crosswalk 13 sq.ft./ped.	*East Crosswalk 20 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk C*		
East Crosswalk E	*East Crosswalk D*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 9: CHURCH STREET AT CORTLANDT STREET
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -10.8 sq.ft./ped.	*Pedestrian Space -14.1 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *19.5*	North Crosswalk *38.3*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 40 sq.ft./ped.	*North Crosswalk 17 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk D*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 44.6 sq.ft./ped.	*Pedestrian Space 56.3 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *19.5*	North Crosswalk *38.3*		
East Crosswalk *38.7*	East Crosswalk *25.3*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 40 sq.ft./ped.	*North Crosswalk 17 sq.ft./ped.*		
East Crosswalk 15 sq.ft./ped.	*East Crosswalk 20 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk D*		
East Crosswalk E	*East Crosswalk D*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space -11.3 sq.ft./ped.	*Pedestrian Space -15.5 sq.ft./ped.*		
Pedestrian LOS F	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *19.3*	South Crosswalk *20.5*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 26 sq.ft./ped.	*South Crosswalk 44 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk B*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space 48.1 sq.ft./ped.	*Pedestrian Space -8.9 sq.ft./ped.*		
Pedestrian LOS B	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *19.3*	South Crosswalk *20.5*		
East Crosswalk *38.7*	East Crosswalk *25.3*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 26 sq.ft./ped.	*South Crosswalk 44 sq.ft./ped.*		
East Crosswalk 15 sq.ft./ped.	*East Crosswalk 20 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk C	*South Crosswalk B*		
East Crosswalk E	*East Crosswalk D*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 23.8 sq.ft./ped.	*Pedestrian Space* 0.0 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 112.2	North Crosswalk 134.8		
West Crosswalk 128.5	West Crosswalk 92.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 7 sq.ft./ped.	*North Crosswalk* 5 sq.ft./ped.		
West Crosswalk 5 sq.ft./ped.	*West Crosswalk* 6 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* F		
West Crosswalk F	*West Crosswalk* F		

2025 PRE 9/11 CONDITIONS Northeast Corner	2025 POST 9/11 CONDITIONS Northeast Corner	2025 MITIGATED CONDITIONS Northeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 21.8 sq.ft./ped.	*Pedestrian Space* -6.7 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 112.2	North Crosswalk 134.8		
East Crosswalk 6.7	East Crosswalk 23.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 7 sq.ft./ped.	*North Crosswalk* 5 sq.ft./ped.		
East Crosswalk 99 sq.ft./ped.	*East Crosswalk* 25 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* F		
East Crosswalk B	*East Crosswalk* C		

2025 PRE 9/11 CONDITIONS Southwest Corner	2025 POST 9/11 CONDITIONS Southwest Corner	2025 MITIGATED CONDITIONS Southwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space -2.5 sq.ft./ped.	*Pedestrian Space* 37.6 sq.ft./ped.		
Pedestrian LOS F	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 117.1	South Crosswalk 38.0		
West Crosswalk 128.5	West Crosswalk 92.2		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk* 18 sq.ft./ped.		
West Crosswalk 5 sq.ft./ped.	*West Crosswalk* 6 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* D		
West Crosswalk F	*West Crosswalk* F		

2025 PRE 9/11 CONDITIONS Southeast Corner	2025 POST 9/11 CONDITIONS Southeast Corner	2025 MITIGATED CONDITIONS Southeast Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 29.1 sq.ft./ped.	*Pedestrian Space* -8.2 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 117.1	South Crosswalk 38.0		
East Crosswalk 6.7	East Crosswalk 23.6		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 8 sq.ft./ped.	*South Crosswalk* 18 sq.ft./ped.		
East Crosswalk 99 sq.ft./ped.	*East Crosswalk* 25 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk E	*South Crosswalk* D		
East Crosswalk B	*East Crosswalk* C		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET
COMPARISON OF 2025 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 98.4 sq.ft./ped.	*Pedestrian Space* 38.3 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* C		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 58.3	North Crosswalk 48.1		
West Crosswalk 33.3	West Crosswalk 21.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 13 sq.ft./ped.	*North Crosswalk* 14 sq.ft./ped.		
West Crosswalk 20 sq.ft./ped.	*West Crosswalk* 25 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk E	*North Crosswalk* E		
West Crosswalk D	*West Crosswalk* C		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 26.4 sq.ft./ped.	*Pedestrian Space* -11.1 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 27.1	North Crosswalk 48.1		
East Crosswalk 45.4	East Crosswalk 9.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 28 sq.ft./ped.	*North Crosswalk* 14 sq.ft./ped.		
East Crosswalk 15 sq.ft./ped.	*East Crosswalk* 66 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* E		
East Crosswalk E	*East Crosswalk* B		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 22.3 sq.ft./ped.	*Pedestrian Space* 122.5 sq.ft./ped.		
Pedestrian LOS D	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 20.3	South Crosswalk 21.8		
West Crosswalk 33.3	West Crosswalk 21.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 44 sq.ft./ped.	*South Crosswalk* 31 sq.ft./ped.		
West Crosswalk 20 sq.ft./ped.	*West Crosswalk* 25 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* C		
West Crosswalk D	*West Crosswalk* C		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 100.3 sq.ft./ped.	*Pedestrian Space* -9.0 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 20.3	South Crosswalk 21.8		
East Crosswalk 11.8	East Crosswalk 9.0		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 44 sq.ft./ped.	*South Crosswalk* 31 sq.ft./ped.		
East Crosswalk 56 sq.ft./ped.	*East Crosswalk* 66 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk B	*South Crosswalk* C		
East Crosswalk B	*East Crosswalk* B		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 10: CHURCH STREET AT LIBERTY STREET
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED BUILD PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 49.3 sq.ft./ped.	*Pedestrian Space* 17.5 sq.ft./ped.		
Pedestrian LOS B	*Pedestrian LOS* D		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 147.2	North Crosswalk 88.8		
West Crosswalk 47.5	West Crosswalk 52.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 5 sq.ft./ped.	*North Crosswalk* 8 sq.ft./ped.		
West Crosswalk 14 sq.ft./ped.	*West Crosswalk* 10 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk F	*North Crosswalk* E		
West Crosswalk E	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 33.4 sq.ft./ped.	*Pedestrian Space* -12.6 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
North Crosswalk 19.5	North Crosswalk 88.8		
East Crosswalk 41.6	East Crosswalk 27.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk 39 sq.ft./ped.	*North Crosswalk* 8 sq.ft./ped.		
East Crosswalk 16 sq.ft./ped.	*East Crosswalk* 22 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk C	*North Crosswalk* E		
East Crosswalk D	*East Crosswalk* D		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 12.3 sq.ft./ped.	*Pedestrian Space* 56.9 sq.ft./ped.		
Pedestrian LOS E	*Pedestrian LOS* B		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 40.2	South Crosswalk 26.2		
West Crosswalk 47.5	West Crosswalk 52.5		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 22 sq.ft./ped.	*South Crosswalk* 26 sq.ft./ped.		
West Crosswalk 14 sq.ft./ped.	*West Crosswalk* 10 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* C		
West Crosswalk E	*West Crosswalk* E		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	CORNER ANALYSIS:		
Pedestrian Space 38.3 sq.ft./ped.	*Pedestrian Space* -8.9 sq.ft./ped.		
Pedestrian LOS C	*Pedestrian LOS* F		
CROSSWALK ANALYSIS:	CROSSWALK ANALYSIS:		
Maximum Surge	Maximum Surge		
South Crosswalk 40.2	South Crosswalk 26.2		
East Crosswalk 25.5	East Crosswalk 27.1		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk 22 sq.ft./ped.	*South Crosswalk* 26 sq.ft./ped.		
East Crosswalk 26 sq.ft./ped.	*East Crosswalk* 22 sq.ft./ped.		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk D	*South Crosswalk* C		
East Crosswalk C	*East Crosswalk* D		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 11: GREENWICH STREET AT FULTON STREET
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -5.8 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *29.3*		
West Crosswalk *0.0*	West Crosswalk *49.5*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 23 sq.ft./ped.*		
West Crosswalk 0 sq.ft./ped.	*West Crosswalk 9 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk D*		
West Crosswalk ####	*West Crosswalk E*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 30.9 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS C*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *29.3*		
East Crosswalk *0.0*	East Crosswalk *51.3*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 23 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 9 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk D*		
East Crosswalk ####	*East Crosswalk E*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -8.4 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *36.1*		
West Crosswalk *0.0*	West Crosswalk *49.5*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 19 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 9 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
West Crosswalk ####	*West Crosswalk E*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 237.6 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *36.1*		
East Crosswalk *0.0*	East Crosswalk *51.3*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 19 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 9 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk D*		
East Crosswalk ####	*East Crosswalk E*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 11: GREENWICH STREET AT FULTON STREET
COMPARISON OF 2025 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -7.6 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 76.1		
West Crosswalk 0.0	West Crosswalk 91.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 9 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 5 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk E*		
West Crosswalk ####	*West Crosswalk F*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 11.3 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS E*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk 0.0	North Crosswalk 76.1		
East Crosswalk 0.0	East Crosswalk 91.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 9 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 5 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk E*		
East Crosswalk ####	*East Crosswalk F*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -8.1 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 69.7		
West Crosswalk 0.0	West Crosswalk 91.4		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 10 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 5 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk E*		
West Crosswalk ####	*West Crosswalk F*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 126.3 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS B*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk 0.0	South Crosswalk 69.7		
East Crosswalk 0.0	East Crosswalk 91.3		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 10 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 5 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk E*		
East Crosswalk ####	*East Crosswalk F*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 11: GREENWICH STREET AT FULTON STREET
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -9.4 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *36.5*		
West Crosswalk *0.0*	West Crosswalk *61.8*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 18 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 7 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk D*		
West Crosswalk ####	*West Crosswalk E*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 30.1 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS C*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *36.5*		
East Crosswalk *0.0*	East Crosswalk *49.4*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 18 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 9 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk D*		
East Crosswalk ####	*East Crosswalk E*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -5.8 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *45.4*		
West Crosswalk *0.0*	West Crosswalk *61.8*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 15 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk 7 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk E*		
West Crosswalk ####	*West Crosswalk E*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space 222.9 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS A*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *45.4*		
East Crosswalk *0.0*	East Crosswalk *49.4*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk 15 sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk 9 sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk E*		
East Crosswalk ####	*East Crosswalk E*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 12: GREENWICH STREET MIDBLOCK
COMPARISON OF 2025 AM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -5.9 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *31.2*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 85 sq.ft./ped.*		
West Crosswalk 0 sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk B*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *0.0*		
East Crosswalk *0.0*	East Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *0.0*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *0.0*		
East Crosswalk *0.0*	East Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS

STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE

LOCATION 12: GREENWICH STREET MIDBLOCK

COMPARISON OF 2025 MD PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

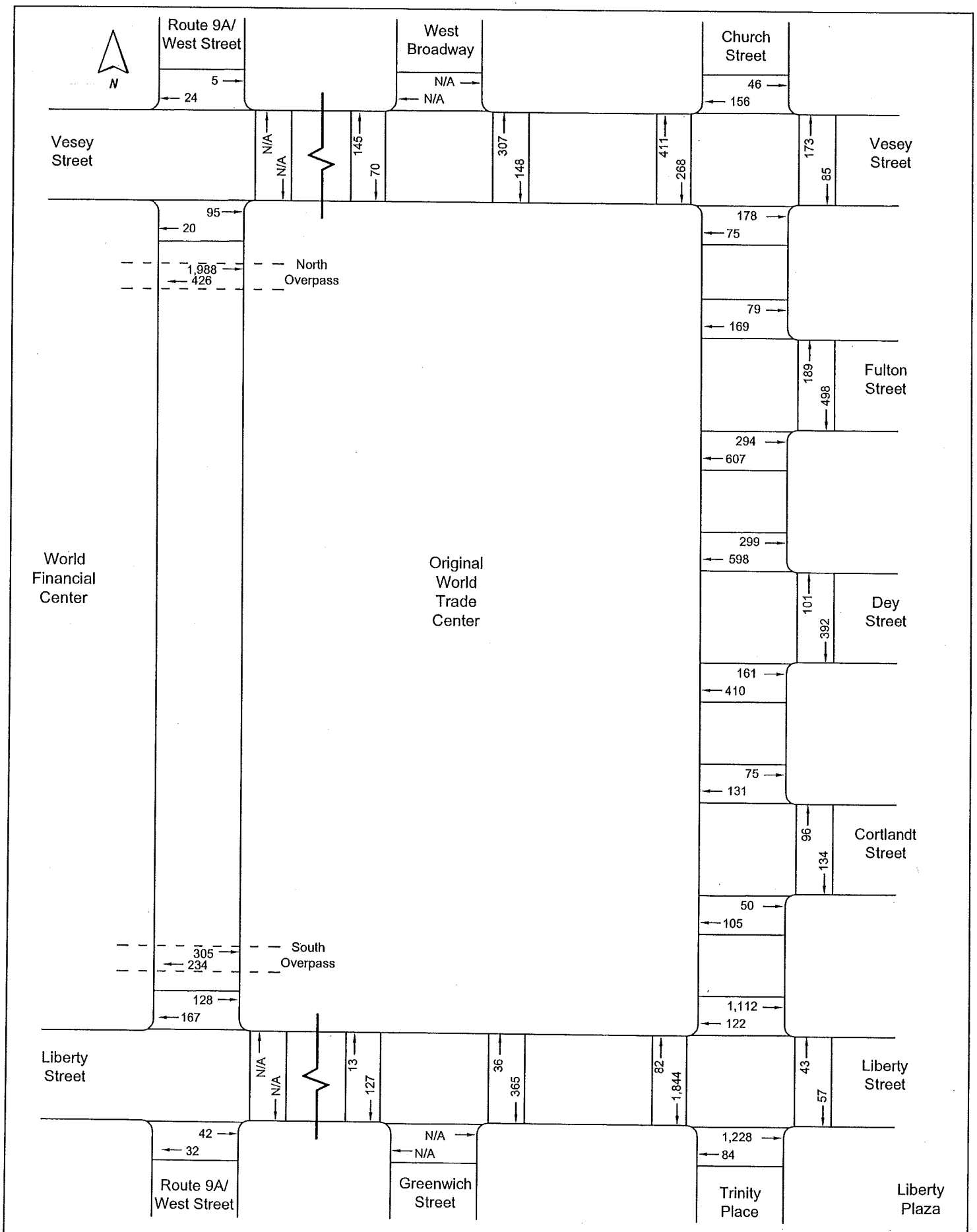
2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -12.8 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *40.4*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 66 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk B*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *0.0*		
East Crosswalk *0.0*	East Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *0.0*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *0.0*		
East Crosswalk *0.0*	East Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		

NOTE: [ ] Indicate Significant Impact.

PATH TERMINAL EIS
STREET CORNER & CROSSWALK ANALYSIS SUMMARY TABLE
LOCATION 12: GREENWICH STREET MIDBLOCK
COMPARISON OF 2025 PM PEAK HOUR PRE 9/11 vs. POST 9/11 vs. MITIGATED PEDESTRIAN LEVELS OF SERVICE

2025 PRE 9/11 CONDITIONS Northwest Corner	2025 POST 9/11 CONDITIONS Northwest Corner	2025 MITIGATED CONDITIONS Northwest Corner	MITIGATION MEASURES
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space -13.2 sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS F*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *45.4*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk 58 sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk B*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Northeast Corner	**2025 POST 9/11 CONDITIONS Northeast Corner**	**2025 MITIGATED CONDITIONS Northeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
North Crosswalk *0.0*	North Crosswalk *0.0*		
East Crosswalk *0.0*	East Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
North Crosswalk #### sq.ft./ped.	*North Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
North Crosswalk ####	*North Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southwest Corner	**2025 POST 9/11 CONDITIONS Southwest Corner**	**2025 MITIGATED CONDITIONS Southwest Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *0.0*		
West Crosswalk *0.0*	West Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
West Crosswalk #### sq.ft./ped.	*West Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
West Crosswalk ####	*West Crosswalk ####*		
2025 PRE 9/11 CONDITIONS Southeast Corner	**2025 POST 9/11 CONDITIONS Southeast Corner**	**2025 MITIGATED CONDITIONS Southeast Corner**	**MITIGATION MEASURES**
CORNER ANALYSIS:	**CORNER ANALYSIS:**		
Pedestrian Space #### sq.ft./ped.	*Pedestrian Space #### sq.ft./ped.*		
Pedestrian LOS ####	*Pedestrian LOS ####*		
CROSSWALK ANALYSIS:	**CROSSWALK ANALYSIS:**		
Maximum Surge	Maximum Surge		
South Crosswalk *0.0*	South Crosswalk *0.0*		
East Crosswalk *0.0*	East Crosswalk *0.0*		
Surge Pedestrian Space	*Surge Pedestrian Space*		
South Crosswalk #### sq.ft./ped.	*South Crosswalk #### sq.ft./ped.*		
East Crosswalk #### sq.ft./ped.	*East Crosswalk #### sq.ft./ped.*		
Surge Pedestrian LOS	*Surge Pedestrian LOS*		
South Crosswalk ####	*South Crosswalk ####*		
East Crosswalk ####	*East Crosswalk ####*		

NOTE: [ ] Indicate Significant Impact.



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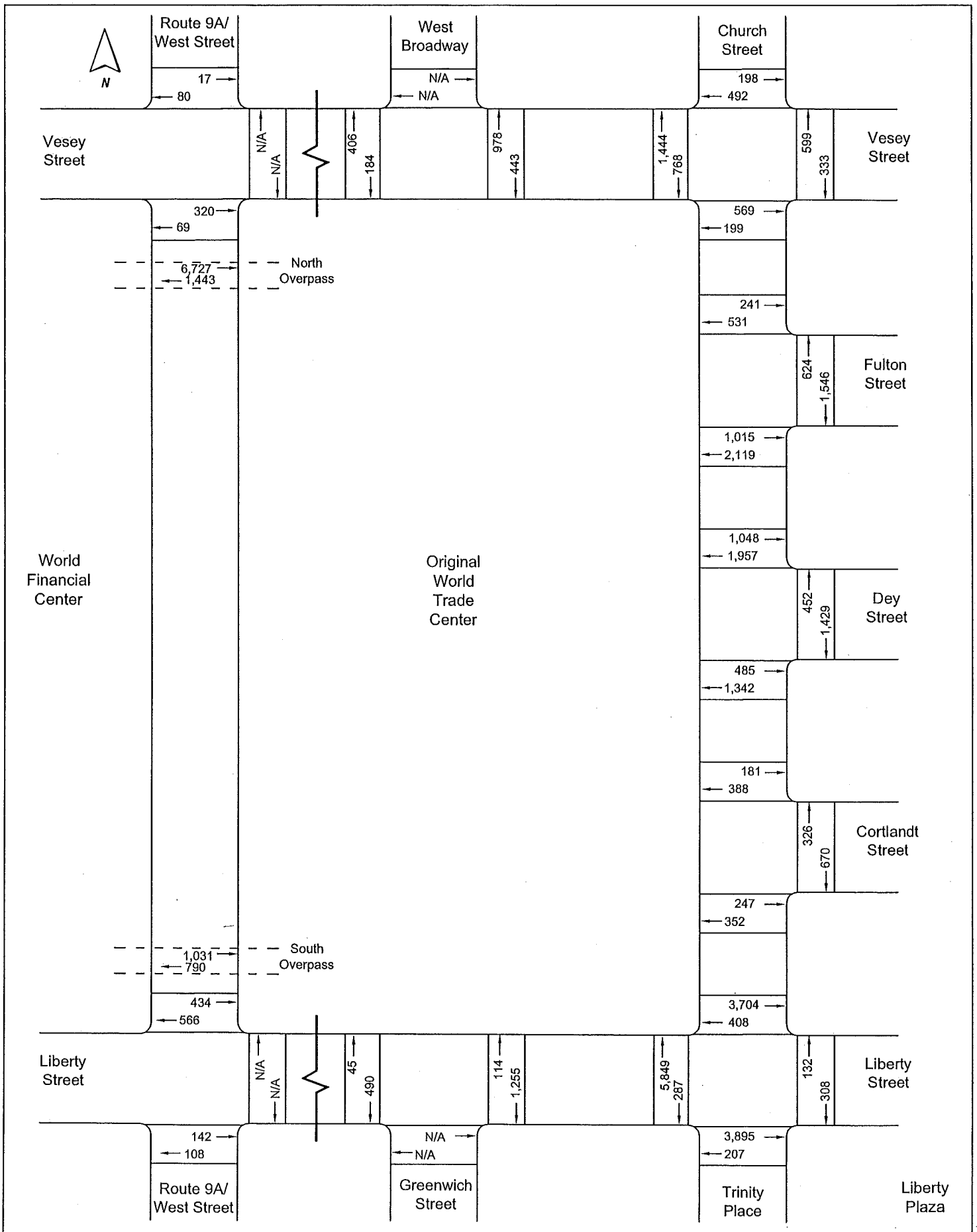
Permanent WTC PATH Terminal EIS
On-Street Pedestrian Volumes

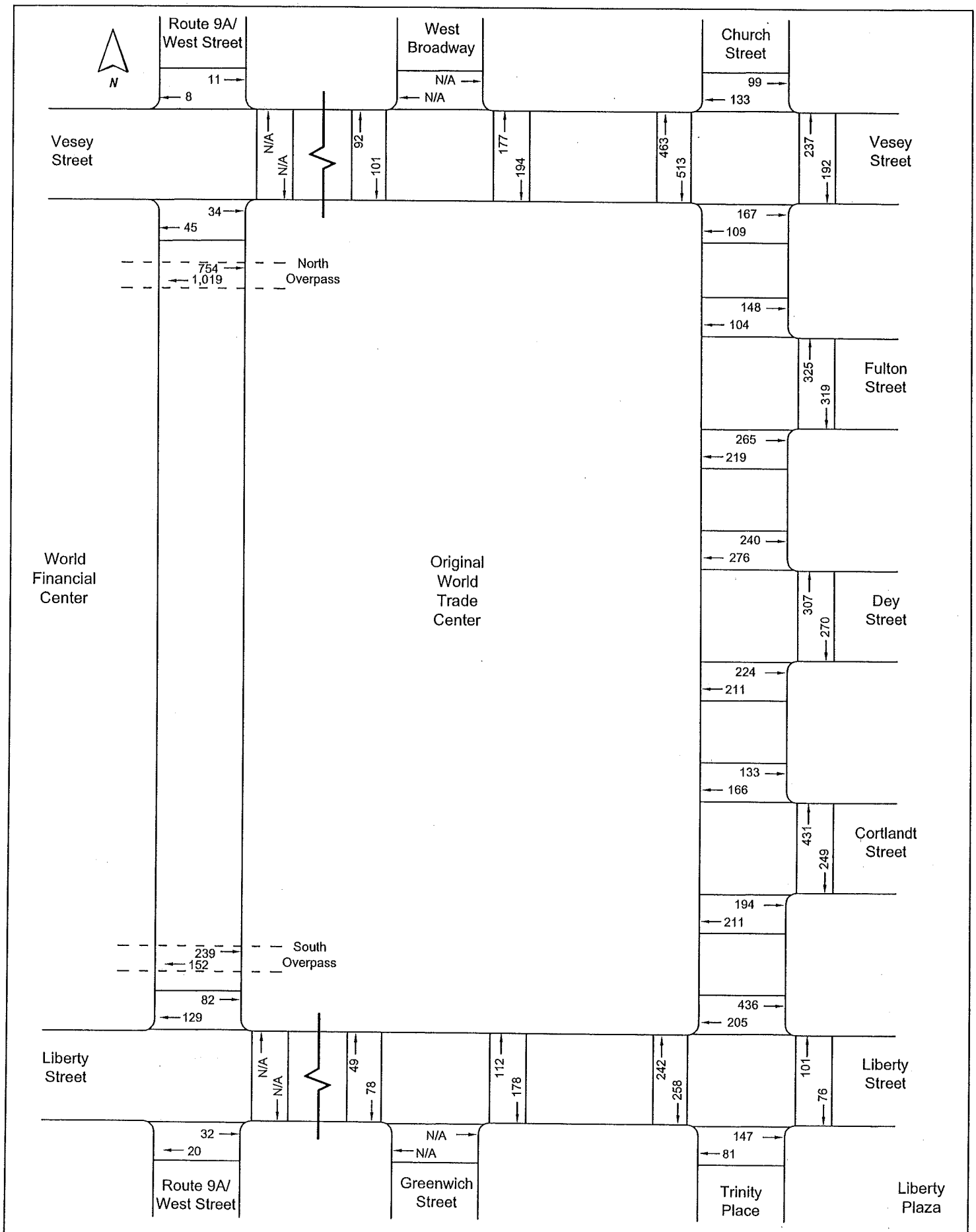
2000 Pre-9/11 Conditions
AM Peak 15-Minute Volumes
Figure 1



Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Permanent WTC PATH Terminal EIS
On-Street Pedestrian Volumes

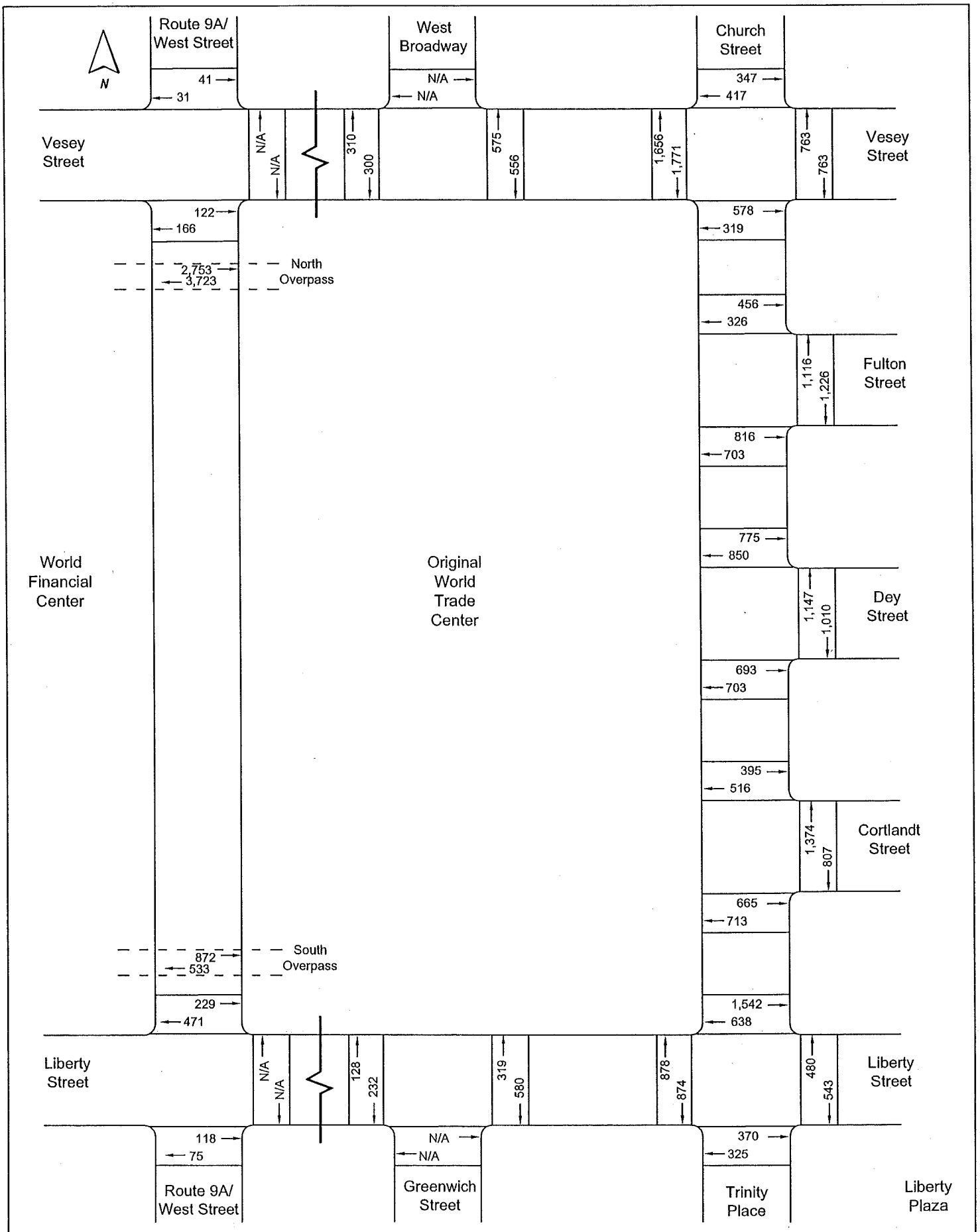
2000 Pre-9/11 Conditions
AM Peak Hour Volumes
Figure 2



Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Permanent WTC PATH Terminal EIS
On-Street Pedestrian Volumes

2000 Pre-9/11 Conditions
Midday Peak 15-Minute Volumes
Figure 3



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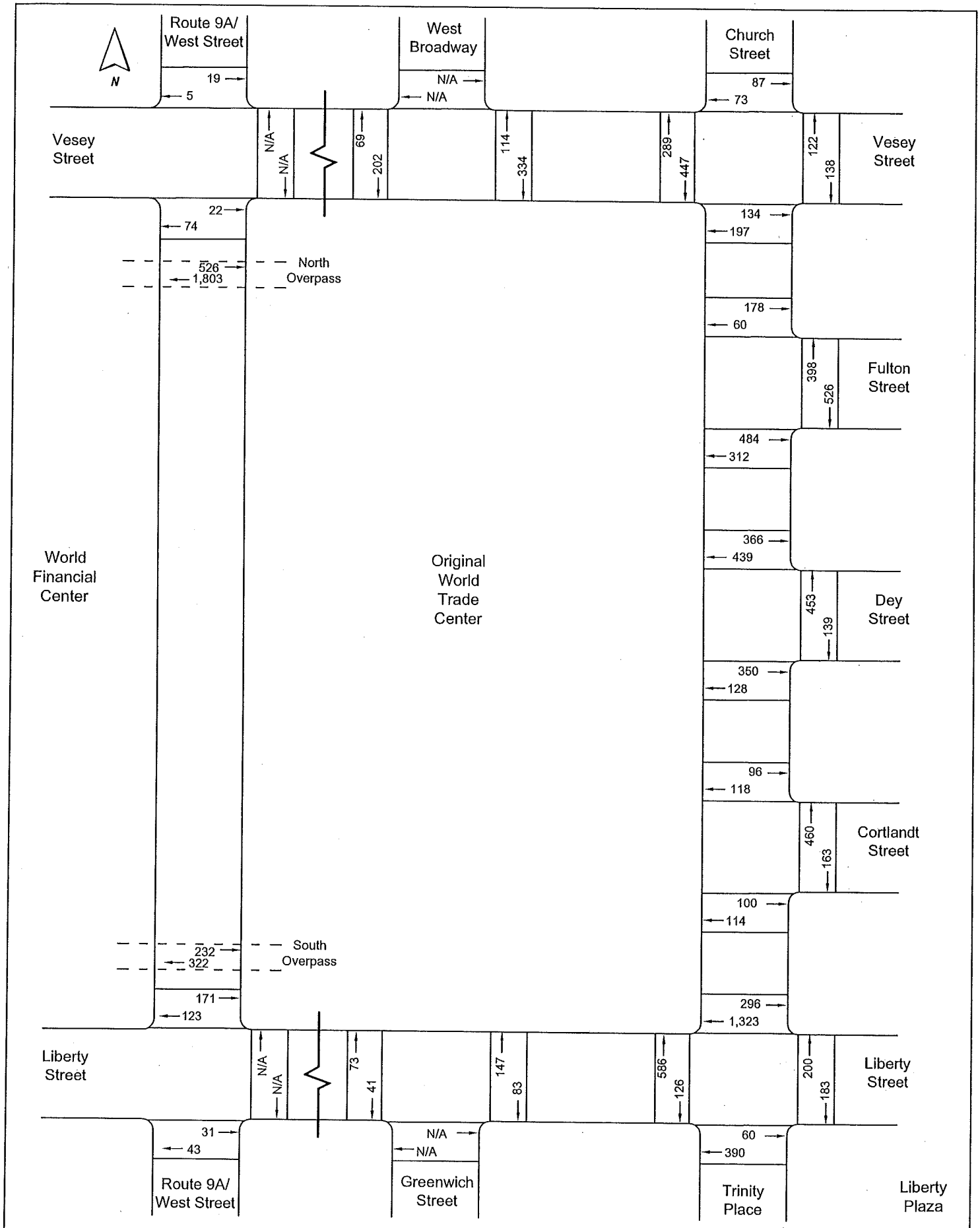
Permanent WTC PATH Terminal EIS
On-Street Pedestrian Volumes

2000 Pre-9/11 Conditions
Midday Peak Hour Volumes
Figure 4



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Permanent WTC PATH Terminal EIS
On-Street Pedestrian Volumes

2000 Pre-9/11 Conditions
PM Peak 15-Minute Volumes
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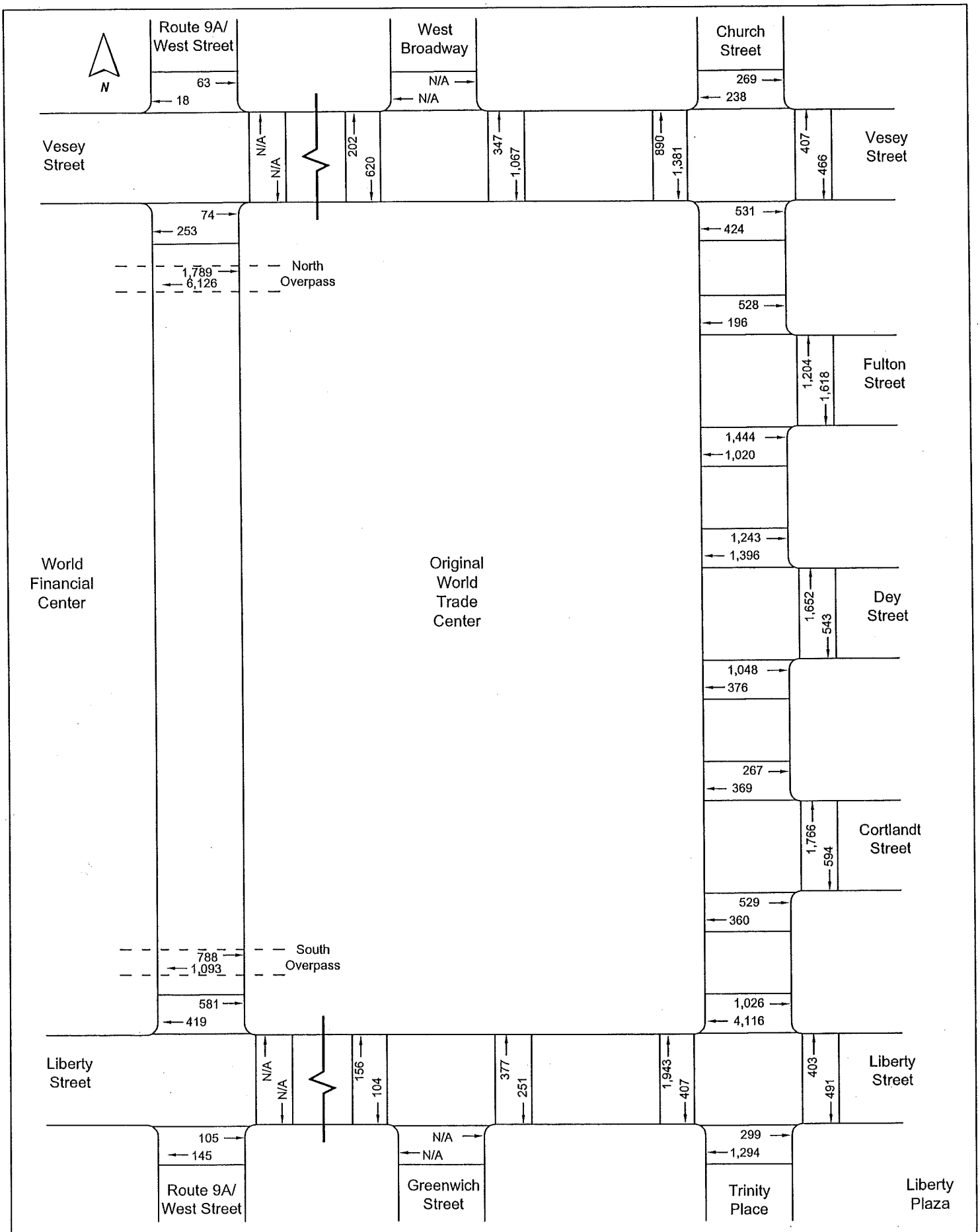

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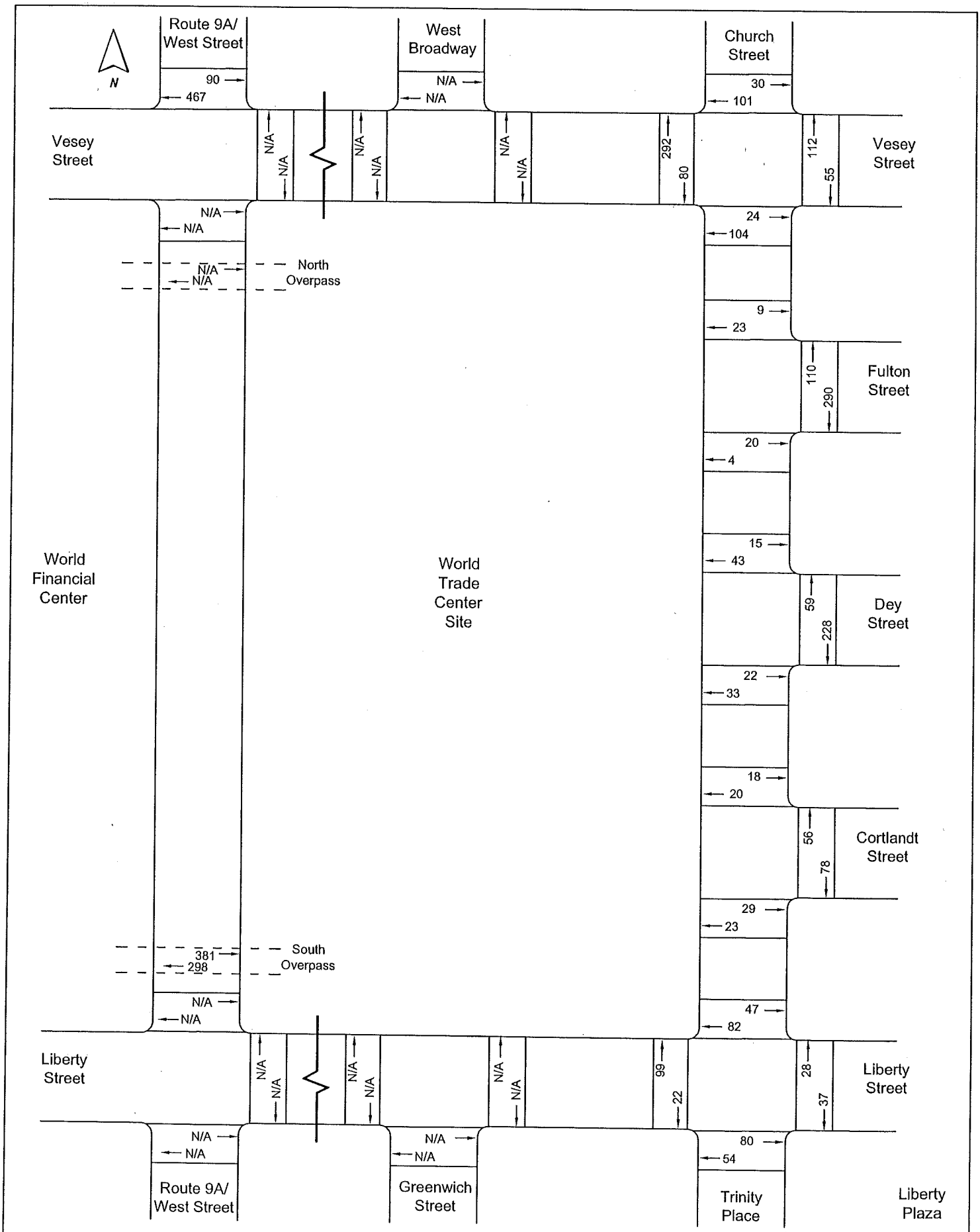

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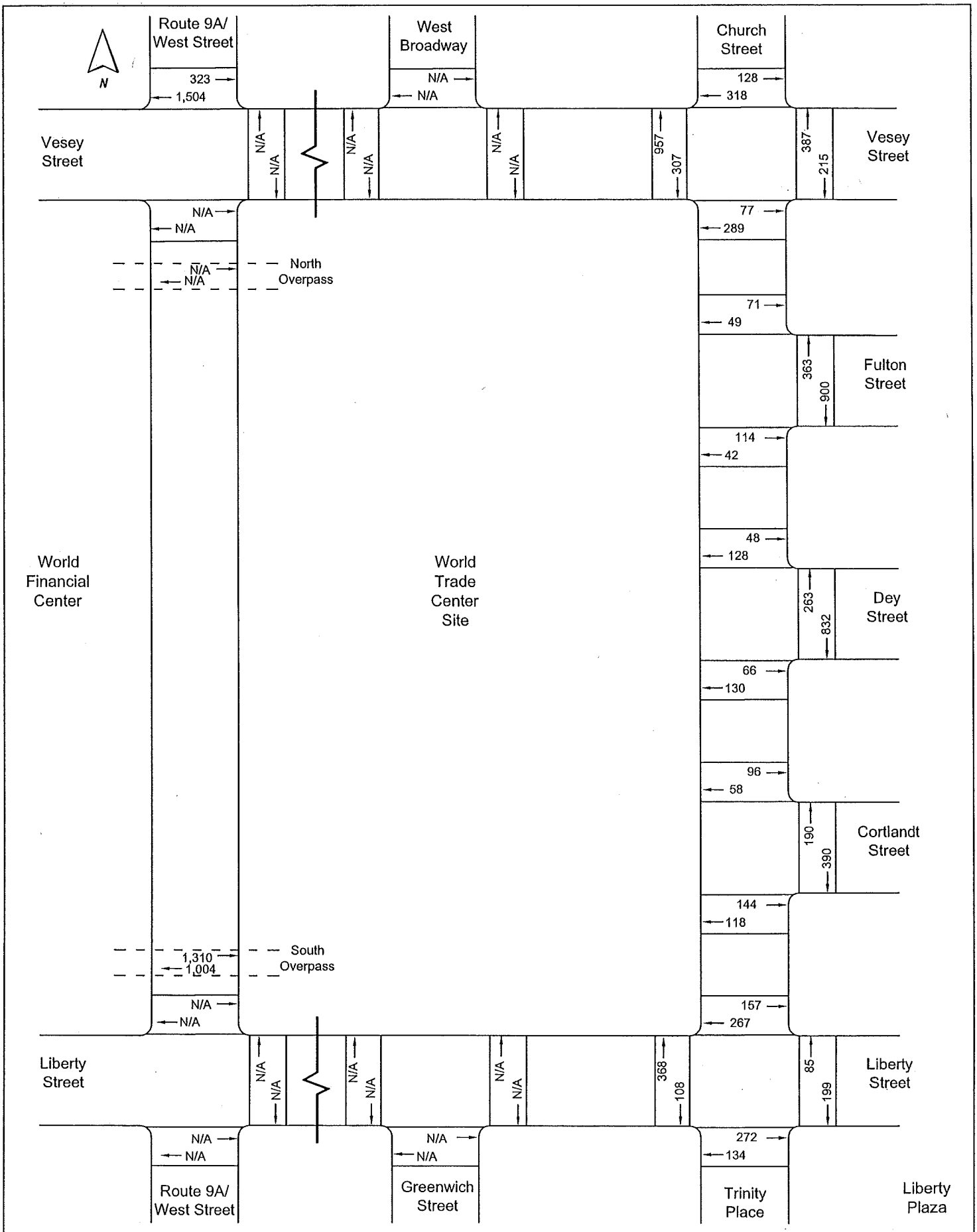

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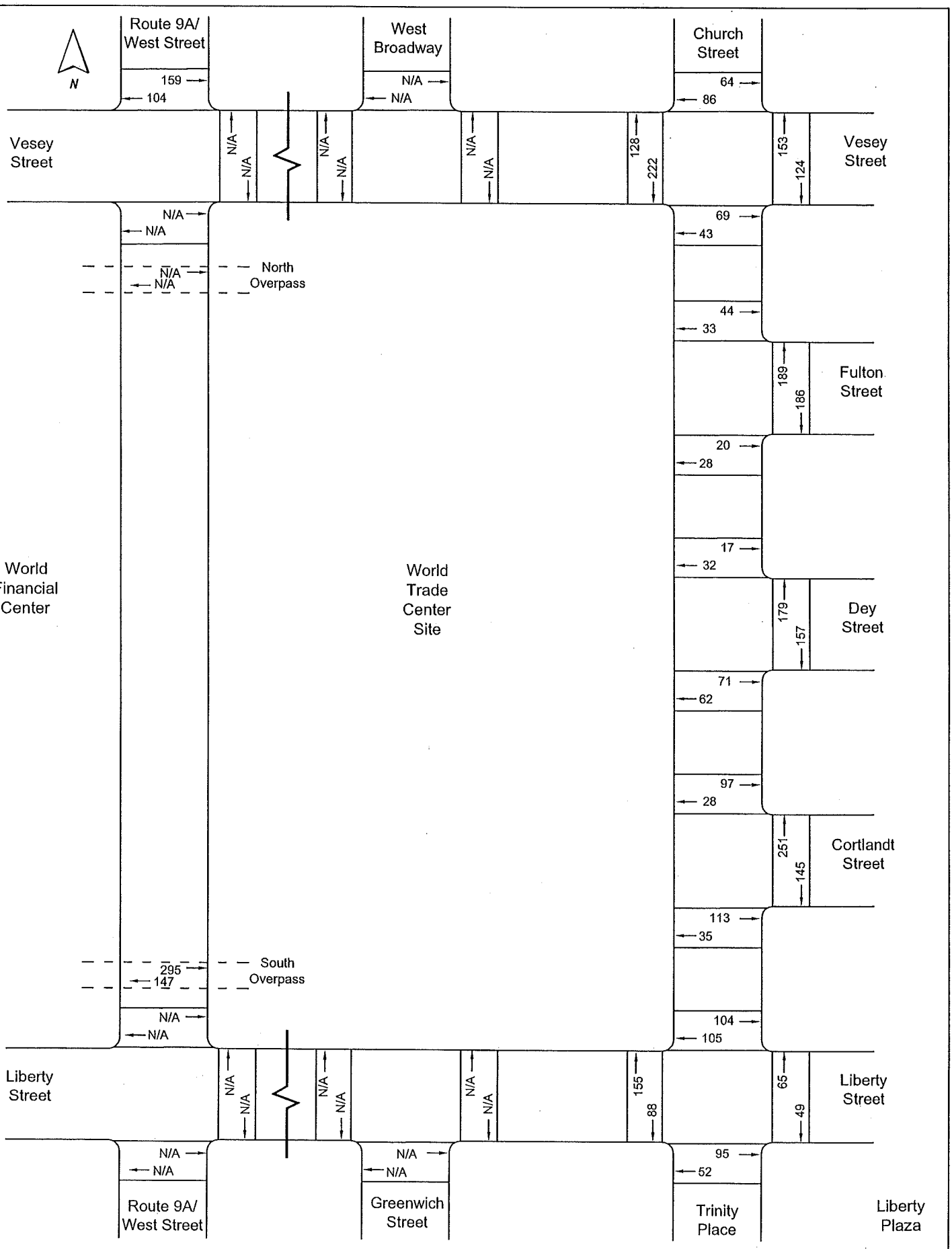

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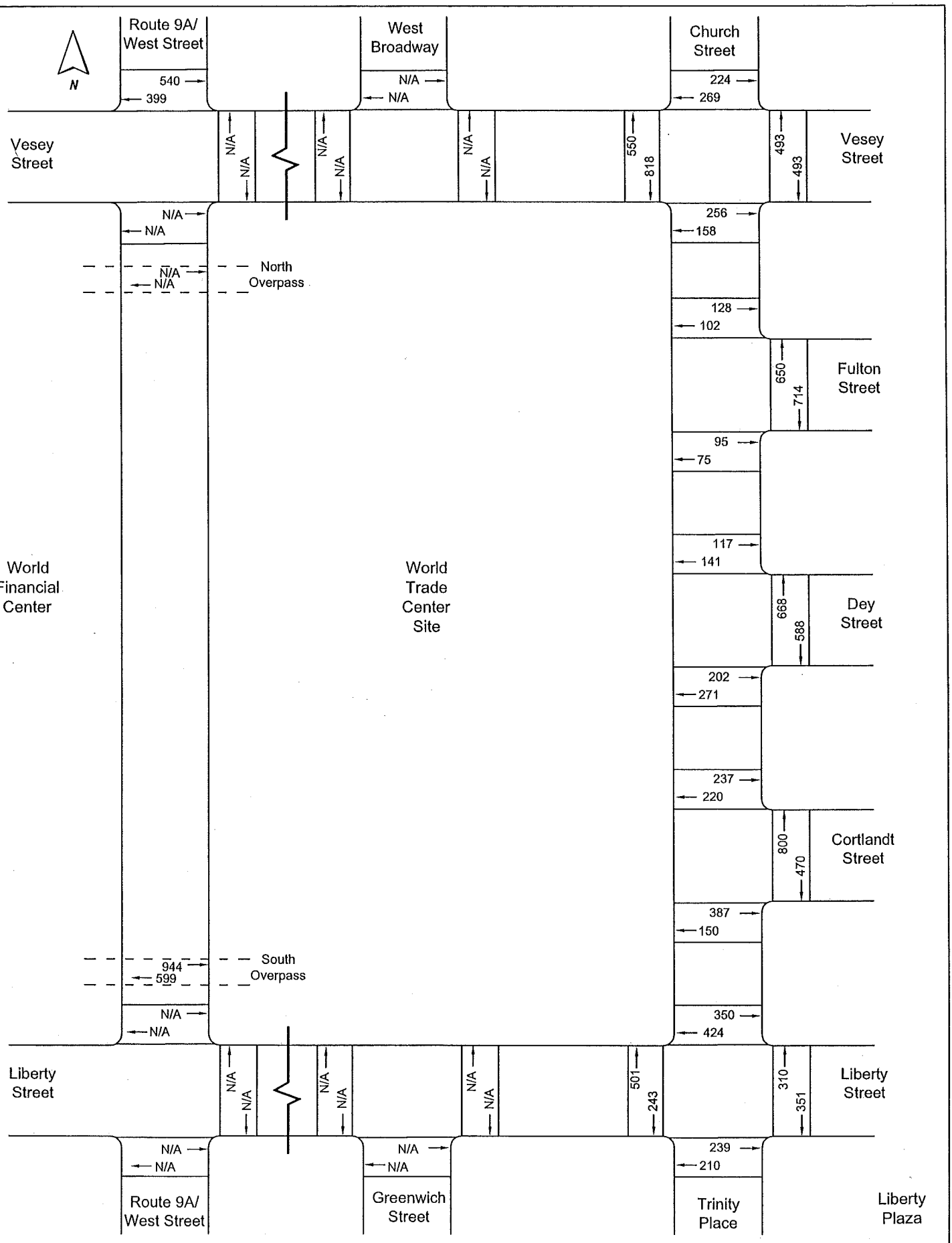

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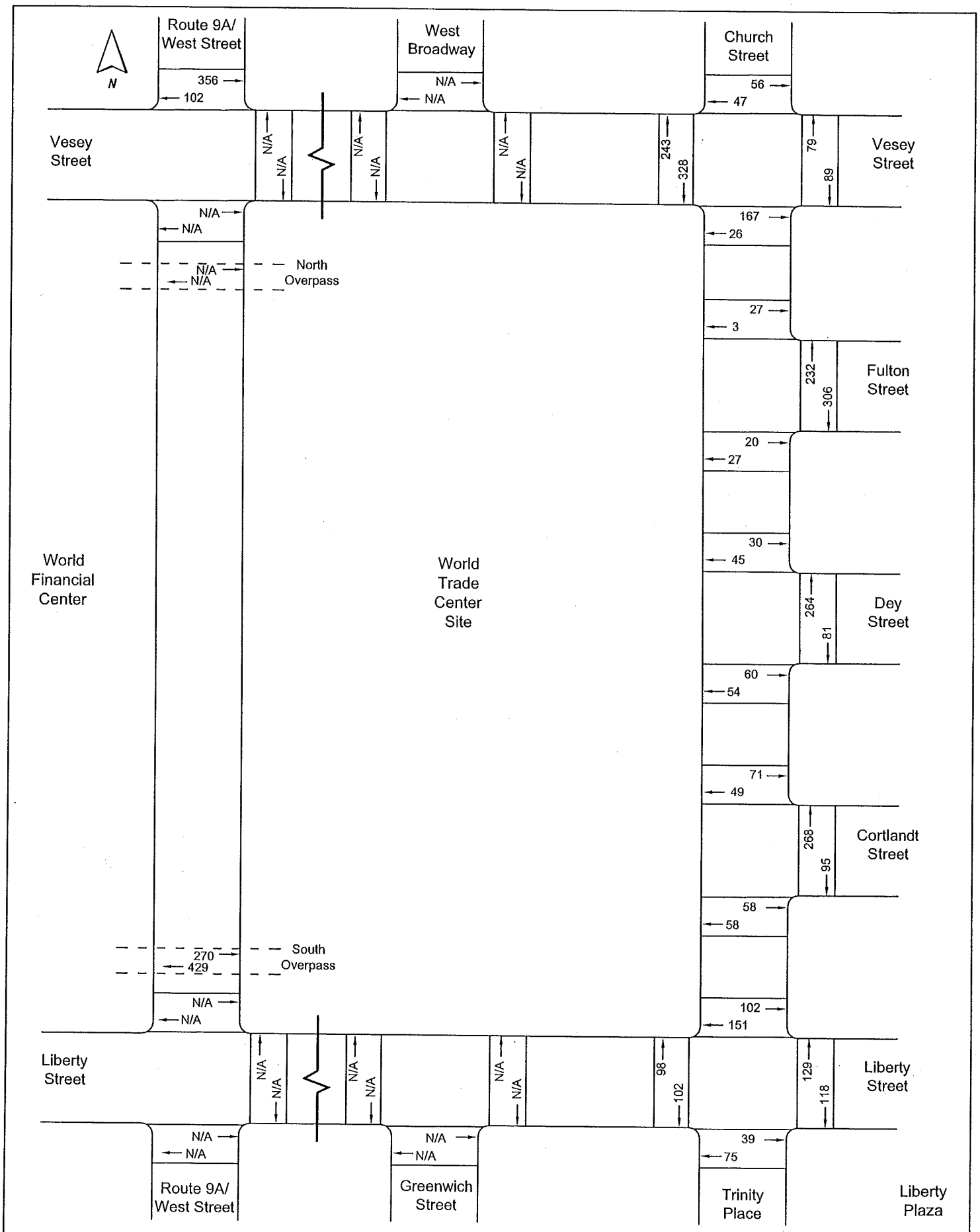

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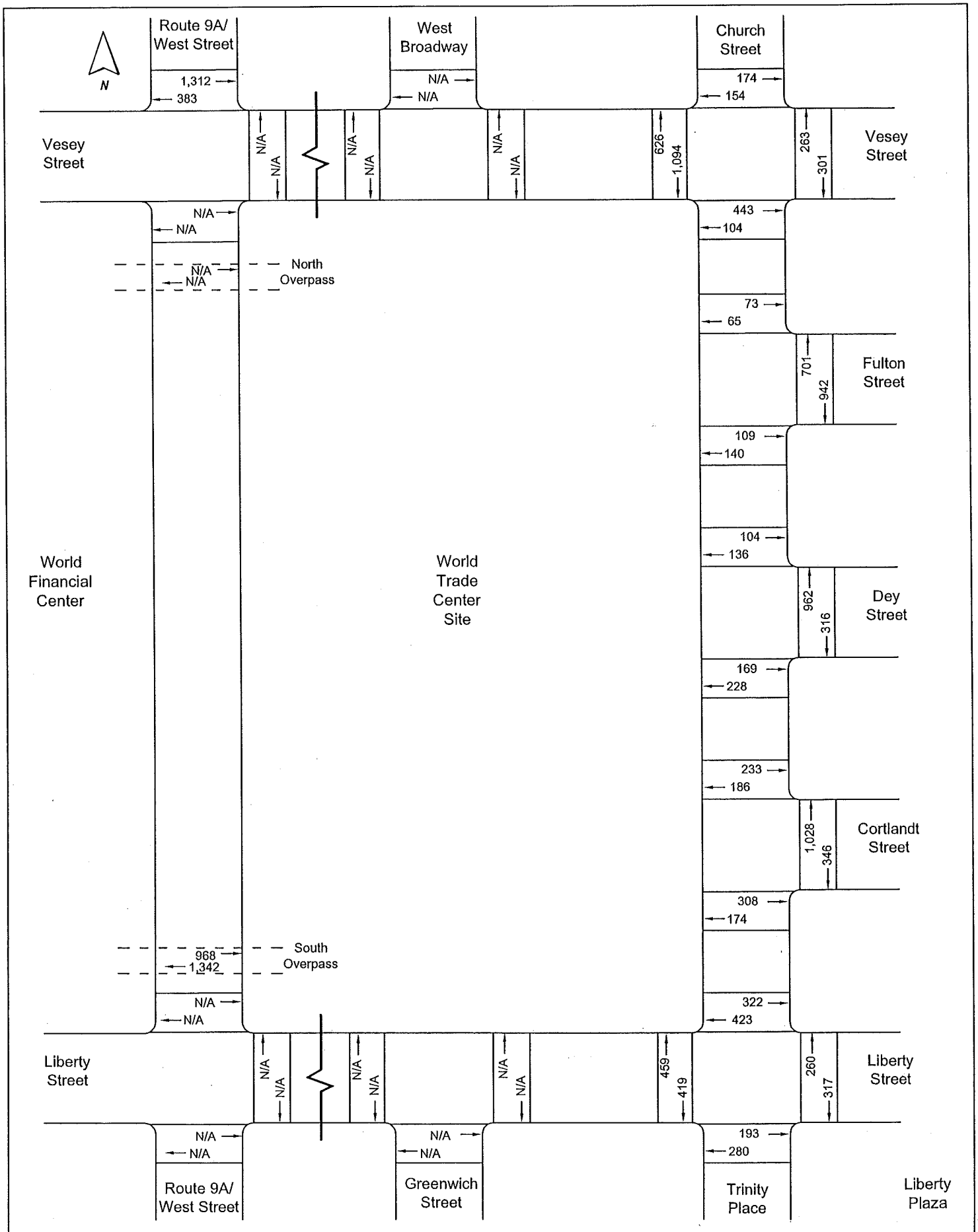

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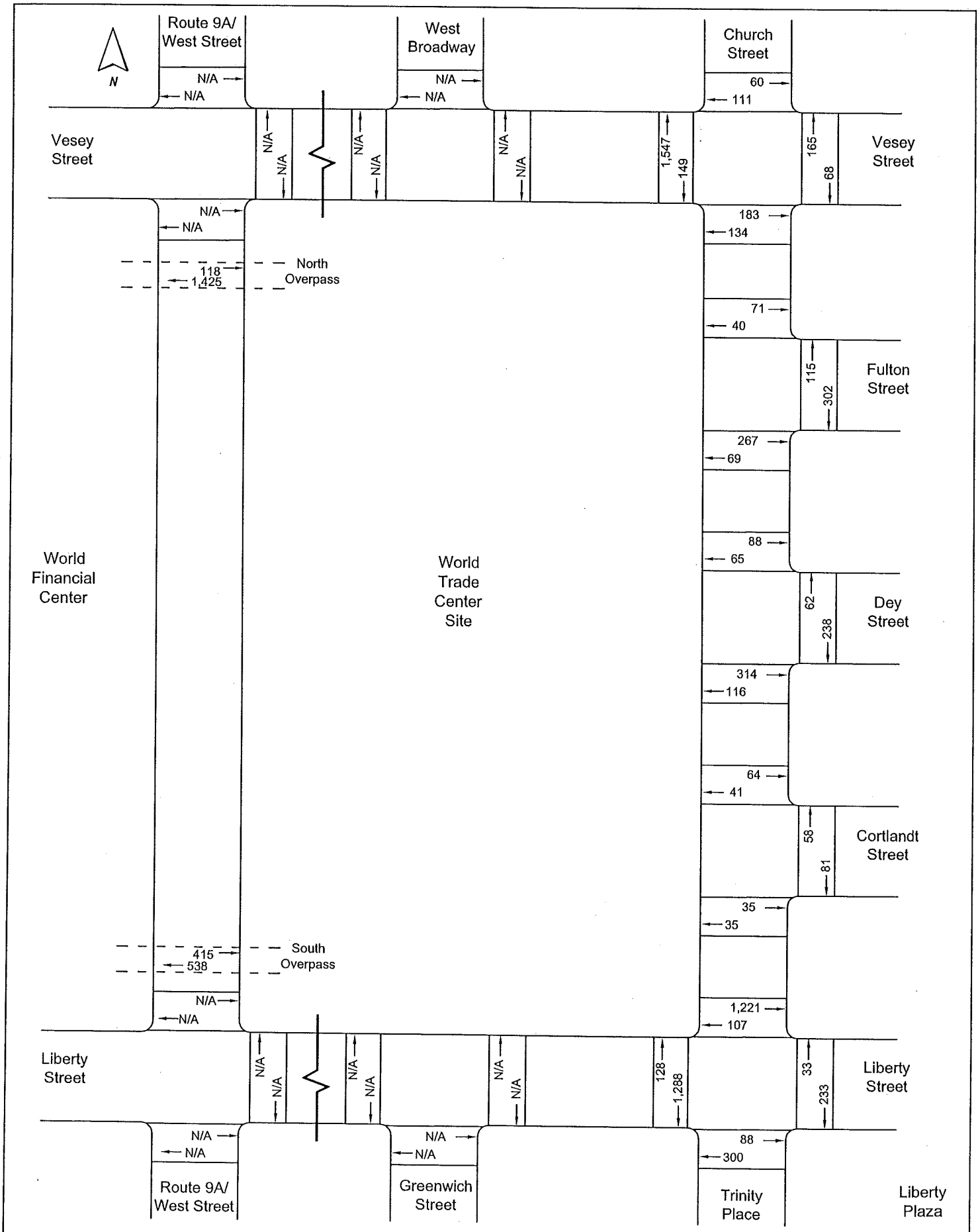

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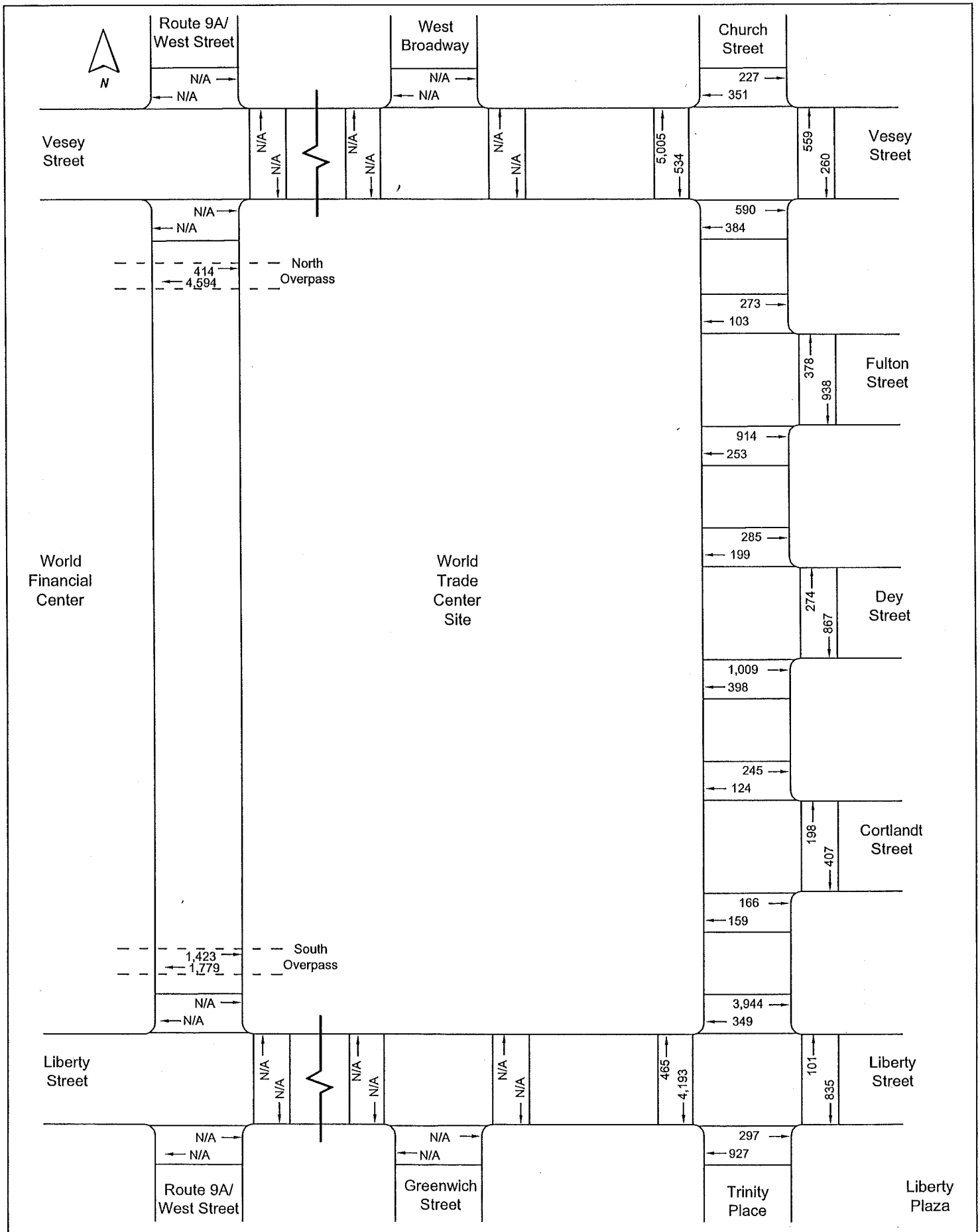

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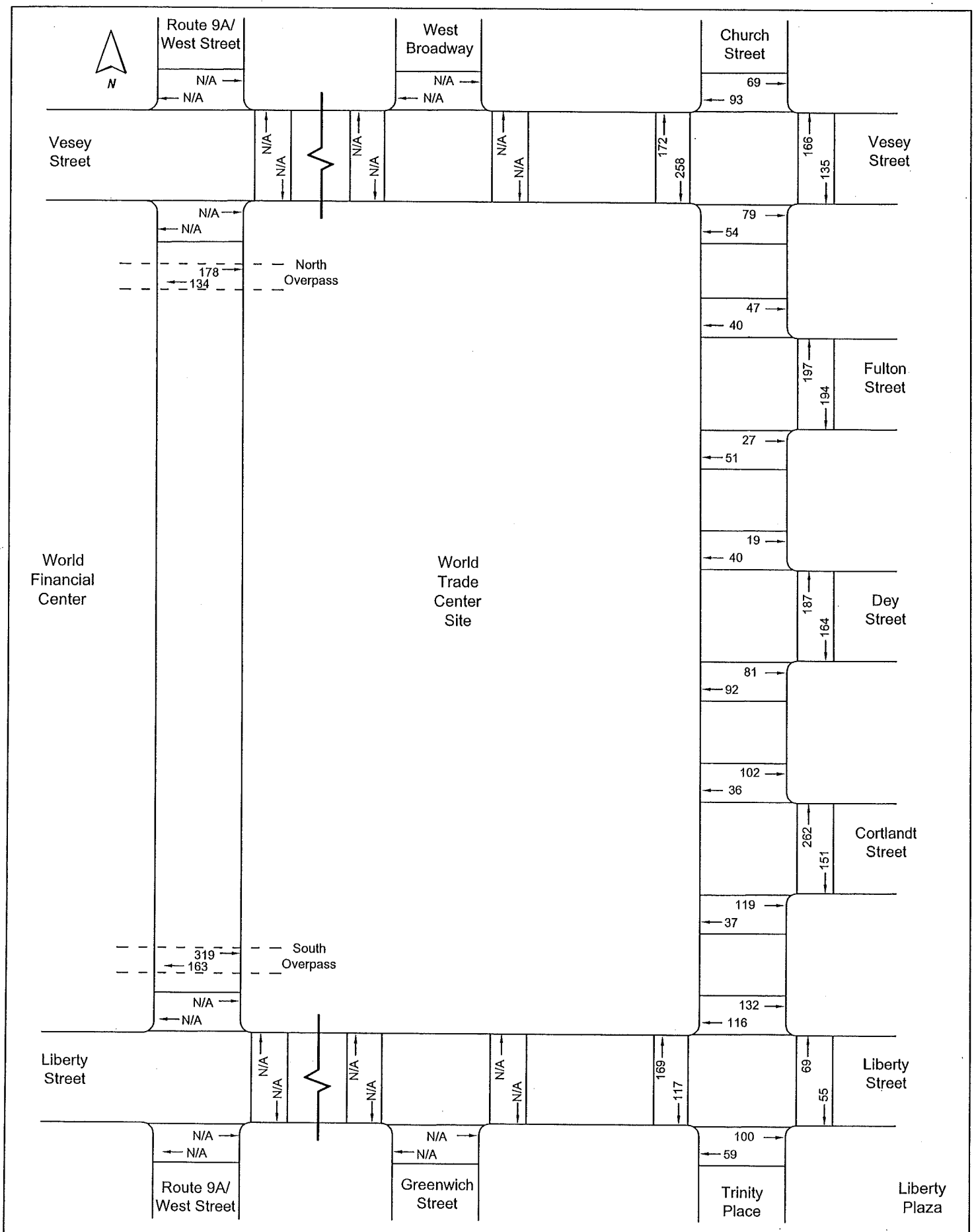

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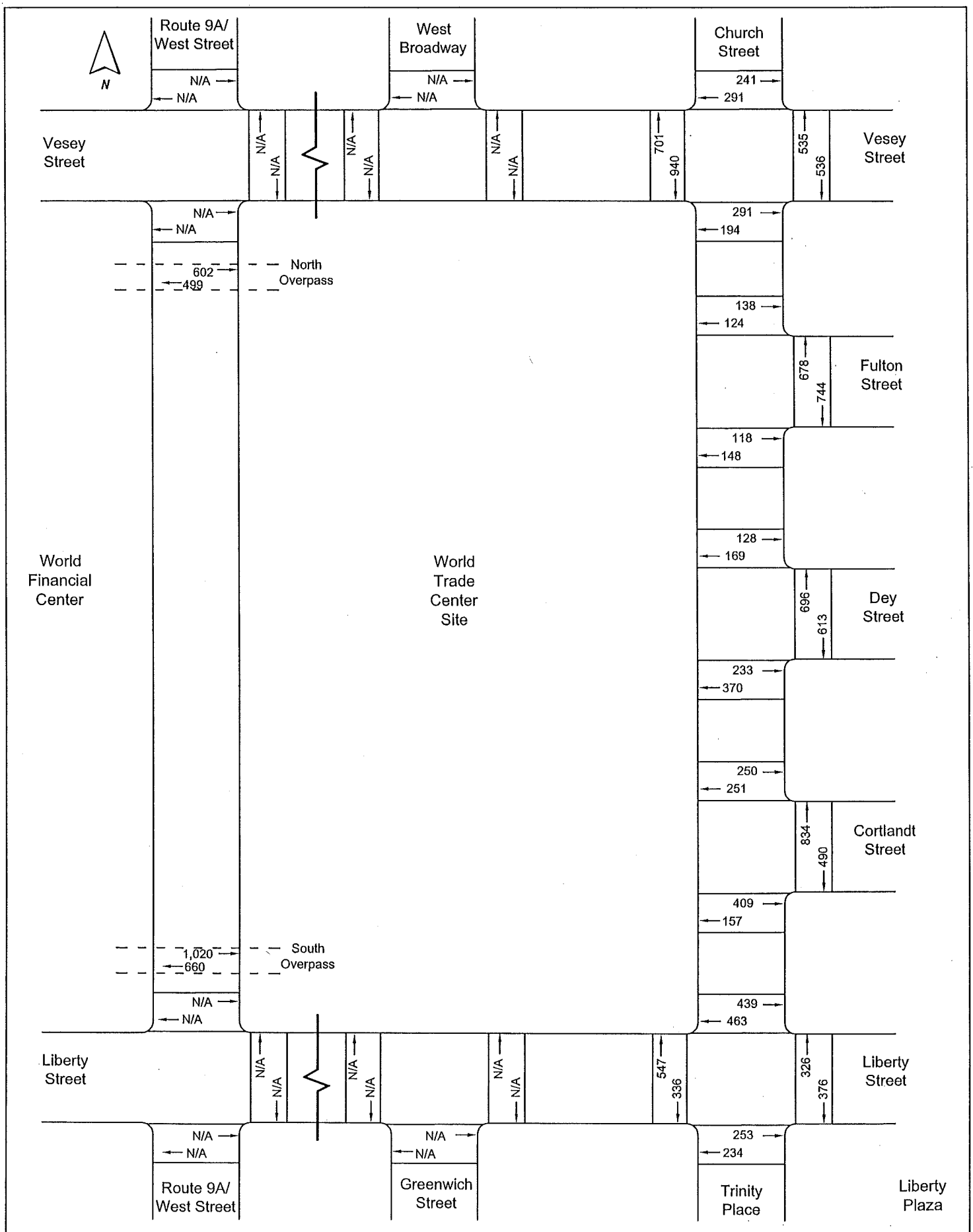

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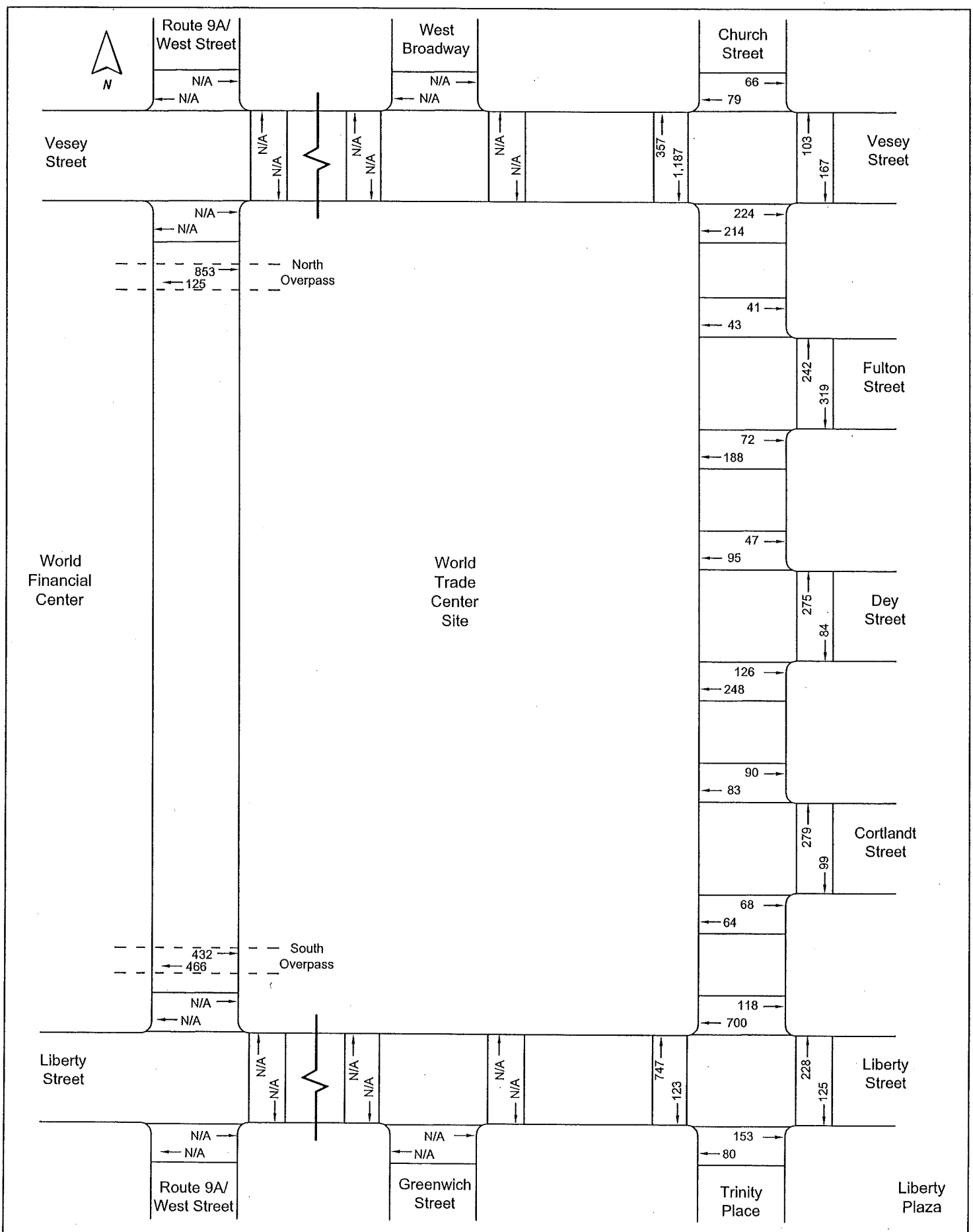

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PM Peak 15-Minute Volumes
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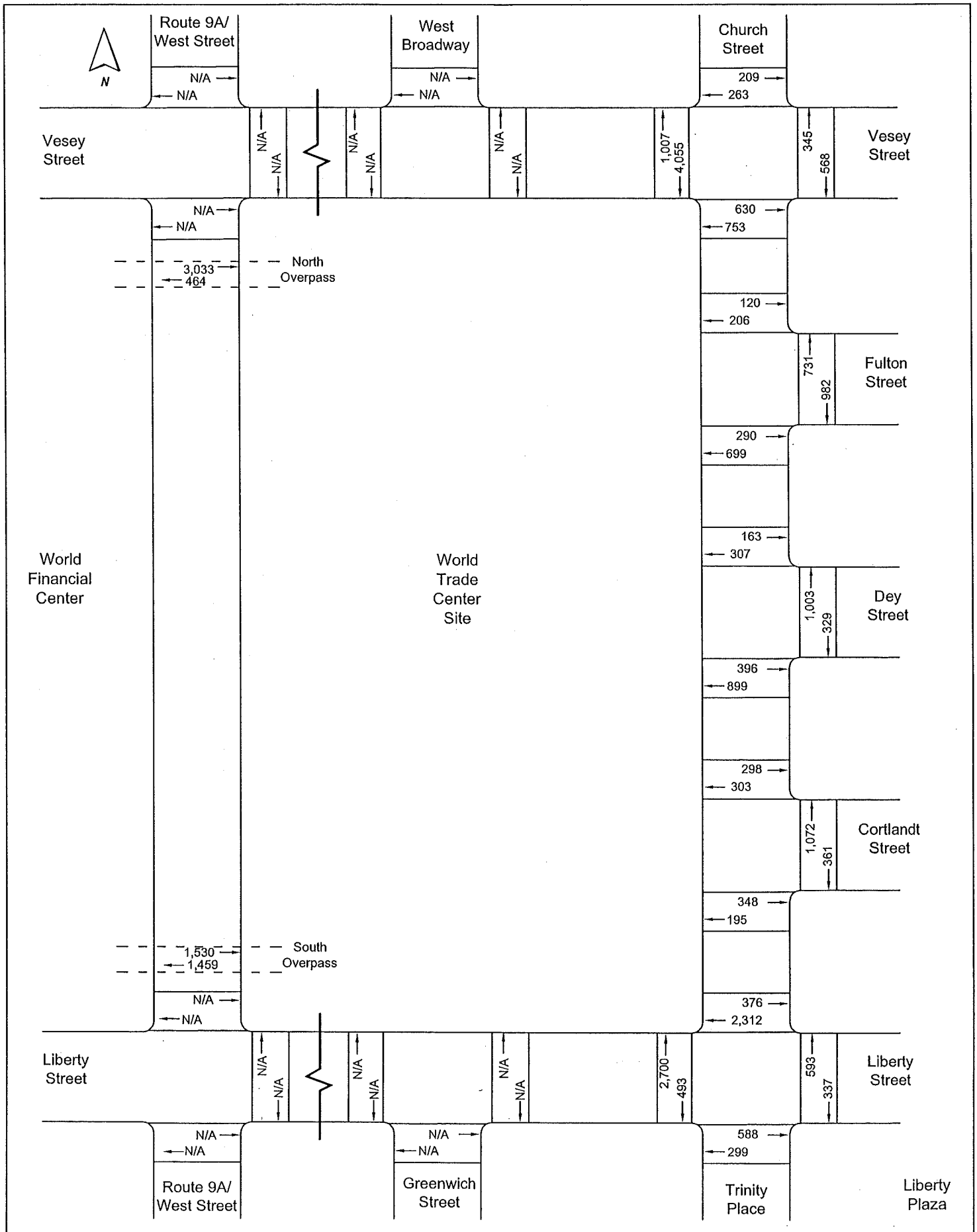

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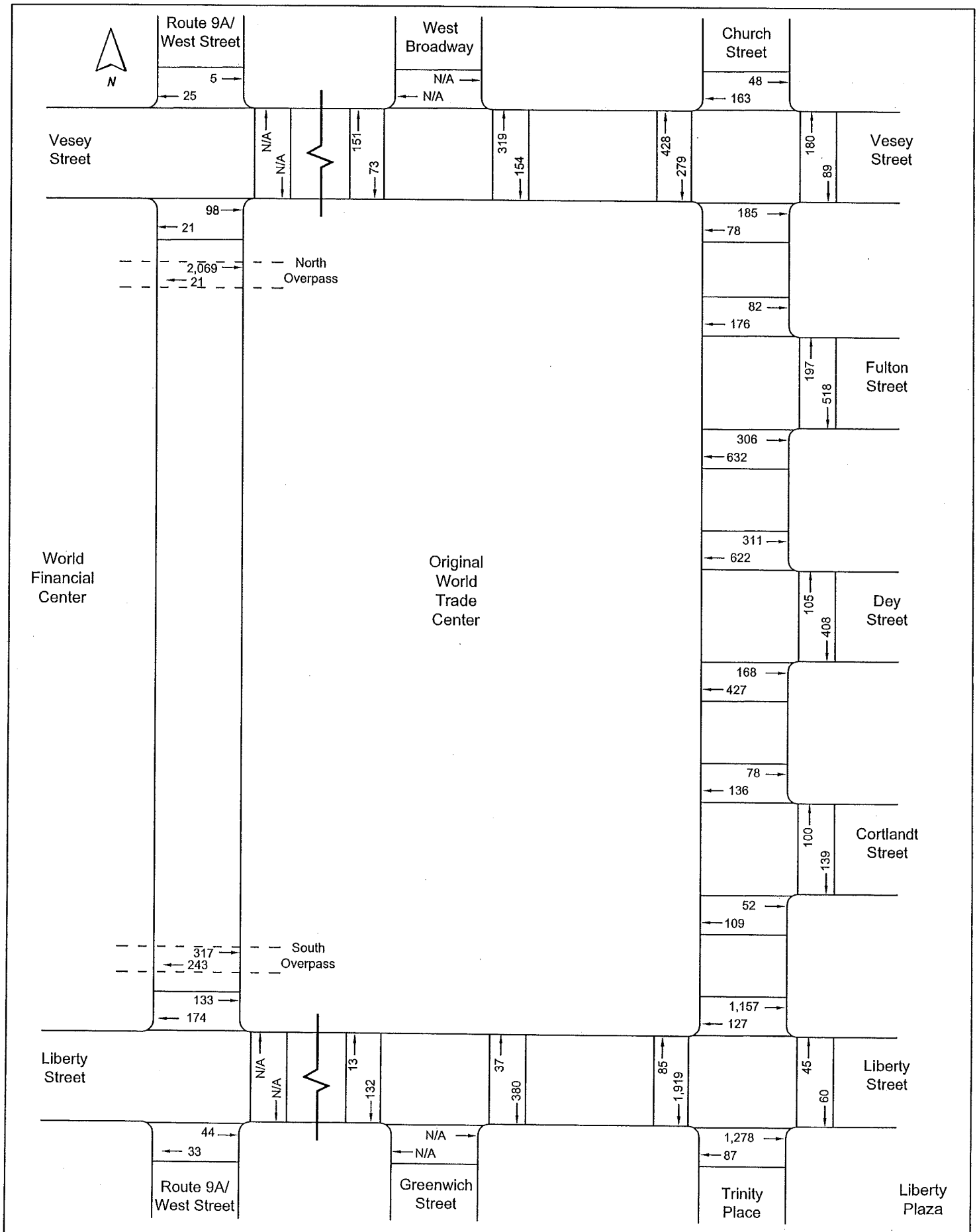

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2009 Projected Pre-9/11 Conditions
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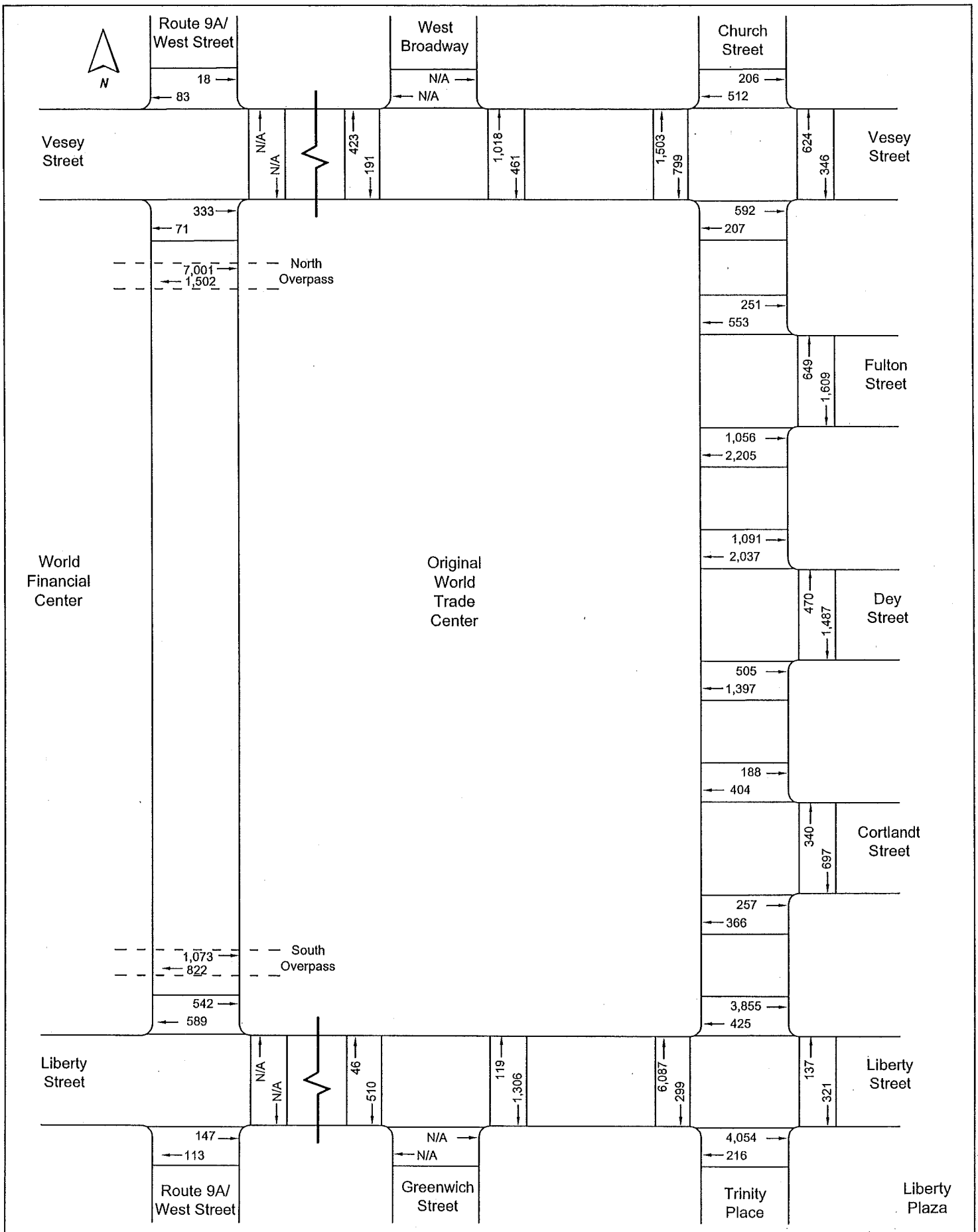

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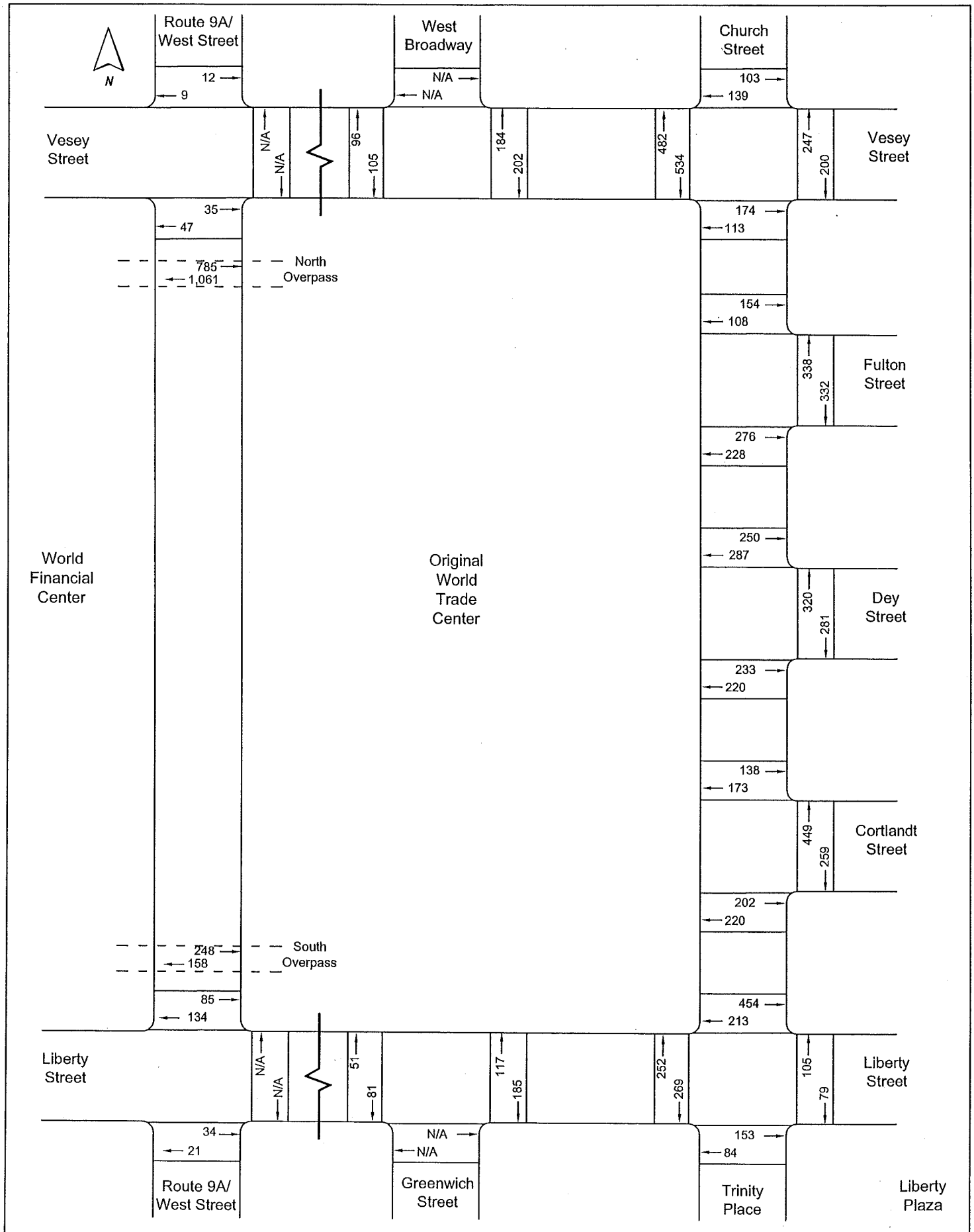

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Midday Peak 15-Minute Volumes
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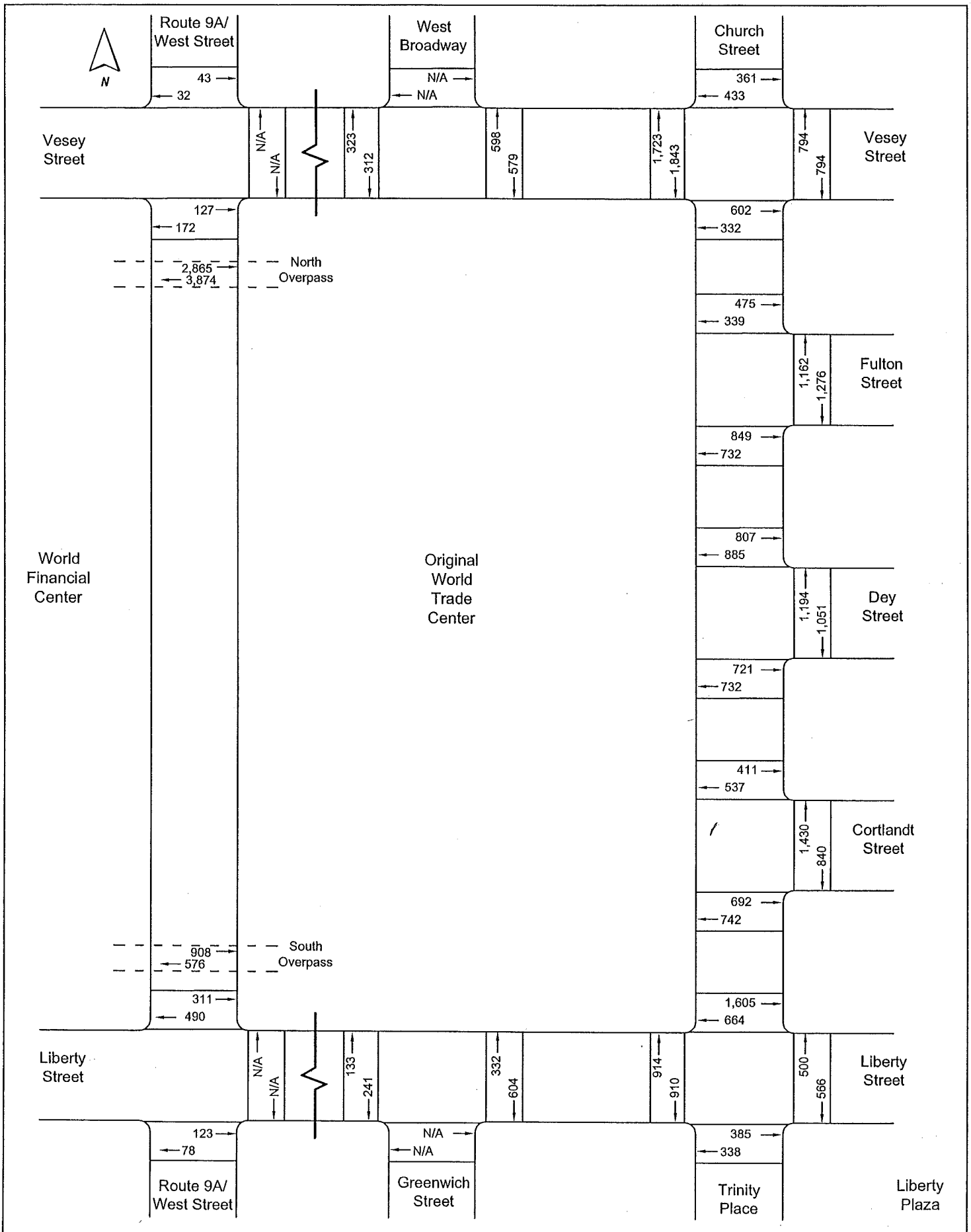

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Permanent WTC PATH Terminal EIS
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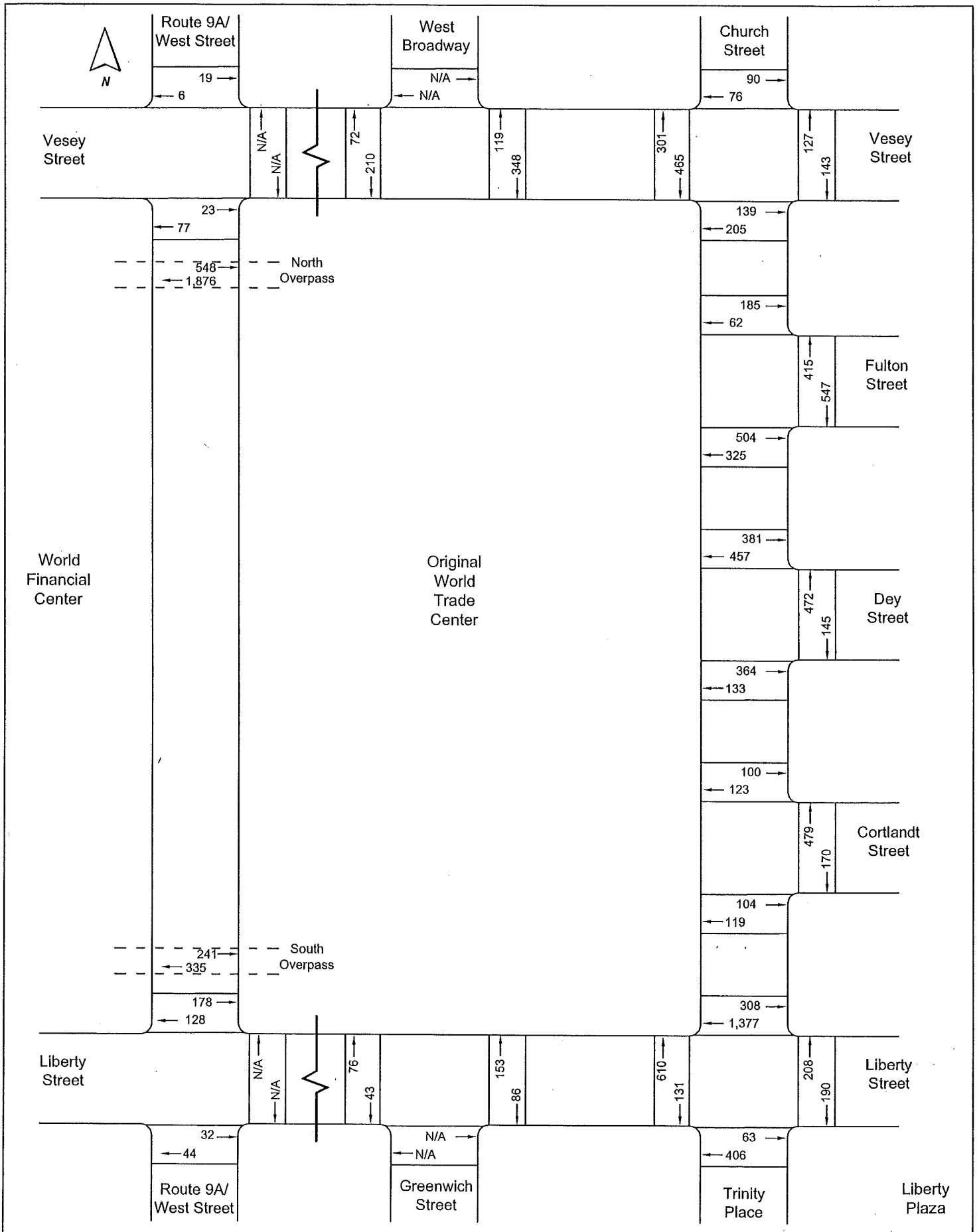

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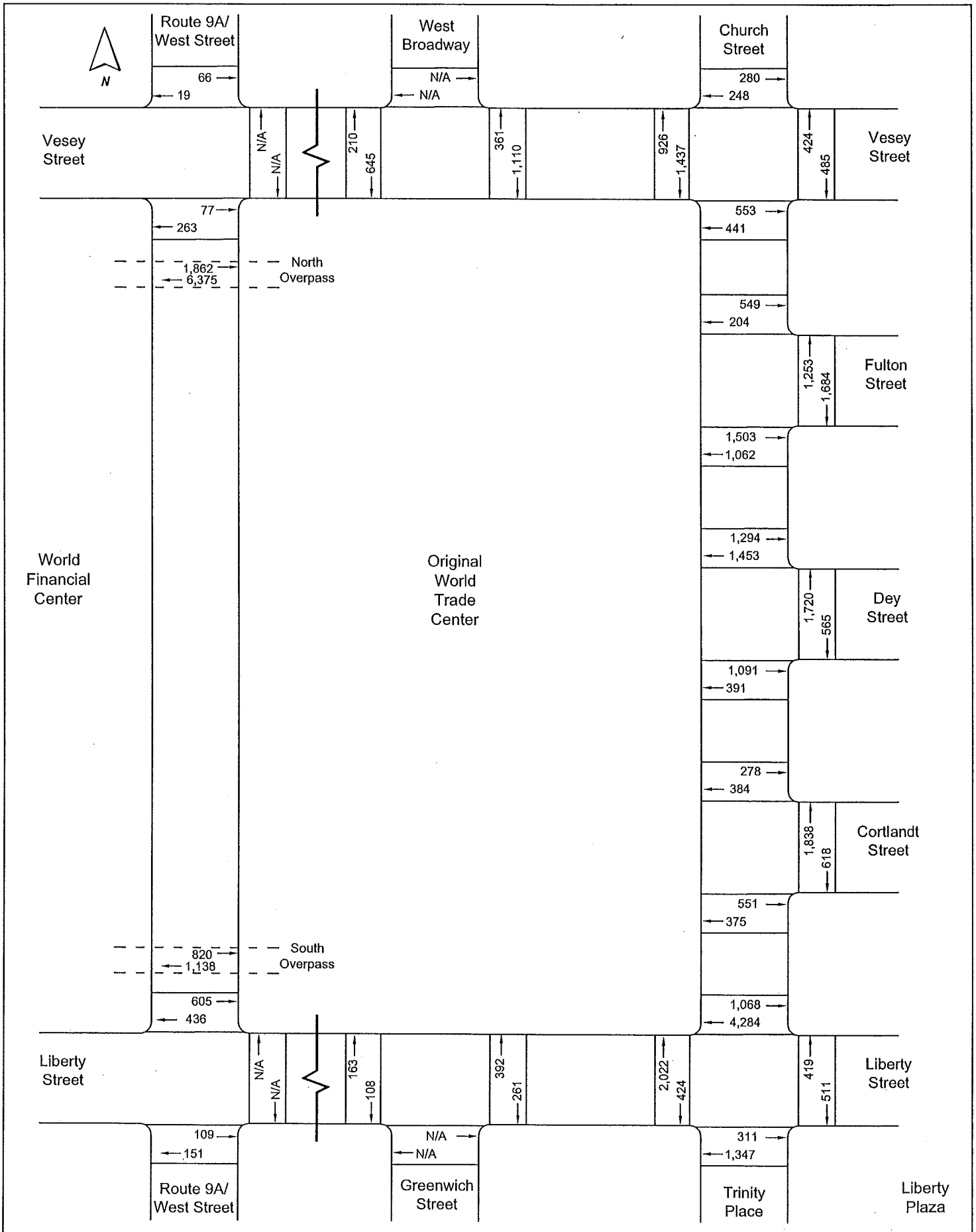

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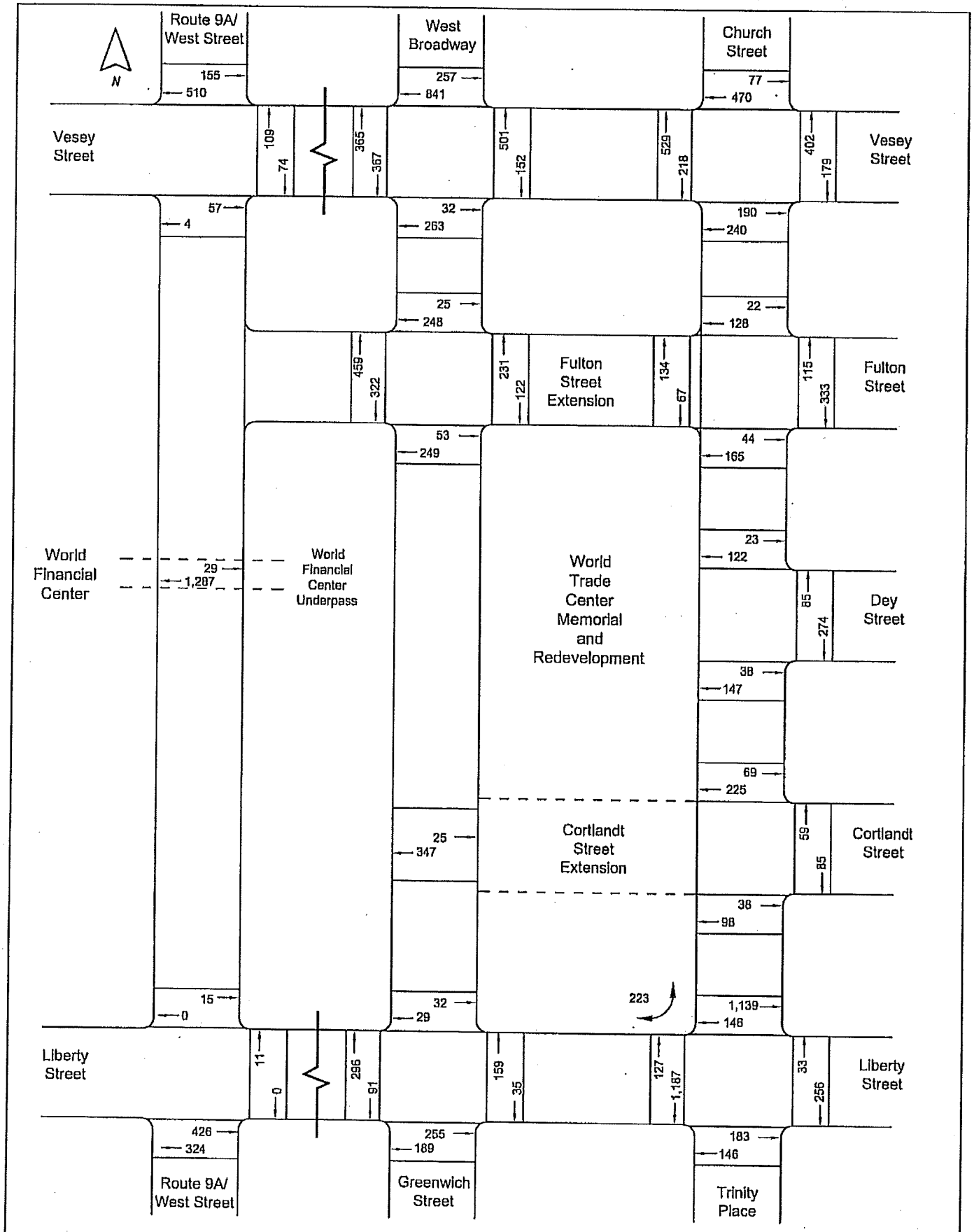

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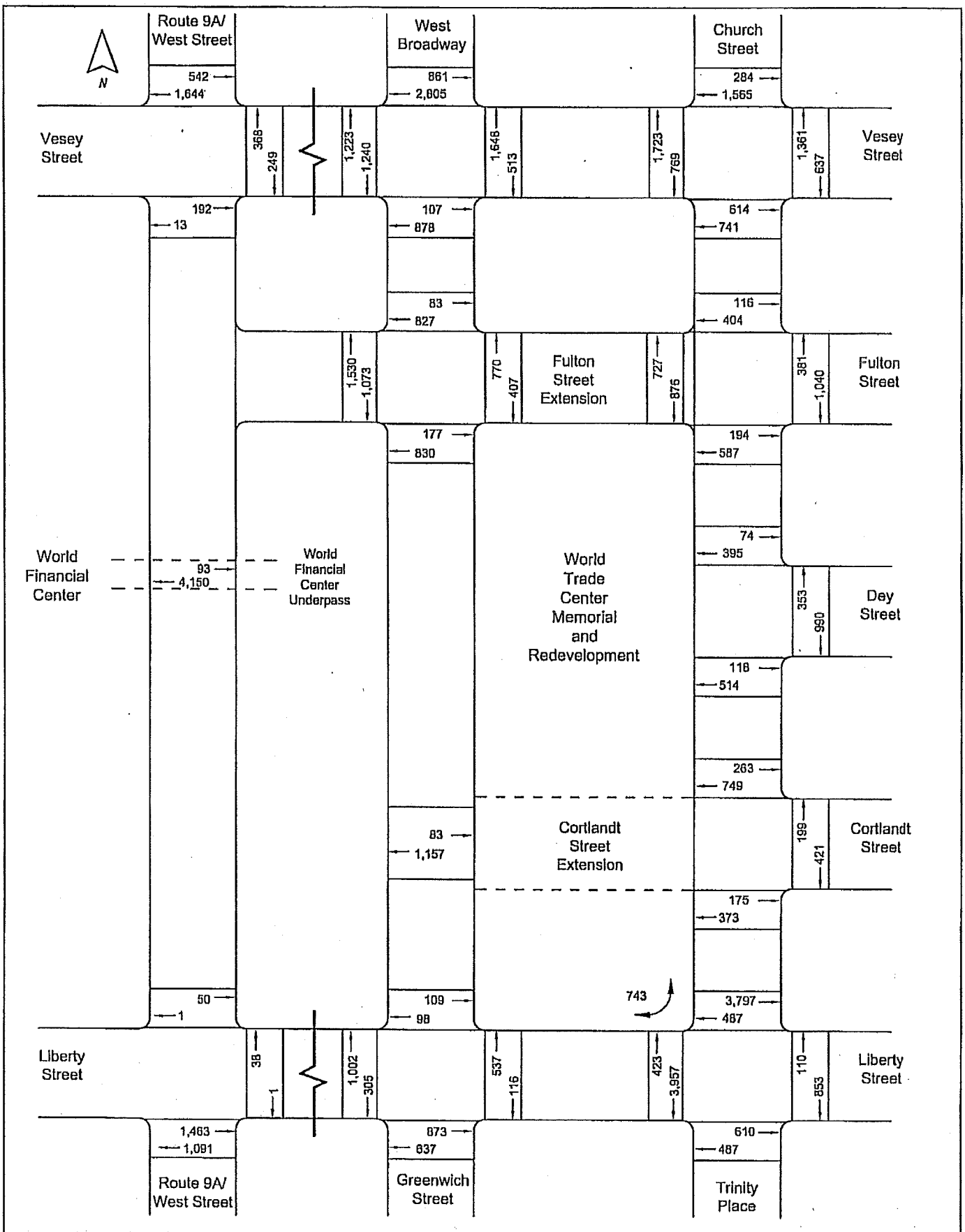

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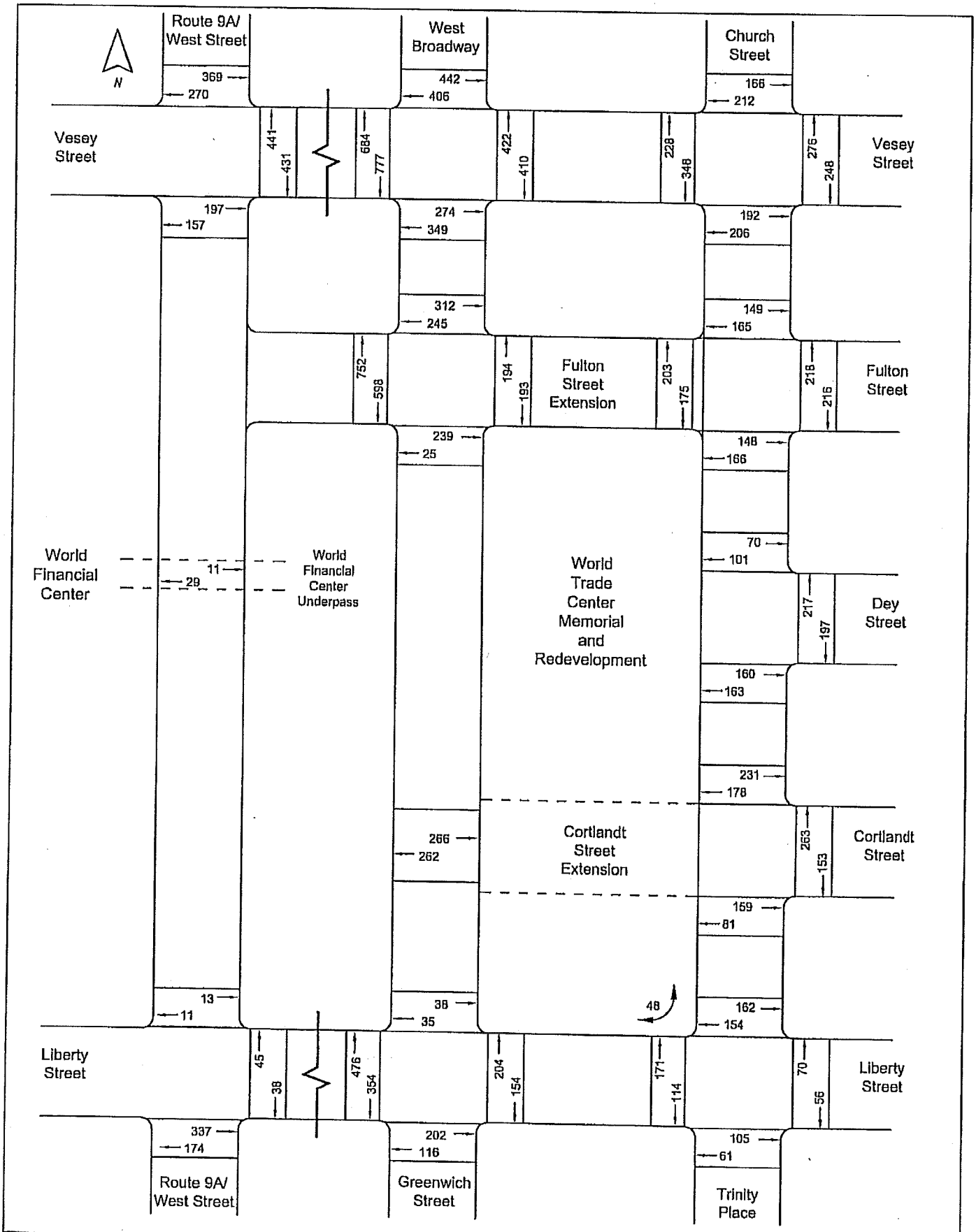

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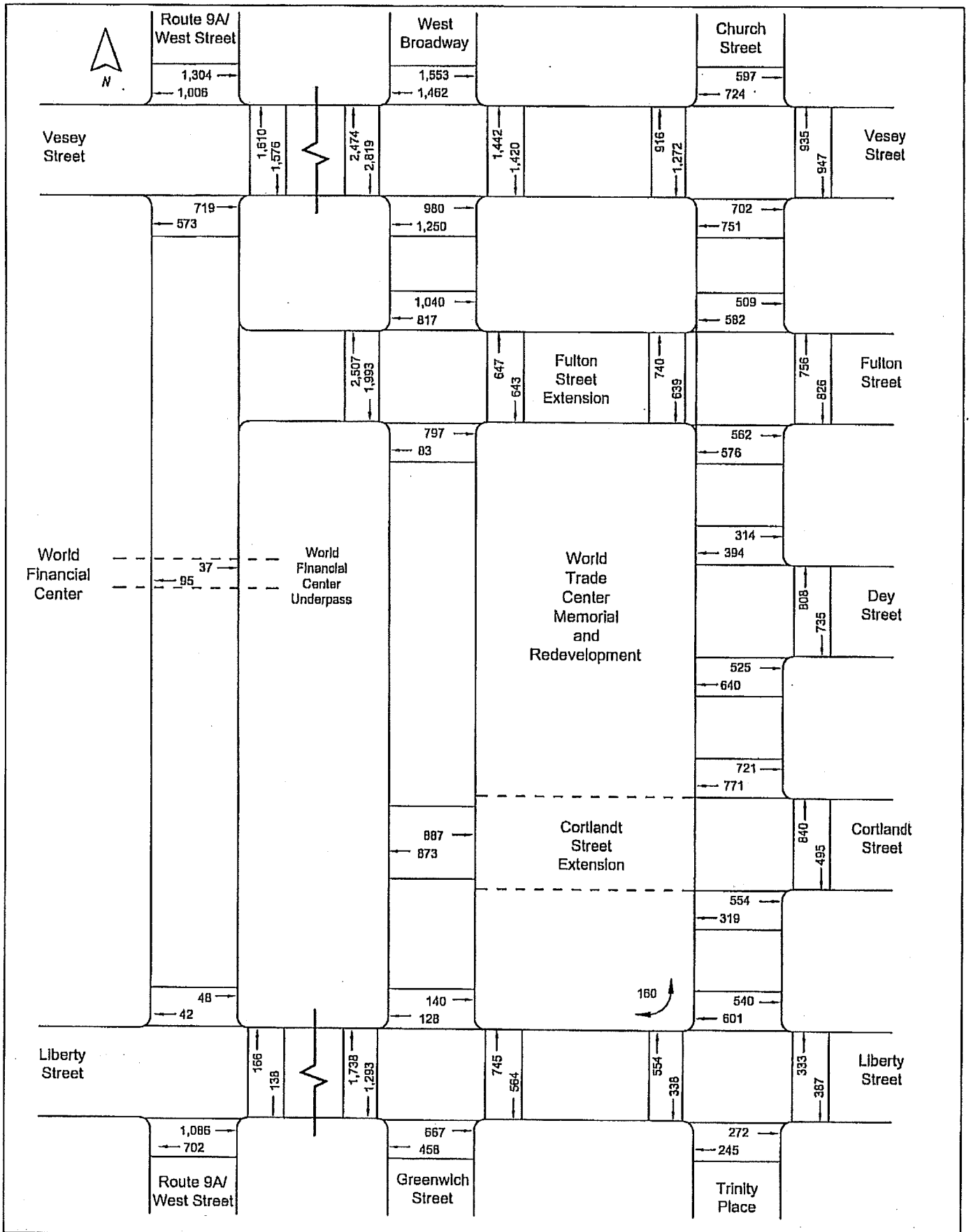

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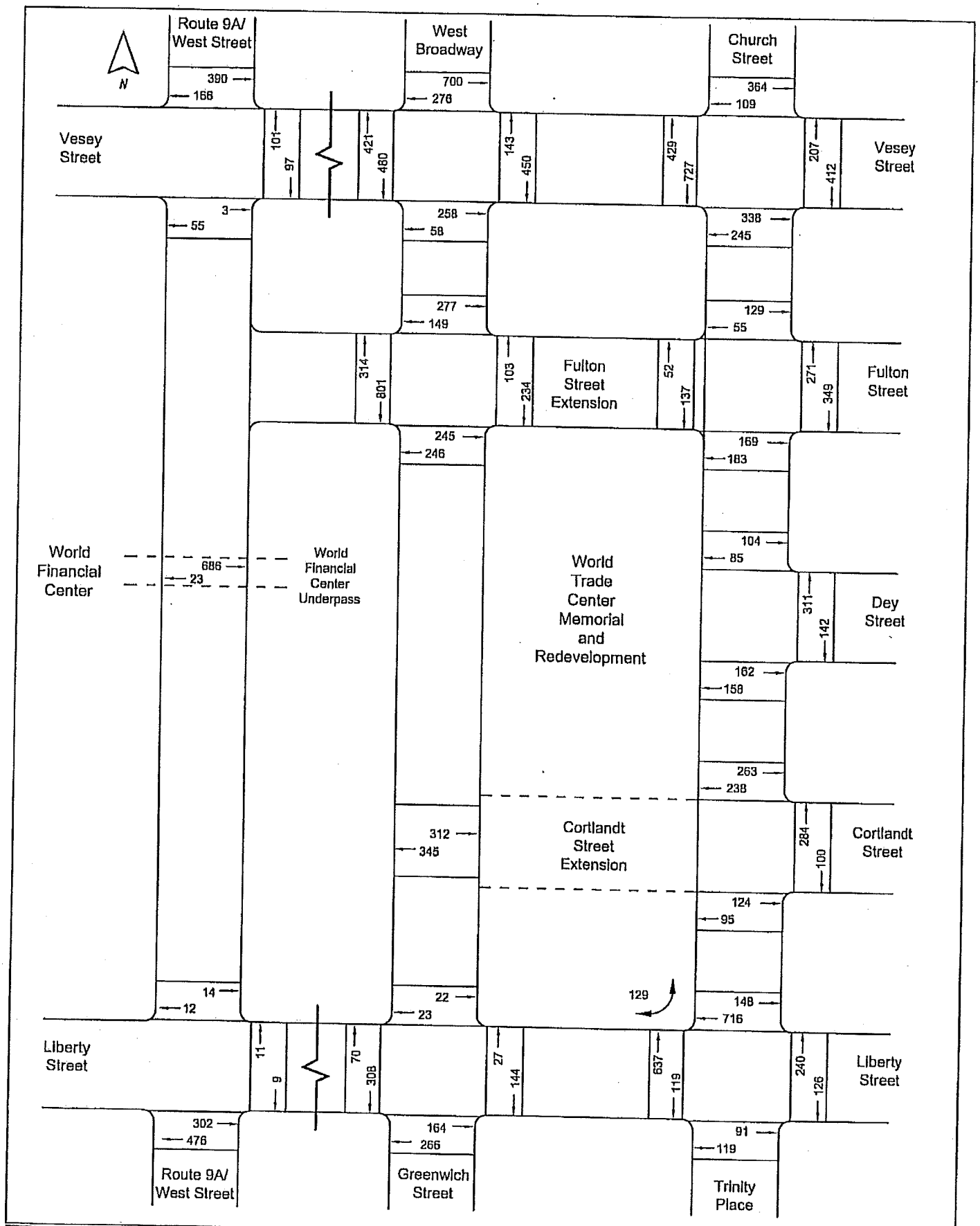

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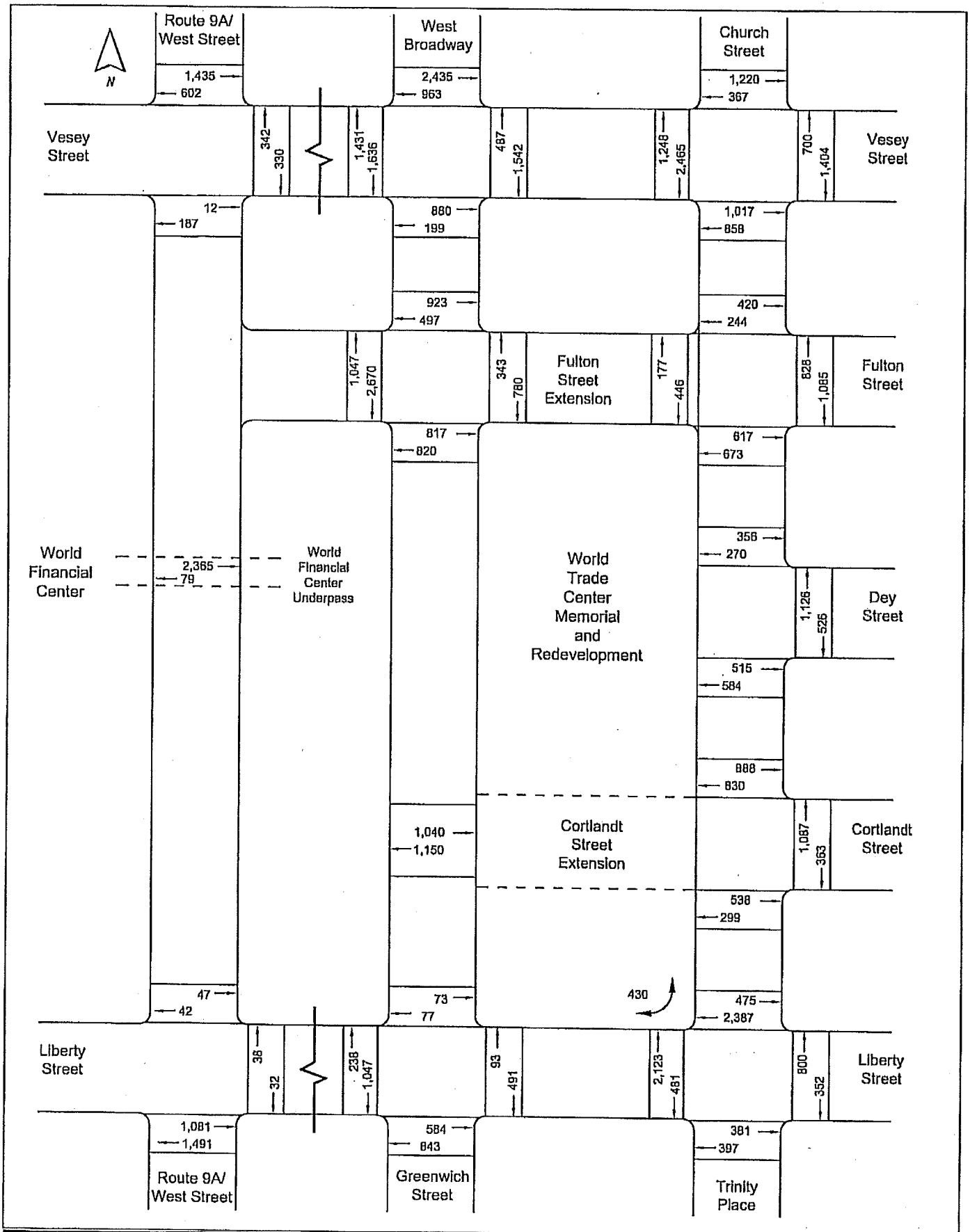

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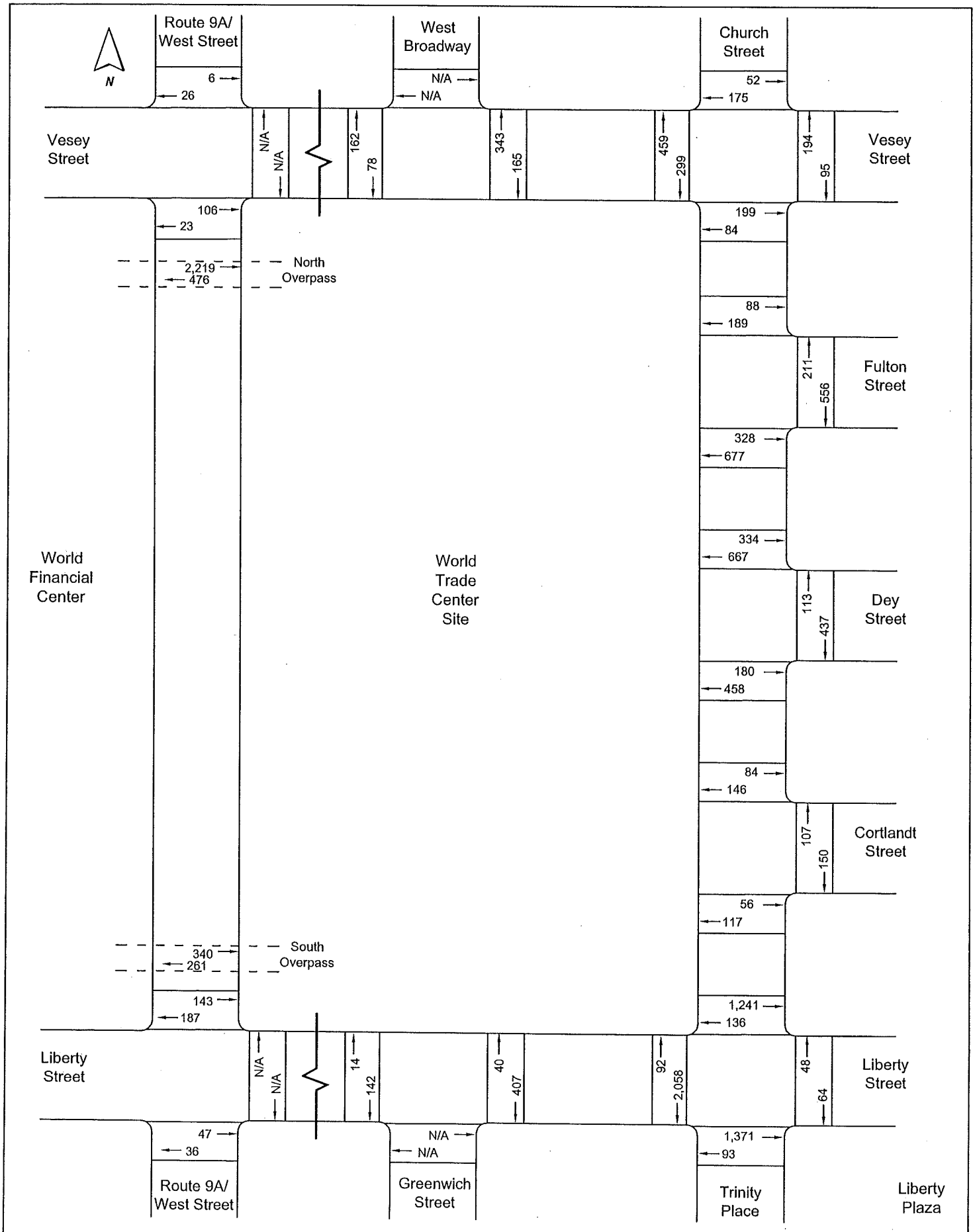

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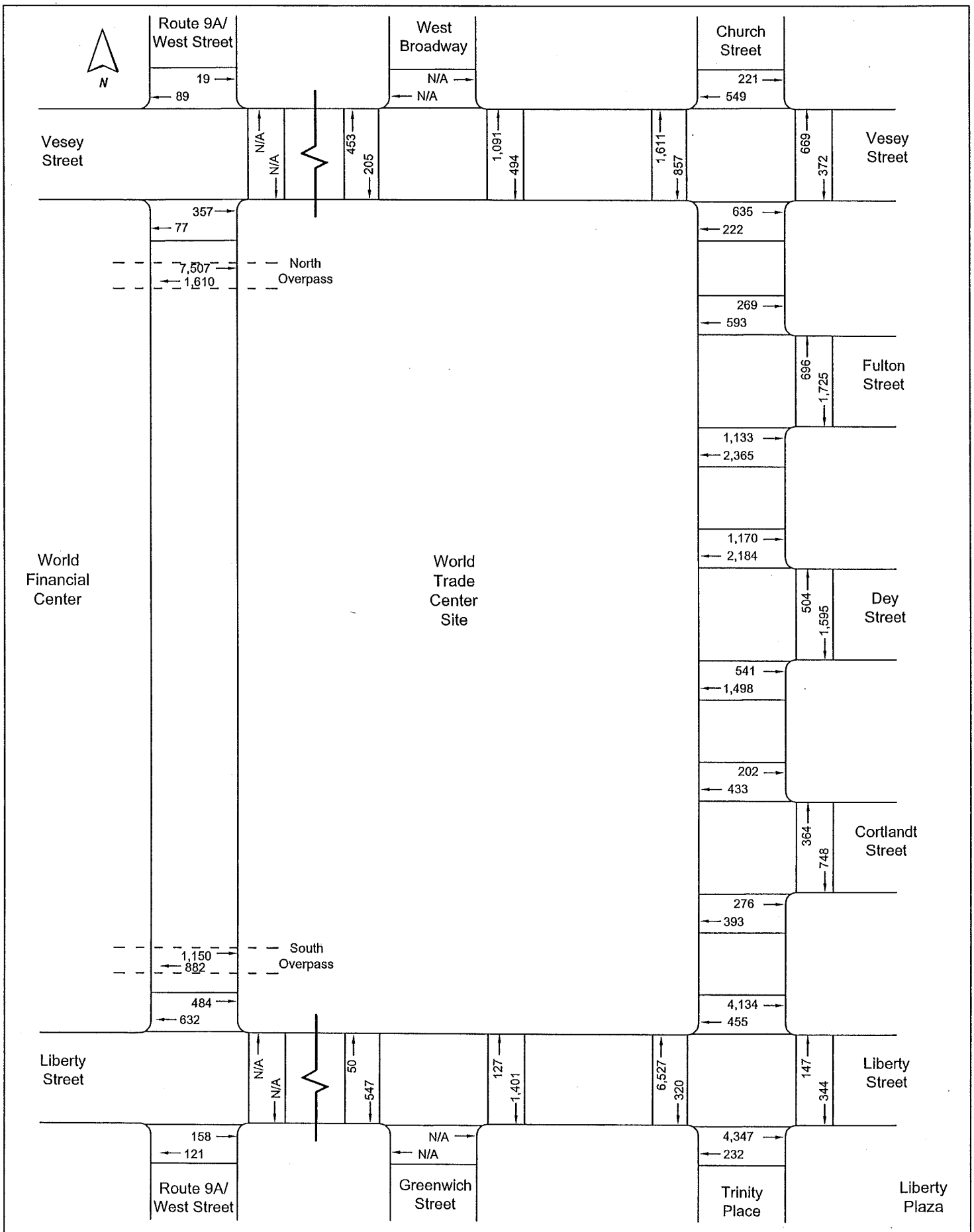

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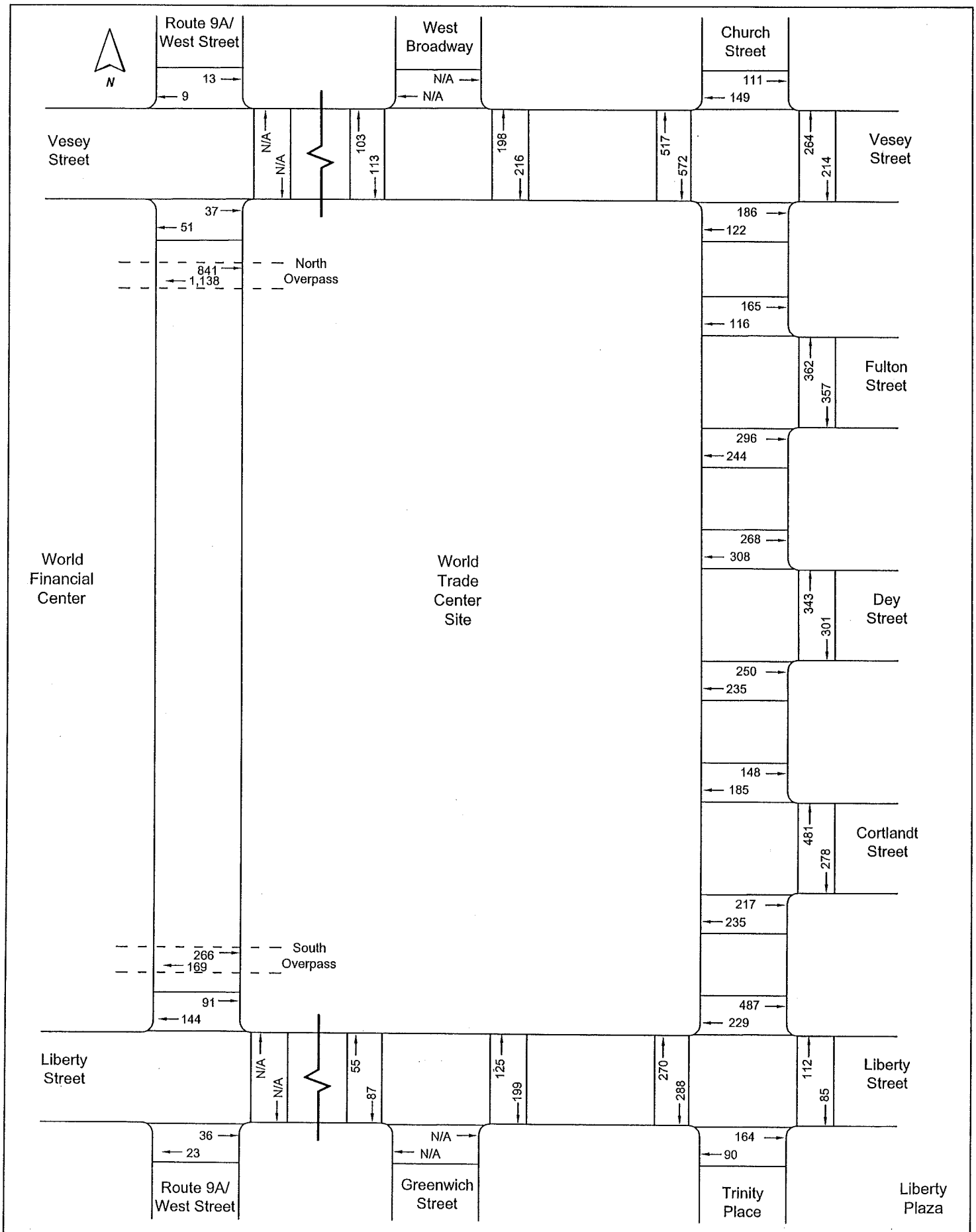

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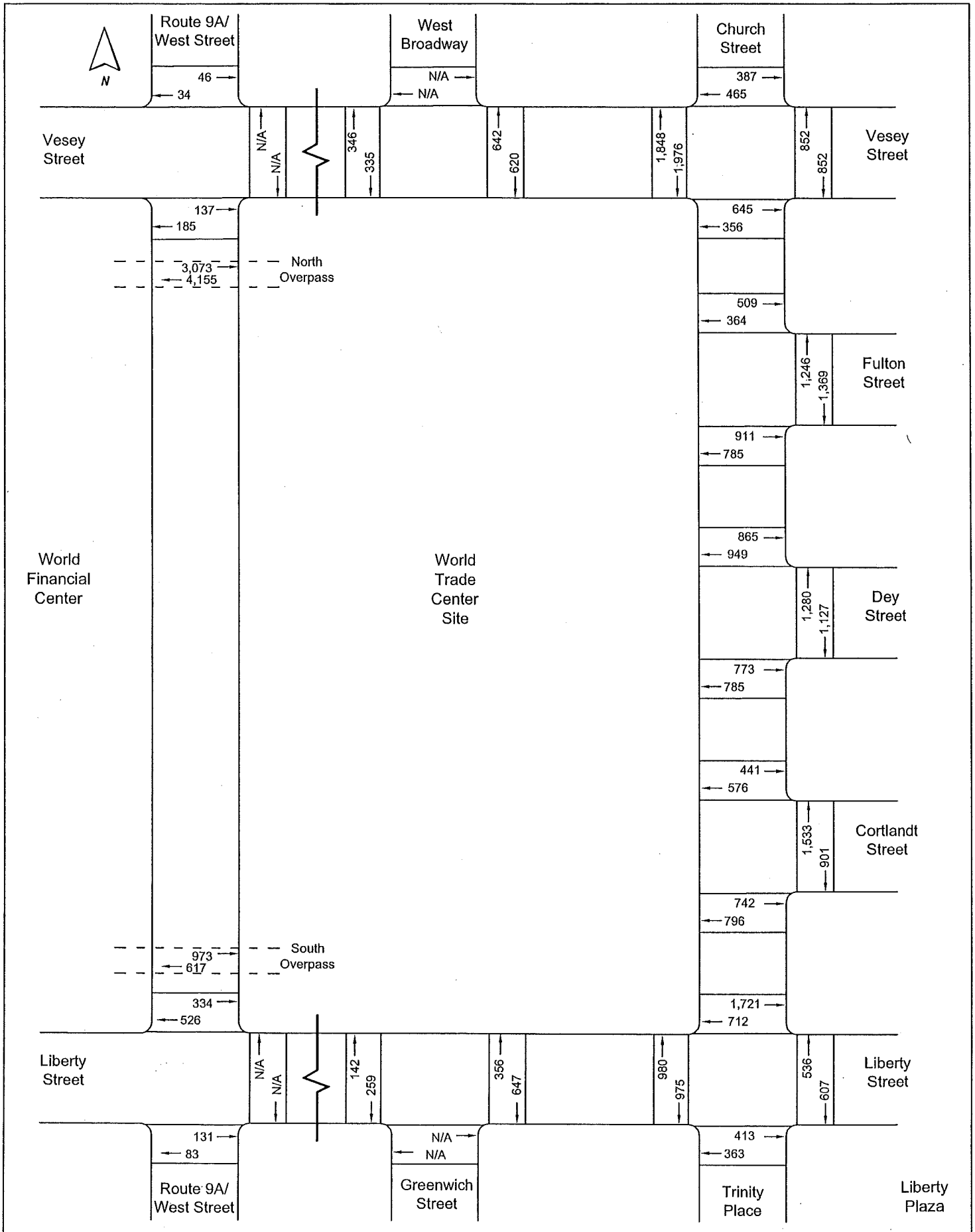

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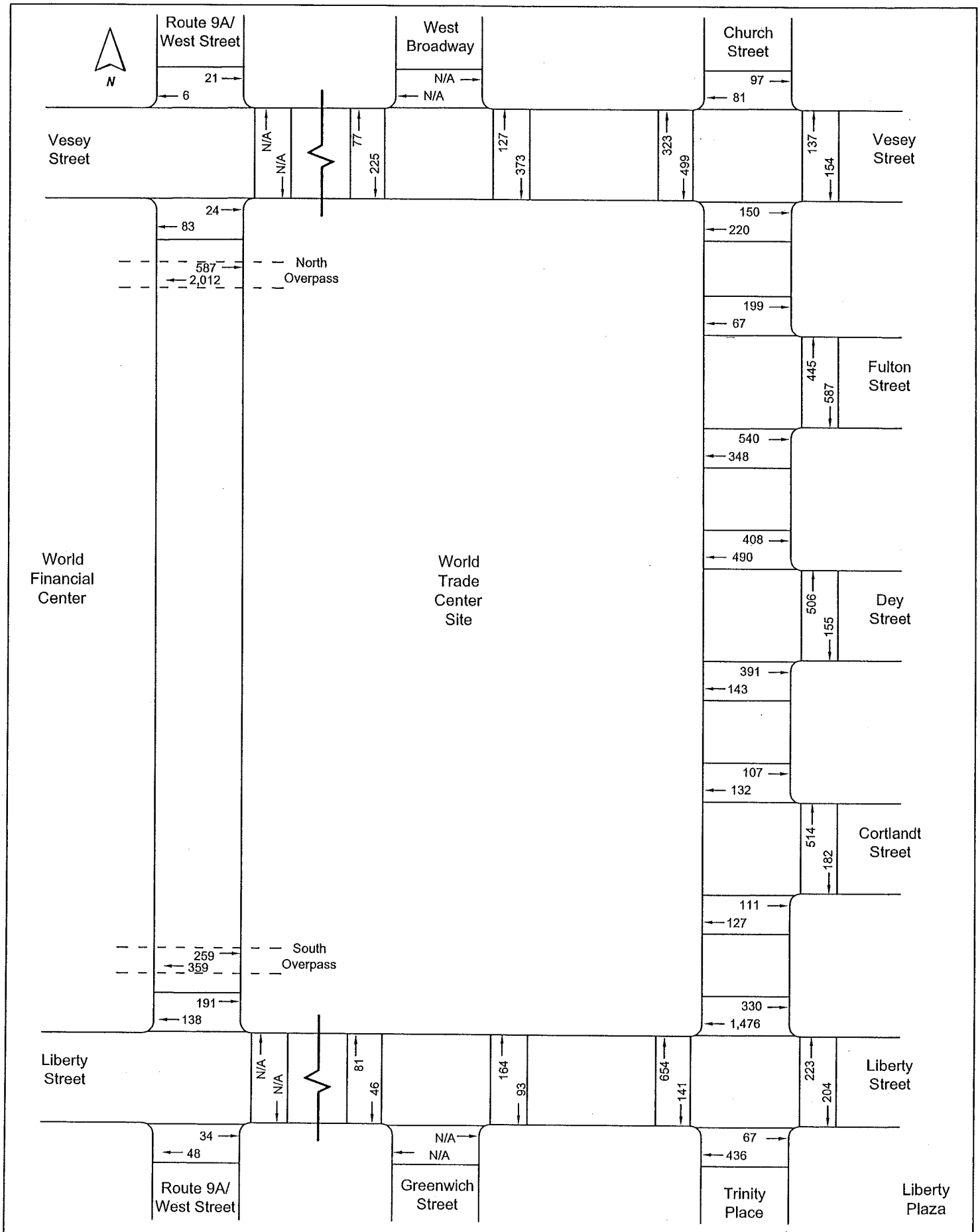

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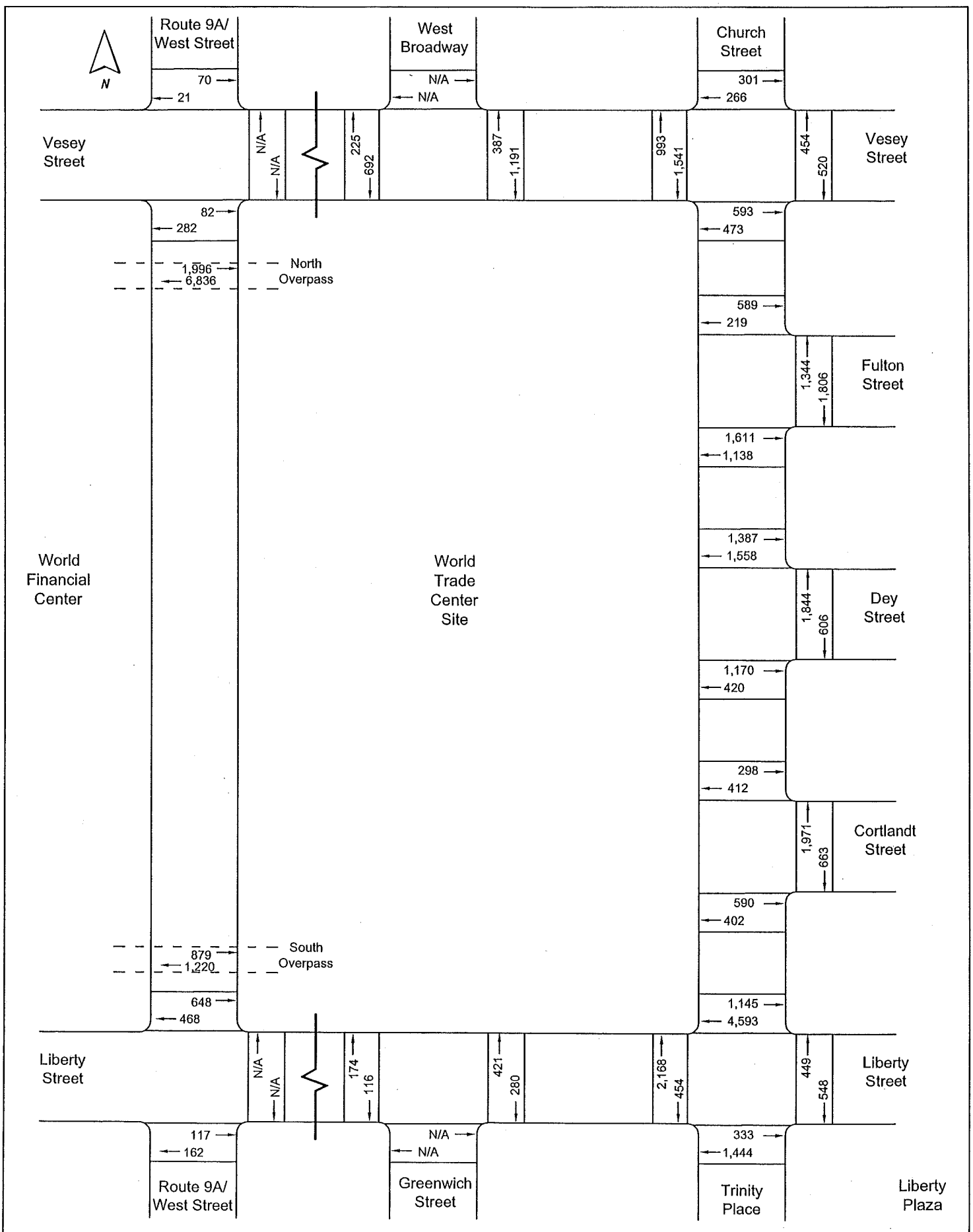

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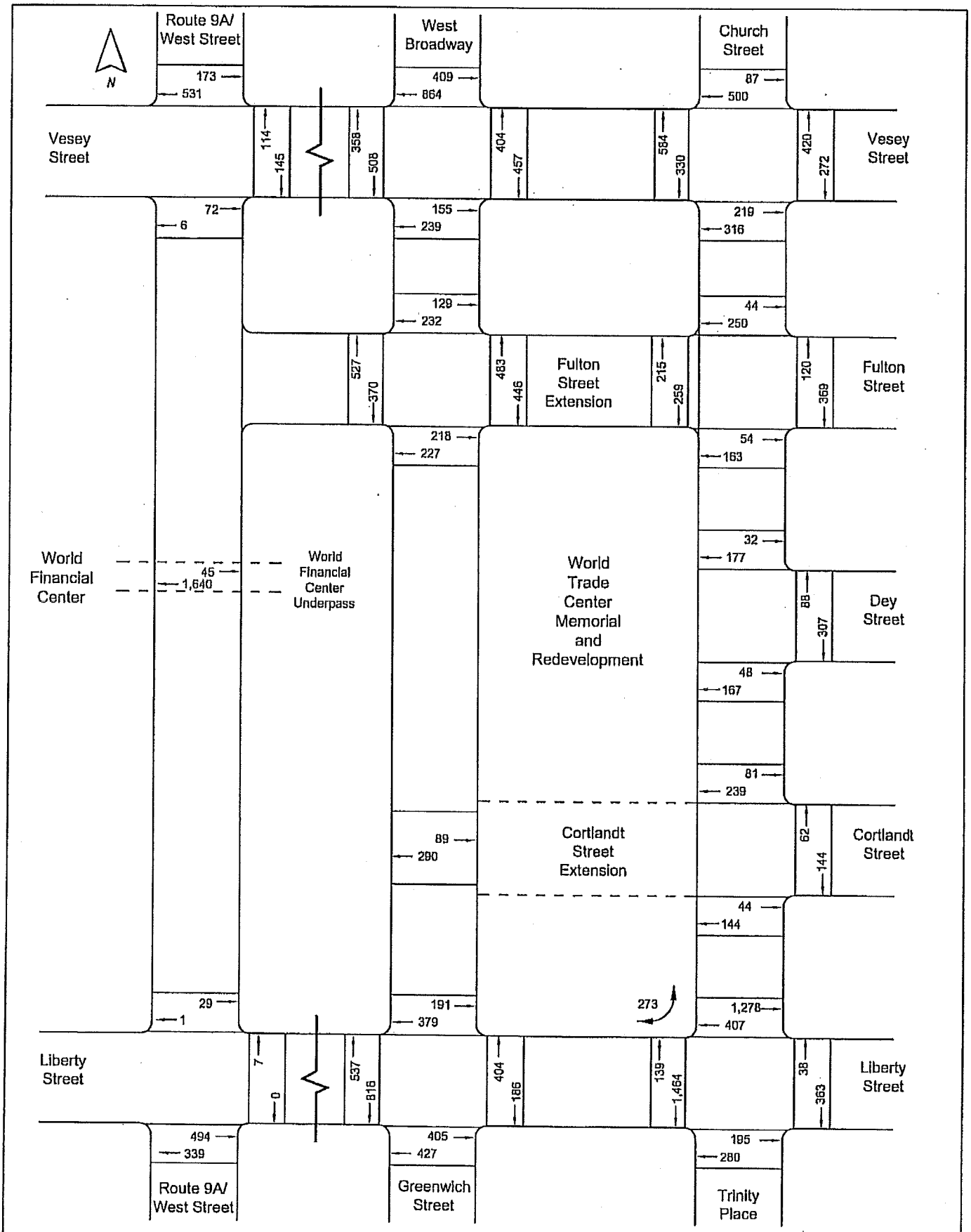

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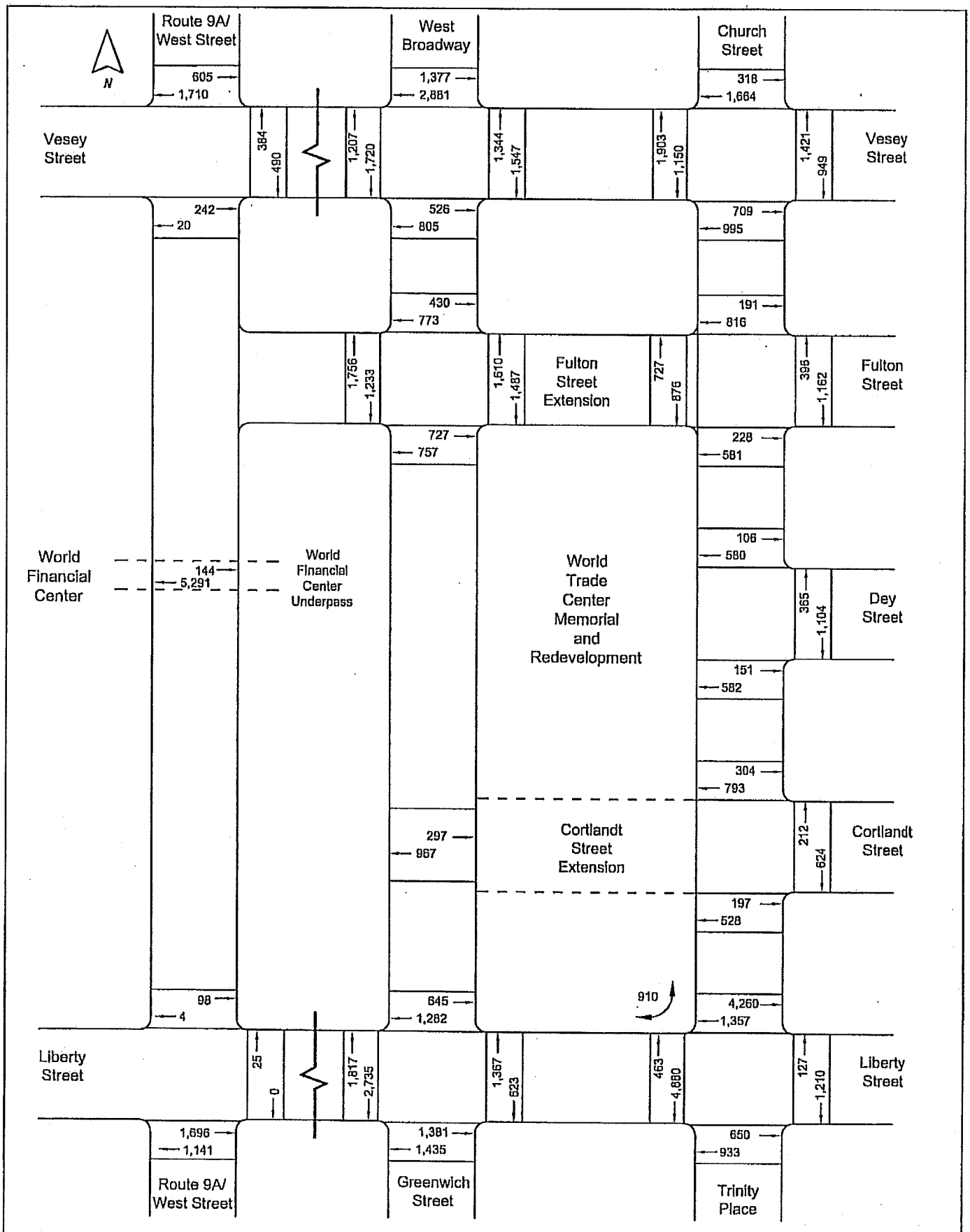

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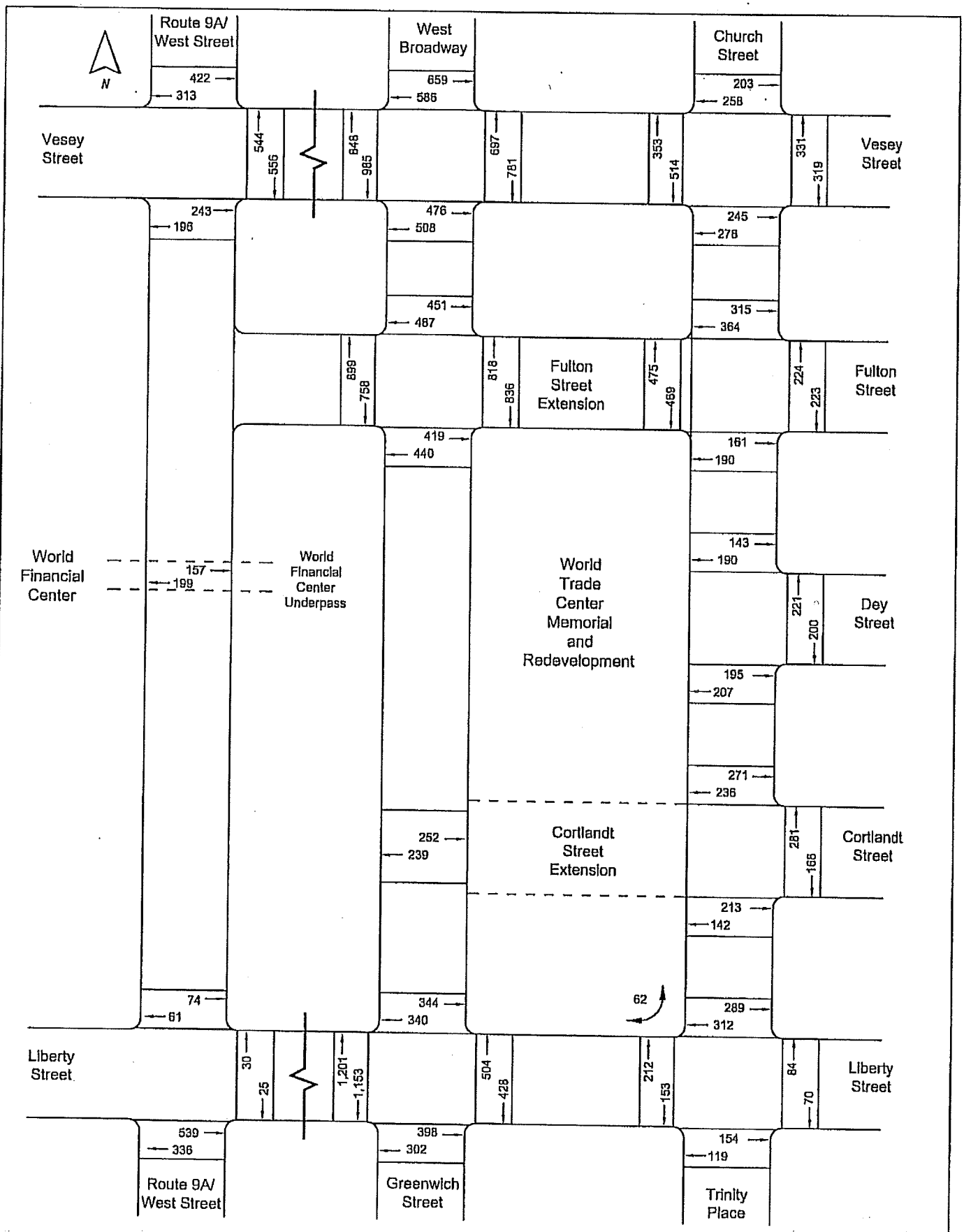

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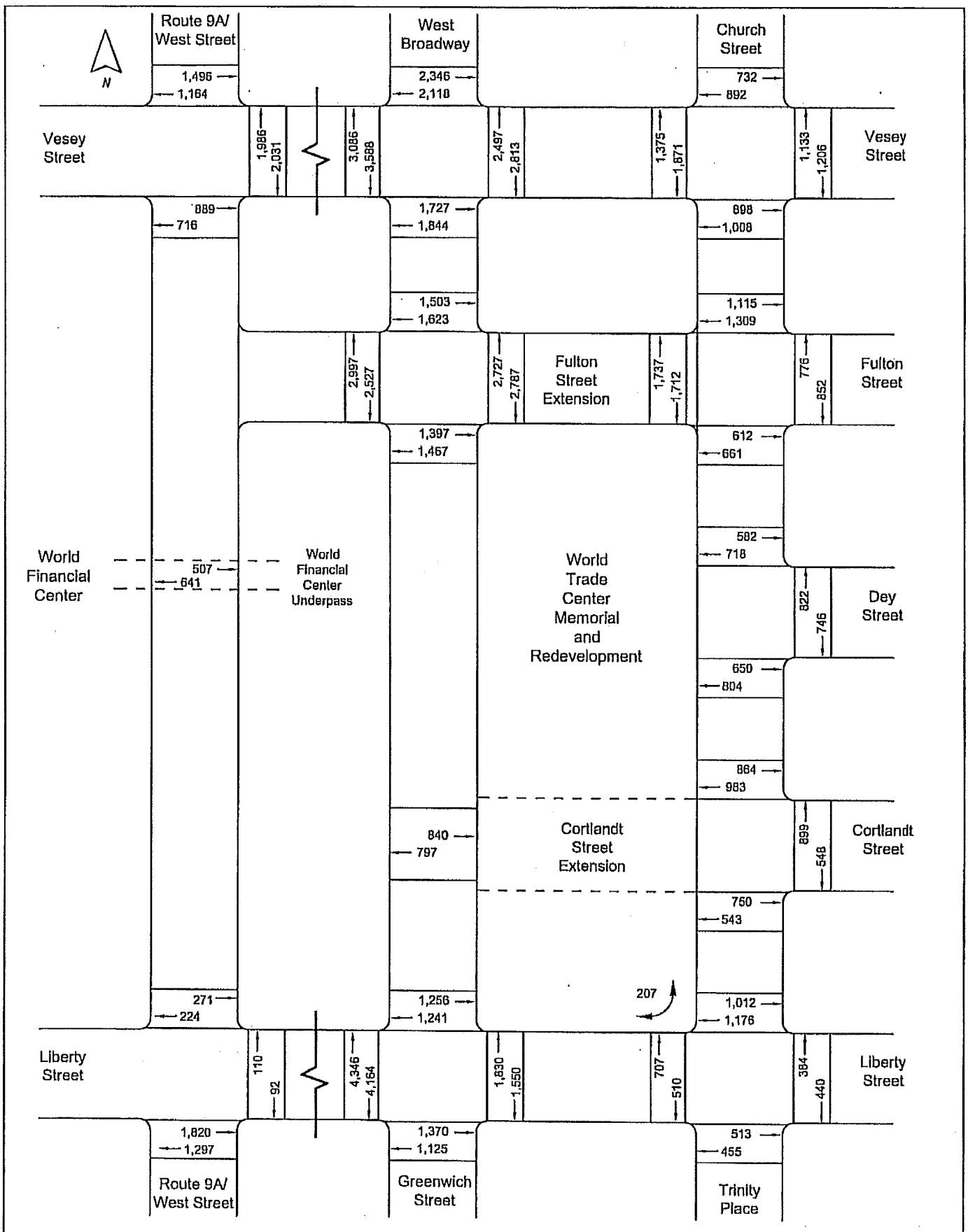

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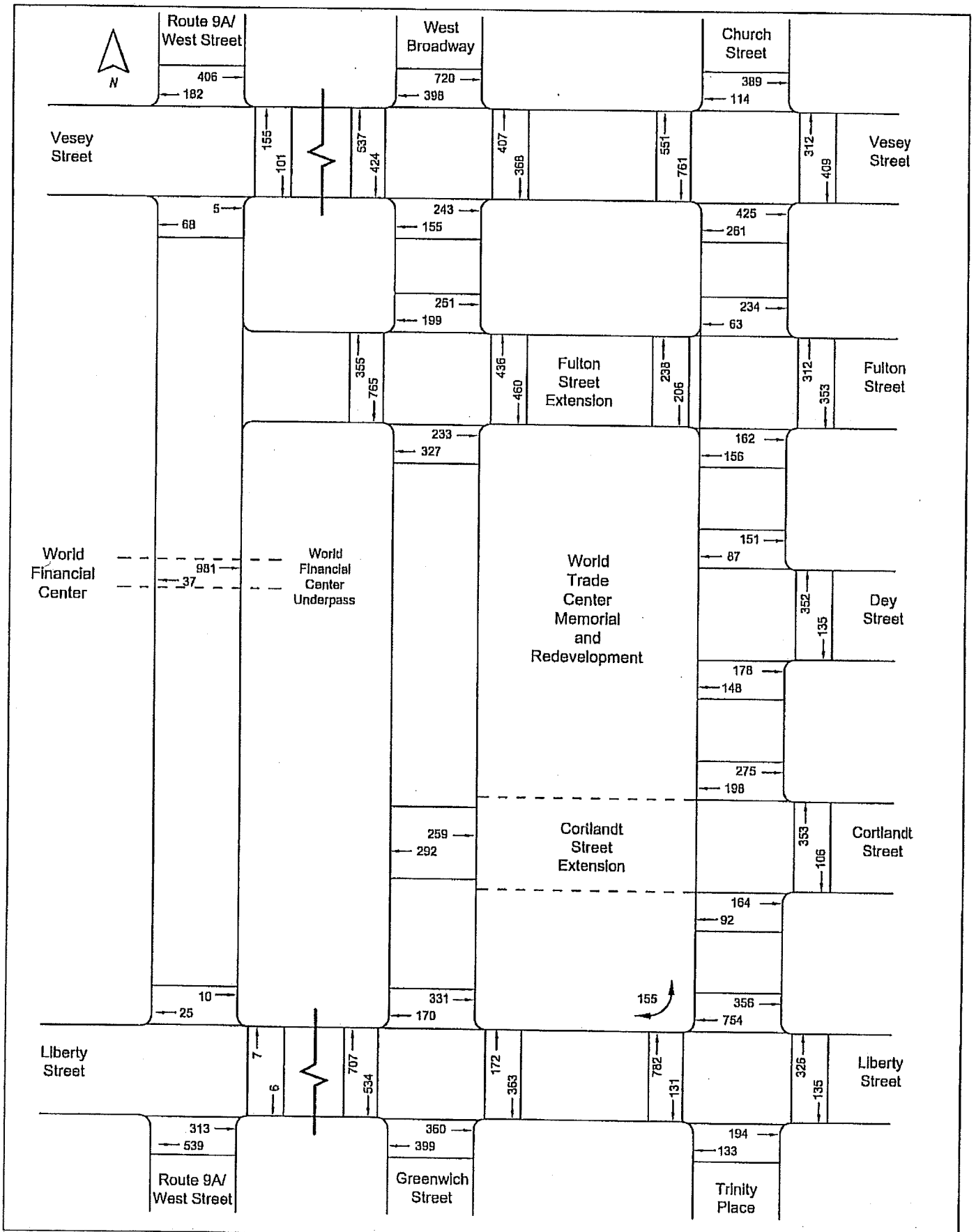

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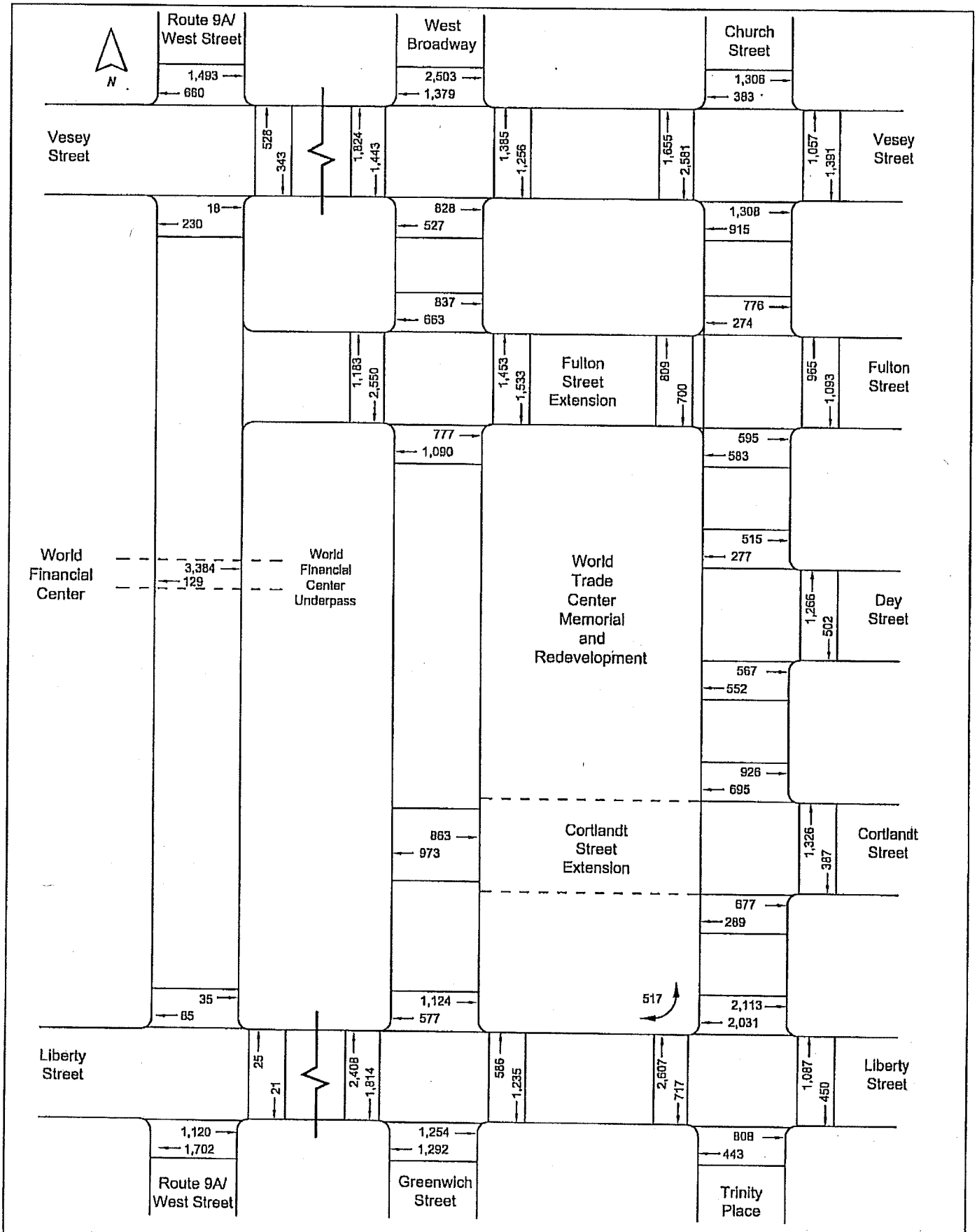

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Appendix C-5: Cumulative Construction Traffic

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Table 1	2006 Cumulative Construction Level of Service Analysis: 2006 AM Peak Hour
Table 2	2006 Cumulative Construction Level of Service Analysis: 2006 Midday Peak Hour
Table 3	2006 Cumulative Construction Level of Service Analysis: 2006 PM Peak Hour
Figure 1	2006 Peak Hour Total Construction Vehicle Trips (courtesy of *Fulton Street Transit Center, Environmental Impact Statement*)

TABLE 1
2006 CUMULATIVE CONSTRUCTION LEVEL OF SERVICE ANALYSIS
2006 AM PEAK (8:15 - 9:15 AM)

INTERSECTION AND APPROACH	NO BUILD				BUILD				SIGNIFICANT IMPACT?
	Lane Group	V/C (1) Ratio	Delay (2)	LOS	Lane Group	V/C Ratio (1)	Delay (2)	LOS	No Build vs. Build
Canal Street/West Street (NYS Rt. 9A) (Signalized)									
Westbound (Canal Street)	L	0.20	43.2	D	L	0.22	43.6	D	NO
Westbound (Canal Street)	LR	0.45	50.1	D	LR	0.45	50.1	D	NO
Westbound (Canal Street)	R	0.53	53.3	D	R	0.53	53.3	D	NO
Northbound (West Street)	T	0.66	2.4	A	T	0.66	2.4	A	NO
Southbound (West Street)	T	0.57	1.8	A	T	0.58	1.9	A	NO
Intersection			4.3	A			4.3	A	NO
Canal Street/West Street (NYS Rt. 9A) (Signalized)									
Northbound (West Street)	TR	0.90	19.6	B	TR	0.91	20.1	C	NO
Northbound (West Street)	R	0.41	11.4	B	R	0.42	11.5	B	NO
Southbound (West Street)	L	1.02	103.7	F	L	1.02	103.7	F	NO
Southbound (West Street)	T	0.99	18.1	B	T	1	33.2	C	NO
Intersection			29.8	C			35.9	D	NO
Chambers Street/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Chambers Street)	LTR	0.63	47.6	D	LTR	0.63	47.6	D	NO
Westbound (Chambers Street)	LT	0.73	52.8	D	LT	0.73	52.8	D	NO
Westbound (Chambers Street)	R	0.43	25.8	C	R	0.43	25.8	C	NO
Northbound (West Street)	TR	0.94	27.2	C	TR	0.95	28.4	C	NO
Southbound (West Street)	L	0.68	13.5	B	L	0.67	13.2	B	NO
Southbound (West Street)	TR	0.63	16.4	B	TR	0.64	16.5	B	NO
Intersection			24.7	C			25.3	C	NO
Vesey Street/West Street (NYS Rt. 9A) (Signalized)									NO
Eastbound (Vesey Street)	L	0.67	54.4	D	L	0.67	54.4	D	NO
Eastbound (Vesey Street)	TR	0.2	34.7	C	TR	0.20	34.7	C	NO
Westbound (Vesey Street)	L	0.01	33.9	C	L	0.06	34.7	C	NO
Westbound (Vesey Street)	TR	0.04	32.8	C	TR	0.04	32.8	C	NO
Northbound (West Street)	TR	1.01	150.3	F	TR	1.01	151.3	F	YES
Southbound (West Street)	L	0.10	9.5	A	L	0.19	11.5	B	NO
Southbound (West Street)	TR	1.07	60.0	E	TR	1.08	63.0	E	NO
Intersection			103.8	F			105	F	NO
Liberty Street/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Liberty Street)	L	0.59	45.1	D	L	0.59	45.1	D	NO
Eastbound (Liberty Street)	R	0.13	35.2	D	R	0.13	35.2	D	NO
Northbound (West Street)									
Northbound (West Street)	TR	0.91	19.5	B	TR	0.91	19.8	B	NO
Southbound (West Street)	L	0.02	47.1	D	L	0.11	48.7	D	NO
Southbound (West Street)	TR	0.83	15.8	B	TR	0.83	16	B	NO
Intersection			19.4	B			19.7	B	NO
Rector Street/West Street (NYS Rt. 9A) (Unsignalized)									
Northbound (West Street)	R	-	0.0	A	R	-	0.0	A	NO
Intersection			0.0	A			0.0	A	NO
Brooklyn Battery Tunnel Exit/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Brooklyn Battery Tunnel Exit)	R	0.64	27.4	C	R	0.64	27.4	C	NO
Westbound (Brooklyn Battery Tunnel Exit)	L	0.73	62.8	E	L	0.73	62.8	E	NO
Westbound (Brooklyn Battery Tunnel Exit)	R	0.41	64.4	E	R	0.41	64.7	E	NO
Northbound (West Street)	T	0.78	35.4	D	T	0.78	35.4	D	NO
Northbound (West Street)	R	0.70	36.6	D	R	0.70	36.6	D	NO
Southbound (West Street)	TR	0.85	38.0	D	TR	0.85	38.0	D	NO
Intersection			50.7	D			50.8	D	NO
Barclay Street/West Street (NYS Rt. 9A) (Unsignalized)									
Westbound (Barclay Street)	R	0.55	24.4	C	R	0.64	28.2	D	NO
Intersection			24.4	C			28.2	D	NO
Barclay Street/Greenwich Street (Unsignalized)									
Southbound (Greenwich Street)	R	0.07	9.4	A	R	0.07	9.6	A	NO
Intersection			9.4	A			9.6	A	NO
Canal Street/Hudson Street (Signalized)									
Eastbound (Canal Street)	L	1.05	67.9	E	L	1.06	71.7	E	NO
Eastbound (Canal Street)	LT	0.61	10.7	B	LT	0.61	10.7	B	NO
Westbound (Canal Street)	T	1.00	72.1	E	T	1.00	72.1	E	NO
Westbound (Canal Street)	R	0.20	5.7	A	R	0.20	5.7	A	NO
Northbound (Hudson Street)	LTR	0.87	44.1	D	LTR	0.88	44.8	D	NO
Northbound (Hudson Street)	R	0.56	36.1	D	R	0.56	36.1	D	NO
Intersection			41.9	D			42.9	D	NO
Canal Street/Varick Street (Signalized)									
Eastbound (Canal Street)	TR	0.45	10.4	B	TR	0.45	10.4	B	NO
Westbound (Canal Street)	LT	0.93	49.8	D	LT	0.93	49.8	D	NO
Southbound (Varick Street)	L	0.21	23.2	C	L	0.21	23.2	C	NO
Southbound (Varick Street)	T	0.67	29.8	C	T	0.67	29.8	C	NO
Southbound (Varick Street)	R	0.12	22.1	C	R	0.12	22.1	C	NO
Intersection			29.8	C			29.8	C	NO

TABLE 1
2006 CUMULATIVE CONSTRUCTION LEVEL OF SERVICE ANALYSIS
2006 AM PEAK (8:15 - 9:15 AM)

INTERSECTION AND APPROACH	NO BUILD				BUILD				SIGNIFICANT IMPACT?
	Lane Group	V/C (1) Ratio	Delay (2)	LOS	Lane Group	V/C Ratio (1)	Delay (2)	LOS	No Build vs. Build
Barclay Street/West Broadway (Signalized)									
Westbound (Barclay Street)	T	0.30	18.6	B	T	0.36	19.4	B	NO
Southbound (West Broadway)	R	0.09	12.0	B	R	0.09	12.0	B	NO
Intersection			17.4	B			18.2	B	NO
Worth Street/Church Street (Signalized)									
Eastbound (Worth Street)	LT	0.98	65.8	E	LT	0.98	65.8	E	NO
Westbound (Worth Street)	TR	0.88	44.4	D	TR	0.88	44.4	D	NO
Northbound (Church Street)	LTR	1.12	83.7	F	LTR	1.13	85.3	F	NO
Intersection			72.7	E			73.8	E	NO
Chambers Street/Church Street (Signalized)									
Eastbound (Chambers Street)	LT	1.02	103.3	F	LT	1.02	103.3	F	NO
Westbound (Chambers Street)	TR	0.77	27.8	C	TR	0.77	27.8	C	NO
Northbound (Church Street)	LTR	1.31	169.6	F	LTR	1.31	171.4	F	YES
Intersection			125.3	F			126.4	F	YES
Barclay Street/Church Street (Signalized)									
Westbound (Barclay Street)	TR	0.13	19.4	B	T	0.13	19.1	B	NO
Westbound (Barclay Street)	R	1.86	433.1	F	R	1.26	168.4	F	NO
Northbound (Church Street)	LT	1.01	47.5	D	LT	1.05	60.0	E	YES
Intersection			139.8	F			84.0	F	NO
Vesey Street/Church Street (Signalized)									
Eastbound (Vesey Street)	LT	0.05	19.2	B	LT	0.08	19.5	B	NO
Northbound (Church Street)	LTR	0.91	21.5	C	LTR	0.93	24.0	C	NO
Northbound (Church Street)	R	0.35	9.0	A	R	0.35	9.0	A	NO
Intersection			20.2	C			22.5	C	NO
Fulton Street/Church Street (Signalized)									
Westbound (Fulton Street)	R	0.14	19.6	B	R	0.14	19.6	B	NO
Northbound (Church Street)	T	0.87	24.5	C	T	0.89	26.0	C	NO
Intersection			24.3	C			25.7	C	NO
Dey Street/Church Street (Signalized)									
Westbound (Dey Street)	R	0.00	24.2	C	R	0.00	24.2	C	NO
Northbound (Church Street)	T	0.76	13.5	B	T	0.77	14.0	B	NO
Intersection			13.5	B			14.0	B	NO
Cortland Street/Church Street (Signalized)									
Westbound (Cortland Street)	R	0.92	55.4	E	R	0.93	58.0	E	NO
Northbound (Church Street)	T	0.61	10.4	B	T	0.63	10.6	B	NO
Intersection			24.1	C			25.0	C	NO
Liberty Street/Church Street (Signalized)									
Eastbound (Liberty Street)	LT	0.07	18.7	B	LT	0.10	19.0	B	NO
Northbound (Church Street)	T	0.58	9.9	A	T	0.58	9.9	A	NO
Northbound (Church Street)	R	0.15	6.6	A	R	0.15	6.6	A	NO
Intersection			10.2	B			10.4	B	NO
Canal Street/Broadway (Signalized)									
Eastbound (Canal Street)	TR	0.46	19.3	B	TR	0.47	19.4	B	NO
Westbound (Canal Street)	DefL	0.71	30.9	C	DefL	0.72	31.7	C	NO
Westbound (Canal Street)	T	0.32	8.7	A	T	0.32	8.7	A	NO
Southbound (Broadway)	LTR	0.38	19.3	B	LTR	0.38	19.3	B	NO
Intersection			19.9	B			20.1	C	NO
Worth Street/Broadway (Signalized)									
Eastbound (Worth Street)	TR	0.96	98.4	F	TR	0.96	98.4	F	NO
Westbound (Worth Street)	LT	0.72	35.1	D	LT	0.72	35.1	D	NO
Southbound (Broadway)	LTR	1.25	290.2	F	LTR	1.26	292.8	F	YES
Intersection			191.1	F			192.9	F	YES
Chambers Street/Broadway (Signalized)									
Eastbound (Chambers Street)	TR	0.91	42.6	D	TR	0.91	42.6	D	NO
Westbound (Chambers Street)	L	0.52	25.8	C	L	0.52	25.8	C	NO
Westbound (Chambers Street)	T	0.68	23.7	C	TR	0.68	23.7	C	NO
Southbound (Broadway)	LTR	0.90	25.8	C	LTR	0.91	26.2	C	NO
Intersection			29.4	C			29.6	C	NO
Vesey Street/Ann Street/Broadway (Signalized)									
Eastbound (Vesey Street/Ann Street)	L	0.46	44.8	D	L	0.46	44.8	D	NO
Eastbound (Vesey Street/Ann Street)	TR	0.31	39.7	D	TR	0.31	39.1	D	NO
Southbound (Broadway)	L	0.93	40.2	D	L	0.93	40.2	D	NO
Southbound (Broadway)	LT	1.00	50.1	D	LT	1.01	51.0	D	NO
Intersection			46.6	D			47.2	D	NO

Source: The Louis Berger Group, Inc. (2003)
(1) Note: Volume to Capacity Ratio
(2) Note: Delay is measured in seconds per vehicle
(na) Not Applicable

TABLE 2
2006 CUMULATIVE CONSTRUCTION LEVEL OF SERVICE ANALYSIS
2006 MIDDAY PEAK (12:00 - 1:00 PM)

INTERSECTION AND APPROACH	NO BUILD				BUILD				SIGNIFICANT IMPACT?
	Lane Group	V/C (1) Ratio	Delay (2)	LOS	Lane Group	V/C Ratio (1)	Delay (2)	LOS	No Build vs. Build
Canal Street/West Street (NYS Rt. 9A) (Signalized)									
Westbound (Canal Street)	L	0.34	43.8	D	L	0.37	44.3	D	NO
Westbound (Canal Street)	R	0.62	55.1	E	R	0.62	55.1	E	NO
Northbound (West Street)	T	0.45	1.7	A	T	0.46	1.7	A	NO
Southbound (West Street)	T	0.39	1.4	A	T	0.39	1.4	A	NO
Intersection			8.2	A			8.2	A	NO
Canal Street/West Street (NYS Rt. 9A) (Signalized)									
Northbound (West Street)	TR	0.60	11.9	B	TR	0.61	12.0	B	NO
Northbound (West Street)	R	0.42	11.4	B	R	0.43	11.6	B	NO
Southbound (West Street)	L	1.01	72.5	E	L	1.01	72.5	E	NO
Southbound (West Street)	T	0.96	17.3	B	T	0.98	21.1	C	NO
Intersection			22.5	C			23.9	C	NO
Chambers Street/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Chambers Street)	LTR	0.34	39.2	D	LTR	0.34	39.2	D	NO
Westbound (Chambers Street)	LT	0.48	41.8	D	LT	0.48	41.8	D	NO
Westbound (Chambers Street)	R	0.47	27.1	C	R	0.47	27.1	C	NO
Northbound (West Street)	TR	0.66	16.9	B	TR	0.67	17.1	B	NO
Southbound (West Street)	L	0.67	11.9	B	L	0.67	12.3	B	NO
Southbound (West Street)	TR	0.54	15.1	B	TR	0.55	15.3	B	NO
Intersection			17.9	B			18.1	B	NO
Vesey Street/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Vesey Street)	L	0.55	47.1	D	L	0.55	47.1	D	NO
Eastbound (Vesey Street)	TR	0.21	34.8	C	TR	0.21	34.8	C	NO
Westbound (Vesey Street)	L	0.02	34.1	C	L	0.07	34.9	C	NO
Westbound (Vesey Street)	TR	0.04	32.8	C	TR	0.04	32.8	C	NO
Northbound (West Street)	TR	1.00	64.6	E	TR	1.00	66.8	E	NO
Southbound (West Street)	L	0.11	7.2	A	L	0.20	9.5	A	NO
Southbound (West Street)	TR	1.05	59.6	E	TR	1.06	62.7	E	NO
Intersection			60.4	E			62.5	E	NO
Liberty Street/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Liberty Street)	L	0.43	40.4	D	L	0.43	40.4	D	NO
Eastbound (Liberty Street)	R	0.09	34.5	C	R	0.09	34.5	C	NO
Northbound (West Street)									
Northbound (West Street)	TR	0.67	11.9	B	TR	0.67	12.0	B	NO
Southbound (West Street)	L	0.02	47.1	D	L	0.11	48.7	D	NO
Southbound (West Street)	TR	0.72	12.9	B	TR	0.72	13.0	B	NO
Intersection			14.0	B			14.2	B	NO
Rector Street/West Street (NYS Rt. 9A) (Unsignalized)									
Northbound (West Street)	R	-	0.0	A	R	-	0.0	A	NO
Intersection			0.0	A			0.0	A	NO
Brooklyn Battery Tunnel Exit/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Brooklyn Battery Tunnel Exit)	R	0.20	22.0	C	R	0.20	22.0	C	NO
Westbound (Brooklyn Battery Tunnel Exit)	L	0.44	65.1	E	L	0.44	65.1	E	NO
Westbound (Brooklyn Battery Tunnel Exit)	R	0.29	42.4	D	R	0.30	42.6	D	NO
Northbound (West Street)	T	0.52	30.0	C	T	0.52	30.0	C	NO
Northbound (West Street)	R	0.75	71.7	E	R	0.75	71.7	E	NO
Southbound (West Street)	TR	0.57	31.1	C	TR	0.57	31.1	C	NO
Intersection			46.0	D			46.0	D	NO
Barclay Street/West Street (NYS Rt. 9A) (Unsignalized)									
Westbound (Barclay Street)	R	0.19	12.8	B	R	0.25	13.4	B	NO
Intersection			12.8	B			13.4	B	NO
Barclay Street/Greenwich Street (Unsignalized)									
Southbound (Greenwich)	R	0.02	8.8	A	R	0.02	9.0	A	NO
Intersection			8.8	A			9.0	A	NO
Canal Street/Hudson Street (Signalized)									
Eastbound (Canal Street)	L	0.95	42.3	D	L	0.96	44.7	D	NO
Eastbound (Canal Street)	LT	0.90	34.2	C	LT	0.90	34.2	C	NO
Westbound (Canal Street)	T	0.90	47.7	D	T	0.90	47.7	D	NO
Westbound (Canal Street)	R	1.00	64.5	E	R	1.00	64.5	E	NO
Northbound (Hudson Street)	LTR	0.66	34.4	C	LTR	0.67	34.6	C	NO
Northbound (Hudson Street)	R	0.55	35.7	D	R	0.55	35.7	D	NO
Intersection			42.7	D			43.3	D	NO
Canal Street/Varick Street (Signalized)									
Eastbound (Canal Street)	TR	0.31	8.9	A	TR	0.31	8.9	A	NO
Westbound (Canal Street)	LT	1.04	59.2	E	LT	1.04	59.2	E	NO
Southbound (Varick Street)	L	0.34	25.4	C	L	0.34	25.4	C	NO
Southbound (Varick Street)	T	0.57	27.7	C	T	0.57	27.7	C	NO
Southbound (Varick Street)	R	0.38	26.4	C	R	0.38	26.4	C	NO
Intersection			34.9	C			34.9	C	NO

TABLE 2
2006 CUMULATIVE CONSTRUCTION LEVEL OF SERVICE ANALYSIS
2006 MIDDAY PEAK (12:00 - 1:00 PM)

INTERSECTION AND APPROACH	NO BUILD				BUILD				SIGNIFICANT IMPACT?
	Lane Group	V/C (1) Ratio	Delay (2)	LOS	Lane Group	V/C Ratio (1)	Delay (2)	LOS	No Build vs. Build
Barclay Street/West Broadway (Signalized)									
Westbound (Barclay Street)	T	0.16	17.0	B	T	0.22	17.7	B	NO
Southbound (West Broadway)	R	0.01	11.3	B	R	0.01	11.3	B	NO
Intersection			16.8	B			17.5	B	NO
Worth Street/Church Street (Signalized)									
Eastbound (Worth Street)	LT	0.83	44.0	D	LT	0.83	44.0	D	NO
Westbound (Worth Street)	TR	0.77	39.8	D	TR	0.77	39.8	D	NO
Northbound (Church Street)	LTR	1.04	81.7	F	LTR	1.05	82.9	F	NO
Intersection			69.4	E			70.3	E	NO
Chambers Street/Church Street (Signalized)									
Eastbound (Chambers Street)	LT	1.04	79.9	E	LT	1.04	79.9	E	NO
Westbound (Chambers Street)	TR	0.69	24.2	C	TR	0.69	24.2	C	NO
Northbound (Church Street)	LTR	1.14	100.6	F	LTR	1.15	102.0	F	NO
Intersection			79.1	E			79.9	E	NO
Barclay Street/Church Street (Signalized)									
Westbound (Barclay Street)	TR	0.11	19.9	B	T	0.11	19.9	B	NO
Westbound (Barclay Street)	R	1.27	181.0	F	R	0.86	50.3	D	NO
Northbound (Church Street)	LT	0.86	24.7	C	LT	0.91	29.2	C	NO
Intersection			56.9	E			33.1	C	NO
Vesey Street/Church Street (Signalized)									
Eastbound (Vesey Street)	LT	0.01	18.8	B	LT	0.07	19.5	B	NO
Northbound (Church Street)	LTR	0.66	15.4	B	LTR	0.68	15.9	B	NO
Northbound (Church Street)	R	0.66	21.4	C	R	0.66	21.4	C	NO
Intersection			16.7	B			17.1	C	NO
Fulton Street/Church Street (Signalized)									
Westbound (Fulton Street)	R	0.61	32.5	C	R	0.61	32.5	C	NO
Northbound (Church Street)	T	0.80	20.6	C	T	0.82	21.5	C	NO
Intersection			22.3	C			23.1	C	NO
Dey Street/Church Street (Signalized)									
Westbound (Dey Street)	R	0.00	24.2	C	R	0.00	24.2	C	NO
Northbound (Church Street)	T	0.69	12.0	B	T	0.71	12.4	B	NO
Intersection			12.0	B			12.4	B	NO
Cortland Street/Church Street (Signalized)									
Westbound (Cortland Street)	R	1.04	85.5	F	R	1.06	89.1	F	YES
Northbound (Church Street)	T	0.46	8.5	A	T	0.47	8.6	A	NO
Intersection			39.2	D			40.3	D	NO
Liberty Street/Church Street (Signalized)									
Eastbound (Liberty Street)	LT	0.02	18.2	B	LT	0.05	18.5	B	NO
Northbound (Church Street)	T	0.50	8.9	A	T	0.50	8.9	A	NO
Northbound (Church Street)	R	0.21	7.2	A	R	0.21	7.2	A	NO
Intersection			8.9	A			9.2	A	NO
Canal Street/Broadway (Signalized)									
Eastbound (Canal Street)	TR	0.41	18.6	B	TR	0.41	18.6	B	NO
Westbound (Canal Street)	LT	0.65	12.6	B	LT	0.66	12.7	B	NO
Southbound (Broadway)	LTR	0.50	21.1	C	LTR	0.50	21.1	C	NO
Intersection			17.1	B			17.2	B	NO
Worth Street/Broadway (Signalized)									
Eastbound (Worth Street)	TR	0.85	70.4	E	TR	0.85	70.4	E	NO
Westbound (Worth Street)	LT	0.75	53.9	D	LT	0.75	53.9	D	NO
Southbound (Broadway)	LTR	0.99	245.1	F	LTR	1.00	250.7	F	YES
Intersection			152.9	F			156.1	F	YES
Chambers Street/Broadway (Signalized)									
Eastbound (Chambers Street)	TR	0.69	24.8	C	TR	0.69	24.8	C	NO
Westbound (Chambers Street)	L	0.35	19.3	B	L	0.35	19.3	B	NO
Westbound (Chambers Street)	T	0.60	21.2	C	T	0.6	21.2	C	NO
Southbound (Broadway)	LTR	0.70	15.9	B	LTR	0.71	16.1	B	NO
Intersection			19.4	B			19.4	B	NO
Vesey Street/Ann Street/Broadway (Signalized)									
Eastbound (Vesey Street/Ann Street)	L	0.54	48.4	D	L	0.54	48.4	D	NO
Eastbound (Vesey Street/Ann Street)	TR	0.88	79.4	E	TR	0.88	79.4	E	NO
Southbound (Broadway)	L	0.67	20.3	C	L	0.67	20.3	C	NO
Southbound (Broadway)	LT	0.78	21.0	C	LT	0.79	21.2	C	NO
Intersection			27.5	C			27.6	C	NO

Source: The Louis Berger Group, Inc. (2003)
(1) Note: Volume to Capacity Ratio
(2) Note: Delay is measured in seconds per vehicle
(na) Not Applicable

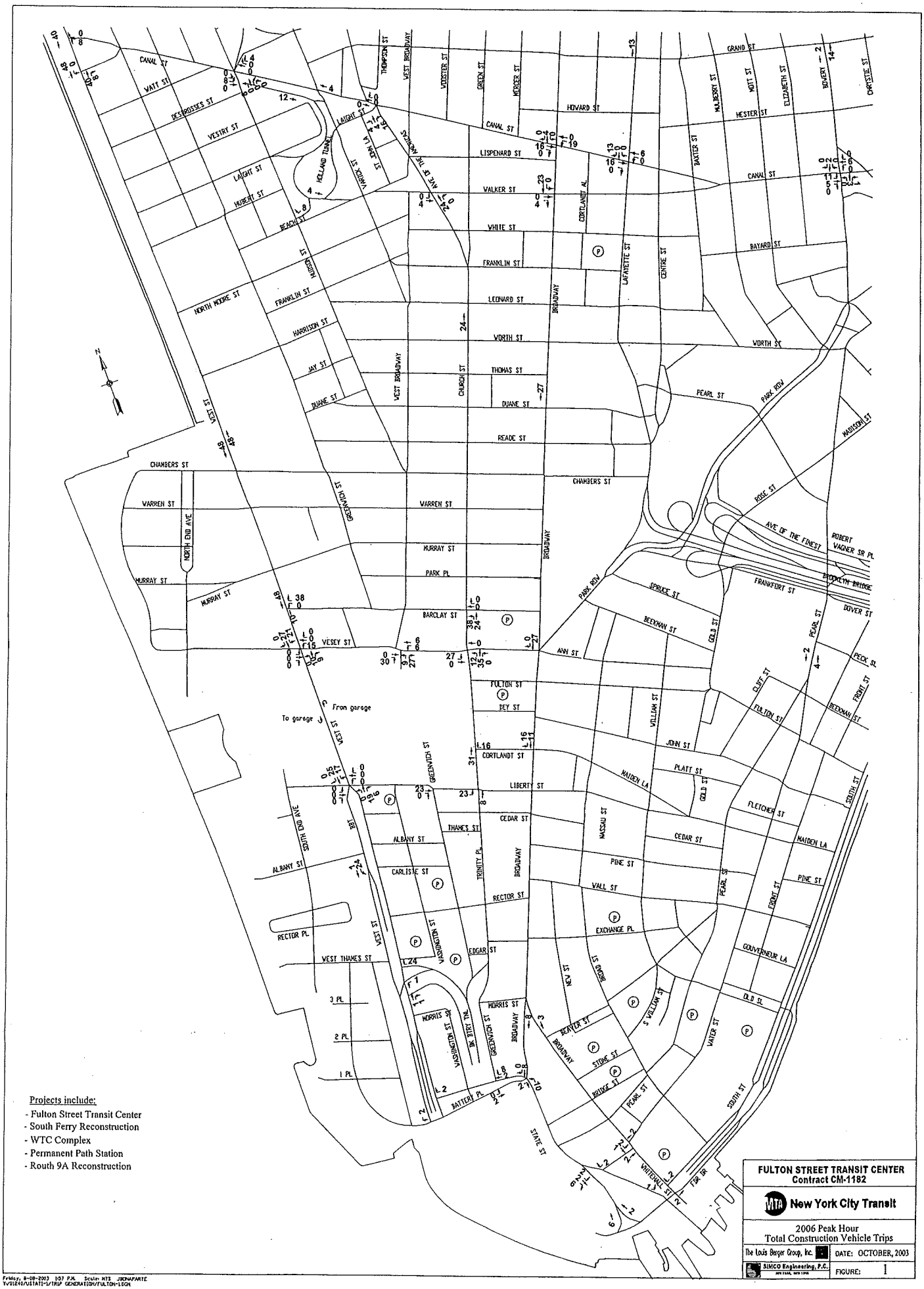
TABLE 3
2006 CUMULATIVE CONSTRUCTION LEVEL OF SERVICE ANALYSIS
2006 PM PEAK (5:00 - 6:00 PM)

INTERSECTION AND APPROACH	NO BUILD				BUILD				SIGNIFICANT IMPACT?
	Lane Group	V/C (1) Ratio	Delay (2)	LOS	Lane Group	V/C Ratio (1)	Delay (2)	LOS	No Build vs. Build
Canal Street/West Street (NYS Rt. 9A) (Signalized)									
Westbound (Canal Street)	L	0.2	39.3	D	L	0.22	39.6	D	NO
Westbound (Canal Street)	R	0.41	44.9	D	R	0.41	44.9	D	NO
Northbound (West Street)	T	0.63	2.4	A	T	0.64	2.5	A	NO
Southbound (West Street)	T	0.67	2.5	A	T	0.67	2.5	A	NO
Intersection			4.3	A			4.3	A	NO
Canal Street/West Street (NYS Rt. 9A) (Signalized)									
Northbound (West Street)	TR	0.81	15.9	B	TR	0.82	16.1	B	NO
Northbound (West Street)	R	0.23	9.2	A	R	0.24	9.2	A	NO
Southbound (West Street)	L	1.01	73.8	E	L	1.01	73.8	E	NO
Southbound (West Street)	T	1.00	31.7	C	T	1.01	34.7	C	NO
Intersection			29.0	C			30.5	C	NO
Chambers Street/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Chambers Street)	LTR	0.30	38.1	D	LTR	0.30	38.1	D	NO
Westbound (Chambers Street)	LT	0.72	54.3	D	LT	0.72	54.3	D	NO
Westbound (Chambers Street)	R	0.67	33.1	C	R	0.67	33.1	C	NO
Northbound (West Street)	TR	0.76	19.2	B	TR	0.78	19.4	B	NO
Southbound (West Street)	L	0.84	20.6	C	L	0.84	20.6	C	NO
Southbound (West Street)	TR	0.83	21.2	C	TR	0.85	21.6	C	NO
Intersection			22.6	C			22.9	C	NO
Vesey Street/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Vesey Street)	L	0.76	61.6	E	L	0.76	61.6	E	NO
Eastbound (Vesey Street)	TR	0.19	34.5	C	TR	0.19	34.5	C	NO
Westbound (Vesey Street)	L	0.01	33.9	C	L	0.06	34.7	C	NO
Westbound (Vesey Street)	TR	0.01	32.4	C	TR	0.01	32.4	C	NO
Northbound (West Street)	TR	1.05	65.6	E	TR	1.06	67.2	E	NO
Southbound (West Street)	L	0.04	8.0	A	L	0.13	9.9	A	NO
Southbound (West Street)	TR	1.05	67.9	E	TR	1.06	70.1	E	NO
Intersection			65.6	E			67.2	E	NO
Liberty Street/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Liberty Street)	L	0.41	39.9	D	L	0.41	39.9	D	NO
Eastbound (Liberty Street)	R	0.23	37.2	D	R	0.23	37.2	D	NO
Northbound (West Street)									
Northbound (West Street)	TR	0.72	12.8	B	TR	0.73	12.9	B	NO
Southbound (West Street)	L	0.02	47.1	D	L	0.10	48.4	D	NO
Southbound (West Street)	TR	1.09	83.1	F	TR	1.09	85.2	F	NO
Intersection			52.9	D			54.1	D	NO
Rector Street/West Street (NYS Rt. 9A) (Unsignalized)									
Northbound (West Street)	R	-	0.0	A	R	-	0.0	A	NO
Intersection			0.0	A			0.0	A	NO
Brooklyn Battery Tunnel Exit/West Street (NYS Rt. 9A) (Signalized)									
Eastbound (Brooklyn Battery Tunnel Exit)	R	0.53	24.7	C	R	0.53	24.7	C	NO
Westbound (Brooklyn Battery Tunnel Exit)	L	0.48	63.7	E	L	0.48	63.7	E	NO
Westbound (Brooklyn Battery Tunnel Exit)	R	0.42	50.3	D	R	0.42	50.6	D	NO
Northbound (West Street)	T	0.72	33.1	C	T	0.72	33.1	C	NO
Northbound (West Street)	R	1.10	100.9	F	R	1.10	100.9	F	NO
Southbound (West Street)	TR	1.00	59.5	E	TR	1.00	59.5	E	NO
Intersection			63.7	E			63.7	E	NO
Barclay Street/West Street (NYS Rt. 9A) (Unsignalized)									
Westbound (Barclay Street)	R	0.27	14.5	B	R	0.34	15.4	C	NO
Intersection			14.5	B			15.4	C	NO
Barclay Street/Greenwich Street (Unsignalized)									
Southbound (Greenwich Street)	R	0.01	9.0	A	R	0.01	9.2	A	NO
Intersection			9.0	A			9.2	A	NO
Canal Street/Hudson Street (Signalized)									
Eastbound (Canal Street)	L	0.67	33.7	C	L	0.68	34.2	C	NO
Eastbound (Canal Street)	T	0.62	12.9	B	T	0.62	12.9	B	NO
Westbound (Canal Street)	T	0.76	43.2	D	T	0.76	43.2	D	NO
Westbound (Canal Street)	R	0.94	35.8	D	R	0.94	35.8	D	NO
Northbound (Hudson Street)	LTR	0.82	39.6	D	LTR	0.82	40.0	D	NO
Northbound (Hudson Street)	R	0.70	40.9	D	R	0.70	40.9	D	NO
Intersection			34.7	C			34.9	C	NO
Canal Street/Varick Street (Signalized)									
Eastbound (Canal Street)	TR	0.29	8.8	A	TR	0.29	8.8	A	NO
Westbound (Canal Street)	LT	1.06	121.2	F	LT	1.06	121.2	F	NO
Southbound (Varick Street)	L	0.75	45.9	D	L	0.75	45.9	D	NO
Southbound (Varick Street)	T	0.49	26.3	C	T	0.49	26.3	C	NO
Southbound (Varick Street)	R	0.11	22.0	C	R	0.11	22.0	C	NO
Intersection			66.5	E			66.5	E	NO

TABLE 3
2006 CUMULATIVE CONSTRUCTION LEVEL OF SERVICE ANALYSIS
2006 PM PEAK (5:00 - 6:00 PM)

INTERSECTION AND APPROACH	NO BUILD				BUILD				SIGNIFICANT IMPACT?
	Lane Group	V/C (1) Ratio	Delay (2)	LOS	Lane Group	V/C Ratio (1)	Delay (2)	LOS	No Build vs. Build
Barclay Street/West Broadway (Signalized)									
Westbound (Barclay Street)	T	0.22	17.7	B	T	0.28	18.4	B	NO
Southbound (West Broadway)	R	0.04	11.6	B	R	0.04	11.6	B	NO
Intersection			16.8	B			17.7	B	NO
Worth Street/Church Street (Signalized)									
Eastbound (Worth Street)	LT	0.61	31.7	C	LT	0.61	31.7	C	NO
Westbound (Worth Street)	TR	0.81	38.8	D	TR	0.81	38.8	D	NO
Northbound (Church Street)	LTR	1.04	82.4	F	LTR	1.05	83.6	F	NO
Intersection			67.7	E			68.5	E	NO
Chambers Street/Church Street (Signalized)									
Eastbound (Chambers Street)	LT	1.03	70.9	E	LT	1.03	70.9	E	NO
Westbound (Chambers Street)	TR	0.63	22.1	C	TR	0.63	22.1	C	NO
Northbound (Church Street)	LTR	1.29	162.7	F	LTR	1.30	164.1	F	YES
Intersection			115.1	F			116.0	F	NO
Barclay Street/Church Street (Signalized)									
Westbound (Barclay Street)	TR	0.17	21.3	C	TR	0.17	21.3	C	NO
Westbound (Barclay Street)	R	1.31	196.4	F	R	1.31	196.4	F	NO
Northbound (Church Street)	LT	0.76	19.5	B	LT	0.8	21.3	C	NO
Intersection			60.1	E			60.2	E	NO
Vesey Street/Church Street (Signalized)									
Eastbound (Vesey Street)	LT	0.03	19.0	B	LT	0.07	19.3	B	NO
Northbound (Church Street)	LTR	0.63	10.0	A	LTR	0.65	10.3	B	NO
Northbound (Church Street)	R	0.23	6.8	A	R	0.23	6.8	A	NO
Intersection			9.8	A			10.3	B	NO
Fulton Street/Church Street (Signalized)									
Westbound (Fulton Street)	R	0.24	20.9	C	R	0.24	20.9	C	NO
Northbound (Church Street)	T	0.61	14.8	B	T	0.63	15.2	B	NO
Intersection			15.5	B			15.8	B	NO
Dey Street/Church Street (Signalized)									
Westbound (Dey Street)	R	0.00	24.2	C	R	0.00	24.2	C	NO
Northbound (Church Street)	T	0.57	9.4	A	T	0.58	9.6	A	NO
Intersection			9.4	A			9.6	A	NO
Cortland Street/Church Street (Signalized)									
Westbound (Cortland Street)	R	0.96	64.0	E	R	0.98	66.8	E	NO
Northbound (Church Street)	T	0.35	7.5	A	T	0.36	7.6	A	NO
Intersection			31.6	C			32.5	C	NO
Liberty Street/Church Street (Signalized)									
Eastbound (Liberty Street)	LT	0.00	18.1	B	LT	0.03	18.3	B	NO
Northbound (Church Street)	T	0.34	7.4	A	T	0.34	7.4	A	NO
Northbound (Church Street)	R	0.11	6.2	A	R	0.11	6.2	A	NO
Intersection			7.4	A			7.7	A	NO
Canal Street/Broadway (Signalized)									
Eastbound (Canal Street)	TR	0.94	41.4	D	TR	0.94	41.9	D	NO
Westbound (Canal Street)	DefL	1.09	96.1	F	DefL	1.10	100.4	F	YES
Westbound (Canal Street)	T	0.69	16.7	B	T	0.70	16.8	B	NO
Southbound (Broadway Street)	LTR	0.61	22.7	C	LTR	0.61	22.7	C	NO
Intersection			38.9	D			39.8	D	NO
Worth Street/Broadway (Signalized)									
Eastbound (Worth Street)	TR	0.65	25.7	C	TR	0.65	25.7	C	NO
Westbound (Worth Street)	LT	0.71	26.9	C	LT	0.71	26.9	C	NO
Southbound (Broadway Street)	LTR	1.26	295.3	F	LTR	1.27	297.9	F	YES
Intersection			196.3	F			198.2	F	YES
Chambers and Broadway (Signalized)									
Eastbound (Chambers Street)	TR	0.84	32.8	C	TR	0.84	32.8	C	NO
Westbound (Chambers Street)	L	0.37	20.5	C	L	0.37	20.5	C	NO
Westbound (Chambers Street)	T	0.61	21.5	C	T	0.61	21.5	C	NO
Southbound (Broadway Street)	LTR	0.91	26.0	C	LTR	0.91	26.3	C	NO
Intersection			26.6	C			26.7	C	NO
Vesey Street/Ann Street/Broadway (Signalized)									
Eastbound (Vesey Street/Ann Street)	L	0.33	40.0	D	L	0.33	40.0	D	NO
Eastbound (Vesey Street/Ann Street)	TR	0.36	40.6	D	TR	0.36	40.6	D	NO
Southbound (Broadway Street)	L	1.04	69.1	E	L	1.04	69.1	E	NO
Southbound (Broadway Street)	LT	0.64	17.4	B	LT	0.65	17.5	B	NO
Intersection			40.9	D			40.9	D	NO

Source: The Louis Berger Group, Inc. (2003)
(1) Note: Volume to Capacity Ratio
(2) Note: Delay is measured in seconds per vehicle
(na) Not Applicable



Projects include:

- Fulton Street Transit Center
- South Ferry Reconstruction
- WTC Complex
- Permanent Path Station
- Routh 9A Reconstruction

FULTON STREET TRANSIT CENTER
Contract CM-1182

MTA New York City Transit

2006 Peak Hour
Total Construction Vehicle Trips

The Louis Berger Group, Inc. | DATE: OCTOBER, 2003

SIMCO Engineering, P.C. | FIGURE: 1

Friday, 8-08-2003 3:07 P.M. Scale: NTS JROMAINE
V:\01240\ACTIVITY\GENERATION\FULTON-LEGN

Appendix D

Air Quality

APPENDIX D: Air Quality

INTRODUCTION

CUMULATIVE AIR QUALITY ANALYSIS

CONSTRUCTION METHODS AND IMPACTS

Included in this appendix is additional information regarding the WTC Permanent PATH Terminal construction period and the associated air quality analysis. The cumulative effects of the PATH on-site and off-site construction along with other projects planned in Lower Manhattan are discussed in Chapter 9, "Air Quality," and Chapter 15, "Cumulative Effects." During the construction period, the potential effects on ambient air quality in the study area are the sum of three distinct sources of air pollutant emissions: on-road vehicles, construction equipment, and fugitive dust. The cumulative local (microscale) effects assessment considered the following major Lower Manhattan projects in addition to the WTC Permanent PATH Terminal:

1. World Trade Center Memorial and Redevelopment Plan
2. Route 9A Project
3. Fulton Street Transit Center

For the regional (mesoscale) analysis, in addition to these projects, emissions from the South Ferry Station construction were added, based on worst-case assumptions and data from the Environmental Assessment for that project.

The project sponsors agreed upon the set of emission levels to be used for both the on-road and non-road equipment. Once emission levels were determined, each project sponsor performed the cumulative effects assessment in their respective area of potential effect. As explained in Chapters 9 and 15, the analysis of on-site sources for each project included factors such as the type of equipment in each work zone, the duration of equipment use, and the size of the equipment. Provided in this appendix is additional information regarding the construction methods, equipment, and emission factors used in the cumulative air quality analysis for these projects.

The air quality analyses have been updated since the DEIS to reflect several project changes. As of the time of this document, a preferred alternative has not yet been selected for the Route 9A project. The project may consist of either the At-Grade Alternative or the Short Bypass Alternative. Since these alternatives would result in different construction methods, and therefore different air pollutant emissions, the cumulative air quality analysis was performed twice to include each of the potential Route 9A scenarios. Construction methods and equipment are therefore presented in this Appendix for both the Route 9A At-Grade and Short Bypass Alternatives. Another update since the DEIS was the elimination from the Route 9A project of the proposed busway tunnel to Site 26.

In addition to affecting the cumulative air quality analysis, the Route 9A alternative will affect the WTC PATH Terminal project. As discussed in Chapter 9, "Air Quality," the construction of the pedestrian concourse (part of the WTC PATH Terminal project) that would run under Route 9A would vary significantly depending whether the At-Grade or Short Bypass Alternative is selected. Therefore, the air quality analysis for the WTC PATH Terminal only (i.e., independent of the cumulative analysis) was also run twice to account for both scenarios. Due to the overlap in location between the pedestrian concourse and the Route 9A project, the scheduled construction of the pedestrian concourse is linked to the Route 9A project. The construction equipment tables presented below for the Route 9A project include the pedestrian concourse. The actual emissions from the construction, however, are attributed to the WTC PATH Terminal project, since the pedestrian concourse would not be built if the WTC PATH Terminal were not built.

A similar situation exists regarding the construction of the waterlines for the WTC Memorial and Redevelopment project. For construction feasibility purposes, these waterlines will be constructed along with the other elements of the Route 9A project. The construction equipment tables presented below for the Route 9A project include the WTC Memorial and Redevelopment project waterlines. The emissions from the construction of the waterlines, however, are attributed to the WTC Memorial and Redevelopment project.

PERMANENT WTC PATH TERMINAL

CONSTRUCTION METHODS AND IMPACTS

Permanent Tracks, Platform Conversion, Mezzanine and Concourse Construction (Zone 1) – Traffic and Construction Equipment

Construction period for this activity is estimated to consist of demolition and construction activities occurring simultaneously. Following the construction of a temporary sixth track adjacent to the westernmost existing fifth track, demolition and conversion activities would occur in 3 major sections, each further broken down into 2 components; a northern and a southern component (6 stages total). To maintain train service and passenger safety and access, only one half (either northern or southern half) would be demolished and converted then the second half would follow. This cycle, of stage, of activity would continue until all six tracks and platforms were converted.

Duration of completing all 6 stages is estimated to run for 21 months. All work estimated based on one 10-hour shift commencing at 0700 and running to 1800 Monday to Saturday. All work is within the west bathtub of the site with access from the existing ramp from Liberty Street. No street closings, lane closings or sidewalk closings are anticipated for this work to take place.

Demolition – Temporary sixth track to be built prior to any demolition and conversion activities. Demolition is to occur in total of six stages. Demolition will occur on only the northern or southern half of platform and sets of tracks at one time to ensure continuous train service and passenger access. Estimated duration for demolition per stage is 24 days or 24 shifts. Demolition is included in the 3.5-month overall duration per stage.

Delivery Type *Per Stage (6 Stages total)*	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration per stage
Demolition Debris	1,000	Tons	68	10	6	1 Month
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				16	12	
Total Construction Workers	15 to 20					
Arriving by Personal Vehicle	3 to 4					
Arriving by Mass Transit	12 to 16					
Supervisory/QA	3 to 5					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 3					

Equipment – All demolition work occurs within the existing western bathtub of the WTC site. Demolition work will occur periodically over the 21-month construction schedule for periods up to 24 days each. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Dump Trucks is based on waiting time and loading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hydraulic All Terrain Crane	50 Ton	Diesel	165	1	1	80%	1 Month
Crawler Crane	200 Ton	Diesel	450	1	1	90%	
Hydraulic Excavator w/Hoe Ram	3.5 Cubic Yard	Diesel	320	1	1	90%	
Hydraulic Excavator w/Thumb	3.5 Cubic Yard	Diesel	320	1	1	90%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	5	3	5%	
Air Compressor (for Pavement Breakers)	1600 CFM	Diesel	460	1	1	90%	
Pavement Breakers	90 lbs			4	4	90%	

Construction – Preliminary estimates for the duration of the stage construction of the PATH permanent tracks, platform conversion, mezzanine and concourse construction is 6 months per stage and roughly 21 months overall. Concrete Truck Trips have been generated based on a worst case scenario of a maximum pour of 500 CY.

Delivery Type *Per Stage (6 Stages total)*	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration per stage
Concrete	950	CY	95	100	3.2	2.5 Months
Reinforcing Steel	150	Tons	8	2	0.27	
Structural Steel	1300	Tons	68	8	2.3	
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				26	22	
Construction Workers	30 to 40					
Arriving by Personal Vehicle	6 to 8					
Arriving by Mass Transit	24 to 32					
Supervisory/QA	10 to 15					
Arriving by Personal Vehicle	2 to 3					
Arriving by Mass Transit	8 to 12					

It is anticipated that a Construction Crew of 30 to 40 craft workers will be required on site during the peak period of each stage, with an additional 10 to 15 supervisory, quality assurance or administrative personnel. Our assumption is that most individuals will arrive at the site using mass transit, however we would estimate that 10 to 15 light trucks will arrive at the site during the first and second shift shape-up times, (coinciding with morning and evening peak traffic periods) with an additional 5 to 10 service/utility/delivery truck frequenting the site during each shift.

Equipment – All construction work takes place within the western bathtub. Access is by way of the existing ramp from Liberty Street. Construction laydown area for materials will be within the footprint of the permanent PATH Station or immediately adjacent to the footprint within the western bathtub. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on the approximate waiting time and loading/unloading time on site only. The following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hydraulic All Terrain Crane	50 Ton	Diesel	165	1	1	80%	2.5 months
Crawler Crane	200 Ton	Diesel	450	1	1	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	.1	50%	
Concrete Truck	10 CY Tandem or Tri-axle	Diesel	325	50	1.6	5%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	5	1.3	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	2	90%	
Air Compressor (for Impact Wrenches)	1600 CFM	Diesel	460	2	2	90%	
Impact Wrenches	1" Socket Drive			20	20	80%	

Tunnels under 1 & 9 Line (Zone 3) – Traffic and Construction Equipment

The driving of the mezzanine and concourse tunnels under the 1 & 9 subway tunnel beneath Greenwich Street will take place from within the existing subway tunnel (grouting operation) and from within the existing west bathtub. Estimated duration of tunneling driving and construction is 20 months. Tunneling, Underpinning, and Construction activities will occur throughout this period. Mobilization of equipment, removal of excavated spoils and delivery of construction materials will be minor in nature to the overall site operations and will add the following traffic:

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Spoil Removal	10,000	CY	670	12	2.8	20 Months
Underpinning	1,000	Tons	50	2	0.21	
Concrete / Steel	1,500	CY	150	4	0.63	
Service/Utility /Fuel Trucks				4	2	
Subcontractors Light Trucks				10	6	
Construction Workers	15 to 20					
Arriving by Personal Vehicle	3 to 4					
Arriving by Mass Transit	12 to 16					
Supervisory/QA	3 to 8					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 6					

Equipment – Grouting beneath the existing subway tunnel will be performed from within the tunnel and will involve the use of compressed air operated drill rigs and grout pumps. Tunneling beneath the subway will occur from the western bathtub and proceeding east. Tunneling will be accomplished with a tunnel roadheader and will require removal of existing piling supporting the existing tunnel and replacement with new piles/foundations. Spoils will be removed via the existing ramp to Liberty Street, or by lifting to the surface with a crane and skip box. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on the approximate waiting time and loading/unloading time on site only. The following construction equipment will be required for the underpinning operation that will take approximately 6 months of the 20-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Air Operated Grout Drills				3	1	90%	20 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	2	0.67	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	0.67	90%	

The following construction equipment will be required for the excavation of the tunnel and spoil removal operation that will take approximately 6 months of the 20-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Roadheader for tunneling	12 foot Diameter	Diesel	120	1	0.33	33%	20 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	
Crawler Crane (for spoil removal)	100 Ton	Diesel	350	1	0.33	90%	
Dump Truck	Tandem Axle – 15 CY	Diesel	325	1	0.33	5%	

The following construction equipment will be required for the tunnel lining operation that will take approximately 8 months of the 20-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	20 Months
Crawler Crane (for Material and Form support)	100 Ton	Diesel	350	1	0.33	80%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	1.4	0.67	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	.8	90%	

Tunnels and Concourses (Zones 2 & 4) – Traffic and Construction Equipment

The driving of the concourse tunnels under West and Church Streets will take place from within the existing west bathtub and the east bathtub in Zone 4 as described above. The West Street concourse will provide access to the World Financial Center under Route 9A and may be affected by the Route 9A project if the Short Bypass Alternative is selected. Estimated duration of underpinning, tunnel driving and construction is 15 months. Tunneling, Underpinning, and Construction activities will occur throughout this period. Mobilization of equipment, removal of excavated spoils and delivery of construction materials will be minor in nature to the overall site operations and will add the following traffic:

3a West Street Tunnel

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Spoil Removal	10,000	CY	670	10	3.7	15 Months
Underpinning	1,000	Tons	50	2	0.28	
Concrete / Steel	1,500	CY	150	4	0.83	
Service/Utility /Fuel Trucks				4	2	
Subcontractors Light Trucks				10	8	
Construction Workers	15 to 20					
Arriving by Personal Vehicle	3 to 4					
Arriving by Mass Transit	12 to 16					
Supervisory/QA	3 to 8					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 6					

Equipment – Tunneling beneath Liberty will occur from the western bathtub. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Dump Trucks are based on the approximate waiting time and loading/unloading time on site only. The following construction equipment will be required for the underpinning operation that will take approximately 5 months of the 15-month construction period (but may be assumed to be evenly distributed over the 15 month period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Air Operated Grout Drills				3	1	90%	15 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	2	0.1	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	.67	90%	

The following construction equipment will be required for the excavation of the tunnel and spoil removal operation that will take approximately 5 months of the 15-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Roadheader for tunneling	12 foot Diameter	Diesel	120	1	0.33	33%	15 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	
Crawler Crane (for spoil removal)	100 Ton	Diesel	350	1	0.33	90%	
Dump Truck	Tandem Axle – 15 CY	Diesel	325	5	1.9	5%	

The following construction equipment will be required for the tunnel lining operation that will take approximately 5 months of the 15-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	15 Months
Crawler Crane (for Material and Form support)	100 Ton	Diesel	350	1	0.33	80%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	2	0.42	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	0.67	90%	

3b Church Street Tunnel

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Spoil Removal	10,000	CY	670	10	3.7	15 Months
Underpinning	1,000	Tons	50	2	0.28	
Concrete / Steel	1,500	CY	150	4	0.83	
Service/Utility /Fuel Trucks				4	2	
Subcontractors Light Trucks				10	8	
Construction Workers	15 to 20					
Arriving by Personal Vehicle	3 to 4					
Arriving by Mass Transit	12 to 16					
Supervisory/QA	3 to 8					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 6					

Equipment – Tunneling beneath Church St. will occur from the eastern bathtub. Tunneling will be accomplished with a tunnel roadheader and will require removal of spoils to the surface adjacent to Liberty and West Streets by lifting to the surface with a crane and skip box. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Dump Trucks are based on the approximate waiting time and loading/unloading time on site only. The following construction equipment will be required for the underpinning operation that will take approximately 5 months of the 15-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Air Operated Grout Drills				3	1	90%	15 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	2	0.1	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	0.67	90%	

The following construction equipment will be required for the excavation of the tunnel and spoil removal operation that will take approximately 5 months of the 15-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Roadheader for tunneling	12 foot Diameter	Diesel	120	1	0.33	33%	15 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	
Crawler Crane (for spoil removal)	100 Ton	Diesel	350	1	0.33	90%	
Dump Truck	Tandem Axle – 15 CY	Diesel	325	5	1.9	5%	

The following construction equipment will be required for the tunnel lining operation that will take approximately 5 months of the 15-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	15 Months
Crawler Crane (for Material and Form support)	100 Ton	Diesel	350	1	0.33	80%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	2	0.42	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	0.67	90%	

Excavation/Deconstruction Temporary Station (Zone 6) – Traffic and Construction Equipment

Demolition – Demolition of Temporary Station east of 1 & 9 Subway and north of Zone 4. Estimated duration for demolition work is 3.5 months.

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Demolition Debris	7,500	Tons	500	16	12	3.5 Months
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				16	12	
Construction Workers	15 to 20					
Arriving by Personal Vehicle	3 to 4					
Arriving by Mass Transit	12 to 16					
Supervisory/QA	3 to 5					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 3					

Equipment – All demolition work occurs within and immediately adjacent to the footprint of the Temporary PATH Station. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Dump Trucks is based on the approximate waiting time and loading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hydraulic All Terrain Crane	50 Ton	Diesel	165	1	1	80%	3.5 Months
Crawler Crane	200 Ton	Diesel	450	1	1	90%	
Hydraulic Excavator w/Hoe Ram	3.5 Cubic Yard	Diesel	320	1	1	90%	
Hydraulic Excavator w/Thumb	3.5 Cubic Yard	Diesel	320	1	1	90%	
Hydraulic Excavator w/Grapple	3.5 Cubic Yard	Diesel	320	1	1	90%	
Track Loader w/Waste Handling Bucket	5.5 Cubic Yard	Diesel	160	1	1	90%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	8	6	5%	
Air Compressor (for Pavement Breakers)	1600 CFM	Diesel	460	2	2	90%	
Pavement Breakers	90 lbs.			12	12	80%	

Excavation- It is assumed that sheet piling will be used at the northern and southern portions of Zone 6 to allow for removal following excavation and construction of pedestrian concourses.

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Excavate to 238'	135,000	CY	9,000	250	250	3 Months
Service/Utility /Fuel Trucks				8	6	
Subcontractors Light Trucks				34	30	
Construction Workers	30 to 40					
Arriving by Personal Vehicle	6 to 8					
Arriving by Mass Transit	24 to 32					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment – Construction of the Slurry Wall closure pieces along Greenwich and Church Streets will be performed from within the footprint of the proposed Permanent PATH Terminal. The Slurry Wall closures will be constructed first, with excavation to EL 238' and the installation of soil/rock anchors to tie back the slurry wall second. Excavation and tie back installation will be performed within the footprint of the terminal and will require a lane closing along Church Street for access and staging of dump trucks for spoil removal. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Dump Trucks are based on the approximate waiting time and loading/unloading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hydraulic Excavators	3.5 CY	Diesel	320	2	2	90%	3 Months
Dozer	150 HP	Diesel	150	1	1	90%	
Dump Trucks	Tandem Axle - 15 CY	Diesel	325	125	125	5%	
Diesel Generators/ Compressors	100 HP	Diesel	100	2	2	90%	

Construction of the PATH Terminal Building (Zone 6) – Traffic and Construction Equipment

Construction – Construction of the PATH Terminal Building includes construction of all sub-grade (El. 238') and above grade levels. For the Grand Space it is anticipated that some of the structural steel framing will be pre-fabricated trusses to span the width of the Grand Space and may require lane closings on Church Street for erection. Assumes 500 CY concrete pours

Structural Framing

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Concrete	12,000	CY	1,200	100	10	10 Months
Reinforcing Steel	1,800	Tons	90	2	0.75	
Structural Steel to 306'	16,000	Tons	800	8	6.7	
Structural Steel – Grand Space	3,000	Tons	150	4	1.25	
Service/Utility /Fuel Trucks*				16	12	
Subcontractors Light Trucks*				16	12	
Construction Workers	50 to 60					
Arriving by Personal Vehicle	10 to 12					
Arriving by Mass Transit	40 to 48					
Supervisory/QA	10 to 15					
Arriving by Personal Vehicle	2 to 3					
Arriving by Mass Transit	8 to 12					

** Service/Utility /Fuel/ Subcontractors Light Truck totals are constant throughout the construction of the Terminal. Where Structural Framing and "Glazing and Fitout" overlap, the Service/Utility /Fuel/ Subcontractors Light Truck totals are not additive (only count them once)*

Glazing and Fitout

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Curtain Wall	400	Tons	20	2	0.12	13 Months
Interior Fitout				8	6	
Service/Utility /Fuel Trucks*				16	12	
Subcontractors Light Trucks*				16	12	
Construction Workers	50 to 60					
Arriving by Personal Vehicle	10 to 12					
Arriving by Mass Transit	40 to 48					
Supervisory/QA	10 to 15					
Arriving by Personal Vehicle	2 to 3					
Arriving by Mass Transit	8 to 12					

** Service/Utility /Fuel/ Subcontractors Light Truck totals are constant throughout the construction of the Terminal. Where Structural Framing and "Glazing and Fitout" overlap, the Service/Utility /Fuel/ Subcontractors Light Truck totals are not additive (only count them once)*

Equipment – In general the construction of the Permanent PATH Terminal will be performed from within the footprint of the proposed structure. A lane closure along Church Street will be required for receiving material deliveries and for the positioning of a crane for the erection of the pre-fabricated trusses for the grand space and for the structural steel framing. Foundation and subbasement work will be primarily of concrete construction to street level. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on the approximate waiting time and loading time on site only. The following construction equipment will be required:

Structural Framing

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Crawler Crane	200 Ton	Diesel	450	1	1	90%	10 Months
Tower Crane	100 Ton	Diesel	250	1	1	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	2	2	50%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	50	5	5%	
Diesel Generators	100 HP	Diesel	100	2	2	90%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	7	4.4	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	4	4	90%	
Air Compressor (for Impact Wrenches)	1600 CFM	Diesel	460	2	2	90%	
Impact Wrenches	1" Socket Drive			10	10	80%	

Glazing and Fitout

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Tower Crane	100 Ton	Diesel	250	1	1	90%	13 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Diesel Generators	100 HP	Diesel	100	2	2	90%	
Welding Machines	35 HP Diesel Engine	Diesel	35	4	4	90%	
Air Compressor (for Impact Wrenches)	1600 CFM	Diesel	460	2	2	90%	
Impact Wrenches	1" Socket Drive			10	10	80%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	5	3.2	5%	

WTC MEMORIAL AND REDEVELOPMENT PLAN

CONSTRUCTION METHODS AND IMPACTS

CONSTRUCTION TRAFFIC AND CONSTRUCTION EQUIPMENT

Demolition/Excavation of East Bathtub (Zones 4 & 5) – Traffic and Construction Equipment

All work estimated based on one 10-hour shift commencing at 0700 and ending at 1800, Monday to Saturday. This analysis assumes two one-hour Peak Traffic Periods occurring some time in the morning and evening

East Slurry Wall – East Slurry Wall construction will consist of creating two bathtubs – one bounded by Vesey St., Church St., north side of Permanent PATH Terminal and along 1 & 9 subway tunnel. The other will be bounded by the north side of the divided PATH concourse, Church St., Liberty St., and the east side of the 1 & 9 subway tunnel. The slurry wall and excavation will be conducted down to a level of EL 238'. As the Slurry Wall progresses around the site, the area immediately adjacent to the wall will be benched down to the first level of tieback anchors, to allow installation of the anchors to commence prior to completion of the wall. Some excavation activities will coincide with the slurry wall and tieback anchoring activities. Traffic and Construction Equipment for the tie back installation is covered under Excavation below.

Delivery Type ZONE 4	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration Worst Case
Slurry Wall – Exc.	6,600	CY	440	16	7.3	5 Months
Slurry Wall – Conc.	6,600	CY	660	18	11	
Slurry Wall – Rebar	1,600	Tons	80	2	1.33	
Service/Utility /Fuel Trucks				16	12	
Subcontractors Light Trucks				8	4	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	16 to 24					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Delivery Type ZONE 5	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration Worst Case
Slurry Wall – Exc.	6,600	CY	440	16	7.3	5 Months
Slurry Wall – Conc.	6,600	CY	660	18	11	
Slurry Wall – Rebar	1,100	Tons	55	2	1.33	
Service/Utility /Fuel Trucks				16	12	
Subcontractors Light Trucks				8	4	
Construction Workers	10 to 20					
Arriving by Personal Vehicle	2 to 4					
Arriving by Mass Transit	8 to 16					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment – Construction of the Slurry Wall surrounding Zone 4 will be performed from within the footprint of the proposed development within those zones. The Slurry Wall will be constructed by the panel method and will require two crews of men and equipment to meet the proposed schedule. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Daily Use for Concrete Trucks and Dump Trucks are based on waiting time and unloading/loading time on site only. Equipment required is as follows:

Equipment Type Zone 4	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Slurry Plant Mixing Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	2	2	90%	5 Months
Desanding Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	2	2	50%	
Crawler Crane w/clam shell	100 Ton	Diesel	350	2	2	90%	
Hydraulic All Terrain Crane	50 Ton	Diesel	165	1	1	25%	
Crawler Crane (for rebar placement)	200 Ton	Diesel	450	2	2	50%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	2	2	50%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	9	5.5	5%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	8	3.7	10%	
Hydraulic Excavators (lead in trench)	3.5 CY	Diesel	320	1	1	90%	
Dozer (maintain site grading)	150 HP	Diesel	150	1	1	20%	
Diesel Generators	10 HP	Gas	10	4	4	90%	

Equipment Type Zone 5	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Slurry Plant Mixing Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	90%	5 Months
Desanding Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	50%	
Crawler Crane w/clam shell	100 Ton	Diesel	350	1	1	90%	
Hydraulic All Terrain Crane	50 Ton	Diesel	165	1	1	25%	
Crawler Crane (for rebar placement)	200 Ton	Diesel	450	1	1	50%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	50%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	9	5.5	5%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	8	3.7	10%	
Hydraulic Excavators (lead in trench)	3.5 CY	Diesel	320	1	1	10%	
Dozer (maintain site grading)	150 HP	Diesel	150	1	1	10%	
Diesel Generators	10 HP	Gas	10	2	2	90%	

Demolition in 2004 – The demolition of the existing H&M coffer dam and station will occur concurrently with the slurry wall construction. Estimated duration for demolition is 2 months for the former Hudson & Manhattan station along Church Street in Zone 4.

Delivery Type	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Demolition Debris	3,000	Tons	100	10	4.2	2 Months
Service/Utility /Fuel Trucks				8	6	
Subcontractors Light Trucks				16	12	
Total Construction Workers	10 to 15					
Arriving by Personal Vehicle	2 to 3					
Arriving by Mass Transit	8 to 12					
Supervisory/QA	3 to 5					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 3					

Equipment – All demolition work occurs within the east bathtub. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Dump Trucks is based on waiting time and loading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Hydraulic All Terrain Crane	50 Ton	Diesel	165	1	1	50%	2 Months
Hydraulic Excavator w/Hoe Ram	3.5 Cubic Yard	Diesel	320	4	4	90%	
Hydraulic Excavator w/Thumb	3.5 Cubic Yard	Diesel	320	1	1	90%	
Hydraulic Excavator w/Grapple	3.5 Cubic Yard	Diesel	320	1	1	90%	
Hydraulic Excavator w/Shear	3.5 Cubic Yard	Diesel	320	1	1	50%	
Track Loader w/Waste Handling Bucket	5.5 Cubic Yard	Diesel	160	1	1	90%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	5	2.1	10%	
Air Compressor (for Pavement Breakers)	1600 CFM	Diesel	460	1	1	50%	
Pavement Breakers	90 lbs.			4	4	50%	

Excavation – After completion of the east slurry wall construction, the east bathtub will be created by excavating within the slurry walls to bedrock at EL 238'. The area immediately adjacent to the slurry walls will be benched to allow the installation of the tieback anchors for temporary support of the slurry wall during construction of the basement levels of the development. The soil excavation can continue in the northern central and southern central portions of the bathtub, zones 4 and 5 respectively. Areas immediately adjacent to the slurry wall will be conducted last until the final row of tieback anchors has been completed.

Delivery Type ZONE 4	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration Worst Case
Soil/Rock Anchors	1,280	Ea	16	2	0.14	9 Months
Excavate to 238'	225,000	CY	15,000	170	138	
Service/Utility /Fuel Trucks				12	8	
Subcontractors Light Trucks				8	4	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	16 to 24					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Delivery Type ZONE 5	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Soil/Rock Anchors	880	Ea	12	2	2	9 Months
Excavate to 238'	206,000	CY	13,750	153	127	
Service/Utility /Fuel Trucks				12	8	
Subcontractors Light Trucks				8	6	
Construction Workers	10 to 20					
Arriving by Personal Vehicle	2 to 4					
Arriving by Mass Transit	8 to 16					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment – Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Dump Trucks is based on waiting time and loading time on site only. Equipment required is as follows:

Equipment Type Zone 4	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Hydraulic Drill Rig (for Anchors)	Diesel 150 HP	Diesel	150	2	2	90%	9 Months
Crawler Crane (to support Anchor Operation)	100 Ton	Diesel	350	1	1	50%	
Hi-Lift (Forklift) (for Anchor Oper.)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Hydraulic Excavators	3.5 CY	Diesel	320	3	3	90%	
Dozer	150 HP	Diesel	150	2	2	90%	
Dump Trucks	15 CY	Diesel	325	85	69	5%	
Diesel Generators	10 HP	Gas	10	2	2	90%	

Equipment Type Zone 5	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Hydraulic Drill Rig for Anchors	Diesel 150 HP	Diesel	150	2	2	90%	9 Months
Crawler Crane (to support Anchor Oper.)	100 Ton	Diesel	350	1	1	50%	
Hi-Lift (Forklift) (for Anchor Oper.)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Hydraulic Excavators	3.5 CY	Diesel	320	2	2	90%	
Dozer	150 HP	Diesel	150	1	1	90%	
Dump Trucks	15 CY	Diesel	325	76	64	5%	
Diesel Generators	10 HP	Gas	10	2	2	90%	

Tunnels – Traffic and Construction Equipment

The driving of the ramp tunnels under 1/9 line will take place from within the existing west bathtub and the east bathtub in Zone 4 and 5 as described above. Estimated duration of tunneling driving and construction is 15 months. Mobilization of equipment, removal of excavated spoils and delivery of construction materials will be minor in nature to the overall site operations and will add the following traffic:

Delivery Type	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Spoil Removal	11,000	CY	750	8	4.2	15 Months
Underpinning	1,500	Tons	75	2	0.42	
Concrete / Steel	1,800	CY	180	8	1	
Service/Utility /Fuel Trucks				8	4	
Subcontractors Light Trucks				20	14	
Construction Workers	20 to 25					
Arriving by Personal Vehicle	4 to 5					
Arriving by Mass Transit	16 to 20					
Supervisory/QA	4 to 8					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 6					

Equipment–Tunneling will be accomplished with a tunnel roadheader and staged underpinning; and will require removal of spoils to the surface adjacent to Liberty and West Streets by lifting to the surface with a crane and skip box. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Dump Trucks are based on waiting time and unloading/loading time on site only. The following construction equipment will be required for the underpinning operation that will take approximately 5 months of the 15-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Air Operated Grout Drills				3	1	90%	15 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	1	0.2	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	1.33	90%	

The following construction equipment will be required for the excavation of the tunnel and spoil removal operation that will take approximately 5 months of the 15-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Roadheader for tunneling	12 foot Diameter	Diesel	120	1	0.33	33%	15 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	
Crawler Crane (for spoil removal)	100 Ton	Diesel	350	1	0.33	90%	
Dump Truck	Tandem Axle – 15 CY	Diesel	325	4	2.1	5%	

The following construction equipment will be required for the tunnel lining operation that will take approximately 5 months of the 15-month construction period:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	15 Months
Crawler Crane (for Material and Form support)	100 Ton	Diesel	350	1	0.33	80%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	4	0.5	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	0.67	90%	

Northwest Quadrant Subgrade Retail – WTC Concourse, Freedom Tower Foundations (Zone 2) – Traffic and Construction Equipment

Construction – This activity includes the construction of all structural elements in Zone 2 within the northwest quadrant (north of WTC Tower 2 footprint) of the site and within the west bathtub for the foundations and sub-grade levels for WTC Concourses, cultural space and performing arts program to El. 364'. The activity does not include Permanent WTC PATH platforms, track, mezzanine and concourse areas in Zone 2. Concrete Truck Trips have been generated based on a worst-case scenario of a maximum pour of 600 CY.

Delivery Type Northwest Quadrant	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Concrete	11,000	CY	1,100	120	7	13 Months
Reinforcing Steel*	1,800	Tons	90	4	0.6	
Structural Steel 306' to 364'*	5,000	Tons	250	6	1.6	
Curtain Wall*	87,000	SF	116	8	0.74	
Interior Fitout*	464,000	SF	700	6	4.5	
Service/Utility /Fuel Trucks				36	32	
Subcontractors Light Trucks				44	40	
Construction Workers	300 to 400					
Arriving by Personal Vehicle	60 to 80					
Arriving by Mass Transit	240 to 320					
Supervisory/QA	40 to 45					
Arriving by Personal Vehicle	8 to 9					
Arriving by Mass Transit	32 to 36					
**Assumed to be evenly distributed throughout the subtask duration*						

Equipment – In general the construction within the Northwest Quadrant will be performed from within the footprint of the proposed structures. Foundation and subbasement work will be primarily of concrete construction to street level. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on waiting time and unloading time on site only. The following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Crawler Crane	200 Ton	Diesel	450	2	2	90%	13 Months
Tower Crane	100 Ton	Diesel	250	4	4	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	60%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	60	3.5	5%	
Diesel Generators	500 HP	Diesel	100	1	1	35%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	12	3.7	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	80%	
Air Compressor (for Impact Wrenches)	800 CFM	Diesel	310	1	1	80%	
Impact Wrenches	1" Socket Drive			10	10	60%	

Memorial, Open Space, Cultural Space (Zones 1 & 2) – Traffic and Construction Equipment

Construction – This activity includes the construction of all structural elements in Zone 1 & 2 within the west bathtub for the Memorial Site, Open Space and Cultural Space from the proposed location of Fulton Street on the north and Liberty Street on the south to El. 364'. This activity does not include Permanent WTC PATH platforms, track, mezzanine and concourse areas in Zone 2. Preliminary estimates for the duration of the construction of these areas are 25 months. For the Cultural Spaces it is anticipated that some of the structural steel framing will be pre-fabricated trusses to span the width of the atrium/open areas and should not require lane closings, since the affected streets, Greenwich, Fulton and Liberty will be under construction within the boundaries of the WTC Redevelopment. Concrete Truck Trips have been generated based on a worst-case scenario of a maximum pour of 600 CY.

Delivery Type Memorial, Open and Cultural Spaces	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Concrete	25,500	CY	2,550	120	8.5	25 Months
Reinforcing Steel	4,100	Tons	205	2	0.68	
Structural Steel 306' to 364'*	3,000	Tons	150	4	0.5	
Curtain Wall*	67,000	SF	90	4	0.3	
Interior Fitout*	766,000	SF	1,150	10	3.8	
Service/Utility /Fuel Trucks				36	32	
Subcontractors Light Trucks				44	40	
Construction Workers	200 to 250					
Arriving by Personal Vehicle	10 to 15					
Arriving by Mass Transit	190 to 235					
Supervisory/QA	40 to 45					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	36 to 39					

Equipment – In general the construction within the Memorial Site, Open Space and Cultural Space will be performed from within the footprint of the proposed structures over the Permanent PATH Terminal. Foundation and subbasement work will be primarily of concrete construction to street level. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on waiting time and unloading time on site only. The following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Crawler Crane	200 Ton	Diesel	450	1	1	90%	25 Months
Tower Crane	100 Ton	Diesel	250	2	2	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	60%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	60	4.2	5%	
Diesel Generators	500 HP	Diesel	100	1	1	20%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	10	2.65	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	80%	
Air Compressor (for Impact Wrenches)	800 CFM	Diesel	310	1	1	80%	
Impact Wrenches	1" Socket Drive			10	10	60%	

Southeast Quadrant Sub-grade – Towers 3 & 4 Foundations & Retail Below Grade (Zone 4) – Traffic and Construction Equipment

Construction – This activity includes the construction of all structural elements in Zone 4 for the foundations of Towers 3 and 4 and retail areas south of the Permanent PATH Terminal to El. 364'. The activity does not include the Permanent WTC PATH Terminal in Zone 6. Preliminary estimates for the duration of the construction of these areas are 15 months commencing Oct 2005 thru Dec 2006 Concrete Truck Trips have been generated based on a worst-case scenario of a maximum pour of 600 CY.

Delivery Type Zone 4	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Concrete	18,000	CY	1,800	120	10	15 Months
Reinforcing Steel	2,800	Tons	140	2	0.78	
Structural Steel 306' to 364'*	3,000	Tons	150	4	0.83	
Curtain Wall*	81,000	SF	108	4	0.6	
Interior Fitout*	715,000	SF	1,075	10	6	
Service/Utility /Fuel Trucks				36	32	
Subcontractors Light Trucks				44	40	
Construction Workers	150 to 200					
Arriving by Personal Vehicle	5 to 8					
Arriving by Mass Transit	145 to 192					
Supervisory/QA	20 to 25					
Arriving by Personal Vehicle	2 to 5					
Arriving by Mass Transit	18 to 20					
**Assumed to be evenly distributed throughout the subtask duration*						

Equipment – In general the construction of the foundations of Towers 3 and 4 and retail levels to El.364' in the Zone 4 will begin within the east bathtub and will be performed from within the footprint of the proposed structures Foundation and subbasement work will be primarily of concrete construction to street level. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on waiting time and unloading time on site only. The following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Crawler Crane	200 Ton	Diesel	450	1	1	90%	15 months
Tower Crane	100 Ton	Diesel	250	2	2	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	60%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	60	5	5%	
Diesel Generators	500 HP	Diesel	100	1	1	20%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	10	4.1	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	80%	
Air Compressor (for Impact Wrenches)	1,600 CFM	Diesel	460	1	1	80%	
Impact Wrenches	1" Socket Drive			15	15	60%	

Northeast Quadrant Sub-grade – Tower 2 Foundation & Retail Below Grade (Zone 5) – Traffic and Construction Equipment

Construction – This activity includes the construction of all structural elements in Zone 5 for the foundations of Tower 2 and retail spaces from sub-grade levels to El. 364' north of the Permanent PATH Terminal including the sub-grade levels below the proposed location of Fulton Street through the redevelopment site. The activity does not include Permanent WTC PATH Terminal in Zone 6. Preliminary estimates for the duration of the construction of these areas are 12 months commencing Sept 2005 thru Sept 2006. Lane closings along Vesey Street will be required. Concrete Truck Trips have been generated based on a worst-case scenario of a maximum pour of 600 CY.

Delivery Type Northeast Quadrant	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Concrete	15,000	CY	1,500	120	8.3	15 Months
Reinforcing Steel	2,500	Tons	125	2	0.7	
Structural Steel to 306' - 364'*	1,000	Tons	50	2	0.27	
Curtain Wall*	70,000	SF	95	4	0.52	
Interior Fitout*	540,000	SF	810	14	4.5	
Service/Utility /Fuel Trucks				36	32	
Subcontractors Light Trucks				44	40	
Construction Workers	100 to 150					
Arriving by Personal Vehicle	5 to 10					
Arriving by Mass Transit	95 to 140					
Supervisory/QA	20 to 25					
Arriving by Personal Vehicle	2 to 5					
Arriving by Mass Transit	18 to 20					

Equipment – In general the construction of the foundations of Tower 2 and retail levels to El.364' in the Zone 4 will begin within the east bathtub and will be performed from within the footprint of the proposed structures. Foundation and subbasement work will be primarily of concrete construction to street level. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on waiting time and unloading time on site only. The following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use Use	Duration
Crawler Crane	200 Ton	Diesel	450	1	1	90%	15 Months
Tower Crane	100 Ton	Diesel	250	2	2	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	60%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	60	4.1	5%	
Diesel Generators	500 HP	Diesel	500	1	1	20%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	11	3	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	*0*	*0*	80%	
Air Compressor (for Impact Wrenches)	1,600 CFM	Diesel	460	1	1	80%	
Impact Wrenches	1" Socket Drive			15	15	60%	

East Bathtub Retail Above Grade Fitout (Zones 4, 5 & 6)

This activity includes the fitout of the retail development to El. 364' east of Greenwich Street and including the 7,200 SF of retail space within the Permanent PATH Terminal. Work includes all retail store finishes and furnishings, including necessary HVAC, Electrical and Mechanical. The preliminary schedule indicates that the work will require 23 months.

Delivery Type East Bathtub Retail Fitout Above Grade	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Interior Fitout (Retail Store & Restaurant Fixtures)	150,000	Tons	7,500	30	26	23 Months
Service/Utility /Fuel Trucks				34	30	
Subcontractors Light Trucks				44	40	
Construction Workers	200 to 250					
Arriving by Personal Vehicle	5 to 10					
Arriving by Mass Transit	195 to 240					
Supervisory/QA	30 to 35					
Arriving by Personal Vehicle	2 to 5					
Arriving by Mass Transit	28 to 30					

Equipment – Retail Fitout will involve work almost entirely within the shell of the completed retail levels. Since the sub-grade parking and truck delivery areas will have been completed by this stage of construction, it is anticipated that most of the deliveries and staging/storage area of materials will occur within the underground parking and truck delivery areas.

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	23 Months
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	15	13	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	60%	

Tower Development Construction (Zones 2, 4 and 5) – Traffic and Construction Equipment

Tower Construction – Tower No. 1 will be fast tracked due to its symbolic nature. Towers 2 thru 5 will most likely follow at a normal pace, and it is assumed that the towers 2, 3 and 4 will be constructed simultaneously with tower 5 commencing at or near the completion of towers 2, 3 and 4. Construction activities for the tower construction include all levels above the highest retail level at El. 364. Concrete Truck Trips have been generated based on a worst-case scenario of a maximum pour of 600 CY.

Tower 1

Structural Framing

Delivery Type **Tower 1** **2.6 Million SF - 70 Stories**	**Quantity**	**Units**	**Total No. Of Truckloads**	**Trips per Day (Peak Day impact Calculation)**	**Trips per Day (cumulative impact calculation)**	**Estimated Duration**
Concrete - Floors	40,000	CY	4,000	120	24	14 Months
Structural Steel	35,000	Tons	1,750	20	10.4	
Service/Utility /Fuel Trucks				36	32	
Subcontractors Light Trucks				44	40	
Construction Workers	300 to 350					
Arriving by Personal Vehicle	60 to 65					
Arriving by Mass Transit	240 to 285					
Supervisory/QA	20 to 25					
Arriving by Personal Vehicle	4 to 5					
Arriving by Mass Transit	16 to 20					

Fitout and installation of curtain wall will commence some time after steel erection and concrete pours have commenced

Delivery Type Tower 1 2.6 Million SF - 70 Stories	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Curtain Wall	5,000	Tons	250	3	0.8	26 Months
Interior Fitout			1,000	10	3.2	
Service/Utility /Fuel Trucks*				36	32	
Subcontractors Light Trucks*				44	40	
Construction Workers	300 to 350					
Arriving by Personal Vehicle	60 to 65					
Arriving by Mass Transit	240 to 285					
Supervisory/QA	20 to 25					
Arriving by Personal Vehicle	4 to 5					
Arriving by Mass Transit	16 to 20					
**Service/Utility/Fuel/Light Truck numbers NOT to be cumulative with Service/Utility/Fuel/Light Truck totals for Structural Framing activity where Structural Framing and "Fitout and Curtain Wall" activities overlap (i.e: only count them once)*						

Equipment – In general the construction of Tower 1 be performed from within the footprint of the proposed structure and site. Lane closure along Vesey Street will continue to be necessary for receiving material deliveries. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on waiting time and unloading time on site only. The following construction equipment will be required:

Structural Framing

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Crawler Crane	200 Ton	Diesel	450	2	2	90%	14 Months
Tower Crane	100 Ton	Diesel	250	4	4	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	2	2	60%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	60	12	10%	
Diesel Generators	750 HP	Diesel	100	1	1	20%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	10	5.2	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	90%	
Air Compressor (for Impact Wrenches)	1,600 CFM	Diesel	460	1	1	90%	
Impact Wrenches	1" Socket Drive			15	15	80%	

Curtain Wall and Fitout

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Tower Crane	100 Ton	Diesel	250	4	4	90%	26 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Diesel Generators	100 HP	Diesel	100	0	0	20%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	90%	
Air Compressor (for Impact Wrenches)	800 CFM	Diesel	310	0	0	90%	
Impact Wrenches	1" Socket Drive			0	0	80%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	6	2	5%	

Towers 2, 3, and 4

Structural Framing

Delivery Type **Towers 2, 3 & 4** **2.05 Million SF – 65 Stories** **2.0 Million SF - 60 Stories** **1.73 Million SF – 55 Stories**	**Quantity**	**Units**	**Total No. Of Truckloads**	**Trips per Day (Peak Day impact Calculation)**	**Trips per Day (cumulative impact calculation)**	**Estimated Duration**
Concrete	90,000	CY	9,000	100	31.3	24 Months
Structural Steel	84,000	Tons	4,200	26	14.5	
Service/Utility /Fuel Trucks				26	22	
Subcontractors Light Trucks				44	40	
Construction Workers	700 to 900					
Arriving by Personal Vehicle	50 to 60					
Arriving by Mass Transit	650 to 840					
Supervisory/QA	60 to 75					
Arriving by Personal Vehicle	4 to 5					
Arriving by Mass Transit	56 to 70					

Curtain Wall and Fitout

Delivery Type Towers 2, 3 & 4 2.05 Million SF – 65 Stories 2.0 Million SF - 60 Stories 1.73 Million SF – 55 Stories	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Curtain Wall	9,800	Tons	490	6	1.7	24 Months
Interior Fitout				20	18	
Service/Utility /Fuel Trucks*				26	24	
Subcontractors Light Trucks*				44	40	
Construction Workers	700 to 900					
Arriving by Personal Vehicle	50 to 60					
Arriving by Mass Transit	650 to 840					
Supervisory/QA	60 to 75					
Arriving by Personal Vehicle	4 to 5					
Arriving by Mass Transit	56 to 70					
**Service/Utility/Fuel/Light Truck numbers NOT to be cumulative with Service/Utility/Fuel/Light Truck totals for Structural Framing activity where Structural Framing and "Fitout and Curtain Wall" activities overlap (i.e: only count them once)*						

Equipment – Towers 2, 3 and 4 will be constructed primarily from within the tower. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on waiting time and unloading time on site only. The following construction equipment will be required:

Structural Framing

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Crawler Crane	200 Ton	Diesel	450	4	4	90%	24 Months
Tower Crane	100 Ton	Diesel	250	6	6	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	3	3	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	4	4	60%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	50	15	5%	
Diesel Generators	750 HP	Diesel	100	3	3	20%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	13	7	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	90%	
Air Compressor (for Impact Wrenches)	800 CFM	Diesel	310	3	3	90%	
Impact Wrenches	1" Socket Drive			45	45	80%	

Curtain Wall and Fitout

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Tower Crane	100 Ton	Diesel	250	6	6	90%	24 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	3	3	90%	
Diesel Generators	100 HP	Diesel	100	0	0	20%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	6	2	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	90%	
Air Compressor (for Impact Wrenches)	800 CFM	Diesel	310	0	0	90%	
Impact Wrenches	1" Socket Drive			0	0	80%	

De-construction of Deutsche Bank Building – Traffic and Construction Equipment

The de-construction of the Deutsche Bank Building will require sidewalk and lane closings on Greenwich, Liberty, Albany and Washington Streets for the entire duration. The building is a 40-story building with a height of 565 feet and an approximate footprint of 40,000 SF per floor. Our estimate is that it will require a minimum of 12 months to take down the structure after the completion of any hazardous abatement for asbestos and mold. The demolition has been estimated on a single 8-hour shift.

Delivery Type	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Gutting Floors	72,000	CY	1,800	18	12.5	12 Months
Concrete Floors	40,000	Tons	2,800	24	19.4	
Curtain Wall	3,400	Tons	225	4	1.6	
Structural Steel	18,400	Tons	1,000	10	7	
Service/Utility /Fuel Trucks				12	8	
Subcontractors Light Trucks				10	6	
Construction Workers	60 to 80					
Arriving by Personal Vehicle	12 to 16					
Arriving by Mass Transit	48 to 64					
Supervisory/QA	3 to 8					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 6					

Equipment – All demolition work occurs within the footprint and the adjacent sidewalk areas and lane closings around the perimeter of the site. Demolition is assumed to commence after hazardous materials abatement and will consist of the systematic gutting of the interiors prior to the cutting and removal of structural floor slabs and structural steel. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Demolition Trailers is based on waiting time and loading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Fixed Leg Derrick Crane	100 Ton	Diesel	250	1	1	90%	12 Months
Hydraulic All Terrain Crane	50 Ton	Diesel	165	1	1	50%	
Concrete Saws – Diamond Blade	50 HP Diesel Engines	Diesel	50	4	4	80%	
Skid Steer Loaders w/Demolition Hammers		Diesel	40	8	8	90%	
Hydraulic Excavator w/Thumb	3.5 Cubic Yard	Diesel	320	1	1	80%	
Hydraulic Excavator w/Concrete Pulverizer Attachment	3.5 Cubic Yards	Diesel	320	4	4	90%	
Rubber Tire Loader	3.5 Cubic Yard	Diesel	196	1	1	80%	
Demolition Trailers	Tandem Axle Tractor w/25 CY Dump Trailer	Diesel	325	19	20	5%	
Air Compressor (for Pavement Breakers)	1600 CFM	Diesel	460	1	1	100%	
Pavement Breakers	90 lbs.			8	8	80%	

Southern Expansion – 5TH Tower South of Liberty Street – Traffic and Construction Equipment

Slurry Wall – The existing western bathtub will be enlarged to encompass the area south of Liberty Street from West Street to Greenwich Street and south to Cedar Street and including the city block bounded by Washington Street, Albany Street and Greenwich Street south of Cedar Street. The slurry wall construction will follow the demolition/de-construction of the Deutsche Bank Building. The

slurry wall and excavation will be conducted down to a level of EL 238'. As the Slurry Wall progresses around the site, the area immediately adjacent to the wall will be benched down to the first level of tieback anchors, to allow installation of the anchors to commence prior to completion of the wall. Some excavation activities will coincide with the slurry wall and tieback anchoring activities. Traffic and Construction Equipment for the tie back installation is covered under Excavation below.

Delivery Type **South of Liberty St.**	**Quantity**	**Units**	**Total No. Of Loads**	**Trips per Day (Peak Day impact Calculation)**	**Trips per Day (cumulative impact calculation)**	**Estimated Duration** **Worst Case**
Slurry Wall – Exc.	10,300	CY	674	10	7	8 Months
Slurry Wall – Conc.	10,300	CY	1,010	16	10.5	
Slurry Wall – Rebar	2,275	Tons	114	2	1.2	
Service/Utility /Fuel Trucks				14	12	
Subcontractors Light Trucks				8	6	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	16 to 24					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment – Construction of the Slurry Wall surrounding the southern expansion south of Liberty Street will be performed from within the footprint of the proposed development. The Slurry Wall will be constructed by the panel method and will require one crew of men and equipment to meet the proposed schedule. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Dump Trucks are based on waiting time and unloading/loading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Slurry Plant Mixing Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	90%	
Desanding Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	50%	
Crawler Crane w/clam shell	100 Ton	Diesel	350	1	1	90%	
Hydraulic All Terrain Crane	50 Ton	Diesel	165	1	1	25%	
Crawler Crane (for rebar placement)	200 Ton	Diesel	450	1	1	50%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	50%	8 Months
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	8	5.2	5%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	5	3.5	10%	
Hydraulic Excavators (lead in trench)	3.5 CY	Diesel	320	1	1	10%	
Dozer (maintain site grading)	150 HP	Diesel	150	1	1	10%	
Diesel Generators	10 HP	Gas	10	2	2	90%	

Excavation - The area immediately adjacent to the slurry walls will be benched to allow the installation of the tieback anchors for temporary support of the slurry wall during construction of the basement levels of the southern expansion area development. The soil excavation can continue in the central portions of the bathtub during the tieback anchors operation. Areas immediately adjacent to the slurry wall will be conducted last until the final row of tieback anchors has been completed.

Delivery Type Southern Expansion Bathtub	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration Worst Case
Soil/Rock Anchors	1,680	Ea	21	2	.2	9 Months
Excavate to 241'	350,000	CY	23,500	260	217	
Service/Utility /Fuel Trucks				12	10	
Subcontractors Light Trucks				8	6	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	16 to 24					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment – Excavation work will be performed from within the southern bathtub and will not require a staging area outside of the bathtub. The installation of the soil/rock anchor tiebacks will also be performed from within the bathtub and will not require a staging area outside of the bathtub. A lane closure will be required along Liberty Street to facilitate the staging of dump trucks and for receiving materials for the tie back operation. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Dump Trucks is based on waiting time and loading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Hydraulic Drill Rig (for Anchors)	Diesel 150 HP	Diesel	150	2	2	90%	9 Months
Crawler Crane (to support Anchor Oper.)	100 Ton	Diesel	350	1	1	50%	
Hi-Lift (Forklift) (for Anchor Oper.)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Hydraulic Excavators	3.5 CY	Diesel	320	3	3	90%	
Dozer	150 HP	Diesel	150	2	2	90%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	130	109	5%	
Diesel Generators	10 HP	Gas	10	2	2	90%	

Construction – This activity includes the construction of all of the structural elements for the non-tower sub-grade development within the southern expansion area to El. 364'. Concrete Truck Trips have been generated based on a worst-case scenario of a maximum pour of 600 CY.

Delivery Type South of Liberty Street to El. 364'	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Concrete	13,300	CY	1,330	120	9.2	12 Months
Reinforcing Steel	2,100	Tons	105	4	0.7	
Structural Steel to 364'	1,300	Tons	65	8	0.45	
Interior Fitout				26	26	
Service/Utility /Fuel Trucks				36	30	
Subcontractors Light Trucks				44	40	
Construction Workers	300 to 400					
Arriving by Personal Vehicle	60 to 80					
Arriving by Mass Transit	240 to 320					
Supervisory/QA	40 to 45					
Arriving by Personal Vehicle	8 to 9					
Arriving by Mass Transit	32 to 36					

Equipment – In general the construction within the southern expansion area will be performed from within the footprint of the proposed structures. Foundation and subbasement work will be primarily of concrete construction to street level. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on waiting time and unloading time on site only. The following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Crawler Crane	200 Ton	Diesel	450	2	2	90%	12 Months
Tower Crane	100 Ton	Diesel	250	2	2	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	2	2	60%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	60	5	5%	
Diesel Generators	500 HP	Diesel	500	1	1	20%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	19	14	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	90%	
Air Compressor (for Impact Wrenches)	1600 CFM	Diesel	460	1	1	90%	
Impact Wrenches	1" Socket Drive			8	8	80%	

Tower Construction – This activity includes the construction of Tower 5 from El. 364 to the topping out of the building. Concrete Truck Trips have been generated based on a worst-case scenario of a maximum pour of 530 CY.

Delivery Type Tower 5 1.67 Million SF - 50 Stories	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Concrete	26,000	CY	2,600	106	9	24 Months
Structural Steel	20,000	Tons	1,000	16	3.5	
Curtain Wall	4,100	Tons	205	2	0.71	
Interior Fitout				26	26	
Service/Utility /Fuel Trucks				36	32	
Subcontractors Light Trucks				44	40	
Construction Workers	500 to 600					
Arriving by Personal Vehicle	50 to 60					
Arriving by Mass Transit	450 to 540					
Supervisory/QA	40 to 45					
Arriving by Personal Vehicle	4 to 5					
Arriving by Mass Transit	36 to 40					

Equipment – The construction of Tower 5 will be performed within the footprint of the proposed structure Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Concrete Trucks and Tractor Trailers are based on waiting time and unloading time on site only. The following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily Use	Duration
Tower Crane	100 Ton	Diesel	250	1	1	90%	24 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	2	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	60%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	53	4.5	5%	
Diesel Generators	750 HP	Diesel	100	1	1	90%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	22	15	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	0	0	90%	
Air Compressor (for Impact Wrenches)	1,600 CFM	Diesel	460	1	1	90%	
Impact Wrenches	1" Socket Drive			15	15	80%	

ROUTE 9A PROJECT

CONSTRUCTION METHODS AND IMPACTS

CONSTRUCTION TRAFFIC AND EQUIPMENT

Project Summary

This summary presents an estimate and schedule for construction equipment to be used on the proposed Route 9A Project. As discussed earlier in this Appendix, as of the date of this document, two potential alternatives exist for the Route 9A Project–the Short Bypass Alternative and the At-Grade Alternative. Air quality analyses have been performed for both of these alternatives to account for the potential emissions during the construction period. The construction information for the Short Bypass Alternative is presented below, followed by the construction information for the At-Grade Alternative. The various equipment schedules reference construction stages, shown in the preliminary staging plans below. It should be noted that for both the Short Bypass Alternative and the At-Grade Alternative, a busway tunnel was originally proposed as an element of the project. It has since been determined the busway tunnel is not needed. The estimated emissions for the appropriate elements within the Route 9A Project have been reduced as indicated below to account for the removal of the busway tunnel.

ROUTE 9A PROJECT – SHORT BYPASS ALTERNATIVE

Equipment Estimate and Schedule Assumptions

1. Estimate and Schedule includes all engines greater than 60 HP.
2. All equipment will use ultra low sulfur diesel fuel.
3. Stage 0 – Early Action Infrastructure Items, single-shift hours of work are 7 AM to 5 PM, Mon. to Fri. (Stage 0 is an independent construction project to be completed prior to the Short Bypass Construction Project)
4. Stage I, II and III, double-shift hours of work are 6 AM to 2 AM, Mon. to Fri.
5. Stage IV, single-shift hours of work are 7 AM to 5 PM, Mon. to Fri.
6. During Stage I through V, maintenance work and schedule catch-up work will be performed Saturday 7 AM to 3 PM.
7. Dewatering ejector pump will run 24 hours per day, 7 days per week and will be wired to an electric source.
8. All light towers and lighting will be wired to an electric source.
9. All arrow boards and variable message signs will either be solar powered or wired to an electric source.
10. No on-site concrete batching or crushing operations will take place.
11. No worker vehicles will be permitted on-site, nor will any parking be provided on-site for workers.
12. Fugitive dust control will be handled as needed with a sweeper truck and water truck on-site.

Construction Equipment Schedules

The attached construction equipment schedule is generated from the 9A Short Bypass Preliminary Construction Schedule and is sorted by work task.

CONSTRUCTION EQUIPMENT SCHEDULE

Traffic Counts for Truck Material Delivery and Waste Export

The following table summarizes the truck counts for delivery and export of construction materials to and from the job site based on the preliminary construction schedule. The Schedule ID number corresponds to the first column number of each of the schedules.

CONSTRUCTION TRAFFIC—TRUCK COUNTS

Schedule ID No.		Trips
1.	**Stage 0 – Early Action Items – 355 Days = 253.6 W.D.@ 10 Hr./Day Mon.-Fri. 7A – 5 PM**	
2.	West Side Utilities – Verizon/ECS – 77 Days = 55 W.D.	
	Excavation – 9 Trucks x 3 Trips/Day x 48 Days *(@15 cy/truck = 405 cy/day = 19,440 cy)*	1,296 EA.
	Concrete – 5 Trucks x 1 Trip/Day x 44 Days *(@10 cy/truck = 50 cy/day = 2,200 cy)*	220 EA.
	Backfill – 13 Trucks x 3 Trips/Day x 30 Days *(@15 cy/truck = 585 cy/day = 17,250 cy)*	1,150 EA.
	Duct & MHs & Sheeting – 22 Trucks	22 EA.
	Supplies – 4 Trucks/Day x 30 Days	220 EA.
		2,908 EA.
		(52.87/W.D.)
2.	West Side Utilities – 48" Dia & 20" Dia Water Lines – 65 Days = 46.4 W.D.	
	Excavation – 5 Trucks x 4 Trips/Day x 45 Days	900 EA.
	Backfill – 5 Trucks x 4 Trips/Day x 45 Days	900 EA.
	Pipe & Fittings – 20 Trucks	20 EA.
	Supplies – 4 Trucks/Day x 46 Days	184 EA.
		2,004 EA.
		(44.83/W.D.)
2.	West Side Utilities – 16" Dia Gas Line & Electric – 45 Days = 32.1 W.D.	
	Excavation – 2 Trucks x 4 Trips/Day x 30 Days	240 EA.
	Backfill – 3 Trucks x 3 Trips/Day x 25 Days	225 EA.
	Pipe, Fittings & Duct – 10 Trucks	10 EA.
	Supplies – 4 Trucks/Day x 32 Days	128 EA.
		603 EA. (18.79/W.D)

Activity Number		t-08	Nov-08	Dec-08	Jan-09
	Crane,100T,350HP,Manitowoc 222 100T	0	0	0	0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	0	0	0	0
	Pump,Elector Well,350HP	0	0	0	0
23	**Build SB Bypass Structure**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	0	0	0	0
	Crane,200T-1,340HP,Manitowoc 777	0	0	0	0
	Pump,Concrete Boom,150HP,36M,Butemeister	0	0	0	0
	Grader,185HP,CAT 12H	0	0	0	0
24	**Deck over Boat Sections - Temporary NB Roadway**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	0	0	0	0
	Crane,200T-1,340HP,Manitowoc 777	0	0	0	0
	Crane,150T-1,340HP,Manitowac 555	0	0	0	0
	Welding Machine-1,33HP,400AMP,Lincoln	0	0	0	0
	Paving Box,158HP,CAT AP-1000	0	0	0	0
	Welding Machine-2,33HP,400AMP,Lincoln	0	0	0	0
	Welding Machine-3,33HP,400AMP,Lincoln	0	0	0	0
	Welding Machine-4,33HP,400AMP,Lincoln	0	0	0	0
25	**Traffic Switch**				
26	**Stage III - Northbound Bypass (9 Mo.**				
27	**Remove Temporary NB Bridges & SB SOE**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Excavator,143HP,CAT 320CL	0	0	0	0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Loader,Wheel,260HP,CAT 966G	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	0	0	0	0
	Crane,150T-1,340HP,Manitowac 555	0	0	0	0
28	**Inst. Columns and Deck Support Slabs in WTC profe**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	0	0	0	0
	Crane,150T-1,340HP,Manitowac 555	0	0	0	0
29	**Excavation & Bracing - NB Bypass**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	0	0	0	0
	Backhoe,90HP,Dynahoe 190-4	0	0	0	0
	Crane,200T-1,340HP,Manitowoc 777	0	0	0	0
	Welding Machine-1,33HP,400AMP,Lincoln	0	0	0	0
	Excavator,428HP-1,CAT 375L	0	0	0	0
	Loader,Track-1,229HP,CAT 973	0	0	0	0
	Dozer,Track-1,338HP,CAT D8R	0	0	0	0
	Welding Machine-2,33HP,400AMP,Lincoln	0	0	0	0
30	**Excavation Below Bypass Subgrade**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Excavator,143HP,CAT 320CL	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	0	0	0	0
	Loader,Track-1,229HP,CAT 973	0	0	0	0
	[NOTE: For the air quality analysis, the hours assoc element from the project]				
31	**Drill & Install Caissons**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	0	0	0	0
	Drill,204HP-1,Baur BG 12H	0	0	0	0
	Loader,Track-1,229HP,CAT 973	0	0	0	0
32	**Build Structure Below Grade**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,100T,350HP,Manitowoc 222 100T	0	0	0	0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	0	0	0	0
	Pump,Concrete Boom,150HP,36M,Butemeister	0	0	0	0
	[NOTE: For the air quality analysis, the hours asso element from the project]				
33	**Build NB Bypass & Truck Ramp Stuctures**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596J	0	0	0	0
	Crane,200T-1,340HP,Manitowoc 777	0	0	0	0
	Pump,Concrete Boom,150HP,36M,Butemeister	0	0	0	0
	Grader,185HP,CAT 12H	0	0	0	0
34	**Build WTC Truck Ramp Structures (PANYNJ)**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,100T,350HP,Manitowoc 222 100T	0	0	0	0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596J	0	0	0	0
	Excavator,321HP,CAT 345BL	0	0	0	0
	Pump,Concrete Boom,150HP,36M,Butemeister	0	0	0	0
35	**Stage IV - Project Completion (16 Mo**				
36	**Install Finishes, Lighting, Ventilation,Roadway etc**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596J	0	0	0	0
	Paving Box,158HP,CAT AP-1000	0	0	0	0
	Truck,Pickup-1,250HP,Ford F250	0	0	0	0
	Truck,Pickup-2,250HP,Ford F250	0	0	0	0
	Truck,Pickup-3,250HP,Ford F250	0	0	0	0
	Truck,Pickup-4,250HP,Ford F250	0	0	0	0
37	**Install Finishes, Lighting, Ventilation,Roadway etc**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596J	0	0	0	0
	Paving Box,158HP,CAT AP-1000	0	0	0	0
	Truck,Pickup-1,250HP,Ford F250	0	0	0	0
	Truck,Pickup-2,250HP,Ford F250	0	0	0	0
	Truck,Pickup-3,250HP,Ford F250	0	0	0	0
	Truck,Pickup-4,250HP,Ford F250	0	0	0	0
38	**Build Permanent Surface Roadways Over NB Bypa**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Backhoe,90HP,Dynahoe 190-4	0	0	0	0
	Grader,185HP,CAT 12H	0	0	0	0
	Paving Box,158HP,CAT AP-1000	0	0	0	0
39	**Traffic Switch - NB Traffic into NB Bypass**				
40	**Remove Decking & Temporary NB Roadway**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Loader,Wheel,260HP,CAT 966G	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596	0	0	0	0
	Crane,200T-1,340HP,Manitowoc 777	0	0	0	0
	Crane,150T-1,340HP,Manitowac 555	0	0	0	0
41	**Traffic Switch - SB Traffic into SB Bypass**				
42	**Remove Temporary SB Roadway**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Excavator,143HP,CAT 320CL	0	0	0	0
	Loader,Wheel,260HP,CAT 966G	0	0	0	0
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596	0	0	0	0
	Loader,Track-1,229HP,CAT 973	0	0	0	0
43	**Build Permanent Roadway & Median Over SB Byp**	-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane,35T,273HP,Grove 2035	0	0	0	0
	Roller,Vibratory,150HP,84",CAT CS563E	0	0	0	0
	Backhoe,90HP,Dynahoe 190-4	0	0	0	0
	Grader,185HP,CAT 12H	0	0	0	0
	Paving Box,158HP,CAT AP-1000	0	0	0	0
44	**Project Completion**				

)RT BYPASS
T SCHEDULE SORTED BY WORK TASK
NT OF TRANSPORTATION

Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09
SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT: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	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	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	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	0	0	0	0	0	0	0	0	0
SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT: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	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	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	0	0	0	0	0	0	0
SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT:0	SubT: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	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	0	0	0	0	0
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Activity Number		Total Hours	W-Days Duration	Shifts/Day	Hrs/Shift	Equip Qty	Utilization	START	FINISH	Mar-04	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07
	Crane.100T.350HP.Manitowoc 222 100T	787 hrs	41Wdy	2	10	1	95%	4/6/06	6/2/06	0	421	27	0	0	0	0	0	0	0	0	0
	Crane.35T.273HP.Grove 2035	787 hrs	41Wdy	2	10	1	95%	4/6/06	6/2/06	0	421	27	0	0	0	0	0	0	0	0	0
	Roller.Vibratory.150HP.84".CAT CS563E	787 hrs	41Wdy	2	10	1	95%	4/6/06	6/2/06	0	421	27	0	0	0	0	0	0	0	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	787 hrs	41Wdy	2	10	1	95%	4/6/06	6/2/06	0	421	27	0	0	0	0	0	0	0	0	0
	Pump.Elector Well.350HP	787 hrs	41Wdy	2	10	1	95%	4/6/06	6/2/06	0	421	27	0	0	0	0	0	0	0	0	0
23	**Build SB Bypass Structure**	14,250 hrs	107Wdy	2	10	1	100%	5/16/06	10/12/06	Mo-Hrs: 0	Mo-Hrs: 1,520	Mo-Hrs: 2,850	Mo-Hrs: 2,945	Mo-Hrs: 2,945	Mo-Hrs: 2,850	Mo-Hrs: 1,140	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane.35T.273HP.Grove 2035	2,036 hrs	107Wdy	2	10	1	95%	5/16/06	10/12/06	0	217	407	421	421	407	163	0	0	0	0	0
	Roller.Vibratory.150HP.84".CAT CS563E	2,036 hrs	107Wdy	2	10	1	95%	5/16/06	10/12/06	0	217	407	421	421	407	163	0	0	0	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	4,071 hrs	107Wdy	2	10	2	95%	5/16/06	10/12/06	0	434	814	841	841	814	326	0	0	0	0	0
	Crane.200T-1.340HP.Manitowoc 777	2,036 hrs	107Wdy	2	10	1	95%	5/16/06	10/12/06	0	217	407	421	421	407	163	0	0	0	0	0
	Pump.Concrete Boom.150HP.36M.Butemeister	2,036 hrs	107Wdy	2	10	1	95%	5/16/06	10/12/06	0	217	407	421	421	407	163	0	0	0	0	0
	Grader.185HP.CAT 12H	2,036 hrs	107Wdy	2	10	1	95%	5/16/06	10/12/06	0	217	407	421	421	407	163	0	0	0	0	0
24	**Deck over Boat Sections - Temporary NB Roadway**	7,016 hrs	33Wdy	2	10	1	100%	9/18/06	11/3/06	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 1,941	Mo-Hrs: 4,628	Mo-Hrs: 448	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane.35T.273HP.Grove 2035	638 hrs	33Wdy	2	10	1	95%	9/18/06	11/3/06	0	0	0	0	0	176	421	41	0	0	0	0
	Roller.Vibratory.150HP.84".CAT CS563E	638 hrs	33Wdy	2	10	1	95%	9/18/06	11/3/06	0	0	0	0	0	176	421	41	0	0	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	1,276 hrs	33Wdy	2	10	2	95%	9/18/06	11/3/06	0	0	0	0	0	353	841	81	0	0	0	0
	Crane.200T-1.340HP.Manitowoc 777	638 hrs	33Wdy	2	10	1	95%	9/18/06	11/3/06	0	0	0	0	0	176	421	41	0	0	0	0
	Crane.150T-1.340HP.Manitowac 555	638 hrs	33Wdy	2	10	1	95%	9/18/06	11/3/06	0	0	0	0	0	176	421	41	0	0	0	0
	Welding Machine-1.33HP.400AMP.Lincoln	638 hrs	33Wdy	2	10	1	95%	9/18/06	11/3/06	0	0	0	0	0	176	421	41	0	0	0	0
	Paving Box.158HP.CAT AP-1000	638 hrs	33Wdy	2	10	1	95%	9/18/06	11/3/06	0	0	0	0	0	176	421	41	0	0	0	0
	Welding Machine-2.33HP.400AMP.Lincoln	638 hrs	33Wdy	2	10	1	95%	9/18/06	11/3/06	0	0	0	0	0	176	421	41	0	0	0	0
	Welding Machine-3.33HP.400AMP.Lincoln	638 hrs	33Wdy	2	10	1	95%	9/18/06	11/3/06	0	0	0	0	0	176	421	41	0	0	0	0
	Welding Machine-4.33HP.400AMP.Lincoln	638 hrs	33Wdy	2	10	1	95%	9/18/06	11/3/06	0	0	0	0	0	176	421	41	0	0	0	0
25	**Traffic Switch**																				
26	**Stage III - Northbound Bypass (9 Mo. Work @ 2 Ea 10 Hr Shft/Day)**																				
27	**Remove Temporary NB Bridges & SB SOE**	543 hrs	6Wdy	2	10	1	100%	11/6/06	11/14/06	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 543	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Excavator.143HP.CAT 320CL	109 hrs	6Wdy	2	10	1	95%	11/6/06	11/14/06	0	0	0	0	0	0	0	109	0	0	0	0
	Crane.35T.273HP.Grove 2035	109 hrs	6Wdy	2	10	1	95%	11/6/06	11/14/06	0	0	0	0	0	0	0	109	0	0	0	0
	Loader.Wheel.260HP.CAT 966G	109 hrs	6Wdy	2	10	1	95%	11/6/06	11/14/06	0	0	0	0	0	0	0	109	0	0	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	109 hrs	6Wdy	2	10	1	95%	11/6/06	11/14/06	0	0	0	0	0	0	0	109	0	0	0	0
	Crane.150T-1.340HP.Manitowac 555	109 hrs	6Wdy	2	10	1	95%	11/6/06	11/14/06	0	0	0	0	0	0	0	109	0	0	0	0
28	**Inst. Columns and Deck Support Slabs in WTC projections**	1,031 hrs	14Wdy	2	10	1	100%	11/15/06	12/4/06	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 869	Mo-Hrs: 163	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane.35T.273HP.Grove 2035	258 hrs	13Wdy	2	10	1	95%	11/15/06	12/4/06	0	0	0	0	0	0	0	217	41	0	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	516 hrs	13Wdy	2	10	2	95%	11/15/06	12/4/06	0	0	0	0	0	0	0	434	81	0	0	0
	Crane.150T-1.340HP.Manitowac 555	258 hrs	13Wdy	2	10	1	95%	11/15/06	12/4/06	0	0	0	0	0	0	0	217	41	0	0	0
29	**Excavation & Bracing - NB Bypass**	11,468 hrs	46Wdy	2	10	1	100%	11/15/06	1/18/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 2,823	Mo-Hrs: 5,469	Mo-Hrs: 3,176	Mo-Hrs: 0	Mo-Hrs: 0
	Crane.35T.273HP.Grove 2035	882 hrs	46Wdy	2	10	1	95%	11/15/06	1/18/07	0	0	0	0	0	0	0	217	421	244	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	882 hrs	46Wdy	2	10	1	95%	11/15/06	1/18/07	0	0	0	0	0	0	0	217	421	244	0	0
	Backhoe.90HP.Dynahoe 190-4	882 hrs	46Wdy	2	10	1	95%	11/15/06	1/18/07	0	0	0	0	0	0	0	217	421	244	0	0
	Crane.200T-1.340HP.Manitowoc 777	882 hrs	46Wdy	2	10	1	95%	11/15/06	1/18/07	0	0	0	0	0	0	0	217	421	244	0	0
	Welding Machine-1.33HP.400AMP.Lincoln	882 hrs	46Wdy	2	10	1	95%	11/15/06	1/18/07	0	0	0	0	0	0	0	217	421	244	0	0
	Excavator.428HP-1.CAT 375L	2,646 hrs	46Wdy	2	10	3	95%	11/15/06	1/18/07	0	0	0	0	0	0	0	651	1262	733	0	0
	Loader.Track-1.229HP.CAT 973	1,764 hrs	46Wdy	2	10	2	95%	11/15/06	1/18/07	0	0	0	0	0	0	0	434	841	489	0	0
	Dozer.Track-1.338HP.CAT D8R	1,764 hrs	46Wdy	2	10	2	95%	11/15/06	1/18/07	0	0	0	0	0	0	0	434	841	489	0	0
	Welding Machine-2.33HP.400AMP.Lincoln	882 hrs	46Wdy	2	10	1	95%	11/15/06	1/18/07	0	0	0	0	0	0	0	217	421	244	0	0
30	**Excavation Below Bypass Subgrade**	1,181 hrs	21Wdy	2	10	1	100%	1/1/07	1/30/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 1,181	Mo-Hrs: 0	Mo-Hrs: 0
	Excavator.143HP.CAT 320CL	394 hrs	21Wdy	2	10	1	95%	1/1/07	1/30/07	0	0	0	0	0	0	0	0	0	394	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	394 hrs	21Wdy	2	10	1	95%	1/1/07	1/30/07	0	0	0	0	0	0	0	0	0	394	0	0
	Loader.Track-1.229HP.CAT 973	394 hrs	21Wdy	2	10	1	95%	1/1/07	1/30/07	0	0	0	0	0	0	0	0	0	394	0	0
	(NOTE: For the air quality analysis, the hours associated with this task were reduced by 1/3 to account for the removal of the busway tunnel element from the project)																				
31	**Drill & Install Caissons**	1,968 hrs	20Wdy	2	10	1	100%	1/5/07	2/2/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 1,832	Mo-Hrs: 136	Mo-Hrs: 0
	Crane.35T.273HP.Grove 2035	394 hrs	20Wdy	2	10	1	95%	1/5/07	2/2/07	0	0	0	0	0	0	0	0	0	366	27	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	394 hrs	20Wdy	2	10	1	95%	1/5/07	2/2/07	0	0	0	0	0	0	0	0	0	366	27	0
	Drill.204HP-1.Baur BG 12H	787 hrs	20Wdy	2	10	2	95%	1/5/07	2/2/07	0	0	0	0	0	0	0	0	0	733	54	0
	Loader.Track-1.229HP.CAT 973	394 hrs	20Wdy	2	10	1	95%	1/5/07	2/2/07	0	0	0	0	0	0	0	0	0	366	27	0
32	**Build Structure Below Grade**	2,646 hrs	27Wdy	2	10	1	100%	1/26/07	3/5/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 407	Mo-Hrs: 1,900	Mo-Hrs: 339
	Crane.100T.350HP.Manitowoc 222 100T	529 hrs	27Wdy	2	10	1	95%	1/26/07	3/5/07	0	0	0	0	0	0	0	0	0	81	380	68
	Crane.35T.273HP.Grove 2035	529 hrs	27Wdy	2	10	1	95%	1/26/07	3/5/07	0	0	0	0	0	0	0	0	0	81	380	68
	Roller.Vibratory.150HP.84".CAT CS563E	529 hrs	27Wdy	2	10	1	95%	1/26/07	3/5/07	0	0	0	0	0	0	0	0	0	81	380	68
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	529 hrs	27Wdy	2	10	1	95%	1/26/07	3/5/07	0	0	0	0	0	0	0	0	0	81	380	68
	Pump.Concrete Boom.150HP.36M.Butemeister	529 hrs	27Wdy	2	10	1	95%	1/26/07	3/5/07	0	0	0	0	0	0	0	0	0	81	380	68
	(NOTE: For the air quality analysis, the hours associated with this task were reduced by 1/3 to account for the removal of the busway tunnel element from the project)																				
33	**Build NB Bypass & Truck Ramp Stuctures**	15,675 hrs	117Wdy	2	10	1	100%	2/9/07	7/23/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 1,900	Mo-Hrs: 2,945
	Crane.35T.273HP.Grove 2035	2,239 hrs	117Wdy	2	10	1	95%	2/9/07	7/23/07	0	0	0	0	0	0	0	0	0	0	271	421
	Roller.Vibratory.150HP.84".CAT CS563E	2,239 hrs	117Wdy	2	10	1	95%	2/9/07	7/23/07	0	0	0	0	0	0	0	0	0	0	271	421
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	4,479 hrs	117Wdy	2	10	2	95%	2/9/07	7/23/07	0	0	0	0	0	0	0	0	0	0	543	841
	Crane.200T-1.340HP.Manitowoc 777	2,239 hrs	117Wdy	2	10	1	95%	2/9/07	7/23/07	0	0	0	0	0	0	0	0	0	0	271	421
	Pump.Concrete Boom.150HP.36M.Butemeister	2,239 hrs	117Wdy	2	10	1	95%	2/9/07	7/23/07	0	0	0	0	0	0	0	0	0	0	271	421
	Grader.185HP.CAT 12H	2,239 hrs	117Wdy	2	10	1	95%	2/9/07	7/23/07	0	0	0	0	0	0	0	0	0	0	271	421
34	**Build WTC Truck Ramp Structures (PANYNJ)**	7,247 hrs	64Wdy	2	10	1	100%	4/24/07	7/22/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane.100T.350HP.Manitowoc 222 100T	1,208 hrs	64Wdy	2	10	1	95%	4/24/07	7/22/07	0	0	0	0	0	0	0	0	0	0	0	0
	Crane.35T.273HP.Grove 2035	1,208 hrs	64Wdy	2	10	1	95%	4/24/07	7/22/07	0	0	0	0	0	0	0	0	0	0	0	0
	Roller.Vibratory.150HP.84".CAT CS563E	1,208 hrs	64Wdy	2	10	1	95%	4/24/07	7/22/07	0	0	0	0	0	0	0	0	0	0	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	1,208 hrs	64Wdy	2	10	1	95%	4/24/07	7/22/07	0	0	0	0	0	0	0	0	0	0	0	0
	Excavator.321HP.CAT 345BL	1,208 hrs	64Wdy	2	10	1	95%	4/24/07	7/22/07	0	0	0	0	0	0	0	0	0	0	0	0
	Pump.Concrete Boom.150HP.36M.Butemeister	1,208 hrs	64Wdy	2	10	1	95%	4/24/07	7/22/07	0	0	0	0	0	0	0	0	0	0	0	0
35	**Stage IV - Project Completion (16 Mo w/6 Mo Overlap w/Stage III)**																				
36	**Install Finishes, Lighting, Ventilation,Roadway etc. in SB Bypass**	17,005 hrs	127Wdy	2	10	1	100%	1/26/07	7/23/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 570	Mo-Hrs: 2,660	Mo-Hrs: 2,945
	Roller.Vibratory.150HP.84".CAT CS563E	2,429 hrs	127Wdy	2	10	1	95%	1/26/07	7/23/07	0	0	0	0	0	0	0	0	0	81	380	421
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	2,429 hrs	127Wdy	2	10	1	95%	1/26/07	7/23/07	0	0	0	0	0	0	0	0	0	81	380	421
	Paving Box.158HP.CAT AP-1000	2,429 hrs	127Wdy	2	10	1	95%	1/26/07	7/23/07	0	0	0	0	0	0	0	0	0	81	380	421
	Truck.Pickup-1.250HP.Ford F250	2,429 hrs	127Wdy	2	10	1	95%	1/26/07	7/23/07	0	0	0	0	0	0	0	0	0	81	380	421
	Truck.Pickup-2.250HP.Ford F250	2,429 hrs	127Wdy	2	10	1	95%	1/26/07	7/23/07	0	0	0	0	0	0	0	0	0	81	380	421
	Truck.Pickup-3.250HP.Ford F250	2,429 hrs	127Wdy	2	10	1	95%	1/26/07	7/23/07	0	0	0	0	0	0	0	0	0	81	380	421
	Truck.Pickup-4.250HP.Ford F250	2,429 hrs	127Wdy	2	10	1	95%	1/26/07	7/23/07	0	0	0	0	0	0	0	0	0	81	380	421
37	**Install Finishes, Lighting, Ventilation,Roadway etc. in NB Bypass**	14,060 hrs	105Wdy	2	10	1	100%	6/18/07	11/12/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Roller.Vibratory.150HP.84".CAT CS563E	2,009 hrs	105Wdy	2	10	1	95%	6/18/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	2,009 hrs	105Wdy	2	10	1	95%	6/18/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Paving Box.158HP.CAT AP-1000	2,009 hrs	105Wdy	2	10	1	95%	6/18/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Truck.Pickup-1.250HP.Ford F250	2,009 hrs	105Wdy	2	10	1	95%	6/18/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Truck.Pickup-2.250HP.Ford F250	2,009 hrs	105Wdy	2	10	1	95%	6/18/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Truck.Pickup-3.250HP.Ford F250	2,009 hrs	105Wdy	2	10	1	95%	6/18/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Truck.Pickup-4.250HP.Ford F250	2,009 hrs	105Wdy	2	10	1	95%	6/18/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
38	**Build Permanent Surface Roadways Over NB Bypass & East Side**	6,175 hrs	65Wdy	2	10	1	100%	8/14/07	11/12/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane.35T.273HP.Grove 2035	1,235 hrs	65Wdy	2	10	1	95%	8/14/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Roller.Vibratory.150HP.84".CAT CS563E	1,235 hrs	65Wdy	2	10	1	95%	8/14/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Backhoe.90HP.Dynahoe 190-4	1,235 hrs	65Wdy	2	10	1	95%	8/14/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Grader.185HP.CAT 12H	1,235 hrs	65Wdy	2	10	1	95%	8/14/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
	Paving Box.158HP.CAT AP-1000	1,235 hrs	65Wdy	2	10	1	95%	8/14/07	11/12/07	0	0	0	0	0	0	0	0	0	0	0	0
39	**Traffic Switch - NB Traffic Into NB Bypass**																				
40	**Remove Decking & Temporary NB Roadway**	1,425 hrs	15Wdy	2	10	1	100%	11/13/07	12/3/07	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane.35T.273HP.Grove 2035	285 hrs	15Wdy	2	10	1	95%	11/13/07	12/3/07	0	0	0	0	0	0	0	0	0	0	0	0
	Loader.Wheel.260HP.CAT 966G	285 hrs	15Wdy	2	10	1	95%	11/13/07	12/3/07	0	0	0	0	0	0	0	0	0	0	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	285 hrs	15Wdy	2	10	1	95%	11/13/07	12/3/07	0	0	0	0	0	0	0	0	0	0	0	0
	Crane.200T-1.340HP.Manitowoc 777	285 hrs	15Wdy	2	10	1	95%	11/13/07	12/3/07	0	0	0	0	0	0	0	0	0	0	0	0
	Crane.150T-1.340HP.Manitowac 555	285 hrs	15Wdy	2	10	1	95%	11/13/07	12/3/07	0	0	0	0	0	0	0	0	0	0	0	0
41	**Traffic Switch - SB Traffic Into SB Bypass**																				
42	**Remove Temporary SB Roadway**	3,149 hrs	41Wdy	2	10	1	100%	12/3/07	1/30/08	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Excavator.143HP.CAT 320CL	787 hrs	41Wdy	2	10	1	95%	12/3/07	1/30/08	0	0	0	0	0	0	0	0	0	0	0	0
	Loader.Wheel.260HP.CAT 966G	787 hrs	41Wdy	2	10	1	95%	12/3/07	1/30/08	0	0	0	0	0	0	0	0	0	0	0	0
	Air Compressor-1.185CFM.85HP.Atlas Copco XA596JD	787 hrs	41Wdy	2	10	1	95%	12/3/07	1/30/08	0	0	0	0	0	0	0	0	0	0	0	0
	Loader.Track-1.229HP.CAT 973	787 hrs	41Wdy	2	10	1	95%	12/3/07	1/30/08	0	0	0	0	0	0	0	0	0	0	0	0
43	**Build Permanent Roadway & Median Over SB Bypass & West Side**	6,175 hrs	87Wdy	2	10	1	100%	1/31/08	6/1/08	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
	Crane.35T.273HP.Grove 2035	1,235 hrs	87Wdy	2	10	1	95%	1/31/08	6/1/08	0	0	0	0	0	0	0	0	0	0	0	0
	Roller.Vibratory.150HP.84".CAT CS563E	1,235 hrs	87Wdy	2	10	1	95%	1/31/08	6/1/08	0	0	0	0	0	0	0	0	0	0	0	0
	Backhoe.90HP.Dynahoe 190-4	1,235 hrs	87Wdy	2	10	1	95%	1/31/08	6/1/08	0	0	0	0	0	0	0	0	0	0	0	0
	Grader.185HP.CAT 12H	1,235 hrs	87Wdy	2	10	1	95%	1/31/08	6/1/08	0	0	0	0	0	0	0	0	0	0	0	0
	Paving Box.158HP.CAT AP-1000	1,235 hrs	87Wdy	2	10	1	95%	1/31/08	6/1/08	0	0	0	0	0	0	0	0	0	0	0	0
44	**Project Completion**							6/1/08	6/1/08												

IRT BYPASS
T SCHEDULE SORTED BY WORK TASK
NT OF TRANSPORTATION

	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07
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407	271	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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0	0	407	421	149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	407	421	149	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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s: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 651	Mo-Hrs: 4,886	Mo-Hrs: 5,049	Mo-Hrs: 4,071	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
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s: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 882	Mo-Hrs: 4,940	Mo-Hrs: 4,764	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
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s: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 244	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
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s: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 2,036	Mo-Hrs: 1,221	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0
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s: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 1,696	Mo-Hrs: 2,104	Mo-Hrs: 136	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0	Mo-Hrs: 0

CONSTRUCTION TRAFFIC—TRUCK COUNTS

Schedule ID No.		Trips
3.	Slurry Walls West Side – 168 Days = 120 W.D.	
	Excavation – 2.5 Trucks x 2 Trips/Day x 115 Days	575 EA.
	Concrete – 3 Trucks x 3 Trips/Day x 96 Days	864 EA.
	Reinf. Steel– 34 Trucks	34 EA.
	Supplies – 4 Trucks/Day x 120 Days	480 EA.
		1,953 EA.
		(16.28/W.D.)
4.	Steel Sheeting West Side & East Side – 53 Days = 37.9 W.D.	
	Excavation = 5540 cy/15 cy per Truck	370 EA.
	Backfill = 5540 cy/15 cy per Truck	370 EA.
	Steel Sheeting = 8 Truckloads In & Out	8 EA.
	Supplies = 4 Trucks/Day x 37 Days	148 EA.
		896 EA.
		(23.64/W.D)
5.	Construct WTC Water Lines – 91 Days = 65 W.D.	
	Excavation – 4 Trucks x 3 Trips x 25 Days	300 EA.
	Concrete – 5 Trucks x 2 Trips x 8 Days	80 EA.
	Backfill – 3 Trucks x 3 Trips x 9 Days	171 EA.
	Pipe & Fittings - 10 Trucks	10 EA.
	Piling & Sheeting – 7 Trucks	7 EA.
	Supplies – 4 Trucks/Day x 65 Days	260 EA.
	[Note: This activity, while officially part of the WTC Memorial & Redevelopment project, will be constructed along with the other Route 9A elements to maximum construction efficiency. The air emissions from this activity are included as part of the WTC Memorial & Redevelopment project emissions.]	828 EA.
		(12.74/W.D.)

CONSTRUCTION TRAFFIC—TRUCK COUNTS

Schedule ID No.		Trips
6.	Construct Pedestrian Concourse West End – 134 Days = 95.7 W.D.	
	Excavation – 6 Trucks x 3 Trips x 20 Days	360 EA.
	Concrete – 2 Trucks x 1.5 Trips x 58 Days	175 EA.
	Backfill – 6 Trucks x 3 Trips x 17 Days	306 EA.
	SOE – 24 Trucks	24 EA.
	Reinf. Steel – 5 Trucks	5 EA.
	Supplies – 4 Trucks/Day x 95 Days	380 EA.
	[Note: This activity, while officially part of the WTC PATH Terminal project, will be constructed along with the other Route 9A elements to maximum construction efficiency. The air emissions from this activity are included as part of the WTC PATH Terminal project emissions.]	1,250 EA. (13.06/W.D.)
7.	Construct Busway Tunnel West End *[Note: This element has been removed from the Route 9A project.]*	
8.	**Stage 1 – Preparation Work – 159 Days = 113.6 W.D.@ 20 Hr./Day Mon.-Fri. 6 AM –2 AM**	
9.	Remove WTC Haul Road as Required – 11 Days = 7.9 W.D.	
	110 Truck Loads	110 EA. (13.92/W.D.)
10.	Slurry Walls – East Side – 72 Days = 51.4 W.D.	
	Excavation – 8 Trucks x 3 Trips x 45 Days	1,080 EA.
	Concrete – 13 Trucks x 3 Trips x 42 Days	1,638 EA.
	Reinf. Steel – 7 Trucks	7 EA.
	Supplies – 8 Trucks/Day x 51 Days	408 EA.
		3,133 EA. (60.95/W.D.)
11. & 12.	Construct NB & SB Temporary Lanes – 50 Days = 35.7 W.D.	
	Barrier – 5 Trucks x 2 Trips x 11 Days	110 EA.
	Asphalt & Gravel – 4800 cy/10 cy Per Truck	500 EA.
	Supplies – 4 Trucks/Day x 35 Days	140 EA.
		750 EA. (21.01/W.D.)

CONSTRUCTION TRAFFIC—TRUCK COUNTS

Schedule ID No.		Trips
13. & 14.	Construct Pedestrian Concourse & Busway Tunnel Below Highway – 85 Days = 60.7 W.D.	
	Excavation - 8 Trucks x 3 Trips x 18 Days	432 EA.
	Concrete – 2 Trucks x 2 Trips x 33 Days	132 EA.
	Backfill – 6 Trucks x 3 Trips x 14 Days	243 EA.
	SOE – 16 Trucks	16 EA.
	Reinf. Steel – 10 Trucks	10 EA.
	Supplies – 8 Trucks/Day x 60 Days	480 EA.
		1,313 EA.
		(21.63/W.D.)
	[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]	***Less 1/3 for removed busway =***
	[Note: This activity, while officially part of the WTC PATH Terminal project, will be constructed along with the other Route 9A elements to maximum construction efficiency. The air emissions from this activity are included as part of the WTC PATH Terminal project emissions.]	875 EA.
		(14.42/W.D.)
15.	**Stage II – Southbound Bypass–383 Days = 273.6 WD@ 20 Hr./Day Mon.-Fri. 6 AM–2 AM**	
16.	Slurry Walls West of 78" Sewer Relocation – 90 Days = 64.3 W.D.	
	Excavation – 10.5 Trucks x 3 Trips x 60 Days	1,890 EA.
	Concrete – 15 Trucks x 3 Trips x 63 Days	2,835 EA.
	Reinf. Steel – 106 Trucks	106 EA.
	Supplies – 8 Trucks/Day x 64 Days	512 EA.
		5,343 EA.
		(83.09/W.D.)
17. & 18.	Excavation & Bracing SB Bypass – 60 Days = 42.9 W.D.	
	Excavation – 38.5 Trailers x 3 Trips x 40 Days	4,620 EA.
	Bracing, HP & Lagging – 186 Trucks	186 EA.
	Supplies – 8 Trucks/Day x 42 Days	336 EA.
		5,142 EA.
		(119.86/W.D.)

CONSTRUCTION TRAFFIC—TRUCK COUNTS

Schedule ID No.		Trips
19.	Excavation Below Subgrade – 30 Days = 21.4 W.D.	
	Excavation – 9.6 Trucks x 3 Trips x 20 Days	576 EA.
	Bracing – 12 Trucks	12 EA.
	Supplies – 8 Trucks/Day x 21 Days	168 EA.
		756 EA.
	[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]	(35.33/W.D.)
		Less 1/3 for removed busway =
		504 EA.
		(23.55/W.D.)
20.	Drill & Install Caissons – 60 Days = 42.9 W.D.	
	Excavation – 3Trucks x 2 Trips x 42 Days	252 EA.
	Concrete – 3Trucks x 3 Trips x 42 Days	378 EA.
	Reinf. – 6 Cages/Day x 40 Days	240 EA.
	Supplies – 8 Trucks/Day x 42 Days	336 EA.
		1,206 EA.
		(28.11/W.D.)
21.	Build Structures Below Grade – 40 Days = 28.6 W.D.	
	Concrete – 5 Trucks x 3 Trips x 17 Days	250 EA.
	Reinf. Steel – 20 Trucks	20 EA.
	Backfill – 5 Trucks x 4 Trips x 2 Days	40 EA.
	Supplies – 8 Trucks/Day x 28 Days	224 EA.
		534 EA.
	[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]	(18.67/W.D.)
		Less 1/3 for removed busway =
		356 EA.
		(12.45/W.D.)

CONSTRUCTION TRAFFIC—TRUCK COUNTS

Schedule ID No.		Trips
22.	Build 78" Dia Sewer Relocation & Outfall with Regulator – 60 Days = 42.9 W.D.	
	H-Piles – 520 Ton ÷ 17.5 Ton/Load	30 EA.
	Drilling – 1330 cy/15 cy Excavation	90 EA.
	Concrete – 1330 cy/10 cy per Truck	133 EA.
	Gravel – 980 cy/12 cy per Truck	82 EA.
	Cradle Conc. – 3300 cy/10 cy per Truck	330 EA.
	Reinf. – 660,000 #/40,000 # per Truck	17 EA.
	RCP – 2200 LF / 40 LF / Truck	55 EA.
	Encasement Conc. – 5500 cy / 10 cy per Truck	550 EA.
	Reinf. – 1,100,000 #/40,000 # per Truck	28 EA.
	Manholes – 8 EA. x 20 Trucks/EA.	160 EA.
	96" Dia Outfall – (880/40) + (6 MH x 15) + [(880/10) x 2]	288 EA.
	Pipe Exc. & Conc.	
	Regulator – Excavation & Concrete	200 EA.
	Formwork In & Out	40 EA.
	Supplies – 8 Trucks/Day x 42 Days	336 EA.
		2,339 EA.
		(54.52/W.D.)
23.	Build SB Bypass Structure – 150 Days = 107.1 W.D.	
	Concrete – 17,814 cy/10 cy per Truck	1,900 EA.
	Reinf. – 2,573 Ton/20 Ton per Truck	130 EA.
	Precast Roof – 1100 Ft./4' EA.	275 EA.
	Formwork In & Out	120 EA.
	Waterproofing –	60 EA.
	Tiles –	80 EA.
	6" A.C. Wearing Course & Gravel 2481 cy/10 cy per Truck	250 EA.
	Supplies – 8 Trucks/Day x 107 Days	856 EA.
		3,671 EA.
		(34.27/W.D.)

CONSTRUCTION TRAFFIC—TRUCK COUNTS

Schedule ID No.		Trips
24.	Deck Over Boat Sections & NB Temporary Roadway - 480 Days = 34.3 W.D.	
	Deck Beams – 82 EA. In & Out	164 EA.
	Cap Beams & Lateral Bracing	40 EA.
	Deck Panels – 60,000 SF/50 SF = (1200 EA./5 per Trip) x 2	480 EA.
	Supplies – 8 Trucks/Day x 34 Days	272 EA.
	Fill & Asphalt - 2500 cy/10 cy per Truck	250 EA.
		1,206 EA.
		(35.16/W.D.)
26.	**Stage III – Northbound Bypass – 265 Days = 189.3 WD@ 20 Hr./Day Mon.-Fri. 6AM-2AM**	
27.	Remove Temporary NB Bridges & SB SOE - 10 Days = 7.1 Days	
	Removals 7 Days @ 10 Loads/Day	70 EA.
		70 EA. (9.86/W.D.)
28.	Install Columns and Deck Support Slabs in WTC Projections – 20 Days = 143 W.D.	
	Concrete – 2,637 cy/10 cy per Truck	280 EA.
	Reinf. Steel – 401 Ton/20 Ton per Truck	25 EA.
	Formwork In & Out	20 EA.
	Supplies - 8 Trucks/Day x 14 Days	112 EA.
		437 EA.
		(30.56/W.D.)
29.	Excavation & Bracing – NB Bypass – 65 Days = 46.4 W.D.	
	Excavation – 28 Trailers x 3 Trips/Day x 47 Days	3,950 EA.
	Bracing, HP & Lagging – 186 Trucks	186 EA.
	Supplies - 8 Trucks/Day x 46 Days	368 EA.
		4,504 EA.
		(97.07/W.D.)

CONSTRUCTION TRAFFIC—TRUCK COUNTS

Schedule ID No.		Trips
30.	Excavation Below Bypass Subgrade – 30 Days = 21.4 W.D.	
	Excavation - 9.6 Trucks x 3 Trips/Day x 20 Days	576 EA.
	Bracing – 12 Trucks	12 EA.
	Supplies – 8 Trucks/Day x 21 Days	168 EA.
		756 EA.
	[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]	(35.33/W.D.)
		Less 1/3 for removed busway =
		504 EA.
		(23.55/W.D.)
31.	Drill & Install Caissons – 30 Days = 21.4 W.D.	
	Excavation – 3 Trucks x 2 Trips/ Day x 21 Days	125 EA.
	Concrete – 3 Trucks x 3 Trips/Day x 21 Days	189 EA.
	Reinf. – 6 Cages/Day x 20 Days	120 EA.
	Supplies – 8 Trucks/Day x 21 Days	168 EA.
		603 EA.
		(28.18/W.D.)
32.	Build Structures Below Grade – 40 Days = 28.6 W.D.	
	Concrete – 5 Trucks x 3 Trips x 21 Days	320 EA.
	Reinf. Steel – 24 Trucks	24 EA.
	Backfill – 5 Trucks x 4 Trips x 2 Days	40 EA.
	Supplies – 8 Trucks/Day x 28 Days	224 EA.
		608 EA.
	[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]	(21.26/W.D.)
		Less 1/3 for removed busway =
		405 EA.
		(14.17/W.D.)

CONSTRUCTION TRAFFIC—TRUCK COUNTS

Schedule ID No.		Trips
33.	Build NB Bypass & Truck Ramp Structures – 165 Days = 117.9 W.D.	
	Concrete – 18,230 cy/10 cy per Truck + 4488	1,900 EA.
	Reinf. – 1,891 Ton/20 ton per Truck + 673	130 EA.
	Precast Roof – 1100 Ft./4' EA.	275 EA.
	Formwork In & Out	80 EA.
	Waterproofing	40 EA.
	Tiles	40 EA.
	6" A.C. Wearing Course – 1749 cy/10 cy per Truck	175 EA.
	Supplies – 8 Trucks/Day x 117 Days	936 EA.
		3,576 EA.
		(30.33/W.D.)
34.	**Stage IV – Project Completion – 402 Days = 287.1 WD@ 10 Hr/Day Mon.-Fri. 7AM-5PM**	
35.	Install Finishes, Lighting, Ventilation, Roadway, Etc. in SB Bypass = 180 Days = 128.6 W.D.	
	Supplies & Materials = 10 Trucks/Day x 128 Days =	1,280 EA.
		(10.0/W.D.)
36.	Install Finishes, Lighting, Ventilation, Roadway, Etc. in NB Bypass = 150 Days = 107.1 W.D.	
	Supplies & Materials = 10 Trucks/Day x 107 Days =	1,070 EA.
		(10.0/W.D.)
37. to 42.	Build Permanent Surface Roadways & Median = 200 Days = 142.9 W.D.	
	Demolition – 15,409 cy/15 cy per Truck	1,700 EA.
	Concrete Barrier Removal – 7500 LF/100' per Truck	75 EA.
	Grading & Embankment – 5100 cy/15 cy per Truck	340 EA.
	Roadway Pavement – 15,010 cy/10 cy per Truck	150 EA.
	Topsoil – 4,997 cy/15 cy per Truck	340 EA.
	Trees – 900 EA./ 3 per Truck	300 EA.
	Concrete Barrier – 5,397 LF/100 LF per Truck	55 EA.
	Granite Curb & Swale – 8,995 LF/500' per Truck	18 EA.
	Granite Pavers - - 59,480 SF/5,000 SF per Truck	12 EA.
	Supplies & Materials – 8 Trucks/Day x 142 Days	1,136 EA.
		4,126 EA.
		(28.87/W.D.)

CONSTRUCTION TRAFFIC—TRUCK COUNTS		
Schedule ID No.		Trips
		TOTAL TRIPS = 54,856 EA.
		TOTAL WORK DAYS = 964 WORK DAYS
		AVERAGE TRIPS/WORK DAY = 56.90 TRIPS / WORK DAY

Construction Material Delivery and Export Summary

The following table summarizes the delivery and export of construction materials to and from the job site based on the preliminary construction schedule. The Schedule ID number shown below corresponds to the first column number of the various construction schedules.

CONSTRUCTION MATERIAL DELIVERY & EXPORT

Schedule ID No.		Quantity
1.	**Stage 0 – Early Action Items– 355 Days = 253.6 W.D.@ 10 Hr./Day Mon.-Fri. 7AM– 5 PM**	
2.	West Side Utilities – Verizon/ECS – 77 Days = 55 W.D.	
	Excavation – 27 Loads/Day x 15 CY/Load = 405 CY/Day x 48 Days	19,440 CY
	Concrete – 5 Loads/Day x 10 CY/Load = 50 CY/Day x 44 Days	2,200 CY
	Backfill – 39 Loads/Day x 15 CY/Load = 585 CY/Day x 30 Days	17,550 CY
	Duct & MHs & Sheeting – 22 Loads	22 Lds
	Supplies – 4 Loads/Day x 30 Days	220 Lds
2.	West Side Utilities – 48" Dia & 20" Dia Water Lines – 65 Days = 46.4 W.D.	
	Excavation – 20 Loads/Day x 15 CY/Load = 300 CY/Day x 45 Days	13,500 CY
	Backfill – 20 Loads/Day x 15 CY/Load = 300 CY/Day x 45 Days	13,500 CY
	Pipe & Fittings – 20 Loads	20 Lds
	Supplies – 4 Loads/Day x 46 Days	184 Lds
2.	West Side Utilities – 16" Dia Gas Line & Electric – 45 Days = 32.1 W.D.	
	Excavation –8 Loads/Day x 15 CY/Load = 120 CY/Day x 30 Days	3,600 CY
	Backfill – 9 Loads/Day x 15 CY/Load = 135 CY/Day x 25 Days	3,375 CY
	Pipe, Fittings & Duct – 10 Loads	10 Lds
	Supplies – 4 Loads/Day x 32 Days	128 Lds.
3.	Slurry Walls West Side – 168 Days = 120 W.D.	
	Excavation – 5Loads/Day x 12 CY/Load = 60 CY/Day x 115 Days	6,900 CY
	Concrete – 9 Loads/Day x 10 Cy/Load = 90 CY/Day x 96 Days	8,640 CY
	Reinf. Steel– 34 Loads	34 Lds
	Supplies – 4 Loads/Day x 120 Days	480 Lds

CONSTRUCTION MATERIAL DELIVERY & EXPORT

Schedule ID No.		Quantity
4.	Steel Sheeting West Side & East Side – 53 Days = 37.9 W.D.	
	Excavation = 10 Loads/Day x 15 CY per Load = 150 CY x 37 Days	5,550 CY
	Backfill = 10 Loads/Day x 15 CY per Load = 150 CY x 37 Days	5,550 CY
	Steel Sheeting = 8 Loads In & Out	8 Lds
	Misc Supplies = 4 Loads/Day x 37 Days	148 Lds
5.	Construct WTC Water Lines – 91 Days = 65 W.D.	
	Excavation – 15 Loads/Day x 15 CY/Load = 225 CY/Day x 25 Days	5,625 CY
	Concrete – 10 Loads/Day x 10 CY/Load = 100 CY/Day x 8 Days	800 CY
	Backfill – 9 Loads/Day x 15 CY/Load = 135 CY/Day x 9 Days	1,215 CY
	Pipe & Fittings - 10 Loads	10 Lds
	Piling & Sheeting – 7 Loads	7 Lds
	Supplies – 4 Loads/Day x 65 Days	260 Lds
	[Note: This activity, while officially part of the WTC Memorial & Redevelopment project, will be constructed along with the other Route 9A elements to maximum construction efficiency. The air emissions from this activity are included as part of the WTC Memorial & Redevelopment project emissions.]	
6.	Construct Pedestrian Concourse West End – 134 Days = 95.7 W.D.	
	Excavation –18 Loads/Day x 15 CY/Load = 270 CY/Day x 20 Days	5,400 CY
	Concrete – 3 Loads/Day x 10 CY/Load = 30 CY/Day 58 Days	1,740 CY
	Backfill – 18 Loads/Day x 15 Cy/Load = 270 CY/Day x 17 Days	4,590 CY
	SOE – 24 Loads	24 Lds
	Reinf. Steel – 5 Loads	5 Lds
	Supplies – 4 Loads/Day x 95 Days	380 Lds
	[Note: This activity, while officially part of the WTC PATH Terminal project, will be constructed along with the other Route 9A elements to maximum construction efficiency. The air emissions from this activity are included as part of the WTC PATH Terminal project emissions.]	
7.	Construct Busway Tunnel West End	
	[Note: This element has been removed from the Route 9A project.]	
8.	**Stage 1 – Preparation Work– 159 Days = 113.6 W.D.@ 20 Hr./Day Mon.-Fri. 6 AM– 2 AM**	
9.	Remove WTC Haul Road as Required – 11 Days = 7.9 W.D.	
	110 Load Loads	110 Lds

CONSTRUCTION MATERIAL DELIVERY & EXPORT

Schedule ID No.		Quantity
10.	Slurry Walls – East Side – 72 Days = 51.4 W.D.	
	Excavation – 24 Loads/Day x 15 CY/Load = 360 CY/Day x 45 Days	16,200 CY
	Concrete – 39 Loads x 10 CY/Load = 390 CY/Day x 42 Days	1,6380 CY
	Reinf. Steel – 7 Loads	7 Lds
	Supplies – 8 Loads/Day x 51 Days	408 Lds
11. & 12.	Construct NB & SB Temporary Lanes – 50 Days = 35.7 W.D.	
	Barrier – 10 Loads x 11 Days	110 Lds
	Asphalt & Gravel – 500 Loads x 12 cy/Load	6,000 CY
	Supplies – 4 Loads/Day x 35 Days	140 Lds
13. & 14.	Construct Pedestrian Concourse & Busway Tunnel Below Highway – 85 Days = 60.7 W.D.	
	Excavation – 24 Loads/Day x 15 CY/Load = 360 CY/Day x 18 Days	6,480 CY
	Concrete – 4 Loads/Day x 10 CY/Load = 40 Loads/Day x 33 Days	1,320 CY
	Backfill –18 Loads/Day x 15 CY/Load = 270 CY/Day x 14 Days	3,780 CY
	SOE – 16 Loads	16 Lds
	Reinf. Steel – 10 Loads	10 Lds
	Supplies – 8 Loads/Day x 60 Days	480 Lds
	[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]	***Less 1/3 for removed busway***
	[Note: This activity, while officially part of the WTC PATH Terminal project, will be constructed along with the other Route 9A elements to maximum construction efficiency. The air emissions from this activity are included as part of the WTC PATH Terminal project emissions.]	
15.	**Stage II–Southbound Bypass– 383 Days = 273.6 WD@ 20 Hr./Day Mon.-Fri. 6 AM–2 AM**	
16.	Slurry Walls West of 78" Sewer Relocation – 90 Days = 64.3 W.D.	
	Excavation – 32 Loads/Day x 15 CY/Load = 480 CY/Day x 60 Days	28,800 CY
	Concrete – 45 Loads/Day x 10 CY/Load = 450 CY/Day x 63 Days	28,350 CY
	Reinf. Steel – 106 Loads	106 Lds
	Supplies – 8 Loads/Day x 64 Days	512 Lds

CONSTRUCTION MATERIAL DELIVERY & EXPORT

Schedule ID No.		Quantity
17. & 18.	Excavation & Bracing SB Bypass – 60 Days = 42.9 W.D.	
	Excavation – 116 Loads/Day x 30 CY/Load = 3,480 CY/Day x 40 Days	139,200 CY
	Bracing, HP & Lagging – 186 Loads	186 Lds
	Supplies – 8 Loads/Day x 42 Days	336 Lds
19.	Excavation Below Subgrade – 30 Days = 21.4 W.D.	
	Excavation – 29 Loads/Day x 15 CY/Load = 435 CY/Day x 20 Days	8,700 CY
	Bracing – 12 Loads	12 Lds
	Supplies – 8 Loads/Day x 21 Days	168 Lds
	[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]	***Less 1/3 for removed busway***
20.	Drill & Install Caissons – 60 Days = 42.9 W.D.	
	Excavation – 6 Loads/Day x 15 CY/Load = 90 CY/Day x 42 Days	3,780 CY
	Concrete – 9 Loads/Day x 10 CY/Load = 90 CY/Day x 42 Days	3,780 CY
	Reinf. – 6 Cages/Day x 40 Days	240 Lds
	Supplies – 8 Loads/Day x 42 Days	336 Lds
21.	Build Structures Below Grade – 40 Days = 28.6 W.D.	
	Concrete – 15 Loads/Day x 10 CY/Load = 150 CY/Day x 17 Days	2,550 CY
	Reinf. Steel – 20 Loads	20 Lds
	Backfill – 5 Loads x 4 Trips x 2 Days	40 Lds
	Supplies – 8 Loads/Day x 28 Days	224 Lds
	[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]	***Less 1/3 for removed busway***

CONSTRUCTION MATERIAL DELIVERY & EXPORT

Schedule ID No.		Quantity
22.	Build 78" Dia Sewer Relocation & Outfall with Regulator – 60 Days = 42.9 W.D.	
	H-Piles – 30 Loads	30 Lds
	Drilling (Excavation) – 90 Loads x 15 cy/Load	1,350 CY
	Concrete – 133 Loads x 10 cy/Load	1,330 CY
	Gravel – 82 Loads x 12 cy/Load	980 CY
	Cradle Conc. – 330 Loads x 10 cy/Load	3,300 CY
	Reinf. – 17 Loads	17 Lds
	RCP – 55 Loads	55 Lds
	Encasement Conc. – 550 Loads x 10 cy/Load	5,500 CY
	Reinf. – 28 Loads	28 Lds
	Manholes – 8 EA. x 20 Loads/EA.	160 Lds
	96" Dia Outfall – 288 Loads	288 Lds
	Regulator – Excavation & Concrete	200 EA.
	Formwork In & Out	40 Lds
	Supplies – 8 Loads/Day x 42 Days	336 Lds
23.	Build SB Bypass Structure – 150 Days = 107.1 W.D.	
	Concrete – 1,782 Loads x 10 cy/Load	17,812 CY
	Reinf. – 130 Loads	130 Lds
	Precast Roof – 275 Loads	275 Lds
	Formwork In & Out	120 Lds
	Waterproofing –	60 Lds
	Tiles –	80 Lds
	6" A.C. Wearing Course & Gravel 248 Loads x 12 cy/Load	2,976 CY
	Supplies – 8 Loads/Day x 107 Days	856 Lds
24.	Deck Over Boat Sections & NB Temporary Roadway - 480 Days = 34.3 W.D.	
	Deck Beams – 82 EA. In & Out	164 Lds
	Cap Beams & Lateral Bracing	40 Lds
	Deck Panels – 60,000 SF/50 SF = (1200 EA./5 per Trip) x 2	480 Lds
	Supplies – 8 Loads/Day x 34 Days	272 Lds
	Fill & Asphalt – 250 Loads x 12 cy/Load	3,000 Lds
26.	**Stage III–Northbound Bypass–265 Days = 189.3 WD@ 20 Hr./Day Mon.-Fri. 6AM - 2AM**	

CONSTRUCTION MATERIAL DELIVERY & EXPORT

Schedule ID No.		Quantity
27.	Remove Temporary NB Bridges & SB SOE - 10 Days = 7.1 Days Removals 7 Days @ 10 Loads/Day	70 Lds
28.	Install Columns and Deck Support Slabs in WTC Projections – 20 Days = 143 W.D. Concrete – 264 Loads x 10 cy/Load Reinf. Steel – 25 Loads Formwork In & Out Supplies - 8 Loads/Day x 14 Days	 2,640 CY 25 Lds 20 Lds 112 Lds
29.	Excavation & Bracing – NB Bypass – 65 Days = 46.4 W.D. Excavation – 84 Loads/Day x 30 CY/Load = 2,520 CY Day x 47 Days Bracing, HP & Lagging – 186 Loads Supplies - 8 Loads/Day x 46 Days	 118,440 CY 186 Lds 368 Lds
30.	Excavation Below Bypass Subgrade – 30 Days = 21.4 W.D. Excavation – 29 Loads/Day x 15 CY/Load x 20 Days Bracing – 12 Loads Supplies – 8 Loads/Day x 21 Days *[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]*	 8,700 CY 12 Lds 168 Lds ***Less 1/3 for removed busway***
31.	Drill & Install Caissons – 30 Days = 21.4 W.D. Excavation – 6 Loads/Day x 15 CY/Load = 90 CY/Day x 21 Days Concrete – 9 Loads/Day x 10 CY/Load = 90 CY/Day x 21 Days Reinf. – 6 Loads/Day x 20 Days Supplies – 8 Loads/Day x 21 Days	 1,890 CY 1,890 CY 120 Lds 168 Lds
32.	Build Structures Below Grade – 40 Days = 28.6 W.D. Concrete – 15 Loads x 10 CY/Load = 150 CY/Day x 21 Days Reinf. Steel – 24 Loads Backfill –20 Loads/Day x 15 CY/Day = 300 CY/Day x 2 Days Supplies – 8 Loads/Day x 28 Days *[Note: Since the time of the original air quality analysis, the busway tunnel has been removed from the Route 9A project. To account for the change in emissions, the total number of truck trips was reduced by 1/3]*	 3,150 CY 24 Lds 600 CY 224 Lds ***Less 1/3 for removed busway***

CONSTRUCTION MATERIAL DELIVERY & EXPORT

Schedule ID No.		Quantity
33.	Build NB Bypass & Load Ramp Structures – 165 Days = 117.9 W.D.	
	Concrete – 1900 Loads x 10 cy/Load	19,000 CY
	Reinf. – 1,891 Ton/20 ton per Load + 673	130 Lds
	Precast Roof – 1100 Ft./4' EA.	275 Lds
	Formwork In & Out	80 Lds
	Waterproofing	40 Lds
	Tiles	40 Lds
	6" A.C. Wearing Course – 175 Loads x 12 cy/Load	2,100 CY
	Supplies – 8 Loads/Day x 117 Days	936 Lds
34.	**Stage IV – Project Completion – 402 Days = 287.1 W.D. @ 10 Hr/Day Mon.-Fri. 7AM-5PM**	
35.	Install Finishes, Lighting, Ventilation, Roadway, Etc. in SB Bypass = 180 Days = 128.6 W.D.	
	Supplies & Materials = 10 Loads/Day x 128 Days =	1,280 Lds
36.	Install Finishes, Lighting, Ventilation, Roadway, Etc. in NB Bypass = 150 Days = 107.1 W.D.	
	Supplies & Materials = 10 Loads/Day x 107 Days =	1,070 Lds
37. to 42.	Build Permanent Surface Roadways & Median = 200 Days = 142.9 W.D.	
	Demolition – 1700 Loads x 15 cy per Load	25,500 CY
	Concrete Barrier Removal – 7500 LF/100' per Load	75 Lds
	Grading & Embankment – 340 Loads x 15 cy/Load	5,100 CY
	Roadway Pavement – 150 Loads x 12 cy/Load	18,000 CY
	Topsoil – 333 Loads x 15 cy/Load	5,000 CY
	Trees – 900 EA./ 3 per Load	300 Lds
	Concrete Barrier – 5,397 LF/100 LF per Load	55 Lds
	Granite Curb & Swale – 8,995 LF/500' per Load	18 Lds
	Granite Pavers - - 59,480 SF/5,000 SF per Load	12 Lds
	Supplies & Materials – 8 Loads/Day x 142 Days	1,136 Lds

ROUTE 9A PROJECT – AT-GRADE ALTERNATIVE

Equipment Estimate and Schedule Assumptions

1. Estimate and Schedule includes all engines greater than 60 HP.
2. All equipment will use ultra low sulfur diesel fuel.
3. Standard shift hours of work will be from 6:00 AM to 5 PM Monday through Friday.
4. Off-Peak work hours will be from 10:00 PM to 6:00 AM Monday through Friday.
5. Double Shift work hours will be from 6:00 AM to 2:00 AM, Monday through Friday.
6. Throughout the stages maintenance work and schedule catch-up work will be performed Saturday 7 AM to 3 PM.
7. Dewatering ejector pump will run 24 hours per day, 7 days per week and will be wired to an electric source.
8. All light towers and lighting will be wired to an electric source.
9. All arrow boards and variable message signs will either be solar powered or wired to an electric source.
10. No on-site concrete batching or crushing operations will take place.
11. No worker vehicles will be permitted on-site, nor will any parking be provided on-site for workers.
12. Fugitive dust control will be handled as needed with a sweeper truck and water truck on-site.
13. The Infrastructure Project that includes the sewer regulator and communication line relocations is not included in this equipment estimate.

Construction Equipment Schedules

The attached construction equipment schedule is generated from the "Route 9A-At Grade Option Preliminary Construction Schedule" and is sorted by work task.

CONSTRUCTION EQUIPMENT SCHEDULE

Activity Number		Total Hours	W-Days Duration	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
21	**STAGE 3**										
22	**Shift NB Traffic to Temp. SB Roadway**										
23	**Install Soldier Pile Wall WTC Exit Ramp (2 Shifts)**	2,672 hrs	21Wd								
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	311 hrs	21Wd								
	Backhoe,90HP,Dynahoe 190-4	394 hrs	21Wd								
	Crane,35T,273HP,Grove 2035	394 hrs	21Wd								
	Drill,204HP-1,Baur BG 12H	787 hrs	21Wd								
	Pump, Elector Well 350HP	394 hrs	21Wd								
	Truck,Pickup-1,250HP,Ford F250	394 hrs	21Wd								
24	**Install Bracing & Excavate WTC Exit Ramp (2 Shifts)**	3,542 hrs	21Wd								
	Backhoe,90HP,Dynahoe 190-4	394 hrs	21Wd								
	Crane,100T,350HP,Manitowoc 222 100T	394 hrs	21Wd								
	Dozer,Track-1,338HP,CAT D8R	787 hrs	21Wd								
	Excavator,428HP-1,CAT 375L	787 hrs	21Wd								
	Pump, Elector Well,350HP	394 hrs	21Wd								
	Welding Machine-1,33HP,400AMP,Lincoln	787 hrs	21Wd								
25	**Construct Structural Concrete for WTC Tunnel/Ramp (2 Shifts)**	7,474 hrs	78Wd								
	Backhoe,90HP,Dynahoe 190-4	1,479 hrs	78Wd								
	Crane,35T,273HP,Grove 2035	1,479 hrs	78Wd								
	Pump, Concrete Boom,150HP,36M,Butemeister	389 hrs	78Wd								
	Pump, Elector Well,350HP	1,479 hrs	78Wd								
	Roller,Vibratory,150HP,84",CAT CS563E	389 hrs	78Wd								
	Truck,Pickup-1,250HP,Ford F250	1,479 hrs	78Wd								
	Welding Machine-1,33HP,400AMP,Lincoln	779 hrs	78Wd								
26	**Construct Structural Concrete for Pedestrian Concourse**	4,514 hrs	64Wd								
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	477 hrs	64Wd								
	Crane,35T,273HP,Grove 2035	604 hrs	64Wd								
	Crane,100T,350HP,Manitowoc 222 100T	318 hrs	64Wd								
	Drill,204HP-1,Baur BG 12H	159 hrs	64Wd								
	Driver,Vibratory,175HP,ICE 216E	159 hrs	64Wd								
	Excavator,321HP,CAT 345BL	318 hrs	64Wd								
	Loader,Wheel,260HP,CAT 966G	477 hrs	64Wd								
	Pump, Concrete Boom,150HP,36M,Butemeister	159 hrs	64Wd								
	Pump, Elector Well 350HP	604 hrs	64Wd								
	Truck,Pickup-1,250HP,Ford F250	604 hrs	64Wd								
	Welding Machine-1,33HP,400AMP,Lincoln	636 hrs	64Wd								
	[NOTE: This activity, while officially part of the WTC PATH Terminal project, will be constructed along with the										
27	**Construct Structural Concrete for Busway Tunnel**										
	[NOTE: This activity has been removed from the project]										
28	**Construct WTC Waterline Segment**	1,379 hrs	28Wd								
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	209 hrs	28Wd								
	Backhoe,90HP,Dynahoe 190-4	209 hrs	28Wd								
	Crane,35T,273HP,Grove 2035	209 hrs	28Wd								
	Excavator,321HP,CAT 345BL	139 hrs	28Wd								
	Loader,Wheel,260HP,CAT 966G	209 hrs	28Wd								
	Pump, Concrete Boom,150HP,36M,Butemeister	70 hrs	28Wd								
	Pump, Elector Well,350HP	265 hrs	28Wd								
	Roller,Vibratory,150HP,84",CAT CS563E	70 hrs	28Wd								
	[NOTE: This activity, while officially part of the WTC Memorial and Redevelopment project, will be constructed										
29	**Construct 5' Retaining Wall on Existing WTC Slurry Wall**	2,511 hrs	64Wd								
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	477 hrs	64Wd								
	Backhoe,90HP,Dynahoe 190-4	477 hrs	64Wd								
	Crane,35T,273HP,Grove 2035	477 hrs	64Wd								
	Pump, Concrete Boom,150HP,36M,Butemeister	477 hrs	64Wd								
	Truck,Pickup-1,250HP,Ford F250	604 hrs	64Wd								
30	**Shift WTC Traffic to Completed WTC Ramp**	0 hrs	0Wd								
31	**Construct Permanent NB Roadway Embankment & Pvmnt (Albany St to Murray St)**	4,825 hrs	56Wd								
	Backhoe,90HP,Dynahoe 190-4	536 hrs	56Wd								
	Dozer,Track-1,338HP,CAT D8R	536 hrs	56Wd								
	Grader,185HP,CAT 12H	536 hrs	56Wd								
	Loader,Track-2,229HP,CAT 973	536 hrs	56Wd								
	Loader,Wheel,260HP,CAT 966G	536 hrs	56Wd								
	Pump, Concrete Boom,150HP,36M,Butemeister	536 hrs	56Wd								
	Roller,Vibratory,150HP,84",CAT CS563E	536 hrs	56Wd								
	Truck,Pickup-1,250HP,Ford F250	536 hrs	56Wd								
	Truck,Pickup-2,250HP,Ford F250	536 hrs	56Wd								
32	**Sidewalk/NB Pavement Repairs (W.Thames-Albany, Vesey-Chambers, OFF-PEAK)**	3,753 hrs	56Wd								
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	536 hrs	56Wd								
	Backhoe,90HP,Dynahoe 190-4	536 hrs	56Wd								
	Excavator,143HP,CAT 320CL	536 hrs	56Wd								
	Grader,185HP,CAT 12H	536 hrs	56Wd								
	Loader,Wheel,260HP,CAT 966G	536 hrs	56Wd								
	Roller,Vibratory,150HP,84",CAT CS563E	536 hrs	56Wd								
	Truck,Pickup-1,250HP,Ford F250	536 hrs	56Wd								
33	**STAGE 4**										
35	**Shift NB Traffic on New NB Roadway**										
36	**Construct Permanent SB Roadway Embankment & Pavement**	4,289 hrs	56Wd								
	Backhoe,90HP,Dynahoe 190-4	536 hrs	56Wd								
	Dozer,Track-1,338HP,CAT D8R	536 hrs	56Wd								
	Grader,185HP,CAT 12H	536 hrs	56Wd								
	Loader,Wheel,260HP,CAT 966G	536 hrs	56Wd								
	Pump, Concrete Boom,150HP,36M,Butemeister	536 hrs	56Wd								
	Roller,Vibratory,150HP,84",CAT CS563E	536 hrs	56Wd								
	Truck,Pickup-1,250HP,Ford F250	536 hrs	56Wd								
	Truck,Pickup-2,250HP,Ford F250	536 hrs	56Wd								
33	SW/Median/Pvmnt Repairs (W.Thames-Albany, Murray-Chambers,OFF-PEAK)	3,753 hrs	56Wd								
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	536 hrs	56Wd								
	Backhoe,90HP,Dynahoe 190-4	536 hrs	56Wd								
	Excavator,143HP,CAT 320CL	536 hrs	56Wd								
	Grader,185HP,CAT 12H	536 hrs	56Wd								
	Loader,Wheel,260HP,CAT 966G	536 hrs	56Wd								
	Roller,Vibratory,150HP,84",CAT CS563E	536 hrs	56Wd								
	Truck,Pickup-1,250HP,Ford F250	536 hrs	56Wd								
37	**STAGE 5**										
38	**Shift SB Traffic on New SB Roadway**										
39	**Remove Vesey Street Pedestrian Bridge**	1,995 hrs	56Wd	SubT:1,262	SubT:733						
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	665 hrs	56Wd	421	244						
	Backhoe,90HP,Dynahoe 190-4	333 hrs	56Wd	210	122						
	Crane,35T,273HP,Grove 2035	333 hrs	56Wd	210	122						
	Truck,Pickup-1,250HP,Ford F250	333 hrs	56Wd	210	122						
	Crane,100T,350HP,Manitowoc 222 100T	333 hrs	56Wd	210	122						
40	**Construct W.Promenade, Walkway, Bikeway, DO Lanes (W.Thames to Chambers)**	3,803 hrs	64Wd	ST:1,893	SubT:1,710						
	Air Compressor-1,185CFM,85HP,Atlas Copco XA596JD	801 hrs	64Wd	421	380						
	Backhoe,90HP,Dynahoe 190-4	400 hrs	64Wd	210	190						
	Crane,35T,273HP,Grove 2035	400 hrs	64Wd	210	190						
	Excavator,143HP,CAT 320CL	400 hrs	64Wd	210	190						
	Grader,185HP,CAT 12H	400 hrs	64Wd	210	190						
	Loader,Wheel,260HP,CAT 966G	400 hrs	64Wd	210	190						
	Roller,Vibratory,150HP,84",CAT CS563E	400 hrs	64Wd	210	190						
	Truck,Pickup-1,250HP,Ford F250	400 hrs	64Wd	210	190						
41	**CONSTRUCTION COMPLETION**										

ɬADE OPTION
)N EQUIPMENT ESTIMATE
ːNT OF TRANSPORTATION

	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
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64																					
43																					
64																					
163																					
163																					
81																					
81																					
81																					
129																					
701	SubT:2,614	SubT:1,133																			
332	321	139																			
221	214	93																			
332	321	139																			
221	214	93																			
421	407	176																			
111	107	46																			
421	407	176																			
221	214	93																			
421	407	176																			
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908																					
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Construction Equipment Schedules

The following table summarizes the truck counts for delivery and export of construction materials to and from the job site based on the Preliminary Construction Schedule (see Appendix A). The Schedule ID number corresponds to the first column number of each of the schedules.

ROUTE 9A - AT GRADE ALTERNATIVE
CONSTRUCTION MATERIAL DELIVERY/WASTE QUANTITIES AND TRUCK COUNTS

Schedule Item	Description	Quantity	Truck Capacity	Days	Trips Total	Trips/Day
1	Stage 1					
3	Construct Slurry Wall – 150 Days = 107 Work Days					
	Excavation	10,200cy	12cy	100	850	8.5
	Concrete	10,200cy	10cy	100	1020	10.2
	Reinf. Steel	2,000tons	20tons	77	100	1.3
	Supplies	250lds	1lds	100	250	2.5
				Total Trips:	***2,220***	
4	Construct 48" Water, 12" Water, 16" Gas = 80 Days = 57 Work Days					
	Excavation	5,000cy	12cy	40	417	10.4
	Backfill	4,000cy	12cy	20	333	16.7
	Pipe & Fittings	30lds	1lds	30	30	1.0
	Supplies	110lds	1lds	55	110	2.0
				Total Trips:	***890***	
5	Construct WTC Water Lines = 80 Days = 57 Work Days					
	Excavation	6,000cy	12cy	20	500	25.0
	Concrete	200cy	10cy	10	20	2.0
	Backfill	4,000cy	12cy	10	333	33.3
	Pipe & Fittings	20lds	1lds	10	20	2.0
	Piling & Sheeting	20lds	1lds	7	20	2.9
	Supplies	220lds	1lds	2	220	110.0
				Total Trips:	***1,113***	
	[NOTE: This activity, while officially part of the WTC Memorial and Redevelopment project, will be constructed along with the other Route 9A elements for construction efficiency purposes. The air emissions from this activity are included as part of the overall WTC Memorial and Redevelopment project emissions.]					
6	Construct Pedestrian Concourse Segment = 130 Days = 93 Work Days					
	Excavation	10,000cy	12cy	45	833	18.5
	Concrete	2,000cy	10cy	20	200	10.0
	Backfill	4,000cy	12cy	20	333	16.7
	SOE	24lds	1lds	12	24	2.0
	Waterpooofing	200cy	10cy	4	20	5.0
	Reinf. Steel	400tons	20tons	10	20	2.0
	Supplies	180lds	1lds	90	180	2.0
				Total Trips:	***1,610***	
	[NOTE: This activity, while officially part of the WTC PATH Terminal project, will be constructed along with the other Route 9A elements for construction efficiency purposes. The air emissions from this activity are included as part of the overall WTC PATH Terminal project emissions.]					
7	Construct Busway Tunnel Segment = 120 Days = 86 Work Days					
	[NOTE: This activity has been removed from the project]					
8	Construct SB Temporary Lanes = 50 Days = 36 Work Days					
	Excavation	2,000cy	12cy	20	167	8.4
	Barrier	40lds	1lds	5	40	8.0
	Asphalt & Gravel	5,000cy	12cy	30	417	13.9
	Supplies	70	1lds	35	70	2.0
				Total Trips:	***694***	
9	Construct Murray Street Pedestrian Bridge = 180 Days = 129 Work Days					
	H-Piles	200tons	10tons	10	20	2.0
	Drilling Escavation	1,500cy	12cy	30	125	4.2
	Concrete	2,000cy	10cy	50	200	4.0
	Reinf.	100tons	20tons	5	5	1.0
	Structural Steel	500tons	20tons	25	25	1.0
	Supplies	520lds	1lds	130	520	4.0
				Total Trips:	***895***	
10	Remove Haul Rd Bridge/Deck PATH Projection = 80 Days = 57 W.D.					
	Remove Old Bridge	200tons	10tons	10	20	2.0
	Excavation	500cy	12cy	5	42	8.4
	Concrete	500cy	10cy	15	50	3.3
	Reinf. Steel	70tons	20tons	4	4	1.0
	Girders	200tons	20tons	10	10	1.0
	Supplies	175lds	1lds	55	175	3.2
				Total Trips:	***301***	

ROUTE 9A - AT GRADE ALTERNATIVE
CONSTRUCTION MATERIAL DELIVERY/WASTE QUANTITIES AND TRUCK COUNTS

Schedule Item	Description	Quantity	Truck Capacity	Days	Trips Total	Trips/Day
11	Stage 2					
12	Soldier Pile Wall/Dewater for 78" Sewer =45D= 32 W.D. (Double Shift)					
	H-Piles	1,000tons	20tons	25	50	2.0
	Concrete	5,000cy	10cy	25	500	20.0
	Drilling Excavation	5,000cy	12cy	30	417	13.9
	Lagging	800tons	20tons	20	40	2.0
	Supplies	60lds	1lds	30	60	2.0
				Total Trips:	*1,067*	
13	Excavate/Brace 78" Sewer – 40 Days = 29 W.D. (Double Shift)					
	Excavation	32,000cy	24cy	29	1333	46.0
	Bracing, HP & Lagging	1,600tons	20tons	20	80	4.0
	Supplies	60lds	1lds	30	60	2.0
				Total Trips:	*1,473*	
14	Build 78" Sewer – 70 Days = 50 W.D. (Double Shift)					
	H-Piles	1,400tons	20tons	30	70	2.3
	Drilling Excavation	10,000cy	12cy	30	833	27.8
	Concrete	9,000cy	10cy	30	900	30.0
	Gravel	2,000cy	12cy	30	167	5.6
	Cradle Conc.	2,000cy	10cy	30	200	6.7
	Reinf.	250tons	20tons	7	13	1.9
	RCP	1,600ft	40ft	20	40	2.0
	Encasement Conc.	8,000cy	10cy	20	800	40.0
	Reinf.	600tons	20tons	10	30	3.0
	Manholes – 6 EA. x 20 Trucks/EA.	120lds	1lds	20	120	6.0
	Backfill	17,000cy	24cy	20	708	35.4
	Formwork In & Out	100lds	1lds	20	100	5.0
	Supplies	100lds	1lds	20	100	5.0
				Total Trips:	*4,081*	
15	Abandon Existing 78" Interceptor Sewer = 10 Days = 7 W.D.					
	Concrete	2,000cy	10cy	7	200	28.6
	Supplies	14lds	1lds	7	14	2.0
				Total Trips:	*214*	
16	Construct Pedestrian Concourse Segment – 80 Days = 57 W.D.					
	Excavation	5,000cy	12cy	10	417	41.7
	Concrete	1,000cy	10cy	10	100	10.0
	Backfill	2,500cy	12cy	5	208	41.6
	SOE & Sheet/Soldier Pile	160lds	1lds	7	160	22.9
	Waterpooofing	100cy	10cy	4	10	2.5
	Formwork In & Out	20lds	1lds	10	20	2.0
	Reinf. Steel	150tons	20tons	5	8	1.6
	Supplies	200lds	1lds	20	200	10.0
				Total Trips:	*1,123*	
	[NOTE: This activity, while officially part of the WTC PATH Terminal project, will be constructed along with the other Route 9A elements for construction efficiency purposes. The air emissions from this activity are included as part of the overall WTC PATH Terminal project emissions.]					
17	Construct Busway Tunnel Segment – 90 Days = 64 W.D.					
	[NOTE: This activity has been removed from the project]					
18	Construct WTC Water Lines – 80 Days = 57 W.D.					
	Excavation	6,000cy	12cy	20	500	25.0
	Concrete	200cy	10cy	10	20	2.0
	Backfill	4,000cy	12cy	10	333	33.3
	Pipe & Fittings	20lds	1lds	10	20	2.0
	Piling & Sheeting	20lds	1lds	7	20	2.9
	Supplies	220lds	1lds	2	220	110.0
				Total Trips:	*1,113*	
	[NOTE: This activity, while officially part of the WTC Memorial and Redevelopment project, will be constructed along with the other Route 9A elements for construction efficiency purposes. The air emissions from this activity are included as part of the overall WTC Memorial and Redevelopment project emissions.]					
19	Construct SB Temporary Lanes – 30 Days = 21 W.D.					
	Escavatoion	1,000cy	12cy	10	83	8.3
	Barrier	40lds	1lds	5	40	8.0
	Asphalt & Gravel	3,000cy	12cy	20	250	12.5
	Supplies	40	1lds	20	40	2.0
				Total Trips:	*413*	

ROUTE 9A - AT GRADE ALTERNATIVE
CONSTRUCTION MATERIAL DELIVERY/WASTE QUANTITIES AND TRUCK COUNTS

Schedule Item	Description	Quantity	Truck Capacity	Days	Trips Total	Trips/Day
20	**Stage 3**					
23	Construct Soldier Pile Wall for WTC Ramp = 30 Days = 21 Work Days					
	H-Piles	400tons	20tons	20	20	1.0
	Concrete	2,000cy	10cy	18	200	11.1
	Drilling Excavation	2,500cy	12cy	20	208	10.4
	Lagging	350tons	20tons	20	18	0.9
	Supplies	40lds	1lds	20	40	2.0
				Total Trips:	***486***	
24	Excavation & Bracing – NB Bypass – 30 Days = 21 W.D.					
	Excavation	15,000cy	24cy	18	625	34.7
	Bracing	100tons	20tons	20	5	0.3
	Supplies	40lds	1lds	20	40	2.0
				Total Trips:	***670***	
25	Build SB Bypass Structure – 110 Days = 79 W.D.					
	Caissons - Concrete	800cy	12cy	20	67	3.4
	Drilling Excavation	800cy	12cy	20	67	3.4
	Concrete	5,000cy	24cy	40	208	5.2
	Reinf.	1,200tons	20tons	25	60	2.4
	Formwork In & Out	40lds	1lds	20	40	2.0
	Waterproofing	300cy	12cy	5	25	5.0
	Tiles –	50tons	20tons	20	3	0.2
	Supplies	160lds	1lds	80	160	2.0
				Total Trips:	***630***	
26	Construct Pedestrian Concourse Segment – 90 Days = 65 W.D.					
	Excavation	3,500cy	12cy	20	292	14.6
	Concrete	1,000cy	12cy	17	83	4.9
	Backfill	1,500cy	12cy	20	125	6.3
	Waterpooofing	100cy	10cy	2	10	5.0
	SOE & Sheet/Soldier Pile	80lds	1lds	20	80	4.0
	Reinf. Steel	150tons	20tons	8	8	1.0
	Supplies	130lds	1lds	65	130	2.0
				Total Trips:	***728***	
	[NOTE: This activity, while officially part of the WTC PATH Terminal project, will be constructed along with the other Route 9A elements for construction efficiency purposes. The air emissions from this activity are included as part of the overall WTC PATH Terminal project emissions.]					
27	Construct Busway Tunnel Segment – 80 Days = 57 W.D.					
	[NOTE: This activity has been removed from the project]					
28	Construct WTC Water Lines – 91 Days = 65 W.D.					
	Excavation	6,000cy	12cy	25	500	20.0
	Concrete	200cy	10cy	15	20	1.3
	Backfill	4,000cy	12cy	20	333	16.7
	Pipe & Fittings	20lds	1lds	10	20	2.0
	Piling & Sheeting	20lds	1lds	7	20	2.9
	Supplies	130lds	1lds	65	130	2.0
				Total Trips:	***1,023***	
	[NOTE: This activity, while officially part of the WTC Memorial and Redevelopment project, will be constructed along with the other Route 9A elements for construction efficiency purposes. The air emissions from this activity are included as part of the overall WTC Memorial and Redevelopment project emissions.]					
29	Construct 5' Retaining Wall on Existing WTC Slurry Wall=90 Days = 64 W.D.					
	Excavation	2,000cy	12cy	20	167	8.4
	Concrete (Wall = 1100')	2,500cy	10cy	50	250	5.0
	Reinf. Steel	500tons	20tons	25	25	1.0
	Backfill	500cy	12cy	10	42	4.2
	Formwork In & Out	40lds	1lds	10	40	4.0
	Supplies	120lds	1lds	60	120	2.0
				Total Trips:	***644***	
31	NB Roadway, Emb't, Sidewalk (Albany-Vesey) =80 Days= 57 W.D.					
	Demolition	2,500cy	12cy	15	208	13.9
	Grading & Embankment	15,000cy	24cy	30	625	20.8
	Roadway Pavement	3,000cy	10cy	25	300	12.0
	Granite Curb	120tons	20tons	6	6	1.0
	Concrete Sidewalk	1,000cy	10cy	25	100	4.0
	Reinf. Steel	100tons	20tons	5	5	1.0
	Supplies & Materials	120lds	1lds	55	120	2.2
				Total Trips:	***1,364***	

ROUTE 9A - AT GRADE ALTERNATIVE
CONSTRUCTION MATERIAL DELIVERY/WASTE QUANTITIES AND TRUCK COUNTS

Schedule Item	Description	Quantity	Truck Capacity	Days	Trips Total	Trips/Day
32	Sidewalk,Pvmnt Repairs, (W-Thames-Albany,Vesey-Chambers (off peak)=80 Days= 57 W.D.					
	Demolition	2,000cy	12cy	20	167	8.4
	Granite Curb	100tons	20tons	5	5	1.0
	Roadway Pavement	2,000cy	10cy	20	200	10.0
	Concrete Sidewalk	900cy	10cy	25	90	3.6
	Reinf. Steel	100tons	20tons	5	5	1.0
	Supplies & Materials	120lds	1lds	55	120	2.2
				Total Trips:	***587***	
33	**Stage 4**					
35	Construct SB Roadway, Median (Albany to Murray) 80 Days = 57 Work Days					
	Demolition	2,000cy	12cy	15	167	11.1
	Grading & Embankment	2,000cy	24cy	25	83	3.3
	Topsoil	2,500cy	12cy	15	208	13.9
	Roadway Pavement	3,000cy	10cy	25	300	12.0
	Granite Curb	120tons	20tons	6	6	1.0
	Supplies & Materials	120lds	1lds	55	120	2.2
				Total Trips:	***884***	
36	SB Roadway, Median (W.Thames-Albany,Vesey-Chambers) 80 Days = 57 Work Days					
	Demolition	2,000cy	12cy	15	167	11.1
	Roadway Pavement	2,000cy	12cy	15	167	11.1
	Topsoil	2,500cy	12cy	15	208	13.9
	Granite Curb	120tons	20tons	6	6	1.0
	Supplies & Materials	100tons	20tons	6	5	0.8
		120lds	1lds	55	120	2.2
				Total Trips:	***673***	
37	**Stage 5**					
39	Construct East Side Median, Walkway, Bikeway,Drof-off Lanes= 80 Days = 57 W.D.					
	Demolition	3,000cy	12cy	15	250	16.7
	Grading & Embankment	2,000cy	12cy	15	167	11.1
	Drop Off Lanes & Bikeway Pavement	2,000cy	12cy	15	167	11.1
	Topsoil	3,000cy	12cy	15	250	16.7
	Granite Curb	120tons	20tons	6	6	1.0
	Sidewalk Concrete	1,500cy	10cy	15	150	10.0
	Supplies & Materials -- 8 Trucks/Day x 142 Days	120lds	1lds	55	120	2.2
				Total Trips:	***860***	
40	Landscape Medians and Sidewalk Areas = 90 Days = 64 Days					
	Demolition -- 15,409 cy/15 cy per Truck	500cy	12cy	15	42	2.8
	Concrete Barrier Removal	150lds	1lds	20	150	7.5
	Trees	300lds	1lds	50	300	6.0
	Granite Pavers	12lds	1lds	12	12	1.0
	Supplies & Materials	150lds	1lds	60	150	2.5
				Total Trips:	***654***	

TOTAL TRIPS:	***26,410***
TOTAL WORKING DAYS:	***521***
AVERAGE DAILY TRIPS:	***51***

FULTON STREET TRANSIT CENTER

CONSTRUCTION METHODS AND IMPACTS

Tunneling for Underpasses – Traffic and Construction Equipment

Tunneling operations will be required to construct concourse beneath the N/R Line at Church Street and the 4/5 Line beneath Broadway. The tunneling operations will be performed from within the existing tunnels (grouting operations) and from the cut and cover excavations for the Transit Center and the Dey Street Concourse. It is assumed here that grouting equipment will access the tunneling locations from within the existing subway tunnels. Spoils from tunneling operations will be removed through the cut and cover excavations to street level for hauling from the site. Grouting and underpinning operations will most likely be performed overnight and on weekends to minimize disruption to transit operations. No street closings are anticipated for this work to take place since the grouting will be performed within the subway tunnels and the tunneling work will be performed from the cut and cover excavation of Dey Street and the open excavation for the Transit Center.

4/5 underpasses

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Spoil Removal	7,000	CY	470	8	6.5	6 Months
Underpinning	1,000	Tons	50	2	0.7	
Concrete / Steel	1,000	CY	100	4	1.4	
Service/Utility /Fuel Trucks				4	2	
Subcontractors Light Trucks				10	6	
Construction Workers	15 to 20					
Arriving by Personal Vehicle	3 to 4					
Arriving by Mass Transit	12 to 16					
Supervisory/QA	3 to 8					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 6					

Equipment – Grouting beneath the existing subway tunnel will be performed from within the tunnel and will involve the use of compressed air operated drill rigs and grout pumps. Access to the tunnel will be from Transit Authority maintenance access points. Minimal laydown area exterior to the tunnel will necessary. Tunneling beneath the subway lines will occur from the cut and cover and open excavations. Tunneling will be accomplished with a tunnel roadheader and will require removal of existing piling supporting the existing tunnel and replacement with new piles/foundations. Spoils will be removed by lifting to the surface with a crane and skip box. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Concrete Trucks is based on the approximate waiting time and unloading time on site only. Underpinning operations will require approximately 2 months of the 6 month overall schedule. For the underpinning operation the following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Air Operated Grout Drills				4	1.3	90%	6 Months
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	20%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	2	0	5%	
Air Compressor (for Drills)	1600 CFM	Diesel	460	2	0.67	90%	
Welding Machines	35 HP Diesel Engine			2	0.67	70%	

Spoil removal operations will require approximately 2 months of the 6 month overall schedule. For the spoil removal operation the following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Crawler Crane	100 Ton	Diesel	450	1	0.3	90%	6 Months
Roadheader (for tunneling)	12 foot Diameter	Diesel	120	2	0.67	90%	
Dump Trucks	15 Cubic Yard Tandem	Diesel	325	4	3.2	5%	

Concrete Liner construction operations will require approximately 2 months of the 6 month overall schedule.

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	6 Months
Crawler Crane (for Material and Form support)	100 Ton	Diesel	350	1	0.33	80%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	2	.7	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	.67	90%	

N/R Underpass

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Spoil Removal	7,000	CY	470	8	3.3	12 Months
Underpinning	1,000	Tons	50	2	0.35	
Concrete / Steel	1,000	CY	100	4	0.7	
Service/Utility /Fuel Trucks				4	2	
Subcontractors Light Trucks				10	6	
Construction Workers	15 to 20					
Arriving by Personal Vehicle	3 to 4					
Arriving by Mass Transit	12 to 16					
Supervisory/QA	3 to 8					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 6					

Equipment – Grouting beneath the existing subway tunnel will be performed from within the tunnel and will involve the use of compressed air operated drill rigs and grout pumps. Access to the tunnel will be from Transit Authority maintenance access points. Minimal laydown area exterior to the tunnel will necessary. Tunneling beneath the subway lines will occur from the cut and cover and open excavations. Tunneling will be accomplished with a tunnel roadheader and will require removal of existing piling supporting the existing tunnel and replacement with new piles/foundations. Spoils will be removed by lifting to the surface with a crane and skip box. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Concrete Trucks is based on the approximate waiting time and unloading time on site only. Underpinning operations will require approximately 4 months of the 12 month overall schedule. For the underpinning operation the following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Air Operated Grout Drills				4	1.33	90%	12 Months
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	20%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	2	0	5%	
Air Compressor (for Drills)	1600 CFM	Diesel	460	2	0.67	90%	
Welding Machines	35 HP Diesel Engine			2	0.67	70%	

Spoil removal operations will require approximately 4 months of the 12 month overall schedule. For the spoil removal operation the following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Crawler Crane	100 Ton	Diesel	450	1	0.33	90%	12 Months
Roadheader (for tunneling)	12 foot Diameter	Diesel	120	2	0.67	90%	
Dump Trucks	15 Cubic Yard Tandem	Diesel	325	4	1.6	5%	

Concrete Liner construction operations will require approximately 4 months of the 12 month overall schedule.

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	2	0.67	90%	12 Months
Crawler Crane (for Material and Form support)	100 Ton	Diesel	350	1	0.33	80%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	30%	
Concrete Trucks	10 Cubic yard Tandem or Tri-axle	Diesel	325	2	0.35	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	0.67	90%	

Concourse Construction under Dey Street – Traffic and Construction Equipment

For Worst Case Situation it is assumed that the Dey Street Concourse will be constructed by a cut and cover excavation operation. The first operation will be to relocate all utility lines from the area in which the excavation support system will be constructed. This scenario includes the use of a concrete retaining wall system along the building lines parallel to Dey Street. The concrete retaining wall would be constructed by the slurry trench method of construction using the panel method. The panel method allows an approximate 20 ft. length of wall to be excavated, steel reinforcement installed, and concrete tremie poured to complete the panel before moving to the next section. Panels can also be alternately skipped to allow continuous excavation while placing the reinforcing steel and concrete in the previous excavation.

Dey Street is approximately 350 ft in length from Church to Broadway. Separate excavation retention systems will be required at Church St. and Broadway to facilitate the tunneling operation under the N/R Lines at Church St. and the 4/5 Lines at Broadway. Assume that the excavation support will terminate at 10 feet below the invert of the excavation for the Downtown Concourse or approximately 55 feet from the surface of existing Dey Street. Assume width of slurry trench and wall at 3 feet. Assume that the maximum production rate is 40 lineal feet (2 panels) of wall per week.

The slurry walls along Dey Street will be constructed by closing one side of the street at a time. Additionally, temporary piles and grade beam will be constructed at the center of Dey Street to support the precast temporary roadway over the cut and cover excavation.

Utility Relocations

The relocation of existing utilities within the Dey Street Right-of-Way (ROW) will be performed prior to the excavation.

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Spoil Removal	1,000	CY	67	8	1.8	3 Months
Service/Utility /Fuel Trucks				4	2	
Subcontractors Light Trucks				10	6	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	2 to 3					
Arriving by Mass Transit	18 to 27					
Supervisory/QA	3 to 8					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 6					

Equipment – Hydraulic excavators, rubber tire loaders and backhoes will be utilized for the excavation of the utility trenches and placement of electric and telephone ducts and water and sanitary sewer pipe. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Dump Trucks and Concrete Trucks are based on the approximate waiting time and loading/unloading time on site only. The following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hydraulic Excavator	1.5 CY	Diesel	138	2	2	90%	3 Months
Rubber Tire Loader	3.5 CY	Diesel	196	2	2	90%	
Rubber Tire Backhoe/Loader	1.25 CY	Diesel	88	4	4	90%	
Dump Trucks	15 CY Tandem or Tri-axle	Diesel	325	4	0.9	5%	
Pumps for Dewatering	4" Gasoline Powered	Gasoline	16	2	2	90%	
Compressor	185 CFM	Diesel	80	2	2	80%	
Pavement Breakers	90 Lbs			2	2	80%	
Generators	Gasoline Powered	Gasoline	12	2	2	90%	
Air hammers (ringing and ripping)	Gasoline	Gasoline		2	2	25%	

Slurry Wall – Construction will consist of closing half of Dey Street at one time for the excavation and placement of the slurry wall. Prior to slurry wall construction the utilities within the closed portion of Dey Street will be temporarily relocated. A single lane closing along Broadway or Church Street will be required to stage materials and support equipment since excavation of the Transit Center site is scheduled concurrently.

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Slurry Wall – Exc.	4,500	CY	300	8	6.3	4 Months
Slurry Wall – Conc.	4,500	CY	450	12	9.4	
Slurry Wall - Rebar	1,000	Tons	50	2	1	
Service/Utility /Fuel Trucks				6	6	
Subcontractors Light Trucks				12	10	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	16 to 24					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment – Construction of the Slurry Wall along Dey Street will be performed from within the closed portion of the street. Lane closures will be required along Church and Broadway to accommodate the delivery of materials and the staging of equipment. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Concrete Trucks and Dump Trucks are based on the approximate waiting time and loading/unloading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Slurry Plant Mixing Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	90%	4 Months
Desanding Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	50%	
Crawler Crane w/clam shell	100 Ton	Diesel	350	1	1	90%	
Crawler Crane	100 Ton	Diesel	350	1	1	50%	
Crawler Crane w/Pile Driving Setup	100 Ton	Diesel	350	1	1	50%	
Compressor for Piling Driving	800 CFM	Diesel	310	1	1	50%	
Hydraulic All Terrain Crane	35 Ton	Diesel	165	1	1	80%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	40%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	6	4.7	5%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	4	3.1	5%	
Rubber Tire Loader	3.5 CY	Diesel	196	2	2	80%	
Diesel Generators	100 HP	Diesel	100	2	2	90%	

Excavation – After the completion of the slurry walls on both sides of Dey Street, including closure pieces at Church and Broadway a cut and cover excavation operation will proceed to bring the excavation to the proposed invert grade. The entire width between the retaining walls would be excavated to the proposed invert elevation of the concourse tunnel. Excavation would be slowed at intermediate levels to allow the installation of struts to brace the concrete retaining walls across the excavation. Assume that struts would be installed to support temporary

roadway, just above proposed tunnel and midway between crown and invert of proposed tunnel. Assume stepped excavation and production rate of 4 vertical feet and 50 lineal feet per day.

Delivery Type	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Excavate to Invert	25,000	CY	1,670	40	34	4 Months
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				8	6	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	16 to 24					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment – Excavation work will be performed from within the closed portion of Dey Street and will require a lane closing on Church or Broadway to accommodate a staging area for dump trucks and material deliveries of structural steel for support of the slurry wall and support of the temporary precast roadway over the excavation. As the excavation progresses, the spoil will be lifted to the surface in skip box by crane. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Dump Trucks is based on the approximate waiting time and loading/unloading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hydraulic All Terrain Crane (Struts)	50 Ton	Diesel	165	1	1	50%	4 Months
Crawler Crane	100 Ton	Diesel	350	1	1	70%	
Hydraulic Excavator	3.5 CY	Diesel	320	1	1	100%	
Dozer	100 HP	Diesel	100	1	1	70%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	20	17	5%	
Welding Machines (Strut Installation)	35 HP Diesel Engine	Diesel	35	1		50%	
Air Compressor (for Pavement Breakers)	800 CFm	Diesel	310	1	1	25%	
Pavement Breakers	90 Lbs.			2	2	25%	

Construct Concourse

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Concrete	12,440	CY	830	26	8.6	12 Months
Structural Steel	1,000	tons	100	6	0.35	
Fitout	500	CY	50	2	0.35	
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				12	10	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	16 to 24					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment

Equipment Type	Size	Engine Type	Size HP	Quantity		Percentage of Daily Use	
Crawler Crane	100 Ton	Diesel	350	1	1	90%	12 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	50%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	13	4.3	5%	
Rubber Tire Loader	3.5 CY	Diesel	196	1	1	50%	
Diesel Generators	100 HP	Diesel	100	2	2	90%	

Reinstate Dey Street

Delivery Type	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Refill	11,000	CY	730	40	30.4	2 Months
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				8	6	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	16 to 24					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment – Excavation work will be performed from within the closed portion of Dey Street and will require a lane closing on Church or Broadway to accommodate a staging area for dump trucks and material deliveries of structural steel for support of the slurry wall and support of the temporary precast roadway over the excavation. As the excavation progresses, the spoil will be

lifted to the surface in skip box by crane. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Dump Trucks is based on the approximate waiting time and loading/unloading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Hydraulic All Terrain Crane (Struts)	50 Ton	Diesel	165	1	1	50%	2 Months
Crawler Crane	100 Ton	Diesel	350	1	1	70%	
Hydraulic Excavator	3.5 CY	Diesel	320	1	1	100%	
Dozer	100 HP	Diesel	100	1	1	70%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	20	15	5%	
Welding Machines (Strut Installation)	35 HP Diesel Engine	Diesel	35	1	1	50%	
Air Compressor (for Pavement Breakers)	800 CFm	Diesel	310	1	1	25%	
Pavement Breakers	90 Lbs.			2	2	25%	

Building Stabilization – Traffic and Construction Equipment

Corbin Building – It is assumed that the Corbin Building will become a part of the final design of the proposed Fulton Street Transit Center. For this exercise it is assumed that the above grade portions of the façade on the Broadway and John Street sides will be retained. During demolition of the adjacent structures and the portions of the Corbin Building that will not be retained, it will be necessary to construct a structural support system for the façade on the Broadway and John Street sides of the façade. Most likely this will employ an augered pile foundation with a structural steel skeleton erected within the sidewalk area of Broadway and John Street. The sidewalk and one lane on Broadway and John Street will be closed during erection of the support system. The sidewalk and closed lane on John Street can be opened after erection of the support system and a protective cover over the sidewalk. Traffic impacts are as follows:

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day	Estimated Duration
Mobilization	4	Ea	4	2	2 Day
Pile Foundation for Support System	12	Ea	2	2	2 Days
Structural Steel Support System	500	Tons	25	2	2 Month
Service/Utility /Fuel Trucks				2	2 Months
Subcontractors Light Trucks				4 to 6	2 Months
Construction Workers	15 to 20				
Arriving by Personal Vehicle	3 to 4				
Arriving by Mass Transit	12 to 16				
Supervisory/QA	3 to 5				
Arriving by Personal Vehicle	1 to 2				
Arriving by Mass Transit	2 to 3				

Equipment – Erection of the temporary support structure for the façade will be from the John Street side of the Corbin Building, including the driving/augering of support piles in the sidewalk area. The sidewalk and one lane on John Street will need to be closed during erection. The hydraulic all terrain crane and crawler crane with auger or pile driver would be utilized for approximately one month in this activity. All remaining equipment in list below would be used the following month. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Tractor Trailers is based on the approximate waiting time and unloading time on site only. Installation of the piles for the temporary support structure is estimated to take 1-month of the 2-month schedule. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity	Percentage of Daily Use
Hydraulic All Terrain Crane	50 Ton	Diesel	165	1	50%
Crawler Crane w/Auger or Pile Driver	100 Ton	Diesel	350	1	50%
Air Compressor (for Pile Driving)	1600 CFM	Diesel	460	1	50%

The erection of the temporary façade support is estimated to take 1-month of the 2- month schedule. Equipment required for erection of the temporary façade support is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity	Percentage of Daily Use
Crawler Crane	200 Ton	Diesel	450	1	90%
Hi-Lift(Forklift)	5 ton – 40 foot boom	Diesel	120	1	90%
Tractor Trailer	Tandem Axle Tractor w/45 FT Trailer	Diesel	325	2	1%
Welding Machine	35 HP Diesel Engine	Diesel	35	1	90%
Air Compressor (for Impact Wrenches)	800 CFM	Diesel	310	1	90%
Impact Wrenches	1" Socket Drive			4	90%
Welding Machine	35 HP Diesel Engine	Diesel	35	1	90%

Transit Center Construction – Traffic and Construction Equipment

Demolition of Existing Buildings (194-204 Broadway,)– All buildings within the footprint of the proposed Transit Center (194-204 Broadway) will be demolished to grade and the basements removed and the site made level for the installation of a slurry wall and other earth retention systems to support the surrounding streets and buildings during excavation for the Transit Center. The one to three story buildings will be demolished first with the 12-story building demolished floor-by-floor next. The area will then be used as a staging area for activities within the Dey Street right-of-way and concourse until construction of the Dey Street Head (Entrance) House. The Corbin Building will have the interior floors and rear walls removed after the erection of the temporary support structure for the façade.

Delivery Type	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration per stage
Demolition Debris	1,000	Tons	500	20	13.9	3 Months
Service/Utility /Fuel Trucks				8	6	
Subcontractors Light Trucks				6	4	
Total Construction Workers	20 to 25					
Arriving by Personal Vehicle	4 to 5					
Arriving by Mass Transit	16 to 20					
Supervisory/QA	3 to 5					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 3					

Equipment – For the one and three story buildings, demolition will be accomplished from within the footprint of the existing buildings with lane closings and sidewalk closings along Broadway and Fulton Street to facilitate staging of dump trucks for debris removal and safety. The 12-story building will be demolished from the top down from within the site with debris brought to ground level for sorting and loading out. The Corbin Building will be de-constructed last, also from the top down with the removal of the rear walls and interior floors to grade for sorting and loading out. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Dump Trucks is based on the approximate waiting time and loading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Crawler Crane w/clamshell or grapple	200 Ton	Diesel	450	1	1	90%	3 Months
Hydraulic Excavator w/Hoe Ram	3.5 Cubic Yard	Diesel	320	1	1	90%	
Hydraulic Excavator w/Grapple	3.5 Cubic Yard	Diesel	320	1	1	90%	
Track Loader w/Waste Handling Bucket	5.5 Cubic Yard	Diesel	160	1	1	80%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	10	7	5%	
Air Compressor (for Pavement Breakers)	1600 CFM	Diesel	460	1	1	50%	
Pavement Breakers	90 lbs.			4	4	50%	

Slurry Wall and Sheeting/Shoring – Construction will be performed within the footprint of the proposed Transit Center site with access to the site from Fulton Street for removal of spoils and delivery of materials. Soldier beam and lagging may be used for support of portions of the excavation at penetrations for concourse connections to the transit center.

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Slurry Wall – Exc.	3,900	CY	260	8	5.4	4 Months
Slurry Wall – Conc.	3,900	CY	390	10	8	
Slurry Wall - Rebar	1,000	Tons	50	2	1	
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				12	10	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	4 to 6					
Arriving by Mass Transit	16 to 24					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Slurry Wall and Sheeting/Shoring Construction Equipment – Construction of the Slurry Wall around the Transit Center site will be performed from within the footprint of the site. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Concrete Trucks and Dump Trucks are based on the approximate waiting time and unloading/loading time on site only. Equipment required is as follows.

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Slurry Plant Mixing Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	90%	
Desanding Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	50%	
Crawler Crane w/clam shell	100 Ton	Diesel	350	1	1	90%	
Crawler Crane	100 Ton	Diesel	350	1	1	50%	
Crawler Crane w/Piling Driving Setup	100 Ton	Diesel	350	1	1	50%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	50%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	5	4	5%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	4	2.7	5%	
Rubber Tire Loader	3.5 CY	Diesel	196	1	1	80%	
Diesel Generators	100 HP	Diesel	100	1	1	90%	

Excavation – After the completion of the earth retention systems, the Transit Center site will be excavated to the proposed grade.

Delivery Type	Quantity	Units	Total No. Of Loads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration Worst Case
Excavate to Sub-grade	45,000	CY	3,000	200	83	3 Months
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				8	6	
Construction Workers	10 to 20					
Arriving by Personal Vehicle	2 to 4					
Arriving by Mass Transit	8 to 16					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Equipment – Excavation work will be performed from within the footprint of the Transit Center. A lane closing will be required on Broadway and Fulton to queue dump trucks and to allow access to the site. As the excavation progresses, tiebacks or rakers will be installed to temporarily support the slurry wall and soldier beams. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Dump Trucks is based on the approximate waiting time and loading time on site only. Equipment required is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Crawler Crane	100 Ton	Diesel	350	1	1	50%	3 Months
Hydraulic Excavator	3.5 CY	Diesel	320	1	1	90%	
Hydraulic Excavator	2 CY	Diesel	300	1	1	90%	
Dozer	100 HP	Diesel	100	1	1	80%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	100	42	5%	
Welding Machines (Support Installation)	35 HP Diesel Engine	Diesel	35	1	1	50%	
Air Compressor (for Pavement Breakers)	800 CFM	Diesel	310	1	1	50%	
Pavement Breakers	90 Lbs.			2	2	50%	

Foundation– The foundations of the Transit Center will be constructed from within the footprint of the site, however access to the site from Fulton Street will need to be maintained to allow pile driving equipment access to the sub-grade. It is assumed that an earthen ramp or one constructed of a temporary bridge structure will be the means of access. The estimated length of time is six months for foundations.

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Concrete	3,000	CY	200	20	2.8	6 Months
Reinforcing Steel	600	Tons	30	2	0.42	
Service/Utility /Fuel Trucks				20	12	
Subcontractors Light Trucks				20	12	
Construction Workers	80 to 100					
Arriving by Personal Vehicle	16 to 20					
Arriving by Mass Transit	64 to 80					
Supervisory/QA	10 to 15					
Arriving by Personal Vehicle	2 to 3					
Arriving by Mass Transit	8 to 12					

Foundation Equipment – Foundation and subbasement work will be primarily of concrete construction to street level. Lane closing along Fulton Street will be required for access to the site and queuing of delivery trucks. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of Use for Concrete Trucks and Dump Trucks are based on the approximate waiting time and loading time on site only. The estimated time for foundation and concrete construction is 6 months; pile driving will take 2-months of the 6-month foundation work. The following construction equipment will be required for foundation and pile driving:

Pile equipment

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Crawler Crane	200 Ton	Diesel	450	2	0.67	90%	6 Months
Crawler Crane w/Pile Driving Setup	100 Ton	Diesel	350	1	0.33	90%	
Compressor (for Pile Driving)	1600 CFM	Diesel	460	1	0.33	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	0.33	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.33	50%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	10	0	5%	
Diesel Generators	100 HP	Diesel	100	2	0.67	90%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	2	0.1	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	0.67	100%	

Foundation Concrete Equipment - The foundation and concrete work is estimated to take 4 months of the 6-month foundation and concrete schedule. The following equipment is required for the foundation and concrete work:

Superstructure Equipment - The erection of the superstructure and enclosing facade is estimated to take 6-months. The following equipment is required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Crawler Crane	200 Ton	Diesel	450	2	2	100%	6 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	1	100%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	50%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	8	2	5%	
Diesel Generators	100 HP	Diesel	100	2	2	100%	
Tractor Trailer	Tandem Axle Tractor w/45 Foot Trailer	Diesel	325	5	2	5%	
Welding Machines	35 HP Diesel Engine	Diesel	35	2	2	100%	
Air Compressor (for Impact Wrenches)	1600 CFM	Diesel	460	2	2	100%	
Impact Wrenches	1" Socket Drive			10	10	80%	

Widening of A/C Mezzanine – Traffic and Construction Equipment

The A/C Mezzanine widening will be accomplished using a sequential cut and cover operation to allow the existing platforms to remain in service during construction. The operation will require a minimum of a lane closing along Fulton Street to accommodate the operation and staging area for equipment and materials. Construction activities include grouting, temporary bracing, demolition and excavation of roadway, slurry wall construction, concrete construction, interior fitout of mezzanine and reconstruction of Fulton Street over the widened mezzanine.

Utility Relocations -The relocation of existing utilities within the Fulton Street Right-of-Way (ROW) will be performed prior to the excavation

Delivery Type	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Spoil Removal	1,000	CY	67	8	0.62	9 Months
Service/Utility /Fuel Trucks				4	2	
Subcontractors Light Trucks				10	4	
Construction Workers	20 to 30					
Arriving by Personal Vehicle	2 to 3					
Arriving by Mass Transit	18 to 27					
Supervisory/QA	3 to 8					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	2 to 6					

Equipment – Hydraulic excavators, rubber tire loaders and backhoes will be utilized for the excavation of the utility trenches and placement of electric and telephone ducts and water and sanitary sewer pipe. Percentage of Daily Use for construction equipment has been based on operating 9 hours out of a 10-hour shift. The 9 hours are based on allowing for morning start-up, coffee breaks, lunch break and daily fueling/maintenance. Percentage of Use for Dump Trucks and Concrete Trucks are based on the approximate waiting time and loading/unloading time on site only. The following construction equipment will be required:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Rubber Tire Loader	3.5 CY	Diesel	196	1	0.25	90%	9 Months
Rubber Tire Backhoe/Loader	1.25 CY	Diesel	88	1	0.25	90%	
Dump Trucks	15 CY Tandem or Tri-axle	Diesel	325	4	0.23	5%	
Pumps for Dewatering	4" Gasoline Powered	Gasoline	16	2	2	90%	
Compressor	185 CFM	Diesel	80	2	0.25	80%	
Pavement Breakers	90 Lbs			2	0.25	80%	
Air hammers (ringing and ripping)				2	0.1	80%	

Slurry Wall

Delivery Type Per Segment	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Slurry Wall – Exc.	2000	CY	35	6	1.9	6 Month
Slurry Wall – Conc.	2000	CY	50	6	2.8	
Slurry Wall - Rebar	120	Tons	2	2	0.1	
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				12	10	
Construction Workers	40 to 50					
Arriving by Personal Vehicle	8 to 10					
Arriving by Mass Transit	32 to 40					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

Slurry Wall Equipment

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Slurry Plant Mixing Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	90%	6 Month
Desanding Plant	100 m^3 per hour – Diesel 50 HP	Diesel	50	1	1	90%	
Crawler Crane w/clam shell	100 Ton	Diesel	350	1	1	90%	
Crawler Crane	100 Ton	Diesel	350	1	1	50%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	1	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	1	35%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	3	1.4	5%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	3	.9	5%	
Rubber Tire Loader	3.5 CY	Diesel	196	1	1	50%	
Compressor (for Pavement Breakers)	1600 CFM	Diesel	460	1	1	25%	
Pavement Breakers	90 Lbs			10	10	35%	
Diesel Generators	100 HP	Diesel	100	2	2	90%	

Construction will be performed in segments along the length of the widening. Each segment will be completed in its entirety before work begins on the next segment in order to maintain access to the platforms. Temporary stairs will be utilized to move passengers around the out of service segment of mezzanine. It is anticipated that the work will take approximately 9 months for the entire widening. Impacts and durations in table below are based on new segment.

Widening Construction Sequence - Estimated 40 days for excavation, concrete placement for mezzanine is 4 month per stage, Street reconstruction is 40 days

Delivery Type Per Segment	Quantity	Units	Total No. Of Truckloads	Trips per Day (Peak Day impact Calculation)	Trips per Day (cumulative impact calculation)	Estimated Duration
Excavation	8000	CY	266	26	5	9 Months
Bracing Delivery	600	Tons	30	2	0.28	
Concrete for Mezzanine	2400	CY	240	6	2.2	
Reconstruct Fulton St	4,000	Tons	200	10	1.85	
Service/Utility /Fuel Trucks				6	4	
Subcontractors Light Trucks				12	10	
Construction Workers	40 to 50					
Arriving by Personal Vehicle	8 to 10					
Arriving by Mass Transit	32 to 40					
Supervisory/QA	4 to 6					
Arriving by Personal Vehicle	1 to 2					
Arriving by Mass Transit	3 to 4					

A/C Widening Construction Equipment – Roadway Demolition and slurry wall construction will require lane closing for the work as well as a staging area for equipment and materials. Grout injection will be performed from within the existing subway tunnel and from the surface. Percentage of Daily Use is based on construction operations working 9 hours during a 10 hour shift, with the remaining hour taken up by maintenance of equipment, lunch and breaks. Percentage of use is based on the Estimated Duration from the above table at 3 Months per segment, for a total of 12 months of construction time. Percentage of Use for Concrete Trucks and Dump Trucks are based on the approximate waiting time and loading time on site only. Equipment required for the estimated 4-months of total grout injection is as follows:

Equipment Type	Size	Engine Type	Size HP	Quantity (peak calculation)	Quantity (cumulative calculation)	Percentage Daily of Use	Duration
Air Operated Grout Injection Drills				3	1.3	90%	9 Months
Compressor for Grout Injection	1600 CFM	Diesel	460	3	1.3	90%	
Grout Plant	10 m^3 per hour	Diesel	50	1	0.44	90%	
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	0.44	90%	
Rubber Tire Loader	3.5 CY	Diesel	196	1	0.44	50%	
Compressor (for Pavement Breakers)	1600 CFM	Diesel	460	1	0.44	25%	
Pavement Breakers	90 Lbs			10	4.4	25%	
Diesel Generators	100 HP	Diesel	100	2	0.88	90%	

The excavation for the mezzanine construction is estimated to take 40 total

Equipment Type	Size	Engine Type	Size HP	Quantity		Percentage of Daily Use	
Crawler Crane	100 Ton	Diesel	350	1	0.14	50%	9 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	0.14	90%	
Hydraulic Excavator	2 CY	Diesel	300	1	0.14	90%	
Hydraulic Excavator w/Hoe Ram	2 CY	Diesel	300	1	0.14	90%	
Dump Trucks	Tandem Axle – 15 CY	Diesel	325	13	2.5	5%	
Rubber Tire Loader	3.5 CY	Diesel	196	1	0.14	50%	
Compressor (for Pavement Breakers)	1600 CFM	Diesel	460	1	0.14	90%	
Pavement Breakers	90 Lbs			10	1.4	90%	
Diesel Generators	100 HP	Diesel	100	2	0.28	90%	

The concrete placement for mezzanine construction is estimated at 4-month

Equipment Type	Size	Engine Type	Size HP	Quantity		Percentage of Daily Use	
Crawler Crane	100 Ton	Diesel	350	1	0.44	90%	9 Months
Hi-Lift (Forklift)	5 ton – 40 foot boom	Diesel	120	1	0.44	90%	
Concrete Pump	150 CY/Hour – 100 foot boom	Diesel	300	1	0.44	50%	
Concrete Trucks	10 Cubic Yard Tandem or Tri-Axle	Diesel	325	5	1.2	5%	
Rubber Tire Loader	3.5 CY	Diesel	196	1	0.44	50%	
Diesel Generators	100 HP	Diesel	100	2	0.88	90%	

The reconstruction of Fulton Street is estimated to take 40 total days

Equipment Type	Size	Engine Type	Size HP	Quantity		Percentage of Daily Use	
Asphalt Paving Machine	10 Foot Screed Width	Diesel	153	1	0.14	90%	9 Months
Asphalt Compactor	Vibratory 10 Ton	Diesel	70	1	0.14	90%	
Dump Trucks (Asphalt Paving)	Tandem Axle – 15 CY	Diesel	325	5	0.19	5%	
Rubber Tire Loader	3.5 CY		196	1	0.14	50%	
Compressor (for Pavement Breakers)	1600 CFM		460	1	0.14	20%	
Pavement Breakers	90 Lbs			2	0.28	20%	