Harlem River Yard Ventures, Inc. (HRYV) proposes to modify the approved Land Use Plan for the Harlem River Yard (HRY), located in the South Bronx, New York City, to allow for the development of a new Federal Express distribution facility within the eastern portion of the HRY.

This technical memorandum serves to update environmental conditions associated with the development plan for the HRY, as presented in the December 1993 *Harlem River Yard Intermodal Transportation and Distribution Center Final Environmental Impact Statement* (FEIS) and the February 1996 *Bronx Community Paper Company in the Harlem River Yard Final Supplemental Environmental Impact Statement* (FSEIS). It discusses the potential environmental impacts of the proposed amendment to the approved Land Use Plan to determine whether the proposed amendment has the potential to result in significant adverse environmental impacts not identified in the previous FEIS or FSEIS, and therefore whether an additional supplemental environmental impact statement (SEIS) is appropriate for consideration of the proposed changes. Under New York State's Environmental Quality Review Act (SEQRA), the lead agency may require an SEIS—limited to the specific adverse environmental impacts not addressed in the previous analyses of this site—in response to changes proposed for the project, newly discovered information, or changes in the circumstances related to the project.

As reflected in the technical analysis that follows, the proposed project, a Federal Express (FedEx) distribution facility, is similar in terms of its environmental effects to the previously approved land uses for this site. In addition, background conditions also remain similar to those analyzed in the previous environmental documents. Therefore, no additional analysis or supplemental environmental impact statement is warranted for this proposed change to the development program and project completion date.

A. BACKGROUND

HISTORY OF THE HARLEM RIVER YARD

The Harlem River Yard is a 96-acre site located in the southernmost section of The Bronx, New York City. (See Figure 1: Project Location.) It is bounded by the Harlem River and Bronx Kill to the south, East 132nd Street to the north, Lincoln Avenue to the west, and a line defined approximately by an extension of Walnut Avenue to the east.

The HRY has served railroad-related uses since 1873, when the New York, New Haven & Hartford Railroad Company leased a rail right-of-way and laid track across what had previously been farmland. The use of rail freight declined nationally after the construction of the interstate highway system and the rise of trucking in the 1950's, with urban areas like New York City particularly affected. Rail use at the HRY had ceased altogether by 1972. The New York State Department of Transportation (NYSDOT) acquired the HRY in 1982, with the intention of creating an intermodal rail facility, but by 1988, competing demands for state funds and the

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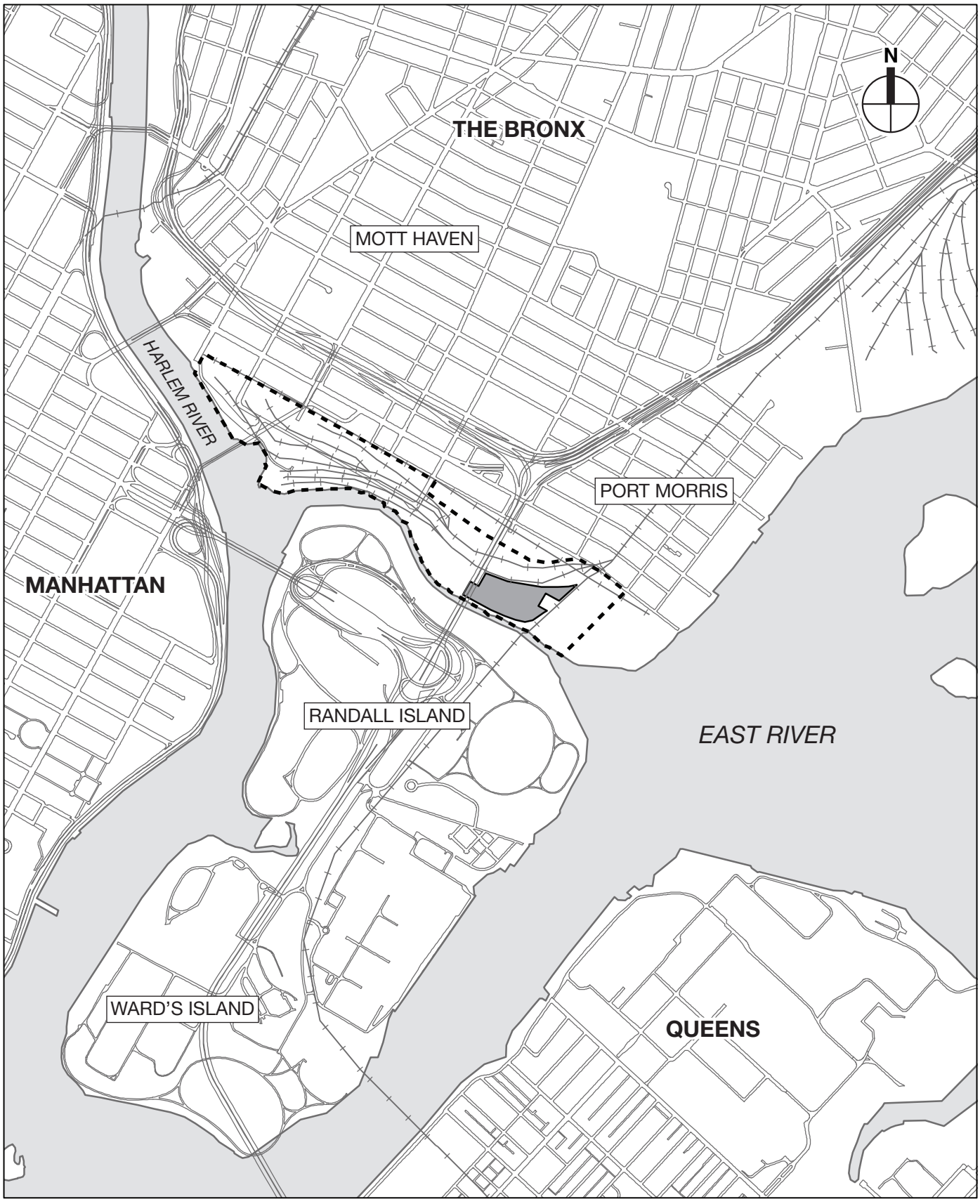

Project Site (Approximate Boundary)

Harlem River Yard

0 2000 FEET

SCALE

FedEx Facility
Harlem River Yard

Location Plan
Figure 1

continuing decline of freight-rail made this plan economically infeasible. A NYSDOT study recommended that revenue-generating industrial uses be added to the HRY in order to subsidize the proposed intermodal terminal and attract investment. In June 1989, NYSDOT solicited competitive proposals to finance, construct, and undertake management responsibility for a mixed-use or intermodal transportation facility at the HRY, and Harlem River Yard Ventures (HRYV) was selected as the developer.

PREVIOUS ENVIRONMENTAL STUDIES FOR THE HARLEM RIVER YARD

Harlem River Yard Ventures is required, under the terms of its lease with NYSDOT, to develop the HRY in accordance with a Land Use Plan approved by that agency. NYSDOT analyzed the environmental impacts of the initial plan developed by HRYV in the 1993 FEIS and this plan was approved by NYSDOT in 1994. Following the adoption of the Land Use Plan, several modifications were proposed. The environmental impacts of these modifications were analyzed under SEQRA in the 1996 FSEIS, and in Environmental Assessment Forms (EAFs) completed in 1998 and 2000. Each of these modifications was subsequently approved.

1993 HRY INTERMODAL TRANSPORTATION AND DISTRIBUTION CENTER FEIS

HRYV's original Land Use Plan contemplated development of the western portion of the HRY with an intermodal terminal, solid waste transfer station, distribution warehouse, refrigerated/dry warehouse, and flower market warehouse; with the eastern portion to be developed into one of two options. The first option called for a wastepaper recycling plant including a newsprint deinking plant and paper mill. The second option called for additional warehousing in place of the deinking plant and paper mill. The FEIS examined the potential environmental impacts from development of the HRY under this Land Use Plan, including both options for the eastern portion of the HRY. Detailed analyses were included for land use and zoning, urban design, socioeconomic conditions, community resources, cultural resources, traffic and transportation, air quality, noise, infrastructure, natural resources, and hazardous materials. The FEIS for the Harlem River Yard Intermodal Transportation and Distribution Center was issued in December 1993; the Land Use Plan was approved by NYSDOT in May 1994.

The intermodal terminal and solid waste transfer station approved for the western portion of the HRY were both constructed.

1996 BRONX COMMUNITY PAPER COMPANY FSEIS

The proposed Bronx Community Paper Company (BCPC) would have realized a modified version of the wastepaper recycling option put forth for the eastern portion of the HRY in the 1993 FEIS. Because no specific program for a wastepaper recycling plant was proposed at the time of the FEIS, that document used generic assumptions to analyze the environmental effects of the wastepaper recycling option. The April 1996 FSEIS provided an analysis based on specific design and operational details for an expanded wastepaper recycling plant, deinking plant, and paper mill. NYSDOT approved the BCPC's inclusion in the HRY Land Use Plan in May 1996. In addition, the Empire State Development Corporation (ESDC) approved zoning overrides of certain sections of the Zoning Resolution in order to accommodate a non-rail use in a railroad site, and to allow for off-site visibility of BCPC's steam plume under certain weather conditions.

Market conditions have not proved favorable for the development of the newspaper recycling program at this location, and the proposed BCPC project is no longer considered a viable use at the HRY.

1998 NEW YORK POST EAF

The New York Post proposed to construct a color printing plant in the easternmost portion of the HRY, on a site formerly used by the Metropolitan Transportation Authority as a bus garage. An EAF was prepared for this proposal in 1998, determining that the printing plant would not result in any new significant adverse environmental impacts not previously identified in the FEIS or FSEIS. NYSDOT subsequently approved this modification to the Land Use Plan. The 453,700-square-foot New York Post facility was constructed and is currently operational.

2000 NEW YORK POWER AUTHORITY EAF

The New York Power Authority (NYPA), in an attempt to address the potential shortfall in electric generating capacity in the metropolitan region, proposed to construct a power plant on a 2-acre site in the eastern portion of the HRY. The proposed facility would consist of two natural gas turbine engine units, together capable of generating up to 79.9 megawatts of electricity. This project was evaluated as part of a larger EAF that was prepared in 2000 to assess ten proposed NYPA natural gas turbine generators to be sited throughout New York City and Long Island. The EAF determined that the HRY facility would not result in any new significant adverse environmental impacts not identified in the previous SEQRA documents for the HRY. In addition, the New York State Department of Environmental Conservation (NYSDEC) granted air quality permits for the operation of the plant. The NYPA power plant was constructed and became operational in 2001.

B. PROPOSED ACTION

Since the Land Use Plan was initially contemplated in the 1993 FEIS, the western portions of the HRY have been developed with the intermodal terminal and solid waste transfer station analyzed in that document. The BCPC facility, contemplated in the 1996 FSEIS for the eastern portion of the HRY, was never constructed. Parts of the proposed BCPC's site were reconsidered in later environmental analyses, and subsequently developed into the New York Post color printing facility and NYPA power plant. The currently proposed FedEx distribution facility would be located on another portion of the HRY designated for the BCPC in the 1996 FSEIS.

PROJECT DESCRIPTION

The proposed project would relocate the operations currently undertaken at the FedEx distribution facility located at Eleventh Avenue and West 34th Street in Manhattan to a 10-acre site in the Harlem River Yard. The new facility would be built on a vacant parcel bounded by the Bronx Kill to the south, industrial uses to the north, the Triborough Bridge to the west, and the Little Hell Gate Bridge to the east.

The 34th Street FedEx distribution facility in Manhattan currently functions as a distribution warehouse and depot that receives and temporarily stores incoming freight from Newark Airport, deploys distribution fleets for local deliveries and collections, accumulates mail and packages for departure freight, and provides services for visiting customers. With the relocation of the 34th Street facility—due to the construction of the New York City Transit 7 train

extension—the service areas of other FedEx facilities located in Manhattan would be adjusted to accommodate for the changes associated with the geographical relocation of this facility. Once operations begin at the HRY distribution facility, the service area is expected to encompass northern Manhattan (north of West 77th Street and East 81st Street). In addition to shifting various Manhattan operations to HRY, it is expected that other services—currently operating from facilities in Mount Vernon, NY and John F. Kennedy International Airport in Queens—would be consolidated to the HRY facility. Although not considered in the detailed traffic analysis, some trailers currently stored at another facility in Manhattan—which FedEx is also being displaced from due to the construction of the New York City Transit 7 train extension—would be temporarily accommodated in the future expansion area of the building at the HRY site during the early phase of the project. These vehicles would be permanently relocated off-site upon the full build-out of the proposed project.

The distribution facility would be in operation for approximately 22 hours per day, Monday-Saturday. Saturday operations are typically much lower than on weekdays. The facility would be closed on Sundays. The facility's peak hours would take place between 8:00-9:00 AM and 5:00-6:00 PM. The facility will initially accommodate 84 delivery vans, but will have the potential to accommodate 156 delivery vans. FedEx is currently considering viable options to incorporate hybrid and or alternatively fueled vans into the HRY fleet. Although the FedEx HRY facility is not expected to at first realize its full operating levels, the maximum projected operations were conservatively assumed to take place at the facility's completion in late 2007. When the facility is in full operation, it is projected to employ up to 326 employees over various shifts. The majority of these employees represent transfers from other existing FedEx facilities. Based on information provided by FedEx, the proposed facility at maximum build out would operate with approximately 382 delivery van trips, 26 tractor trailer trips, 652 employee trips and 372 customer trips over a 24-hour period. Detailed trip generation estimates for both the AM and PM peak hours are summarized in Attachment A, "Traffic and Parking". It is estimated that the facility would generate approximately 199 and 190 vehicle trips during the AM and PM peak hours, respectively.

As shown in Figure 2, the proposed distribution facility would consist of two buildings and surface parking. The main building, which would house the FedEx sorting and distribution facility, would include sorting areas, loading docks, administrative areas, and a customer service center. The second, smaller building would house an on-site vehicle maintenance facility. It is anticipated that the proposed facility would have approximately 142,512 gross square feet (gsf) of space, inclusive of 3,811 gsf for the on-site vehicle maintenance facility. The larger building would be located at the center of the project site, with parking and the smaller building located along the site's edges. As currently contemplated, the facility would provide parking for approximately 183 customer/employee vehicles, 156 FedEx vans, and 52 cargo transfer vehicles (CTV). Vehicles would access the site via Saint Ann's Avenue.

In addition to the FedEx facility, trips generated by other uses—previously approved in the *HRY Intermodal Transportation and Distribution Center FEIS* in 1993—which are expected to be built at the HRY in the future or which are currently located at the HRY but are not operating at or near their full potential, were also included in the 2007 Build analysis. These uses include an intermodal terminal, a team track, a waste transfer station, and a distribution warehouse. Both the intermodal terminal and the team track have been built but, currently are not in operation and do not generate any trips. The waste transfer station currently processes 3,000 tons per day (TPD) of waste but, at full operation can process up to 4,000 TPD. The distribution warehouse has not been built but is contemplated to be up to 200,000-square feet. Detailed trip generation

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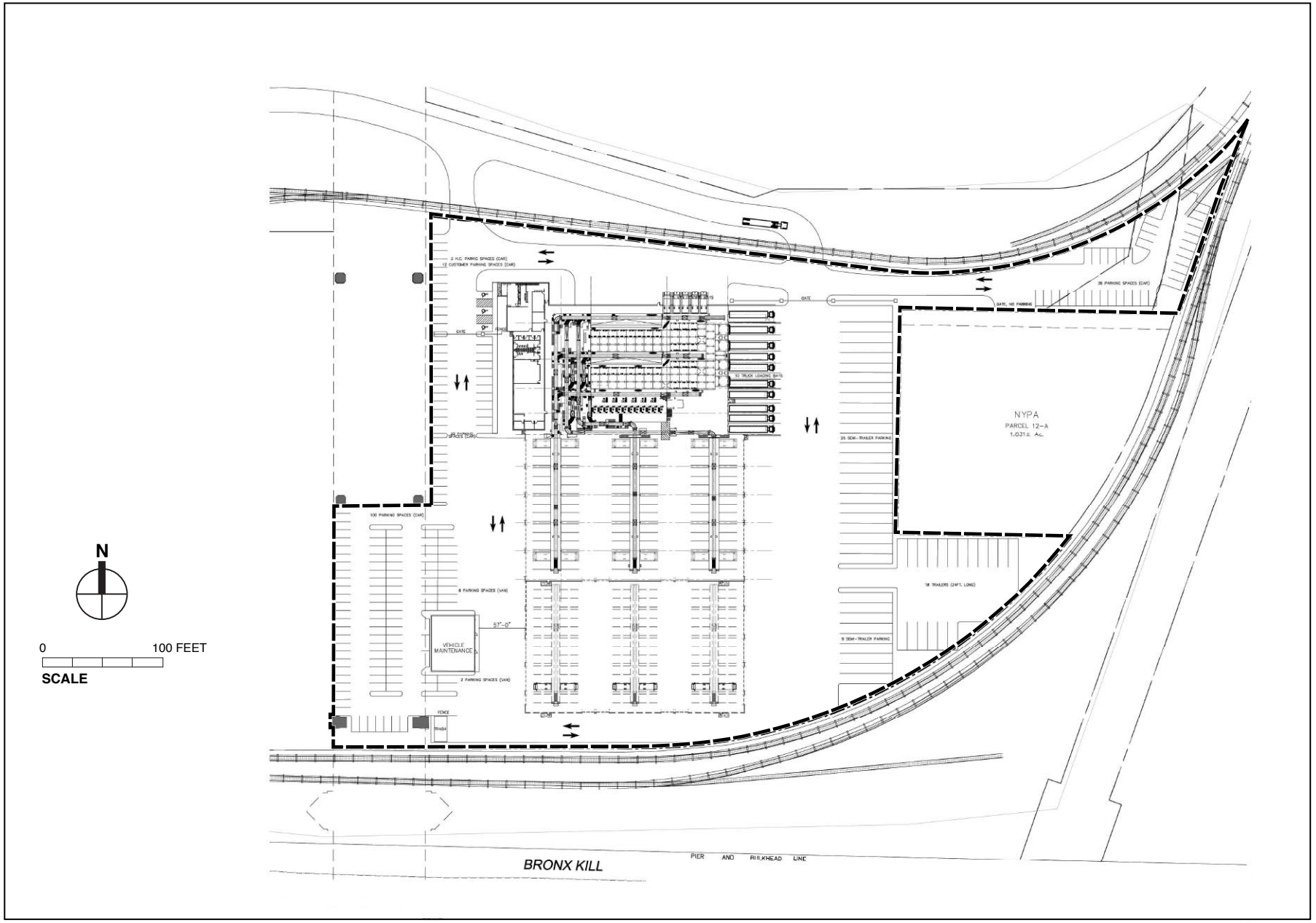


Project Site Boundary

FedEx Facility
Harlem River Yard

Preliminary Site Plan
Figure 2

estimates for these uses for both the AM and PM peak hours are summarized in Attachment A, "Traffic and Parking". It is estimated that these uses would generate 203 and 225 vehicle trips during the AM and PM peak hours respectively.

DISCRETIONARY ACTIONS

The site of the proposed FedEx distribution facility is currently governed by the amendments to the Land Use Plan proposed in the 1996 FSEIS. This amendment calls for the site to be developed into a wastepaper recycling plant. The development of the FedEx distribution facility would require a modification to the Land Use Plan and several other approvals, including:

- Approval by NYSDOT to modify the previously approved Land Use Plan to allow for the use of the FedEx distribution facility and
- Approval by the New York City Industrial Development Agency (NYCIDA) for funding.

These discretionary approvals are subject to environmental review, pursuant to SEQRA, to determine whether this proposed modification could result in potential significant adverse impacts on the human and physical environment not previously identified. The potential effects of the proposed modifications on the various environmental areas are assessed below and follow the guidelines established in New York City's *City Environmental Quality Review (CEQR) Technical Manual*, 2001.

In addition, the New York City Planning Commission (CPC) will review material changes affecting the development of the areas subject to the 1995 ESDC override of Zoning Resolution Section 42-462, to verify that the development criteria set forth in the restrictive covenant filed by HRYV in connection with the 1995 override have been met.

C. COMPARISON OF IMPACTS BETWEEN THE PROPOSED ACTION AND PREVIOUS ENVIRONMENTAL ASSESSMENTS

The purpose of this technical memorandum is to evaluate both the change in the proposed development program and the changes to background conditions that may have occurred due to the passage of time since the build years anticipated in the FEIS and FSEIS.

The proposed modification to the development program and project build year would not alter the conclusions for the environmental areas examined in the FEIS and FSEIS. The currently proposed FedEx distribution facility is in keeping with the goals of the original and amended HRY Land Use Plans, and would fit well with the industrial purposes intended for the HRY.

Table 1, "HRY Program Comparison," presents the program components analyzed in the previous environmental assessments as well as the components of the proposed action.

The proposed FedEx sorting and distribution facility (along with the previously approved and constructed New York Post printing plant and NYPA power plant) would replace the paper recycling and deinking facility that was analyzed as part of the 1993 FEIS and 1996 FSEIS and approved as part of the HRY Land Use Plan.

Table 1
HRY Program Comparison

Proposed Uses (in gross square feet)	1993 HRY FEIS		1996 FSEIS	1998 EAF	2000 EAF	2006 Proposed Action
	Warehouse Option	Wastepaper Recycling Option	Bronx Community Paper Company	NY Post Color Printing Plant	NYPA Power Plant	FedEx Facility
Warehousing	640,000	180,000	100,000	0	0	200,000
Solid Waste Transfer Facility	87,500	87,500	87,500	87,500 (completed)	87,500 (completed)	87,500 (completed)
Intermodal Terminal	25,000	25,000	25,000	25,000 (completed)	25,000 (completed)	25,000 (completed)
NYC Wholesale Flower Market	170,000	170,000	0	0	0	0
Deinking Plant & Paper mill	0	570,000	444,025	0	0	0
Newsprint Manufacturing	0	0	278,400	453,700	453,700 (completed)	453,700 (completed)
Newsprint Warehouse	0	0	97,500	0	0	0
Power Plant	0	0	0	0	87,100	87,100 (completed)
Sorting and Distribution Facility	0	0	0	0	0	142,512
Vehicle Maintenance Facility	0	0	0	0	0	3,811
Total	922,500	1,032,500	1,032,425	453,700	87,100	999,623

Notes: Solid Waste Facility, Intermodal Terminal, NY Post Printing Plant, and NYPA Power Plant would remain active uses under the proposed action. Square footage for NYPA Power Plant is approximate.

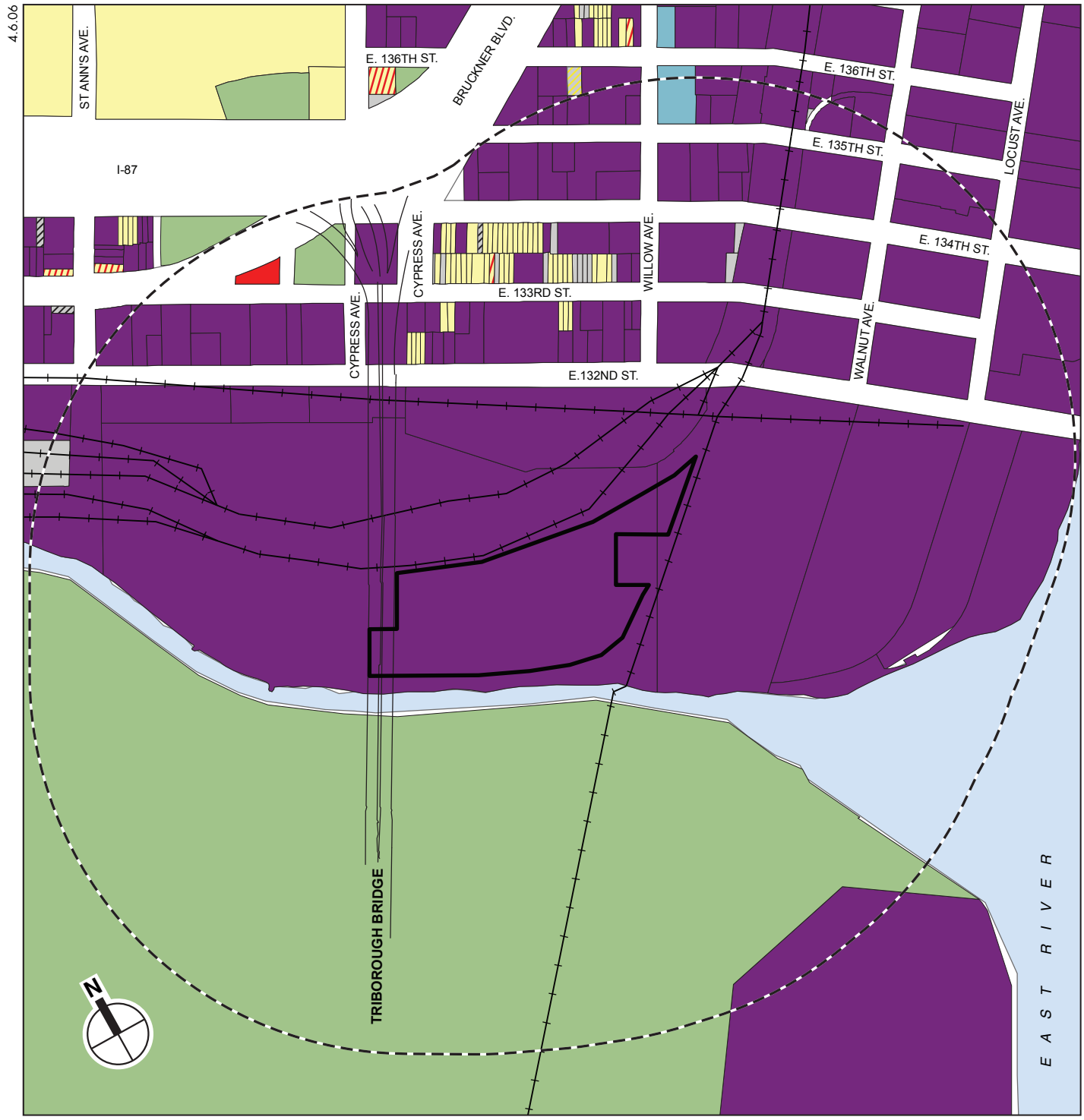
The proposed action's potential environmental effects are considered in the following sections for the relevant environmental areas set forth in the CEQR technical manual. These effects are considered in comparison to the previous environmental analyses conducted for the HRY—the 1993 FEIS, 1996 FSEIS, 1998 EAF, and 2000 EAF—to determine whether the proposed action has the potential to result in new significant adverse impacts not identified in those documents.

LAND USE, ZONING, AND PUBLIC POLICY

To determine the proposed action's potential effects in terms of land use, zoning, and public policy, existing conditions and anticipated future conditions were considered for a study area consisting of a quarter-mile radius from the project site. (See Figure 3) The study area's southern limit is the Bronx Kill, which serves as a natural boundary.

LAND USE

Since the completion of the 1996 FSEIS, two changes have occurred on parcels that are not part of the current project, but were included in the FSEIS project site. At the easternmost portion of the HRY site, the New York Post color printing plant has been constructed and is currently operational. This development was not considered in either the 1993 FEIS or the 1996 FSEIS, but was the subject of its own EAF in 1998. In 2001, the New York Power Authority constructed a 79.9 megawatt power plant on a two-acre parcel located between the current project site and the Little Hell Gate Bridge. Both of these changes in use were incorporated into the NYSDOT Land Use Plan and are compatible with the industrial use of the Yard.



FedEx Facility
Harlem River Yard

Land Use
Figure 3

Land uses in the parts of the project study area outside of the Harlem River Yard have remained substantially unchanged since 1996. The blocks to the north of the HRY are still primarily characterized by industrial uses, with some anomalous residential uses on East 133rd and 134th Streets. Most of these residences are buffered from heavy industrial uses by a row of warehouses along East 132nd Street. Figure 3 shows existing land uses in the study area.

Because there have been few new developments, the essential land use patterns within the study area have remained consistent with what was detailed in the FSEIS. In keeping with this trend, no significant changes to land use are anticipated to occur within the study area by the proposed project's 2007 build year.

Because of its industrial character, the proposed FedEx distribution facility would be similar in terms of land use to the proposals contemplated for the project site in the 1993 FEIS and 1996 FSEIS. It would be compatible with surrounding uses both inside and outside of the HRY, and therefore would not alter the conclusions reached by the prior environmental analyses.

ZONING

The project site's zoning has remained unchanged since the completion of the FSEIS. Most of the site is in an M3-1 heavy industrial district, with the exception of the portion of the site within 200 feet of the Triborough Bridge, which is in an M2-1 medium industrial district. The proposed action does not contemplate a change in the existing zoning and the proposed project would conform with the site's M3-1 and M2-1 zoning in terms of both use and bulk.

Several blocks of the study area north of the HRY have been rezoned from M1-2 to a Special Mixed Use District since the issuance of the FSEIS. The Port Morris/Bruckner Boulevard Rezoning, adopted by the City Council on March 9, 2005, expanded the existing Port Morris Special Mixed Use District to the east, south, and west. The blocks in the study area west of Willow Avenue between East 133rd and 134th Streets (and between East 132nd and 134th Streets west of Saint Ann's Avenue just outside of the study area) were included in this rezoning. (See Figure 4.) The Special Mixed Use District allows for residential use and community facilities in addition to the industrial and commercial uses permitted by the underlying manufacturing zoning. (See table 2, "Zoning Districts in Study Area.") Prior to the rezoning, the affected blocks in the study area were fully built out with a preponderance of non-conforming residential uses. The rezoning action brings these uses into conformance with the Zoning Resolution, and should not be expected to lead to significant changes in land use within the study area.

The proposed project would be built in conformance with the project site's current zoning. Furthermore, the proposed project would be compatible with the zoning districts currently in the study area. It is not expected that the proposed action would result in any zoning changes in the study area, and it would not alter the conclusions reached in the previous environmental assessments.

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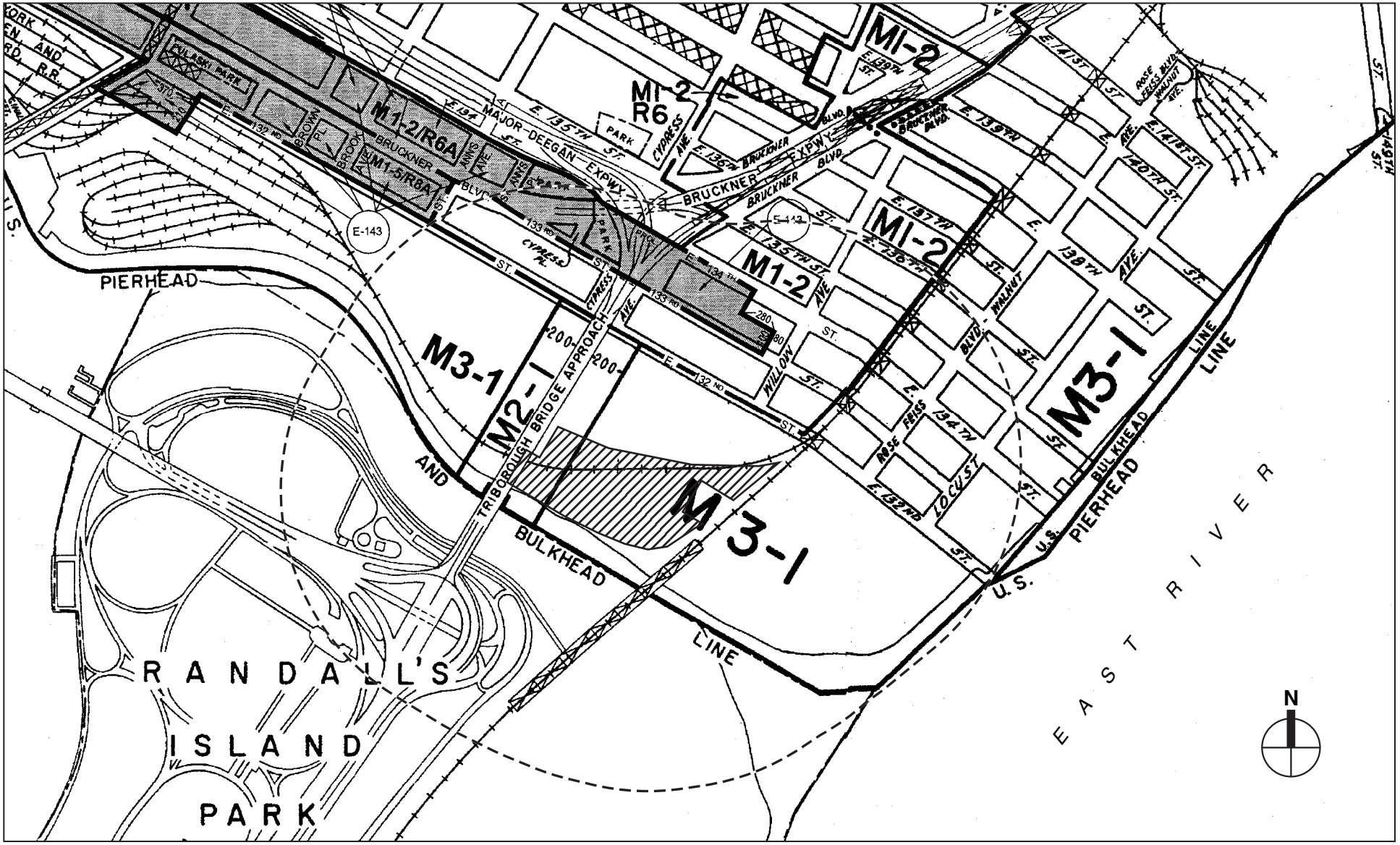

Project Site Area

Study Area Boundary (1/4-Mile Perimeter)

Zoning District Boundary

Special Purpose District Boundary

FedEx Facility
Harlem River Yard

Zoning
Figure 4

Table 2
Zoning Districts in Study Area

Zoning District	Permitted Uses	Maximum FAR*
M3-1	Industrial; Commercial	2.0
M2-1	Industrial; Commercial	2.0
M1-2	Industrial; Commercial; Community Facility	4.8 Community Facility; 2.0 all other uses
M1-2/R6A (MX-1)	Industrial; Commercial; Residential; Community Facility	2.0 Industrial and Commercial; 3.0 Residential and Community Facility
M1-5/R8A (MX-1)	Industrial; Commercial; Residential; Community Facility	5.0 Industrial and Commercial; 6.02 Residential (7.2 with Quality Housing); 6.5 Community Facility

Note: *FAR refers to *Floor Area Ratio*. The FAR sets the maximum floor area allowable on a lot, which is determined by multiplying FAR by lot area.
Source: *New York City Zoning Resolution*

PUBLIC POLICY

Since the completion of the FSEIS, the New Waterfront Revitalization Program (NWRP) was approved by the City Council in October, 1999. This 197-a plan establishes the City's policies for development and use of the waterfront, and provides the framework for evaluating the consistency of all discretionary actions in the coastal zone with those policies. Under this program, the project site falls within a Significant Maritime and Industrial Area (SMIA). The stated goal for SMIAs is to support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation. Though the proposed FedEx distribution facility is not water-dependent, the waterway in front of the project site is not navigable by barge, and the proposed project would not have an adverse effect on the future development potential of the existing barge basin at the far west end of the HRY. Therefore, the project's industrial use is consistent with the NWRP. More specific analysis of the proposed project's compliance with the policies of the NWRP is provided later in this technical memorandum under "Waterfront Policies."

The Mayor's Office for Industrial and Manufacturing Businesses has proposed the creation of Industrial Business Zones (IBZ) to help protect and grow New York City's industrial job base. This policy is likely to be adopted by the proposed project's 2007 build year. IBZs are areas in which the City will provide business assistance services to active industrial firms, as well as tax credits for industrial businesses that wish to relocate there. In addition, IBZs reflect a commitment by the City not to support the rezoning of industrial land within these areas for residential use. The project site is located within the prospective Port Morris IBZ, and the proposed FedEx distribution facility would fit within the goals of this policy.

Aside from the policies listed above, no additional changes to any public policies have occurred, or are expected to occur, that would affect the proposed project site.

SOCIOECONOMIC CONDITIONS

The proposed project would occupy a currently vacant portion of the HRY, and would not result in the displacement of any residents or businesses.

The proposed FedEx distribution facility would employ up to 326 employees over various shifts. The majority of these employees would be transferred from FedEx's current facility at 34th

Street in Manhattan. Together with the existing intermodal terminal (69 employees), waste transfer facility (46 employees), NY Post printing plant (approximately 400 employees), and NYPA generating facility (1 employee), businesses in the HRY would be expected to employ approximately 842 workers after the proposed action. This number of jobs is roughly equivalent to the 803 employees estimated for the warehouse option in the 1993 FEIS and the 840 employees estimated for the program analyzed in the 1996 FSEIS.

The proposed distribution facility would increase the storage and distribution of the HRY, and would increase the level of economic activity at the site from today's vacant condition. The increase in economic activity would be similar to previous proposals, and the proposed action would not alter the conclusions of no significant adverse socioeconomic impacts reached by the previous environmental analyses.

COMMUNITY FACILITIES

As stated above, businesses operating within the HRY would be expected to employ approximately 842 workers with the proposed action. This estimate is similar to the 803 and 840 estimated employees analyzed in the 1993 FEIS and 1996 FSEIS, which determined that sufficient resources and the capacity to accommodate additional demands were present in the community. Therefore, the new employees that would result from the proposed action would not be expected to result in significant negative impacts on local community resources such as schools, libraries, hospitals, and day care centers. The HRY maintains its own security presence, thus allaying demand for police protection. Demand for fire protection services would not be different from what was required by the programs analyzed in the FEIS and FSEIS. Thus, the proposed action would not be expected to result in any significant adverse impacts on local community resources.

VISUAL CHARACTER

As with the previously approved proposals, this development would replace vacant, weed-covered track areas with modern, well-designed industrial facilities. The FEIS and FSEIS, each analyzing the same conditions, both concluded that the introduction of modern industrial buildings would mark an improvement to the visual character of the HRY.

The proposed action would result in the development of two, single story buildings both with an approximate height of about 24 feet. These structures would not be expected to result in any significant adverse visual impacts. The proposed action would not create visual impacts to the north of the HRY, as existing buildings on East 132nd Street and the industrial character of the surrounding area provide a buffer that would screen project site activities from the high-rise residential towers located north of the study area.

No significant adverse impacts are anticipated on views from Randall's Island because of the current condition and industrial nature of the HRY as well as that of adjacent properties. As concluded in the 1993 FEIS and 1996 FSEIS, the introduction of new industrial structures would be in conformity with the general character of the surrounding industrial district. In addition, the 1993 FEIS noted that a planting buffer would be provided along the waterfront upon completion of the various development components, which would help screen and soften views of the site from much of Randall's Island.

HISTORIC AND ARCHAEOLOGICAL RESOURCES

As discussed in the 1993 FEIS and 1996 FSEIS, neither the proposed warehouse, waste paper facility, nor Bronx Community Paper Company options would have resulted in any significant adverse effects on historic or archaeological resources.

The proposed FedEx distribution facility would be built over a portion of the footprint analyzed for the BCPC in the 1996 FSEIS. At that time, it was determined that there was no risk of the BCPC's construction adversely affecting archaeological resources because it would not involve excavation below the layer of fill that covers the HRY. As with the BCPC proposal, construction of the proposed FedEx distribution facility would not involve excavation below this layer of fill, and therefore would not result in any significant adverse effects on archaeological resources.

The project site is proximate to the Little Hell Gate Bridge, which is listed in the State and National Registers of Historic Places. Construction of the FedEx distribution facility would not involve any direct alteration to the bridge or its approach. The bridge was built over an active industrial site that could reasonably be expected to change with innovations in industrial technologies, new structures, new industrial uses, etc. The proposed sorting and distribution facility is consistent with the visual context of an industrial area and would be a continuation or updating of the context in which the bridge was built. No other historic resources are located on or near the project site. Thus, development of the proposed FedEx distribution facility would not have any significant adverse effects on historic or archaeological resources.

TRANSPORTATION

See Attachment A, "Traffic and Parking."

AIR QUALITY

See Attachment B, "Air Quality."

NOISE

See Attachment C, "Noise."

INFRASTRUCTURE

Demands for potable water created by the proposed FedEx distribution facility would be less than or similar to those considered for the eastern portion of the HRY in the warehousing option in the 1993 FEIS. Storm sewers and culverts on the project site would be enhanced to provide for adequate drainage of stormwater, and there is sufficient capacity in existing sanitary and storm sewers to accommodate the new flows expected from the proposed facility, as was similarly concluded in the FEIS.

As with the programs considered in previous environmental analyses, commercial waste generated by on-site facilities at the HRY would be handled by private carters. In addition, as required by New York City law, businesses must have arrangements for their recyclables to be collected for recycling, including paper, glass, metals, and plastic.

The proposed project would not result in any significant adverse effects on New York City's potable water supply, storm and sanitary sewer systems, or solid waste management practices that were not identified in the 1993 FEIS and 1996 FSEIS.

ENERGY

The baseline conditions described in the 1993 FEIS remain accurate and are applicable to the FedEx sorting and distribution warehouse facility. The proposed action would result in increased energy demand for gas and electricity, but cost-effective methods to decrease overall energy demand would be employed by FedEx in the construction of its facility. Therefore, the proposed action is unlikely to result in any significant adverse impacts to energy usage.

WATERFRONT POLICIES

Since the completion of the 1993 FEIS and 1996 FSEIS, New York City has amended its Local Waterfront Revitalization Policy (LWRP). The new LWRP consists of 10 policies designed to maximize the benefits derived from economic development, environmental preservation, and public use of the waterfront, while minimizing the conflicts among those objectives. Each policy is presented below, followed by a discussion of its applicability to the proposed action, and, if applicable, the proposed action's consistency with the policy.

Policy 1: *Support and facilitate commercial and residential development in areas well-suited to such development.*

Policy 1.1: Encourage commercial and residential redevelopment in appropriate coastal zone areas.

The project site is located within the Harlem River Yard, an intermodal rail facility and industrial park. It is zoned for heavy manufacturing uses. Therefore, the site is not appropriate for commercial and residential development, and this policy does not apply.

Policy 1.2: Encourage non-industrial development that enlivens the waterfront and attracts the public.

The HRY and its shoreline are not accessible to the public. Therefore, this policy does not apply.

Policy 1.3: Encourage redevelopment in the coastal area where public facilities and infrastructure are adequate or will be developed.

Public facilities and infrastructure in the area surrounding the project site would be adequate to support the proposed FedEx distribution facility. No undeveloped coastal areas would be affected by the proposed development.

Policy 2*: Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.*

Policy 2.1: Promote water-dependent and industrial uses in Significant Maritime and Industrial Areas.

The project site, which is located in a Significant Maritime and Industrial Area, would be developed into an industrial distribution and sorting facility. Therefore, the proposed action conforms with this policy.

Policy 2.2: Encourage working waterfront uses at appropriate sites outside the Significant Maritime and Industrial Areas.

The proposed development is located entirely within a Significant Maritime and Industrial Area. Therefore, this policy is not applicable.

Policy 2.3: Provide infrastructure improvements necessary to support working waterfront uses.

The project site is physically separated from the waterfront by active railroad tracks. The nearest body of water, the Bronx Kill, is not navigable by barge. Therefore, the project site is not well-suited to support working waterfront uses, and this policy does not apply.

Policy 3*: Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation centers.*

Policy 3.1: Support and encourage recreational and commercial boating in New York City's maritime centers.

The Bronx Kill is not one of New York City's maritime centers and there are no policies or plans for boating along this stretch of waterfront. Therefore, this policy does not apply.

Policy 3.2: Minimize conflicts between recreational, commercial, and ocean-going freight vessels.

The development resulting from the proposed action would not involve recreational, commercial, or ocean-going freight vessels. Therefore, this policy does not apply.

Policy 3.3: Minimize impact of commercial and recreational boating activities on the aquatic environment and surrounding land and water uses.

The proposed action would not be expected to result in commercial or recreational boating activities. Therefore, this policy does not apply.

Policy 4*: Protect and restore the quality and function of ecological systems within the New York City coastal area.*

Policy 4.1: Protect and restore the ecological quality and component habitats and resources within the Special Natural Waterfront Areas, Recognized Ecological Complexes and Significant Coastal Fish and Wildlife Habitats.

The development site is not located within a Special Natural Waterfront Area, Recognized Ecological Complex, or Significant Coastal Fish and Wildlife Habitat, nor is there any natural area located on the development site. Therefore, this policy does not apply.

Policy 4.2: Protect and restore tidal and freshwater wetlands.

There are no tidal or freshwater wetlands on the development site. Therefore, this policy does not apply.

Policy 4.3: Protect vulnerable plant, fish, and wildlife species, and rare ecological communities. Design and develop land and water uses to maximize their integration or compatibility with the identified ecological community.

There are no vulnerable plant, fish, and wildlife species, nor rare ecological communities present on the project site. Therefore, this policy does not apply.

Policy 4.4: Maintain and protect living aquatic resources.

The development site is located slightly inland from the Bronx Kill and is separated from the shoreline by railroad tracks. The development that would result from the proposed action would not involve the harvesting of fish, spawning habitat, aquaculture, or fish stocking. Therefore, this policy does not apply.

Policy 5*: Protect and improve water quality in the New York City coastal area.*

Policy 5.1: Manage direct or indirect discharges to water bodies.

Best management practices would be used to ensure the control of storm water runoff and combined sewer outflows discharging into water bodies during both construction and operation of the proposed facility.

Policy 5.2: Protect the quality of New York City's waters by managing activities that generate non-point source pollution.

The development program would utilize best management practices to minimize the generation of any nutrients or pollutants or new contributions to non-point source pollution to the Bronx Kill.

Policy 5.3: Protect water quality when excavating or placing fill in navigable waters and in or near marshes, estuaries, tidal marshes or wetlands.

Construction at the development site would require some excavation work. No excavation would occur in navigable waters or in or near marshes, estuaries, tidal marshes, or wetlands, nor would excavation fill be placed in navigable waters or in or near marshes, estuaries, tidal marshes, or wetlands.

Policy 5.4: Protect the quality and quantity of groundwater, streams, and the sources of water for wetlands.

There are no streams or wetlands located on the development site. In the Bronx, groundwater is not used for drinking water or any other purposes. All on-site dewatering, if required, would be conducted in conformance with all applicable regulations.

Policy 6*: Minimize the loss of life, structures, and natural resources caused by flooding and erosion.*

Policy 6.1: Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the condition and use of the property to be protected and the surrounding area.

The proposed action would not result in an alteration to the natural features of the shoreline or any structural or non-structural flood or erosion control measures.

Policy 6.2: Direct public funding for flood prevention or erosion control measures to those locations where the investment will yield significant public benefit.

Public funding for flood prevention or erosion control measures is not part of the proposed action. Therefore, this policy does not apply.

Policy 6.3: Protect and preserve non-renewable sources of sand for beach nourishment.

There are no non-renewable sources of sand associated with the development site. Therefore, this policy does not apply.

Policy 7*: Minimize environmental degradation from solid waste and hazardous substances.*

Policy 7.1: Manage solid waste material, hazardous wastes, toxic pollutants, and substances hazardous to the environment to protect public health, control pollution and prevent degradation of coastal ecosystems.

None of the uses envisioned under the proposed development program would involve the use or discharge of hazardous or toxic pollutants. All contaminated materials uncovered during construction would be handled and removed in accordance the applicable state and federal regulations to prevent impacts on surrounding areas. Solid waste generated during construction and operation of the project would be hauled to out-of-City landfills by a private contractor.

Policy 7.2: Prevent and remediate discharge of petroleum products.

No petroleum products would be expected to be disturbed or discharged as a result of the proposed action. In the unlikely event that petroleum is disturbed or discharged, it would be remediated in conformance with all applicable laws, rules, and regulations, thereby complying with the goals of this policy.

Policy 7.3: Transport solid waste and hazardous substances and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.

Solid waste generated by the proposed distribution facility would be hauled by a licensed contractor or waste hauler according to applicable laws and regulations; no hazardous substances would be expected to be generated. The proposed action would not result in a solid or hazardous waste facility.

Policy 8*: Provide public access to and along New York City's coastal waters.*

Policy 8.1: Preserve, protect and maintain existing physical, visual, and recreational access to the waterfront.

The HRY is not accessible to the public, and provides no physical, visual or recreational access to the Bronx Kill, East River, or Harlem River waterfronts. Therefore, this policy does not apply.

Policy 8.2: Incorporate public access into new public and private development where compatible with proposed land use and coastal location.

Because of its location within the HRY, the proposed project would not be compatible with the development of public waterfront access. The project site does not extend to the water's edge; it is separated from the shoreline by railroad tracks and approximately 20 feet of additional ground.

Policy 8.3: Provide visual access to coastal lands, waters, and open space where physically practical.

The nearest publicly accessible thoroughfare to the project site, East 132nd Street, is separated from the Bronx Kill and Harlem River by the HRY. There are no publicly accessible coastal lands or open spaces within the HRY. In the vicinity of the proposed project, the northern portion of the HRY (closest to East 132nd Street) is developed with a row of warehouses and industrial buildings that preclude any possibility of visual access to the Bronx Kill. Therefore, this policy does not apply.

Policy 8.4: Preserve and develop waterfront open space and recreation on publicly owned land at suitable locations.

The project site is located in a Significant Maritime and Industrial Area, and is therefore not considered to be a suitable location for publicly accessible waterfront open space.

Policy 8.5: Preserve the public interest in and use of lands and waters held in public trust by the State and City.

The development site does not contain any lands or waters held in public trust by the State and City.

Policy 9*: Protect scenic resources that contribute to the visual quality of the New York City coastal area.*

Policy 9.1: Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront.

The proposed project is located within a rail yard that houses a variety of industrial uses. The project site, which is currently vacant, would be developed with two industrial buildings and associated parking. Consistent with this policy, the proposed action would be expected to maintain the visual quality currently associated with this urban context.

Policy 9.2: Protect scenic values associated with natural resources.

There are no scenic natural resources located on the project site. Views of the Bronx Kill from East 132nd Street are already obscured by existing warehouse buildings, thus the proposed project would not reduce existing views of this resource. Because the HRY is already industrial in terms of its visual character, the proposed project would not impair the scenic value of the Bronx Kill when viewed from Randall's Island. Therefore, the development that would result from the proposed action would be consistent with this policy.

Policy 10*: Protect, preserve, and enhance resources significant to the historical, archaeological, and cultural legacy of the New York City coastal area.*

Policy 10.1: Retain and preserve designated historic resources and enhance resources significant to the coastal culture of New York City.

As discussed in the "Historic and Archaeological Resources" section, above, the proposed action would not result in any significant adverse effects to any designated historic resources. Therefore, the proposed action is in conformance with this policy.

Policy 10.2: Protect and preserve archaeological resources and artifacts.

As discussed in the "Historic and Archaeological Resources" section, above, the proposed action would not result in an significant adverse impacts to archaeological resources. Therefore, the proposed action is in conformance with this policy.

HAZARDOUS MATERIALS

A limited remediation program to contain contaminants on the project site was presented in the 1993 FEIS and was reviewed by the New York State Department of Environmental Conservation (NYCDEC) and approved by its Hazardous Waste Remediation Bureau. Phase I and Phase II investigations conducted at this time indicated that contamination at the site was primarily due to its past usage as a rail yard and coal storage yard. Based on these investigations, a limited remediation program was approved by NYSDEC that included provisions that the entire site area be covered with controlled fill or topsoil or be paved and that proper engineering controls for dust suppression and personnel protection measures be implemented during construction at the site.

The 1996 FSEIS found that contaminated materials effects associated with the Bronx Community Paper Company were comparable or less than those previously considered in the FEIS, and the approved remediation program still properly addressed the conditions on the site. Construction of the currently proposed FedEx distribution facility would involve a similar degree of ground disturbance as the BCPC would have, but over a smaller area. Therefore, the hazardous materials effects associated with the proposed FedEx distribution facility are comparable or less than those previously considered, and the approved remediation program remains appropriate.

CONSTRUCTION AND CONSTRUCTION IMPACTS

The proposed FedEx distribution facility would occupy a smaller area than the BCPC project analyzed in the 1996 FSEIS and would take about one-year to build. Otherwise, the short-term construction impacts of the FedEx project would be similar to those explained in the FEIS and reiterated in the FSEIS.

The proposed project would have an anticipated construction period of approximately 10 months. Staging for construction activities would take place on-site and would result in minimal disruption to the local community. During construction of the project, worker activities would be governed by a Health and Safety Plan (HASP) to protect potential human exposure to hazardous materials during ground disturbance or dewatering activities. Proper dust suppression controls and personnel protection measures would be implemented during construction at the site to prevent or minimize exposure. As noted in the Hazardous Materials section, once construction has been completed, it is expected that the entire site will be covered with controlled fill or topsoil or be paved to prevent human exposure to hazardous materials. Therefore, no significant adverse construction impacts are expected to occur as a result of the proposed action. ✷

A. INTRODUCTION

This analysis addresses the projected traffic impacts of the proposed FedEx distribution facility at the Harlem River Yard (HRY). The analysis considers the impacts and uses considered in the 1993 Final Environmental Impact Statement (FEIS), as well as subsequent changes in the planned uses. In order to consider present conditions, the traffic analysis: (1) measured actual traffic volumes at key intersections; (2) evaluated the additional impacts projected for the proposed FedEx facility; and also considered the impacts of planned future uses at the HRY, which either have not been implemented or in the case of the solid waste transfer station and the intermodal terminal, that are implemented but are not yet operating at their authorized capacity. Because this analysis is based on a 2006 measured baseline it avoids reliance on the traffic counts that were the basis of the earlier FEIS.

Several studies were previously conducted for potential uses at the HRY, including the *Harlem River Yard Intermodal Transportation and Distribution Center FEIS* in 1993, the *Bronx Community Paper Company Final Supplemental Environmental Impact Statement (FSEIS)* in 1996, the *New York Post Environmental Assessment Form (EAF)* in 1998, and a technical assessment memorandum for the *Proposed Modifications to the Solid Waste Transfer Station at the HRY* in 2001. The 1993 FEIS provided comprehensive projection of traffic conditions, determination of potential significant adverse traffic impacts, and recommendation of feasible mitigation measures. The subsequent studies concluded that changes in the proposed uses within HRY would fall within the development envelope evaluated as part of the 1993 FEIS.

Although the proposed FedEx distribution facility would be similar in use as those contemplated in these previous studies, the area's background conditions and traffic analysis methodologies have changed over the years and the specific activities associated with FedEx distribution would result in new auto and truck trips within a portion of HRY that are expected to be greater than those previously assessed. Hence, a detailed analysis was conducted to assess the project's potential for impacts on traffic and parking conditions in the area. This analysis examines 2006 existing and future 2007 No Build and Build conditions.

As detailed below, the analysis results showed that the proposed project, incorporating some minor project-sponsored improvements, is not expected to result in significant adverse traffic and parking impacts and that a Supplemental EIS to address potential significant adverse impacts associated with the proposed FedEx facility would not be required.

B. 1993 FEIS COMMITMENTS

The 1993 FEIS determined that project-generated activities would result in the potential for significant adverse traffic impacts at three intersections in one or more of the analyzed peak periods. The following measures were proposed to mitigate these impacts. As part of the data

collection efforts conducted for this study, field confirmations were made on whether these measures or variations thereof have been implemented.

- Bruckner Boulevard and St. Ann's Avenue: Prohibit left turns from Bruckner Boulevard in conjunction with minor signal timing adjustments during the AM and PM peak periods. Field observations indicated that these measures were not implemented at the time updated traffic data were collected.
- Bruckner Boulevard at Lincoln and Alexander Avenues: Restripe Bruckner Boulevard approaches to Lincoln and Alexander Avenues to provide two through lanes and a left-turn pocket in each direction in conjunction with signal timing adjustments at both intersections. Although not proposed as a feasible mitigation measure, the 1993 FEIS indicated that reducing the cycle length at the Alexander Avenue intersection from 120 to 90 seconds would further enhance traffic operations at this intersection. Field observations indicated that these recommendations were not implemented at the time updated traffic data were collected.
- Other Recommended Improvements: It was recommended that the reconstruction of curb returns along East 134th Street at Alexander Avenue, Brown Place, Brook Avenue, and St. Ann's Avenue would enhance truck turning movements. In addition, roadway repairs along East 132nd Street between Alexander and Cyprus Avenues were necessary to facilitate improved traffic flows. Field observations indicated that the curb return improvements along East 134th Street and roadway resurfacing along East 132nd Street had both been undertaken at the time updated traffic data were collected.

The cumulative traffic for all uses currently contemplated at the HRY has been substantially reduced from the traffic volumes analyzed and found acceptable in the 1993 FEIS. For that reason and based on the current traffic baseline measurements, this analysis concludes that a more limited set of improvements (compared to those incorporated in the 1993 FEIS) should be implemented as part of the future development of the HRY.

C. EXISTING CONDITIONS

ROADWAY NETWORK

The roadway network in the vicinity of the project site is shown in Figure A-1. This analysis considers six signalized intersections near the project site that are most likely to be affected by project-generated traffic. These intersections, comprising the traffic study area, include Bruckner Boulevard at Lincoln Avenue, the Willis Avenue Bridge, St. Anns Avenue, and East 138th Street; and St. Anns Avenue at East 134th Street and East 135th Street. The physical and operational characteristics of the study area roadways are as follows:

- Bruckner Boulevard is a principal two-way east-west roadway within the study area that functions as a service road to the Bruckner Expressway (Interstate 278/Interstate 95). The service road is striped with two moving lanes in each direction, with certain portions of the roadway—where curbside parking is restricted—operating with three moving lanes.
- St. Anns Avenue is a two-way north-south roadway that provides one effective moving lane and a parking lane in each direction. The roadway, whose southern terminus is located at its intersection with East 132nd Street, is one of the access points to the Harlem River Yard.

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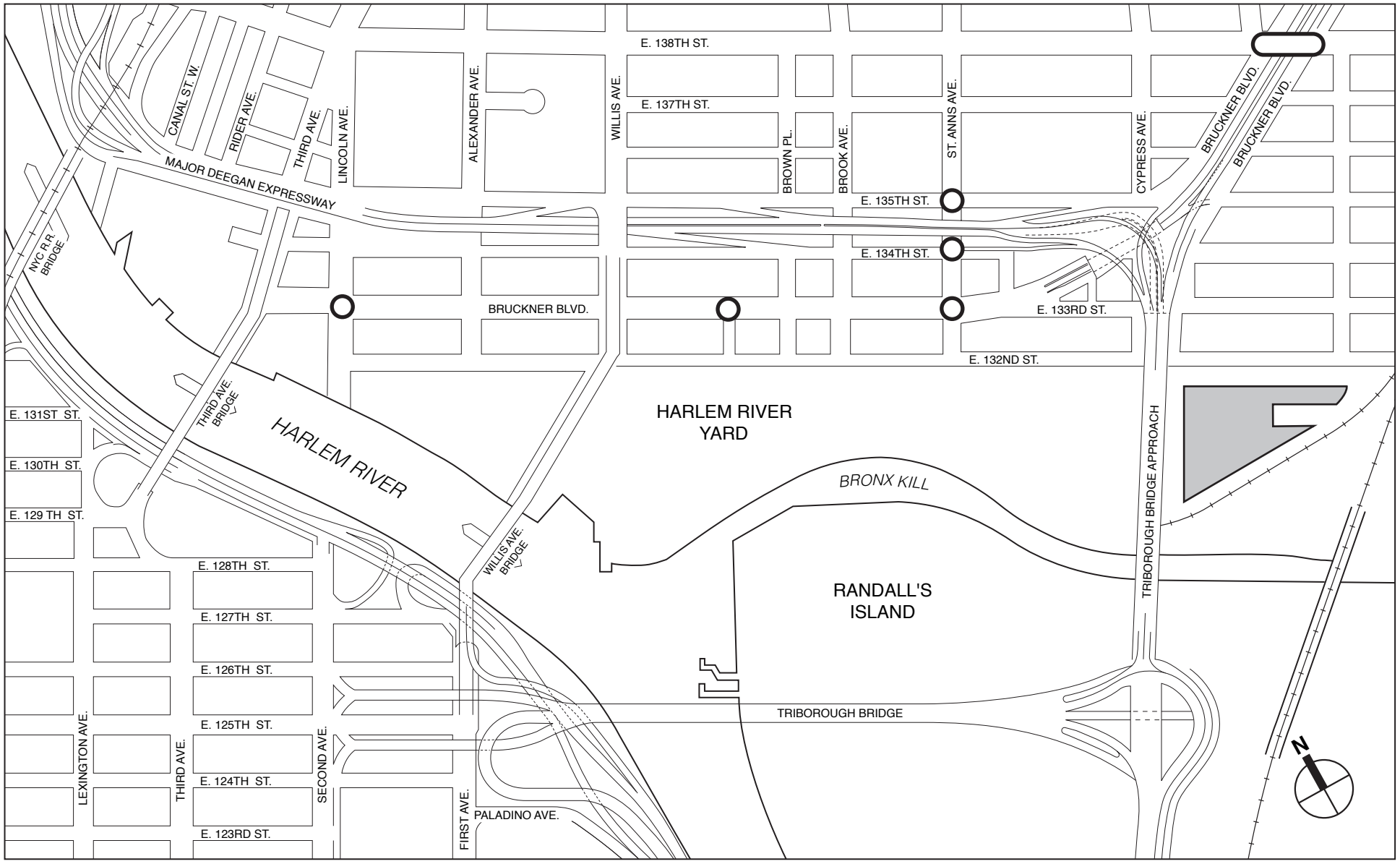


Project Site

Proposed Intersections of Analysis

FedEx Facility
Harlem River Yard

Study Area Intersections
Figure A-1

- Willis Avenue Bridge is a Bronx bound bridge over the Harlem River. It connects to the northbound Major Deegan Expressway (Interstate 87), the eastbound Bruckner Expressway (Interstate 278/Interstate 95) via Bruckner Boulevard, and other local South Bronx streets. The northbound approach of the Willis Avenue Bridge at Bruckner Boulevard has four moving lanes. Parking is restricted on both sides of this approach.
- Lincoln Avenue is a two-way north-south roadway, whose northern terminus is at its intersection with East 138th Street and southern terminus at its intersection with East 132nd Street. The roadway operates with up to two moving lanes in each direction within the study area. Parking is available on both sides with various restrictions.
- East 134th Street is a one-way eastbound roadway that functions as a service road to the southbound Major Deegan Expressway near the project site. To the east, the roadway is bisected by the Bruckner Expressway and the Triborough Bridge Approach. To the west, it terminates at the Manhattan bound Third Avenue Bridge. East 134th Street provides up to two effective moving lanes and parking is permitted on both sides with various restrictions.
- East 135th Street is a one-way westbound roadway that functions as a service road to the northbound Major Deegan Expressway throughout the study area. To the east, the roadway is also bisected by the Bruckner Expressway and the Triborough Bridge Approach. To the west, it connects with the Manhattan bound Third Avenue Bridge and continues to Park Avenue. East 135th Street provides three effective moving lanes and parking is permitted on both sides with various restrictions.
- East 138th Street is two-way east/west street with one effective moving lane in each direction and a parking lane along both sides of the road. The roadway operates between the East and Harlem Rivers offering connections to the Major Deegan and Bruckner Expressways, as well as Manhattan via the Madison Avenue Bridge.

INTERSECTION CAPACITY ANALYSIS METHODOLOGIES

Operational analyses, following procedures set forth in the 2000 *Highway Capacity Manual* (HCM), were conducted for the six signalized intersections within the study area. The analysis methodologies used for analyzing these intersections are described below.

SIGNALIZED INTERSECTIONS

The operational characterization of a signalized intersection relates to the level of service (LOS) of individual lane groups and approaches, and the overall intersection. The determination of LOS is based on the average delay per vehicle at the intersection approach, which is influenced by traffic levels, movement distribution, peaking characteristics, geometric features, and operational parameters. The delay criteria for the range of service levels for signalized intersections are shown in the table below.

Although the HCM analysis methodology also provides a calculation of the volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most ideal operating conditions, under which an approach or the overall intersection processes traffic close to its theoretical maximum capacity with minimal delay. However, very high v/c ratios—especially those approaching 1.0—are often

LOS Criteria for Signalized Intersections

LOS	Average Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 20.0 seconds
C	> 20.0 and ≤ 35.0 seconds
D	> 35.0 and ≤ 55.0 seconds
E	> 55.0 and ≤ 80.0 seconds
F	> 80.0 seconds

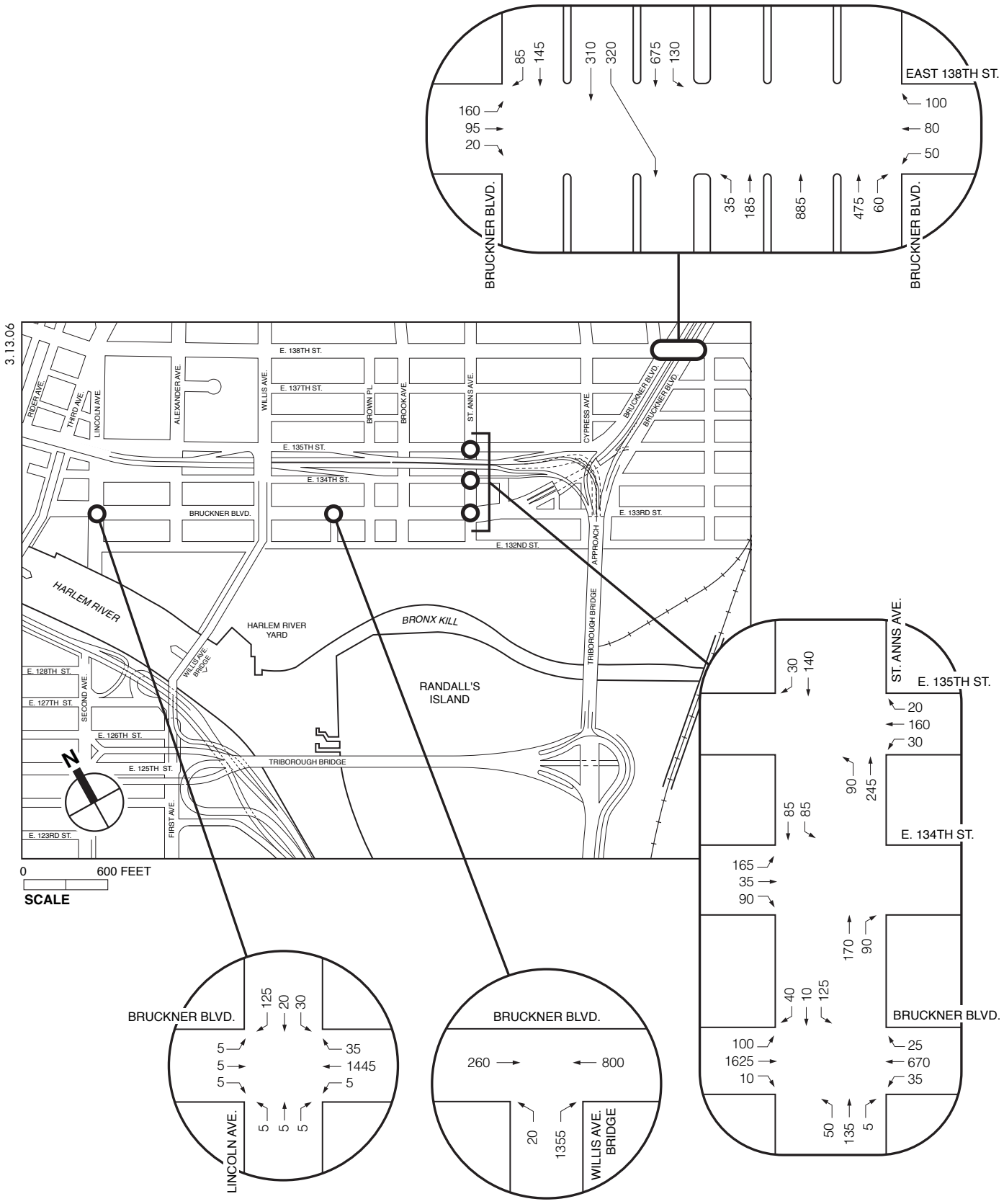
Transportation Research Board. Highway Capacity Manual, 2000.

correlated with a deteriorated LOS. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The HCM methodology provides a summary of the total intersection operating conditions. The analysis selects the two critical movements (the worst-case from each roadway) and calculates a summary critical v/c ratio, delay, and LOS.

TRAFFIC CONDITIONS

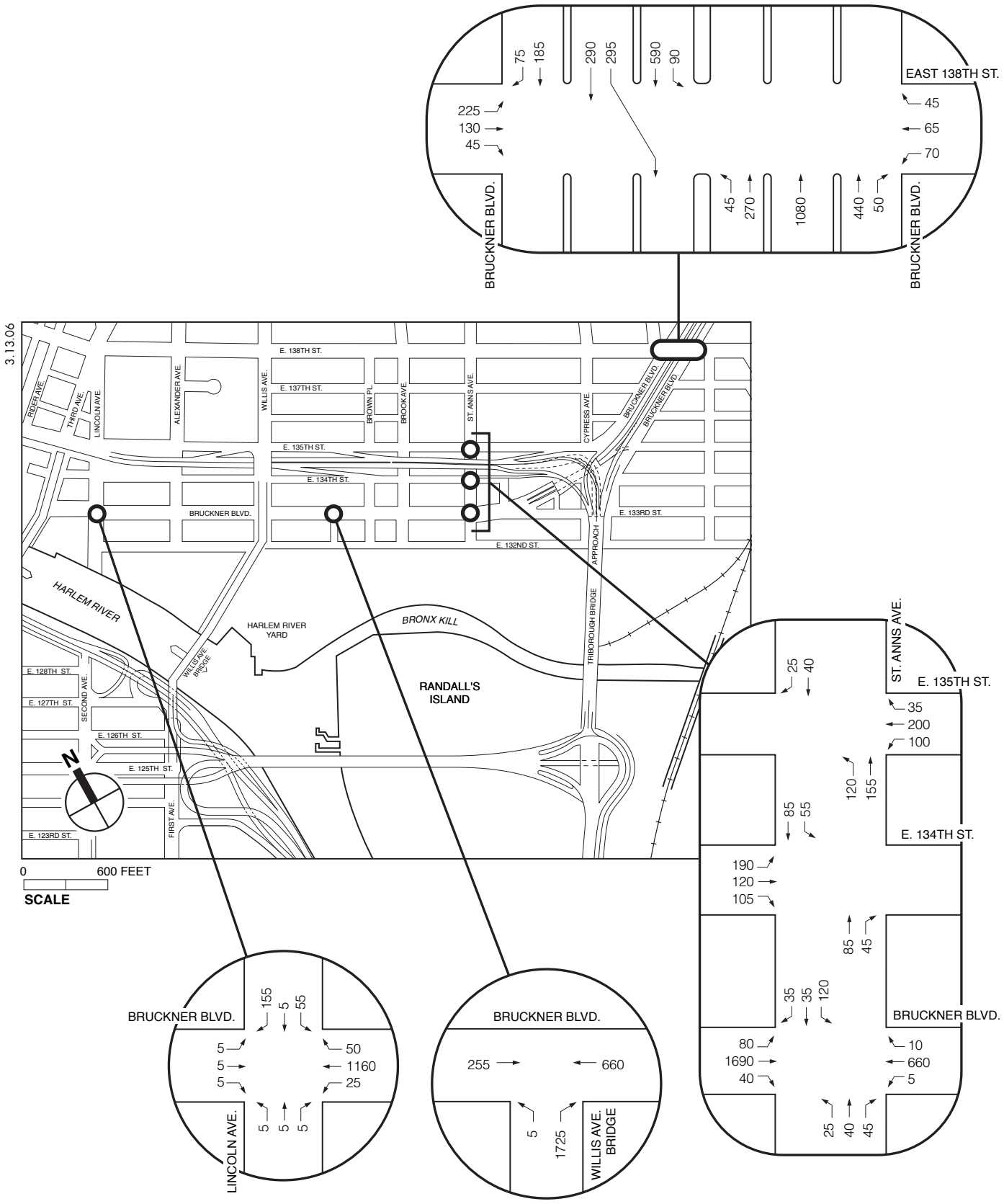
Existing traffic volumes in the study area were established based on field counts conducted from 7:00 to 9:00 AM and 4:00 to 6:00 PM on January 24, 2006, at the study area intersections. In addition to the manual counts, Automatic Traffic Recorder (ATR) counts were also performed to identify daily variations over a 7-day period. Field inventories of roadway geometry, traffic control, bus stop locations, and parking regulations/activities were recorded and official signal timing data was obtained from the New York City Department of Transportation (NYCDOT) to provide the appropriate inputs for the operational analyses. The traffic count data were used to determine the baseline traffic networks, including the peak hours of traffic activity in the study area. The baseline traffic volumes for the study area intersections were determined to take place from 7:45 to 8:45 AM and 5 to 6 PM, for the weekday morning and evening peak hours, respectively. Figures A-2 and A-3 show the baseline traffic volumes for the weekday AM and PM peak hours.

Within the study area, the maximum existing two-way traffic volumes on Bruckner Boulevard are approximately 3,160 and 3,360 vehicles per hour (vph) during the AM and PM peak hours, respectively. Existing two-way traffic volumes on St. Anns Avenue are between 190 and 505 vph during both the AM and PM peak hours. East 134th Street carries existing two-way traffic volumes between 210 and 415 vph during both the AM and PM peak hours. East 135th Street maximum traffic volumes are approximately 280 and 345 vph during the AM and PM peak hours, respectively. East 138th Street serves between 450 and 585 vph during both the AM and PM peak hours. Lincoln Avenue volumes are approximately 215 vph during the AM peak hour and 275 vph during the PM peak hour. The Willis Avenue Bridge during the AM and PM peak hours serves approximately 1,375 and 1,730 vph, respectively.



FedEx Facility
Harlem River Yard

2006 Existing Traffic Volumes
AM Peak Hour
Figure A-2



FedEx Facility
Harlem River Yard

2006 Existing Traffic Volumes
PM Peak Hour
Figure A-3

LEVELS OF SERVICE

Table A-1 presents the existing conditions capacity analysis results for the six study area signalized intersections. The capacity analysis indicates that most of the approaches/lane-groups operate at mid-LOS D or better during the AM and PM peak hours, with the exception of:

- The eastbound approach of Bruckner Boulevard at the Willis Avenue Bridge during both the AM and PM peak hours, which operates at LOS D during the AM peak hour, with a v/c ratio of 0.51 and an average delay of 48.3 seconds per vehicle (spv) and during the PM peak hour, operates at LOS D, with a v/c ratio of 0.49 and an average delay of 47.9 spv;
- The southbound approach of St. Anns Avenue at Bruckner Boulevard, which operates at LOS E during the AM peak hour, with a v/c ratio of 0.74 and an average delay of 58.5 spv, and at LOS D during the PM peak hour, with a v/c ratio of 0.66 and an average delay of 49.8 spv;
- The northbound left-turn movement of Bruckner Boulevard at East 138th Street, which operates at LOS D during the AM peak hour, with a v/c ratio of 0.22 and an average delay of 51.1 spv, and at LOS D during the PM peak hour, with a v/c ratio of 0.29 and an average delay of 52.8 spv; and,
- The southbound left-turn movement of Bruckner Boulevard at East 138th Street, which operates at LOS E during the AM peak hour, with a v/c ratio of 0.75 and an average delay of 76.0 spv, and at LOS E during the PM peak hour, with a v/c ratio of 0.53 and an average delay of 60.7 spv.

PARKING

There is on-street parking provided on the majority of the streets within a ¼-mile radius of the project site with various regulations being posted throughout the study area. Based on field observations, parking activity on surrounding streets in the study area is moderate. Since all project-associated parking needs are expected to be accommodated on-site, a quantitative analysis of on-street parking utilization was not conducted.

D. FUTURE WITHOUT THE PROPOSED PROJECT

Future 2007 conditions without the proposed project (No Build conditions) were forecasted by increasing baseline traffic levels to reflect expected growth in overall travel through and within the study area. As per *CEQR* guidelines, a background growth rate of 0.5 percent per year was used. Since the counts were taken in early 2006 and the facility is expected to be in full operation sometime in 2007, an overall growth rate of 1.0 percent (0.5 percent per year over a two year period) was conservatively assumed. Other projects expected to be completed in or near the study area by 2007 are discussed in detail below.

RANDALLS ISLAND AQUATIC ENTERTAINMENT CENTER

The Randalls Island Aquatic Entertainment Center would be constructed on a 26-acre site located on the northwestern portion of Randalls Island. Randalls Island, an island located in the East River just south of the project site, currently contains 400 acres of active and passive recreational areas maintained by the Randall's Island Sports Foundation and the New York City Department of Parks and Recreation. The major component of this project—an outdoor water

Table A-1
2006 Existing Conditions Level of Service Analysis

Intersection	Peak Hour							
	AM				PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Bruckner Boulevard & Lincoln Avenue								
Eastbound	LTR	0.02	9.3	A	LTR	0.02	9.3	A
Westbound	LTR	0.78	20.8	C	LTR	0.65	16.9	B
Northbound	LTR	0.04	29.2	C	LTR	0.04	29.2	C
Southbound	LTR	0.12	30.5	C	LTR	0.17	31.3	C
	R	0.36	35.1	D	R	0.44	37.2	D
	Intersection		22.1	C	Intersection		19.7	B
Bruckner Boulevard & Willis Avenue Bridge								
Eastbound	T	0.51	48.3	D	T	0.49	47.9	D
Westbound	T	0.35	6.5	A	T	0.40	15.7	B
Northbound	L	0.07	40.2	D	L	0.01	24.8	C
	R	0.76	12.0	B	R	0.91	20.5	C
	Intersection		14.3	B	Intersection		21.9	C
Bruckner Boulevard & St Anns Avenue								
Eastbound	LTR	0.72	15.5	B	LTR	0.71	15.3	B
Westbound	LTR	0.49	11.9	B	LTR	0.36	10.2	B
Northbound	LTR	0.57	44.6	D	LTR	0.34	38.2	D
Southbound	LTR	0.74	58.5	E	LTR	0.66	49.8	D
	Intersection		19.2	B	Intersection		17.3	B
East 134th Street & St Anns Avenue								
Eastbound	LTR	0.62	22.7	C	LTR	0.89	40.2	D
Northbound	TR	0.36	9.6	A	TR	0.19	7.9	A
Southbound	LT	0.27	8.8	A	LT	0.20	8.0	A
	Intersection		14.7	B	Intersection		27.5	C
East 135th Street & St Anns Avenue								
Westbound	LTR	0.15	14.4	B	LTR	0.27	15.2	B
Northbound	LT	0.51	11.7	B	LT	0.47	11.2	B
Southbound	TR	0.26	8.6	A	TR	0.11	7.4	A
	Intersection		11.8	B	Intersection		12.8	B
East 138th Street & Bruckner Boulevard								
Eastbound	DefL	0.38	39.0	D	DefL	0.55	43.2	D
	TR	0.28	37.1	D	TR	0.43	40.3	D
Westbound	-	-	-	-	DefL	0.17	35.3	D
	LTR	0.34	37.4	D	TR	0.34	38.9	D
Northbound (Mainline)	L	0.22	51.1	D	L	0.29	52.8	D
	T	0.20	19.9	B	T	0.30	21.2	C
Northbound (to Bruckner Expwy)	T	0.74	30.5	C	T	0.92	42.7	D
Northbound (Service Road)	TR	0.39	22.2	C	TR	0.36	21.8	C
Southbound (Mainline)	L	0.75	76.0	E	L	0.53	60.7	E
	T	0.70	29.9	C	T	0.62	27.5	C
Southbound (Service Road)	T	0.45	23.2	C	T	0.43	22.8	C
	TR	0.19	19.6	B	TR	0.21	19.9	B
	Intersection		29.6	C	Intersection		32.2	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.

park—would only be operated during the summer months. However, another smaller component of the project—an indoor beach club—would be in operation year-round. The development is expected to attract 1.3 million annual visitors and to be in operation by early 2007. Although the project is expected to generate several thousand daily trips, most are expected to be made primarily on the regional highway network and during time periods that do not coincide with those of the proposed project. Hence, trips associated with the aquatic entertainment center were not incorporated into the 2007 No Build analysis.

PORT MORRIS/BRUCKNER BOULEVARD REZONING

The Port Morris/Bruckner Boulevard Rezoning was recently approved in March 2005. As part of this rezoning, about two blocks within the FedEx HRY study area were rezoned to the Special Port Morris Mixed-Use District. This district allows for residential uses and community facilities in addition to the industrial and commercial uses permitted by the former zoning. The environmental assessment for the rezoning shows that there would be a net decrease in the study area traffic levels. These trips were conservatively assumed to remain in the study area traffic network and a credit was not taken in the 2007 No Build analysis.

PORT MORRIS INDUSTRIAL BUSINESS ZONE (IBZ)

The Port Morris IBZ, which is currently under consideration but has not yet been approved, would encompass the entire FedEx HRY study area. The objective of an IBZ is to protect and grow the City's traditionally industrial areas while offering incentives to induce industrial businesses to relocate/remain in the area. Since this action aims to preserve the current industrial character of the area and is not proposing any specific changes or new developments in the study area, no associated increases in traffic and changes in roadway configuration are anticipated.

TRAFFIC CONDITIONS

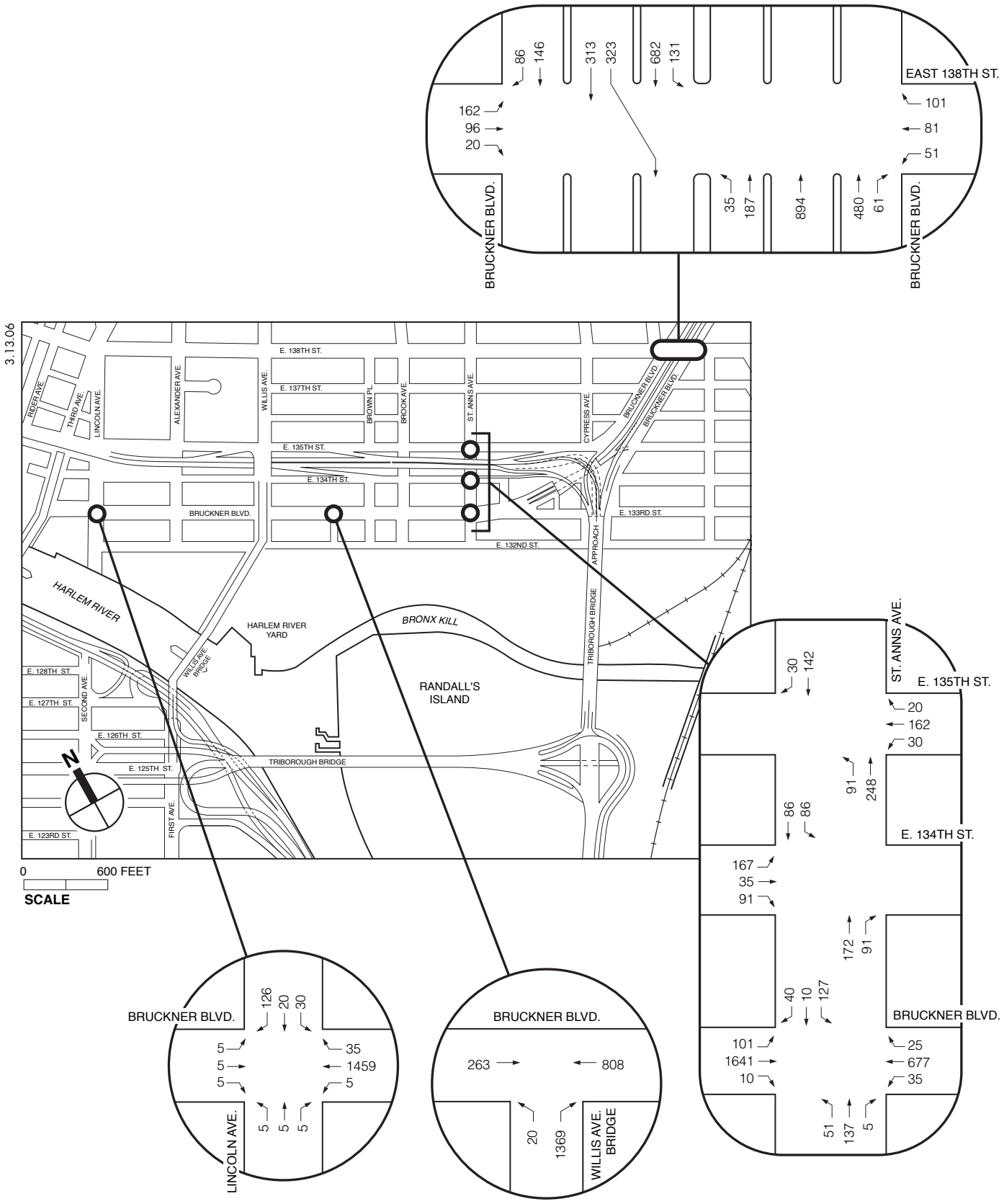
The 2007 AM and PM peak hour No Build traffic volumes are presented in Figures A-4 and A-5, respectively. As shown in Table A-2, all of the study area approaches and lane groups are expected to operate at the same LOS in the No Build as in the existing conditions.

PARKING

Outside of background growth, there are no significant changes expected to occur with regard to on-street parking conditions within a ¼ mile radius of the project site.

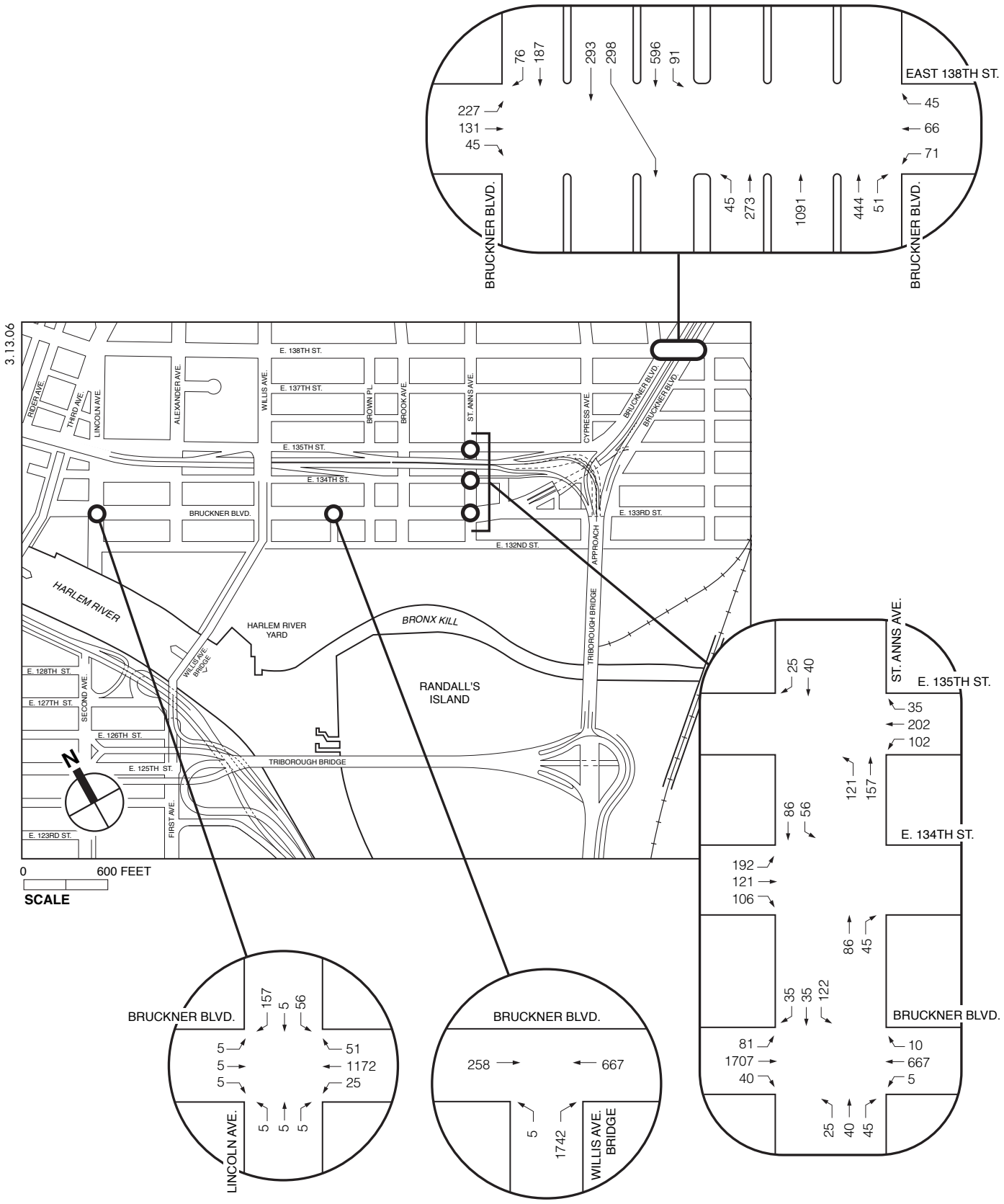
E. FUTURE WITH THE PROPOSED PROJECT

The 34th Street FedEx facility in Manhattan currently functions as a distribution warehouse and depot that receives and temporarily stores incoming freight from Newark Airport, deploys distribution fleets for local deliveries and collections, accumulates mail and packages for departure freight, and provides services for visiting customers. With the relocation of the 34th Street facility—due to the construction of the New York City Transit 7 train extension—the service areas of other FedEx facilities located in Manhattan would be adjusted to accommodate for the changes associated with the geographical relocation of this facility. Once operations begin at the HRY facility, the service area is expected to encompass northern Manhattan (north of West 77th Street and East 81st Street). In addition to shifting various Manhattan operations to HRY, it is expected that other services—currently operating from facilities in Mount Vernon, NY and John F. Kennedy International Airport in Queens—would be consolidated to the HRY facility. Although not considered in the detailed traffic analysis, some trailers currently stored at another facility in Manhattan—which FedEx is also being displaced from due to the construction of the New York City Transit 7 train extension—would be temporarily accommodated in the future expansion area of the building at the HRY site during the early phase of the project. These vehicles would be permanently relocated off-site upon the full build-out of the proposed project.



2007 No Build Traffic Volumes
AM Peak Hour
Figure A-4

FedEx Facility
Harlem River Yard



FedEx Facility
Harlem River Yard

2007 No Build Traffic Volumes
PM Peak Hour
Figure A-5

Table A-2
2006 Existing and 2007 No Build Conditions Level of Service Analysis

Intersection	Peak Hour															
	AM								PM							
	2006 Existing				2007 No Build				2006 Existing				2007 No Build			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Bruckner Boulevard & Lincoln Avenue																
Eastbound	LTR	0.02	9.3	A	LTR	0.02	9.3	A	LTR	0.02	9.3	A	LTR	0.02	9.3	A
Westbound	LTR	0.78	20.8	C	LTR	0.79	21.1	C	LTR	0.65	16.9	B	LTR	0.65	17.0	B
Northbound	LTR	0.04	29.2	C	LTR	0.04	29.2	C	LTR	0.04	29.2	C	LTR	0.04	29.2	C
Southbound	LTR	0.12	30.5	C	LTR	0.12	30.5	C	LTR	0.17	31.3	C	LTR	0.17	31.3	C
	R	0.36	35.1	D	R	0.36	35.2	D	R	0.44	37.2	D	R	0.45	37.4	D
	Intersection		22.1	C	Intersection		22.4	C	Intersection		19.7	B	Intersection		19.8	B
Bruckner Boulevard & Willis Avenue Bridge																
Eastbound	T	0.51	48.3	D	T	0.52	48.4	D	T	0.49	47.9	D	T	0.50	48.0	D
Westbound	T	0.35	6.5	A	T	0.36	6.6	A	T	0.40	15.7	B	T	0.40	15.8	B
Northbound	L	0.07	40.2	D	L	0.07	40.2	D	L	0.01	24.8	C	L	0.01	24.8	C
	R	0.76	12.0	B	R	0.76	12.3	B	R	0.91	20.5	C	R	0.92	21.4	C
	Intersection		14.3	B	Intersection		14.5	B	Intersection		21.9	C	Intersection		22.6	C
Bruckner Boulevard & St Anns Avenue																
Eastbound	LTR	0.72	15.5	B	LTR	0.72	15.8	B	LTR	0.71	15.3	B	LTR	0.72	15.5	B
Westbound	LTR	0.49	11.9	B	LTR	0.50	12.0	B	LTR	0.36	10.2	B	LTR	0.37	10.2	B
Northbound	LTR	0.57	44.6	D	LTR	0.58	45.0	D	LTR	0.34	38.2	D	LTR	0.34	38.2	D
Southbound	LTR	0.74	58.5	E	LTR	0.75	59.6	E	LTR	0.66	49.8	D	LTR	0.66	50.2	D
	Intersection		19.2	B	Intersection		19.5	B	Intersection		17.3	B	Intersection		17.5	B
East 134th Street & St Anns Avenue																
Eastbound	LTR	0.62	22.7	C	LTR	0.62	22.9	C	LTR	0.89	40.2	D	LTR	0.90	41.3	D
Northbound	TR	0.36	9.6	A	TR	0.37	9.6	A	TR	0.19	7.9	A	TR	0.19	7.9	A
Southbound	LT	0.27	8.8	A	LT	0.28	8.8	A	LT	0.20	8.0	A	LT	0.21	8.1	A
	Intersection		14.7	B	Intersection		14.8	B	Intersection		27.5	C	Intersection		28.2	C
East 135th Street & St Anns Avenue																
Westbound	LTR	0.15	14.4	B	LTR	0.15	14.4	B	LTR	0.27	15.2	B	LTR	0.27	15.2	B
Northbound	LT	0.51	11.7	B	LT	0.51	11.8	B	LT	0.47	11.2	B	LT	0.47	11.3	B
Southbound	TR	0.26	8.6	A	TR	0.26	8.6	A	TR	0.11	7.4	A	TR	0.11	7.4	A
	Intersection		11.8	B	Intersection		11.8	B	Intersection		12.8	B	Intersection		12.9	B
East 138th Street & Bruckner Boulevard																
Eastbound	DefL	0.38	39.0	D	DefL	0.38	39.1	D	DefL	0.55	43.2	D	DefL	0.55	43.3	D
	TR	0.28	37.1	D	TR	0.28	37.1	D	TR	0.43	40.3	D	TR	0.44	40.3	D
Westbound	-	-	-	-	-	-	-	-	DefL	0.17	35.3	D	DefL	0.17	35.4	D
	LTR	0.34	37.4	D	LTR	0.34	37.5	D	TR	0.34	38.9	D	TR	0.34	38.9	D
Northbound (Mainline)	L	0.22	51.1	D	L	0.22	51.1	D	L	0.29	52.8	D	L	0.29	52.8	D
	T	0.20	19.9	B	T	0.20	19.9	B	T	0.30	21.2	C	T	0.31	21.3	C
Northbound (to Bruckner Expwy)	T	0.74	30.5	C	T	0.75	30.8	C	T	0.92	42.7	D	T	0.93	43.9	D
Northbound (Service Road)	TR	0.39	22.2	C	TR	0.39	22.3	C	TR	0.36	21.8	C	TR	0.37	21.9	C
Southbound (Mainline)	L	0.75	76.0	E	L	0.76	76.5	E	L	0.53	60.7	E	L	0.54	60.9	E
	T	0.70	29.9	C	T	0.71	30.1	C	T	0.62	27.5	C	T	0.63	27.7	C
Southbound (Service Road)	T	0.45	23.2	C	T	0.45	23.2	C	T	0.43	22.8	C	T	0.43	22.8	C
	TR	0.19	19.6	B	TR	0.19	19.6	B	TR	0.21	19.9	B	TR	0.22	19.9	B
	Intersection		29.6	C	Intersection		29.7	C	Intersection		32.2	C	Intersection		32.6	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.

The facility would be in operation for approximately 22 hours per day, Monday-Saturday. Saturday operations are typically much lower than on weekdays. The facility would be closed on Sundays. The facility's peak hours would take place between 8:00-9:00 AM and 5:00-6:00 PM. As mentioned above, the peak baseline traffic volumes for the study area intersections were determined to take place from 7:45 to 8:45 AM and 5:00 to 6:00 PM, for the morning and evening peak hours, respectively. The project-generated peak hour trips, which are summarized below, were conservatively superimposed onto the 7:45-8:45 AM and 5:00-6:00 PM 2007 No Build network volumes.

In addition to the FedEx facility, trips generated by other uses—previously approved in the *HRY Intermodal Transportation and Distribution Center FEIS* in 1993—which are expected to be built at the HRY in the future or which are currently located at the HRY but are not operating at or near their full potential, were also included in the 2007 Build analysis. These uses include an intermodal terminal, a team track, a waste transfer station, and a distribution warehouse. Both the intermodal terminal and the team track have been built but, currently are not in operation and do not generate any trips. The waste transfer station currently processes 3,000 tons per day (TPD) of waste but, at full operation can process up to 4,000 TPD. The distribution warehouse has not been built but is contemplated to be up to 200,000-square feet. The trips expected to be generated by these uses and by the FedEx facility during the AM and PM peak hours were superimposed on the 7:45 to 8:45 AM and 5:00 to 6:00 PM 2007 No Build network volumes, to create the 2007 Build conditions.

TRIP GENERATION

The FedEx site will initially accommodate 84 delivery vans but, will have the potential to accommodate 156 delivery vans. Although the FedEx HRY facility is not expected to at first realize its full operating levels, for purposes of this traffic impact analysis, the maximum projected trips were conservatively assumed to take place at the facility's completion in late 2007. When the facility is in full operation, it is projected to employ up to 326 employees over various shifts. The majority of these employees represent transfers from other existing FedEx facilities. Based on information provided by FedEx, the proposed facility at maximum build out would operate with approximately 382 delivery van trips, 26 tractor trailer trips, 652 employee trips and 372 customer trips over a 24-hour period. The trips associated with the temporary trailer operations and the trips associated with the initial operations of the facility are expected to generate approximately 68 percent of the trips that the site can potentially generate at the time of full build out. Therefore these temporary trips were not included in the traffic analysis. On weekdays, approximately 64 percent of the total employees would work shifts beginning between 6 AM and 9 AM and approximately 46 percent of the total employees' shifts would end between 4 PM and 7 PM.

The modal split and vehicle occupancy rates for FedEx employees presented in Table A-3 were determined based on the 2000 *U.S. Census* reverse journey-to-work data for nearby census tracts and information provided by FedEx regarding current employees' travel characteristics. Due to the facility's location situated in a primarily industrial area with few public transportation options, the majority of employee and customer trips are expected to be by autos.

The trip generation for both the AM and PM peak hours—based on information provided by FedEx—is summarized below in Table A-4. It is estimated that the facility would generate

Table A-3
Modal Split

Travel Mode	Employees			
	Couriers, Cargo Handlers, & Administration (1)	Management & Staff (2)	Vehicle Maintenance & Drivers (2)	Customers (2)
Auto	75%	100%	100%	100%
Taxi	2%	0%	0%	0%
Subway	11%	0%	0%	0%
Bus	7%	0%	0%	0%
Walk/Other	5%	0%	0%	0%

Employee Vehicle Occupancy = 1.10
(1) 2000 U.S. Census Reverse Journey-to-Work
(2) FedEx Human Resources Department

Table A-4
FedEx Facility–Trip Generation

8 to 9 AM PEAK HOUR						
	Person Trips			Vehicle Trips		
Travel Mode	In	Out	Total	In	Out	Total
Employee Automobile	22	1	23	17	1	18
Delivery Vans	0	156	156	0	156	156
Cargo Trailer Vehicles	0	11	11	0	11	11
Customers	7	7	14	7	7	14
Totals	**29**	**175**	**204**	**24**	**175**	**199**
5 to 6 PM PEAK HOUR						
	Person Trips			Vehicle Trips		
Travel Mode	In	Out	Total	In	Out	Total
Employee Automobile	13	28	41	11	23	34
Delivery Vans	103	5	108	103	5	108
Cargo Trailer Vehicles	0	0	0	0	0	0
Customers	24	24	48	24	24	48
Totals	**140**	**57**	**197**	**138**	**52**	**190**

approximately 199 and 190 vehicle trips during the AM and PM peak hours, respectively, including 156 delivery van trips, 11 tractor trailer trips, and 32 auto trips during the AM peak hour, and 108 delivery van trips and 82 auto trips during the PM peak hour.

The trips generated by the other uses—intermodal terminal, team track, waste transfer station, and distribution warehouse—were estimated based on information presented in the 1993 FEIS. As discussed above, the intermodal terminal and the team track have been built but, currently are not in operation and do not generate any trips. The trips that are expected to be generated by these uses as determined in the 1993 FEIS are included in the project increment. The waste transfer station currently operates at 75 percent of its potential. The additional trips associated with maximum operation of the facility were included in the project increment, based on information outlined in the 1993 FEIS. The trips associated with the unbuilt distribution warehouse were generated based on rates presented in the 1993 FEIS and are also included in the project increment. These trips are summarized below in Table A-5. It is estimated that these

Table A-5
Other HRY Uses–Trip Generation

8 to 9 AM PEAK HOUR						
	Truck Trips			Auto Trips		
Land Use	In	Out	Total	In	Out	Total
Waste Transfer Facility (1)	8	9	17	4	1	5
Intermodal Facility	22	22	44	16	3	19
Team Track	2	2	4	0	0	0
Distribution Warehouse	0	0	0	94	20	114
Totals	**32**	**33**	**65**	**114**	**24**	**138**
5 to 6 PM PEAK HOUR						
	Truck Trips			Auto Trips		
Land Use	In	Out	Total	In	Out	Total
Waste Transfer Facility (1)	3	2	5	1	4	5
Intermodal Facility	22	22	44	5	14	19
Team Track	2	2	4	0	0	0
Distribution Warehouse	17	17	34	29	85	114
Totals	**44**	**43**	**87**	**35**	**103**	**138**

Source: Based on trip data presented in the *Harlem River Yard Intermodal Transportation and Distribution Center FEIS (1993)*
Notes: (1) Trips associated with the Waste Transfer Station were proportioned based on current operating levels and information presented in the 1993 FEIS.

uses would generate 203 and 225 vehicle trips during the AM and PM peak hours respectively, including 138 auto trips and 65 truck trips during the AM peak hour, and 138 auto trips and 87 truck trips during the PM peak hour.

Although, uses currently operating at the HRY were implicitly included in the baseline traffic, Table A-6 presents a comparison of AM peak hour, PM peak hour, and total daily traffic considered in the 1993 FEIS and as presently projected. Although during the AM and PM peak hours the 2006 program will generate 16 and 3 more trips respectively, than the 1993 FEIS, as shown below, the estimated daily traffic expected to be generated by the same HRY uses is significantly lower for this 2006 analysis, than as originally projected in the 1993 FEIS.

Table A-6
Trip Generation Comparison

	1993 FEIS			2006 EAS		
	AM Peak	PM Peak	Total Daily	AM Peak	PM Peak	Total Daily
Totals	386	412	7,541	402	415	3,136

VEHICLE TRIP ASSIGNMENT

Access and egress to the HRY and the FedEx site would be made via St. Anns Avenue. Trip distribution and assignment of delivery vans were primarily based on information provided by FedEx. The delivery vans are expected to primarily serve Manhattan north of West 77th Street and East 81st Street as well as locations in the Bronx and Mount Vernon, New York. Truck and van trips were assigned to designated NYCDOT truck routes and the most direct routes to the project site. The trip distribution and traffic assignment for employee auto trips were based on the existing travel characteristics of FedEx employees to the 34th Street facility as well as the

most direct routes to the project site. Trips made by customers traveling to and from the FedEx HRY site would be primarily local trips and distributed throughout the study area.

Access and egress to the other uses at the HRY would be made via St. Anns Avenue and Alexander Avenue. Trip distribution and assignment of auto and truck trips associated with these uses were primarily based on information presented in the *Harlem River Yard Intermodal Transportation and Distribution Center FEIS (1993).*

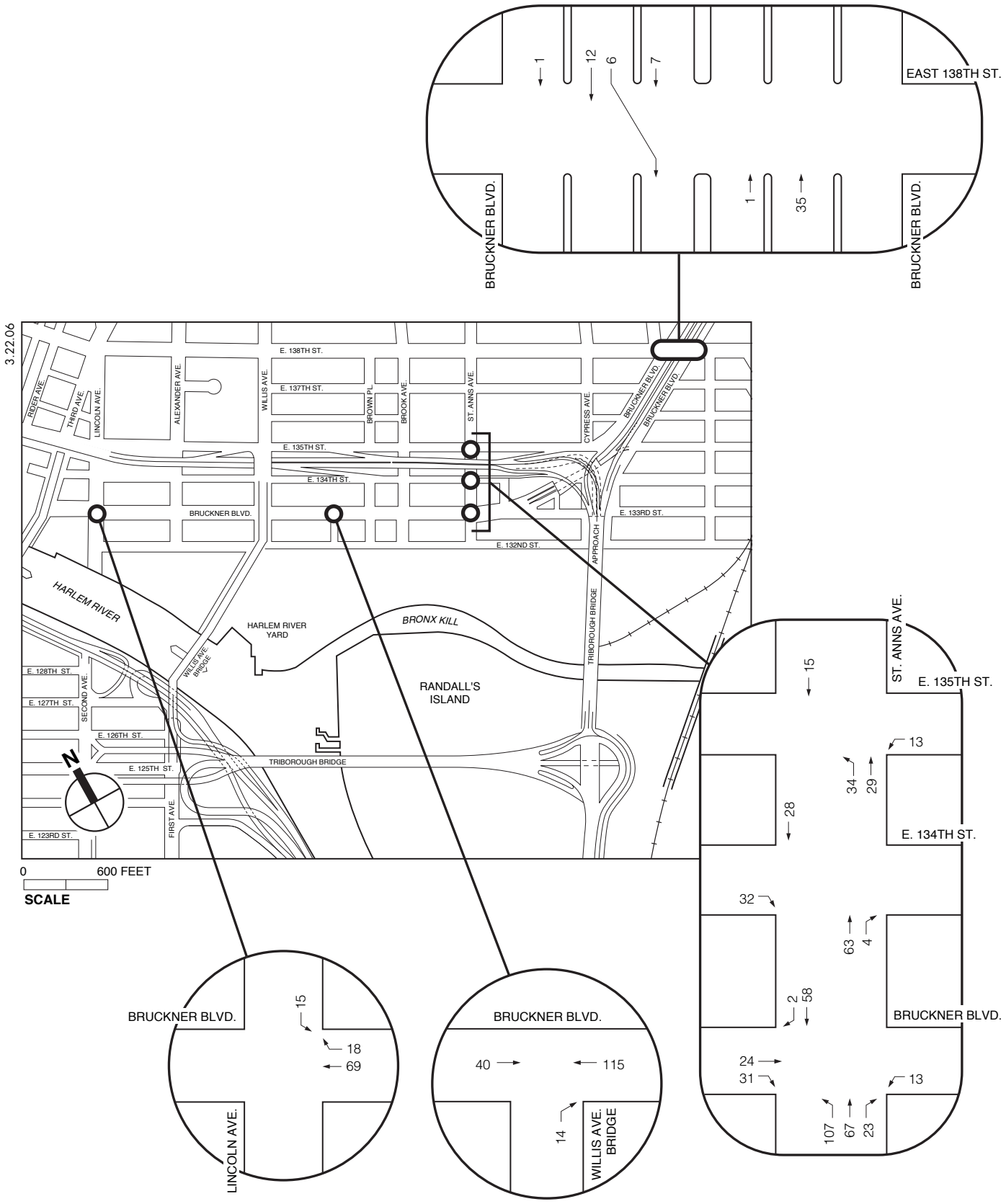
TRAFFIC CONDITIONS

Figures A-6 and A-7 show the estimated cumulative project-generated traffic volumes in the study area during the AM and PM peak hours, respectively. Figures A-8 and A-9 show the estimated Build condition traffic volumes for the AM and PM peak hours, respectively. These volumes include the FedEx facility and all other currently authorized or planned uses at the HRY.

According to the criteria presented in the *CEQR Technical Manual*, traffic impacts are considered significant if the resulting increases in projected delays are 5 seconds or more beyond No Build mid-LOS D (45 seconds of delay). For No Build LOS E, increases of 4 seconds or more are considered significant, and for No Build LOS F, increases of 3 seconds or more are considered significant. If the No Build delay is greater than 120 spv, a 1-second increase in delay resulting from the proposed project would be considered significant. In addition, any deterioration from acceptable LOS A, B, or C in the No Build condition to marginally unacceptable mid-LOS D or unacceptable LOS E or F in the Build condition would be considered significant. In the event of such significant adverse traffic impacts, potential improvement measures would be examined.

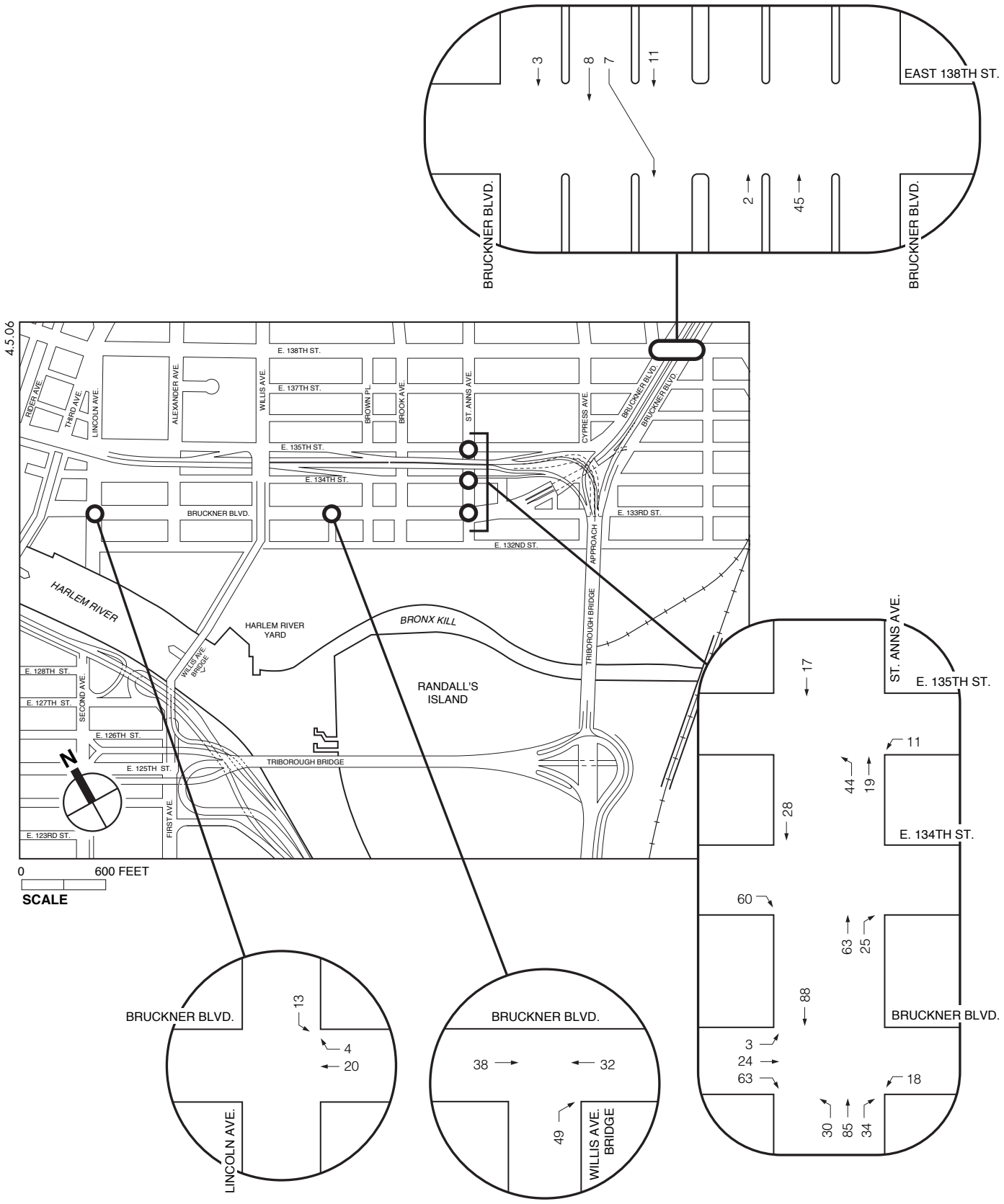
Table A-7 presents a comparison of the No Build and Build conditions for the six analysis locations. As part of the proposed project, certain physical and operational improvements would be made at the intersection of Bruckner Boulevard and St. Anns Avenue, East 134th Street and St. Anns Avenue and at East 138th Street and Bruckner Boulevard to enhance traffic flow for existing and project-generated vehicle trips. Currently, at the intersection of Bruckner Boulevard and St. Anns Avenue, the north and south legs of the intersection are 50 and 49 feet wide, respectively, with approximately 25 feet each available for northbound and southbound traffic. To make more efficient use of the available roadway space, the centerline at the northbound and southbound approaches would be offset by 5 feet each to accommodate a 10-foot exclusive left-turn only lane and a 12-foot shared through and right-turn lane on each approach. This reconfiguration would provide separate storage for left-turn vehicles while maintaining adequate widths for through traffic and parking along both sides of the street. In conjunction with the above, a 3-second shift of green time from the eastbound/westbound phase to the northbound/southbound phase would be required during the AM peak hour and a 2-second shift of green time from the eastbound/westbound phase to the northbound/southbound phase would be required during the PM peak hour.

Additionally, at the intersection of East 134th Street and St. Anns Avenue, a 3-second shift of green time from the northbound/southbound phase to the eastbound phase would be required during the PM peak hour and at the intersection of East 138th Street and Bruckner Boulevard, a 1-second shift of green time from the northbound/southbound left-turn phase to the northbound/southbound phase and a 1-second shift of green time from the eastbound/westbound phase to the northbound/southbound phase would be required during the PM peak hour. With these project related improvements, as summarized in Table A-8, the proposed project would not



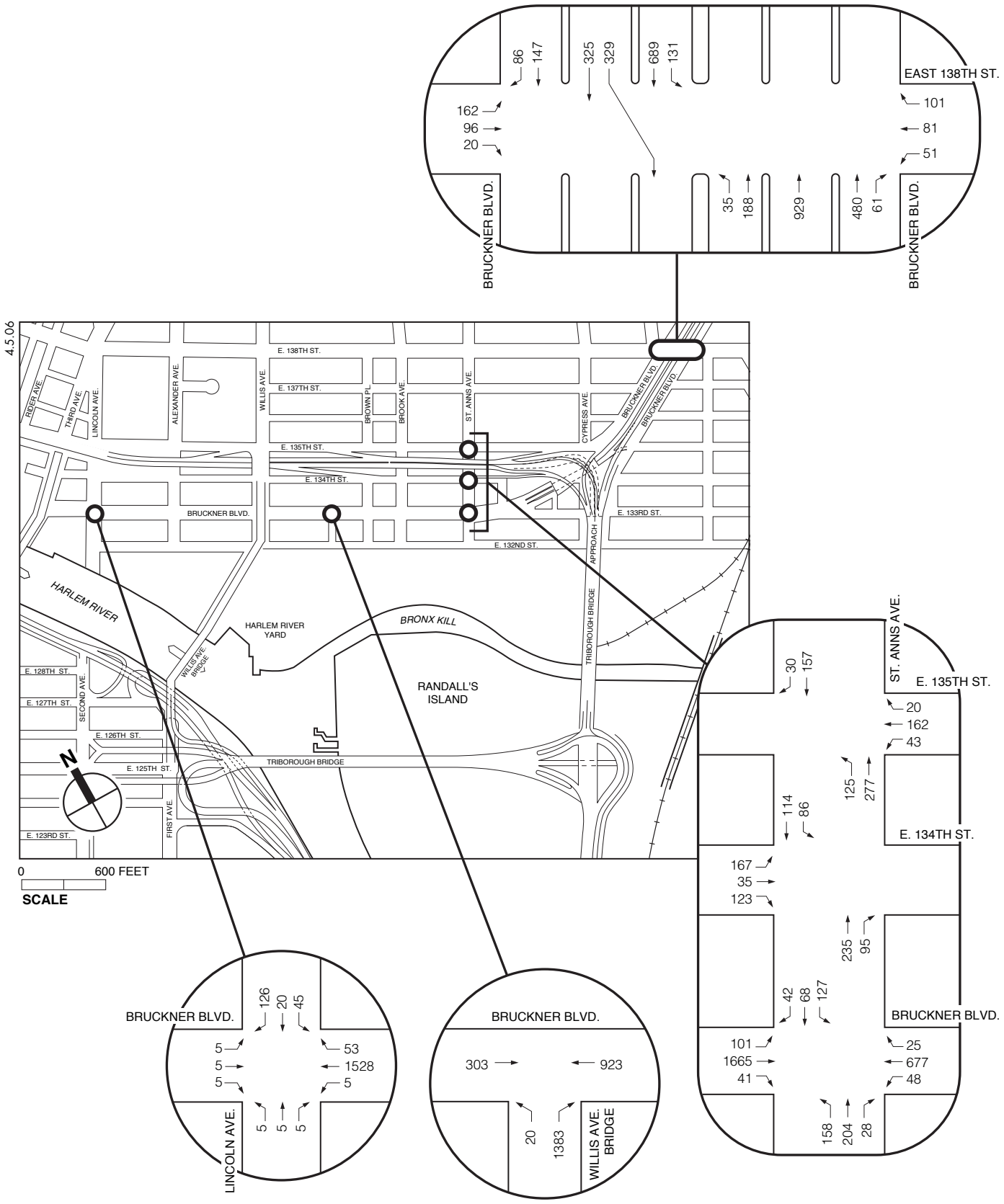
FedEx Facility
Harlem River Yard

Total Project Increment
AM Peak Hour
Figure A-6



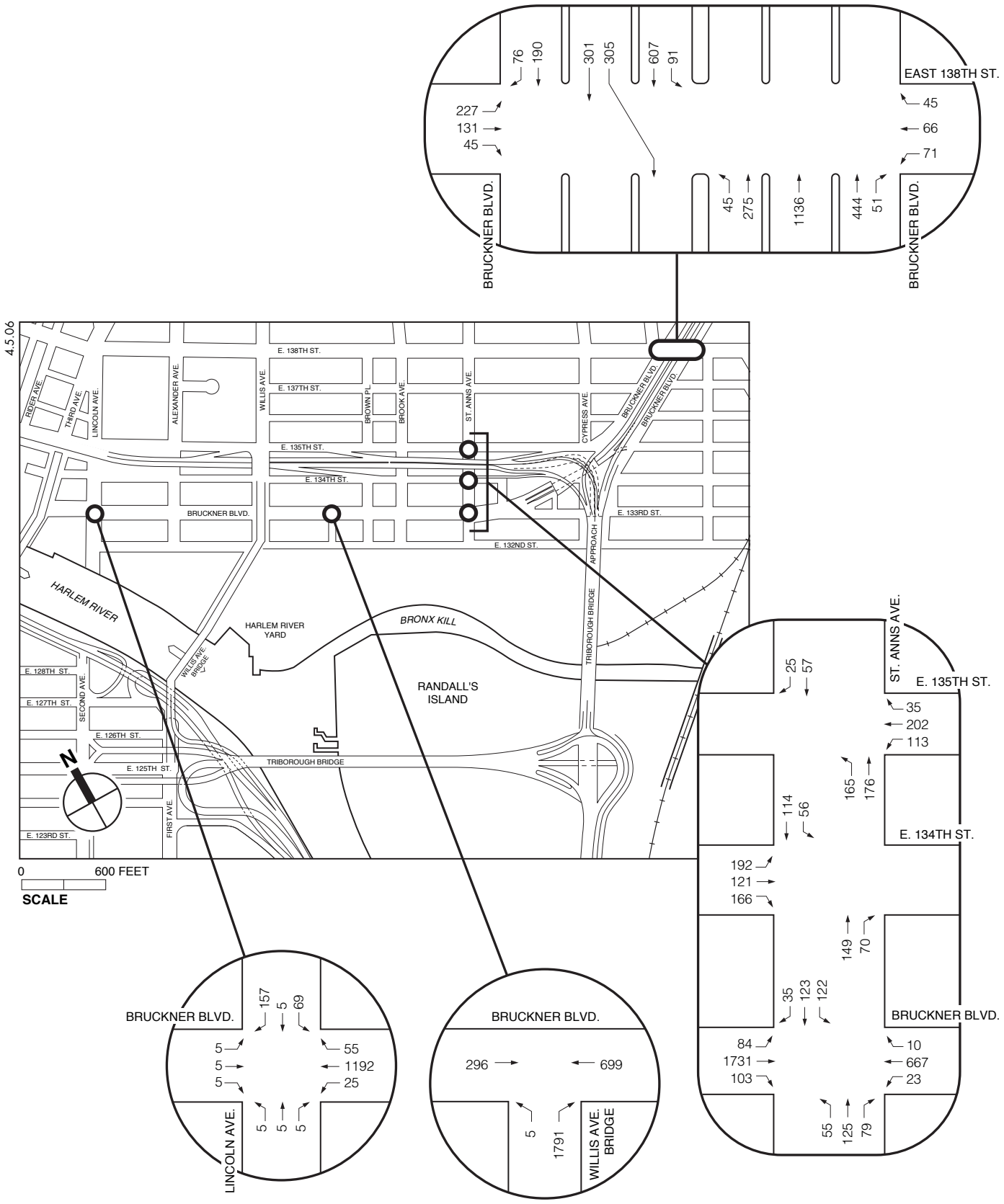
FedEx Facility
Harlem River Yard

Total Project Increment
PM Peak Hour
Figure A-7



FedEx Facility
Harlem River Yard

2007 Build Traffic Volumes
AM Peak Hour
Figure A-8



FedEx Facility
Harlem River Yard

2007 Build Traffic Volumes
PM Peak Hour
Figure A-9

Table A-7
2007 No Build and Build Conditions Level of Service Analysis

Intersection	Peak Hour															
	AM								PM							
	2007 No Build				2007 Build				2007 No Build				2007 Build			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Bruckner Boulevard & Lincoln Avenue																
Eastbound	LTR	0.02	9.3	A	LTR	0.02	9.3	A	LTR	0.02	9.3	A	LTR	0.02	9.3	A
Westbound	LTR	0.79	21.1	C	LTR	0.84	23.2	C	LTR	0.65	17.0	B	LTR	0.67	17.3	B
Northbound	LTR	0.04	29.2	C	LTR	0.04	29.2	C	LTR	0.04	29.2	C	LTR	0.04	29.2	C
Southbound	LTR	0.12	30.5	C	LTR	0.19	31.6	C	LTR	0.17	31.3	C	LTR	0.23	32.5	C
	R	0.36	35.2	D	R	0.36	35.2	D	R	0.45	37.4	D	R	0.45	37.4	D
	Intersection		22.4	C	Intersection		24.3	C	Intersection		19.8	B	Intersection		20.2	C
Bruckner Boulevard & Willis Avenue Bridge																
Eastbound	T	0.52	48.4	D	T	0.63	51.9	D	T	0.50	48.0	D	T	0.61	51.0	D
Westbound	T	0.36	6.6	A	T	0.41	7.0	A	T	0.40	15.8	B	T	0.42	16.1	B
Northbound	L	0.07	40.2	D	L	0.07	40.2	D	L	0.01	24.8	C	L	0.01	24.8	C
	R	0.76	12.3	B	R	0.77	12.5	B	R	0.92	21.4	C	R	0.95	24.9	C
	Intersection		14.5	B	Intersection		15.3	B	Intersection		22.6	C	Intersection		25.4	C
Bruckner Boulevard & St Anns Avenue																
Eastbound	LTR	0.72	15.8	B	LTR	0.79	19.5	B	LTR	0.72	15.5	B	LTR	0.79	18.7	B
Westbound	LTR	0.50	12.0	B	LTR	0.59	15.3	B	LTR	0.37	10.2	B	LTR	0.46	12.3	B
Northbound	LTR	0.58	45.0	D	-	-	-	-	LTR	0.34	38.2	D	-	-	-	-
	-	-	-	-	L	0.63	48.3	D	-	-	-	-	L	0.25	35.8	D
	-	-	-	-	TR	0.65	46.1	D	-	-	-	-	TR	0.64	46.6	D
Southbound	LTR	0.75	59.6	E	-	-	-	-	LTR	0.66	50.2	D	-	-	-	-
	-	-	-	-	L	0.64	51.0	D	-	-	-	-	L	0.58	47.7	D
	-	-	-	-	TR	0.29	34.8	C	-	-	-	-	TR	0.42	38.4	D
	Intersection		19.5	B	Intersection		23.7	C	Intersection		17.5	B	Intersection		21.5	C
East 134th Street & St Anns Avenue																
Eastbound	LTR	0.62	22.9	C	LTR	0.70	25.5	C	LTR	0.90	41.3	D	LTR	0.91	38.7	D
Northbound	TR	0.37	9.6	A	TR	0.46	10.8	B	TR	0.19	7.9	A	TR	0.36	11.3	B
Southbound	LT	0.28	8.8	A	LT	0.32	9.3	A	LT	0.21	8.1	A	LT	0.28	10.4	B
	Intersection		14.8	B	Intersection		16.0	B	Intersection		28.2	C	Intersection		26.3	C
East 135th Street & St Anns Avenue																
Westbound	LTR	0.15	14.4	B	LTR	0.16	14.5	B	LTR	0.27	15.2	B	LTR	0.28	15.3	B
Northbound	LT	0.51	11.8	B	LT	0.64	14.7	B	LT	0.47	11.3	B	LT	0.61	14.2	B
Southbound	TR	0.26	8.6	A	TR	0.28	8.8	A	TR	0.11	7.4	A	TR	0.14	7.6	A
	Intersection		11.8	B	Intersection		13.3	B	Intersection		12.9	B	Intersection		14.0	B
East 138th Street & Bruckner Boulevard																
Eastbound	DefL	0.38	39.1	D	DefL	0.38	39.1	D	DefL	0.55	43.3	D	DefL	0.57	44.7	D
	TR	0.28	37.1	D	TR	0.28	37.1	D	TR	0.44	40.3	D	TR	0.45	41.5	D
Westbound	-	-	-	-	-	-	-	-	DefL	0.17	35.4	D	DefL	0.28	38.8	D
	LTR	0.34	37.5	D	LTR	0.34	37.5	D	TR	0.34	38.9	D	TR	0.36	40.0	D
Northbound (Mainline)	L	0.22	51.1	D	L	0.22	51.1	D	L	0.29	52.8	D	L	0.31	54.6	D
	T	0.20	19.9	B	T	0.21	19.9	B	T	0.31	21.3	C	T	0.30	20.0	C
Northbound (to Bruckner Expwy)	T	0.75	30.8	C	T	0.78	32.3	C	T	0.93	43.9	D	T	0.94	44.3	D
Northbound (Service Road)	TR	0.39	22.3	C	TR	0.39	22.3	C	TR	0.37	21.9	C	TR	0.35	20.5	C
Southbound (Mainline)	L	0.76	76.5	E	L	0.76	76.5	E	L	0.54	60.9	E	L	0.58	64.6	E
	T	0.71	30.1	C	T	0.71	30.4	C	T	0.63	27.7	C	T	0.62	26.3	C
Southbound (Service Road)	T	0.45	23.2	C	T	0.47	23.4	C	T	0.43	22.8	C	T	0.43	21.7	C
	TR	0.19	19.6	B	TR	0.19	19.6	B	TR	0.22	19.9	B	TR	0.21	18.7	B
	Intersection		29.7	C	Intersection		30.1	C	Intersection		32.6	C	Intersection		32.4	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service.

Table A-8
Project Improvements

Intersection	Project Improvements	
	AM Peak Hour	PM Peak Hour
Bruckner Boulevard & St. Anns Avenue	Offset the centerline at the NB and SB approaches by 5 feet and restripe both approaches with a 10' left-turn lane a 12' through and right-turn lane. Shift 3 seconds of green time from the EB/WB phase to the NB/SB phase.	Offset the centerline at the NB and SB approaches by 5 feet and restripe both approaches with a 10' left-turn lane and a 12' through and right-turn lane. Shift 2 seconds of green time from the EB/WB phase to the NB/SB phase.
East 134th Street & St. Anns Avenue	None required.	Shift 3 seconds of green time from the NB/SB phase to the EB phase.
East 138th Street & Bruckner Boulevard	None required.	Shift 1-second of green time from the NB/SB left-turn phase to the NB/SB phase and shift 1-second of green time from the EB/WB phase to the NB/SB phase.

result in any significant adverse traffic impacts. These improvements are subject to review and approval by NYCDOT.

PARKING

As currently contemplated, overnight parking for the 156 delivery vans would be accommodated completely indoors. At maximum build out, there would be 183 parking spaces provided outdoors, including areas for customer parking, employee parking, and parking for vehicles waiting to be serviced at the vehicle maintenance facility. In addition, there would be 52 spaces provided for tractor trailer trucks. A parking accumulation of the projected trips shows that a maximum utilization of 91 percent of the 183 available parking spaces would be realized after the arrival of most of the site's employees and prior to the morning deployment of FedEx delivery vans. Since all site-related vehicles would be accommodated on site, the proposed project would not generate additional demand for nearby off-site parking spaces or result in the potential for significant adverse parking impacts.

PEDESTRIAN SAFETY

The *CEQR Technical Manual* considers a location to be a high-pedestrian-accident location if it has 5 or more pedestrian accidents in any year in the most recent three year period. Data on traffic accidents at the study area intersections were compiled from New York State Department of Transportation (NYSDOT) records for the period of June 1999 through May 2002, and based on this information, none of the intersections in the study area are considered high vehicle/pedestrian accident locations. Since the proposed project would not generate any perceptible increases in the area's pedestrian traffic or a substantial amount of vehicular traffic passing sensitive land uses or through critical intersections, its operations are not expected to result in the potential for significant adverse pedestrian safety impacts.

CONCLUSION

Accounting for updated background traffic levels, different analysis methodologies, and new traffic attributed to the proposed project, the analysis of study area intersections shows that the relocation of FedEx operations from the 34th Street facility to the HRY would not result in any significant adverse traffic impacts. The analysis also showed that previously recommended traffic mitigation measures that have not yet been implemented, including the left-turn prohibition along Bruckner Boulevard at St. Anns Avenue, would not be required as part of this proposed project. ✷

A. INTRODUCTION

This section examines the potential for air quality impacts from the proposed FedEx Harlem River Yard (HRY) project. Air quality impacts can be either direct or indirect. Direct impacts stem from emissions generated by stationary sources at the project site, such as emissions from fuel burned on site for heating, ventilation, and air conditioning (HVAC) systems. Indirect impacts are caused by potential emissions from nearby existing stationary sources and the potential for emissions due to mobile sources/vehicles generated by the proposed project.

The proposed project is anticipated to result in an increase of more than 100 vehicles during a peak hour at an intersection, the *City Environmental Quality Review (CEQR) Technical Manual* threshold. In addition, the number of diesel trucks during the peak hour is predicted to exceed the City's threshold for conducting a microscale analysis for respirable particulate matter ($PM_{2.5}$) based on the current interim guidance criteria. Consequently, CO and $PM_{2.5}$ impacts from mobile sources associated with the proposed project were determined.

The results discussed below show that the maximum predicted CO and $PM_{2.5}$ concentrations from mobile sources with the proposed project would be well below the corresponding ambient air standards. Thus, the proposed project would not have significant adverse impacts from mobile source emissions. A stationary source screening analysis determined that there would be no potential significant adverse air quality impacts from the proposed project's HVAC systems.

B. POLLUTANTS FOR ANALYSIS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Typically, ambient concentrations of carbon monoxide (CO) are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs) and nitrogen oxides (NO and NO_2, collectively referred to as NO_x) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO_2) are associated mainly with stationary sources, and sources utilizing non–road diesel such as diesel trains, marine engines and non–road vehicles such as construction engines, but diesel-powered vehicles, primarily heavy duty trucks and buses, also currently contribute somewhat to these emissions; diesel fuel regulations, which will begin to take effect in 2006 will reduce SO_2 emissions from mobile sources to extremely low levels. PM is emitted from both stationary and mobile sources. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and VOCs, emitted mainly from industrial processes and mobile sources.

CARBON MONOXIDE

CO, a colorless and odorless gas, is produced in the urban environment, primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, approximately 80 to 90 percent of CO emissions are from motor vehicles. Since CO is a reactive gas that does not persist in the atmosphere, CO concentrations can vary greatly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be predicted on a local, or microscale, basis.

The proposed project would result in changes in traffic patterns and an increase in traffic volume in the study area and could potentially result in local increases in CO concentrations. Therefore, a mobile source analysis was conducted at a critical intersection in the study area to evaluate future CO concentrations with and without the proposed project.

NITROGEN OXIDES, VOCS, AND OZONE

NO_x are of principal concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow, and occur as the pollutants are advected downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NO_x and VOC emissions from all sources are therefore generally examined on a regional basis. The contribution of any action or project to regional emissions of these pollutants would include any added stationary or mobile source emissions; the change in regional mobile source emissions of these pollutants would be related to the addition or subtraction of the total vehicle miles traveled on various roadway types throughout the New York metropolitan area, which is designated as a moderate non-attainment area for ozone by EPA.

The proposed project would not have a significant effect on the overall volume of vehicular travel in the metropolitan area; therefore, no measurable impact on regional NO_x emissions or on ozone levels is predicted. An analysis of project-related emissions of these pollutants from mobile sources was therefore not warranted. In addition, there is a standard for average annual NO_2 concentrations, which is normally examined only for fossil fuel energy sources.

Potential impacts from the fuel to be burned for the proposed project's HVAC systems were evaluated.

LEAD

Airborne lead emissions are principally associated with industrial sources and motor vehicles that use gasoline containing lead additives. Most U.S. vehicles produced since 1975, and all produced after 1980, are designed to use unleaded fuel. As these newer vehicles have replaced the older ones, motor vehicle related lead emissions have decreased. As a result, ambient concentrations of lead have declined significantly. Nationally, the average measured atmospheric lead level in 1985 was only about one–quarter the level in 1975.

In 1985, EPA announced new rules drastically reducing the amount of lead permitted in leaded gasoline. The maximum allowable lead level in leaded gasoline was reduced from the previous limit of 1.1 to 0.5 grams per gallon effective July 1, 1985, and to 0.1 grams per gallon effective January 1, 1986. Monitoring results indicate that this action has been effective in significantly reducing atmospheric lead concentrations. Effective January 1, 1996, the Clean Air Act banned

the sale of the small amount of leaded fuel that was still available in some parts of the country for use in on-road vehicles, concluding the 25–year effort to phase out lead in gasoline. Even at locations in the New York City area where traffic volumes are very high, atmospheric lead concentrations are far below the national standard of 1.5 micrograms per cubic meter (3–month average).

No significant sources of lead are associated with the proposed project, and, therefore, an analysis was not warranted.

RESPIRABLE PARTICULATE MATTER—PM_{10} AND $PM_{2.5}$

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural and anthropogenic). Natural sources include the condensed and reacted forms of naturally occurring volatile organic compounds, salt particles resulting from the evaporation of sea spray; wind–borne pollen, fungi, molds, algae, yeasts, rusts, bacteria, and material from live and decaying plant and animal life; particles eroded from beaches, soil, and rock; and particles emitted from volcanic and geothermal eruptions and from forest fires; naturally occurring PM is generally greater than 2.5 micrometers in diameter. Major anthropogenic sources include the combustion of fossil fuels (e.g., vehicular exhaust, power generation, boilers, engines and home heating), chemical and manufacturing processes, all types of construction, agricultural activities, as well as wood–burning stoves and fireplaces. PM also acts as a substrate for the adsorption of other pollutants, often toxic and some likely carcinogenic compounds.

As described below, PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers, or $PM_{2.5}$, and particles with an aerodynamic diameter of less than or equal to 10 micrometers, or PM_{10}, which includes $PM_{2.5}$. $PM_{2.5}$ has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorbed to the surfaces of the particles, and is also extremely persistent in the atmosphere. $PM_{2.5}$ is mainly derived from combustion material that has volatilized and then condensed to form primary particulate matter (often soon after the release from an exhaust pipe or stack) or from precursor gases reacting in the atmosphere to form secondary PM.

Diesel–powered vehicles, especially heavy duty trucks and buses, are a significant source of respirable PM, most of which is $PM_{2.5}$; PM concentrations may, consequently, be locally elevated near roadways with high volumes of heavy diesel–powered vehicles. The total number of diesel trucks during the peak hour at an intersection is predicted to exceed the CEQR interim guidance criteria threshold for conducting a $PM_{2.5}$ analysis. An analysis was conducted to assess the worst case $PM_{2.5}$ impacts due to the increased traffic associated with the proposed project. A PM_{10} analysis was not performed, however, since the proposed project is not expected to significantly affect existing PM10 levels from mobile sources in the vicinity of the proposed project. In addition, most of the PM_{10} emitted is in the $PM_{2.5}$ range, consequently, $PM_{2.5}$ is considered a surrogate for PM_{10}.

SULFUR DIOXIDE

SO_2 emissions are primarily associated with the combustion of sulfur–containing fuels: oil and coal. Due to the federal restrictions on the sulfur content in diesel fuel for on–road vehicles, no significant quantities are emitted from vehicular sources. Monitored SO_2 concentrations in New

York City are below the national standards. Vehicular sources of SO_2 are not significant and therefore, an analysis of this pollutant from mobile sources is not warranted.

The proposed project would use natural gas exclusively for the HVAC systems. Natural gas contains a trace amount of sulfur; therefore, stationary sources of SO_2 emissions are not a concern.

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the Clean Air Act, primary and secondary National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: CO, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, and lead. The primary standards protect public health and represent levels at which there are no known significant effects on human health. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary and secondary standards are the same for NO_2, ozone, lead, and PM, and there is no secondary standard for CO. EPA promulgated additional NAAQS, which became effective September 16, 1997: a new 8–hour standard for ozone, which replaced the previous 1–hour standard, and new 24–hour and annual standards for $PM_{2.5}$ adopted in addition to the PM_{10} standards. The standards are presented in Table B–1. These standards have also been adopted as the ambient air quality standards for New York State

On December 20, 2005, EPA proposed revisions to the NAAQS for PM. The proposal includes lowering the level of the 24-hour $PM_{2.5}$ standard from the current level of 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$, retaining the level of the annual fine standard at 15 $\mu g/m^3$, and setting a new 24-hour standard for inhalable coarse particles, which include particles larger than 2.5 micrometers and smaller than 10 micrometers ($PM_{10-2.5}$), at 70 $\mu g/m^3$. EPA is not proposing an annual standard for $PM_{10-2.5}$. EPA is proposing to revoke the current 24-hour PM_{10} standards as soon as $PM_{10-2.5}$ determinations are made (see "NAAQS Attainment Status And State Implementation Plans" below), except in areas with a population of 100,000 or more that have violating monitors, and to revoke the annual PM_{10} standard immediately. EPA is also soliciting public comment on a 24-hour $PM_{2.5}$ standard as low as 30 $\mu g/m^3$ and an annual standard as low as 13 $\mu g/m^3$, and will take comment on leaving the 24-hour $PM_{2.5}$ standard at its current level (65 $\mu g/m^3$) or setting it at levels ranging from 25 to 65 $\mu g/m^3$ or other alternative approaches to the 24-hour standard, and on setting the annual standard as low as 12 $\mu g/m^3$. EPA is also considering a secondary standard designed to address visibility in urban areas, within a range of 20 to 30 $\mu g/m^3$, and on averaging times for the standard within a range of four to eight daylight hours. EPA proposes to finalize the new standards by September, 2006.

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLAN (SIP)

The Clean Air Act, as amended in 1990 (CAA) defines non–attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non–attainment by EPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA.

EPA has recently re–designated New York City as in attainment for CO. The CAA requires that a maintenance plan ensure continued compliance with the CO NAAQS for former non–attainment areas. New York City is also committed to implementing site–specific control

measures throughout the city to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period.

Manhattan has been designated as a moderate NAA for PM_{10}. On December 17, 2004, EPA took final action designating the five boroughs of New York City, and Nassau, Suffolk, Rockland, Westchester and Orange counties as $PM_{2.5}$ non-attainment areas under the CAA. State and local governments are required to develop implementation plans designed to meet the standards by early 2008, which will be designed to meet the standards by 2010. The future revisions to the PM standards would require further updates to the SIP.

Nassau, Rockland, Suffolk, Westchester and the five boroughs of New York City had been designated as severe non–attainment for the previous ozone 1–hour standard. In November 1998, New York State submitted its *Phase II Alternative Attainment Demonstration for Ozone*, which was finalized and approved by EPA effective March 6, 2002, addressing attainment of the 1–hour ozone NAAQS by 2007. New York State recently submitted revisions to the SIP; these SIP revisions included additional emission reductions that EPA requested to demonstrate attainment of the standard, and an update of the SIP estimates using the latest versions of the mobile source emissions model, MOBILE6.2, and the non–road emissions model, NONROAD—which have been updated to reflect current knowledge of engine emissions, and the latest mobile and non–road engine emissions regulations. On April 15, 2004, EPA designated these same counties as moderate non–attainment for the new 8–hour ozone standard which became effective as of June 15, 2004 (the entire Orange county was moved to the Poughkeepsie moderate non–attainment area for 8–hour ozone). EPA revoked the 1–hour standard in June, 2005; however, the specific control measures for the 1–hour standard included in the SIP will be required to stay in place until the 8–hour standard is attained. The discretionary emissions reductions in the SIP would also remain but could be revised or dropped based on modeling. A new SIP for ozone will be adopted by the state no later than June 15, 2007, with a target attainment deadline of June 15, 2010.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

Any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see Table B-1) would be deemed to have a potential significant adverse impact. In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in non–attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

New York City has developed *de minimis* criteria to assess the significance of the incremental increase in CO concentrations that would result from proposed projects or actions, as set forth in the *CEQR Technical Manual*. These criteria set the minimum change in CO concentration that defines a significant environmental impact. Significant increases of CO concentrations in New York City are defined as: (1) an increase of 0.5 ppm or more in the maximum 8–hour average CO concentration at a location where the predicted No Action 8–hour concentration is equal to or between 8 and 9 ppm; or (2) an increase of more than half the difference between baseline (i.e., No Action) concentrations and the 8–hour standard, when No Action concentrations are below 8.0 ppm.

Table B–1
Ambient Air Quality Standards

Pollutant	Primary		Secondary	
	ppm	µg/m^3	ppm	µg/m^3
Carbon Monoxide (CO)				
Maximum 8–Hour Concentration[1]	9	10,000	None	
Maximum 1–Hour Concentration[1]	35	40,000		
Lead				
Maximum Arithmetic Mean Averaged Over 3 Consecutive Months	NA	1.5	NA	1.5
Nitrogen Dioxide (NO_2)				
Annual Arithmetic Average	0.053	100	0.053	100
Ozone (O_3)				
8–Hour Average[2]	0.08	157	0.08	157
Total Suspended Particles (TSP)				
Annual Mean Rural Open Space Rural Residential Urban Residential Urban Industrial	NA	 45 55 65 75	None	
Maximum 24–Hour Concentration	NA	250		
Respirable Particulate Matter (PM_{10})				
Average of 3 Annual Arithmetic Means	NA	50	NA	50
24–Hour Concentration[1]	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Average of 3 Annual Arithmetic Means	NA	15	NA	15
24–Hour Concentration[3]	NA	65	NA	65
Sulfur Dioxide (SO_2)				
Annual Arithmetic Mean	0.03	80	NA	NA
Maximum 24–Hour Concentration[1]	0.14	365	NA	NA
Maximum 3–Hour Concentration[1]	NA	NA	0.50	1,300

Notes: ppm – parts per million
µg/m^3 – micrograms per cubic meter
NA – not applicable

Particulate matter concentrations are in µg/m^3. Concentrations of all gaseous pollutants are defined in ppm —– approximately equivalent concentrations in µg/m^3 are presented.

TSP levels are regulated by a New York State Standard only. All other standards are National Ambient Air Quality Standards (NAAQS).

[1] Not to be exceeded more than once a year.
[2] Three–year average of the annual fourth highest daily maximum 8–hr average concentration.
[3] Not to be exceeded by the 98th percentile averaged over 3 years.

Sources: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards;
6 NYCRR Part 257: Air Quality Standards.

INTERIM GUIDANCE CRITERIA REGARDING $PM_{2.5}$ IMPACTS

NYSDEC has published a policy to provide interim direction for evaluating $PM_{2.5}$ impacts. This policy would apply only to facilities applying for permits or major permit modification under the State Environmental Quality Review Act (SEQRA) that emit 15 tons of PM_{10} or more annually. The interim guidance policy states that such a project will be deemed to have a potentially significant adverse impact if the project's maximum predicted impacts are predicted to increase $PM_{2.5}$ concentrations by more than 0.3 $\mu g/m^3$ averaged annually or more than 5 $\mu g/m^3$ on a 24–hour basis. Projects that exceed either the annual or 24–hour threshold will be required to prepare an Environmental Impact Statement (EIS) to assess the severity of the impacts, to evaluate alternatives, and to employ reasonable and necessary mitigation measures to minimize the $PM_{2.5}$ impacts of the source to the maximum extent practicable.

The New York City Department of Environmental Protection (NYCDEP) is currently employing interim guidance criteria for evaluating the potential $PM_{2.5}$ impacts from NYCDEP projects under CEQR. The interim guidance criteria for determining the potential for significant adverse impacts from $PM_{2.5}$ are as follows:

- Predicted incremental impacts of $PM_{2.5}$ greater than 5 $\mu g/m^3$ averaged over a 24-hour (daily) period at a discrete location of public access, either at ground or elevated levels (microscale analysis); and
- Predicted incremental ground-level impacts of $PM_{2.5}$ greater than 0.1 $\mu g/m^3$ on an annual average neighborhood-scale basis (i.e., for stationary sources, the computed annual concentration averaged over receptors placed over a one kilometer by one kilometer grid, centered on the location where the maximum impact is predicted or, for mobile sources, at a distance of at least 15 meters from an arterial roadway).

In addition, NYSDEC considers incremental annual impacts of $PM_{2.5}$ greater than 0.3 $\mu g/m^3$ from stationary sources, at any discrete ground-level or elevated location as having a potential for significant impact.

Actions that would increase $PM_{2.5}$ concentrations by more than the interim guidance criteria above would be considered to have the potential to result in significant adverse impacts, depending upon the probability of occurrence, the projected duration of such impacts, the magnitude of the area and the potential number of people affected. NYCDEP recommends that actions subject to CEQR that would potentially cause exceedance of these criteria prepare an environmental impact statement and examine potential measures to reduce or eliminate such impacts.

The above NYCDEP and NYSDEC interim guidance criteria have been used for the purpose of evaluating the significance of predicted impacts of the proposed project on $PM_{2.5}$ concentrations from mobile sources, and determine the need to minimize PM emissions from the proposed project.

C. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

MOBILE SOURCES

INTRODUCTION

The prediction of vehicle–generated CO and PM emissions and their dispersion in an urban environment incorporates meteorological phenomena, traffic conditions, and physical configurations. Air pollutant dispersion models mathematically simulate how traffic, meteorology, and geometry combine to affect pollutant concentrations. The mathematical expressions and formulations contained in the various models attempt to describe an extremely complex physical phenomenon as closely as possible. However, because all models contain simplifications and approximations of actual conditions and interactions and it is necessary to predict the reasonable worst case condition, most of these dispersion models predict conservatively high concentrations of pollutants, particularly under adverse meteorological conditions.

The mobile analysis for the proposed project employs a model approved by EPA that has been widely used for evaluating air quality impacts of projects in New York City, other parts of New York State, and throughout the country. The modeling approach includes a series of conservative assumptions relating to meteorology, traffic, and background concentration levels resulting in a conservatively high estimate of expected pollutant concentrations that could ensue from the proposed project. The assumptions used in the PM analysis were based on the latest $PM_{2.5}$ interim guidance developed by the NYCDEP.

DISPERSION MODEL FOR MICROSCALE ANALYSES

Maximum CO concentrations adjacent to streets near the project site, resulting from vehicle emissions, were predicted using the CAL3QHC model Version 2.0.[1] The CAL3QHC model employs a Gaussian (normal distribution) dispersion assumption and includes an algorithm for estimating vehicular queue lengths at signalized intersections. CAL3QHC predicts emissions and dispersion of CO from idling and moving vehicles. The queuing algorithm includes site–specific traffic parameters, such as signal timing and delay calculations (from the 2000 *Highway Capacity Manual* traffic forecasting model), saturation flow rate, vehicle arrival type, and signal actuation (i.e., pre-timed or actuated signal) characteristics to accurately predict the number of idling vehicles. The CAL3QHC model has been updated with an extended module, CAL3QHCR, which allows for the incorporation of hourly meteorological data into the modeling, instead of worst-case assumptions regarding meteorological parameters. This refined version of the model, CAL3QHCR, is employed if maximum predicted future CO concentrations are greater than the applicable ambient air quality standards or when *de minimis* thresholds are exceeded using the first-level CAL3QHC modeling.

To determine motor vehicle generated $PM_{2.5}$ concentrations adjacent to streets near the proposed project area, the CAL3QHCR model was applied. This refined version of the model can utilize

[1] *User's Guide to CAL3QHC, A Modeling Methodology for Predicted Pollutant Concentrations Near Roadway Intersections,* Office of Air Quality, Planning Standards, EPA, Research Triangle Park, North Carolina, Publication EPA-454/R-92-006.

hourly traffic and meteorology data, and is therefore more appropriate for calculating 24-hour and annual average concentrations.

METEOROLOGY

In general, the transport and concentration of pollutants from vehicular sources are influenced by three principal meteorological factors: wind direction, wind speed, and atmospheric stability. Wind direction influences the accumulation of pollutants at a particular prediction location (receptor), and atmospheric stability accounts for the effects of vertical mixing in the atmosphere.

Tier I Analyses—CAL3QHC

CO calculations were performed using the CAL3QHC model. In applying the CAL3QHC model, the wind angle was varied to determine the wind direction resulting in the maximum concentrations at each receptor.

Following the EPA guidelines,[1] CO computations were performed using a wind speed of 1 meter per second, and the neutral stability class D. The 8-hour average CO concentrations were estimated by multiplying the predicted 1-hour average CO concentrations by a factor of 0.70 to account for persistence of meteorological conditions and fluctuations in traffic volumes. A surface roughness of 3.21 meters was chosen to account for persistence of meteorological conditions and fluctuations in traffic volumes. At each receptor location, concentrations were calculated for all wind directions, and the highest predicted concentration was reported, regardless of frequency of occurrence. These assumptions ensured that worst-case meteorology was used to estimate impacts.

Tier II Analyses—CAL3QHCR

A Tier II analysis performed with the CAL3QHCR model, which includes the modeling of hourly concentrations based on hourly traffic data and five years of monitored hourly meteorological data, was performed to predict maximum, and 24-hour and annual average $PM_{2.5}$ levels. The data consists of surface data collected at LaGuardia Airport and upper air data collected at Brookhaven, New York for the period 2000-2004. All hours were modeled, and the highest resulting concentration for each averaging period is presented.

ANALYSIS YEAR

As noted in Attachment A, "Traffic and Parking," although the FedEx distribution warehouse facility is not expected to be at full operations by 2007, for purposes of the traffic impact analysis, the maximum projected trips were conservatively assumed to take place at the facility's completion in late 2007. Thus, the CO microscale analyses were performed for the 2007 analysis year. The future analysis was performed both without the proposed project (the No Build condition) and with the proposed project (the Build condition).

[1] *Guidelines for Modeling Carbon Monoxide from Roadway Intersections*, EPA Office of Air Quality Planning and Standards, Publication EPA-454/R-92-005.

VEHICLE EMISSIONS DATA

Engine Emissions

Vehicular CO and $PM_{2.5}$ emission factors were computed using the most current EPA mobile source emissions model, MOBILE6.2.[1] This emissions model is capable of calculating engine emission factors for various vehicle types, based on the fuel (gasoline, diesel, or natural gas), meteorological conditions, vehicle speeds, vehicle age, roadway types, number of starts per day, and engine soak time, and various other factors that influence emissions, such as inspection maintenance programs. The inputs and use of MOBILE6.2 incorporates the most current guidance available from the NYSDEC and NYCDEP.

Vehicle classification data were based on field studies. The general categories of vehicle types for specific roadways were further divided into subcategories based on their relative fleet-wide breakdown.[2] To ensure that the maximum emission rates from vehicles associated with the proposed project were determined, all FedEx delivery vans were classified as light-duty gas trucks for the CO analysis, and 10 percent were classified as light-duty diesel trucks for the PM analysis.

Appropriate credits were used to accurately reflect the inspection and maintenance program. The inspection and maintenance programs require inspections of automobiles and light trucks to determine if pollutant emissions from the vehicles' exhaust systems are below emission standards. Vehicles failing the emissions test must undergo maintenance and pass a repeat test to be registered in New York State.

An ambient temperature of 43" Fahrenheit was assumed for the emission computations. The use of this temperature is recommended in the *CEQR Technical Manual* for the borough of the Bronx and is consistent with current NYCDEP guidance.

Road Dust

In accordance with the NYCDEP $PM_{2.5}$ interim guidance criteria methodology, emission rates were determined with fugitive road dust to account for their impacts in local microscale analyses. However, fugitive road dust was not included in the neighborhood scale $PM_{2.5}$ microscale analysis, since it is considered to be an insignificant contribution on that scale.

TRAFFIC DATA

Traffic data for the air quality analysis were derived from existing traffic counts, projected future growth in traffic, and other information developed as part of the traffic analysis for the proposed project (see Attachment A, "Traffic and Parking"). Traffic data for the existing and future without and with the proposed project were employed in the respective air quality modeling scenarios. The weekday AM (8 to 9 AM) and PM (5 to 6 PM) peak periods were subjected to microscale analysis. These time periods were selected for the mobile source analysis because

[1] EPA, User's Guide to MOBILE6.1 and MOBILE6.2: Mobile Source Emission Factor Model, EPA420-R-02-028, October 2002.

[2] The MOBILE6.2 emissions model utilizes 28 vehicle categories by size and fuel. Traffic counts and predictions are based on broader size categories, and then broken down according to the fleet-wide distribution of subcategories and fuel types (diesel, gasoline, or alternative).

they produce the maximum anticipated project–generated traffic and therefore have the greatest potential for significant air quality impacts.

For particulate matter, the peak morning, midday, and evening period traffic volumes were used as a baseline; traffic volumes for other hours due to No Build traffic and the project were determined by adjusting the peak period volumes by the 24-hour distributions of actual vehicle counts collected for the project. 24-hour $PM_{2.5}$ impacts were determined by using the 24-hour distribution associated with the highest total daily vehicle count; for annual impacts, average weekday and weekend 24-hour distributions were used to more accurately simulate traffic patterns over longer periods.

BACKGROUND CONCENTRATIONS

Background concentrations are those pollutant concentrations not directly accounted for through the modeling analysis, which directly account for vehicular emissions on the streets within 1,000 feet and in the line-of-sight of the receptor location. Background concentrations must be added to modeling results to obtain total pollutant concentrations at a study site.

The 8-hour average background concentration used in this analysis was 2.0 ppm for the 2007 predictions. This value, obtained from NYCDEP, is based on CO concentrations measured at NYSDEC monitoring stations and is adjusted to reflect the reduced vehicular emissions expected in the analysis year. For purposes of this adjustment, based on EPA guidance, it was assumed that 20 percent of the background value is caused by stationary source emissions that have remained relatively unchanged with time and that 80 percent of the background value is caused by mobile sources that decrease with time. This decrease reflects the increasing numbers of federally mandated lower-emission vehicles that are projected to enter the vehicle fleet as older, higher-polluting vehicles are retired (i.e., vehicle turnover), and the continuing benefits of the New York State inspection and maintenance program.

For $PM_{2.5}$, background concentrations are not considered, since impacts are determined on an incremental basis only.

ANALYSIS SITE

One intersection was selected for a CO microscale analysis, at St. Anns Avenue and Bruckner Boulevard. This intersection was selected because it is the location in the study area where the largest levels of project–generated traffic are expected, and, therefore, where the greatest air quality impacts and maximum changes in the concentrations would be expected.

RECEPTOR LOCATIONS

Multiple receptors (i.e. precise locations at which concentrations are predicted) were modeled at the selected site; receptors were placed along the approach and departure links at spaced intervals. The receptors were placed at sidewalk or roadside locations with continuous public access at the selected intersection. Receptors in the annual $PM_{2.5}$ neighborhood scale model were placed at a distance of 15 meters, from the nearest moving lane, based on the NYCDEP procedure for neighborhood scale corridor $PM_{2.5}$ modeling.

STATIONARY SOURCES

A screening analysis was performed to assess air quality impacts associated with emissions from the HVAC systems of the proposed project. The methodology described in the *CEQR Technical*

Manual was used for the analysis, which determines the threshold of development size below which the action would not have a significant adverse impact. The screening procedures utilize information regarding the type of fuel to be burned, the maximum development size, and the HVAC exhaust stack height to evaluate whether a significant adverse impact is likely. Based on the distance from the development to the nearest building of similar or greater height, if the maximum development size is greater than the threshold size in the *CEQR Technical Manual,* there is the potential for significant air quality impacts, and a refined dispersion modeling analysis would be required. Otherwise, the source passes the screening analysis, and no further analysis is required.

D. FUTURE WITHOUT THE PROPOSED PROJECT

MOBILE SOURCE ANALYSIS

CO concentrations without the proposed project were determined for the 2007 analysis year using the modeling methodology previously described. Table B-2 shows future maximum predicted 8-hour average CO concentrations without the proposed project (i.e., 2007 No Build values) at the analysis intersection in the project study area. The value shown is the highest predicted concentration at the intersection for any of the time periods analyzed. Note that $PM_{2.5}$ concentrations without the proposed project are not presented since impacts are evaluated on an incremental basis.

Table B-2
Future (2007) Maximum Predicted 8-Hour Average Carbon Monoxide No Build Concentration (ppm)

Receptor Site	Location	Time Period	8-Hour Concentration
1	St. Anns Avenue and Bruckner Boulevard	AM	4.0
National Ambient Air Quality Standard—8-hour: 9 ppm.			

E. FUTURE WITH THE PROPOSED PROJECT

MOBILE SOURCE ANALYSIS

CO

CO concentrations with the proposed project were determined for the 2007 analysis year using the methodology previously described. Table B-3 shows the maximum predicted future 8-hour average CO concentrations with the proposed project at the intersection studied. (No 1-hour values are shown since no exceedances of the standard would occur and the *de minimis* criteria are only applicable to 8-hour concentrations. Therefore, the 8-hour values are the most critical for impact assessment.) The value shown is the highest predicted concentration for the receptor location for any of the time periods analyzed. The results indicate that the proposed project would not result in any violations of the CO standard or any significant impacts at the receptor location.

Table B-3
Future (2007) Maximum Predicted 8-Hour Average Carbon Monoxide No Build and Build Concentration (ppm)

Receptor Site	Location	Time Period	8-Hour Concentration (ppm)	
			No Build	Build
1	St. Anns Avenue and Bruckner Boulevard	AM	4.0	4.2
Note: 8-hour standard is 9 ppm.				

$PM_{2.5}$

$PM_{2.5}$ concentrations with the proposed project were determined for the 2007 analysis year using the methodology previously described. The purpose of the mobile source $PM_{2.5}$ analysis was to determine the maximum predicted incremental impacts, so that they could be compared to the interim guidance criteria that would determine the potential significance of the project's impacts.

The maximum predicted neighborhood-scale annual average and localized 24-hour average $PM_{2.5}$ incremental concentrations are presented in Table B-4. The results show that the predicted annual and daily (24-hour) $PM_{2.5}$ increments are below the interim guidance criteria, and therefore the proposed project would not result in significant $PM_{2.5}$ impacts at the analyzed receptor location.

Table B-4
Future (2007) Maximum Predicted Incremental 24-Hour and Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)

Receptor Site	Location	Neighborhood Scale Analysis Annual Increment	Localized Analysis 24-Hour Increment
1	St. Anns Avenue and Bruckner Boulevard	0.022	0.35
$PM_{2.5}$ Interim Guidance Criteria: Annual Average (Neighborhood Scale)—0.1 $\mu g/m^3$ 24-Hour (Localized)—5.0 $\mu g/m^3$.			

STATIONARY SOURCE ANALYSIS

The primary stationary source of air pollutants associated with the proposed project would be emissions from the combustion of natural gas by HVAC equipment. The primary pollutant of concern when burning natural gas is NO_x. The nearest distance to a building of a similar or greater height with elevated receptors was determined to be beyond 400 feet; therefore, this distance was chosen for the analysis in accordance with the guidance provided in the *CEQR Technical Manual*. Burning natural gas would not result in any significant stationary source air quality impacts because the proposed project is below the maximum permitted size shown in Figure 3Q-10 of the *CEQR Technical Manual*. Therefore, the proposed project would not have any significant adverse stationary source air quality impacts.

CONSISTENCY WITH NEW YORK STATE AIR QUALITY IMPLEMENTATION PLAN

Maximum predicted pollutant concentrations with the proposed project would be less than the corresponding ambient air standards. Therefore, the proposed project would be consistent with the New York State Implementation Plan for the control of ozone and CO.

✷

A. INTRODUCTION

The proposed project would not generate sufficient traffic to have the potential to cause a significant noise impact (i.e., it would not result in a doubling of passenger car equivalents [PCEs] which would be necessary to cause a 3 dBA increase in noise levels). However, ambient noise levels adjacent to the project site must be considered in order to address CEQR noise abatement requirements for the building. This potential is assessed below.

B. NOISE STANDARDS AND CRITERIA

NEW YORK CEQR NOISE STANDARDS

The New York City *CEQR Technical Manual* defined attenuation requirements for buildings based on exterior noise level (see Table C-1, "Required Attenuation Values to Achieve Acceptable Interior Noise Levels"). Recommended noise attenuation values for commercial buildings are designed to maintain interior noise levels of 50 dBA or lower, and are determined based on exterior $L_{10(1)}$ noise levels.

Table C-1
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Acceptable	Marginally Unacceptable		Clearly Unacceptable		
Noise Level With Proposed Action	$65 < L_{10} \leq 70$	$70 < L_{10} \leq 75$	$75 < L_{10} \leq 80$	$80 < L_{10} \leq 85$	$85 < L_{10} \leq 90$	$90 < L_{10} \leq 95$
Attenuation*	25 dB(A)	(I) 30 dB(A)	(II) 35 dB(A)	(I) 40 dB(A)	(II) 45 dB(A)	(III) 50 dB(A)

Note: * The above composite window-wall attenuation values are for residential dwellings. Commercial office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.

Source: New York City Department of Environmental Protection

C. EXISTING NOISE LEVELS

Existing noise levels were measured for 20-minute periods during the three weekday peak periods—AM (8:00– 9:00 AM), midday (MD) (12:00 – 2:00 PM), and PM (5:00 – 6:00 PM) peak periods on February 21, 2006 one receptor site adjacent to the project site. The site is located in the Harlem River Yard between the Triboro and Little Hellgate bridges.

The instrumentation used for the 20-minute noise measurements was a Brüel & KjΦr Type 4176 ½-inch microphone connected to a Brüel & KjΦr Model 2260 Type 1 (according to ANSI Standard S1.4-1983) sound level meter. This assembly was mounted at a height of 5 feet above the ground surface on a tripod and at least 6 feet away from any large sound-reflecting surface to avoid major interference with sound propagation. The meter was calibrated before and after

readings with a Brüel & KjΦr Type 4231 sound-level calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). The data were digitally recorded by the sound level meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90}. A windscreen was used during all sound measurements except for calibration. All measurement procedures conformed to the requirements of ANSI Standard S1.13-1971 (R1976).

The results of the measurements of existing noise levels are summarized in Table C-2.

Table C-2
Existing Noise Levels at Sites 1 and 2
(in dBA)

Site	Measurement Location	Time	L_{eq}	L_1	L_{10}	L_{50}	L_{90}
1	Harlem River Yard	AM	64.3	68.0	65.6	63.8	62.4
		MD	64.6	67.2	66.0	64.2	62.8
		PM	63.0	66.2	64.4	62.6	61.2
Note: Field measurements were performed by AKRF, Inc. on February 21, 2006.							

At the monitoring site, traffic on adjacent streets and the Triboro Bridge and trains on the Little Hellgate Bridge were the dominant noise sources. Measured noise levels are moderate and reflect the level of vehicular activity on the adjacent streets. In terms of the CEQR criteria, the existing noise levels at the site would be in the "marginally acceptable" category.

D. NOISE ATTENUATION MEASURES

As shown in Table C-1, the New York City *CEQR Technical Manual* has set noise attenuation quantities for buildings, based on exterior $L_{10(1)}$ noise levels, and in order to maintain interior noise levels of 50 dBA or lower. The building design includes the use of well sealed double-glazed windows and alternative ventilation. With these measures, the window/wall attenuation would provide more than 20 dBA for all facades of the building. Based upon the $L_{10(1)}$ values measured at the project site, these design measures would provide more than sufficient attenuation to achieve the CEQR requirements.

In addition, the building mechanical system (i.e., heating, ventilation, and air conditioning systems) would be designed to meet all applicable noise regulations and to avoid producing levels that would result in any significant increase in ambient noise levels. ✷