Chapter 14: Transportation

A. INTRODUCTION

This chapter describes the transportation characteristics and potential impacts associated with the Proposed Actions, which involve zoning map and text amendments and other related actions to implement the land use and zoning recommendations of the East Harlem Neighborhood Plan. The East Harlem Rezoning would create opportunities for new affordable housing and economic development within an approximately 96 block area of the East Harlem neighborhood in Manhattan, Community District 11 (see Figures 1-1a and 1-1b, in Chapter 1, "Project Description"). The Project Area is generally bounded by Madison and Park Avenues to the west, Second Avenue to the east, 104th Street to the south, and 132nd Street and the Harlem River Drive to the north.

In order to assess the potential effects of the Proposed Actions, a reasonable worst case development scenario (RWCDS) for both "future without the proposed actions" (No Action) and "future with the proposed actions" (With Action) conditions are analyzed for an analysis year of 2027. To develop a reasonable estimate of future growth, likely development sites were identified and divided into two categories: projected development sites and potential development sites. The projected development sites are those considered more likely to be developed within the 10-year analysis period for the Proposed Actions (i.e., by the 2027 analysis year), while potential sites are considered less likely to be developed over the same period. A total of 68 projected development sites were identified and are considered for the purposes of the transportation analyses (see Figure 1-4). **Table 14-1** shows the total anticipated No Action and With Action land uses on projected development sites in 2027 under the RWCDS. As shown in **Table 14-1**, under the RWCDS, the Proposed Actions would facilitate the incremental development of a net total of 3,488 dwelling units (DU), 271,317 square feet (sf) of commercial space, 105,042 sf of community facility space and 49,128 sf of research laboratory space on the 68 projected development sites (the "Proposed Project"). There would also be a net decrease of 23,475 sf of light industrial space which includes wholesale/warehousing, storage and manufacturing uses.

This chapter describes in detail the existing transportation conditions in proximity to the rezoning area. Future conditions in the year 2027 without the Proposed Actions (the No Action condition) are then determined, including additional transportation-system demand and any changes expected by the year 2027. The increase in travel demand resulting from the Proposed Actions is then projected and added to the No Action condition to develop the 2027 future with the Proposed Actions (the With Action condition). Significant adverse impacts from project-generated trips are then identified and described in detail. Chapter 21, "Mitigation" discusses practicable measures to address these impacts.

Unrelated to the Proposed Actions, the Metropolitan Transportation Authority (MTA) is planning to construct in the foreseeable future three new subway stations in proximity to the

Project Area under Phase II of the Second Avenue Subway. This is expected to result in a shift of demand from other travel modes (auto, taxi, and local bus) to the subway mode and a shift in subway ridership from existing Lexington Avenue Line subway stations in proximity to the Project Area to the new Second Avenue Line stations. Detailed designs for the three new stations (including entrance locations and configurations) and operating parameters for the extended subway service were not available at the time this EIS was prepared. Therefore, to be conservative, the impact analyses in this EIS assess conditions without Phase II of the Second Avenue Subway, and do not assume any improvement to study area traffic conditions, local bus conditions, or Lexington Avenue Line subway station or line haul conditions due to a shift of travel demand to the Second Avenue Subway by the 2027 analysis year. Future traffic and transit conditions with Phase II of the Second Avenue Subway are discussed qualitatively based on data cited the 2004 *Second Avenue Subway FEIS.*

Table 14-1
2027 RWCDS No Action and With Action Land Uses

Land Use	No Action Condition	With Action Condition	Net Increment
Residential			
Residential	2,472 DU	5,960 DU	+3,488 DU
Commercial			
Local Retail	334,836 sf	323,953 sf	-10,883 sf
Destination Retail	35,596 sf	100,879 sf	+65,283 sf
Supermarket	14,577 sf	37,500 sf	+22,923 sf
Restaurant	0 sf	45,220 sf	+45,220 sf
Office	76,559 sf	268,899 sf	+192,340 sf
Hotel	32,974 sf (82 rooms)	0 sf	-32,974 sf (-82 rooms)
Auto Repair	10,592 sf	0 sf	-10,592 sf
Total Commercial	***505,134 sf***	***776,450 sf***	***+271,317 sf***
Other Uses			
Community Facility[1]	7,395 sf	112,437 sf	+105,042 sf
Light Industrial	80,391 sf[2]	56,916 sf[3]	-23,475 sf
Research Laboratory	0 sf	49,128 sf	+49,128 sf
Total Floor Area	***87,786 sf***	***218,481 sf***	***+130,695 sf***
Parking			
Accessory Parking Spaces[4]	224	341	117

Notes:
[1] Community facility space assumed to be medical office use for planning purposes.
[2] Includes 9,817 sf of wholesale/warehousing uses, 57,614 sf of storage uses and 12,960 sf of manufacturing uses.
[3] Includes 24,516 sf of wholesale/warehousing and 32,400 sf of manufacturing uses.
[4] Conservatively assumes that 30 percent of DUs would be designated as affordable and would not require accessory parking under Mandatory Inclusionary Housing.

B. PRINCIPAL CONCLUSIONS

A detailed transportation analysis was conducted and concludes that the Proposed Actions would result, as detailed below, in significant adverse impacts to: a) vehicular traffic at 26 intersections,

b) six subway stairs at three stations, c) public bus service on one route, and d) pedestrians at one sidewalk.

TRAFFIC

Traffic conditions were evaluated for the weekday 7:30-8:30 a.m., 1:30-2:30 p.m. (midday) and 4:30-5:30 p.m. and Saturday 4:00-5:00 p.m. peak hours at 50 intersections in the traffic study area where additional traffic resulting from the Proposed Actions would be most heavily concentrated. As summarized in **Tables 14-2 and 14-3**, the traffic impact analysis indicates the potential for significant adverse impacts at 26 intersections (all signalized) during one or more analyzed peak hours. Significant adverse impacts were identified to 31 lane groups at 19 intersections during the weekday AM peak hour, 15 lane groups at 12 intersections in the midday peak hour, 32 lane groups at 22 intersections in the PM peak hour and 19 lane groups at 16 intersections during the Saturday peak hour.[1]

Chapter 21, "Mitigation," discusses potential measures to mitigate these significant adverse traffic impacts.

Table 14-2
Number of Impacted Intersections and Lane Groups by Peak Hour

	Peak Hour			
	Weekday AM	**Weekday Midday**	**Weekday PM**	**Saturday Midday**
Impacted Lane Groups	31	15	32	19
Impacted Intersections	19	12	22	16

[1] Shortly before publication of this DEIS, a new set of traffic signal plans were implemented at a number of study area intersections along Second and Third Avenues. The traffic analyses will be revised between the DEIS and FEIS and, as a consequence, there is the potential for additional significant adverse traffic impacts to be identified.

Table 14-3
Summary of Significantly Impacted Intersections

Signalized Intersection	Peak Hour			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
East 106th Street (EB/WB) & First Avenue (NB)	X			X
East 125th Street (EB/WB) & First Avenue/Willis Avenue Bridge (SB)		X	X	
East 106th Street (EB/WB) & Second Avenue (SB)	X	X	X	X
East 119th Street (WB) & Second Avenue (SB)				X
East 120th Street (EB) & Second Avenue (SB)	X		X	
East 125th St (EB/WB)/RFK Bridge (WB) & Second Avenue (SB)	X	X	X	X
East 126th Street (WB) & Second Avenue (SB)/RFK Bridge Exit (NB)	X	X	X	X
East 127th Street (EB) & Second Avenue (SB)	X		X	
East 128th Street (EB) & Second Avenue (SB)			X	
East 116th Street (EB/WB) & Third Avenue (NB)	X		X	
East 122nd Street (EB) & Third Avenue (NB)	X			
East 124th Street (EB) & Third Avenue (NB)				X
East 125th Street (EB/WB) & Third Avenue (NB)	X	X	X	X
East 126th Street (WB) & Third Avenue (NB)	X		X	X
East 120th Street (EB) & Lexington Avenue (SB)			X	
East 125th Street (EB/WB) & Lexington Avenue (SB)	X	X	X	X
East 126th Street (WB) & Lexington Avenue (SB)		X	X	X
East 111th Street (WB) & Park Avenue (NB)	X	X	X	X
East 119th Street (WB) & Park Avenue (NB)	X	X	X	X
East 120th Street (EB) & Park Avenue (NB)	X		X	
East 128th Street (EB) & Park Avenue (NB)			X	
East 119th Street (WB) & Park Avenue (SB)	X	X	X	X
East 120th Street (EB) & Park Avenue (SB)	X		X	X
East 128th Street (EB) & Park Avenue (SB)	X	X	X	X
East 116th Street (EB/WB) & Madison Avenue (NB)	X		X	X
East 119th Street (WB) & Madison Avenue (NB)	X	X	X	
Total Impacted Intersections	19	12	22	16

X - denotes intersection significantly impacted in peak hour.

TRANSIT

Unrelated to the Proposed Actions, the MTA is planning to construct in the foreseeable future three additional subway stations in proximity to the Project Area under Phase II of the Second Avenue Subway. This is expected to result in a shift of demand from other travel modes (auto, taxi, and local bus) to the subway mode and a shift in subway ridership from existing Lexington Avenue Line subway stations in proximity to the Project Area to the new Second Avenue Line stations. Detailed designs for the three new stations and operating parameters for the extended subway service were not available at the time this EIS was prepared. Therefore, to be conservative, the quantitative transit analyses in this EIS assess conditions without Phase II of the Second Avenue Subway, and do not assume any improvement to study area local bus conditions or Lexington Avenue Line subway station or line haul conditions due to a shift of demand to the Second Avenue Line by the 2027 analysis year. Future transit conditions with Phase II of the Second Avenue Subway are discussed qualitatively based on data cited the 2004 *Second Avenue Subway FEIS.*

SUBWAY

Subway Stations

The Proposed Actions would generate a net increment of approximately 2,350 and 2,716 new subway trips during the weekday AM and PM commuter peak hours. The analysis of subway

station conditions focuses on a total of four MTA New York City Transit (NYCT) subway stations in proximity to the Project Area where incremental demand from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or both peak hours. These include the following stations, all of which are served by Nos. 4, 5 and/or 6 trains operating on the Lexington Avenue Line:

- 103rd Street (6)
- 110th Street (6)
- 116th Street (6)
- 125th Street (4, 5, 6)

As summarized in **Table 14-4**, in the future with the Proposed Actions, a total of six stairs at three stations would be significantly adversely impacted by project-generated demand in one or both peak hours. These would include one street stair at the 103rd Street station, one street stair at the 116th Street station and two street stairs and two platform stairs at the 125th Street station. There would be no significant adverse impacts to any fare arrays at analyzed subway stations under the Proposed Actions.

Table 14-4
Summary of Significant Subway Station Impacts

Subway Station	Station Element	Impacted Time Period
103rd Street (6)	Street Stair S4/M4	AM/PM
116th Street (6)	Street Stair S3/P3	AM
125th Street (4,5,6)	Street Stair S2/M2	AM
	Street Stair S3/M3	AM/PM
	Platform Stair P2	AM/PM
	Platform Stair P3	AM/PM

Completion of three new subway stations in proximity to the Project Area under Phase II of the Second Avenue Subway would reduce demand at existing Lexington Avenue Line stations as well as provide new and/or expanded entrances and pedestrian circulation spaces at the 125th Street Lexington Avenue Line station. The Proposed Actions would also generate fewer peak hour trips at analyzed Lexington Avenue Line stations as it is anticipated that a number of those trips would instead utilize the three new Second Avenue Line stations. Therefore, it is likely that some, if not all of the Proposed Actions' significant peak hour stair impacts at Lexington Avenue Line subway stations would not occur with implementation of Phase II of the Second Avenue Subway.

Subway Line Haul

The Project Area is served by five NYCT subway routes—the Nos. 4 and 5 express trains and No. 6 local train operating along the Lexington Avenue Line and the Nos. 2 and 3 express trains operating along the Lenox Avenue and Broadway-Seventh Avenue lines. The peak direction of travel on these lines is typically southbound in the AM peak hour and northbound in the PM peak hour.

In the future with the Proposed Actions, the combined Nos. 2/3 express service would operate over capacity in the peak direction in both peak hours, while the combined Nos. 4/5 service is expected to operate over capacity in the peak direction in the AM and near capacity in the PM.

No. 6 service would continue to operate below capacity in the peak direction in both periods. As all of the analyzed subway routes are expected to experience an average incremental increase of less than five peak direction persons per car in both the AM and PM peak hours with the Proposed Actions, there would be no significant adverse subway line haul impacts in either period based on *CEQR Technical Manual* criteria.

Completion of Phase II of the Second Avenue Subway would substantially reduce No Action line haul demand on the Lexington Avenue Line. The Proposed Actions would also generate fewer trips on the Lexington Avenue Line as it is anticipated that a substantial number would instead utilize the Second Avenue Line. Therefore, the over-capacity conditions on the Nos. 4/5 express service in the AM may not occur in 2027 with completion of Phase II of the Second Avenue Subway.

BUS

The Project Area is served by a total of 13 local bus routes, six Limited (LTD) bus routes and two Select Bus Service (SBS) routes operated by the MTA. The Proposed Actions would generate a net total of approximately 511 and 617 incremental bus trips on these routes during the weekday AM and PM peak hours, respectively. A preliminary screening assessment concluded that new demand from the Proposed Actions would exceed the 50-trip per direction *CEQR Technical Manual* analysis threshold in the AM and/or PM peak hour at the maximum load points along the M15 SBS and the M101 LTD routes.

Based on projected levels of bus service in the No Action condition, the Proposed Actions would result in a passenger capacity shortfall of 22 on southbound M15 SBS buses in the AM peak hour. Therefore, based on *CEQR Technical Manual* impact criteria, southbound M15 SBS buses would be significantly adversely impacted in the AM (refer to **Table 14-5**). The additional trips on the M101 LTD route fall short of triggering an impact on that route, based on *CEQR Technical Manual* impact criteria. The significant adverse impact to the M15 SBS could be fully mitigated by the addition of one bus in the southbound direction in the AM peak hour. The general policy of the MTA is to provide additional bus service where demand warrants, taking into account financial and operational constraints.

It is anticipated that both No Action and project-generated demand on the analyzed M15 SBS and M101 LTD routes (both of which run parallel to the Second Avenue Subway) would be reduced and that AM and PM peak hour line haul conditions on these buses would be improved with completion of Phase II of the Second Avenue Subway. Therefore, the over-capacity condition on the southbound M15 SBS service in the AM peak hour under the Proposed Actions would likely not occur in 2027 with completion of Phase II of the Second Avenue Subway.

Table 14-5
Summary of Significant Local Bus Impacts

Route	Direction	Impacted Time Period
M15 SBS	SB	AM

PEDESTRIANS

The Proposed Actions would generate a net increment of approximately 665 walk-only trips in the weekday AM peak hour, 1,559 in the weekday midday, 1,460 in the weekday PM, and 1,835

in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add 2,861, 1,621, 3,333, and 2,676 additional pedestrian trips to rezoning area sidewalks and crosswalks during these same periods, respectively. Peak hour pedestrian conditions were evaluated at a total of 93 representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—32 sidewalks, 47 corner areas, and 14 crosswalks—are primarily located in the vicinity of major projected development sites and corridors connecting these sites to area subway station entrances and bus routes. As shown in **Table 14-6**, based on *CEQR Technical Manual* criteria, under the Proposed Actions, one sidewalk would be significantly adversely impacted by the Proposed Actions in all four analyzed peak hours, and there would be no significant impacts to any corner areas or crosswalks. The removal of a tree pit at a constrained point on the impacted sidewalk would fully mitigate the Proposed Actions' significant adverse impact.

As also shown in **Table 14-6**, under a scenario with completion of Second Avenue Subway Phase II in 2027, it is anticipated that the north and south crosswalks on Park Avenue at East 125th Street would also be significantly adversely impacted in the AM peak hour. Widening the segment of the north crosswalk west of the Park Avenue median by 1.5 feet (to a total of 19.5 feet) and the segment of the south crosswalk east of the median by 0.5 feet (to a total of 18.5 feet) would fully mitigate these impacts.

Table 14-6
Summary of Significant Pedestrian Impacts

Corridor/Intersection	Impacted Element	Peak Hour			
		Weekday AM	Weekday Midday	Weekday PM	Saturday
Proposed Actions					
East 125th Street between Lexington Ave and Park Ave	South Sidewalk	X	X	X	X
Proposed Actions with Second Avenue Subway Phase II					
East 125th Street between Lexington Ave and Park Ave	South Sidewalk	X	X	X	X
East 125th Street at Park Avenue	North Crosswalk	X			
East 125th Street at Park Avenue	South Crosswalk	X			

VEHICULAR AND PEDESTRIAN SAFETY

In proximity to the Project Area, East 125th Street and First, Second, and Third Avenues were all identified as Priority Corridors in the *Vision Zero Manhattan Pedestrian Safety Action Plan*, and Park Avenue at East 125th Street and Madison Avenue at East 116th Street were identified as Priority Intersections. No Priority Areas were identified in proximity to the Project Area. The New York City Department of Transportation (DOT) has also designated a Senior Pedestrian Focus Area in East Harlem extending from East 91st Street to East 110th Street between First and Fifth Avenues.

Crash data for the traffic and pedestrian study area intersections were obtained from DOT for the three-year reporting period between January 1, 2012, and December 31, 2014 (the most recent

period for which data were available for all locations). During this period, a total of 589 reportable and non-reportable crashes, 170 pedestrian/bicyclist-related injury crashes, and four fatalities occurred at study area intersections. A review of the crash data identified the eight intersections listed in **Table 14-7** as high crash locations (defined as those with 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurring in any consecutive 12 months of the most recent three-year period for which data are available).

All but one of these intersections are classified as high crash locations based on the number of crashes that occurred in 2013, and at all of these locations, the number of pedestrian and bicycle-related crashes declined markedly from 2013 to 2014. Six of the eight intersections identified as high crash locations in 2012 and 2013 experienced no pedestrian or bicycle-related crashes in 2014. The reductions in the crash rates at analyzed intersections subsequent to 2013 likely reflect implementation of safety improvement measures under the Safe Streets for Seniors Program and other City initiatives in recent years. Further improvements that could be employed to increase pedestrian/bicyclist safety at high crash locations include modification of signal timing plans to accommodate slower walking speeds, improvements to street lighting and the installation of additional high visibility crosswalks.

Table 14-7
High Crash Locations

Intersection	Total Pedestrian/Bicycle Injury Crashes			Total Crashes (Reportable +Non-Reportable)		
	2012	2013	2014	2012	2013	2014
Second Avenue at East 125th Street	1	6	0	10	16	8
Third Avenue at East 106th Street	4	5	2	4	7	5
Third Avenue at East 110th Street	3	5	0	5	7	2
Third Avenue at East 116th Street	3	5	0	6	8	1
Third Avenue at East 118th Street	0	5	0	1	8	1
Lexington Avenue at East 116th Street	6	3	0	8	4	0
Lexington Avenue at East 125th Street	1	8	0	5	19	5
Park Avenue at East 125th Street	2	12	2	4	18	9

PARKING

The parking analysis documents changes in parking supply and utilization within a study area extending ¼-mile from projected development sites. Within this study area there are a total of 23 off-street public parking lots and garages of which six are located on projected development sites. Two of these facilities would be displaced by new development under the Proposed Actions while four would be displaced under both the No Action and With Action conditions.

Under the Proposed Actions, the Special East Harlem Corridors District would eliminate the underlying accessory residential parking requirements within the Project Area. The With Action RWCDS assumes that a total of 341 accessory parking spaces would be provided on nine of the projected development sites compared to the approximately 224 accessory spaces that would be provided under the No Action RWCDS. The total number of accessory spaces in the With Action condition conservatively assumes that up to 30 percent of new residential development would be designated as affordable and would therefore not include accessory parking.

After accounting for new parking demand and the number of required accessory spaces provided on a site-by-site basis under the RWCDS, it is estimated that compared to the No Action condition, incremental parking demand from new development associated with the Proposed Actions would total approximately 448 spaces at off-street public parking facilities and on-street in the weekday midday period and 410 spaces during the overnight period. In addition, under the Proposed Actions, a total of 110 spaces in two existing public parking facilities located on projected development sites would be displaced, and no new public off-street parking capacity would be provided. Based on these changes in parking supply and demand, it is estimated that in the future with the Proposed Actions there would be a deficit of approximately 174 spaces of on-street and off-street public parking capacity within ¼-mile of projected development sites in the weekday midday period, while approximately 1,579 on-street spaces would remain available during the overnight period. The deficit in the midday period would reflect project demand not otherwise accommodated in accessory or off-street public parking facilities as well as demand displaced from existing parking facilities on projected development sites. The greatest parking shortfalls would occur in the northern half of the Project Area as this is where much of the new incremental demand would be concentrated and where most of the existing parking capacity that would be displaced under the RWCDS is located. While some drivers destined for the Project Area would potentially have to travel a greater distance (e.g., between ¼ and ½-mile) to find available parking in the midday, this shortfall would not be considered a significant adverse impact based on *CEQR Technical Manual* criteria due to the magnitude of available alternative modes of transportation. Therefore, the Proposed Actions are not expected to result in significant adverse parking impacts during the weekday midday peak period for commercial and retail parking demand, nor during the overnight peak period for residential demand.

C. PRELIMINARY ANALYSIS METHODOLOGY

The *CEQR Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed in the following sections, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the numbers of person and vehicle trips attributable to the proposed action. According to the *CEQR Technical Manual*, if the proposed action is expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Level 2) are to be performed to estimate the incremental trips that could be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the proposed action would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a sidewalk, corner area or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

D. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Actions during the weekday AM, midday and PM and Saturday peak hours for the RWCDS. These estimates were then compared to the *CEQR Technical Manual* analysis thresholds to determine if a Level 2 screening

and/or quantified operational analyses may be warranted. The travel demand assumptions used for the assessment are described in the following sections along with a summary of the travel demand that would be generated by the RWCDS. A detailed travel demand forecast is then provided for the RWCDS.

BACKGROUND

Overall, the Project Area encompasses approximately 115 blocks and includes a total of 68 Projected Development Sites (see Figure 1-4 in Chapter 1, "Project Description"). As shown in **Table 14-1**, under the RWCDS, the Proposed Actions would facilitate the incremental development of a net total of 3,488 dwelling units (DU), 271,317 square feet (sf) of commercial space, 105,042 sf of community facility space and 49,128 sf of research laboratory space on the 68 projected development sites (the "Proposed Project"). There would also be a net decrease of 23,475 sf of light industrial space which includes wholesale/warehousing, storage and manufacturing uses.

TRANSPORTATION PLANNING FACTORS

The transportation planning factors used to forecast travel demand for the RWCDS land uses are summarized in **Table 14-8**. The trip generation rates, temporal distributions, modal splits, vehicle occupancies, and truck trip factors for each of the land uses were primarily based on those cited in the 2014 *CEQR Technical Manual*, 2010-2014 American Community Survey (ACS) journey-to-work data, AASHTO CTPP reverse journey-to-work 5-year data (2006-2010), factors developed for recent environmental reviews, and data from other standard professional references. Factors are shown for the weekday AM and PM peak hours (typical peak periods for commuter travel demand) and the weekday midday and Saturday peak hours (typical peak periods for retail demand). Additional details on the transportation planning factors used for the travel demand forecast are presented in the *Transportation Planning Factors and Travel Demand Forecast* technical memorandum provided in **Appendix G**.

It should be noted that, unrelated to the Proposed Actions, the MTA is planning to construct in the foreseeable future three additional subway stations in proximity to the Project Area under Phase II of the Second Avenue Subway project. The opening of these stations is expected to result in a shift of some demand from motor vehicle travel modes (i.e., auto, taxi and bus) to the subway mode. To be conservative with respect to the potential for traffic and bus impacts, the travel demand forecast for the RWCDS does not account for any potential shift from the motor vehicle modes to the subway mode upon completion of Phase II of the Second Avenue Subway.

TRAVEL DEMAND FORECAST

The net incremental change in person and vehicle trips expected to result from the Proposed Actions by the 2027 analysis year was derived based on the net change in land uses shown in **Table 14-1** and the transportation planning factors shown in **Table 14-8**. **Table 14-9** shows an estimate of the net incremental change in peak hour person trips and vehicle trips (versus the No Action condition) that would occur in 2027 with implementation of the Proposed Actions. As shown in **Table 14-9**, under the RWCDS, the Proposed Actions would generate a net increase of approximately 4,014 person trips in the weekday AM peak hour, 3,568 in the weekday midday, 5,382 in the weekday PM peak hour, and 5,038 in the Saturday peak hour. Peak hour vehicle trips (including auto, truck and taxi trips balanced to reflect that some taxis arrive or depart empty) would increase by a net total of approximately 484, 370, 540, and 348 (in and out

combined) in the weekday AM, midday and PM, and Saturday peak hours, respectively. Peak hour subway trips would increase by a net total of 2,350, 1,296, 2,716, and 2,101 during these periods, respectively, while bus trips would increase by approximately 511, 325, 617, and 575, respectively. Lastly, walk-only trips would increase by 665, 1,559, 1,460, and 1,835 trips during the weekday AM, midday and PM, and Saturday peak hours, respectively.

The Proposed Actions are expected to generate relatively few (i.e., less than 100) trips by commuter rail at the Metro-North Railroad 125th Street station in any one peak hour. As some Metro-North trips would also likely start or end on another mode of transit, commuter rail trips are conservatively included in the totals for the subway mode in the travel demand forecast shown in **Table 14-9**.

Table 14-8
Transportation Planning Factors

Land Use:	Local Retail		Office		Residential		Restaurant		Destination Retail		Supermarket	
Trip Generation:	(1)		(1)		(1)		(7)		(1)		(9,10)	
Weekday	205		18.0		8.075		173.0		78.2		205	
Saturday	240		3.9		9.600		181.0		92.5		271	
	per 1,000 sf		per 1,000 sf		per DU		per 1,000 sf		per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)		(1)		(1)		(7)		(1)		(9,11)	
AM	3.0%		12.0%		10.0%		0.0%		3.0%		3.0%	
MD	19.0%		15.0%		5.0%		6.2%		9.0%		12.0%	
PM	10.0%		14.0%		11.0%		8.3%		9.0%		10.0%	
SatMD	10.0%		17.0%		8.0%		11.0%		11%		12.0%	
	(17)		(3)	(18)	(5)		(8)		(4)		(9,11)	
Modal Splits:	AM/MD/PM	SAT	AM/PM	MD/SAT	All Periods		AM/MD/PM	SAT	AM/MD/PM	SAT	All Periods	
Auto	2.5%	7.0%	17.6%	2.0%	8.1%		2.5%	7.0%	15.0%	17.0%	4.0%	
Taxi	0.5%	0.0%	1.6%	3.0%	0.8%		0.5%	0.0%	9.0%	10.0%	3.0%	
Subway/Railroad	16.5%	21.0%	48.5%	6.0%	65.0%		16.5%	21.0%	27.0%	16.0%	5.0%	
Bus	4.0%	9.0%	16.2%	6.0%	11.9%		4.0%	9.0%	12.0%	20.0%	5.0%	
Walk/Other	76.5%	63.0%	16.1%	83.0%	14.2%		76.5%	63.0%	37.0%	37.0%	83.0%	
	100.0%	100.0%	100.0%	100%	100.0%		100.0%	100.0%	100.0%	100.0%	100.0%	
	(2)		(2)		(2)		(7)		(4)		(9,11)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	50%	50%	95.0%	5.0%	16.0%	84.0%	50%	50%	61.0%	39.0%	45%	55%
MD	50%	50%	48.0%	52.0%	50.0%	50.0%	50%	50%	55.0%	45.0%	46%	54%
PM	50%	50%	15.0%	85.0%	67.0%	33.0%	67%	33%	47.0%	53.0%	47%	53%
Sat MD	50%	50%	60.0%	40.0%	53.0%	47.0%	50%	50%	55.0%	45.0%	46%	54%
					(2,5,6)				(4)			
Vehicle Occupancy:	(2)		(2,3)		AM/PM	MD/SMD	(7)		AM/MD/PM	SAT	(9,11)	
Auto	2.00		1.15		1.15	1.61	2.20		2.00	2.70	1.65	
Taxi	2.00		1.40		1.40	1.96	2.30		2.00	2.80	1.40	
Truck Trip Generation:	(1)		(1)		(1)		(7)		(4)		(9,11)	
Weekday	0.35		0.32		0.06		3.60		0.35		0.35	
Saturday	0.04		0.01		0.02		3.60		0.02		0.04	
	per 1,000 sf		per 1,000 sf		per DU		per 1,000 sf		per 1,000 sf		per 1,000 sf	
	(1)		(1)		(1)		(7)		(4)		(9,11)	
AM	8.0%		10.0%		12.0%		0.0%		7.7%		10.0%	
MD	11.0%		11.0%		9.0%		6.0%		11.0%		8.0%	
PM	2.0%		2.0%		2.0%		1.0%		1.0%		5.0%	
Sat MD	11.0%		11.0%		9.0%		6.0%		11.0%		10.0%	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Table 14-8 (cont'd)
Transportation Planning Factors

Land Use:	Auto Repair/ Related		Light Industrial		Medical Office (Staff)		Medical Office (Visitors)		Laboratory Space		Hotel	
Trip Generation:	(18)		(12)		(14,15)		(14,15)		(19)		(1)	
Weekday	19.42		14.7		10.0		33.6		14.7		9.40	
Saturday	19.42		2.2		4.3		14.5		2.2		9.40	
	per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per room	
Temporal Distribution:	(18)		(12)		(14,15)		(14,15)		(19)		(1)	
AM	13.2%		13.2%		24.0%		6.0%		13.2%		8.0%	
MD	11.0%		11.0%		17.0%		9.0%		11.0%		14.0%	
PM	14.2%		14.2%		24.0%		5.0%		14.2%		13.0%	
SatMD	10.7%		10.7%		17.0%		9.0%		10.7%		9.0%	
	(18)		(13)		(13)		(15)		(19)		(12)	
Modal Splits:	All Periods		AM/PM	MD/SAT	AM/PM	MD/SAT	All Periods		AM/PM	MD/SAT	All Periods	
Auto	85.0%		17.6%	2.0%	17.6%	2.0%	25%		17.6%	2.0%	30.1%	
Taxi	5.0%		1.6%	3.0%	1.6%	3.0%	25%		1.6%	3.0%	12.3%	
Subway/Railroad	1.0%		48.5%	6.0%	48.5%	6.0%	29%		48.5%	6.0%	18.8%	
Bus	1.0%		16.2%	6.0%	16.2%	6.0%	11%		16.2%	6.0%	5.5%	
Walk/Other	8.0%		16.1%	83.0%	16.1%	83.0%	10%		16.1%	83.0%	33.3%	
	100.0%		100.0%	100%	100.0%	100%	100%		100.0%	100.0%	100%	
	(18)		(12)		(14,15)		(14,15)		(19)		(12)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	65%	35%	88%	12%	100%	0%	90%	10%	88%	12%	41%	59%
MD	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	68%	32%
PM	50%	50%	12%	88%	0%	100%	30%	70%	12%	88%	59%	41%
Sat MD	50%	50%	47%	53%	50%	50%	50%	50%	47%	53%	56%	44%
Vehicle Occupancy:	(18)		(12)		(3,15)		(15)		(19)		(12)	
Auto	1.30		1.20		1.15		1.65		1.20		1.60	
Taxi	1.30		1.20		1.40		1.20		1.20		1.40	
Truck Trip Generation:	(18)		(12)		(14,15)				(19)		(20)	
Weekday	0.89		0.67		0.40		N/A		0.67		6.0%	
Saturday	0.89		0.67		0.00		N/A		0.67		1.0%	
	per 1,000 sf		per 1,000 sf		per 1,000 sf				per 1,000 sf		per room	
	(18)		(12)		(14,15)				(19)		(20)	
AM	14.0%		14.0%		9.7%		N/A		14.0%		12.0%	
MD	9.0%		9.0%		7.8%		N/A		9.0%		9.0%	
PM	1.0%		1.0%		5.1%		N/A		1.0%		0.0%	
Sat MD	0.0%		0.0%		0.0%		N/A		0.0%		9.0%	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Table 14-8 (cont'd)
Transportation Planning Factors

Notes :

(1) Based on data from *City Environmental Quality Review (CEQR) Technical Manual*, 2014.
(2) Based on data from *West Harlem Rezoning FEIS, 2012*
(3) Based on AASHTO CTPP Reverse Journey to Work 5-Year (2006-2010) data for Manhattan Census Tracts 166, 168, 170, 172, 174.01, 174.02, 180, 182, 184, 188, 194, 196, 198, 206, and 242.
(4) Based on data from *East 125th Street Development FEIS*, 2008.
(5) Based on American Community Survey Journey to Work 5-Year (2010-2014) data for Manhattan Census Tracts 166, 168, 170, 172, 174.01, 174.02, 180, 182, 184, 188, 194, 196, 198, 206, and 242.
(6) Midday and Saturday vehicle occupancy determined by applying a multiplier (1.4) to the AM/PM rate.
(7) Based on data from *Vanderbilt Corridor and One Vanderbilt FEIS, 2015*.
(8) Assumes similar modal split as that assumed for a local retail use.
(9) Supermarket rates based on data from The Food Retail Expansion to Support Health (FRESH) Food Store Program, 2009.
(10) Assumes a 32% increase in peak hour trips on Saturday; based on ratio between weekday and Saturday rates for supermarket use provided by the *CEQR Technical Manual*, 2014.
(11) Assumes for Saturday the same temporal distribution, modal split, directional split, and vehicle occupancy as the weekday midday.
(12) Based on data from *Broadway Triangle FEIS, 2009.*
(13) Assumes similar modal split as that assumed for a office use.
(14) Based on data from *Jamaica Plan Rezoning FGEIS, 2007*.
(15) Based on data from *Saint Vincent's Campus Redevelopment FEIS, 2012.*
(16) Assumes similar weekday midday and Saturday temporal distribution as that assumed for a office use.
(17) Derived using data from NYCDOT Trip Generation and Mode Choice Survey.
(18) Based on data from *East New York Rezoning Proposal FEIS, 2015*.
(19) Assumes similar transportation planning factors as those assumed for light industrial use.
(20) Based on data from the *Atlantic Yards Arena and Redevelopment FEIS, 2006*.

Table 14-9
RWCDS Travel Demand Forecast

Land Use:	Local Retail		Office		Residential		Restaurant		Destination Retail		Supermarket		Auto Repair/ Related	
Size/Units:	-10,883 gsf		192,339.5 gsf		3,484 DU		45,220 gsf		65,283 gsf		22,923 gsf		-10,592 gsf	
Peak Hour Trips:														
AM	-40		426		2,884		0		158		144		-28	
MD	-260		530		1,476		376		464		566		-24	
PM	-138		496		3,154		562		464		474		-30	
SAT	-158		136		2,728		776		666		748		-24	
Person Trips:														
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	1	1	71	2	36	190	0	0	15	9	3	3	-16	-9
Taxi	0	0	5	0	0	12	0	0	9	6	2	2	-1	0
Subway/Railroad	-4	-4	201	12	297	1,599	0	0	27	19	3	4	0	0
Bus	1	1	67	2	51	290	0	0	11	6	3	4	0	0
Walk/Other	-18	-18	64	2	57	352	0	0	34	22	53	67	-1	-1
Total	-20	-20	408	18	441	2,443	0	0	96	62	64	80	-18	-10
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-4	-4	2	2	53	53	5	5	38	32	10	11	-10	-10
Taxi	3	3	7	7	1	1	0	0	22	20	8	9	-1	-1
Subway/Railroad	-22	-22	17	17	501	501	31	31	66	56	14	16	0	0
Bus	-6	-6	16	16	79	79	8	8	31	26	14	16	0	0
Walk/Other	-101	-101	218	228	104	104	144	144	94	79	216	252	-1	-1
Total	-130	-130	260	270	738	738	188	188	251	213	262	304	-12	-12
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-2	-2	16	74	170	78	9	4	33	37	9	10	-13	-13
Taxi	-1	-1	0	5	12	2	0	0	20	22	6	8	-1	-1
Subway/Railroad	-13	-13	36	205	1,403	677	63	30	58	65	11	13	0	0
Bus	-4	-4	13	68	246	121	16	8	27	30	11	13	0	0
Walk/Other	-49	-49	13	66	298	147	289	143	81	91	185	208	-1	-1
Total	-69	-69	78	418	2,129	1,025	377	185	219	245	222	252	-15	-15
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-5	-5	0	0	111	102	29	29	62	52	14	16	-10	-10
Taxi	0	0	2	0	5	4	0	0	37	31	10	11	-1	-1
Subway/Railroad	-18	-18	3	2	941	852	81	81	58	49	17	20	0	0
Bus	-6	-6	3	2	174	153	37	37	73	59	17	20	0	0
Walk/Other	-50	-50	72	52	202	184	241	241	134	111	287	336	-1	-1
Total	-79	-79	80	56	1,433	1,295	388	388	364	302	345	403	-12	-12
Vehicle Trips :														
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto (Total)	1	1	61	2	35	168	0	0	9	5	3	3	-12	-7
Taxi	0	0	4	0	0	11	0	0	5	4	2	2	-1	0
Taxi (Balanced)	0	0	4	4	11	11	0	0	9	9	4	4	-1	-1
Truck	0	0	2	2	0	0	0	0	0	0	0	0	-1	-1
Total	1	1	67	8	46	179	0	0	18	14	7	7	-14	-9
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto (Total)	-1	-1	2	2	39	39	0	0	21	17	5	7	-8	-8
Taxi	3	3	5	5	1	1	0	0	12	11	5	6	-1	-1
Taxi (Balanced)	6	6	10	10	2	2	0	0	21	21	11	11	-2	-2
Truck	0	0	2	2	0	0	5	5	1	1	0	0	0	0
Total	5	5	14	14	41	41	5	5	43	39	16	18	-10	-10
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto (Total)	-4	-4	16	64	152	73	2	0	18	21	5	5	-10	-10
Taxi	-1	-1	0	4	11	2	0	0	11	12	4	5	-1	-1
Taxi (Balanced)	-2	-2	4	4	13	13	0	0	21	21	9	9	-2	-2
Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	-6	-6	20	68	165	86	2	0	39	42	14	14	-12	-12
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto (Total)	-3	-3	0	0	68	62	12	12	23	20	9	10	-8	-8
Taxi	0	0	2	0	5	4	0	0	13	10	7	8	-1	-1
Taxi (Balanced)	0	0	2	2	9	9	0	0	20	20	13	13	-2	-2
Truck	0	0	0	0	0	0	5	5	0	0	0	0	0	0
Total	-3	-3	2	2	77	71	17	17	43	40	22	23	-10	-10

Notes:

40% link trip credit for local retail use; 0%, 25%, 15%, and 15% for restaurant use for AM, MD, PM, and SAT, respectively.
25% taxi overlap credit

Table 14-9 (cont'd)
RWCDS Travel Demand Forecast

Land Use:	Light Industrial		Medical Office (Staff)		Medical Office (Visitors)		Laboratory Space		Hotel		Total	
Size/Units:	-23,475 gsf		105,042 gsf		105,042 gsf		49,128 gsf		-82 rooms			
Peak Hour Trips:												
AM	-48		260		224		96		-62		4,014	
MD	-44		186		326		80		-108		3,568	
PM	-48		260		186		104		-102		5,382	
SAT	-10		88		146		12		-70		5,038	
Person Trips:												
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	-7	0	46	0	50	7	15	2	-8	-11	206	194
Taxi	0	0	3	0	49	7	1	0	-3	-4	65	23
Subway/Railroad	-23	-3	122	0	59	7	40	6	-5	-7	717	1,633
Bus	-7	0	45	0	23	1	14	2	-1	-2	207	304
Walk/Other	-8	0	44	0	20	1	14	2	-8	-13	251	414
Total	-45	-3	260	0	201	23	84	12	-25	-37	1,446	2,568
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	1	1	42	42	1	1	-23	-10	115	123
Taxi	0	0	1	1	40	40	1	1	-9	-4	73	77
Subway/Railroad	-1	-1	6	6	48	48	2	2	-14	-6	648	648
Bus	-1	-1	6	6	18	18	2	2	-4	-2	163	162
Walk/Other	-20	-20	80	78	15	15	34	34	-24	-12	759	800
Total	-22	-22	94	92	163	163	40	40	-74	-34	1,758	1,810
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	-8	0	46	16	31	2	16	-19	-13	221	260
Taxi	0	0	0	3	14	31	0	1	-7	-5	43	65
Subway/Railroad	-2	-23	0	122	18	34	6	45	-11	-8	1,569	1,147
Bus	0	-7	0	45	8	14	2	15	-3	-2	316	301
Walk/Other	0	-8	0	44	7	13	2	15	-20	-14	805	655
Total	-2	-46	0	260	63	123	12	92	-60	-42	2,954	2,428
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	0	0	20	20	0	0	-12	-9	209	195
Taxi	0	0	0	0	17	17	0	0	-5	-4	65	58
Subway/Railroad	0	0	1	1	22	22	0	0	-7	-6	1,098	1,003
Bus	0	0	1	1	7	7	0	0	-2	-2	304	271
Walk/Other	-5	-5	42	42	7	7	6	6	-13	-10	922	913
Total	-5	-5	44	44	73	73	6	6	-39	-31	2,598	2,440
Vehicle Trips :												
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto (Total)	-7	0	39	0	30	6	13	2	-5	-7	167	173
Taxi	0	0	3	0	42	7	1	0	-2	-3	54	21
Taxi (Balanced)	0	0	3	3	42	42	1	1	-5	-5	68	68
Truck	0	0	1	1	0	0	2	2	0	0	4	4
Total	-7	0	43	4	72	48	16	5	-10	-12	239	245
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto (Total)	0	0	1	1	24	24	1	1	-14	-6	70	76
Taxi	0	0	1	1	33	33	1	1	-6	-3	54	57
Taxi (Balanced)	0	0	2	2	58	58	2	2	-8	-8	102	102
Truck	0	0	1	1	0	0	1	1	0	0	10	10
Total	0	0	4	4	82	82	4	4	-22	-14	182	188
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto (Total)	0	-7	0	39	10	19	2	13	-12	-8	179	205
Taxi	0	0	0	3	13	27	0	1	-5	-4	32	48
Taxi (Balanced)	0	0	3	3	39	39	1	1	-8	-8	78	78
Truck	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	-7	3	42	49	58	3	14	-20	-16	257	283
SAT	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto (Total)	0	0	0	0	13	13	0	0	-8	-6	106	100
Taxi	0	0	0	0	16	16	0	0	-4	-3	38	34
Taxi (Balanced)	0	0	0	0	30	30	0	0	-6	-6	66	66
Truck	0	0	0	0	0	0	0	0	0	0	5	5
Total	0	0	0	0	43	43	0	0	-14	-12	177	171

Notes:

40% link trip credit for local retail use; 0%, 25%, 15%, and 15% for restaurant use for AM, MD, PM, and SAT, respectively.

25% taxi overlap credit

Table 14-10 shows the net incremental change in peak hour vehicle trips (auto, taxi and truck) that would be generated by each projected development site during the weekday AM, midday and PM and Saturday peak hours.[2] As shown in **Table 14-10**, Site 11 would generate the greatest number of new vehicle trips in the weekday AM and midday peak hours, accounting for approximately 11 and 17 percent of the total vehicle trips generated by the Proposed Actions in each period, respectively. Site 4 would generate the greatest number of new vehicle trips in the weekday PM and Saturday peak hours, accounting for approximately 12 and 21 percent of the total vehicle trips in each period, respectively. Under the RWCDS, there would be net decreases in vehicle trips during one or more peak hours at 10 sites, primarily due to reductions in local retail uses, but also due to reductions in auto repair space (site 1), hotel space (site 5), light industrial space (site 13), and medical office space (site 28) in the With Action condition.

Table 14-11 summarizes the number of additional trips that would be generated by the Proposed Actions during the weekday AM, midday and PM and Saturday peak hours by various modes of travel. Since these numbers of peak hour trips would exceed the *CEQR Technical Manual* analysis thresholds for vehicular traffic, transit and pedestrians, a Level 2 screening assessment was undertaken to identify specific locations where additional detailed analyses may be warranted.

[2] Detailed demand forecasts for each projected development site are provided in the *Transportation Planning Factors and Travel Demand Forecast Technical Memorandum* included in **Appendix G**.

Table 14-10
RWCDS Net Incremental Vehicle Trips by Projected Development Site

	AM	MD	PM	SAT		AM	MD	PM	SAT
Site 1	18	-4	15	-18	**Site 37**	0	0	0	0
Site 2	14	10	15	10	**Site 38**	1	0	2	2
Site 3	4	2	2	4	**Site 39**	0	0	0	0
Site 4	38	58	67	73	**Site 40**	1	0	0	0
Site 5	-3	-7	0	13	**Site 41**	12	12	10	2
Site 6	36	32	38	29	**Site 42**	0	0	0	0
Site 7	34	26	34	28	**Site 43**	1	0	1	2
Site 8	20	12	23	4	**Site 44**	0	0	0	0
Site 9	5	16	12	8	**Site 45**	0	0	0	0
Site 10	19	6	23	4	**Site 46**	1	-2	-1	0
Site 11	53	62	48	37	**Site 47**	0	0	0	0
Site 12	8	-6	7	-3	**Site 48**	0	0	0	0
Site 13	10	-6	5	-2	**Site 49**	9	9	17	12
Site 14	4	2	5	2	**Site 50**	0	0	0	0
Site 15	4	4	6	6	**Site 51**	1	0	1	0
Site 16	4	2	5	3	**Site 52**	0	0	0	0
Site 17	38	35	40	26	**Site 53**	0	0	-2	0
Site 18	7	2	8	0	**Site 54**	1	0	1	0
Site 19	7	2	9	3	**Site 55**	0	0	-2	0
Site 20	15	23	24	26	**Site 56**	4	2	3	2
Site 21	28	34	27	18	**Site 57**	1	0	1	2
Site 22	8	2	10	4	**Site 58**	0	-2	0	0
Site 23	5	2	7	2	**Site 59**	0	0	-1	4
Site 24	14	4	12	2	**Site 60**	0	0	0	0
Site 25	1	0	2	2	**Site 61**	0	0	0	0
Site 26	2	2	2	4	**Site 62**	1	0	1	0
Site 27	0	0	0	0	**Site 63**	3	0	4	2
Site 28	-3	-12	-7	-4	**Site 64**	1	0	0	0
Site 29	16	18	18	17	**Site 65**	0	0	0	0
Site 30	15	16	17	8	**Site 66**	0	0	1	0
Site 31	1	0	1	0	**Site 67**	1	0	1	0
Site 32	2	0	1	0	**Site 68**	4	2	4	2
Site 33	7	2	8	2	**Site 69**	11	10	14	10
Site 35	0	0	1	0	**Total**	**484**	**370**	**540**	**348**
Site 36	0	0	0	0					

Table 14-11
Summary of Net Incremental Peak Hour Trips Generated Under the RWCDS

Mode/Description	Trip Type	Weekday AM	Weekday Midday	Weekday PM	Saturday
Auto/Taxi/Truck	vehicle trips	484	370	540	348
Subway/Railroad	person trips	2,350	1,296	2,716	2,101
Local Bus	person trips	511	325	617	575
Walk/Other	person trips	665	1,559	1,460	1,835

E. LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the assignment of project-generated trips to the study area street network, pedestrian elements and transit facilities, and the identification of specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds and therefore require a quantitative analysis.

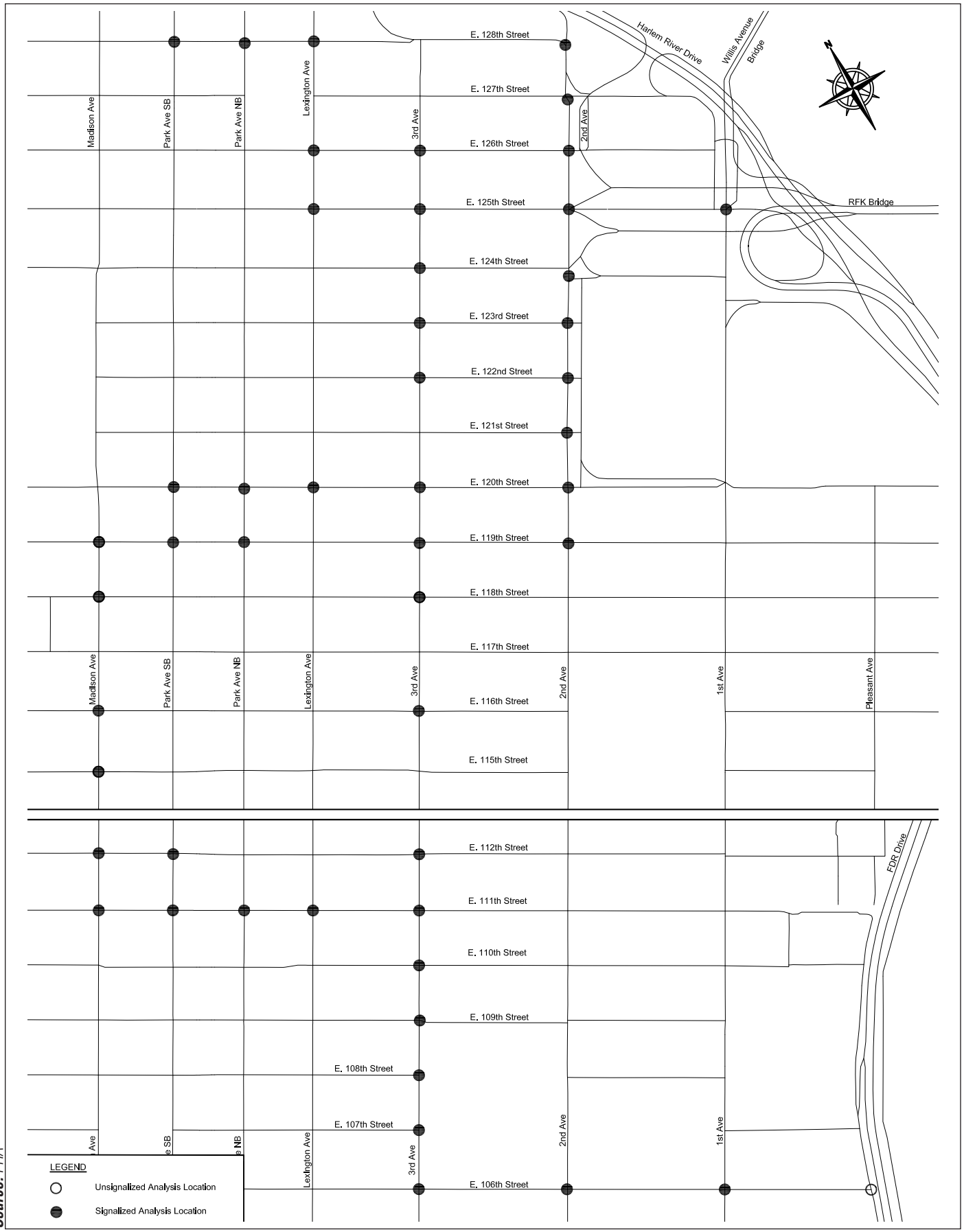
VEHICULAR TRAFFIC

Based upon the projected development associated with the Proposed Actions, there would be 484 additional vehicle trips during the weekday AM peak hour, 370 during the midday peak hour, 540 during the PM peak hour, and 348 during the Saturday peak hour. These traffic volumes would exceed the *CEQR Technical Manual* threshold of 50 peak hour vehicle trips for Level 1 screening and, therefore, a Level 2 screening was performed to help identify intersections for detailed analysis.

The *CEQR Technical Manual* Level 2 screening threshold for detailed analysis is also 50 vehicles, but this threshold applies to individual intersections during the peak hours (rather than total trips generated). Peak hour project increment traffic volumes were first assigned to the Project Area street network to identify the intersections that would potentially exceed the 50-trip threshold during one or more periods. In consultation with the Department of City Planning (DCP), representative intersections most likely to be used by concentrations of action-generated vehicles traveling to and from the Projected Development Sites were then selected for detailed analysis. Existing bottleneck locations and prevailing travel patterns in the study area were also taken into consideration. **Figure 14-1** shows the locations of the 50 intersections (49 signalized and one unsignalized) that were selected for detailed analysis. The majority of analyzed intersections are located along the couplet of northbound Third Avenue and southbound Second Avenue (16 intersections and 11 intersections, respectively). Other north-south corridors with analyzed intersections include First Avenue (two intersections), Lexington Avenue (five intersections), Park Avenue (four intersections northbound and five intersections southbound), and Madison Avenue (six intersections). There is also one analyzed intersection along the southbound FDR Drive Service Road (at East 106th Street).

TRANSIT

According to the general thresholds used by the Metropolitan Transportation Authority and specified in the *CEQR Technical Manual*, detailed transit analyses are generally not required if a proposed action is projected to result in fewer than 200 peak hour rail or bus transit riders. If a proposed action would result in 50 or more bus passengers being assigned to a single bus line (in one direction), or if it would result in an increase of 200 or more passengers at a single subway station or on a single subway line, a detailed bus or subway analysis would be warranted. As discussed previously, to be conservative, the subway and local bus analyses in this EIS assess conditions without Phase II of the Second Avenue Subway which would include three new stations in proximity to the Project Area.



Source: *PHA*

Traffic Study Area and Analyzed Intersections

EAST HARLEM REZONING

Figure 14-1

SUBWAY

Subway Stations

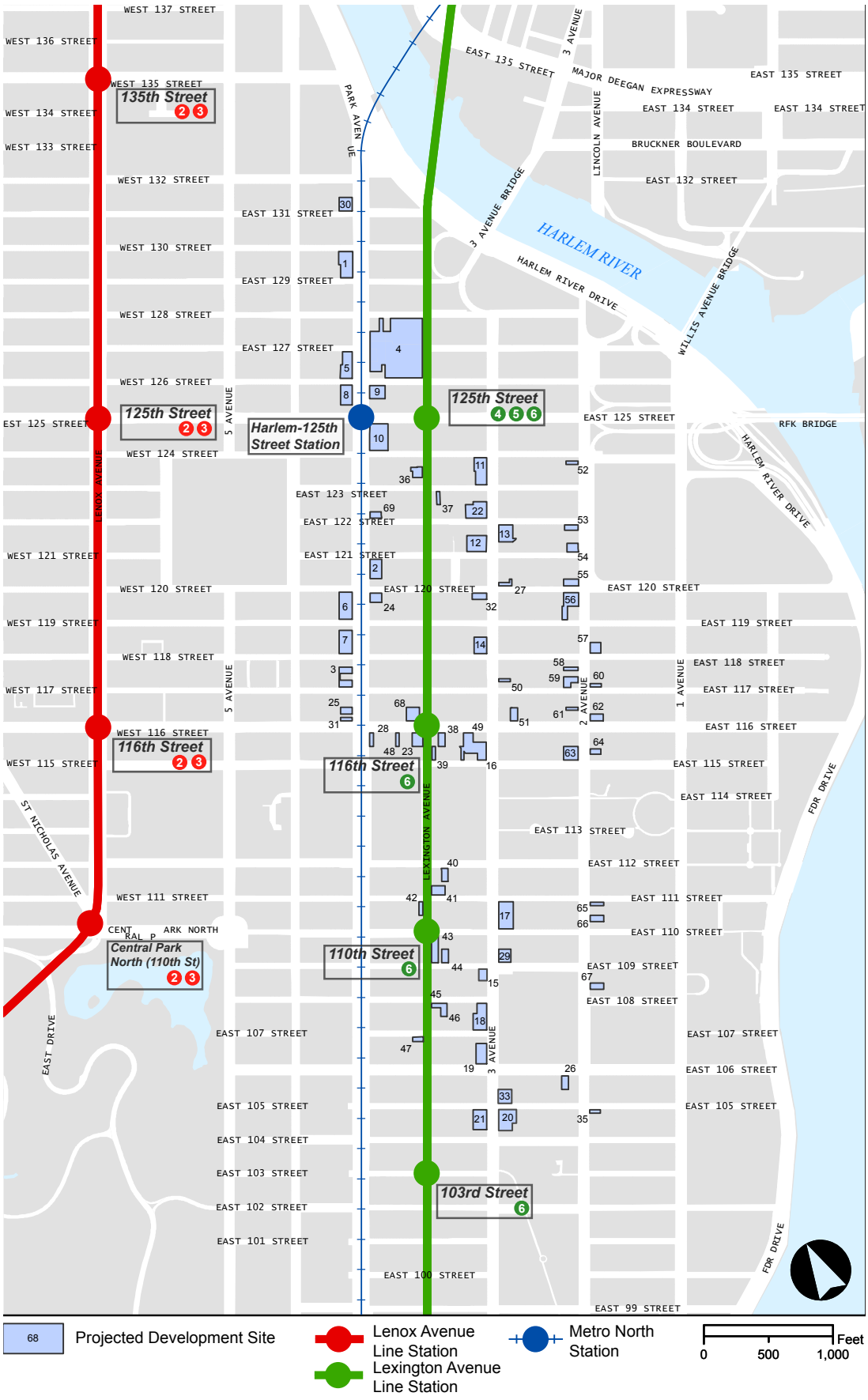
There are currently a total of eight NYCT subway stations in proximity to Projected Development Sites. These stations are presented in **Figure 14-2** and **Table 14-12**, along with the subway routes serving each facility. As shown in **Figure 14-2**, No. 6 trains operating on the Lexington Avenue Line serve four below-grade stations at 103rd Street, 110th Street, 116th Street, and 125th Street. The 125th Street station is also served by Nos. 4 and 5 Lexington Avenue Line express trains. To the west of the project area, Nos. 2 and 3 trains operating on the Lenox Avenue Line serve four stations located beneath Malcolm X Boulevard (Lenox Avenue) at Central Park North (110th Street), 116th Street, 125th Street, and 135th Street.

As shown in **Table 14-12**, under the RWCDS, the Proposed Actions would generate a net increment of approximately 2,350 and 2,716 subway trips during the weekday AM and PM commuter peak hours, respectively. (As discussed below, these totals also include a relatively small number of trips expected to be made by the commuter rail mode.) Trips from each projected development site were assigned to the individual stations serving the Project Area based on proximity and existing ridership patterns. **Table 14-12** shows the estimated net incremental subway trips expected to be generated by the Proposed Actions during the weekday AM and PM peak hours at each of the existing subway stations serving the Project Area. As shown in **Table 14-12**, the highest number of peak hour subway trips are expected to occur at the 125th Street (4, 5, 6) station on the Lexington Avenue Line which would experience an estimated 933 incremental trips (in + out combined) in the AM peak hour and 1,104 in the PM peak hour. The second highest number of trips would occur at the 116th Street Lexington Avenue Line station which would experience an estimated 712 incremental trips in the AM peak hour and 804 in the PM. By contrast, all four Lenox Avenue Line stations are expected to experience fewer than 100 new trips in both the AM and PM peak hours.

Table 14-12
RWCDS Net Incremental Peak Hour Subway Trips by Station

Subway Station	AM Peak Hour Trips			PM Peak Hour Trips		
	Into Project	Out of Project	Total	Into Project	Out of Project	Total
Project Summary						
Peak Hour Project Increment Person Trips:	1,446	2,568	4,014	2,954	2,428	5,382
Peak Hour Project Increment Subway Trips:	717	1,633	2,350	1,569	1,147	2,716
Subway Station Summary						
103rd Street (6)	87	174	261	172	139	311
110th Street (6)	93	214	307	190	135	325
116th Street (6)	162	550	712	512	292	804
125th Street (4, 5, 6)	328	605	933	602	502	1,104
Central Park North (110th Street) (2, 3)	0	0	0	0	0	0
116th Street (2, 3)	14	43	57	41	27	68
125th Street (2, 3)	31	45	76	50	49	99
135th Street (2, 3)	2	2	4	2	3	5
Total	**717**	**1,633**	**2,350**	**1,569**	**1,147**	**2,716**

The analysis of subway station conditions focuses on the four existing subway stations at which incremental demand from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or both peak hours. As shown in **Table 14-12**, these are the four Lexington Avenue Line stations at 103rd Street, 110th Street, 116th Street, and 125th



Source: PHA

Project Area Subway and Commuter Rail Stations

Street. At each of these facilities, key circulation elements (e.g., stairs and fare arrays) expected to be used by concentrations of new demand from the Proposed Actions are analyzed.

Subway Line Haul

As discussed above, the Project Area is currently served by a total of five NYCT subway routes—the Nos. 4, 5, and 6 trains operating along the Lexington Avenue Line and the Nos. 2 and 3 trains operating along the Lenox Avenue and Broadway-Seventh Avenue lines. As the Proposed Actions are expected to generate 200 or more new peak hour subway trips in one direction on one or more of these lines, an analysis of subway line haul conditions is included in the EIS. The analysis uses existing maximum load point subway service and ridership data provided by NYCT to assess existing, future No Action, and future With Action conditions at the peak load points of each analyzed subway line during the weekday AM and PM peak hours. Outputs from MTA's Regional Transit Forecasting Model (RTFM) provided by NYCT were also used to develop the estimates of peak hour demand under future conditions.

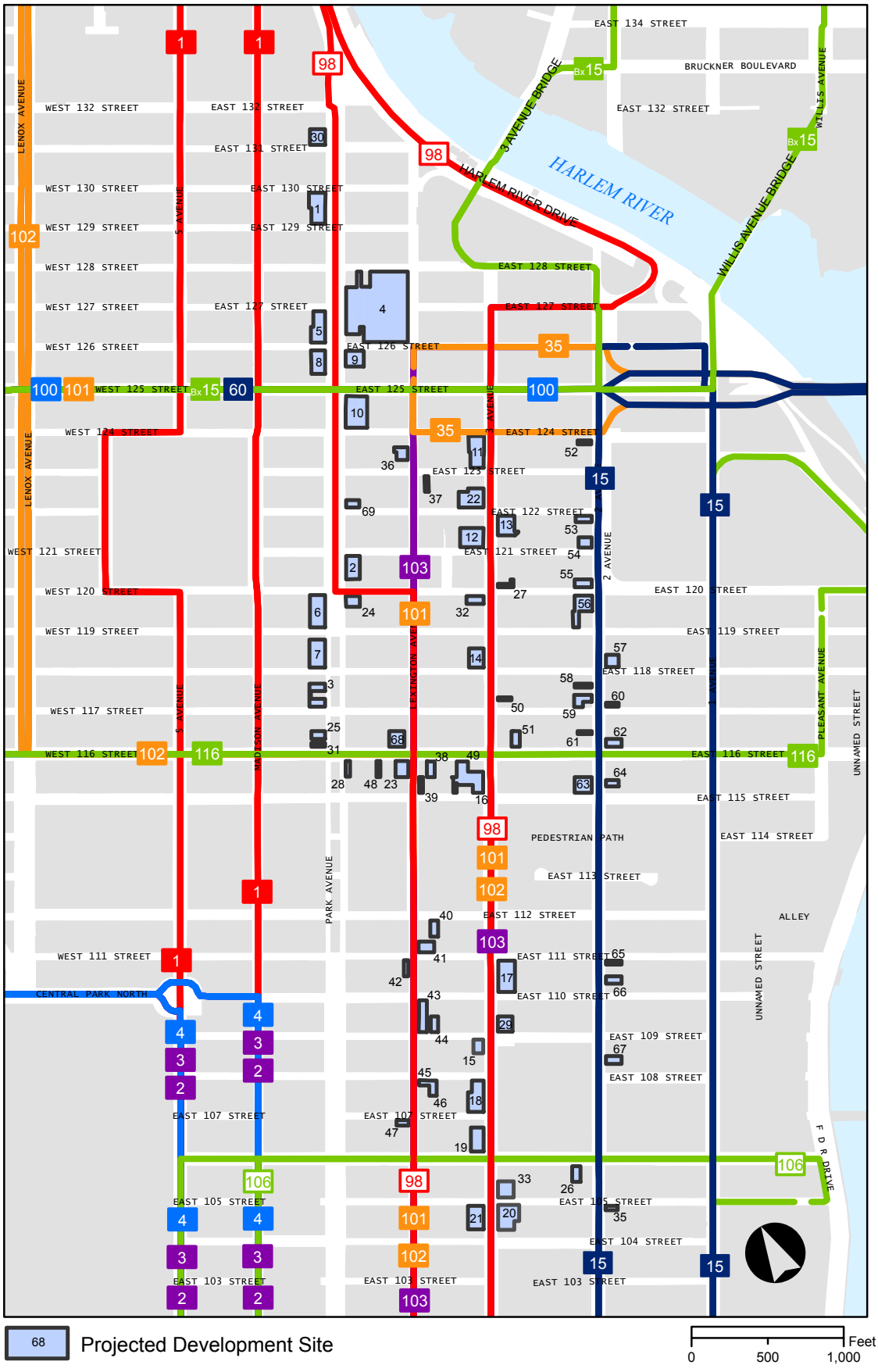
BUS

The Project Area is served by a total of 13 local bus routes, six Limited (LTD) bus routes, and two Select Bus Service (SBS) routes operated by the MTA. Limited bus routes provide limited-stop service along all or a portion of the route. Some Limited services only operate in the peak direction and/or during peak periods. Select Bus Service routes are designed to provide faster service through dedicated bus lanes, greater spacing between stops, and a fare collection system where customers pay prior to boarding and may enter through all doors on the bus. SBS buses also have a unique livery to distinguish them from other bus services. The bus routes operating in proximity to the Project Area are shown in **Figure 14-3** and described in **Table 14-13**.

As shown in **Table 14-9**, projected development sites are expected to generate a total of approximately 511 and 617 incremental trips by local bus during the weekday AM and PM peak hours, respectively. These local bus trips were assigned to each route based on proximity to projected development sites and current ridership patterns. **Table 14-13** shows the anticipated numbers of new riders expected on each local bus route in the AM and PM peak hours. According to the general thresholds used by the MTA and specified in the *CEQR Technical Manual*, a detailed analysis of bus conditions is generally not required if a proposed action is projected to result in fewer than 50 peak hour trips being assigned to a single bus route (in one direction), as this level of new demand is considered unlikely to result in significant adverse impacts. As shown in **Table 14-13**, with project-generated demand distributed among a total of 21 bus routes, only two routes are expected to experience 50 or more new trips in one direction in at least one peak hour. These two routes—the M15 SBS and the M101 LTD, both of which are operated with articulated buses—are therefore analyzed in the EIS.

COMMUTER RAIL

As shown in **Figure 14-2**, the Metro-North Railroad (MNR) 125th Street commuter rail station is located in proximity to the project area on Park Avenue at East 125th Street. As the Proposed Actions are expected to generate a total of less than 100 trips by commuter rail in any one peak hour, impacts to the 125th Street rail station are not anticipated to result from the Proposed Actions, and it is not analyzed in the EIS. As some Metro-North trips would also likely start or end on another mode of transit, commuter rail trips are conservatively included in the totals for the subway mode for travel demand forecasting purposes.



Source: PHA

Project Area Bus Routes

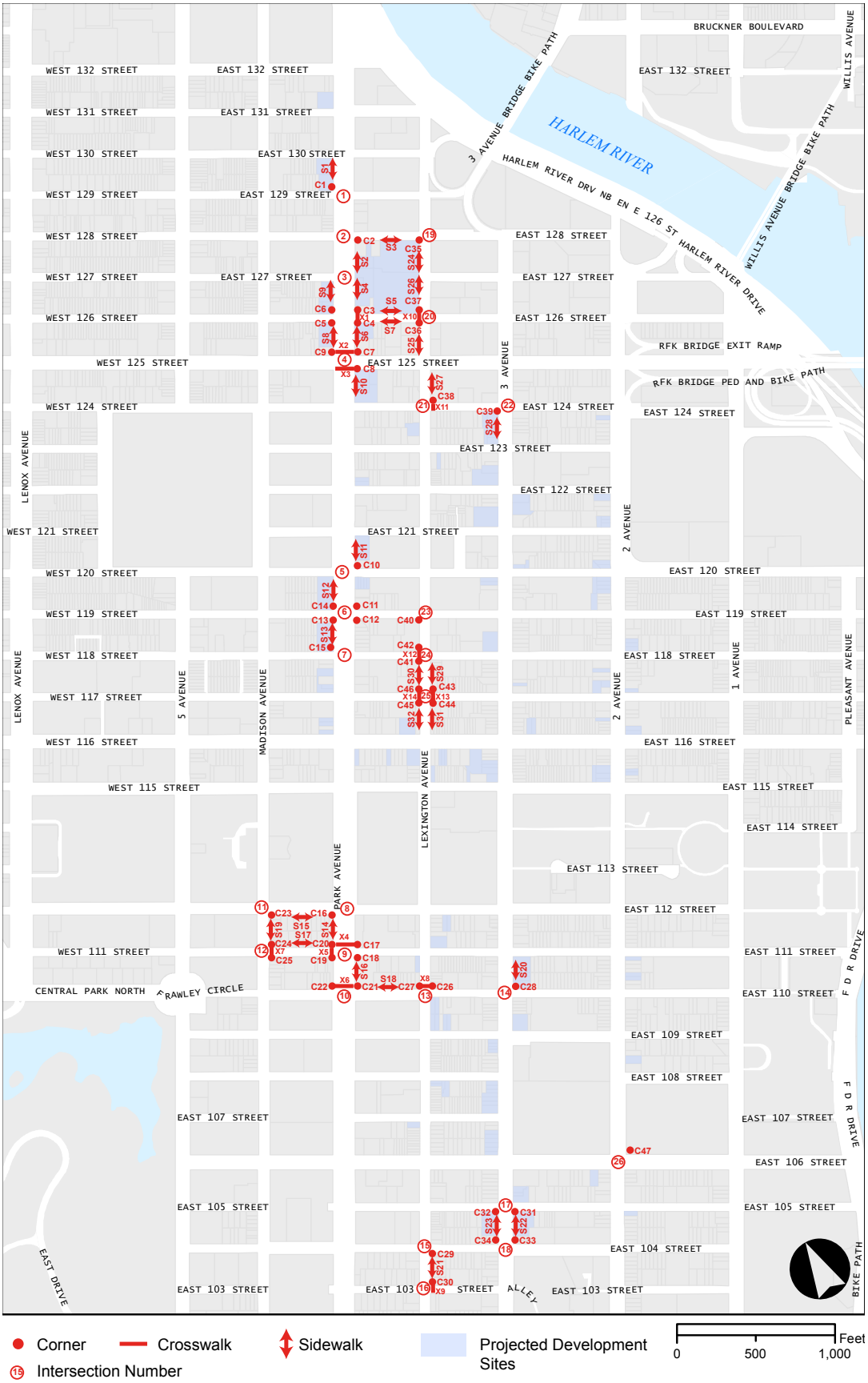
EAST HARLEM REZONING

Figure 14-3

PEDESTRIANS

Under *CEQR Technical Manual* criteria, detailed pedestrian analyses are generally warranted if a proposed action is projected to result in 200 or more peak hour pedestrians at any sidewalk, corner area or crosswalk. As shown in **Table 14-9**, the Proposed Actions are expected to generate approximately 665 walk-only trips (in + out combined) in the weekday AM peak hour, 1,559 in the midday, 1,460 in the PM, and 1,835 in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 2,861, 1,621, 3,333, and 2,676 additional pedestrian trips to sidewalks and crosswalks in the vicinity of the rezoning area during these same periods, respectively. In the weekday AM and PM peak hours, new pedestrian trips would be most concentrated on sidewalks and crosswalks adjacent to projected development sites as well as along corridors connecting these sites to area subway station entrances. In the midday and Saturday periods, pedestrian trips would tend to be more dispersed, as people travel throughout the area for lunch, shopping and/or errands.

The analysis of pedestrian conditions focuses on representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—sidewalks, corner areas and crosswalks—are primarily located in the vicinity of major projected development sites and along corridors connecting these sites to area subway station entrances and bus routes. As shown in **Figure 14-4**, they include a total of 32 sidewalks, 47 corner areas, and 14 crosswalks primarily located along the Park Avenue, Lexington Avenue, and Third Avenue corridors.



Source: PHA

Pedestrian Analysis Locations

EAST HARLEM REZONING

Figure 14-4

Table 14-13
RWCDS Net Incremental Peak Hour Bus Trips by Route

Route	Description	Direction	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
M1	Daily service btwn the E. Village and Harlem via Fifth Av and Madison Av.	NB	4	0	4	5	0	5
		SB	0	7	7	0	12	12
M1 LTD	(See M1 above.) Operates weekdays SB in AM peak period and NB in PM.	NB	0	0	0	11	0	11
		SB	0	7	7	0	8	8
M2	24-Hr service btwn the E. Village and Washington Hts. via Fifth Av and Madison Av.	NB	0	0	0	0	0	0
		SB	0	0	0	0	0	0
M2 LTD	(See M2 above.) Operates during daytime hours with limited stops south of 110th St.	NB	0	0	0	0	0	0
		SB	0	0	0	0	0	0
M3	Daily service btwn the E. Village and Washington Hts. via Fifth Av and Madison Av and 110th St.	NB	0	0	0	0	0	0
		SB	0	0	0	0	0	0
M4	Daily service btwn Penn Station and Washington Hts. via Fifth Av and Madison Av and 110th St.	NB	0	0	0	0	0	0
		SB	0	0	0	0	0	0
M4 LTD	(See M4 above.) Limited stops south of 157th St weekdays SB in AM peak period and NB in PM.	NB	0	0	0	0	0	0
		SB	0	0	0	0	0	0
M15	24-Hour service btwn S. Ferry and E. Harlem via First Av and Second Av.	NB	9	0	9	18	0	18
		SB	0	18	18	0	15	15
M15 SBS	Daily service btwn S. Ferry and E. Harlem via First Av and Second Av.	NB	35	0	35	29	0	29
		SB	0	**53**	53	0	26	26
M35	Daily service btwn E. Harlem and Randall's/Ward's Islands via RFK Bridge and 125th St.	EB	8	9	17	11	12	23
		WB	2	2	4	7	8	15
M96	24-Hr crosstown service btwn Yorkville and the Upper West Side via 96th St.	EB	0	0	0	0	0	0
		WB	0	0	0	0	0	0
M98 LTD	Weekday AM/PM peak service btwn Upper East Side and Washington Hts via Third Av, Lexington Av, and Harlem River Dr.	NB	4	6	10	13	13	26
		SB	11	16	27	16	16	32
M100	Daily service btwn Inwood and Harlem via 125th St.	NB	0	9	9	0	12	12
		SB	8	0	8	10	0	10
M101 LTD*	Daily service btwn the E. Village and Inwood via 125th St, Third Av and Lexington Av. Limited stops south of 122nd St.	NB	24	36	60	**51**	**50**	101
		SB	24	36	60	37	36	73
M102	24-Hr service btwn the E. Village and Harlem via Third Av, Lexington Av, 116th St and Malcolm X Blvd.	NB	7	0	7	22	0	22
		SB	0	15	15	0	13	13
M103	24-Hr service btwn City Hall and Harlem via 3rd Av and Lexington Av.	NB	10	0	10	23	0	23
		SB	0	19	19	0	16	16
M106	Daily service btwn E. Harlem and the Upper West Side via 96th St, 106th St, Fifth Av, and Madison Av.	EB	2	0	2	2	0	2
		WB	0	3	3	0	4	4
M116	Daily service btwn E. Harlem and Morningside Hts. via 116th St.	EB	7	0	7	13	0	13
		WB	0	18	18	0	8	8
M60 SBS	24-Hr service btwn W. Harlem and LaGuardia Airport via 125th St.	EB	8	9	17	11	12	23
		WB	11	12	23	11	12	23
Bx15 LTD*	Daily service btwn W. Harlem and Fordham Plaza in the Bronx via 125th St and the Third Av and Willis Av bridges.	EB	10	9	19	13	14	27
		WB	22	20	42	13	14	27
Bx33	Daily service btwn E. Harlem and Port Morris in the Bronx via 135th St and the Madison Ave Bridge.	EB	0	0	0	0	0	0
		WB	1	0	1	0	0	0
Total			207	304	511	316	301	617

Notes:
Bold—denotes 50 or more incremental trips per direction.
* Local service does not serve the project area during analyzed weekday AM and PM peak periods.

PARKING

Parking demand from commercial and retail uses typically peaks in the weekday midday period and declines during the afternoon and evening. By contrast, residential demand typically peaks during the overnight period.

It is anticipated that the on-site required accessory parking would not be sufficient to accommodate the overall incremental demand that would be generated by the Proposed Actions. As such, detailed existing on-street and off-street parking inventories for the weekday midday and overnight periods are provided in this EIS to document the existing supply and demand during each period.

The parking analysis documents changes in parking supply and utilization under both No Action and With Action conditions within a study area extending ¼-mile from projected development sites. Given that the Project Area extends approximately 1.4 miles north to south, the parking study area has been divided into three sub-areas. The parking analysis assesses conditions within the parking study area as a whole, as well as localized conditions within each of these three sub-areas.

F. TRANSPORTATION ANALYSES METHODOLOGIES

TRAFFIC

ANALYSIS METHODOLOGY

The traffic analysis examines conditions in the weekday AM, midday, PM, and Saturday peak hours when the increased travel demand attributable to the Proposed Actions is expected to be the greatest. The peak hours selected for analysis are the weekday 7:30-8:30 a.m., 1:30-2:30 p.m. (midday) and 4:30-5:30 p.m. periods, and the 4:00-5:00 p.m. period on Saturday. These peak hours were selected based on existing traffic volumes in the study area as reflected in automatic traffic recorder (ATR) count data.

The capacity analyses at intersections are based on the methodology presented in the *Highway Capacity Manual* (HCM) Software HCS+ Version 5.5. Traffic data required for these analyses include the hourly volumes on each approach, turning movements, the percentage of trucks and buses, and pedestrian volumes at crosswalks. Field inventories are also necessary to document the physical layout and street widths, lane markings, curbside parking regulations, and other relevant characteristics needed for the analysis.

The HCM methodology produces a volume-to-capacity (v/c) ratio for each signalized intersection approach. The v/c ratio represents the ratio of traffic volume on an approach to the approach's carrying capacity. A v/c ratio of less than 0.90 is generally considered indicative of non-congested conditions in dense urban areas; when higher than this value, the ratio reflects increasing congestion. At a v/c ratio between 0.95 and 1.0, near-capacity conditions are reached and delays can become substantial. Ratios of greater than 1.0 indicate saturated conditions with queuing. The HCM methodology also expresses the quality of traffic flow in terms of level of service (LOS), which is based on the amount of delay that a driver typically experiences at an intersection. Levels of service range from A, representing minimal delay (10 seconds or less per vehicle), to F, which represents long delays (greater than 80 seconds per vehicle).

For unsignalized intersections, the HCM methodology generally assumes that traffic on major streets is not affected by traffic flows on minor streets. Left turns from a major street are assumed to be affected by the opposing, or oncoming, traffic flow on that major street. Traffic on minor streets is affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of traffic flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. Level of service definitions used to characterize traffic flows at unsignalized intersections differ somewhat from those used for signalized intersections, primarily because drivers anticipate different levels of performance from the two different kinds of intersections. For unsignalized intersections, LOS ranges from A, representing minimal delay (10 seconds or less per vehicle, as it is for signalized intersections), to F, which represents long delays (greater than 50 seconds per vehicle, compared to greater than 80 seconds per vehicle for signalized intersections).

Table 14-14 shows the LOS/delay relationship for signalized and unsignalized intersections using the HCM methodology. Levels of service A, B, and C generally represent highly favorable to fair levels of traffic flow. At LOS D, the influence of congestion becomes noticeable. LOS E is considered to be the limit of acceptable delay, and LOS F is considered to be unacceptable to most drivers. In these traffic impact analyses, a signalized lane grouping operating at LOS E or F or a v/c ratio of 0.90 or more is identified as congested. For unsignalized intersections, a movement with LOS E or F is also identified as congested.

Table 14-14
Intersection Level of Service Criteria

LOS	Description	Average Delay per Vehicle (seconds)	
		Signalized Intersections	Unsignalized Intersections
A	Satisfactory—Little/No Delay	Less than 10.1	Less than 10.1
B	Satisfactory—Minor Delay	10.1 to 20.0	10.1 to 15.0
C	Satisfactory—With Some Delay	20.1 to 35.0	15.1 to 25.0
D	Borderline Congestion	35.1 to 55.0	25.1 to 35.0
E	Marginally Acceptable Congestion	55.1 to 80.0	35.1 to 50.0
F	Unsatisfactory—Highly Congested	Greater than 80.0	Greater than 50.0

Source: *2000 Highway Capacity Manual*

SIGNIFICANT IMPACT CRITERIA

The identification of significant adverse traffic impacts at analyzed intersections is based on criteria presented in the *CEQR Technical Manual*. If a lane group in the With Action condition would be LOS A, B or C, or marginally acceptable LOS D (i.e., delay less than or equal to 45.0 seconds/vehicle for signalized intersections and 30.0 seconds/vehicle for unsignalized intersections), the impact is not considered significant. If the lane-group LOS would deteriorate from LOS A, B, or C in the No Action condition to worse than mid-LOS D or to LOS E or F in the With Action condition, a significant traffic impact is identified. For a lane group that would operate at LOS D in the No Action condition, an increase in delay of 5.0 or more seconds in the With Action condition is considered a significant impact if the With Action delay would exceed mid-LOS D. For a lane group that would operate at LOS E in the No Action condition, a projected With Action increase in delay of 4.0 or more seconds is considered a significant impact. For a lane group that would operate at LOS F in the No Action condition, a projected With Action increase in delay of 3.0 or more seconds is considered a significant impact.

The same criteria apply to signalized and unsignalized intersections. However, for traffic on a minor street at an unsignalized intersection to result in a significant impact, 90 passenger car equivalents (PCEs) must be projected in the future With Action condition in any peak hour.

TRANSIT

ANALYSIS METHODOLOGY

Subway stations

To determine existing conditions at analyzed subway station elements, subway ridership data were collected at analyzed subway stations in November 2016, and supplemented with data collected at the 125th Street Lexington Avenue Line station in May 2016. The methodology for assessing subway station pedestrian circulation elements (stairs, escalators, and passageways), and fare control elements (regular turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles [HXTs]) compares existing and projected pedestrian volumes with the element's design capacity to yield a volume-to-capacity (v/c) ratio. All analyses reflect pedestrian flow volumes over a 15-minute interval during each peak hour. Based on existing pedestrian volumes at area subway stations, the peak hours selected for the analysis of subway station conditions are 7:30-8:30 a.m. and 5-6 p.m. (As noted previously, transit analyses typically focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway and bus systems is usually highest.)

Under *CEQR Technical Manual* guidelines, the capacity of a stairway or passageway is determined based on four factors: the NYCT guideline capacity, the effective width, and surging and counter-flow factors, if applicable. NYCT guideline capacity is ten passengers per minute per foot-width (pmf) for stairs and 15 pmf for passageways. The effective width of a stair or passageway is the actual width adjusted to reflect pedestrian avoidance of sidewalls and for center handrails, if present. A surging factor is applied to existing pedestrian volumes to reflect conditions where pedestrian flows tend to be concentrated (or surged) during shorter periods within the 15-minute analysis interval. This factor, which is based on the size of the station and the proximity of the pedestrian element to the station platforms, can reduce the calculated capacity by up to 25 percent. Lastly, a friction (or counter-flow) factor reducing calculated capacity by 10 percent is applied where opposing pedestrian flows use the same stair or passageway. (No friction factor is applied if the flow is all or predominantly in one direction.)

By contrast with stairways and passageways, under *CEQR Technical Manual* guidelines the capacity of an escalator or turnstile is determined based on only two factors: the NYCT guideline capacity for a 15-minute interval and a surging factor of up to 25 percent. **Table 14-15** shows the *CEQR Technical Manual* level of service criteria for all subway station elements. As shown in **Table 14-15**, six levels of service are defined with letters A through F. LOS A is representative of free flow conditions without pedestrian conflicts and LOS F depicts severe congestion and queuing.

Table 14-15
Level of Service Criteria for Subway Station Elements

LOS	Description	V/C Ratio
A	Free Flow	0.00 to 0.45
B	Fluid Flow	0.45 to 0.70
C	Fluid, somewhat restricted	0.70 to 1.00
D	Crowded, walking speed restricted	1.00 to 1.33
E	Congested, some shuffling and queuing	1.33 to 1.67
F	Severely congested, queued	> 1.67

Source: 2014 *CEQR Technical Manual*

Subway Line Haul

Line haul capacity is based on the guideline capacity per subway car multiplied by the number of subway cars crossing the maximum load point in the peak hour. (Maximum guideline capacities established by NYCT for each car class are 110 passengers/car for a 51-foot subway car, 145 passengers/car for a 60-foot car, and 175 passengers/car for a 75-foot car.) The volume-to-capacity (v/c) ratio is determined by dividing the number of peak-hour passengers traveling through the maximum load point by the line haul capacity. (Maximum load point subway service and ridership data were provided by NYCT.) The subway line haul analysis focuses on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway system is usually highest.

Bus

The operating conditions for bus service are measured in terms of the number of passengers carried per bus at the maximum load point for each route. This is determined by dividing the peak hour passenger count by the number of buses during that hour. The bus load levels are compared with the NYCT loading guidelines of 54 passengers for a 40-foot standard bus and 85 passengers for a 60-foot articulated bus. The bus analyses focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the bus system is usually highest. Based on existing ridership patterns, the peak hours for bus demand are 8-9 a.m. and 5-6 p.m.

SIGNIFICANT IMPACT CRITERIA

Subway stations

The *CEQR Technical Manual* identifies a significant impact for stairways and passageways in terms of the minimum width increment threshold (WIT) based on the minimum amount of additional capacity that would be required to restore conditions to either their No Action v/c ratio or to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Stairways that are substantially degraded in level of service or which experience the formation of extensive queues are classified as significantly impacted. Significant adverse stairway or passageway impacts are typically considered to have occurred once the thresholds shown in **Table 14-16** are reached or exceeded.

For turnstiles, escalators, and high-wheel exit gates, the *CEQR Technical Manual* defines a significant impact as an increase from a No Action v/c ratio of below 1.00 to a v/c ratio of 1.00 or greater. Where a facility is already at a v/c ratio of 1.00 or greater, a 0.01 change in v/c ratio is also considered significant.

Table 14-16
Significant Impact Thresholds for Stairways and Passageways

With Action V/C Ratio	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00-1.09	8	13
1.10-1.19	7	11.5
1.20-1.29	6	10
1.30-1.39	5	8.5
1.40-1.49	4	6
1.50-1.59	3	4.5
>1.6	2	3
Source: 2014 *CEQR Technical Manual*		

Subway Line Haul

For subway line haul conditions, *CEQR Technical Manual* criteria specify that any increases in load levels that remain within practical capacity limits are generally not considered significant. However, significant adverse subway line haul impacts can occur if a proposed action is expected to generate an incremental increase averaging five or more riders per subway car on lines projected to carry loads exceeding guideline capacity. This is based on the general assumption that when subways are at or above practical capacity, the addition of even five or more riders per car is perceptible.

Bus

According to the *CEQR Technical Manual* and NYCT guidelines, additional bus service along a route is recommended when load levels exceed maximum capacity at the route's maximum load point. A significant impact is considered at the route's maximum load point where an increase in bus load levels would exceed the maximum capacity. NYCT's general policy is to provide additional bus service where demand warrants increased service, taking into account fiscal and operational constraints.

PEDESTRIANS

ANALYSIS METHODOLOGY

Data on peak period pedestrian flow volumes were collected along analyzed sidewalks, corner areas, and crosswalks in the vicinity of the rezoning area in January and February 2017. Peak hours were determined by comparing rolling hourly averages, and the highest 15-minute volumes within the selected peak hours were used for analysis. Based on existing peak pedestrian volumes along major corridors in the study area, the peak hours selected for analysis include the weekday 7:30-8:30 a.m., 2-3 p.m. (midday), and 5:15-6:15 p.m. periods along with the Saturday 3-4 p.m. peak hour.

Peak 15-minute pedestrian flow conditions during the weekday AM, midday and PM and Saturday peak hours are analyzed using the *2000 Highway Capacity Manual* methodology and procedures outlined in the *CEQR Technical Manual*. Using this methodology, the congestion level of pedestrian facilities is determined by considering pedestrian volume, measuring the sidewalk or crosswalk width, determining the available pedestrian capacity and developing a ratio of volume flows to capacity conditions. The resulting ratio is then compared with LOS

standards for pedestrian flow, which define a qualitative relationship at a certain pedestrian traffic concentration level. The evaluation of street crosswalks and corners is more complicated as these spaces cannot be treated as corridors due to the time incurred waiting for traffic lights. To effectively evaluate these facilities a "time-space" analysis methodology is employed which takes into consideration the traffic light cycle at intersections.

LOS standards are based on the average area available per pedestrian during the analysis period, typically expressed as a 15-minute peak period. LOS grades from A to F are assigned, with LOS A representative of free flow conditions without pedestrian conflicts and LOS F depicting significant capacity limitations and inconvenience. **Table 14-17** defines the LOS criteria for pedestrian crosswalk/corner area and sidewalk conditions, as based on the *Highway Capacity Manual* methodology.

Table 14-17
Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

LOS	Crosswalk/Corner	Crosswalk/Corner Area Criteria (sf/ped)	Non-Platoon Sidewalk Criteria (sf/ped)	Platoon Sidewalk Criteria (sf/ped)
A	(Unrestricted)	> 60	> 60	> 530
B	(Slightly Restricted)	> 40 to 60	> 40 to 60	> 90 to 530
C	(Restricted but fluid)	> 24 to 40	> 24 to 40	> 40 to 90
D	(Restricted, necessary to continuously alter walking stride and direction)	> 15 to 24	> 15 to 24	> 23 to 40
E	(Severely restricted)	> 8 to 15	> 8 to 15	> 11 to 23
F	(Forward progress only by shuffling; no reverse movement possible)	< 8	< 8	< 11

Notes:
Based on average conditions for 15 minutes
sf/ped—square feet of area per pedestrian
Source: 2014 *CEQR Technical Manual*

The analysis of sidewalk conditions includes a "platoon" factor in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. "Platooning" is the tendency of pedestrians to move in bunched groups or "platoons" once they cross a street where cross traffic required them to wait. Platooning generally results in a level of service one level poorer than that determined for average flow rates.

SIGNIFICANT IMPACT CRITERIA

Sidewalks

The *CEQR Technical Manual* impact criteria for a CBD location are used to identify significant adverse impacts due to the proposed rezoning. These criteria define a significant adverse sidewalk impact to have occurred under platoon conditions if the average pedestrian space under the No Action condition is greater than 39.2 square feet/pedestrian (sf/ped), and the average pedestrian space under the With Action condition is 31.5 sf/ped or less (mid-LOS D or worse). If the average pedestrian space under the With Action condition is greater than 31.5 sf/ped (mid-

LOS D or better), the impact should not be considered significant. If the No Action pedestrian space is between 6.4 and 39.2 sf/ped, a reduction in pedestrian space under the With Action condition should be considered significant based on **Table 14-18**, which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given pedestrian space value in the No Action condition. If the reduction in pedestrian space is less than the value in **Table 14-18**, the impact is not considered significant. If the average pedestrian space under the No Action condition is less than 6.4 sf/ped, then a reduction in pedestrian space greater than or equal to 0.3 sf/ped, under the With Action condition, should be considered significant.

Corner Areas and Crosswalks

For CBD areas, *CEQR Technical Manual* criteria define a significant adverse corner area or crosswalk impact to have occurred if the average pedestrian space under the No Action condition is greater than 21.5 sf/ped and, under the With Action condition, the average pedestrian space decreases to 19.5 sf/ped or less (mid-LOS D or worse). If the pedestrian space under the With Action condition is greater than 19.5 sf/ped (mid-LOS C or better), the impact should not be considered significant. If the average pedestrian space under the No Action condition is between 5.1 and 21.5 sf/ped, a decrease in pedestrian space under the With Action condition should be considered significant based on **Table 14-19** which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given amount of pedestrian space in the No Action condition. If the decrease in pedestrian space is less than the value in **Table 14-19**, the impact is not considered significant. If the average pedestrian space under the No Action condition is less than 5.1 sf/ped, then a decrease in pedestrian space greater than or equal to 0.2 sf/ped should be considered significant.

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Under *CEQR Technical Manual* guidelines, an evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations. These are defined as locations with 48 or more total reportable and non-reportable crashes or where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, crash trends would be identified to determine whether projected vehicular and pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic and pedestrian volumes, crash types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with the New York City Department of Transportation.

Table 14-18
Significant Impact Criteria for Sidewalks with Platooned Flow in a CBD Location

No Action Condition Pedestrian Flow (sf/ped)			With Action Condition Pedestrian Flow Increment to be Considered a Significant Impact (sf/ped)
> 39.2			With Action Condition < 31.5
38.7	to	39.2	Reduction ≥ 3.8
37.8	to	38.6	Reduction ≥ 3.7
36.8	to	37.7	Reduction ≥ 3.6
35.9	to	36.7	Reduction ≥ 3.5
34.9	to	35.8	Reduction ≥ 3.4
34.0	to	34.8	Reduction ≥ 3.3
33.0	to	33.9	Reduction ≥ 3.2
32.1	to	32.9	Reduction ≥ 3.1
31.1	to	32.0	Reduction ≥ 3.0
30.2	to	31.0	Reduction ≥ 2.9
29.2	to	30.1	Reduction ≥ 2.8
28.3	to	29.1	Reduction ≥ 2.7
27.3	to	28.2	Reduction ≥ 2.6
26.4	to	27.2	Reduction ≥ 2.5
25.4	to	26.3	Reduction ≥ 2.4
24.5	to	25.3	Reduction ≥ 2.3
23.5	to	24.4	Reduction ≥ 2.2
22.6	to	23.4	Reduction ≥ 2.1
21.6	to	22.5	Reduction ≥ 2.0
20.7	to	21.5	Reduction ≥ 1.9
19.7	to	20.6	Reduction ≥ 1.8
18.8	to	19.6	Reduction ≥ 1.7
17.8	to	18.7	Reduction ≥ 1.6
16.9	to	17.7	Reduction ≥ 1.5
15.9	to	16.8	Reduction ≥ 1.4
15.0	to	15.8	Reduction ≥ 1.3
14.0	to	14.9	Reduction ≥ 1.2
13.1	to	13.9	Reduction ≥ 1.1
12.1	to	13.0	Reduction ≥ 1.0
11.2	to	12.0	Reduction ≥ 0.9
10.2	to	11.1	Reduction ≥ 0.8
9.3	to	10.1	Reduction ≥ 0.7
8.3	to	9.2	Reduction ≥ 0.6
7.4	to	8.2	Reduction ≥ 0.5
6.4	to	7.3	Reduction ≥ 0.4
<6.4			Reduction ≥ 0.3

Source: 2014 *CEQR Technical Manual*

Table 14-19
Significant Impact Criteria for Corners and Crosswalks in a CBD Location

No Action Condition Pedestrian Space (sf/ped)			With Action Condition Pedestrian Space Reduction to be Considered a Significant Impact (sf/ped)
> 21.5			With Action Condition < 19.5
21.3	to	22.1	Reduction ≥ 2.1
20.4	to	21.2	Reduction ≥ 2.0
19.5	to	20.3	Reduction ≥ 1.9
18.6	to	19.4	Reduction ≥ 1.8
17.7	to	18.5	Reduction ≥ 1.7
16.8	to	17.6	Reduction ≥ 1.6
15.9	to	16.7	Reduction ≥ 1.5
15	to	15.8	Reduction ≥ 1.4
14.1	to	14.9	Reduction ≥ 1.3
13.2	to	14	Reduction ≥ 1.2
12.3	to	13.1	Reduction ≥ 1.1
11.4	to	12.2	Reduction ≥ 1.0
10.5	to	11.3	Reduction ≥ 0.9
9.6	to	10.4	Reduction ≥ 0.8
8.7	to	9.5	Reduction ≥ 0.7
7.8	to	8.6	Reduction ≥ 0.6
6.9	to	7.7	Reduction ≥ 0.5
6	to	6.8	Reduction ≥ 0.4
5.1	to	5.9	Reduction ≥ 0.3
< 5.1			Reduction ≥ 0.2

Source: 2014 *CEQR Technical Manual*

PARKING

ANALYSIS METHODOLOGY

The parking analysis identifies the supply of on-street and off-street public parking near a proposed project and determines the extent to which the supply is utilized in existing conditions and in the future without and with a proposed action. The analysis considers anticipated changes in the study area's parking supply and demand, and compares project-generated parking demand with future parking availability to determine if a parking shortfall is likely to result. The displacement of existing parking capacity attributable to the proposed action or project is also considered. Typically, the analysis encompasses the parking facilities—public parking lots and garages and on-street curbside spaces—that vehicular traffic destined to the project site or area would likely utilize. According to the *CEQR Technical Manual*, a ¼-mile radius around a project site is generally assumed as the distance that someone driving to the site would be willing to walk. The parking analyses therefore document changes in the parking supply and utilization within a ¼-mile radius of Projected Development Sites. Given that the Project Area extends approximately 1.4 miles north to south, the parking study area has been divided into three sub-areas. The parking analyses assess conditions within the parking study area as a whole, as well as localized conditions within each of these three sub-areas under both No Action and With Action conditions.

SIGNIFICANT IMPACT CRITERIA

Should a proposed action generate the need for more parking than it provides, a shortfall of spaces may be considered significant. The availability of off-street and on-street parking spaces within a convenient walking distance (about ¼-mile)—as well as the availability of alternative modes of transportation—is considered in making this determination.

Under *CEQR Technical Manual* guidelines, different criteria for determining significance are applied based on whether or not a proposed project is located in residential or commercial areas designated as Parking Zones 1 and 2 as shown in Map 16-2 (CEQR Parking Zones) in the *CEQR Technical Manual*. As the rezoning area is located within Zone 2 as shown in Map 16-2, the inability of the Proposed Actions or the surrounding area to accommodate future parking demands would be considered a parking shortfall, but would generally not be considered significant due to the magnitude of available alternative modes of transportation.

G. TRAFFIC

EXISTING CONDITIONS

STUDY AREA STREET NETWORK

As shown in **Figure 14-1**, the street network in proximity to the project area is comprised of the typical Manhattan grid system of north-south avenues and east-west cross-streets. The primary north-south corridors serving the project area include First, Second, Third, Lexington, Park, Madison, and Fifth Avenues along with Malcolm X Boulevard. Major cross-streets include East 125th, East 116th, and East 106th Street. One limited access roadway—the FDR/Harlem River Drive—also provides non-commercial vehicles with access between East Harlem and other areas of Manhattan to the north and south.

In proximity to the project area, **First Avenue** operates one-way northbound, typically with three moving lanes for general traffic plus a dedicated bus-only lane for NYCT M15 and M15 SBS buses. On-street parking is typically accommodated between this bus lane and the east curb except at locations where the sidewalk has been extended into the parking lane to accommodate a bus stop. A bicycle lane is located along the west curb and is separated from the vehicle travel lanes by a striped median and/or parking. First Avenue is a designated local truck route and at its northern end it provides direct access to the Willis Avenue Bridge to the Bronx. **Second Avenue**, which functions as a southbound couplet to First Avenue, similarly operates with three moving lanes for general traffic flanked by a dedicated bus lane for M15 and M15 SBS buses and curbside parking along the west curb, and a striped bicycle lane and parking along the east curb. The bus lane along Second Avenue is in effect from 7 a.m. to 10 a.m. and 4 p.m. to 7 p.m., Monday through Friday, and the corridor is a designated local truck route. Second Avenue begins at East 128th Street, and there is direct access to it from both the southbound Harlem River Drive and the RFK Bridge. Two northbound contra-flow lanes on Second Avenue between East 126th and East 127th Streets provide access from the RFK Bridge to the northbound Harlem River Drive, and an additional southbound local lane, separated from the Second Avenue mainline by a median, extends from East 124th Street to East 120th Street.

Third Avenue operates with five northbound travel lanes plus parking along both curbs. It is a designated local truck route south of East 125th Street, and in proximity to the project area is

traversed by NYCT M98, M101, M102, and M103 local bus routes. Third Avenue terminates at East 128th Street. **Lexington Avenue**, which functions as a southbound couplet to northbound Third Avenue, is relatively narrow and operates with two moving lanes plus parking along both curbs in proximity to the project area. Like Third Avenue, it is traversed by NYCT M98, M101, M102, and M103 local bus routes and is a designated local truck route south of East 125th Street. Lexington Avenue originates at East 131st Street, and it can be directly accessed from the Third Avenue Bridge.

Park Avenue is a two-way corridor that extends south from East 135th Street in the southbound direction, and terminates at East 132nd Street in the northbound direction at an on-ramp to the southbound Harlem River Drive. In proximity to the project area, a viaduct used by Metro-North Railroad trains separates the northbound and southbound roadways which each operate with a single moving lane plus a parking lane. To the west of Park Avenue is the northbound Madison Avenue/southbound Fifth Avenue couplet. **Madison Avenue** operates with three northbound moving lanes plus parking along each curb. It terminates at East 138th Street where it provides access to the Madison Avenue Bridge to/from the Bronx. **Fifth Avenue** originates at West 143rd Street where there also is an off-ramp from the southbound Harlem River Drive. It is discontinuous between 124th and 120th Streets due to Marcus Garvey Park. To the north of the park it typically operates with two southbound moving lanes plus parking along each curb, while to the south of the park it typically operates with three southbound moving lanes plus parking along each curb. At 110th Street, Fifth Avenue passes through Duke Ellington Circle at the northeast corner of Central Park. To the south of the circle it again operates with two moving lanes plus parking along each curb, except between the hours of 7 a.m. and 10 a.m., Monday through Friday, when the west curb lane functions as a dedicated bus lane. Both Madison Avenue and Fifth Avenue function as major bus corridors. NYCT M1 local buses traverse both corridors north of East 110th Street, while to the south M1 buses are joined by M2, M3, M4, and M106 local buses. A number of express bus routes also traverse Madison and Fifth Avenues in proximity to the project area. Both Madison Avenue and Fifth Avenue are designated as local truck routes north of East 125th Street.

To the east of the project area is **Malcolm X Boulevard** (also known as Lenox Avenue) which extends northward from Central Park North (West 110th Street). This north-south roadway typically operates with two moving lanes plus a curbside parking lane in each direction. The northbound and southbound lanes are separated by a planted median, and left-turn bays are provided at many intersections. North of West 116th Street, Malcolm X Boulevard is used by NYCT M7 and M102 local buses.

As noted above, major east-west crosstown corridors include 125th Street, 116th Street, and 106th Street. **East 125th Street** is the primary crosstown corridor in proximity to the project area. It typically operates with one moving lane, an exclusive bus lane, and a curbside parking lane in each direction. At its eastern end, East 125th Street provides access to the RFK and Willis Avenue bridges along with the northbound and southbound FDR Drive/Harlem River Drive. It is a major bus corridor that is used by M60 SBS buses, M100 and M101 buses, and Bx15 buses to and from the Bronx. East 125th Street is also a designated local truck route.

The next major crosstown corridor to the south is **East 116th Street** which typically operates with two moving lanes plus curbside parking in each direction. At its eastern end, East 116th Street terminates at on and off-ramps to the southbound FDR drive. **East 106th Street**, which extends from Fifth Avenue to the FDR Drive, typically operates with one moving lane, a bike

lane, and a parking lane in each direction. The eastbound and westbound lanes are separated by a striped median, and left-turn bays are provided at many locations. The corridor is traversed by M106 buses.

Most other east-west cross-streets in proximity to the project area typically operate with one to two moving lanes plus parking along each curb. At many locations there are discontinuities in the east-west street system due to the presence of superblock developments or parks (e.g., Marcus Garvey Park and Central Park).

To the east of the project area is the **FDR Drive**, a limited-access parkway restricted to non-commercial vehicles that runs along the west bank of the East River to South Ferry in Lower Manhattan. North of the RFK Bridge, the parkway becomes the Harlem River Drive which continues along the west bank of the Harlem River to Tenth Avenue and Dyckman Street in Inwood and provides access to and from the George Washington Bridge (I-95) to New Jersey.

Bus Routes

MTA bus routes primarily operate along the following study area corridors:

- Lenox Avenue (M102)
- Fifth Avenue (M1, M2, M3, M4, M106)
- Madison Avenue (M1, M2, M3, M4, M106)
- Park Avenue (M98)
- Lexington Avenue (M98, M101, M102, M103)
- Third Avenue (M98, M101, M102, M103)
- Second Avenue (M15, M15 SBS)
- First Avenue (M15, M15 SBS)
- 106th Street (M106)
- Central Park North/110th Street (M2, M3, M4)
- 116th Street (M102, M116)
- 124th Street (M35)
- 125th Street (Bx15, M60, M100, M101)
- 126th Street (M35)
- These bus routes are described in more detail below in Section H, "Transit."

Truck Routes

The City has established local and through truck routes to manage the flow of trucks and improve the quality of neighborhoods. The City defines a truck as "a vehicle which is designed for transportation of property, which has either of the following characteristics: two axles and six tires or three or more axles." Trucks must generally travel on local truck routes to reach the intersection nearest their destinations. In proximity to the Project Area, local truck routes have been designated along First, Second, Third and Lexington Avenues (south of 125th Street), Fifth and Madison Avenues (north of 125th Street), 116th Street, 125th Street, 128th Street (between Second and Third Avenues), the Willis Avenue and Third Avenue bridges, and the Manhattan span of the RFK Bridge. Through trucks are defined as having neither an origin nor a destination

within the Borough of Manhattan. The nearest designated through truck routes in proximity to the Project Area are in the Bronx and include I-87 (the Major Deegan Expressway) and I-278 (the Bruckner Expressway) which also crosses the RFK Bridge between the Bronx and Queens.

Bicycle Lanes

As shown in **Figure 14-5**, protected bicycle paths have been installed along First and Second Avenues and the Third Avenue, Willis Avenue and RFK bridges. There is also a protected bicycle path along the FDR Drive south of East 124th Street. Bike routes within and in proximity to the Project Area that connect to these bike paths are located along the following roadways:

- East 106th Street (a bicycle lane from Fifth Avenue to First Avenue and a signed route from First Avenue to the FDR Drive)
- 119th Street (a bicycle lane from Pleasant Avenue to Lexington Avenue and from Park Avenue to St. Nicholas Avenue, with a signed route between Lexington and Park Avenues);
- 120th Street (a bicycle lane from St. Nicholas Avenue to Mt. Morris Park West and from Fifth Avenue to the FDR Drive, with a shared lane between Mt. Morris Park West and Fifth Avenue);
- Madison Avenue (a signed route between East 120th and East 124th Streets).

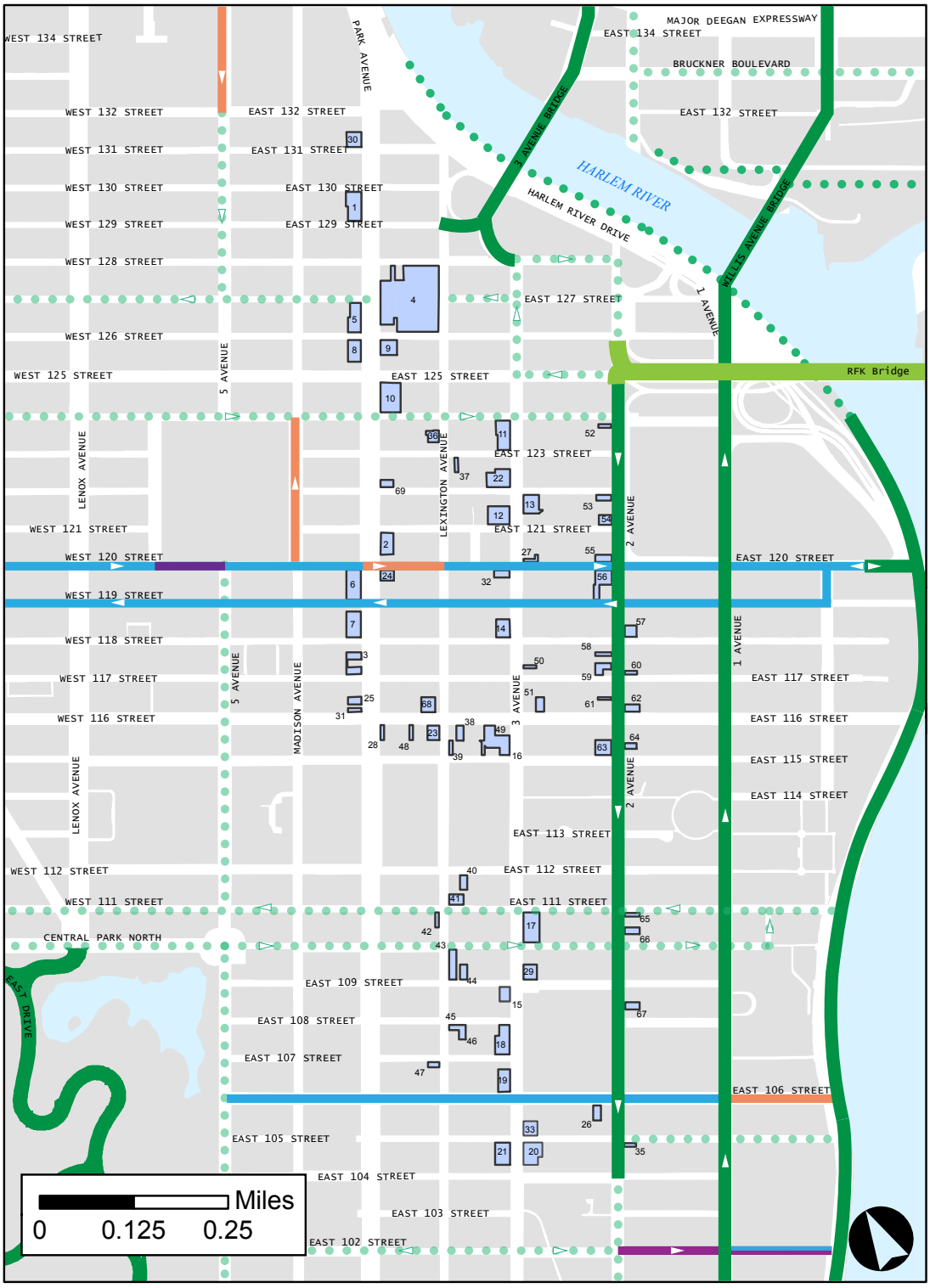
Potential future bicycle routes include Fifth Avenue; Second and Third Avenues north of East 125th Street; East 105th Street east of Second Avenue; 110th, 111th, 124th, and 127th Streets; and East 128th Street east of Third Avenue. A potential future bicycle path would also be located along the FDR/East River Drive north of East 124th Street.

TRAFFIC CONDITIONS

To establish the Existing conditions traffic network, an extensive traffic data collection program—including automatic traffic recorder (ATR) counts, turning movement counts and vehicle classification counts—was undertaken in October and November 2016. Physical inventory data needed for operational analysis—e.g., the number of traffic lanes, lane widths, pavement markings, turn prohibitions, bus stops, and typical parking regulations—were collected in November 2016. Signal timing plans for signalized intersections within the study area were obtained from DOT. **Figures 14-6 through 14-9** show existing traffic volumes during weekday AM, midday, PM and Saturday peak hours.

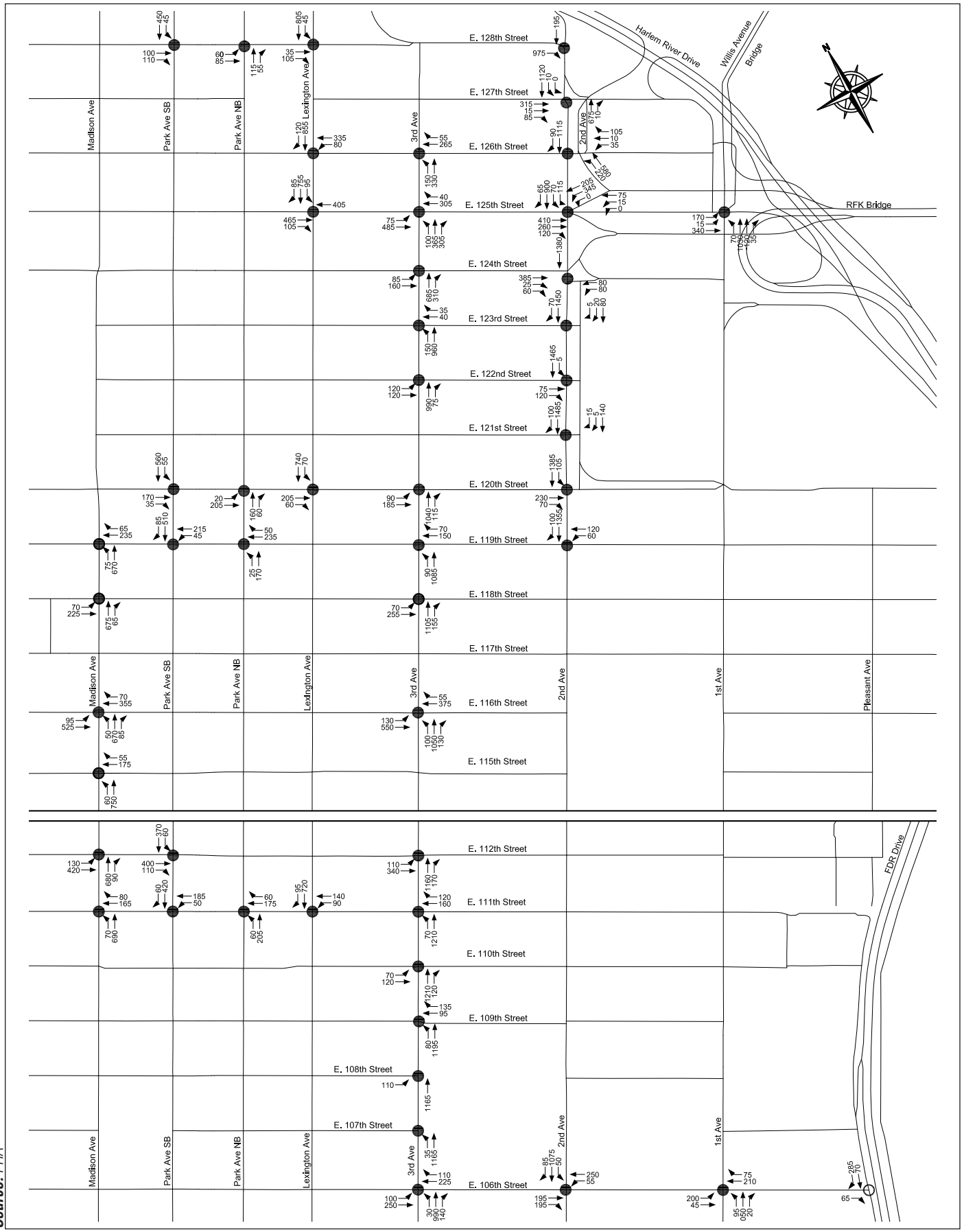
INTERSECTION CAPACITY ANALYSIS

The volume-to-capacity ratios, delays, and levels of service for those individual lane groups experiencing congestion in one or more peak hours under Existing conditions are shown in **Table 14-20**. A lane group is considered congested and is included in **Table 14-20** if it operates at LOS E or F and/or with a v/c ratio of 0.90 or above. A v/c ratio of 1.00 or above reflects capacity conditions. As shown in **Table 14-20**, a total of 23 intersections (all signalized) currently have at least one congested lane group in one or more peak hours. Second Avenue has the greatest number of congested locations (eight intersections), followed by Park Avenue (three intersections in the northbound direction and four intersections southbound) and Third Avenue (three intersections). A total of 12 intersections currently have one or more lane groups operating at capacity (v/c ratio > 1.0) in the weekday AM peak hour, one in the midday, nine in the PM and seven in the Saturday peak hour. Overall, the data in **Table 14-20** indicate that congestion at



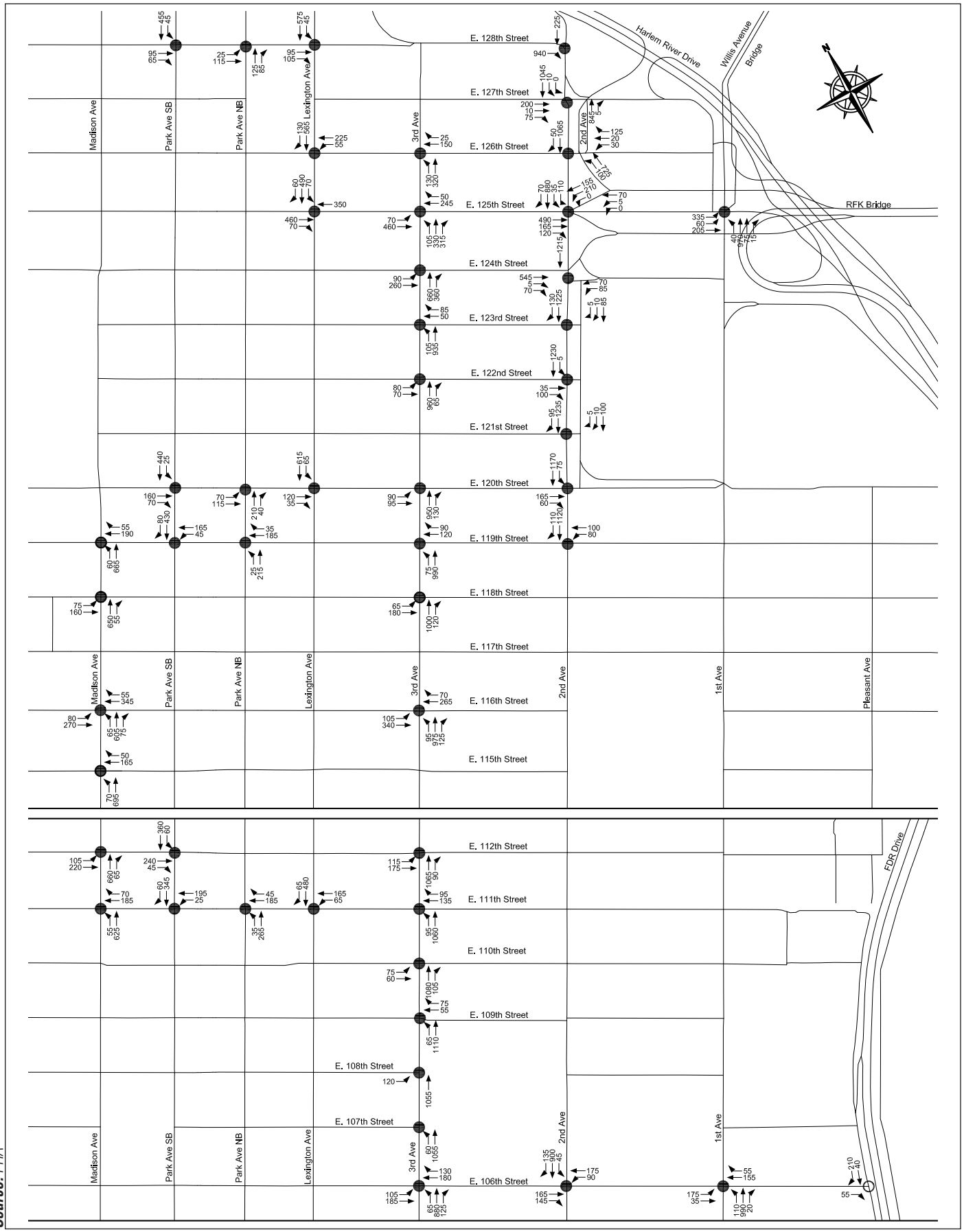
Source: PHA

Project Area Bicycle Routes



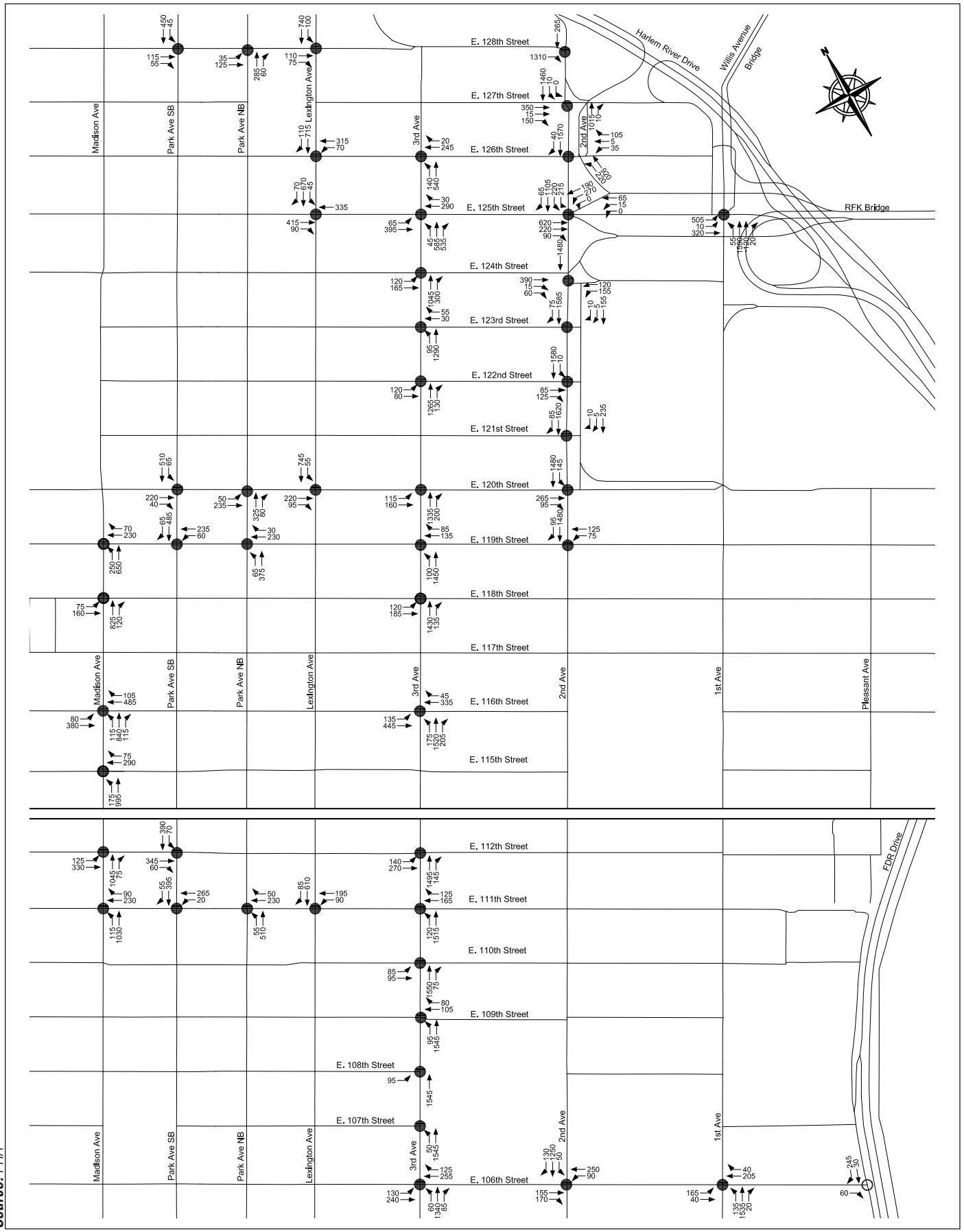
Source: *PHA*

Existing AM Peak Hour Traffic Volumes



Source: *PHA*

Existing Midday Peak Hour Traffic Volumes

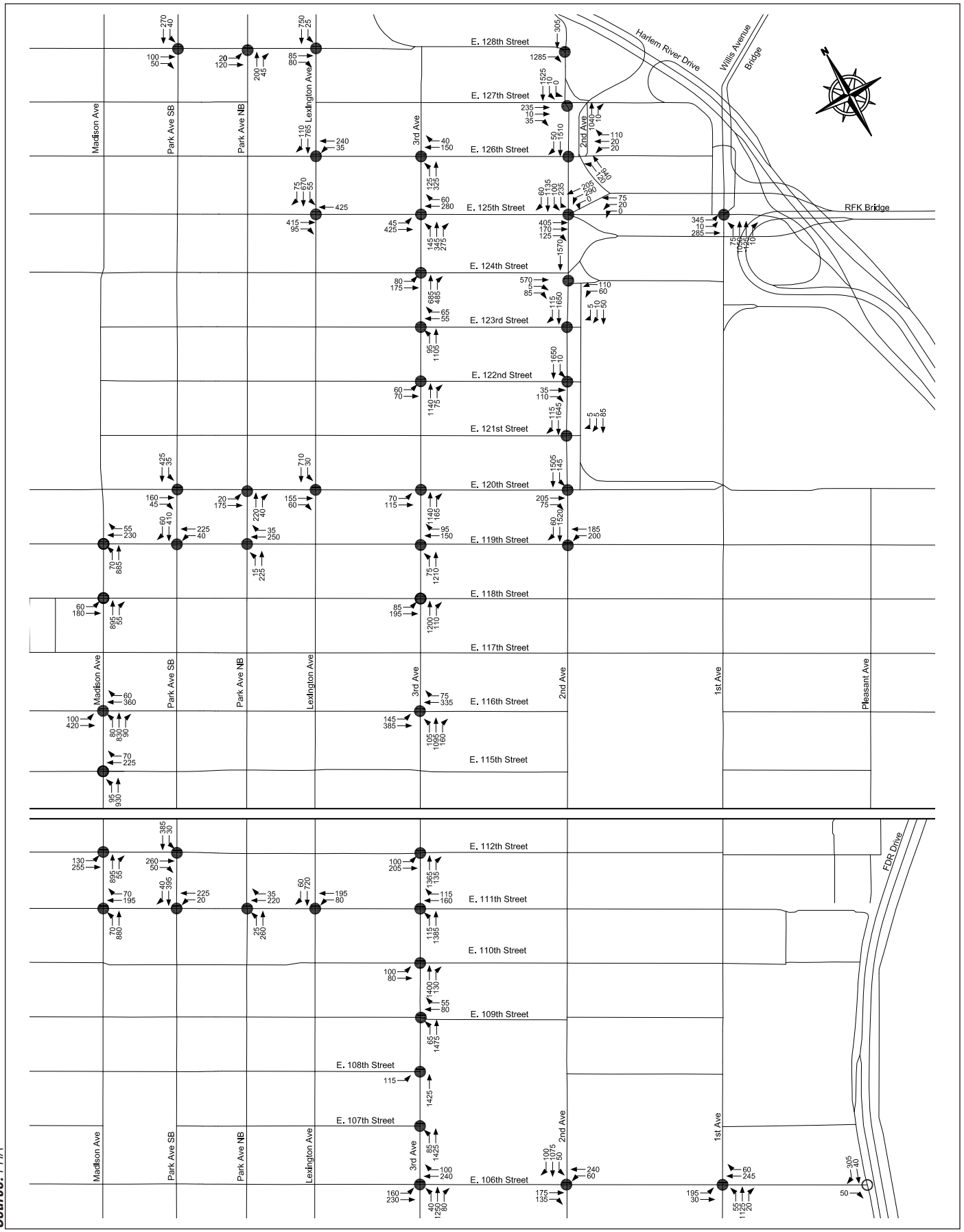


Source: PHA

Existing PM Peak Hour Traffic Volumes

EAST HARLEM REZONING

Figure 14-8



Source: *PHA*

Existing Saturday Peak Hour Traffic Volumes

analyzed intersections is most evident during the weekday AM commuter peak period and least evident during the weekday midday period. V/c ratios, delays, and levels of service for all lane groups at all analyzed intersections in all peak periods under Existing conditions are provided in Table E-1 in **Appendix E**.

Table 14-20
Congested Lane Groups at Analyzed Intersections Under Existing Conditions

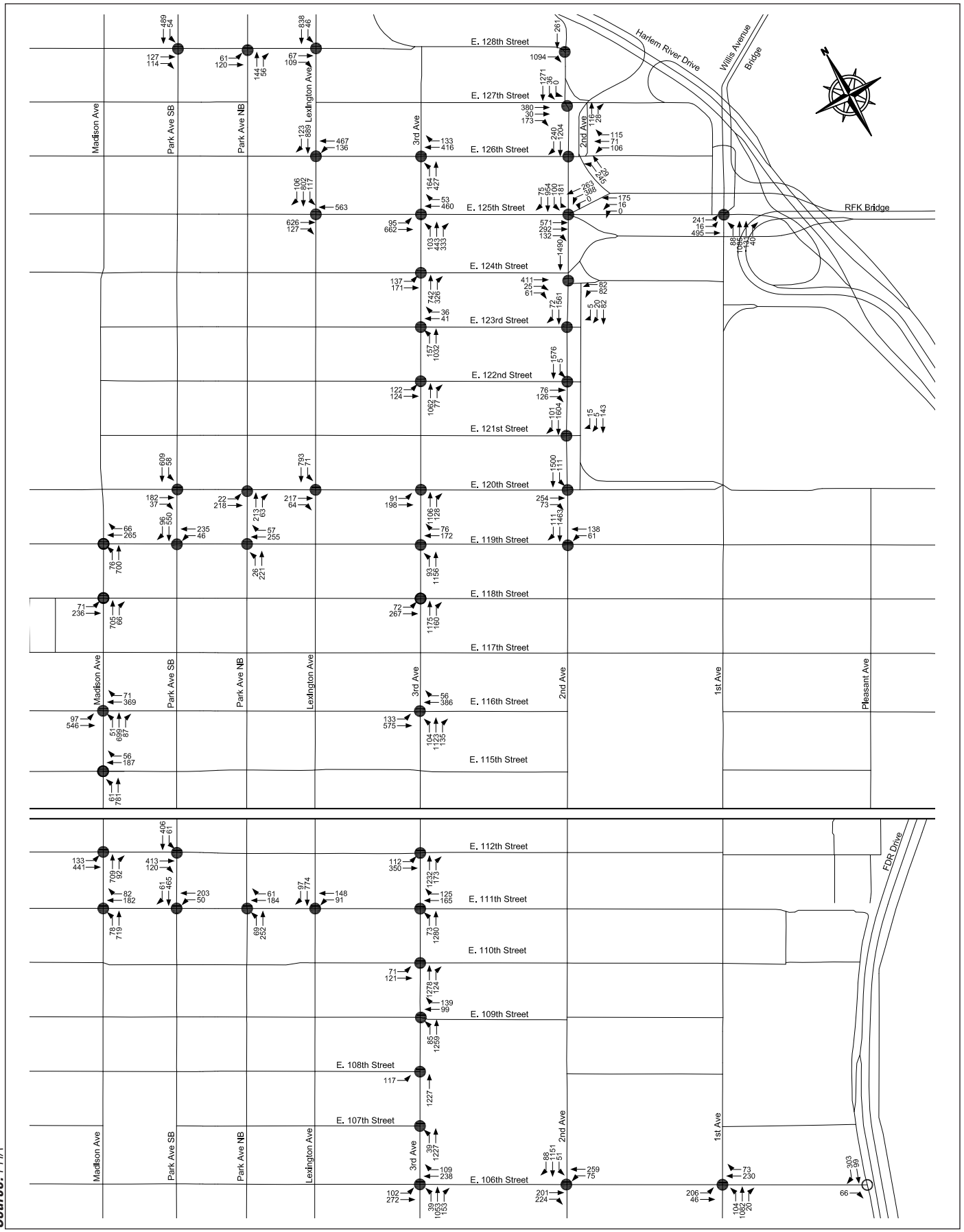
Intersection	Approach	Weekday AM				Weekday MD				Weekday PM				Saturday			
		Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
East 106th Street (EB/WB) & First Avenue (NB)	EB	L	0.93	84.8	F									L	0.93	83.1	F
		LT	0.92	79.4	E									LT	0.95	93.7	F
	NB									L	0.81	63.1	E				
East 125th Street (EB/WB) & First Avenue/Willis Avenue Bridge (SB)	EB									LT	0.97	48.6	D				
	NB									T	0.91	27.9	C				
East 106th Street (EB/WB) & Second Avenue (SB)	EB	TR	1.05	89.4	F	TR	0.98	72.3	E	TR	1.05	92.1	F	TR	1.03	83.5	F
	WB									L	0.77	58.4	E				
East 119th (WB) Street & Second Avenue (SB)	WB													LT	1.05	88.1	F
East 120th Street (EB) & Second Avenue (SB)	EB									TR	1.05	87.1	F				
East 124th Street (EB) & Second Avenue (SB)	EB													T	1.02	70.4	E
East 125th St (EB/WB)/RFK Bridge (WB) & Second Avenue (SB)	EB	T	1.05	81.4	F					T	1.05	73.3	E				
	WB (Ramp)	L	0.97	75.1	E					L	0.87	62.2	E				
	WB (Ramp)	LT	0.96	73.0	E					LT	0.87	60.3	E				
	SB	T	0.91	41.3	D					T	0.98	52.8	D				
East 126th Street (WB) & Second Avenue (SB)/RFK Bridge Exit (NB)	NB	L	0.98	84.3	F					L	0.83	57.5	E				
East 127th Street (EB) & Second Avenue (SB)	EB	LTR	1.05	85.1	F					LTR	1.05	83.3	F				
East 128th Street (EB) & Second Avenue (SB)	EB	T	0.90	34.0	C	T	0.90	34.5	C	T	1.02	55.2	E	T	1.02	55.9	E
East 112th Street (EB) & Third Avenue (NB)	EB	LT	1.05	82.1	F					LT	0.94	56.6	E				
East 116th Street (EB/WB) & Third Avenue (NB)	EB	LT	1.05	75.6	E												
East 125th Street (EB/WB) & Third Avenue (NB)	EB	T	1.03	75.1	E	T	0.99	63.9	E	T	0.96	58.9	E				
	WB													TR	0.94	56.0	E
East 125th Street (EB/WB) & Lexington Avenue (SB)	EB	T	1.00	71.0	E	T	1.05	84.7	F	T	1.00	69.0	E				
	WB	T	1.05	86.4	F									T	0.95	59.1	E
	SB	LT	0.92	37.1	D												
East 111th Street (WB) & Park Avenue (NB)	WB	TR	1.04	102.7	F	TR	0.84	55.8	E	TR	1.05	99.8	F	TR	1.00	84.5	F
East 119th Street (WB) & Park Avenue (NB)	WB	TR	1.05	98.9	F					TR	0.98	80.5	F	TR	1.00	84.9	F
East 120th Street (EB) & Park Avenue (NB)	EB									LT	0.97	73.5	E				
East 112th Street (EB) & Park Avenue (SB)	EB	TR	1.01	76.2	E												
East 119th Street (WB) & Park Avenue (SB)	WB	LT	0.87	58.5	E					LT	0.94	67.5	E				
	SB	TR	0.93	39.3	D												
East 120th Street (EB) & Park Avenue (SB)	EB	TR	0.92	71.7	E					TR	1.05	100.7	F	TR	0.88	63.2	E
	SB	LT	0.91	35.5	D												
East 128th Street (EB) & Park Avenue (SB)	EB	TR	1.05	107.0	F												
East 116th Street (EB/WB) & Madison Avenue (NB)	EB	LT	1.05	80.4	F					LT	1.05	86.5	F	LT	1.05	85.4	F
East 119th Street (WB) & Madison Avenue	WB	TR	0.90	53.4	D												

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

FUTURE NO ACTION TRAFFIC GROWTH

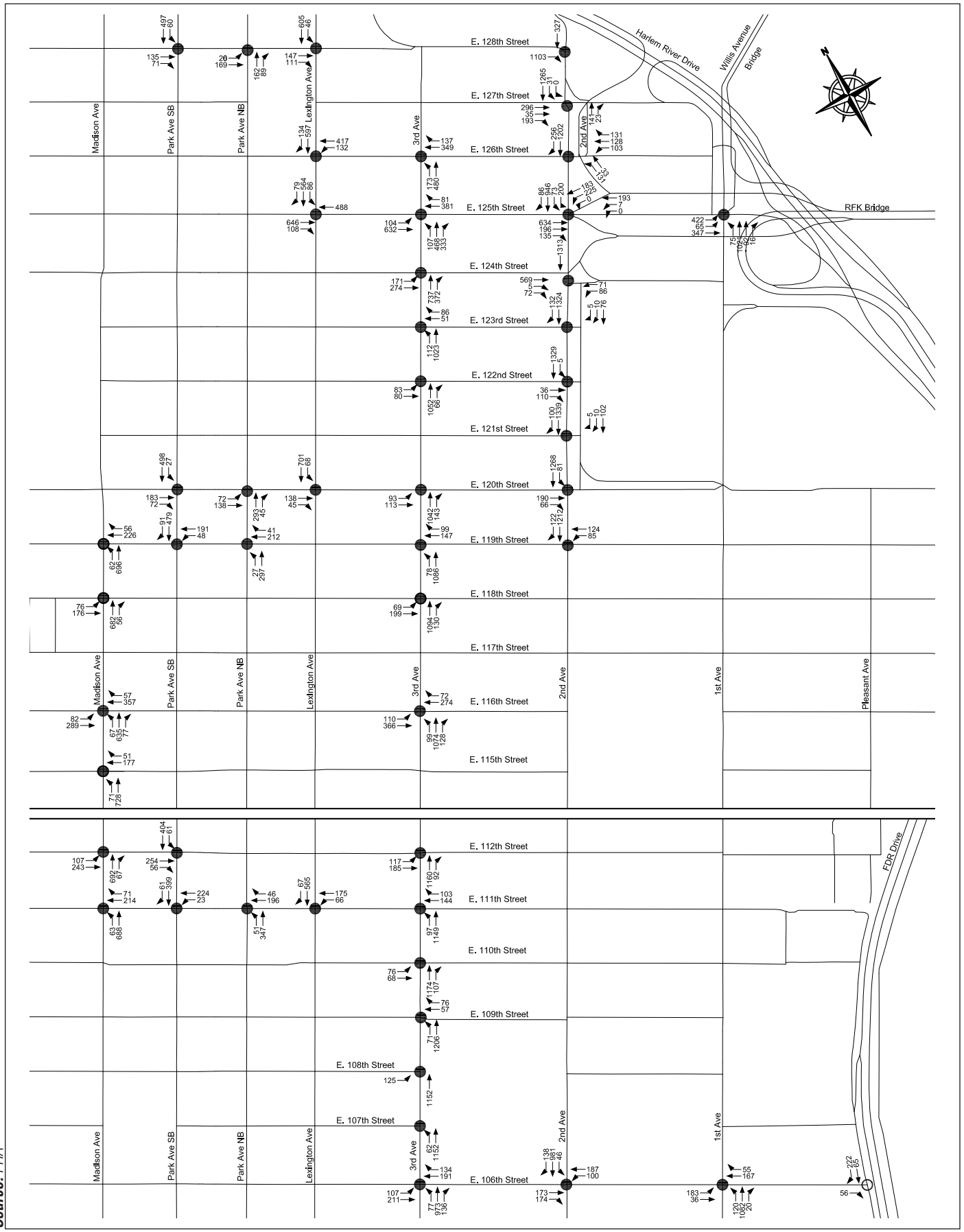
Between 2017 and 2027, it is expected that transportation demands in the vicinity of the Project Area will increase due to long-term background growth as well as development that could occur pursuant to existing zoning. Development on projected development sites is expected to add a net total of approximately 1,961 dwelling units, 163,825 sf of commercial uses and 7,395 sf of community facility uses. It is also expected that there would be a net decrease of 41,563 sf of warehousing, storage and light industrial uses.

In order to forecast future traffic conditions without the Proposed Actions (the No Action condition), development on projected development sites and other developments listed in Table 2-7 in Chapter 2, "Land Use, Zoning, and Public Policy," were considered. The Future No Action traffic volumes also reflect annual background growth rates of 0.25 percent per year for the 2017 through 2022 period and 0.125 percent for the 2022 through 2027 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Manhattan and the Bronx, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-7, and general increases in travel demand not attributable to specific development projects. **Figures 14-10 through 14-13** show total No Action traffic volumes during weekday AM, midday, PM, and Saturday peak hours.



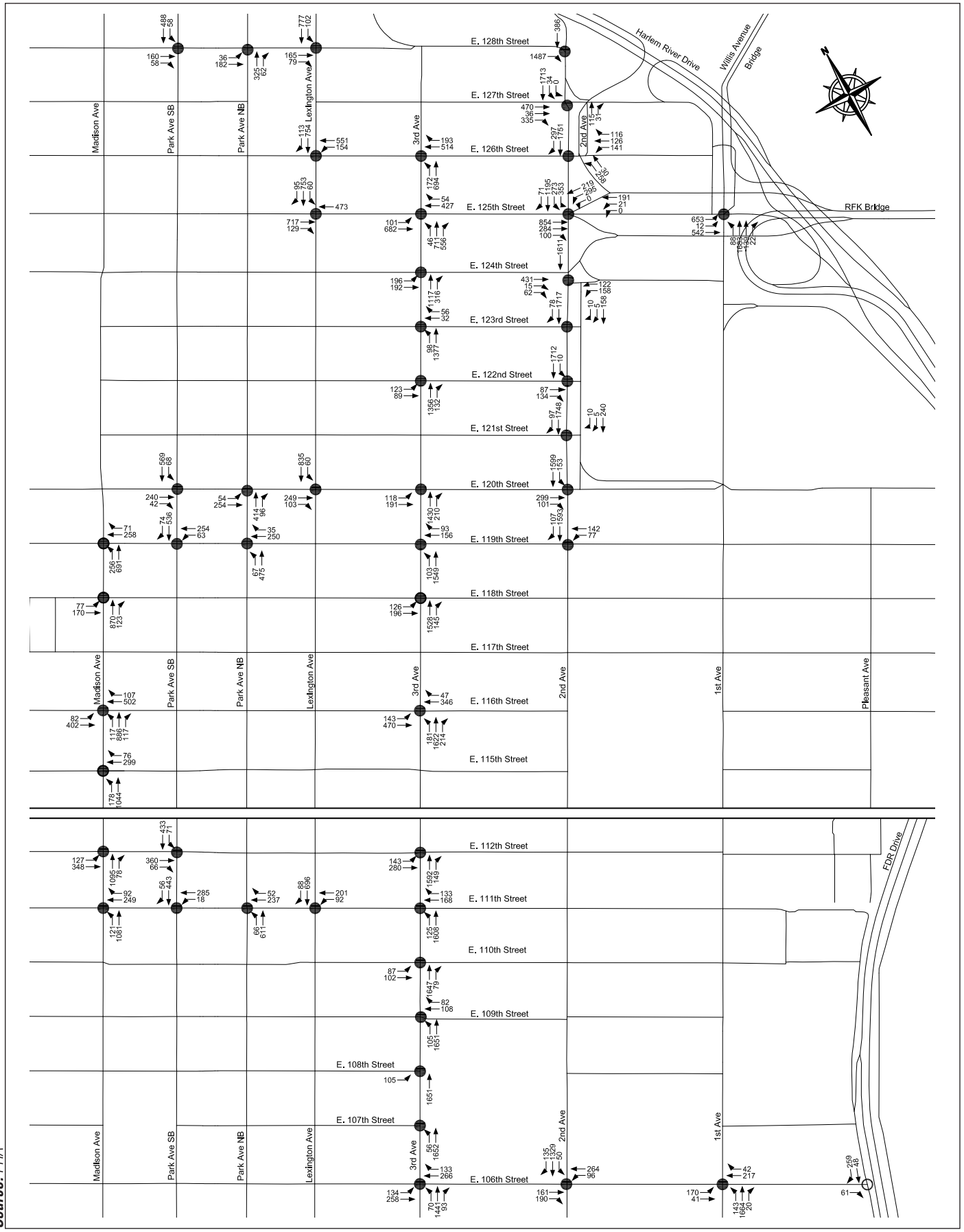
Source: *PHA*

No Action AM Peak Hour Traffic Volumes



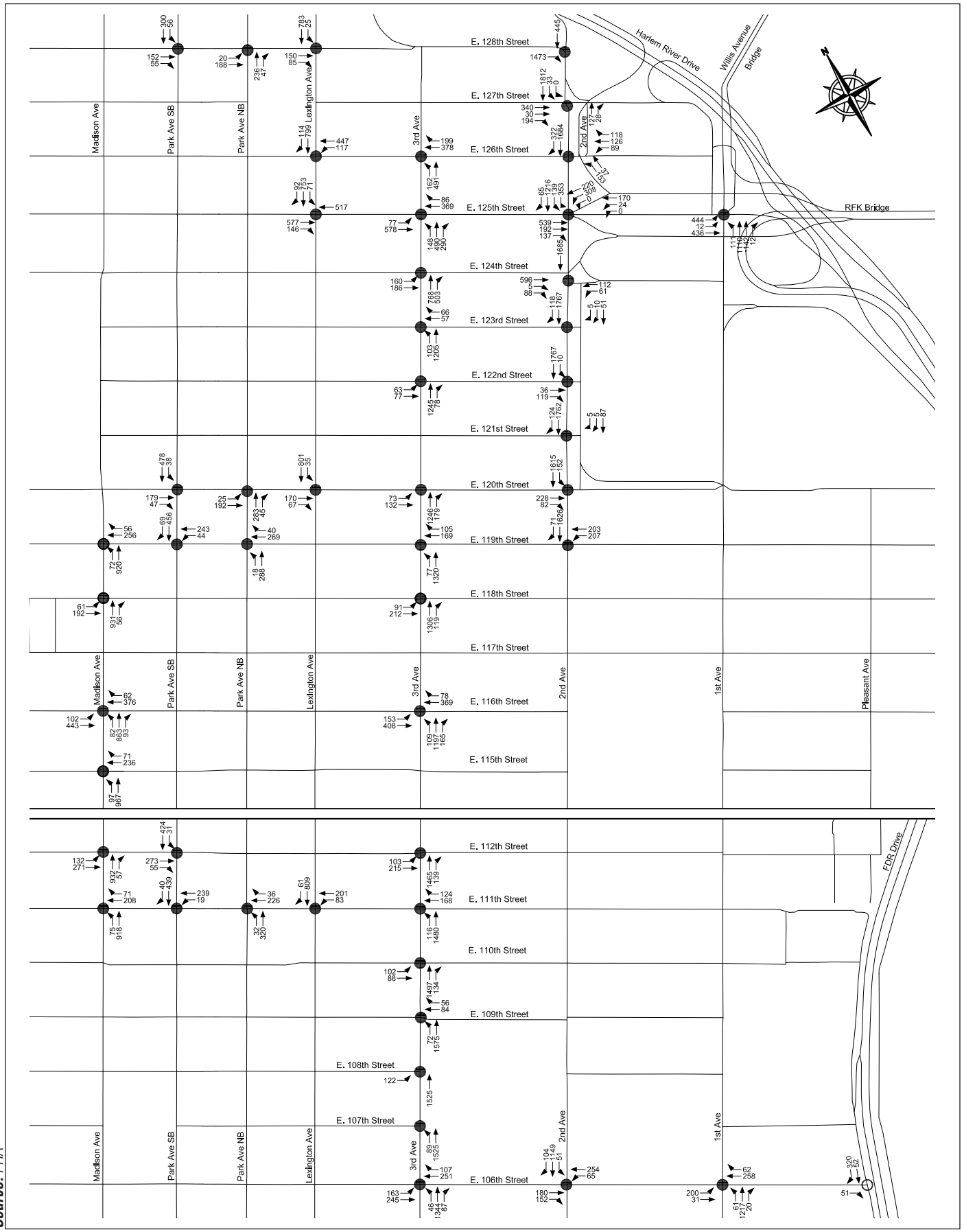
Source: PHA

No Action Midday Peak Hour Traffic Volumes



Source: *PHA*

No Action PM Peak Hour Traffic Volumes



Source: *PHA*

No Action Saturday Peak Hour Traffic Volumes

EAST HARLEM REZONING

Figure 14-13

As discussed previously, the MTA is planning to construct in the foreseeable future three additional subway stations in proximity to the Project Area under Phase II of the Second Avenue Subway. The opening of these stations may potentially result in some shift from the auto and taxi modes to the subway mode. Based on data from the 2004 *Second Avenue Subway FEIS*, completion of the full Second Avenue Line is projected to reduce daily vehicle trips in the area of Manhattan between Wall Street and East 125th Street by approximately 8,300 on an average weekday. While some of this traffic reduction may occur at analyzed intersections in East Harlem with the opening of the three new Phase II subway stations, the decrease in vehicle trips at any one intersection in any one peak hour would likely be *de minimis* and is therefore not reflected in the No Action traffic networks shown in **Figures 14-10 through 14-13**.

The opening of the three new Second Avenue Subway Phase II stations (located on Second Avenue at East 106th Street and at East 116th Street, and on East 125th Street at Lexington and Park Avenues) would also alter pedestrian flows at Project Area crosswalks in the No Action condition. It is likely that pedestrian crossings at many intersections would decrease as pedestrians en route to and from the east would no longer have to walk to Lexington Avenue to reach a subway station. Although there may be some localized increase in pedestrian crossings in the immediate proximity of new Phase II station entrances (the specific locations of which have not yet been defined), relatively few analyzed intersections are expected to experience increased crosswalk volumes, and at most analyzed locations, crosswalk volumes are expected to decrease or remain unchanged. To be conservative, the No Action traffic analysis assumes no change in conflicting crosswalk volumes at analyzed intersections in conjunction with Phase II of the Second Avenue Subway.

CHANGES TO THE STUDY AREA STREET NETWORK

The 2017 through 2027 period will likely see the implementation of a number of physical and operational changes to the study area street system associated with DOT's RFK Bridge Connector Ramp project, and safety improvement measures proposed by DOT at locations along the 116th Street corridor. Additional operational changes are also likely to be implemented in conjunction with No Action developments. Planned physical and operational changes that are reflected in the No Action traffic network are discussed below.

RFK Bridge Connector Ramp

DOT is currently constructing pier foundations for a new Triborough Bridge and Tunnel Authority (TBTA) connector ramp from the RFK Bridge to the northbound Harlem River Drive. This connector ramp (RK-23C), which is expected to be operational by 2021, would divert traffic that currently uses the northbound contra-flow lanes on Second Avenue between East 126th and East 127th Streets to access the northbound Harlem River Drive from the bridge. It is estimated that approximately 98 percent of the traffic volume on the northbound segment of Second Avenue would be diverted to the new ramp, and this diversion has been incorporated into the 2027 No Action traffic networks.

116th Street Corridor Safety Improvements

DOT has proposed safety improvement measures at a number of locations along the 116th Street corridor. At the analyzed intersection of East 116th Street and Madison Avenue, these measures include:

- Installation of an exclusive left-turn lane on the northbound Madison Avenue approach to better organize traffic;
- Construction of a pedestrian island and painted curb extension on Madison Avenue at the northwest corner;
- Installation of plastic bollards on the double yellow line on the eastbound East 116th Street approach; and
- Upgrading all crosswalks to high visibility and installing parking lane stripes.

OPERATIONAL CHANGES ASSOCIATED WITH NO ACTION DEVELOPMENTS

In addition to the DOT improvements outlined above, the No Action traffic analysis also reflects mitigation and improvement measures associated with the East 126th Street Bus Depot Memorial and Mixed-Use project, and the E125 Development project (formerly known as the East Harlem MEC project). These include changes to traffic signal timings, parking regulations and lane striping at a total of seven intersections along First, Second, Third, and Lexington Avenues. It should be noted that the operational changes proposed as part of the East 126th Street Bus Depot Memorial and Mixed-Use project were still under DOT review at the time this DEIS was prepared. If one or more of these changes are ultimately not approved by DOT, the traffic analyses for the East Harlem Rezoning will be revised accordingly between the Draft EIS and the Final EIS.[3]

INTERSECTION CAPACITY ANALYSIS

The volume-to-capacity ratios, delays, and levels of service for those individual lane groups experiencing congestion in one or more peak hours under No Action conditions are shown in **Tables 14-21 through 14-24**. As shown in **Tables 14-21 through 14-24**, a total of 31 intersections (all signalized) would have at least one congested lane group in one or more peak hours in the No Action condition, compared to 23 intersections (all signalized) under Existing conditions. Second Avenue would continue to have the most congested intersections with ten (compared to eight under Existing conditions), followed by Park Avenue with three intersections in the northbound and four southbound (unchanged from Existing conditions), and Third Avenue with six intersections (compared to three under Existing conditions). A total of 16 intersections would have one or more lane groups operating at or over capacity (v/c > 1.0) in the weekday AM peak hour, eight in the midday, 17 in the PM and 13 in the Saturday peak hour. This compares to 12, 1, 9, and 7 intersections operating at or over capacity during these same periods, respectively, under Existing conditions. V/c ratios, delays, and levels of service for all lane groups at all analyzed intersections in all peak periods under No Action conditions are provided in Table E-2 in **Appendix E**.

[3] Shortly before publication of this DEIS, a new set of traffic signal plans were implemented at a number of study area intersections along Second and Third Avenues. The traffic analyses will be revised between the DEIS and FEIS and, as a consequence, there is the potential for additional significant adverse traffic impacts to be identified.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITIONS)

FUTURE WITH ACTION TRAFFIC GROWTH

As shown in **Table 14-10**, based on projected development associated with the Proposed Actions, there would be a total of approximately 484, 370, 540, and 348 additional vehicle (auto, taxi, and truck) trips during the weekday AM, midday and PM, and Saturday peak hours, respectively. Auto and taxi trips were first assigned to various portals on the periphery of the rezoning area based on the locations of each projected development site and the anticipated origins and destinations of vehicle trips associated with the different uses projected for each site (e.g., commercial, residential, etc.). The origins/destinations used for the assignments of residential trips are based upon 2006-2010 ACS journey-to-work data, while the origins/destinations of office, medical office (staff), light industrial, and research laboratory uses were based on 2006-2010 ACS reverse journey-to-work data. The assignment of destination retail trips was based on population density within three miles of the Project Area. Origins/destinations for uses that generate mostly local trips, including local retail, supermarket, restaurant, auto-related, and medical office (patient) uses, were based on population density in proximity to the Project Area and surrounding neighborhoods within a 0.5-mile radius. Auto and taxi trips were then assigned via the most direct routes between the portals and projected development sites. Although some project-generated auto demand is expected to park at off-street public parking facilities in the area, auto trips were assigned directly to their respective projected development sites. This can be considered a conservative approach with respect to the traffic impact analysis as it concentrates project traffic at analyzed intersections in proximity to the Project Area rather than dispersing it to outlying public parking facilities. (Additional auto and taxi trip distribution data are provided in the *East Harlem Rezoning Transportation Planning Factors and Travel Demand Forecast Technical Memorandum* included in **Appendix E**.)

Table 14-21
Congested Lane Groups at Analyzed Intersections Under No Action Conditions—Weekday AM Peak Hour

Intersection	Approach	Existing Weekday AM				No-Action Weekday AM			
		Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
East 106th Street (EB/WB) & First Avenue (NB)	EB	L	0.93	84.8	F	L	1.02	112.0	F
		LT	0.92	79.4	E	LT	1.02	105.4	F
	WB	TR	0.85	47.1	D	TR	0.90	54.1	D
East 106th Street (EB/WB) & Second Avenue (SB)	EB	TR	1.05	89.4	F	TR	1.18	133.8	F
	WB	L	0.54	39.5	D	L	0.81	72.2	E
East 120th Street (EB) & Second Avenue (SB)	EB	TR	0.85	46.8	D	TR	0.92	58.1	E
East 121st Street (WB) & Second Avenue (SB)	SB	T	0.86	23.2	C	T	0.93	29.1	C
East 123rd Street (WB) & Second Avenue (SB)	SB	TR	0.87	23.5	C	TR	0.93	29.1	C
East 125th St (EB/WB)/RFK Bridge (WB) & Second Avenue (SB)	EB	T	1.05	81.4	F	T	1.36	203.1	F
		R	0.68	46.1	D	R	0.78	56.2	E
	WB (Ramp)	L	0.97	75.1	E	L	1.09	108.2	F
	WB (Ramp)	LT	0.96	73.0	E	LT	1.20	146.7	F
	SB	T	0.91	41.3	D	T	0.96	48.9	D
East 126th Street (WB) & Second Avenue (SB)/RFK Bridge Exit (NB)	WB	L	0.73	49.3	D	L	1.00	117.5	F
	NB	L	0.98	84.3	F	L	1.03	96.8	F
East 127th Street (EB) & Second Avenue (SB)	EB	LTR	1.05	85.1	F	L	1.21	147.4	F
East 128th Street (EB) & Second Avenue (SB)	EB	T	0.90	34.0	C	T	1.01	53.0	D
East 112th Street (EB) & Third Avenue (NB)	EB	LT	1.05	82.1	F	LT	1.08	90.9	F
East 116th Street (EB/WB) & Third Avenue (NB)	EB	LT	1.05	75.6	E	LT	1.10	92.2	F
East 125th Street (EB/WB) & Third Avenue (NB)	EB	L	0.65	42.8	D	L	1.16	162.5	F
		T	1.03	75.1	E	T	1.30	173.6	F
	WB	TR	0.88	45.8	D	TR	1.23	146.8	F
East 126th Street (WB) & Third Avenue (NB)	WB	T	0.30	22.1	C	T	0.91	47.7	D
East 125th Street (EB/WB) & Lexington Avenue (SB)	EB	T	1.00	71.0	E	T	1.35	200.9	F
	WB	T	1.05	86.4	F	T	1.46	248.0	F
	SB	LT	0.92	37.1	D	LT	1.00	53.4	D
East 111th Street (WB) & Park Avenue (NB)	WB	TR	1.04	102.7	F	TR	1.09	116.0	F
East 119th Street (WB) & Park Avenue (NB)	WB	TR	1.05	98.9	F	TR	1.16	136.0	F
East 112th Street (EB) & Park Avenue (SB)	EB	TR	1.01	76.2	E	TR	1.07	92.2	F
East 119th Street (WB) & Park Avenue (SB)	WB	LT	0.87	58.5	E	LT	0.95	70.9	E
	SB	TR	0.93	39.3	D	TR	1.02	58.5	E
East 120th Street (EB) & Park Avenue (SB)	EB	TR	0.92	71.7	E	TR	0.99	86.8	F
	SB	LT	0.91	35.5	D	LT	0.98	49.5	D
East 128th Street (EB) & Park Avenue (SB)	EB	TR	1.05	107.0	F	TR	1.20	156.5	F
East 116th Street (EB/WB) & Madison Avenue (NB)	EB	LT	1.05	80.4	F	LT	1.10	98.3	F
East 119th Street (WB) & Madison Avenue	WB	TR	0.90	53.4	D	TR	0.99	71.0	E

Shading denotes lane groups which are not congested in the Existing condition but are shown for comparison purposes.

Table 14-22
Congested Lane Groups at Analyzed Intersections Under No Action Conditions—Weekday Midday Peak Hour

Intersection	Approach	Existing Weekday MD				No-Action Weekday MD			
		Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
East 106th Street (EB/WB) & First Avenue (NB)	NB	L	0.67	50.5	D	L	0.73	55.4	E
East 125th Street (EB/WB) & First Avenue/Willis Avenue Bridge (SB)	EB	LT	0.77	29.6	C	LT	1.06	72.4	E
East 106th Street (EB/WB) & Second Avenue (SB)	EB	TR	0.98	72.3	E	TR	1.13	116.6	F
	WB	L	0.72	50.3	D	L	0.91	84.5	F
East 125th St (EB/WB)/RFK Bridge (WB) & Second Avenue (SB)	EB	T	0.87	41.1	D	T	1.10	92.8	F
	WB (Ramp)	LT	0.73	47.9	D	LT	0.84	58.3	E
	SB	T	0.84	37.4	D	T	0.91	42.6	D
East 126th Street (WB) & Second Avenue (SB)/RFK Bridge Exit (NB)	WB	LTR	0.76	49.50	D	L	0.75	55.8	E
East 128th Street (EB) & Second Avenue (SB)	EB	T	0.90	34.5	C	T	1.06	69.1	E
East 125th Street (EB/WB) & Third Avenue (NB)	EB	L	0.44	27.4	C	L	0.88	71.1	E
		T	0.99	63.9	E	T	1.25	153.5	F
	WB	TR	0.77	36.7	D	TR	1.15	116.5	F
East 125th Street (EB/WB) & Lexington Avenue (SB)	EB	T	1.05	84.7	F	T	1.48	256.1	F
	WB	T	0.86	45.8	D	T	1.20	137.5	F
East 126th Street (WB) & Lexington Avenue (SB)	WB	LT	0.71	34.5	C	LT	1.35	199.3	F
East 111th Street (WB) & Park Avenue (NB)	WB	TR	0.83	55.8	E	TR	0.88	62.1	E
East 119th Street (WB) & Park Avenue (SB)	WB	TR	0.70	37.6	D	LT	0.85	55.1	E
East 128th Street (EB) & Park Avenue (SB)	EB	TR	0.69	45.3	D	TR	1.03	102.5	F

Shading denotes lane groups which are not congested in the Existing condition but are shown for comparison purposes.

Table 14-23
Congested Lane Groups at Analyzed Intersections Under No Action Conditions—Weekday PM Peak Hour

Intersection	Approach	Existing Weekday PM Lane Group	V/C Ratio	Delay (sec/veh)	LOS	No-Action Weekday PM Lane Group	V/C Ratio	Delay (sec/veh)	LOS
East 106th Street (EB/WB) & First Avenue (NB)	NB	L	0.81	63.1	E	L	0.86	69.6	E
		T	0.87	23.7	C	T	0.95	30.6	C
East 125th Street (EB/WB) &	EB	LT	0.97	48.6	D	LT	1.31	174.1	F
First Avenue/Willis Avenue Bridge (SB)	NB	T	0.91	27.9	C	T	1.01	46.6	D
East 106th Street (EB/WB) & Second Avenue (SB)	EB	TR	1.05	92.1	F	TR	1.16	130.6	F
	WB	L	0.77	58.4	E	L	0.91	85.1	F
East 120th Street (EB) & Second Avenue (SB)	EB	TR	1.05	87.1	F	TR	1.18	132.1	F
East 125th St (EB/WB)/RFK Bridge (WB) &	EB	T	1.05	73.3	E	T	1.42	226.6	F
Second Avenue (SB)	WB (Ramp)	L	0.87	62.2	E	L	0.95	76.8	E
	WB (Ramp)	LT	0.87	60.3	E	LT	0.98	81.8	F
	SB	L	0.61	30.4	C	L	1.04	78.1	E
	SB	T	0.98	52.8	D	T	1.06	74.9	E
East 126th Street (WB) &	WB	LTR	0.67	44.0	D	L	1.35	235.7	F
Second Avenue (SB)/RFK Bridge Exit (NB)	NB	L	0.83	57.5	E	L	0.98	82.6	F
	SB	TR	0.58	21.9	C	TR	0.99	44.1	D
East 127th Street (EB) & Second Avenue (SB)	EB	LTR	1.05	83.3	F	L	1.01	70.2	E
	SB	LT	0.70	16.9	B	LT	0.92	29.9	C
East 128th Street (EB) & Second Avenue (SB)	EB	T	1.02	55.2	E	T	1.16	105.5	F
East 111th Street (WB) & Third Avenue (NB)	WB	TR	0.86	48.0	D	TR	0.91	54.6	D
East 112th Street (EB) & Third Avenue (NB)	EB	LT	0.94	56.6	E	LT	0.97	62.8	E
East 116th Street (EB/WB) & Third Avenue (NB)	EB	LT	0.89	41.6	D	LT	0.95	51.4	D
East 125th Street (EB/WB) & Third Avenue (NB)	EB	L	0.44	27.5	C	L	0.91	79.5	E
		T	0.96	58.9	E	T	1.57	294.0	F
	WB	TR	0.84	42.3	D	TR	1.22	142.6	F
East 126th Street (WB) & Third Avenue (NB)	WB	TR	0.58	28.9	C	T	1.04	75.0	E
						R	0.88	56.2	E
East 120th Street (EB) & Lexington Avenue (SB)	EB	TR	0.81	41.6	D	TR	0.91	54.2	D
East 125th Street (EB/WB) & Lexington Avenue (SB)	EB	T	1.00	69.0	E	T	1.73	364.5	F
	WB	T	0.86	45.6	D	T	1.21	143.1	F
East 126th Street (WB) & Lexington Avenue (SB)	WB	LT	0.85	43.2	D	LT	1.54	281.7	F
East 111th Street (WB) & Park Avenue (NB)	WB	TR	1.05	99.8	F	TR	1.09	113.4	F
	NB	LT	0.88	33.1	C	LT	1.06	70.8	E
East 119th Street (WB) & Park Avenue (NB)	WB	TR	0.98	80.5	F	TR	1.09	113.0	F
East 120th Street (EB) & Park Avenue (NB)	EB	LT	0.97	73.5	E	LT	1.05	96.9	F
East 119th Street (WB) & Park Avenue (SB)	WB	LT	0.94	67.5	E	LT	1.01	85.6	F
East 120th Street (EB) & Park Avenue (SB)	EB	TR	1.05	100.7	F	TR	1.16	135.8	F
East 128th Street (EB) & Park Avenue (SB)	EB	TR	0.71	44.8	D	TR	0.96	78.5	E
East 111th Street (WB) & Madison Avenue (NB)	WB	TR	0.84	44.5	D	TR	0.90	51.3	D
East 116th Street (EB/WB) & Madison Avenue (NB)	EB	LT	1.05	86.5	F	LT	1.13	114.0	F
	WB	TR	0.88	43.4	D	TR	0.91	47.0	D
East 119th Street (WB) & Madison Avenue	WB	TR	0.86	47.7	D	TR	0.95	61.6	E

Shading denotes lane groups which are not congested in the Existing condition but are shown for comparison purposes.

Table 14-24
Congested Lane Groups at Analyzed Intersections
Under No Action Conditions—Saturday Peak Hour

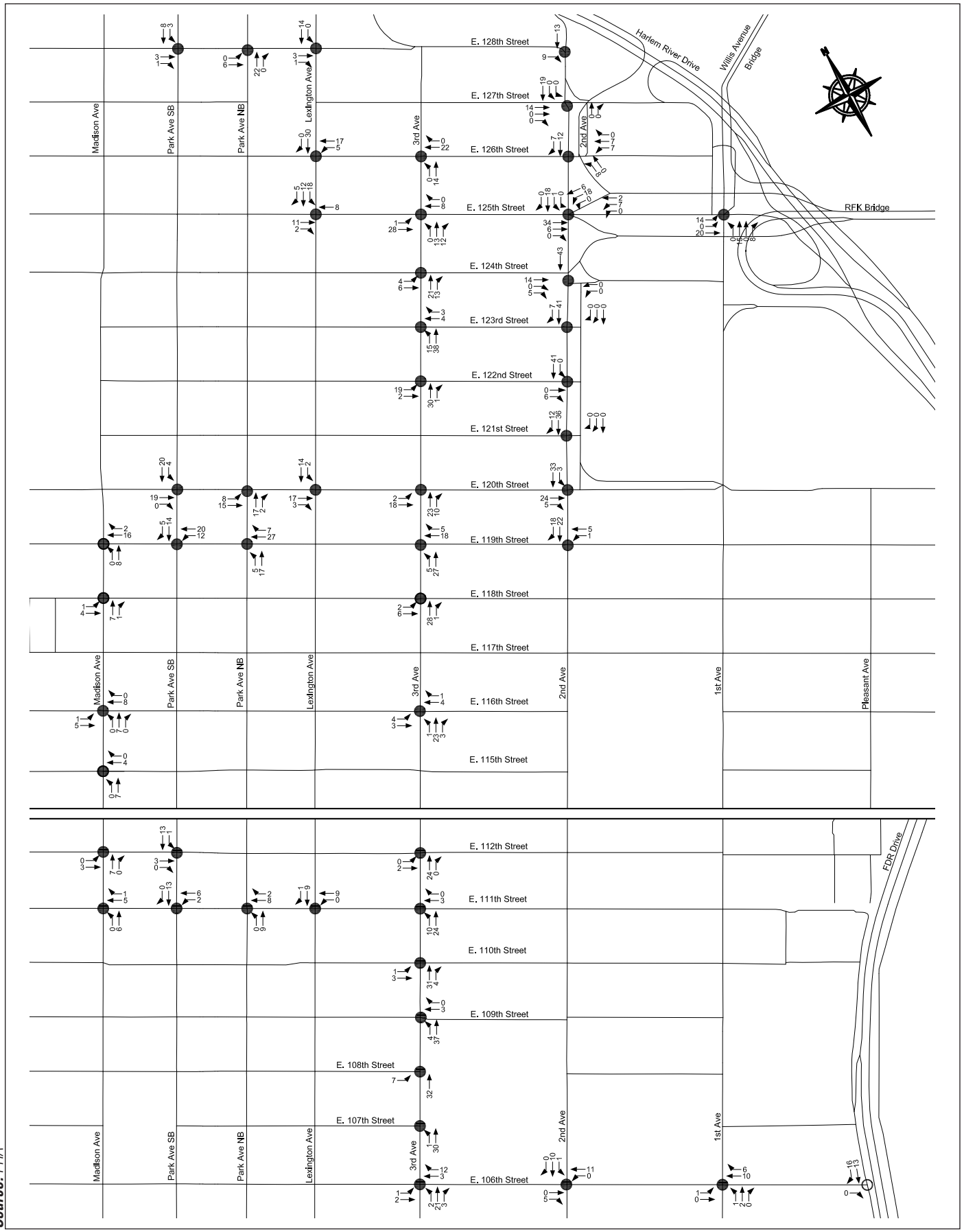
Intersection	Approach	Existing Saturday Lane Group	V/C Ratio	Delay (sec/veh)	LOS	No-Action Saturday Lane Group	V/C Ratio	Delay (sec/veh)	LOS
East 106th Street (EB/WB) & First Avenue (NB)	EB	L	0.93	83.1	F	L	1.02	107.5	F
		LT	0.95	93.7	F	LT	1.03	118.4	F
East 125th Street (EB/WB) & First Avenue/Willis Avenue Bridge (SB)	EB	LT	0.68	26.5	C	LT	0.95	45.0	D
East 106th Street (EB/WB) & Second Avenue (SB)	EB	TR	1.03	83.5	F	TR	1.12	112.3	F
East 119th (WB) Street & Second Avenue (SB)	WB	LT	1.05	88.1	F	LT	1.14	117.0	F
East 123rd Street (WB) & Second Avenue (SB)	SB	TR	0.85	22.0	C	TR	0.91	25.7	C
East 124th Street (EB) & Second Avenue (SB)	EB	T	1.02	70.4	E	T	1.07	87.0	F
East 125th St (EB/WB)/RFK Bridge (WB) & Second Avenue (SB)	EB	T	0.88	48.0	D	T	1.12	107.1	F
		R	0.61	40.5	D	R	0.90	75.3	E
	WB (Ramp)	L	0.83	54.3	D	L	0.89	60.8	E
	WB (Ramp)	LT	0.83	53.8	D	LT	0.90	61.5	E
	SB	T	0.88	35.5	D	T	0.95	42.3	D
East 126th Street (WB) & Second Avenue (SB)/RFK Bridge Exit (NB)	WB	LTR	0.69	45.0	D	L	0.77	62.3	E
	SB	TR	0.52	21.0	C	TR	0.94	35.7	D
East 128th Street (EB) & Second Avenue (SB)	EB	T	1.02	55.9	E	T	1.17	111.5	F
East 124th Street (EB) & Third Avenue (NB)	EB	LT	0.64	31.6	C	LT	0.95	61.7	E
East 125th Street (EB/WB) & Third Avenue (NB)	EB	L	0.31	23.7	C	L	0.81	67.8	E
		T	0.79	35.0	C	T	1.04	76.5	E
	WB	TR	0.94	56.0	E	TR	1.32	188.2	F
East 126th Street (WB) & Third Avenue (NB)	WB	TR	0.58	30.1	C	T	0.90	46.5	D
						R	1.06	101.3	F
East 125th Street (EB/WB) & Lexington Avenue (SB)	EB	T	0.87	44.1	D	T	1.20	137.4	F
		R	0.47	28.8	C	R	0.84	57.7	E
	WB	T	0.95	59.1	E	T	1.16	121.4	F
East 126th Street (WB) & Lexington Avenue (SB)	WB	LT	0.75	37.5	D	LT	1.58	298.6	F
East 111th Street (WB) & Park Avenue (NB)	WB	TR	1.00	84.5	F	TR	1.03	93.1	F
East 119th Street (WB) & Park Avenue (NB)	WB	TR	1.00	84.9	F	TR	1.09	112.8	F
East 120th Street (EB) & Park Avenue (SB)	EB	TR	0.88	63.2	E	TR	0.99	85.0	F
East 116th Street (EB/WB) & Madison Avenue (NB)	EB	LT	1.05	85.4	F	LT	1.12	107.2	F

Shading denotes lane groups which are not congested in the Existing condition but are shown for comparison purposes.

Truck trips were assigned to designated local truck routes and then to the most direct paths to and from each projected development site. The majority of truck trips were assigned to the local truck routes along First, Second, Third, and Lexington Avenues and 116th and 125th Streets, and it was assumed that many of these trips would enter and depart the area via the Willis Avenue, Third Avenue, and RFK bridges which are also designated local truck routes.

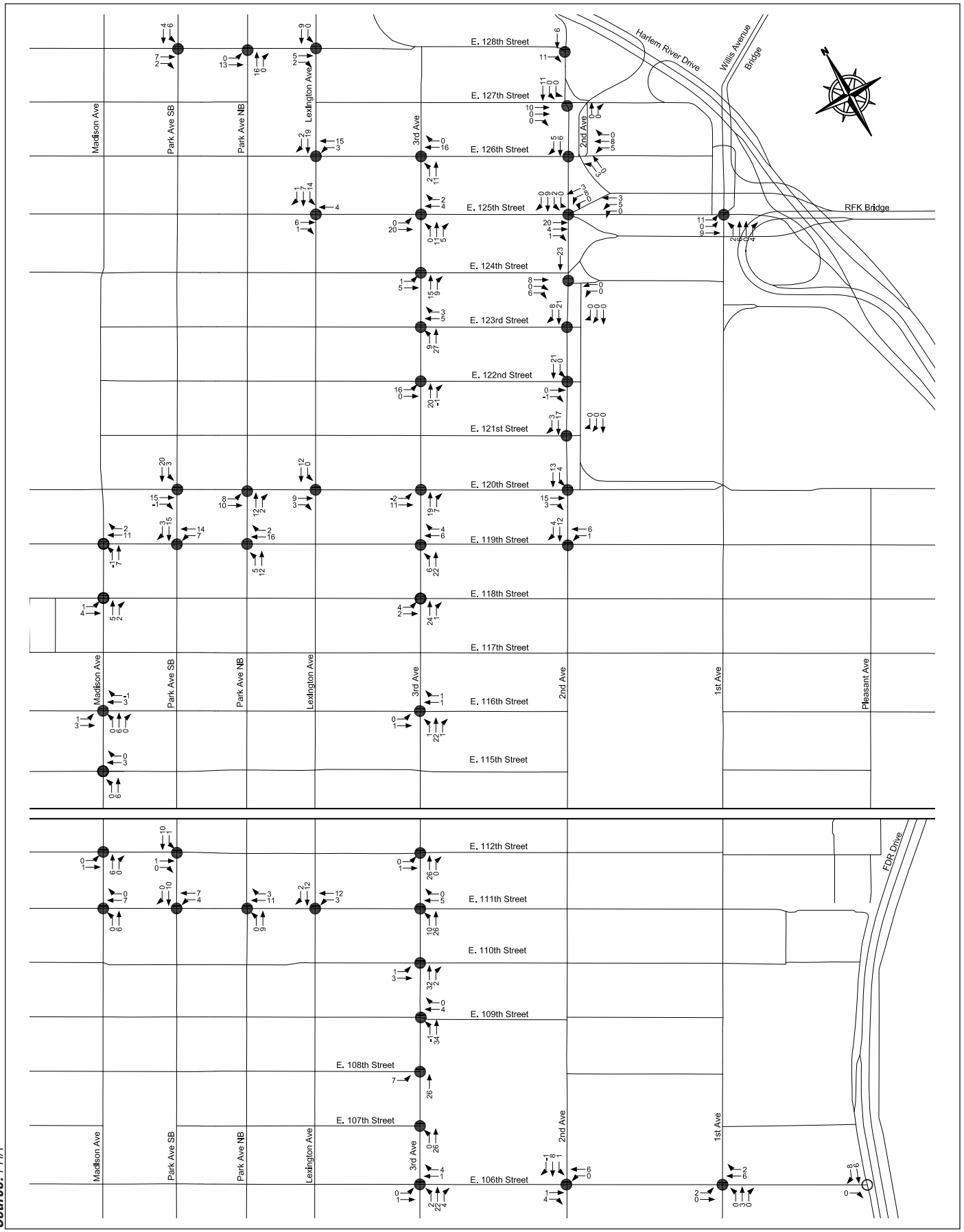
Figures 14-14 through 14-17 show the assignment of incremental vehicle trips (auto, taxi, and truck) generated during the weekday AM, midday and PM and Saturday peak hours under the Proposed Actions. **Figures 14-18 through 14-21** show the total weekday AM, midday and PM and Saturday traffic volumes in the 2027 future with the Proposed Actions. The volumes shown are the combination of the net incremental traffic generated by the Proposed Actions and the No Action volumes.

The volume-to-capacity ratios, delays, and levels of service for those individual lane groups experiencing congestion in one or more peak hours under With Action conditions are shown in **Tables 14-25 through 14-28**. Lane groups with significant adverse impacts are highlighted. As shown in **Tables 14-25 through 14-28**, a total of 32 intersections (all signalized) would have at least one congested lane group in one or more peak hours in the With Action condition, compared to 31 intersections (all signalized) under No Action conditions.



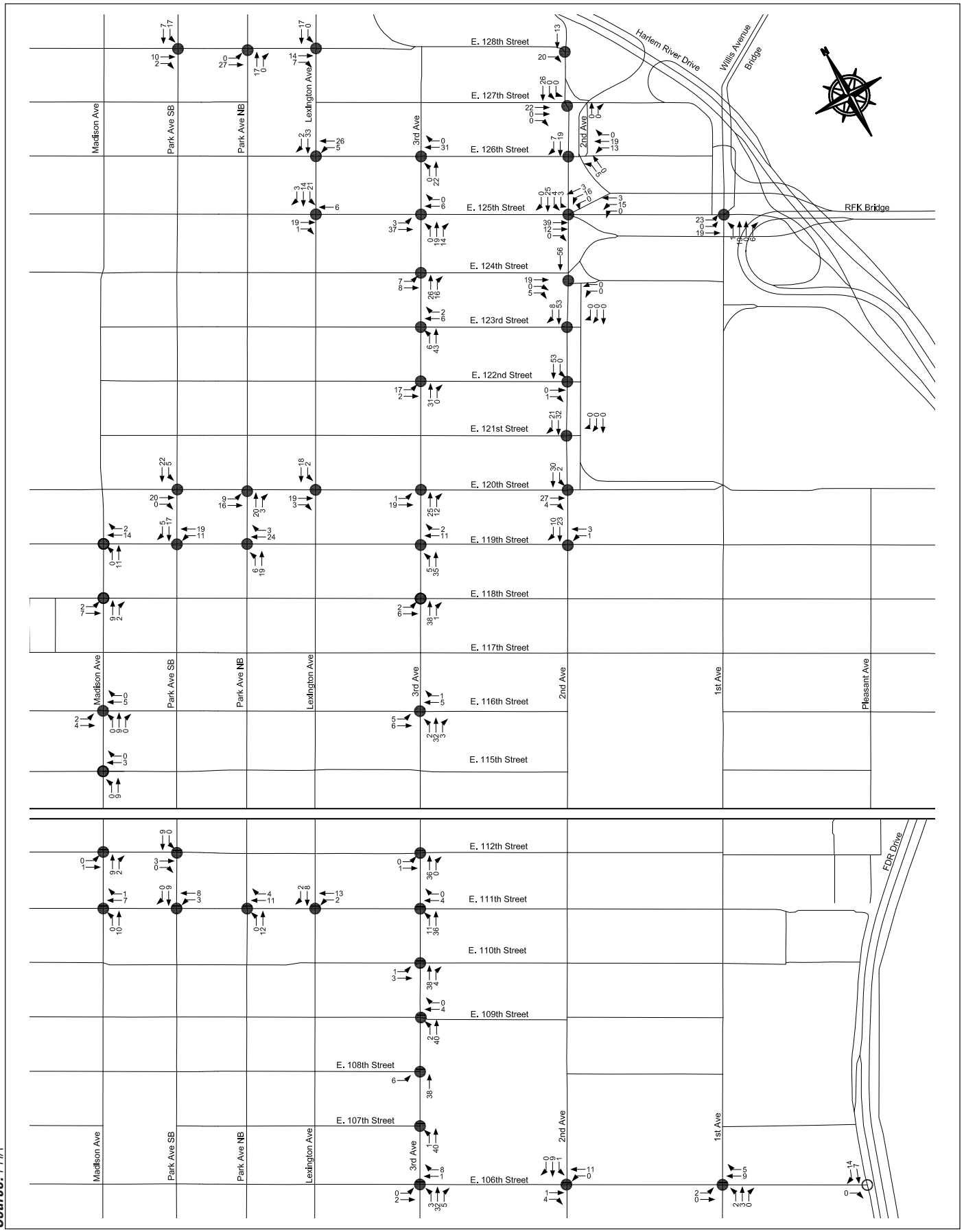
Source: *PHA*

AM Peak Hour Project Increment Traffic Volumes



Source: PHA

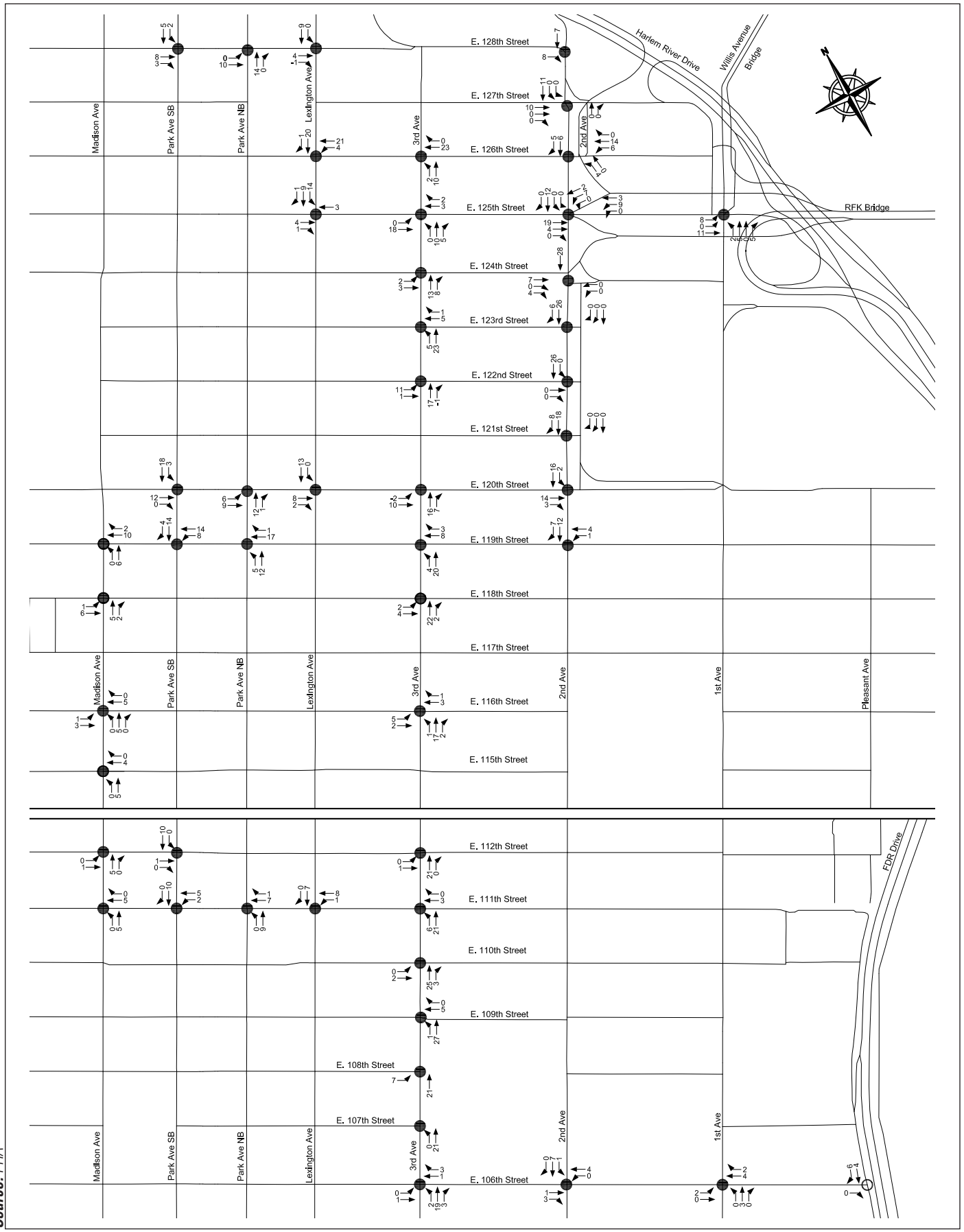
Midday Peak Hour Project Increment Traffic Volumes



Source: *PHA*

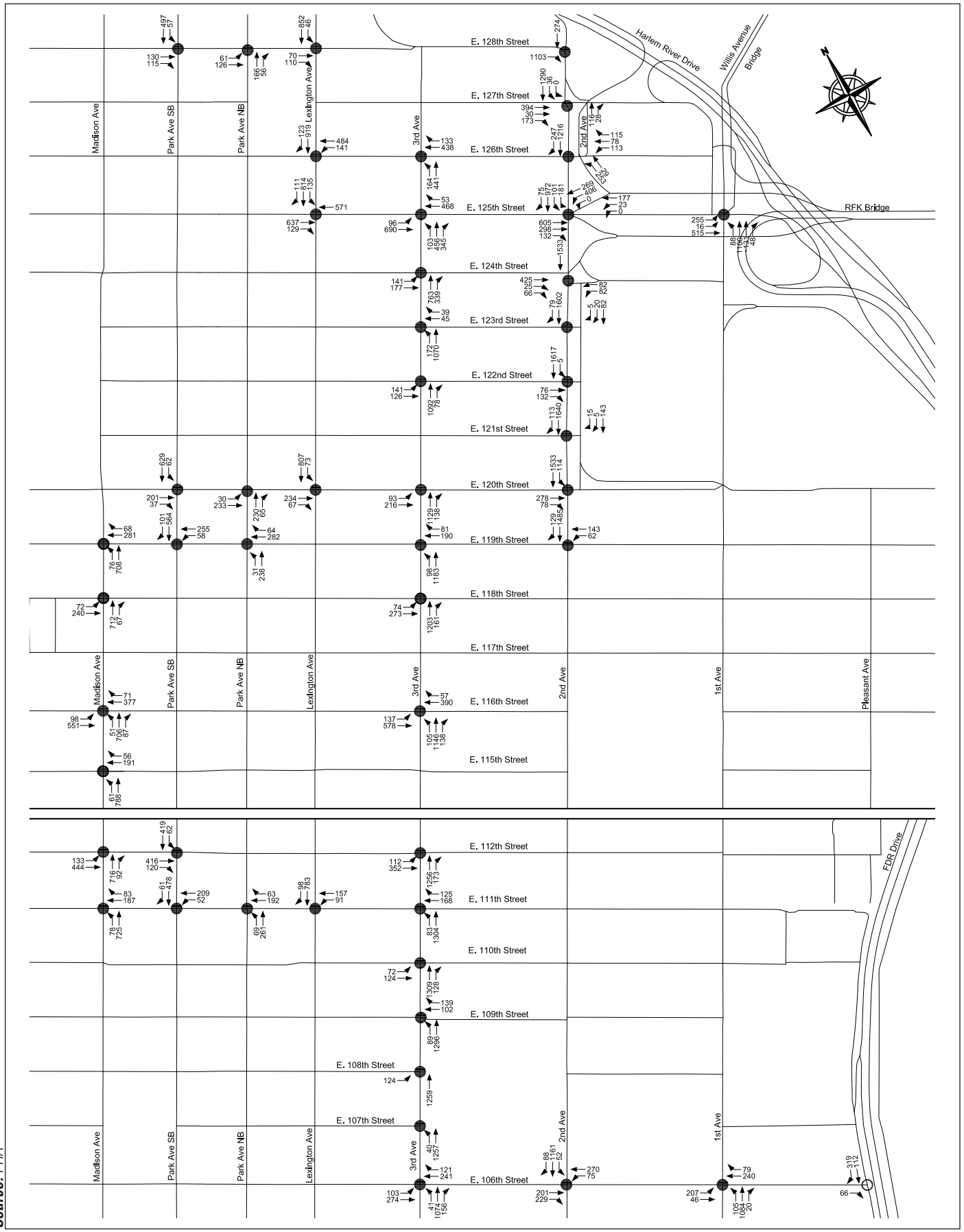
PM Peak Hour Project Increment Traffic Volumes

EAST HARLEM REZONING **Figure 14-16**



Source: *PHA*

Saturday Peak Hour Project Increment Traffic Volumes

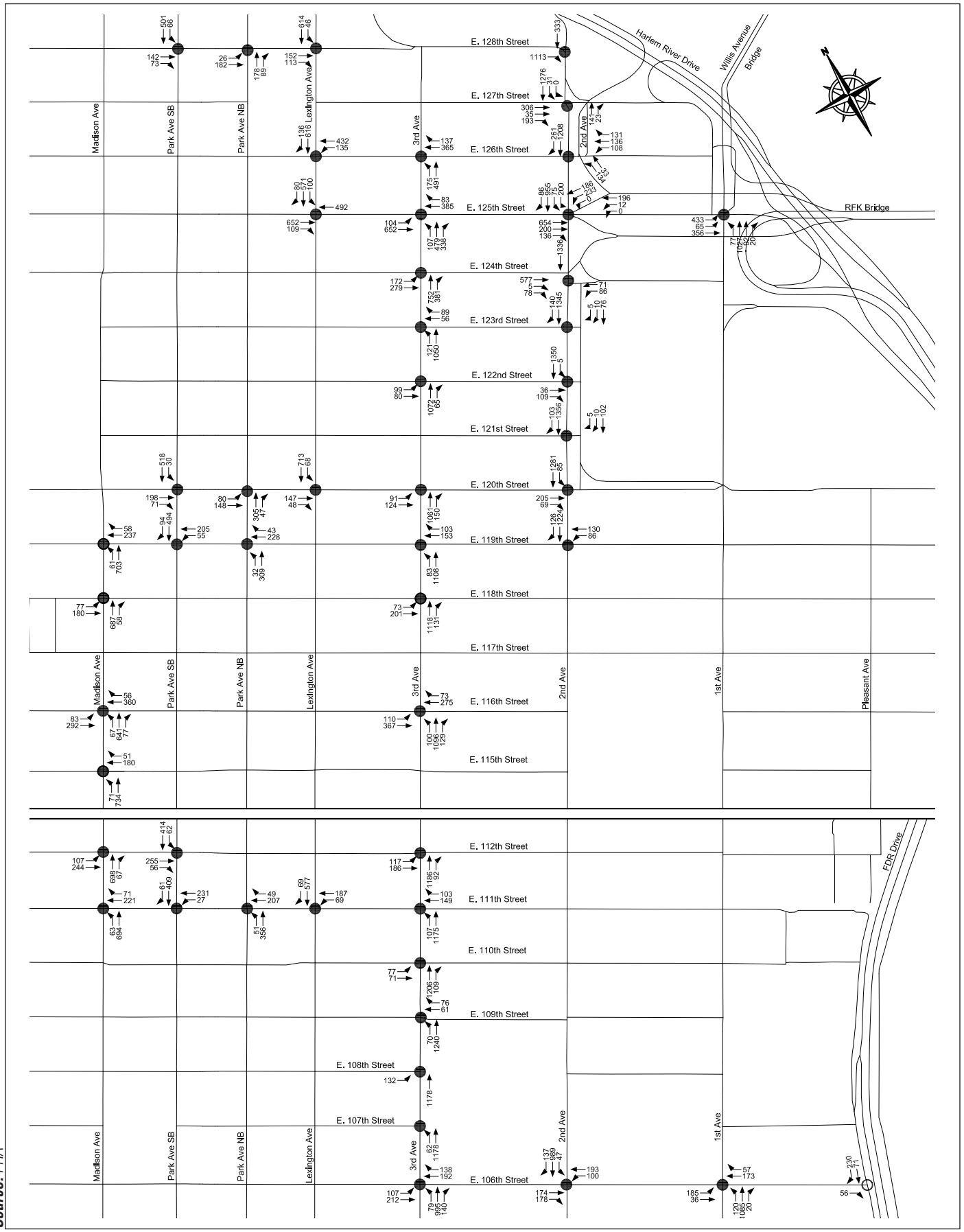


Source: *PHA*

With Action AM Peak Hour Traffic Volumes

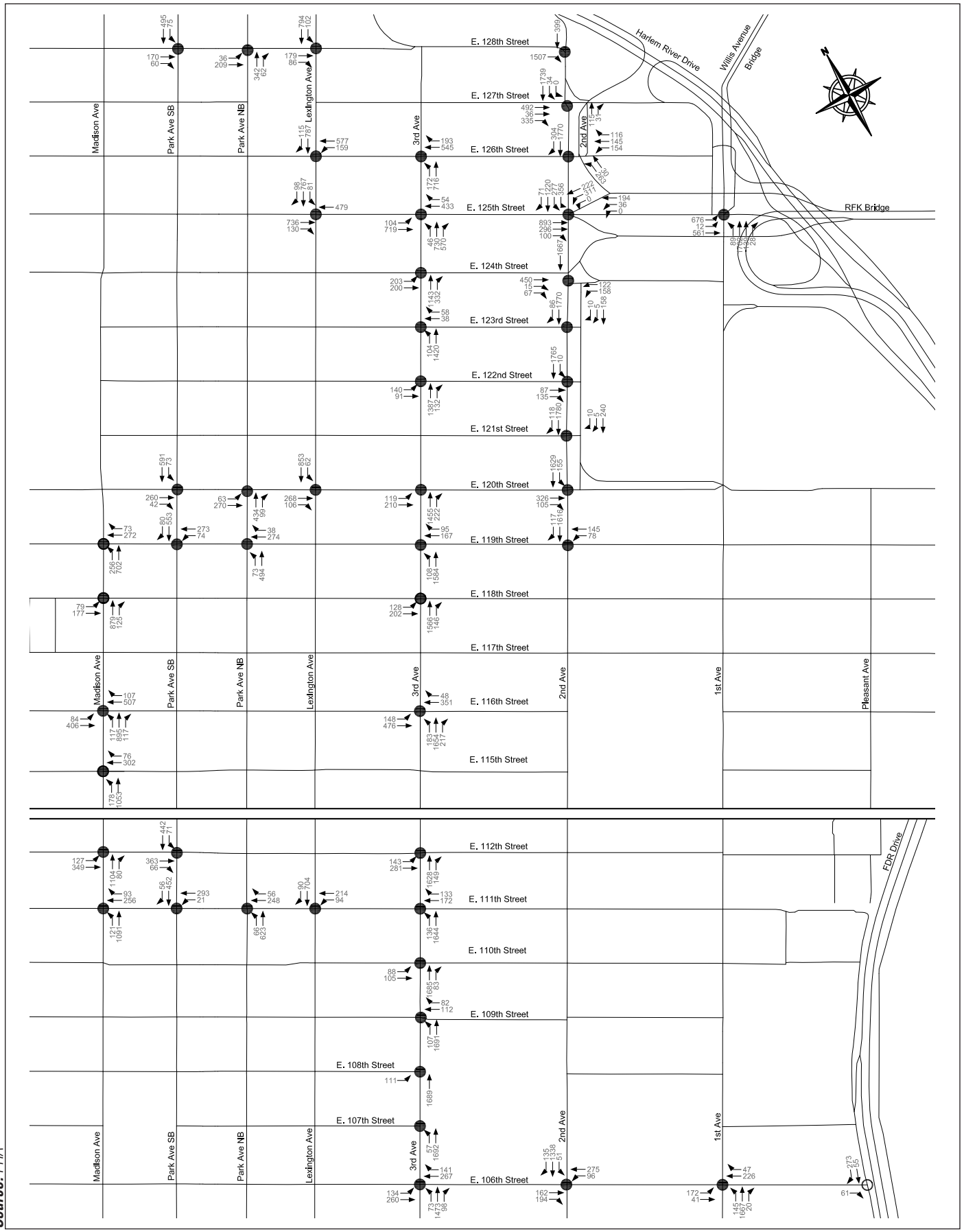
EAST HARLEM REZONING

Figure 14-18



Source: *PHA*

With Action Midday Peak Hour Traffic Volumes

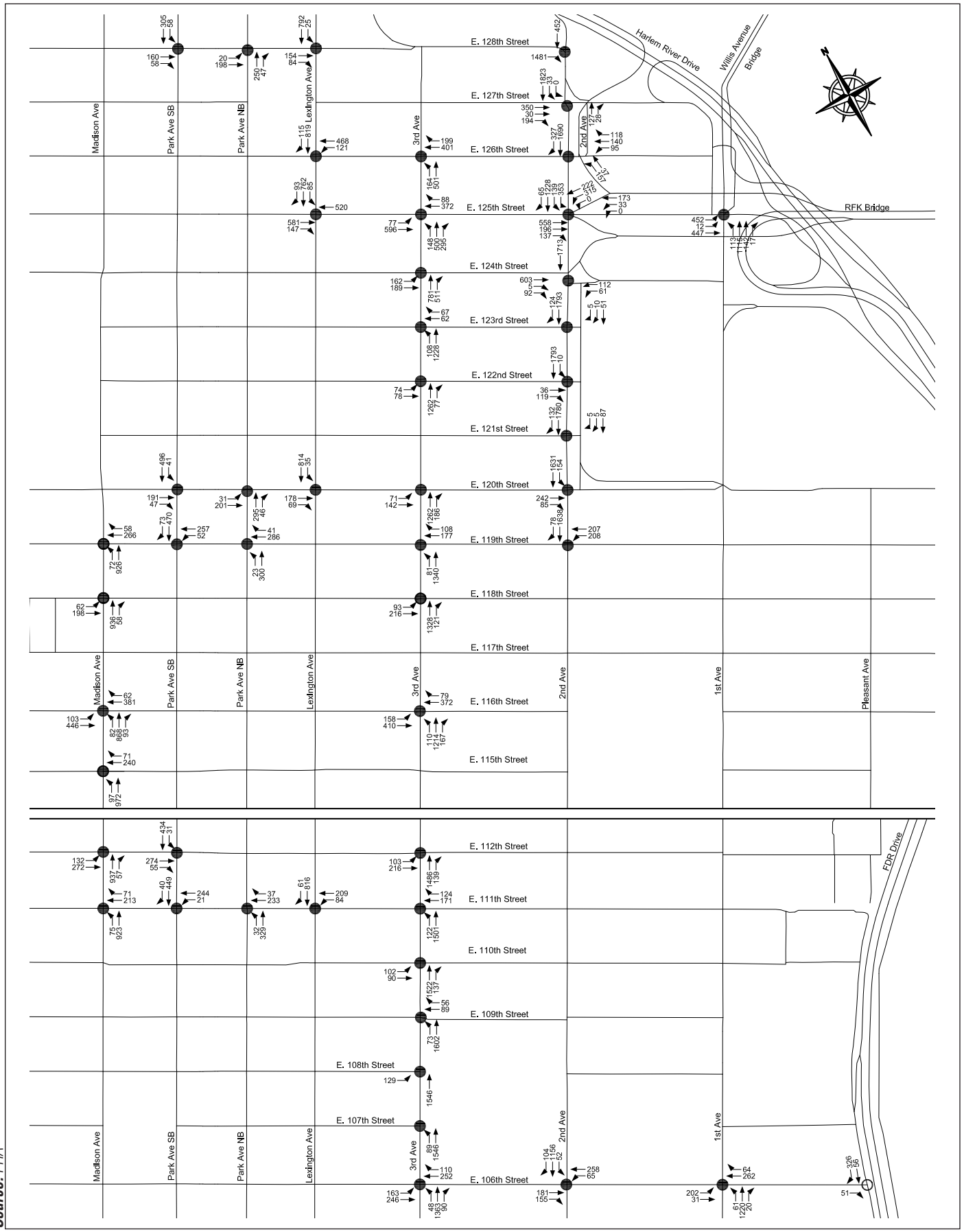


Source: PHA

With Action PM Peak Hour Traffic Volumes

EAST HARLEM REZONING

Figure 14-20



Source: *PHA*

With Action Saturday Peak Hour Traffic Volumes

EAST HARLEM REZONING

Figure 14-21

Significant adverse impacts were identified at 31 lane groups at 19 intersections during the weekday AM peak hour, 15 lane groups at 12 intersections in the weekday midday peak hour, 32 lane groups at 22 intersections in the weekday PM peak hour, and 19 lane groups at 16 intersections during the Saturday peak hour. V/c ratios, delays, and levels of service for all lane groups at all analyzed intersections in all peak periods are provided in Table E-3 in **Appendix E**. Potential measures to mitigate the significant adverse traffic impacts identified in **Tables 14-25 through 14-28** are discussed in Chapter 21, "Mitigation."

Table 14-25
Congested Lane Groups at Analyzed Intersections
Under With Action Conditions—Weekday AM Peak Hour

		No-Action Weekday AM				With-Action Weekday AM			
Intersection	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
East 106th Street (EB/WB) & First Avenue (NB)	EB	L	1.02	112.0	F	**L**	**1.09**	**135.3**	**F**
		LT	1.02	105.4	F	**LT**	**1.08**	**125.1**	**F**
	WB	TR	0.90	54.1	D	**TR**	**0.96**	**64.8**	**E**
East 125th Street (EB/WB) & First Avenue/Willis Avenue Bridge (SB)	EB	LT	0.86	34.9	C	LT	0.90	38.6	D
East 106th Street (EB/WB) & Second Avenue (SB)	EB	TR	1.18	133.8	F	**TR**	**1.20**	**140.4**	**F**
	WB	L	0.81	72.2	E	L	0.82	73.8	E
East 120th Street (EB) & Second Avenue (SB)	EB	TR	0.92	58.1	E	**TR**	**1.00**	**75.4**	**E**
East 121st Street (WB) & Second Avenue (SB)	SB	T	0.93	29.1	C	T	0.95	32.0	C
East 123rd Street (WB) & Second Avenue (SB)	SB	TR	0.93	29.1	C	TR	0.96	33.3	C
East 125th St (EB/WB)/RFK Bridge (WB) & Second Avenue (SB)	EB	T	1.36	203.1	F	**T**	**1.42**	**230.6**	**F**
		R	0.78	56.2	E	R	0.79	57.8	E
	WB (E 125 St)	LT	0.66	39.6	D	**LT**	**0.74**	**45.3**	**D**
	WB (Ramp)	L	1.09	108.2	F	**L**	**1.14**	**125.5**	**F**
	WB (Ramp)	LT	1.20	146.7	F	**LT**	**1.23**	**158.8**	**F**
	SB	T	0.96	48.9	D	T	0.98	52.7	D
East 126th Street (WB) & Second Avenue (SB)/RFK Bridge Exit (NB)	WB	L	1.00	117.5	F	**L**	**1.08**	**139.1**	**F**
	NB	L	1.03	96.8	F	**L**	**1.07**	**106.8**	**F**
East 127th Street (EB) & Second Avenue (SB)	EB	L	1.21	147.4	F	**L**	**1.26**	**168.2**	**F**
East 128th Street (EB) & Second Avenue (SB)	EB	T	1.01	53.0	D	T	1.02	55.2	E
East 112th Street (EB) & Third Avenue (NB)	EB	LT	1.08	90.9	F	LT	1.08	93.6	F
East 116th Street (EB/WB) & Third Avenue (NB)	EB	LT	1.10	92.2	F	**LT**	**1.12**	**99.4**	**F**
East 122nd Street (EB) & Third Avenue (NB)	EB	LT	0.79	42.1	D	**LT**	**0.87**	**51.3**	**D**
East 125th Street (EB/WB) & Third Avenue (NB)	EB	L	1.16	162.5	F	**L**	**1.19**	**174.7**	**F**
		T	1.30	173.6	F	**T**	**1.36**	**197.0**	**F**
	WB	TR	1.23	146.8	F	**TR**	**1.25**	**155.1**	**F**
East 126th Street (WB) & Third Avenue (NB)	WB	T	0.91	47.7	D	**T**	**0.95**	**55.8**	**E**
East 125th Street (EB/WB) & Lexington Avenue (SB)	EB	T	1.35	200.9	F	**T**	**1.38**	**211.6**	**F**
	WB	T	1.46	248.0	F	**T**	**1.48**	**257.4**	**F**
	SB	LT	1.00	53.4	D	**LT**	**1.05**	**66.6**	**E**
East 111th Street (WB) & Park Avenue (NB)	WB	TR	1.09	116.0	F	**TR**	**1.13**	**131.9**	**F**
East 119th Street (WB) & Park Avenue (NB)	WB	TR	1.16	136.0	F	**TR**	**1.35**	**210.8**	**F**
East 120th Street (EB) & Park Avenue (NB)	EB	LT	0.80	49.8	D	**LT**	**0.89**	**60.1**	**E**
East 111th Street (WB) & Park Avenue (SB)	WB	LT	0.83	52.5	D	LT	0.86	56.2	E
	SB	TR	0.88	33.0	C	TR	0.90	35.5	D
East 112th Street (EB) & Park Avenue (SB)	EB	TR	1.07	92.2	F	TR	1.07	94.0	F
East 119th Street (WB) & Park Avenue (SB)	WB	LT	0.95	70.9	E	**LT**	**1.09**	**110.3**	**F**
	SB	TR	1.02	58.5	E	**TR**	**1.06**	**72.9**	**E**
East 120th Street (EB) & Park Avenue (SB)	EB	TR	0.99	86.8	F	**TR**	**1.07**	**109.9**	**F**
	SB	LT	0.98	49.5	D	**LT**	**1.02**	**58.5**	**E**
East 128th Street (EB) & Park Avenue (SB)	EB	TR	1.20	156.5	F	**TR**	**1.22**	**164.7**	**F**
East 116th Street (EB/WB) & Madison Avenue (NB)	EB	LT	1.10	98.3	F	**LT**	**1.12**	**104.7**	**F**
East 119th Street (WB) & Madison Avenue (NB)	WB	TR	0.99	71.0	E	**TR**	**1.05**	**87.8**	**F**

Shading denotes significant adverse impact.

Table 14-26
Congested Lane Groups at Analyzed Intersections Under With Action Conditions—Weekday Midday Peak Hour

Intersection	Approach	No-Action Weekday MD Lane Group	V/C Ratio	Delay (sec/veh)	LOS	With-Action Weekday MD Lane Group	V/C Ratio	Delay (sec/veh)	LOS
East 106th Street (EB/WB) & First Avenue (NB)	NB	L	0.73	55.4	E	L	0.73	55.4	E
East 125th Street (EB/WB) & First Avenue/Willis Avenue Bridge (SB)	EB	LT	1.05	72.4	E	**LT**	**1.08**	**80.3**	**F**
East 106th Street (EB/WB) & Second Avenue (SB)	EB	TR	1.13	116.6	F	**TR**	**1.16**	**126.6**	**F**
	WB	L	0.91	84.5	F	**L**	**0.93**	**88.1**	**F**
East 125th St (EB/WB)/RFK Bridge (WB) & Second Avenue (SB)	EB	T	1.10	92.8	F	**T**	**1.13**	**104.5**	**F**
	WB (Ramp)	LT	0.84	58.3	E	LT	0.86	60.4	E
	SB	T	0.91	42.6	D	T	0.92	43.6	D
East 126th Street (WB) & Second Avenue (SB)/RFK Bridge Exit (NB)	WB	L	0.75	55.8	E	**L**	**0.80**	**61.6**	**E**
East 128th Street (EB) & Second Avenue (SB)	EB	T	1.06	69.1	E	T	1.07	72.2	E
East 125th Street (EB/WB) & Third Avenue (NB)	EB	L	0.88	71.1	E	L	0.89	73.9	E
		T	1.25	153.5	F	**T**	**1.29**	**170.5**	**F**
	WB	TR	1.15	116.5	F	**TR**	**1.17**	**123.6**	**F**
East 125th Street (EB/WB) & Lexington Avenue (SB)	EB	T	1.48	256.1	F	**T**	**1.49**	**261.5**	**F**
	WB	T	1.20	137.5	F	**T**	**1.21**	**141.1**	**F**
East 126th Street (WB) & Lexington Avenue (SB)	WB	LT	1.35	199.3	F	**LT**	**1.40**	**219.1**	**F**
East 111th Street (WB) & Park Avenue (NB)	WB	TR	0.88	62.1	E	**TR**	**0.93**	**71.5**	**E**
East 119th Street (WB) & Park Avenue (NB)	WB	TR	0.82	46.2	D	**TR**	**0.90**	**57.8**	**E**
East 119th Street (WB) & Park Avenue (SB)	WB	LT	0.85	55.1	E	**LT**	**0.97**	**75.9**	**E**
	SB	TR	0.88	32.3	C	TR	0.93	38.8	D
East 128th Street (EB) & Park Avenue (SB)	EB	TR	1.03	102.5	F	**TR**	**1.08**	**116.9**	**F**
	SB	LT	0.89	32.8	C	LT	0.90	35.0	C
East 119th Street (WB) & Madison Avenue (NB)	WB	TR	0.81	43.0	D	**TR**	**0.86**	**48.0**	**D**

Shading denotes significant adverse impact.

Table 14-27
Congested Lane Groups at Analyzed Intersections Under With Action Conditions—Weekday PM Peak Hour

Intersection	Approach	No-Action Weekday PM Lane Group	V/C Ratio	Delay (sec/veh)	LOS	With-Action Weekday PM Lane Group	V/C Ratio	Delay (sec/veh)	LOS
East 106th Street (EB/WB) & First Avenue (NB)	NB	L	0.86	69.6	E	L	0.87	71.1	E
		T	0.96	32.3	C	T	0.96	33.3	C
East 125th Street (EB/WB) & First Avenue/Willis Avenue Bridge (SB)	EB	LT	1.31	174.1	F	**LT**	**1.36**	**194.1**	**F**
	NB	T	1.01	46.6	D	T	1.02	49.6	D
East 106th Street (EB/WB) & Second Avenue (SB)	EB	TR	1.16	130.6	F	**TR**	**1.19**	**138.8**	**F**
	WB	L	0.91	85.1	F	**L**	**0.92**	**88.8**	**F**
East 120th Street (EB) & Second Avenue (SB)	EB	TR	1.18	132.1	F	**TR**	**1.26**	**165.5**	**F**
East 125th St (EB/WB)/RFK Bridge (WB) & Second Avenue (SB)	EB	T	1.42	226.6	F	**T**	**1.49**	**254.7**	**F**
	WB (E 125 St)	LT	0.77	43.8	D	**LT**	**0.94**	**67.9**	**E**
	WB (Ramp)	L	0.95	76.8	E	**L**	**1.00**	**88.6**	**F**
	WB (Ramp)	LT	0.98	81.8	F	**LT**	**1.02**	**89.6**	**F**
	SB	L	1.04	78.1	E	L	1.04	76.7	E
		T	1.06	74.9	E	**T**	**1.08**	**82.7**	**F**
East 126th Street (WB) & Second Avenue (SB)/RFK Bridge Exit (NB)	WB	L	1.35	235.7	F	**L**	**1.50**	**295.8**	**F**
	NB	L	0.98	82.6	F	**L**	**0.99**	**86.7**	**F**
	SB	TR	0.99	44.1	D	TR	1.01	47.5	D
East 127th Street (EB) & Second Avenue (SB)	EB	L	1.01	70.2	E	**L**	**1.06**	**85.5**	**F**
	SB	LT	0.92	29.9	C	LT	0.94	31.4	C
East 128th Street (EB) & Second Avenue (SB)	EB	T	1.16	105.5	F	**T**	**1.18**	**112.0**	**F**
East 111th Street (WB) & Third Avenue (NB)	WB	TR	0.91	54.6	D	TR	0.91	55.8	E
East 112th Street (EB) & Third Avenue (NB)	EB	LT	0.97	62.8	E	LT	0.97	63.3	E
East 116th Street (EB/WB) & Third Avenue (NB)	EB	LT	0.95	51.4	D	**LT**	**0.98**	**56.5**	**E**
East 125th Street (EB/WB) & Third Avenue (NB)	EB	L	0.91	79.5	E	**L**	**0.96**	**91.9**	**F**
		T	1.57	294.0	F	**T**	**1.66**	**332.4**	**F**
	WB	TR	1.22	142.6	F	**TR**	**1.23**	**149.0**	**F**
East 126th Street (WB) & Third Avenue (NB)	WB	T	1.04	75.0	E	**T**	**1.10**	**95.5**	**F**
		R	0.88	56.2	E	R	0.89	58.1	E
East 120th Street (EB) & Lexington Avenue (SB)	EB	TR	0.91	54.2	D	**TR**	**0.97**	**65.3**	**E**
East 125th Street (EB/WB) & Lexington Avenue (SB)	EB	T	1.73	364.5	F	**T**	**1.77**	**385.6**	**F**
	WB	T	1.21	143.1	F	**T**	**1.23**	**149.3**	**F**
East 126th Street (WB) & Lexington Avenue (SB)	WB	LT	1.54	281.7	F	**LT**	**1.61**	**311.9**	**F**
East 111th Street (WB) & Park Avenue (NB)	WB	TR	1.09	113.4	F	**TR**	**1.16**	**135.2**	**F**
	NB	LT	1.06	70.8	E	**LT**	**1.08**	**76.9**	**E**
East 119th Street (WB) & Park Avenue (NB)	WB	TR	1.09	113.0	F	**TR**	**1.24**	**167.4**	**F**
East 120th Street (EB) & Park Avenue (NB)	EB	LT	1.05	96.9	F	**LT**	**1.16**	**132.6**	**F**
East 128th Street (EB) & Park Avenue (NB)	EB	LT	0.76	46.0	D	**LT**	**0.85**	**54.8**	**D**
East 111th Street (WB) & Park Avenue (SB)	WB	LT	0.84	51.9	D	LT	0.88	56.4	E
East 119th Street (WB) & Park Avenue (SB)	WB	LT	1.01	85.6	F	**LT**	**1.17**	**136.6**	**F**
East 120th Street (EB) & Park Avenue (SB)	EB	TR	1.16	135.8	F	**TR**	**1.25**	**171.1**	**F**
East 128th Street (EB) & Park Avenue (SB)	EB	TR	0.96	78.5	E	**TR**	**1.02**	**93.8**	**F**
East 111th Street (WB) & Madison Avenue (NB)	WB	TR	0.90	51.3	D	TR	0.92	54.0	D
East 116th Street (EB/WB) & Madison Avenue (NB)	EB	LT	1.13	114.0	F	**LT**	**1.16**	**123.2**	**F**
	WB	TR	0.91	47.0	D	TR	0.92	47.9	D
East 119th Street (WB) & Madison Avenue (NB)	WB	TR	0.95	61.6	E	**TR**	**1.01**	**75.1**	**E**

Shading denotes significant adverse impact.

Table 14-28
Congested Lane Groups at Analyzed Intersections Under With Action Conditions—Saturday Peak Hour

Intersection	Approach	No-Action Saturday Lane Group	V/C Ratio	Delay (sec/veh)	LOS	With-Action Saturday Lane Group	V/C Ratio	Delay (sec/veh)	LOS
East 106th Street (EB/WB) & First Avenue (NB)	EB	L	1.02	107.5	F	**L**	**1.05**	**118.2**	**F**
		LT	1.03	118.4	F	**LT**	**1.07**	**132.1**	**F**
East 125th Street (EB/WB) & First Avenue/Willis Avenue Bridge (SB)	EB	LT	0.95	45.0	D	LT	0.97	48.9	D
East 106th Street (EB/WB) & Second Avenue (SB)	EB	TR	1.12	112.3	F	**TR**	**1.14**	**120.6**	**F**
East 119th (WB) Street & Second Avenue (SB)	WB	LT	1.14	117.0	F	**LT**	**1.15**	**121.2**	**F**
East 123rd Street (WB) & Second Avenue (SB)	SB	TR	0.91	25.7	C	TR	0.93	27.3	C
East 124th Street (EB) & Second Avenue (SB)	EB	T	1.07	87.0	F	T	1.07	88.1	F
East 125th St (EB/WB)/RFK Bridge (WB) & Second Avenue (SB)	EB	T	1.12	107.1	F	**T**	**1.16**	**120.4**	**F**
		R	0.90	75.3	E	R	0.90	76.3	E
	WB (Ramp)	L	0.89	60.8	E	L	0.91	63.9	E
	WB (Ramp)	LT	0.90	61.5	E	LT	0.91	63.2	E
	SB	T	0.95	42.3	D	T	0.96	43.7	D
East 126th Street (WB) & Second Avenue (SB)/RFK Bridge Exit (NB)	WB	L	0.77	62.3	E	**L**	**0.83**	**72.3**	**E**
	SB	TR	0.94	35.7	D	TR	0.94	36.4	D
East 128th Street (EB) & Second Avenue (SB)	EB	T	1.17	111.5	F	T	1.18	114.0	F
East 116th Street (EB/WB) & Third Avenue (NB)	EB	LT	0.89	41.8	D	LT	0.91	44.6	D
East 124th Street (EB) & Third Avenue (NB)	EB	LT	0.95	61.7	E	**LT**	**0.97**	**65.9**	**E**
East 125th Street (EB/WB) & Third Avenue (NB)	EB	L	0.81	67.8	E	L	0.82	69.2	E
		T	1.04	76.5	E	**T**	**1.08**	**86.8**	**F**
	WB	TR	1.32	188.2	F	**TR**	**1.34**	**196.6**	**F**
East 126th Street (WB) & Third Avenue (NB)	WB	T	0.90	46.5	D	**T**	**0.95**	**55.8**	**E**
		R	1.06	101.3	F	**R**	**1.07**	**107.4**	**F**
East 125th Street (EB/WB) & Lexington Avenue (SB)	EB	T	1.20	137.4	F	**T**	**1.21**	**140.5**	**F**
		R	0.84	57.7	E	R	0.85	59.9	E
	WB	T	1.16	121.4	F	T	1.16	123.8	F
	SB	LT	0.86	30.7	C	LT	0.90	33.8	C
East 126th Street (WB) & Lexington Avenue (SB)	WB	LT	1.58	298.6	F	**LT**	**1.64**	**329.1**	**F**
East 111th Street (WB) & Park Avenue (NB)	WB	TR	1.03	93.1	F	**TR**	**1.06**	**101.5**	**F**
East 119th Street (WB) & Park Avenue (NB)	WB	TR	1.09	112.8	F	**TR**	**1.20**	**151.5**	**F**
East 119th Street (WB) & Park Avenue (SB)	WB	LT	0.85	53.6	D	**LT**	**0.95**	**69.8**	**E**
East 120th Street (EB) & Park Avenue (SB)	EB	TR	0.99	85.0	F	**TR**	**1.05**	**101.4**	**F**
East 128th Street (EB) & Park Avenue (SB)	EB	TR	0.81	54.5	D	**TR**	**0.86**	**60.7**	**E**
East 116th Street (EB/WB) & Madison Avenue (NB)	EB	LT	1.12	107.2	F	**LT**	**1.13**	**112.4**	**F**

Shading denotes significant adverse impact.

H. TRANSIT

EXISTING CONDITIONS

SUBWAY SERVICE

Subway Stations

As discussed above in Section E, "Level 2 Screening Assessment," project-generated trips at four Lexington Avenue Line subway stations are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold in the weekday AM and/or PM peak hours. As shown in **Table 14-12**, these are the 103rd Street, 110th Street, and 116th Street stations which are served by No. 6 local trains, and the 125th Street station which is served by No. 6 trains and the Nos. 4 and 5 express trains. All four of these stations are located below-grade.

103rd Street Subway Station (6)

As shown in **Figure 14-22**, the 103rd Street subway station consists of two side platforms serving the local tracks on the Lexington Avenue Line, and a mezzanine at the south end of the station that spans the tracks and both platforms. Stairs S1/M1 and S4/M4 at the southeast and southwest corners of East 103rd Street and Lexington Avenue, respectively, provide access between street level and the mezzanine. Each platform is connected to the mezzanine by a ramp and an adjoining switchback stair—stair P1/P3 to the southbound platform and stair P2/P4 to the northbound platform. Access to the platforms is controlled by fare array R252 consisting of six turnstiles and a 24-hour fare booth.

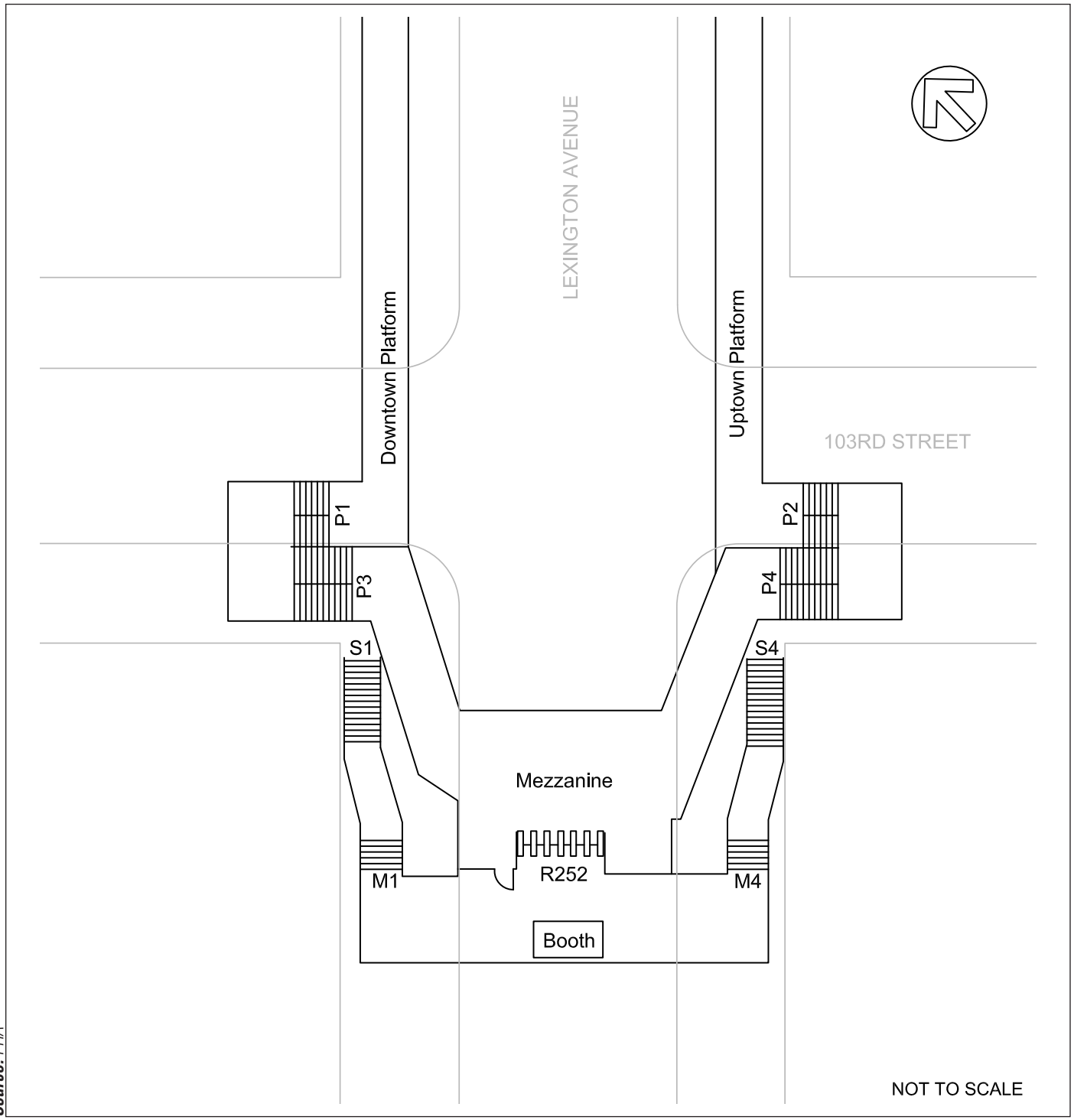
As shown in **Table 14-29**, analyzed stairs S4/M4 and P1/P3 both currently operate at a marginal LOS D in the AM peak hour. These stairs operate at an acceptable LOS C or better in the PM as does stair P2/P4 in both periods. As little, if any project-generated demand is expected to utilize stair S1/M1, this stair is not included in the analysis. Lastly, as shown in **Table 14-30**, fare array R252 currently operates at an uncongested LOS A or B in both the AM and PM peak hours.

110th Street Subway Station (6)

As shown in **Figure 14-23**, the 110th Street subway station consists of two side platforms serving the local tracks on the Lexington Avenue Line. Two stairs at the northeast and southeast corners of East 110th Street and Lexington Avenue (S4/P4 and S2/P2, respectively) provide access between the street and the northbound platform, while a similar pair of stairs at the northwest and southwest corners of the intersection (S3/P3 and S1/P1, respectively) provide access to the southbound platform. Access to the trains is controlled by platform-level fare arrays: R253 consisting of three turnstiles at the uptown platform and R254 consisting of four turnstiles and a 24-hour fare booth at the downtown platform. As shown in **Table 14-29**, both southbound platform stairs currently operate at a marginal LOS D in the AM peak hour and an uncongested LOS A in the PM. Both northbound platform stairs operate at an acceptable LOS C or better in both periods. As shown in **Table 14-30**, both the northbound and southbound fare arrays at the 110th Street station currently operate at an acceptable LOS C or better in the AM and PM peak hours.

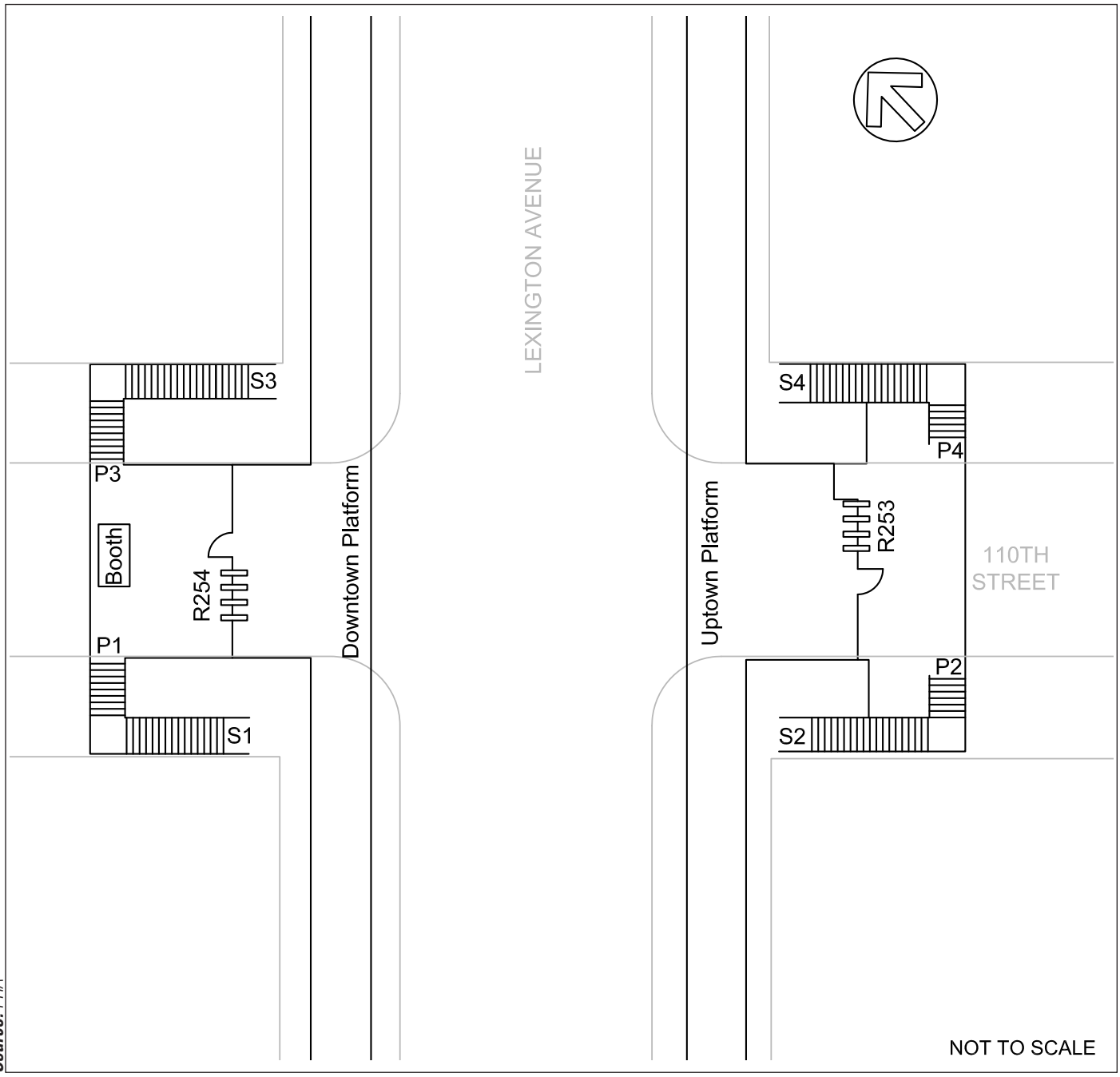
116th Street Subway Station (6)

As shown in **Figure 14-24**, the 116th Street subway station consists of two side platforms serving the local tracks on the Lexington Avenue Line. Two stairs at the northeast and southeast corners of East 116th Street and Lexington Avenue (S4/P4, and S2/P2, respectively) provide



Source: PHA

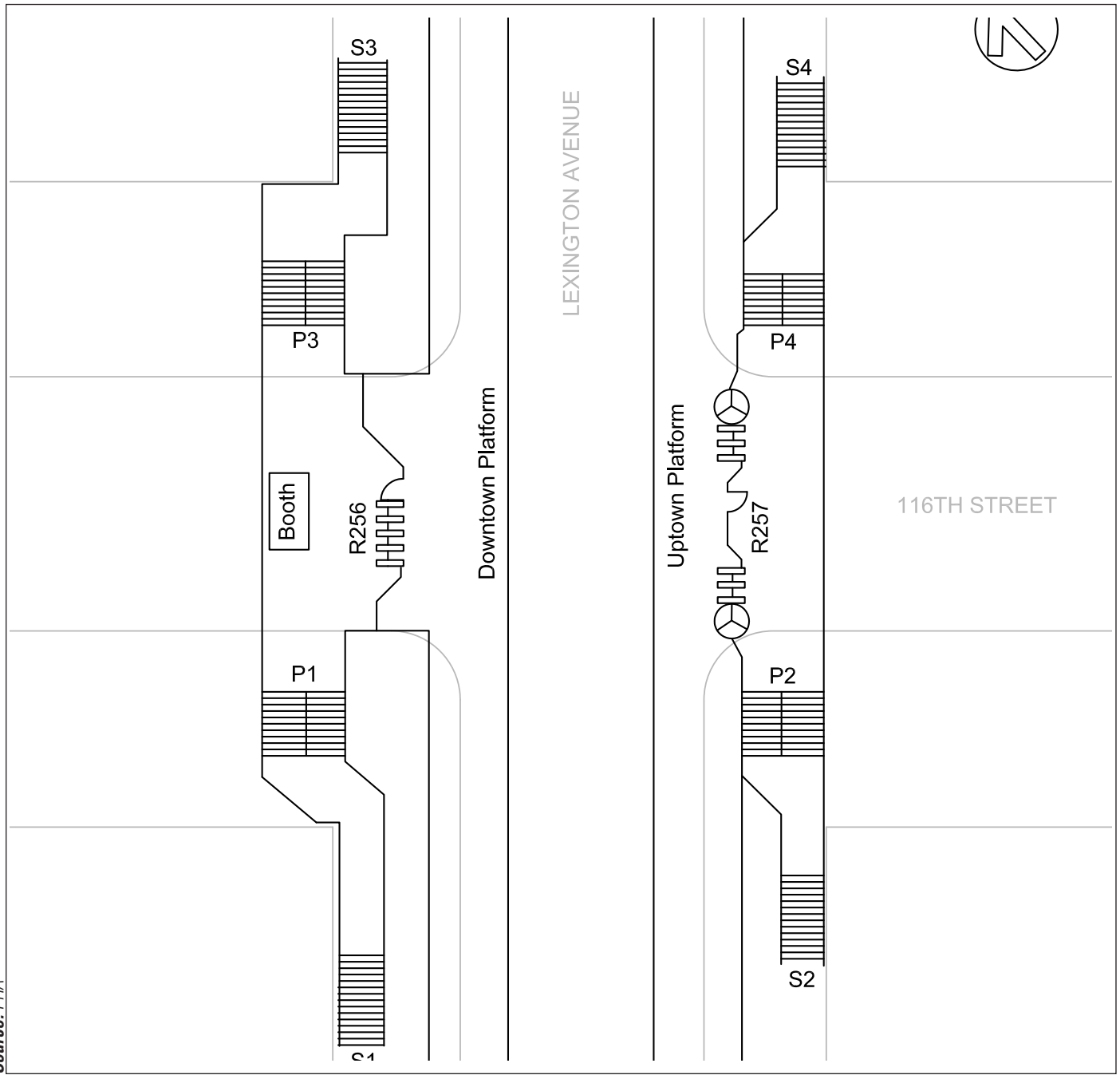
103rd Street (6) Subway Station



Source: *PHA*

110th Street (6) Subway Station

4.19.17



Source: PHA

116th Street (6) Subway Station

access between the street and the northbound platform, while stairs at the northwest and southwest corners of the intersection (S3/P3 and S1/P1, respectively) provide access to the southbound platform. Access to the trains is controlled by platform-level fare arrays: R257 consisting of four turnstiles and two high exit turnstiles (HXTs) at the uptown platform and R256 consisting of four turnstiles and a 24-hour fare booth at the downtown platform. As shown in **Table 14-29**, all four stairs currently operate at an acceptable LOS C in both periods with the exception of southbound platform stair S1/P1 which operates at a marginal LOS D in the AM peak hour. As shown in **Table 14-30**, both the northbound and southbound fare arrays at the 116th Street station currently operate at an uncongested LOS A or B in the AM and PM peak hours.

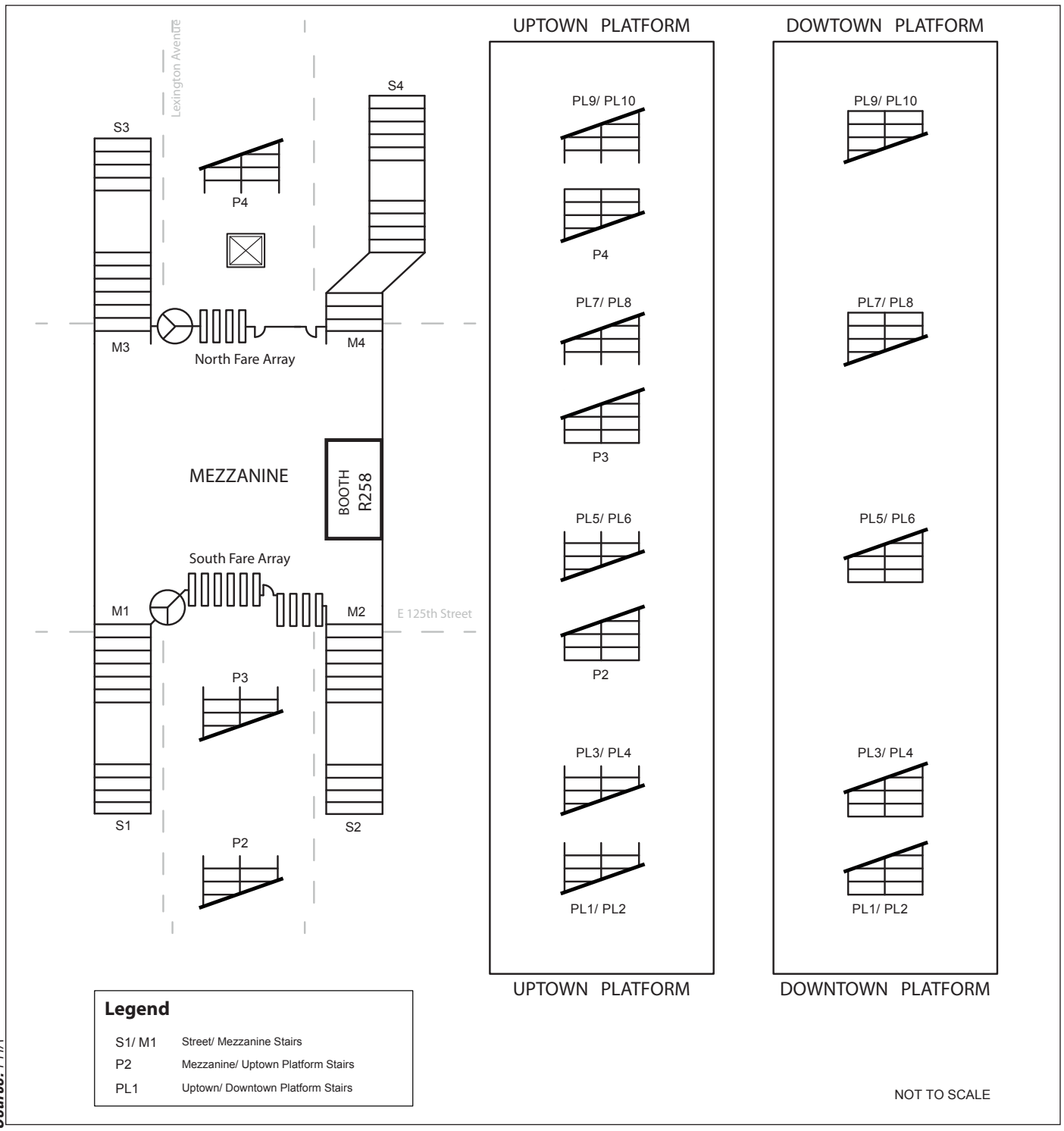
125th Street Subway Station (4, 5, 6)

As shown in **Figure 14-25**, the 125th Street subway station has a mezzanine level, and two platform levels each with a single island platform. Access between the street and the mezzanine level is provided by four stairs at the intersection of East 125th Street and Lexington Avenue—S1/M1 at the southwest corner, S2/M2 at the southeast corner, S3/M3 at the northwest corner, and S4/M4 at the northeast corner. ADA-compliant access is provided by an elevator located at the northeast corner of the intersection. The fare control area on the mezzanine level (R258) has two separate fare arrays, one on the north side of the mezzanine with four turnstiles and a high exit turnstile that controls access to/from upper level platform stair P4, and the second on the south side with eight turnstiles and a high exit turnstile that controls access to and from upper level platform stairs P2 and P3. A total of five stairs numbered (from south to north) PL1/PL2, PL3/PL4, PL5/PL6, PL7/PL8, and PL9/PL10, provide access between the upper platform level which serves northbound local and express trains and the lower platform level which serves southbound local and express trains. As shown in **Table 14-29**, all analyzed stairs currently operate at an acceptable LOS C or better in both the AM and PM peak hours with the exception of street stair S3/M3 and platform stair P3, both of which operate at a marginal LOS D in both periods. As stair S4/M4 is not expected to be used by project-generated trips, this stair is not included in the analysis. As shown in **Table 14-30**, both the north and south fare arrays at the 125th Street station currently operate at an uncongested LOS A or B in the AM and PM peak hours.

Subway Line Haul

Line haul is the volume of transit riders passing a defined point on a given transit route. For subway routes in New York City to and from northern Manhattan and the Bronx, line haul is typically measured either at 60th Street—considered the northern boundary of the Manhattan Central Business District (CBD)—or at the actual maximum load point on each subway route (the point where the trains carry the greatest number of passengers during the peak hour). As discussed above, the Project Area is currently served by five NYCT subway routes— No. 6 local trains and Nos. 4 and 5 express trains operating on the Lexington Avenue Line, and Nos. 2 and 3 express trains operating on the Broadway-Seventh Avenue and Lenox Avenue lines. In northern Manhattan, the peak direction of travel on these lines is typically southbound in the AM peak hour and northbound in the PM peak hour. 2015 maximum load point data were provided for all analyzed routes by NYCT, and were grown by 0.25 percent per year to account for any increases in demand during the 2015 to 2017 period. It should be noted that the maximum load point data provided by NYCT pre-date the 2017 opening of Phase I of the Second Avenue Subway and therefore do not reflect the reduction in demand on Lexington Avenue Line trains expected to

4.19.17



Source: *PHA*

125th Street (4,5,6) Subway Station

result from the new service along Second Avenue between 72nd Street and 96th Street (further described below).

Table 14-31 shows existing line haul conditions in the peak direction at the maximum load points for each subway route during the AM and PM peak hours. Based on the location of the Project Area (in Manhattan) and guidance from NYCT, the Nos. 2 and 3 routes are analyzed as a combined express service, as are the Nos. 4 and 5 routes. As shown in **Table 14-31**, both the combined 2/3 service and the combined 4/5 service are currently operating over capacity in the peak southbound direction in the weekday AM peak hour with v/c ratios of 1.08 and 1.12, respectively. In the weekday PM peak hour, these services are operating essentially at capacity in the peak northbound direction with v/c ratios of 0.99 and 1.00, respectively. No. 6 trains currently operate with v/c ratios of 0.92 in the peak southbound direction in the AM peak hour and 0.85 in the peak northbound direction in the PM peak hour. As noted above, the conditions shown for the Nos. 4/5 and 6 services in **Table 14-32** do not reflect the January 2017 opening of Phase I of the Second Avenue Subway which will have likely reduced demand on the Lexington Avenue Line.

Table 14-29
Existing Conditions Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					In/Down	Out/Up	In/Down	Out/Up			
AM	125th Street (4,5,6)	S1/M1 (SW Corner)	5.83	4.83	1,027	685	1.00	0.90	0.9	0.86	C
		S2/M2 (SE Corner)	5.83	4.83	875	1,033	1.00	0.90	0.9	0.97	C
		S3/M3 (NW Corner)	5.83	4.83	1,209	1,373	1.00	0.90	0.9	1.31	D
		P2	7.75	6.50	1,179	1,172	1.00	0.75	0.9	0.98	C
		P3	7.75	6.50	1,552	1,369	1.00	0.75	0.9	1.20	D
		P4	7.67	6.42	648	1,072	1.00	0.75	0.9	0.75	C
		PL1/PL2	7.67	6.42	68	372	1.00	0.75	0.9	0.20	A
		PL3/PL4	7.58	6.33	487	581	1.00	0.75	0.9	0.46	B
		PL5/PL6	7.58	6.33	878	859	1.00	0.75	0.9	0.74	C
		PL7/PL8	7.67	6.42	66	668	1.00	0.75	0.9	0.35	A
		PL9/PL10	7.75	6.50	522	565	1.00	0.75	0.9	0.45	A
	116th Street (6)	S1/P1 (SW Corner)	5.58	4.58	719	1,045	1.00	0.75	0.9	1.07	D
		S2/P2 (SE Corner)	5.83	4.83	313	315	1.00	0.75	0.9	0.35	A
		S3/P3 (NW Corner)	5.75	4.75	1,018	722	1.00	0.75	0.9	0.97	C
		S4/P4 (NE Corner)	5.42	4.42	223	277	1.00	0.75	0.9	0.31	A
	110th Street (6)	S1/P1 (SW Corner)	4.33	3.33	760	631	1.00	0.75	0.9	1.11	D
		S2/P2 (SE Corner)	4.42	3.42	279	327	1.00	0.75	0.9	0.48	B
		S3/P3 (NW Corner)	4.42	3.42	744	726	1.00	0.75	0.9	1.16	D
		S4/P4 (NE Corner)	4.42	3.42	129	220	1.00	0.75	0.9	0.29	A
	103rd Street (6)	S4/M4 (SE Corner)	5.67	4.67	1,269	922	1.00	0.80	0.9	1.20	D
		P1/P3	9.17	7.92	1,827	1,479	1.00	0.75	0.9	1.11	D
		P2/P4	9.75	8.50	402	1,112	1.00	0.75	0.9	0.51	B
PM	125th Street (4,5,6)	S1/M1 (SW Corner)	5.83	4.83	831	468	1.00	0.90	0.9	0.65	B
		S2/M2 (SE Corner)	5.83	4.83	583	833	1.00	0.90	0.9	0.72	C
		S3/M3 (NW Corner)	5.83	4.83	1,031	1,055	1.00	0.90	0.9	1.06	D
		P2	7.75	6.50	623	1,041	1.00	0.75	0.9	0.72	C
		P3	7.75	6.50	1,546	1,133	1.00	0.75	0.9	1.09	D
		P4	7.67	6.42	636	457	1.00	0.75	0.9	0.45	A
		PL1/PL2	7.67	6.42	119	143	1.00	0.75	0.9	0.11	A
		PL3/PL4	7.58	6.33	345	245	1.00	0.75	0.9	0.25	A
		PL5/PL6	7.58	6.33	695	388	1.00	0.75	0.9	0.44	A
		PL7/PL8	7.67	6.42	86	350	1.00	0.75	0.9	0.20	A
		PL9/PL10	7.75	6.50	392	172	1.00	0.75	0.9	0.22	A
	116th Street (6)	S1/P1 (SW Corner)	5.58	4.58	290	326	1.00	0.75	0.9	0.37	A
		S2/P2 (SE Corner)	5.83	4.83	452	569	1.00	0.75	0.9	0.58	B
		S3/P3 (NW Corner)	5.75	4.75	433	366	1.00	0.75	0.9	0.45	A
		S4/P4 (NE Corner)	5.42	4.42	360	543	1.00	0.75	0.9	0.57	B
	110th Street (6)	S1/P1 (SW Corner)	4.33	3.33	276	121	1.00	0.75	0.9	0.30	A
		S2/P2 (SE Corner)	4.42	3.42	391	615	1.00	0.75	0.9	0.82	C
		S3/P3 (NW Corner)	4.42	3.42	188	145	1.00	0.75	0.9	0.26	A
		S4/P4 (NE Corner)	4.42	3.42	172	515	1.00	0.75	0.9	0.58	B
	103rd Street (6)	S4/M4 (SE Corner)	5.67	4.67	773	912	1.00	0.80	0.9	0.95	C
		P1/P3	9.17	7.92	923	403	1.00	0.75	0.9	0.43	A
		P2/P4	9.75	8.50	741	1,437	1.00	0.75	0.9	0.72	C

Notes:
Methodology based on *CEQR Technical Manual* guidelines.

Table 14-30
Existing Conditions Subway Station Fare Array Analysis

Peak Hour	Station	Fare Array	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstiles	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	125th Street (4,5,6)	R258 (North)	4	0	1	648	1,072	1.0	0.8	0.9	0.28	A
		R258 (South)	8	0	1	2,730	2,541	1.0	0.8	0.9	0.48	B
	116th Street (6)	R257 (NB)	4	0	2	536	592	1.0	0.75	0.9	0.19	A
		R256 (SB)	4	0	0	1,737	1,767	1.0	0.75	0.9	0.68	B
	110th Street (6)	R253 (NB)	3	0	0	408	547	1.0	0.75	0.9	0.24	A
		R254 (SB)	3	0	0	1,504	1,357	1.0	0.75	0.9	0.74	C
	103rd Street (6)	R252	6	0	0	2,229	2,591	1.0	0.8	0.9	0.60	B
PM	125th Street (4,5,6)	R258 (North)	4	0	1	636	457	1.0	0.8	0.9	0.19	A
		R258 (South)	8	0	1	2,169	2,174	1.0	0.8	0.9	0.39	A
	116th Street (6)	R257 (NB)	4	0	2	812	1,112	1.0	0.75	0.9	0.31	A
		R256 (SB)	4	0	0	723	692	1.0	0.75	0.9	0.27	A
	110th Street (6)	R253 (NB)	3	0	0	563	1,130	1.0	0.75	0.9	0.43	A
		R254 (SB)	3	0	0	464	266	1.0	0.75	0.9	0.19	A
	103rd Street (6)	R252	6	0	0	1,664	1,840	1.0	0.8	0.9	0.44	A

Notes:
Methodology based on *CEQR Technical Manual* guidelines.

Table 14-31
Existing Conditions Subway Line Haul Analysis

Peak Hour	Route	Direction	Maximum Load Point (leaving station)	Average Trains per Hour[1]	Average Cars per Hour[1]	Average Passengers per Hour[1]	Average Passengers per Car[1]	Guideline Passengers per Car[2]	V/C Ratio[3]
AM	2/3	SB	72nd Street	22.9	229	27,274	119	110	1.08
	4/5	SB	86th Street	25.1	251	30,877	123	110	1.12
	6	SB	59th Street	21.5	218	21,712	101	110	0.92
PM	2/3	NB	59th Street	21.0	210	22,933	109	110	0.99
	4/5	NB	59th Street	22.2	222	24,380	110	110	1.00
	6	NB	59th Street	20.4	204	19,103	94	110	0.85

Notes:
Based on 2015 ridership and train throughput data from NYCT. Passenger volumes grown by 0.25 percent/year to account for growth in demand during the 2015 to 2017 period.
Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.
Volume to guideline capacity ratio.

BUS SERVICE

The project area is served by a total of 13 local bus routes, six Limited (LTD) bus routes and two Select Bus Service (SBS) routes operated by NYCT. LTD bus routes provide limited-stop service along all or a portion of the route. Some LTD services only operate in the peak direction and/or during peak periods. SBS routes are designed to provide faster service through dedicated bus lanes, greater spacing between stops, and a fare collection system where customers pay prior

to boarding and may enter through any door on the bus. SBS buses also have a unique livery to distinguish them from other bus services. The bus routes operating in proximity to the project area are shown in **Figure 14-3** and listed in **Table 14-13**.

As shown in **Table 14-13**, with project-generated demand distributed among a total of 21 bus routes, only the M15 SBS and the M101 LTD are expected to potentially experience 50 or more new trips in one direction in one or both peak hours and are therefore analyzed in this EIS. Service on both of these local routes is provided by articulated buses. **Table 14-32** shows the existing number of buses and ridership at the maximum load point in each direction for both services in the weekday AM and PM peak hours. As shown in **Table 14-32**, based on MTA loading guidelines, both M15 SBS and M101 LTD buses currently operate with available capacity in each direction during the weekday AM and PM peak hours. It should be noted that the bus conditions shown in **Table 14-32** do not reflect the January 2017 opening of Phase I of the Second Avenue Subway which will have likely reduced demand on the parallel M15 SBS bus service.

METRO-NORTH COMMUTER RAIL SERVICE

In addition to subway and bus transit, the rezoning area is served by commuter rail trains operated by MTA Metro-North Railroad (MNR). Metro-North trains traveling on the Harlem Line (to Wassaic in Dutchess County), the Hudson Line (to Poughkeepsie in Dutchess County) and the New Haven Line (to New Haven, Connecticut) serve the Harlem-125th Street station on Park Avenue at East 125th Street (see **Figure 14-2).** On weekdays approximately, 195 trains serve the Harlem-125th Street station (both directions combined), including five trains in the peak Manhattan-bound direction during the 8-9 a.m. hour and four in the peak northbound direction in the 5-6 p.m. hour.

Table 14-32
Existing Conditions Local Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses[1]	Peak Hour Passengers[1]	Average Passengers per Bus	Available Capacity[2]
AM	M15 SBS	NB	First Ave/ East 14th Street	21	1,509	72	276
		SB	Second Ave/ East 100th Street	14	1,132	81	58
	M101 LTD	NB	East 125th Street/ Lexington Ave	6	445	74	65
		SB	West 125th Street/ Amsterdam Ave	8	454	57	226
PM	M15 SBS	NB	First Ave/ East 97th Street	12	647	54	373
		SB	Houston Street	12	615	51	405
	M101 LTD	NB	East 125th Street/ Lexington Ave	9	640	71	125
		SB	West 125th Street/ Amsterdam Ave	9	446	50	319

Notes:
[1] Based on NYCT 2014 ridership data. Passenger volumes grown by 0.25 percent/year to account for growth in demand from 2014 to 2017.
[2] Available capacity based on MTA loading guidelines of 85 passengers per articulated bus.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

Between 2017 and 2027, it is expected that subway and bus demands in the vicinity of the Project Area will increase due to long-term background growth as well as development that could occur pursuant to existing zoning. In order to forecast future transit conditions without the Proposed Actions (the No Action condition), development on projected development sites and developments listed in Table 2-7 in Chapter 2, "Land Use, Zoning, and Public Policy," were considered. The Future No Action subway station and bus volumes reflect annual background growth rates of 0.25 percent per year for the 2017 through 2022 period and 0.125 percent for the 2022 through 2027 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Manhattan and the Bronx, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-7 and general increases in travel demand not attributable to specific development projects.

For the analysis of future No Action subway line haul conditions, estimates of peak hour demand were developed using outputs from MTA's Regional Transit Forecasting Model (RTFM) provided by NYCT. The RTFM is a model of regional travel in the New York metropolitan area that includes NYCT subway and bus riders, MTA Bus Company riders, commuters using Metro-North or the Long Island Rail Road, transit travel to/from New Jersey, automobile travelers to Manhattan or regional transit stops, and people using other travel modes, including by taxi, bicycle, and on-foot. The model uses TransCAD, a transportation planning software package that combines a geographic information system (GIS) with travel demand models and analysis tools. The model is based on socioeconomic forecasts developed by the New York Metropolitan Transportation Council. As the RTFM data provided by NYCT reflect demand for a 2035 analysis year, the analysis of future No Action (as well as With Action) subway line haul conditions should be considered very conservative as it reflects substantial additional growth that is not likely to occur until well after the 2027 analysis year for the Proposed Actions.

In January 2017, Phase I of the MTA's Second Avenue Subway commenced revenue service. Under this initial phase, Q train service was extended from Sixth Avenue/57th Street to the existing Lexington Avenue/63rd Street station and from there to three new stations along Second Avenue at East 72nd, East 86th, and East 96th Streets. Unrelated to the Proposed Actions, the MTA is now advancing Phase II of the Second Avenue Subway project which will further extend Q train service to three additional subway stations that will be constructed in proximity to the Project Area. Two will be located along Second Avenue at East 106th Street and East 116th Street, while the third will be constructed along East 125th Street between Lexington and Park Avenues. Based on data in the 2004 *Second Avenue Subway FEIS*, it is anticipated that this latter station, which will function as the Second Avenue Line's northern terminus, will connect to both the existing 125th Street Lexington Avenue Line station and the Harlem-125th Street Metro-North station.

Construction of Phase II of the Second Avenue Subway is expected to result in a shift of demand from other travel modes (auto, taxi, and local bus) to the subway mode and a shift in subway ridership from existing Lexington Avenue Line subway stations in proximity to the Project Area to the new Second Avenue Line stations. Detailed designs for the three new stations and operating parameters for the extended subway service were not available at the time this EIS was prepared. Therefore, to be conservative, the quantitative subway station and local bus analyses in this EIS assess conditions without the Second Avenue Subway, and do not assume any improvement due to a shift of demand to the Second Avenue Line by the 2027 analysis year.

While the opening of Phase I of the Second Avenue Subway is reflected in the analysis of future No Action subway line haul conditions (as it was factored into the RTFM data provided by NYCT), the No Action subway line haul analysis does not assume any improvement in maximum load point conditions along the Lexington Avenue Line due to the opening of Phase II. Future subway station and subway and local bus line haul conditions with Phase II of the Second Avenue Subway are, however, discussed qualitatively based on data cited the 2004 *Second Avenue Subway FEIS.*

SUBWAY SERVICE

Subway Stations

Under No Action conditions, demand at all analyzed subway stations is expected to increase as a result of new development and/or background growth. The results of the analysis of No Action AM and PM peak hour conditions at the 103rd Street, 110th Street, 116th Street, and 125th Street stations on the Lexington Avenue Line are shown in **Tables 14-33 and 14-34** and discussed below.

103rd Street Subway Station (6)

Analyzed stair S4/M4 is projected to operate at a congested LOS E in the AM peak hour and at a marginal LOS D in the PM. All other analyzed stairs would operate at a marginal LOS D or better in both periods in the No Action condition. Fare array R252 would operate at an uncongested LOS B in both the AM and PM peak hours.

110th Street Subway Station (6)

Southbound platform stairs S1/P1 and S3/P3 would continue to operate at a marginal LOS D in the AM peak hour and an uncongested LOS A in the PM. Both northbound platform stairs and the two fare arrays are projected to operate at an acceptable LOS C or better in the AM and PM peak hours.

116th Street Subway Station (6)

Southbound platform stairs S1/P1 and S3/P3 are projected to operate at a marginal LOS D in the AM peak hour and an uncongested LOS A or B in the PM, while both northbound platform stairs would operate at an acceptable LOS C or better in both periods. Both fare arrays at the 116th Street station would operate at an acceptable LOS C or better in both the AM and PM peak hours in the No Action condition.

125th Street Subway Station (4, 5, 6)

Three analyzed stairs at the 125th Street station are projected to experience congestion in one or more periods in the No Action condition—street stair S3/M3 (LOS F in the AM and LOS E in the PM), platform stair P2 (LOS E in the AM) and platform stair P3 (LOS F in both periods). All other analyzed stairs would operate at a marginal LOS D or better in both periods. Both the north and south arrays at fare control area R392 would operate at an acceptable LOS C or better in the AM and PM peak hours in the No Action condition.

Table 14-33
No Action Stair Analysis at Analyzed Subway Stations

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					In/Down	Out/Up	In/Down	Out/Up			
AM	125th Street (4,5,6)	S1/M1 (SW Corner)	5.83	4.83	1,049	699	1.00	0.90	0.9	0.87	C
		S2/M2 (SE Corner)	5.83	4.83	1,080	1,142	1.00	0.90	0.9	1.13	D
		S3/M3 (NW Corner)	5.83	4.83	1,691	1,624	1.00	0.90	0.9	1.68	F
		P2	7.75	6.50	1,735	1,605	1.00	0.75	0.9	1.38	E
		P3	7.75	6.50	2,283	1,881	1.00	0.75	0.9	1.71	F
		P4	7.67	6.42	952	1,475	1.00	0.75	0.9	1.05	D
		PL1/PL2	7.67	6.42	103	493	1.00	0.75	0.9	0.27	A
		PL3/PL4	7.58	6.33	733	772	1.00	0.75	0.9	0.64	B
		PL5/PL6	7.58	6.33	1,329	1,145	1.00	0.75	0.9	1.04	D
		PL7/PL8	7.67	6.42	101	896	1.00	0.75	0.9	0.47	B
		PL9/PL10	7.75	6.50	786	755	1.00	0.75	0.9	0.64	B
	116th Street (6)	S1/P1 (SW Corner)	5.58	4.58	803	1,076	1.00	0.75	0.9	1.13	D
		S2/P2 (SE Corner)	5.83	4.83	333	347	1.00	0.75	0.9	0.38	A
		S3/P3 (NW Corner)	5.75	4.75	1,327	755	1.00	0.75	0.9	1.14	D
		S4/P4 (NE Corner)	5.42	4.42	276	342	1.00	0.75	0.9	0.38	A
	110th Street (6)	S1/P1 (SW Corner)	4.33	3.33	868	684	1.00	0.75	0.9	1.24	D
		S2/P2 (SE Corner)	4.42	3.42	373	336	1.00	0.75	0.9	0.56	B
		S3/P3 (NW Corner)	4.42	3.42	859	748	1.00	0.75	0.9	1.26	D
		S4/P4 (NE Corner)	4.42	3.42	149	242	1.00	0.75	0.9	0.32	A
	103rd Street (6)	S4/M4 (SE Corner)	5.67	4.67	1,535	1,098	1.00	0.80	0.9	1.44	E
		P1/P3	9.17	7.92	2,084	1,533	1.00	0.75	0.9	1.21	D
		P2/P4	9.75	8.50	430	1,266	1.00	0.75	0.9	0.58	B
PM	125th Street (4,5,6)	S1/M1 (SW Corner)	5.83	4.83	851	481	1.00	0.90	0.9	0.66	B
		S2/M2 (SE Corner)	5.83	4.83	786	1,070	1.00	0.90	0.9	0.95	C
		S3/M3 (NW Corner)	5.83	4.83	1,445	1,566	1.00	0.90	0.9	1.53	E
		P2	7.75	6.50	1,134	1,766	1.00	0.75	0.9	1.24	D
		P3	7.75	6.50	2,819	1,912	1.00	0.75	0.9	1.91	F
		P4	7.67	6.42	1,167	766	1.00	0.75	0.9	0.79	C
		PL1/PL2	7.67	6.42	220	225	1.00	0.75	0.9	0.19	A
		PL3/PL4	7.58	6.33	642	391	1.00	0.75	0.9	0.43	A
		PL5/PL6	7.58	6.33	1,309	629	1.00	0.75	0.9	0.79	C
		PL7/PL8	7.67	6.42	160	559	1.00	0.75	0.9	0.33	A
		PL9/PL10	7.75	6.50	737	283	1.00	0.75	0.9	0.40	A
	116th Street (6)	S1/P1 (SW Corner)	5.58	4.58	337	343	1.00	0.75	0.9	0.40	A
		S2/P2 (SE Corner)	5.83	4.83	476	649	1.00	0.75	0.9	0.64	B
		S3/P3 (NW Corner)	5.75	4.75	596	422	1.00	0.75	0.9	0.56	B
		S4/P4 (NE Corner)	5.42	4.42	419	852	1.00	0.75	0.9	0.81	C
	110th Street (6)	S1/P1 (SW Corner)	4.33	3.33	320	207	1.00	0.75	0.9	0.42	A
		S2/P2 (SE Corner)	4.42	3.42	463	725	1.00	0.75	0.9	0.97	C
		S3/P3 (NW Corner)	4.42	3.42	239	164	1.00	0.75	0.9	0.31	A
		S4/P4 (NE Corner)	4.42	3.42	190	616	1.00	0.75	0.9	0.69	B
	103rd Street (6)	S4/M4 (SE Corner)	5.67	4.67	969	1,125	1.00	0.80	0.9	1.18	D
		P1/P3	9.17	7.92	1,096	426	1.00	0.75	0.9	0.49	B
		P2/P4	9.75	8.50	781	1,645	1.00	0.75	0.9	0.81	C

Notes:
Methodology based on *CEQR Technical Manual* guidelines.

Table 14-34
No Action Fare Array Analysis at Analyzed Subway Stations

Peak Hour	Station	Fare Array	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstiles	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	125th Street (4,5,6)	R258 (North)	4	0	1	952	1,475	1.0	0.9	0.8	0.43	A
		R258 (South)	8	0	1	4,018	3,486	1.0	0.9	0.8	0.73	C
	116th Street (6)	R257 (NB)	4	0	2	609	689	1.0	0.75	0.9	0.21	A
		R256 (SB)	4	0	0	2,130	1,830	1.0	0.75	0.9	0.77	C
	110th Street (6)	R253 (NB)	3	0	0	523	578	1.0	0.75	0.9	0.28	A
		R254 (SB)	3	0	0	1,727	1,432	1.0	0.75	0.9	0.82	C
	103rd Street (6)	R252	6	0	0	2,513	2,799	1.0	0.8	0.9	0.66	B
PM	125th Street (4,5,6)	R258 (North)	4	0	1	1,167	766	1.0	0.9	0.8	0.38	A
		R258 (South)	8	0	1	3,953	5,421	1.0	0.9	0.8	0.87	C
	116th Street (6)	R257 (NB)	4	0	2	894	1,501	1.0	0.75	0.9	0.37	A
		R256 (SB)	4	0	0	934	765	1.0	0.75	0.9	0.33	A
	110th Street (6)	R253 (NB)	3	0	0	654	1,340	1.0	0.75	0.9	0.50	B
		R254 (SB)	3	0	0	559	371	1.0	0.75	0.9	0.24	A
	103rd Street (6)	R252	6	0	0	1,877	2,071	1.0	0.8	0.9	0.49	B

Notes:
Methodology based on *CEQR Technical Manual* guidelines.

Potential Effects of Second Avenue Subway Phase II

Phase II of the Second Avenue Subway is expected to reduce demand at the existing Lexington Avenue Line subway stations serving the Project Area. At the existing 103rd Street, 110th Street, and 116th Street stations, the 2004 *Second Avenue Subway FEIS* forecasts reductions of approximately 33 percent, 45 percent and 48 percent, respectively, in the AM peak hour with completion of the full Second Avenue Line from 125th Street to Lower Manhattan. At the existing Lexington Avenue Line 125th Street station, which would be connected to the new terminus station for the Second Avenue Line, demand is projected to decrease by approximately 35 percent. It was also assumed in the 2004 FEIS that the station's mezzanine level would be expanded as would one or more existing station entrances at Lexington Avenue and East 125th Street, and that one or more additional entrances would be provided at Park Avenue. (As noted previously, designs for the new subway stations and the improvements to the existing Lexington Avenue Line 125th Street station were not available at the time this EIS was prepared.)

Although the demand reductions forecast in the 2004 FEIS were based upon completion of the full Second Avenue Line to Lower Manhattan, it is reasonable to assume that much of the projected decrease in demand at Project Area subway stations would occur upon completion of Phase II which extends through the Project Area. Assuming a 33 percent reduction in overall demand at the existing Lexington Avenue Line 103rd Street station, the congested LOS E condition at stair S4/P4 in the AM peak hour would not occur, and all analyzed stairs at this station would operate at an acceptable LOS C or better in both the AM and PM. Similarly, assuming a 35 percent reduction in demand at the Lexington Avenue Line 125th Street as forecasted in the 2004 FEIS, the projected LOS E or F conditions at street stair S3/M3 and platform stairs P2 and P3 in one or both peak hours would not occur. All stairs at this station

would operate at an acceptable LOS C or better in both the AM and PM with the exception of platform stair P3 which would operate at a marginal LOS D in both periods (compared to LOS F in both periods without Second Avenue Subway Phase II). As noted above, conditions at this station are also expected to benefit from new and/or expanded entrances. Overall, conditions at all four analyzed subway stations would be improved with implementation of Phase II of the Second Avenue Subway, and all stairs and or fare arrays at these stations are expected to operate at LOS D or better in both the AM and PM peak hours.

Subway Line Haul

Table 14-35 shows anticipated 2027 No Action line haul conditions at the maximum load points on the four subway routes operating in proximity to the Project Area along the Lexington Avenue and Lenox Avenue/Broadway-Seventh Avenue lines. The data in **Table 14-35** are based on RTFM outputs provided by NYCT and reflect growth in demand based on population and employment projections, as well as additional subway capacity on the Lexington Avenue Line anticipated from the opening of the first phase of the Second Avenue Subway. As noted previously, given that the RTFM data provided by NYCT reflect demand for a 2035 analysis year, the analysis of future No Action subway line haul conditions shown in **Table 14-35** should be considered very conservative as it reflects substantial additional growth that is not likely to occur until after the 2027 analysis year for the Proposed Actions.

As shown in **Table 14-35**, in the No Action condition the combined Nos. 2/3 service is expected to operate over capacity in both peak hours, with v/c ratios of 1.16 in the peak southbound direction in the AM and 1.07 in the peak northbound direction in the PM. This compares to v/c ratios of 1.08 southbound and 0.99 northbound during these same periods, respectively, under Existing conditions. By contrast, conditions on the combined Nos. 4/5 service are expected to improve as a result of the opening of Phase I of the Second Avenue Subway, with v/c ratios of 1.06 in the peak southbound direction in the AM and 0.94 in the peak northbound direction in the PM in the No Action condition, compared to v/c ratios of 1.12 and 1.00, respectively, under Existing conditions. Conditions on No. 6 trains would similarly improve, with v/c ratios of 0.83 in the peak southbound direction in the AM and 0.84 in the peak northbound direction in the PM in the No Action condition, compared to v/c ratios of 0.92 and 0.85, respectively under Existing conditions.

Table 14-35
No Action Subway Line Haul Analysis

Peak Hour	Route	Direction	Maximum Load Point (leaving station)	Average Trains per Hour	Average Cars per Hour	Average Passengers per Hour[1]	Average Passengers per Car[1]	Guideline Passengers per Car[2]	V/C Ratio[3]
AM	2/3	SB	72nd Street	22.9	229	29,282	128	110	1.16
	4/5	SB	86th Street	25.1	251	29,187	116	110	1.06
	6	SB	59th Street	21.5	215	19,739	92	110	0.83
PM	2/3	NB	59th Street	21.0	210	24,622	117	110	1.07
	4/5	NB	59th Street	22.2	222	23,046	104	110	0.94
	6	NB	59th Street	20.4	204	18,954	93	110	0.84

Notes:
[1] 2027 No Action passenger volumes are based on MTA RTFM outputs for 2035 provided by NYCT and reflect conditions with Phase I of the Second Avenue Subway.
[2] Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.
[3] Volume to guideline capacity ratio.

Based on data cited in the 2004 *Second Avenue Subway FEIS*, completion of the Second Avenue Line from 125th Street to Lower Manhattan would substantially reduce demand on the existing Lexington Avenue Line in all periods. As the RTFM data provided by NYCT already incorporate Phase I of the Second Avenue Subway, some of the reduction in line haul demand on the Nos. 4/5 and 6 trains attributable to the Second Avenue Subway is therefore reflected in the No Action analysis. Further reductions in Lexington Avenue Line ridership are expected to occur with completion of Phase II at which time Q trains will serve a total of five stations along Second Avenue from East 72nd Street to East 116th Street along with the terminus on East 125th Street at Lexington and Park Avenues. Therefore, the over-capacity conditions on the combined southbound Nos. 4/5 service in the AM peak hour may not occur in 2027 with completion of Phase II of the Second Avenue Subway.

BUS SERVICE

Demand on the local bus services operating in the vicinity of the rezoning area is expected to increase during the 2017 through 2027 period as a result of background growth as well as demand from new development. As shown in **Table 14-36**, existing levels of bus service are not expected to be sufficient to provide adequate supply to meet the projected demand in the 2027 No Action condition on the northbound M101 LTD service in both the AM and PM peak hours and the southbound M15 SBS service in the AM peak hour. Based on a loading guideline of 85 passengers per articulated bus, one additional northbound M101 LTD bus would be needed in both the AM and PM peak hours (for a total of seven buses and ten buses, respectively), along with one additional southbound M15 SBS bus in the AM (for a total of 15), in order to accommodate projected demand.

As a general policy, the MTA provides additional bus service where demand warrants, taking into account financial and operational constraints. Based on ongoing passenger monitoring programs, comprehensive service plans would be generated to respond to specific, known needs with capital and/or operational improvements where fiscally and operationally practicable. The MTA's capital program is developed on a five-year cycle; through this program, expansion of bus services would be provided as needs are determined. It is therefore anticipated that in the No Action condition, the MTA would increase service frequency on the southbound M15 SBS in the AM peak hour and the northbound M101 LTD in both the AM and PM to address their capacity shortfalls.

Based on data from the 2004 *Second Avenue Subway FEIS*, completion of the full Second Avenue Subway from 125th Street to Lower Manhattan is expected to reduce AM peak hour demand on southbound M15 and M15 SBS buses by approximately 45 percent.[4] Aggregate demand on buses operating along Lexington Avenue in the AM (the M98, M101, M102, and M103) is projected in the 2004 FEIS to decrease by approximately 20 percent. Much of the projected decrease in line haul demand on these bus routes is expected to occur with completion of Phase II of the Second Avenue Subway at which time Q trains will serve a total of five stations along Second Avenue from East 72nd Street to East 116th Street along with the terminus on East 125th Street at Lexington and Park Avenues. Therefore, the over-capacity conditions on the southbound M15 SBS service in the AM peak hour and the northbound and

[4] It should be noted that the bus ridership forecast in the 2004 FEIS was prepared prior to the implementation of M15 Select Bus Service.

southbound M101 LTD service in both the AM and PM would likely not occur in the 2027 No Action condition with completion of Phases I and II of the Second Avenue Subway, and increases in service frequency on these routes would not be necessary.

Metro-North Commuter Rail Service

It is anticipated that by 2027, demand for commuter rail service at the Harlem-125th Street station will increase as a result of new development and/or background growth. The MTA has indicated that there are currently no plans for modifications to commuter rail service at the Harlem-125th Street station.

Table 14-36
No Action Local Bus Analysis

Peak Hour[1]	Route	Direction	Maximum Load Point	Peak Hour Passengers[1]	No Action Conditions with Current Service Levels			No Action Conditions with Potential Service Adjustments		
					Peak Hour Buses[2]	Average Passengers per Bus	Available Capacity[3]	Peak Hour Buses	Average Passengers per Bus	Available Capacity[3]
AM	M15 SBS	NB	First Ave/East 14th Street	1,568	21	75	217	21	75	217
		SB	Second Ave/East 100th Street	1,244	14	89	-54	15	83	31
	M101 LTD	NB	East 125th Street/Lexington Ave	526	6	88	-16	7	75	69
		SB	West 125th Street/Amsterdam Ave	519	8	65	161	8	65	161
PM	M15 SBS	NB	First Ave/East 97th Street	744	12	62	276	12	62	276
		SB	Houston Street	627	12	52	393	12	52	393
	M101 LTD	NB	East 125th Street/Lexington Ave	783	9	87	-18	10	78	67
		SB	West 125th Street/Amsterdam Ave	537	9	60	228	9	60	228

Notes:
[1] No Action passenger volumes reflect demand from No Action development plus background growth rates of 0.25 percent/year for the 2017-2022 period and 0.125 percent/year for the 2022-2027 period as per *CEQR Technical Manual* guidelines.
[2] Based on most currently available data from NYCT.
[3] Available capacity based on MTA loading guidelines of 85 passengers per articulated bus.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

SUBWAY SERVICE

Subway Stations

As shown in **Table 14-12**, the Proposed Actions are expected to generate a net total of 2,350 and 2,716 new subway trips in the weekday AM and PM peak hours, respectively. Based on proximity to projected development sites and existing ridership patterns, the highest number of peak hour subway trips are expected to occur at the 125th Street (4, 5, 6) station on the Lexington Avenue Line which would experience an estimated 933 incremental trips (in + out combined) in the AM peak hour and 1,104 in the PM peak hour. The second highest number of trips would occur at the 116th Street (6) station on the Lexington Avenue Line which would experience an estimated 712 incremental trips in the AM peak hour and 804 in the PM. By contrast, all four Lenox Avenue Line (2, 3) stations are expected to experience fewer than 100 new trips in both the AM and PM peak hours.

AM and PM peak hour conditions at the 103rd Street, 110th Street, 116th Street, and 125th Street stations on the Lexington Avenue Line in the future with the Proposed Actions are shown in **Tables 14-37 and 14-38** and discussed below.

103rd Street Subway Station (6)

Street stair S4/M4 at the southeast corner of the Lexington Avenue/East 103rd Street intersection is expected to operate at LOS E in both the AM and PM peak hours. All other analyzed stairs at this station would operate at a marginal LOS D or an acceptable LOS B or C in both periods in the future with the Proposed Actions, and fare array R252 would operate at an uncongested LOS B in both periods. Based on the impact criteria in **Table 14-16**, stair S4/M4 would be considered significantly adversely impacted by incremental demand from the Proposed Actions in both the AM and PM peak hours.

110th Street Subway Station (6)

Street stairs S1/P1 and S3/P3 at the southwest and northwest corners of the Lexington Avenue/East 110th Street intersection, respectively, are expected to operate at LOS D in the AM peak hour, as is stair S2/P2 at the southeast corner in the PM. Otherwise, these and all other analyzed stairs at this station would operate at an acceptable LOS C or better in both the AM and PM in the future with the Proposed Actions, as would fare arrays R253 and R254. Based on the impact criteria in **Table 14-16**, there would be no significant adverse impacts to stairs or fare arrays at the 110th Street station in either peak hour.

116th Street Subway Station (6)

In the AM peak hour, street stair S1/P1 at the southwest corner of the Lexington Avenue/East 116th Street intersection and street stair S3/P3 at the northwest corner are both expected to operate at LOS D. In the PM peak hour, street stair S4/P4 at the northeast corner would operate at LOS D. Otherwise, these and all other analyzed stairs would operate at an acceptable LOS C or better in the AM and PM in the future with the Proposed Actions, as would fare arrays R256 and R257. Based on the impact criteria in **Table 14-16**, stair S3/P3 would be considered significantly adversely impacted by incremental demand from the Proposed Actions in the AM peak hour.

125th Street Subway Station (4, 5, 6)

A total of four stairs at the 125th Street station would be significantly adversely impacted by project-generated demand in one or both peak hours based on the impact criteria in **Table 14-16**. These would include street stair S2/M2 at the southeast corner of the Lexington Avenue/East 125th Street intersection which would operate at LOS D in both periods and would be significantly impacted in the AM; street stair S3/M3 at the northwest corner of the intersection which would operate at LOS F in both the AM and PM and would be significantly impacted in both periods; mezzanine-to-platform stair P2 which would operate at LOS E in the AM and PM and be significantly impacted in both periods; and mezzanine-to-platform stair P3 which would operate at LOS F in the AM and PM and would be significantly impacted in both periods. Both mezzanine-to-platform stair P4 and platform stair PL5/PL6 would both operate at LOS D in the AM, however, neither would be considered significantly impacted. All other stairs at the 125th Street station would operate at an acceptable LOS C or better in both the AM and PM in the future with the Proposed Actions, and both the north and south elements at fare array R258 would operate at an acceptable LOS C or better in both periods.

Potential mitigation for the significant adverse impacts to one stair at the 103rd Street station, one stair at the 116th Street station, and four stairs at the 125th Street subway station are discussed in Chapter 21, “Mitigation.”

Table 14-37
With Action Stair Analysis at Analyzed Subway Stations

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS	WIT (in.)
					In/Down	Out/Up	In/Down	Out/Up	In/Down	Out/Up				
AM	125th Street (4,5,6)	S1/M1 (SW Corner)	5.83	4.83	33	16	1,082	715	1.00	0.90	0.9	0.90	C	-
		S2/M2 (SE Corner)	5.83	4.83	242	84	1,322	1,226	1.00	0.90	0.9	1.29	D	8.51 *
		S3/M3 (NW Corner)	5.83	4.83	330	228	2,021	1,852	1.00	0.90	0.9	1.96	F	9.73 *
		P2	7.75	6.50	211	106	1,946	1,711	1.00	0.75	0.9	1.51	E	7.40 *
		P3	7.75	6.50	278	124	2,561	2,005	1.00	0.75	0.9	1.86	F	7.55 *
		P4	7.67	6.42	116	97	1,068	1,572	1.00	0.75	0.9	1.14	D	6.70
		PL1/PL2	7.67	6.42	15	10	118	503	1.00	0.75	0.9	0.28	A	-
		PL3/PL4	7.58	6.33	109	16	842	788	1.00	0.75	0.9	0.69	B	-
		PL5/PL6	7.58	6.33	197	23	1,526	1,168	1.00	0.75	0.9	1.13	D	6.78
		PL7/PL8	7.67	6.42	15	18	116	914	1.00	0.75	0.9	0.48	B	-
		PL9/PL10	7.75	6.50	117	15	903	770	1.00	0.75	0.9	0.69	B	-
	116th Street (6)	S1/P1 (SW Corner)	5.58	4.58	107	9	910	1,085	1.00	0.75	0.9	1.19	D	3.37
		S2/P2 (SE Corner)	5.83	4.83	63	21	396	368	1.00	0.75	0.9	0.43	A	-
		S3/P3 (NW Corner)	5.75	4.75	319	34	1,646	789	1.00	0.75	0.9	1.32	D	9.72 *
		S4/P4 (NE Corner)	5.42	4.42	61	98	337	440	1.00	0.75	0.9	0.48	B	-
	110th Street (6)	S1/P1 (SW Corner)	4.33	3.33	117	14	985	698	1.00	0.75	0.9	1.33	D	3.38
		S2/P2 (SE Corner)	4.42	3.42	18	26	391	362	1.00	0.75	0.9	0.59	B	-
		S3/P3 (NW Corner)	4.42	3.42	68	13	927	761	1.00	0.75	0.9	1.32	D	2.04
		S4/P4 (NE Corner)	4.42	3.42	11	40	160	282	1.00	0.75	0.9	0.36	A	-
	103rd Street (6)	S4/M4 (SE Corner)	5.67	4.67	174	87	1,709	1,185	1.00	0.80	0.9	1.58	E	5.52 *
		P1/P3	9.17	7.92	148	22	2,232	1,555	1.00	0.75	0.9	1.26	D	4.46
		P2/P4	9.75	8.50	26	65	456	1,331	1.00	0.75	0.9	0.61	B	-
PM	125th Street (4,5,6)	S1/M1 (SW Corner)	5.83	4.83	30	34	881	515	1.00	0.90	0.9	0.70	B	-
		S2/M2 (SE Corner)	5.83	4.83	115	202	901	1,272	1.00	0.90	0.9	1.11	D	6.42
		S3/M3 (NW Corner)	5.83	4.83	357	366	1,802	1,932	1.00	0.90	0.9	1.89	F	13.92 *
		P2	7.75	6.50	134	130	1,268	1,896	1.00	0.75	0.9	1.35	E	7.15 *
		P3	7.75	6.50	333	141	3,152	2,053	1.00	0.75	0.9	2.10	F	7.81 *
		P4	7.67	6.42	137	57	1,304	823	1.00	0.75	0.9	0.87	C	-
		PL1/PL2	7.67	6.42	33	9	253	234	1.00	0.75	0.9	0.20	A	-
		PL3/PL4	7.58	6.33	96	15	738	406	1.00	0.75	0.9	0.47	B	-
		PL5/PL6	7.58	6.33	193	25	1,502	654	1.00	0.75	0.9	0.87	C	-
		PL7/PL8	7.67	6.42	24	22	184	581	1.00	0.75	0.9	0.35	A	-
		PL9/PL10	7.75	6.50	109	11	846	294	1.00	0.75	0.9	0.44	A	-
	116th Street (6)	S1/P1 (SW Corner)	5.58	4.58	43	16	380	359	1.00	0.75	0.9	0.43	A	-
		S2/P2 (SE Corner)	5.83	4.83	38	93	514	742	1.00	0.75	0.9	0.72	C	-
		S3/P3 (NW Corner)	5.75	4.75	164	57	760	479	1.00	0.75	0.9	0.68	B	-
		S4/P4 (NE Corner)	5.42	4.42	67	346	486	1,198	1.00	0.75	0.9	1.09	D	4.80
	110th Street (6)	S1/P1 (SW Corner)	4.33	3.33	34	24	354	231	1.00	0.75	0.9	0.46	B	-
		S2/P2 (SE Corner)	4.42	3.42	11	102	474	827	1.00	0.75	0.9	1.07	D	2.69
		S3/P3 (NW Corner)	4.42	3.42	54	10	293	174	1.00	0.75	0.9	0.36	A	-
		S4/P4 (NE Corner)	4.42	3.42	17	54	207	670	1.00	0.75	0.9	0.74	C	-
	103rd Street (6)	S4/M4 (SE Corner)	5.67	4.67	138	172	1,107	1,297	1.00	0.80	0.9	1.35	E	8.30 *
		P1/P3	9.17	7.92	103	26	1,199	452	1.00	0.75	0.9	0.53	B	-
		P2/P4	9.75	8.50	35	146	816	1,791	1.00	0.75	0.9	0.87	C	-

Notes:
Methodology based on *CEQR Technical Manual* guidelines.
* Denotes a significant adverse impact.

Table 14-38
With Action Fare Array Analysis at Analyzed Subway Stations

Peak Hour	Station	Fare Array	Control Elements			Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstiles	HEET	HXT	System Entries	System Exits	System Entries	System Exits	System Entries	System Exits			
AM	125th Street (4,5,6)	R258 (North)	4	0	1	116	97	1,068	1,572	1.0	0.8	0.9	0.44	A
		R258 (South)	8	0	1	489	231	4,507	3,717	1.0	0.8	0.9	0.75	C
	116th Street (6)	R257 (NB)	4	0	2	124	119	733	808	1.0	0.75	0.9	0.25	A
		R256 (SB)	4	0	0	426	43	2,556	1,873	1.0	0.75	0.9	0.86	C
	110th Street (6)	R253 (NB)	3	0	0	29	66	552	644	1.0	0.75	0.9	0.31	A
		R254 (SB)	3	0	0	185	27	1,912	1,459	1.0	0.75	0.9	0.88	C
	103rd Street (6)	R252	6	0	0	174	87	2,687	2,886	1.0	0.8	0.9	0.69	B
PM	125th Street (4,5,6)	R258 (North)	4	0	1	137	57	1,304	823	1.0	0.8	0.9	0.38	A
		R258 (South)	8	0	1	467	738	4,420	6,159	1.0	0.8	0.9	0.92	C
	116th Street (6)	R257 (NB)	4	0	2	105	439	999	1,940	1.0	0.75	0.9	0.45	A
		R256 (SB)	4	0	0	207	73	1,141	838	1.0	0.75	0.9	0.39	A
	110th Street (6)	R253 (NB)	3	0	0	28	156	682	1,496	1.0	0.75	0.9	0.55	B
		R254 (SB)	3	0	0	88	34	647	405	1.0	0.75	0.9	0.28	A
	103rd Street (6)	R252	6	0	0	138	172	2,015	2,243	1.0	0.8	0.9	0.53	B

Notes:
Methodology based on *CEQR Technical Manual* guidelines.

Potential Effects of Second Avenue Subway Phase II

As discussed previously, the subway analysis in the 2004 *Second Avenue Subway FEIS* determined that demand at existing Lexington Avenue Line stations would be reduced with completion of the Second Avenue Line. AM peak hour demand at the existing 103rd Street, 110th Street, and 116th Street stations would be reduced by approximately 33 percent, 45 percent and 48 percent, respectively, with completion of the full Second Avenue Line from 125th Street to Lower Manhattan, while demand at the existing 125th Street Lexington Avenue Line station, which would be connected to the new terminus station for the Second Avenue Line, would decrease by approximately 35 percent. The 2004 FEIS also identified improvements that are likely to be made at the East 125th Street Lexington Avenue Line station under Second Avenue Subway Phase II, including expansion of one or more existing station entrances at Lexington Avenue and East 125th Street, installation of one or more additional entrances at Park Avenue, and expansion of the station's mezzanine. (As noted previously, detailed designs for the improvements to the existing 125th Street Lexington Avenue Line station were not available at the time this EIS was prepared.)

Although the reductions in demand at existing Project Area subway stations forecast in the 2004 FEIS were based upon completion of the full Second Avenue Line to Lower Manhattan, it is reasonable to assume that much of the projected decrease would occur upon completion of Phase II which would extend the line through the Project Area. In addition, it is anticipated that much of the incremental demand generated by projected development sites along Second Avenue, and to a lesser extent those along Third Avenue, would use the planned new Second Avenue Line stations at East 106th and East 116th Streets. Much of the demand from projected development sites in proximity to East 125th Street would similarly use the new Second Avenue Line 125th Street station where new entrances would be provided at Park Avenue and improvements would be made to existing subway station entrances at Lexington Avenue.

Consequently, it is anticipated that both No Action and project-generated demand at most pedestrian elements at the four analyzed Lexington Avenue Line stations would be reduced with completion of Second Avenue Subway Phase II, and that AM and PM peak hour conditions would generally be better than those reflected in the impact analyses shown in **Tables 14-37 and 14-38**. It is therefore likely that some, if not all, of the significant peak hour stair impacts at the Lexington Avenue Line 103rd Street, 116th Street, and 125th Street subway stations would not occur with implementation of Phase II of the Second Avenue Subway.

Subway Line Haul

Table 14-39 shows line haul conditions on the subway routes serving the rezoning area in the future with the Proposed Actions. As shown in **Table 14-39**, in the With Action condition the combined Nos. 2/3 express service is expected to continue to operate over capacity in both peak hours, with v/c ratios of 1.17 in the peak southbound direction in the AM and 1.07 in the peak northbound direction in the PM. This compares to v/c ratios of 1.16 southbound and 1.07 northbound during these same periods, respectively, under No Action conditions. The combined Nos. 4/5 express service is expected to operate with v/c ratios of 1.08 in the peak southbound direction in the AM and 0.97 in the peak northbound direction in the PM, compared to v/c ratios of 1.06 and 0.94, respectively, under No Action conditions. The No. 6 local service would continue to operate below capacity (i.e., v/c ratios <1.0) in the peak direction in both periods in the With Action condition.

As shown in **Table 14-39**, under the Proposed Actions the greatest incremental increases in persons per subway car would occur on the combined Nos. 4/5 service which would experience an average increase of 2.84 persons/car in the peak southbound direction in the AM peak hour and 2.97 persons/car in the peak northbound direction in the PM peak hour. No. 6 trains would experience an average increase of 2.44 persons/car in the peak southbound direction in the AM peak hour and 2.53 persons/car in the peak northbound direction in the PM peak hour. Lastly, the combined Nos. 2/3 service would experience an average of less than one additional person per car in the peak direction in both peak hours.

As all of the analyzed subway routes are expected to experience an average incremental increase of less than five persons per car in the peak direction in both the AM and PM peak hours, there would be no significant adverse subway line haul impacts in either period based on *CEQR Technical Manual* criteria.

As discussed previously, based on data cited in the 2004 *Second Avenue Subway FEIS*, completion of the Second Avenue Line from 125th Street to Lower Manhattan would substantially reduce demand on the existing Lexington Avenue Line in all periods. As the RTFM data provided by NYCT already incorporate Phase I of the Second Avenue Subway, some of the reduction in line haul demand on the Nos. 4/5 and 6 trains attributable to the Second Avenue Subway is therefore reflected in the With Action analysis. Further reductions in Lexington Avenue Line ridership are expected to occur with completion of Phase II at which time Q trains will serve a total of five stations along Second Avenue from East 72nd Street to East 116th Street along with the terminus on East 125th Street at Lexington and Park Avenues. Therefore, the over-capacity conditions on the combined southbound Nos. 4/5 express service in the AM and PM peak hours may not occur in 2027 with completion of Phase II of the Second Avenue Subway. Conditions on the combined northbound Nos. 4/5 service in the PM would also be improved, as would conditions on the No. 6 service in both periods.

BUS SERVICE

As shown in **Table 14-13**, projected development sites are expected to generate a net total of approximately 511 and 617 new trips on the bus services operating in proximity to the rezoning area during the weekday AM and PM peak hours, respectively. As shown in **Table 14-40**, demand on the M15 SBS route is expected to increase by approximately seven northbound trips and 53 southbound trips at the maximum load points in the AM peak hour and by 29 northbound trips in the PM. Demand on the M101 LTD route is expected to increase by approximately 31 northbound trips and 19 southbound trips at the maximum load points in the AM peak hour, and by 61 northbound and 30 southbound trips in the PM.

Table 14-39
With Action Subway Line Haul Analysis

							2027 No Action Condition[1]			2027 With Action Condition			
Peak Hour	Route	Direction	Maximum Load Point (leaving station)	Average Trains per Hour	Average Cars per Hour	Guideline Passengers per Car[2]	Average Passengers per Hour	Average Passengers per Car	V/C Ratio[3]	Average Passengers per Hour	Average Passengers per Car	V/C Ratio[3]	Average Additional Passengers per Car
AM	2/3	SB	72nd Street	22.9	229	110	29,282	128	1.16	29,372	128	1.17	0.39
	4/5	SB	86th Street	25.1	251	110	29,187	116	1.06	29,899	119	1.08	2.84
	6	SB	59th Street	21.5	215	110	19,739	92	0.83	20,264	101	0.86	2.44
PM	2/3	NB	59th Street	21.0	210	110	24,622	117	1.07	24,715	118	1.07	0.44
	4/5	NB	59th Street	22.2	222	110	23,046	104	0.94	23,705	107	0.97	2.97
	6	NB	59th Street	20.4	204	110	18,954	93	0.84	19,470	95	0.87	2.53

Notes:
[1] 2027 No Action passenger volumes are based on MTA RTFM outputs for 2035 provided by NYCT and reflect conditions with Phase I of the Second Avenue Subway.
[2] Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.
[3] Volume to guideline capacity ratio.

Table 14-40
With Action Local Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses[1]	No Action Available Capacity[2,3]	Project Increment	Available Capacity w/Proposed Actions[2]
AM	M15 SBS	NB	First Ave/East 14th Street	21	217	7	210
		SB	Second Ave/East 100th Street	15	31	53	-22*
	M101 (LTD)	NB	East 125th Street/Lexington Ave	7	69	31	38
		SB	West 125th Street/Amsterdam Ave	8	161	19	142
PM	M15 SBS	NB	First Ave/East 97th Street	12	276	29	247
		SB	Houston Street	12	393	0	393
	M101 (LTD)	NB	East 125th Street/Lexington Ave	10	67	61	6
		SB	West 125th Street/Amsterdam Ave	9	228	30	198

Notes:
[1] Assumes service levels adjusted to address capacity shortfalls in the No Action condition.
[2] Available capacity based on MTA loading guidelines of 85 passengers per articulated bus.
[3] Analysis reflects conditions without expansion of Second Avenue Subway service to the Project Area.
* Denotes a significant adverse impact.

As shown in **Table 14-40**, based on projected levels of bus service in the No Action condition, the Proposed Actions would result in a passenger capacity shortfall of 22 on southbound M15 SBS buses in the AM peak hour. Therefore, based on *CEQR Technical Manual* impact criteria, southbound M15 SBS buses would be significantly adversely impacted in the AM. As discussed

in Chapter 21, "Mitigation," the addition of one southbound M15 SBS bus in the AM peak hour would fully mitigate this significant impact.

As discussed previously, the expansion of subway service with completion of Phase II of the Second Avenue Subway in the No Action condition is expected to substantially reduce bus line haul demand on analyzed routes. For example, the 2004 *Second Avenue Subway FEIS* forecast decreases of up to 45 percent on southbound M15 buses and up to 20 percent on southbound M101 buses in the AM peak hour.[5] Although the reductions in bus line haul demand forecast in the 2004 FEIS were based upon completion of the full Second Avenue Line to Lower Manhattan, it is reasonable to assume that much of the projected decrease to/from areas north of the Manhattan CBD would occur upon completion of Phase II which would extend the line through the Project Area to its planned northern terminus at East 125th Street. A portion of project-generated demand is also expected to shift from the bus mode to the subway mode with completion of Phase II of the Second Avenue Subway, especially with respect to projected development sites in proximity to Second Avenue. Consequently, it is anticipated that both No Action and project-generated demand on the M15 SBS and M101 LTD routes would be reduced with completion of Second Avenue Subway Phase II, and that AM and PM peak hour line haul conditions on these buses would generally be better than those reflected in the impact analysis shown in **Table 14-40**. Therefore, the over-capacity condition on the southbound M15 SBS service in the AM peak hour would likely not occur in 2027 with completion Phase II of the Second Avenue Subway.

Metro-North Commuter Rail Service

As noted previously, the Proposed Actions are expected to generate a total of less than 100 new commuter rail riders in any one peak hour. Significant adverse impacts to the Harlem-125th Street Metro-North Railroad rail station or MNR line haul conditions are therefore not anticipated based on *CEQR Technical Manual* criteria.

I. PEDESTRIANS

EXISTING CONDITIONS

Much of the Project Area is characterized by relatively light to moderate pedestrian flows during peak periods with the exception of major retail corridors and corridors providing access to area subway stations and bus routes. As discussed previously in Section E, "Level 2 Screening Assessment," the analysis of pedestrian conditions focuses on representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—sidewalks, corner areas and crosswalks—are primarily located in the vicinity of major projected development sites and along corridors connecting these sites to area transit services. As shown in **Figure 14-4**, they include a total of 32 sidewalks, 47 corner areas, and 14 crosswalks primarily located along Park Avenue, Lexington Avenue, and Third Avenue.

[5] Based on data cited in the 2004 *Second Avenue Subway FEIS* for the M15 local route and aggregate demand on the M98, M101, M102, and M103 local routes upon completion of the full Second Avenue Line.

SIDEWALKS

The highest pedestrian flows at analyzed sidewalks within the study area are generally found in the vicinity of the Lexington Avenue Line subway stations at 103rd Street, 110th Street, 116th Street, and 125th Street. As shown in **Table 14-41**, analyzed sidewalks typically range from 13 to 18 feet in width, with some wider sidewalks present along Lexington Avenue. Features typically present along study area sidewalks that can reduce the effective width available for pedestrian flow include street furniture such as sign posts, traffic signal and lamp posts, fire hydrants and tree pits, as well as larger installations such as subway stairs. Columns supporting the elevated structure of Metro-North's Harlem-125th Street station are present at curbside along Park Avenue between East 123rd and East 127th Streets.

Table 14-41 shows the existing peak hour pedestrian volumes, average pedestrian space in square feet per pedestrian (sf/ped), and platoon-adjusted levels of service at analyzed sidewalks. As shown in **Table 14-41**, all analyzed sidewalks currently operate at an acceptable LOS C or better in all peak hours with the exception of the south sidewalk on East 126th Street between Park and Lexington Avenues which currently operates at a marginal LOS D in the AM and PM and LOS C in other periods. Pedestrian flow along this sidewalk is constrained at midblock where a curbside tree pit is located opposite a fence that extends beyond the building line.

CROSSWALKS

Analyzed intersections in the study area are typically signalized and include pedestrian signals and crosswalks. High visibility crosswalks have been installed at many locations, especially near schools and at intersections in the vicinity of subway station entrances. Analyzed crosswalks generally range from 11 to 17 feet in width. **Table 14-42** shows the peak hour volumes, average pedestrian space (in sf/ped), and levels of service at analyzed crosswalks. As shown in **Table 14-42**, all analyzed crosswalks currently operate at an acceptable LOS C or better in all peak hours with the exception of the north crosswalk on Park Avenue at East 125th Street which operates at a marginal LOS D in the AM and LOS C in other periods.

CORNER AREAS

Table 14-43 shows the peak hour volumes, average pedestrian space (in sf/ped) and levels of service at analyzed corner areas. As shown in **Table 14-43**, all of the analyzed corner areas currently operate at an uncongested LOS A or B in the weekday AM, midday and PM and Saturday peak hours.

Table 14-41
Existing Sidewalk Conditions

No.	Location		Effective Width (ft.)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
				AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S1	Park Avenue betw. 129th & 130th Streets	West	2.3	190	143	181	82	156.9	206.1	146.6	350.8	B	B	B	B
S2	Park Avenue betw. 127th & 128th Streets	East	8.7	125	124	148	84	904.0	955.7	744.8	1328.8	A	A	A	A
S3	128th St betw. Park & Lexington Avenues	South	6.8	415	216	242	154	220.4	408.8	311.4	552.5	B	B	B	A
S4	Park Avenue betw. 126th & 127th Streets	East	7.4	396	241	301	129	254.3	374.4	362.0	817.7	B	B	B	A
S5	126th St betw. Park & Lexington Avenues	North	3.7	436	203	261	161	113.8	184.5	192.8	320.2	B	B	B	B
S6	Park Avenue betw. 125th & 126th Streets	East	8.6	459	259	223	154	255.0	499.6	458.0	831.4	B	B	B	A
S7	126th St betw. Park & Lexington Avenues	South	1.0	555	311	353	220	25.7	41.5	39.0	50.8	D	C	D	C
S8	Park Avenue betw. 125th & 126th Streets	West	9.5	192	137	234	120	697.5	856.7	488.6	1178.7	A	A	B	A
S9	Park Avenue betw. 126th & 127th Streets	West	8.5	285	127	253	85	387.2	858.7	404.3	1346.4	B	A	B	A
S10	Park Avenue betw. 124th & 125th Streets	East	4.8	144	195	155	100	411.7	350.8	372.7	653.8	B	B	B	A
S11	Park Avenue betw. 120th & 121st Streets	East	7.2	94	124	70	51	837.1	726.5	1352.2	1900.8	A	A	A	A
S12	Park Avenue betw. 119th & 120th Streets	West	7.5	84	70	70	60	989.9	1357.7	1408.6	1742.4	A	A	A	A
S13	Park Avenue betw. 118th & 119th Streets	West	6.2	93	57	64	68	823.6	1447.2	1074.1	1169.8	A	A	A	A
S14	Park Avenue betw. 111th & 112nd Streets	West	2.5	88	59	63	73	395.9	550.3	427.3	330.7	B	A	B	B
S15	112th Street betw. Madison & Park Avenues	South	6.7	92	107	87	66	980.5	614.9	1061.2	1270.3	A	A	A	A
S16	Park Avenue betw. 110th & 111th Streets	East	7.0	171	99	97	79	512.1	985.5	891.6	1108.8	B	A	A	A
S17	111th St betw. Madison & Park Avenues	North	6.8	176	119	135	60	465.0	660.7	654.2	1077.1	B	A	A	A
S18	110th St betw. Park & Lexington Avenues	North	6.3	1,141	651	718	738	71.8	131.4	121.9	130.7	C	B	B	B
S19	Madison Avenue betw. 111th & 112nd Streets	East	3.5	269	223	219	155	176.9	216.0	209.9	293.1	B	B	B	B
S20	3rd Avenue betw. 110th & 111th Streets	East	5.9	522	546	539	494	132.1	141.7	155.7	168.0	B	B	B	B
S21	Lexington Avenue betw. 103rd & 104th Streets	East	9.8	688	712	938	640	205.1	182.8	151.9	220.5	B	B	B	B
S22	3rd Avenue betw. 104th & 105th Streets	East	7.5	606	626	752	713	158.4	166.7	138.6	122.0	B	B	B	B
S23	3rd Avenue betw. 104th & 105th Streets	West	6.8	494	733	852	770	185.0	134.8	114.6	128.3	B	B	B	B
S24	Lexington Avenue betw. 127th & 128th Streets	West	8.1	539	344	386	330	214.0	272.1	289.0	314.8	B	B	B	B
S25	Lexington Avenue betw. 125th & 126th Streets	West	8.0	1,119	674	845	526	103.7	176.4	139.1	211.7	B	B	B	B
S26	Lexington Avenue betw. 126th & 127th Streets	West	8.0	625	374	431	321	157.8	304.8	258.5	307.7	B	B	B	B
S27	Lexington Avenue betw. 124th & 125th Streets	East	19.2	1,291	721	793	577	190.5	409.0	356.5	463.7	B	B	B	B
S28	3rd Avenue betw. 123rd & 124th Streets	West	6.5	641	520	575	533	139.4	185.8	171.6	179.3	B	B	B	B
S29	Lexington Avenue betw. 117th & 118th Streets	East	5.9	382	350	494	323	183.2	213.4	164.3	271.8	B	B	B	B
S30	Lexington Avenue betw. 117th & 118th Streets	West	7.7	570	359	403	337	177.3	285.2	275.2	289.4	B	B	B	B
S31	Lexington Avenue betw. 116th & 117th Streets	East	6.0	553	611	917	694	133.6	138.0	88.5	121.4	B	B	C	B
S32	Lexington Avenue betw. 116th & 117th Streets	West	5.1	792	462	546	654	82.0	148.3	135.7	105.7	C	B	B	B

Table 14-42
Existing Crosswalk Conditions

Intersection	Crosswalk		Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Park Avenue & 126th Street	X1	East	227	180	226	111	259.7	298.3	248.7	455.0	A	A	A	A
Park Avenue & 125th Street	X2	North	1,282	1,109	1,376	1,009	21.6	32.7	27.1	38.9	D	C	C	C
	X3	South	806	551	849	453	29.2	64.9	42.3	84.5	C	A	B	A
Park Avenue & 111th Street	X4	North	190	70	137	54	84.7	222.2	119.5	332.9	A	A	A	A
	X5	West	98	55	62	33	483.5	740.2	649.3	1211.1	A	A	A	A
Park Avenue & 110th Street	X6	North	431	319	401	345	42.9	64.8	48.3	55.8	B	A	B	B
Madison Avenue & 111th Street	X7	East	146	128	150	82	256.4	256.1	256.0	455.8	A	A	A	A
Lexington Avenue & 110th Street	X8	North	771	581	596	576	45.1	64.2	59.8	65.9	B	A	B	A
Lexington Avenue & 103rd Street	X9	East	725	600	836	551	71.9	89.3	59.4	101.8	A	A	B	A
Lexington Avenue & 126th Street	X10	West	718	375	583	381	73.6	124.7	95.1	138.7	A	A	A	A
Lexington Avenue & 124th Street	X11	East	601	392	467	307	87.6	156.3	125.4	180.0	A	A	A	A
Lexington Avenue & 118th Street	X12	West	370	254	320	274	155.3	239.6	175.5	205.0	A	A	A	A
Lexington Avenue & 117th Street	X13	East	451	379	579	383	123.9	167.7	101.0	154.5	A	A	A	A
	X14	West	599	347	431	409	100.5	169.9	145.1	128.4	A	A	A	A

Table 14-43
Existing Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Park Avenue & East 129th Street	C1	NW	304.7	548.6	310.1	638.3	A	A	A	A
Park Avenue & East 128th Street	C2	SE	258.2	694.3	466.7	854.1	A	A	A	A
Park Avenue & East 126th Street	C3	NE	128.9	239.0	205.2	435.2	A	A	A	A
	C4	SE	230.2	286.7	279.6	459.7	A	A	A	A
	C5	SW	251.8	459.2	336.1	655.5	A	A	A	A
	C6	NW	95.3	212.9	154.1	392.8	A	A	A	A
Park Avenue & East 125th Street	C7	NE	104.5	137.5	116.3	172.5	A	A	A	A
	C8	SE	200.5	301.0	209.0	392.1	A	A	A	A
	C9	NW	130.7	159.9	129.5	189.1	A	A	A	A
Park Avenue & East 120th Street	C10	NE	648.3	750.7	999.3	1199.3	A	A	A	A
Park Avenue & East 119th Street	C11	NE	692.4	694.9	757.9	904.4	A	A	A	A
	C12	SE	374.6	441.0	330.2	487.5	A	A	A	A
	C13	SW	657.6	791.6	661.1	707.0	A	A	A	A
	C14	NW	773.5	847.6	826.4	915.3	A	A	A	A
Park Avenue & East 118th Street	C15	NW	765.0	884.0	865.1	1117.5	A	A	A	A
Park Avenue & East 112th Street	C16	SW	526.0	814.7	711.8	904.0	A	A	A	A
Park Avenue & East 111th Street	C17	NE	291.7	577.9	483.2	1039.9	A	A	A	A
	C18	SE	336.9	620.7	537.0	599.6	A	A	A	A
	C19	SW	381.5	687.7	553.8	789.9	A	A	A	A
	C20	NW	194.6	429.3	277.8	632.8	A	A	A	A
Park Avenue & East 110th Street	C21	NE	191.9	334.4	245.4	291.1	A	A	A	A
	C22	NW	124.0	194.5	150.7	181.0	A	A	A	A
Madison Avenue & East 112th Street	C23	SE	474.7	510.1	390.5	641.9	A	A	A	A
Madison Avenue & East 111th Street	C24	NE	246.5	319.0	283.1	494.7	A	A	A	A
	C25	SE	265.7	332.5	277.6	370.0	A	A	A	A
Lexington Avenue & East 110th Street	C26	NE	69.8	81.0	68.8	86.9	A	A	A	A
	C27	NW	95.9	158.5	142.8	175.1	A	A	A	A
3rd Avenue & East 110th Street	C28	NE	51.5	75.1	68.6	76.6	B	A	A	A
Lexington Avenue & East 104th Street	C29	SE	155.2	169.1	138.8	242.0	A	A	A	A
Lexington Avenue & East 103rd Street	C30	NE	124.1	129.7	100.1	159.6	A	A	A	A
3rd Avenue & East 105th Street	C31	SE	136.2	135.4	111.4	110.4	A	A	A	A
	C32	SW	184.5	140.9	140.7	150.5	A	A	A	A
3rd Avenue & East 104th Street	C33	NE	143.4	148.3	121.4	150.6	A	A	A	A
	C34	NW	147.4	110.8	98.3	129.6	A	A	A	A
Lexington Avenue & East 128th Street	C35	SW	277.6	652.7	469.9	675.3	A	A	A	A
Lexington Avenue & East 126th Street	C36	SW	74.9	129.4	103.0	150.4	A	A	A	A
	C37	NW	118.5	210.0	165.5	232.2	A	A	A	A
Lexington Avenue & East 124th Street	C38	NE	170.7	317.3	270.9	389.3	A	A	A	A
3rd Avenue & East 124th Street	C39	SW	96.8	149.6	128.1	147.0	A	A	A	A
Lexington Avenue & East 119th Street	C40	SW	317.9	406.3	412.1	453.2	A	A	A	A
Lexington Avenue & East 118th Street	C41	SW	264.2	465.1	362.7	465.3	A	A	A	A
	C42	NW	702.8	963.5	745.8	841.8	A	A	A	A
Lexington Avenue & East 117th Street	C43	NE	379.2	496.4	343.1	383.8	A	A	A	A
	C44	SE	174.6	224.3	154.0	202.9	A	A	A	A
	C45	SW	105.2	187.8	155.1	143.3	A	A	A	A
	C46	NW	219.3	336.7	293.8	230.7	A	A	A	A
2nd Avenue & East 106th Street	C47	NE	194.4	240.2	299.3	349.3	A	A	A	A

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

Pedestrian volumes along analyzed sidewalks, crosswalks, and corner areas are expected to increase during the 2017 through 2027 period as a result of background growth as well as demand from new development. In determining future No Action pedestrian volumes, development on projected development sites pursuant to existing zoning was considered, as was demand from other No Action development projects (see Table 2-7 in Chapter 2, "Land Use, Zoning, and Public Policy"). Traffic and pedestrian mitigation measures associated with these development projects were also considered. In addition, the No Action pedestrian analyses reflect pedestrian improvements planned by the City at the intersection of Park Avenue and East 125th Street. These improvements are expected to include sidewalk extensions (bulb-outs) at corner areas, new pedestrian ramps, and the consolidation of the two existing crosswalks between the north and south medians on Park Avenue into a single wide crosswalk.

In January 2017, Phase I of the MTA's Second Avenue Subway project commenced revenue service. Under this initial phase, Q train service was extended from Sixth Avenue/57th Street to the existing Lexington Avenue/63rd Street station and from there to three new stations along Second Avenue at East 72nd, East 86th, and East 96th Streets. Unrelated to the Proposed Actions, the MTA is now advancing Phase II of the Second Avenue Subway project which would further extend Q train service to three additional subway stations that would be constructed in proximity to the Project Area. Two would be located beneath Second Avenue at East 106th Street and East 116th Street, while the third would be located beneath East 125th Street at Lexington and Park Avenues. Based on information from NYCT, the two new stations along Second Avenue are expected to be similar in design to the stations built under Phase I, which have entrances at both ends of the platform. Entering and exiting pedestrian demand at each station would therefore be dispersed between two separate intersections, as is the case at the recently opened 86th Street station which has entrances at East 86th Street and at East 83rd Street. Based on data in the 2004 FEIS, the new 125th Street station, which would function as the Second Avenue Line's northern terminus, would be designed to connect to both the existing 125th Street Lexington Avenue Line station and the Harlem-125th Street Metro-North station. One or more existing station entrances at Lexington Avenue and East 125th Street would be expanded and one or more additional entrances would be provided at Park Avenue. Detailed designs for the three new Second Avenue stations, including specific locations and configurations of station entrances, were not available at the time this EIS was prepared.

Construction of Phase II of the Second Avenue Subway is expected to result in a shift of travel demand from the bus mode to the subway mode, and a shift in subway ridership from existing Lexington Avenue Line subway stations in proximity to the Project Area to the new Second Avenue Line stations. Consequently, in the future without the Proposed Actions there are expected to be fewer pedestrians en route to and from Project Area bus stops, and fewer trips along corridors providing access to Lexington Avenue Line stations. There would be somewhat more demand in proximity to the new Second Avenue Subway stations; however, it should be noted that trips en route to and from each station would be divided between entrances at two separate intersections likely located up to two blocks apart. (By contrast, the existing Lexington Avenue Line stations in proximity to the Project area have all entrances located at a single intersection.)

Given that completion of Phase II of the Second Avenue Subway is expected to reduce pedestrian demand along many study area corridors, and that detailed designs for the three new

Phase II stations, including the specific locations and configurations of station entrances, were not available at the time this EIS was prepared, the pedestrian analyses reflect future conditions without Phase II of the Second Avenue Subway. This can considered a conservative approach with respect to overall pedestrian travel demand and the potential for significant adverse impacts from the Proposed Actions. A supplemental assessment of the potential effects of Second Avenue Subway Phase II on analyzed pedestrian elements where redistributed subway demand is likely to be most concentrated (e.g., in proximity to likely station entrance locations) is, however, also provided. This assessment is based on data cited in the 2004 *Second Avenue Subway FEIS*.

SIDEWALKS

Table 14-44 shows the No Action peak hour pedestrian volumes, average pedestrian space, and platoon-adjusted levels of service at analyzed sidewalks. As shown in **Table 14-44**, all analyzed sidewalks are projected to operate at an acceptable LOS C or better in all peak hours with the exception of the south sidewalk on East 126th Street between Park and Lexington Avenues where conditions at a midblock constraint point (where a curbside tree pit is located opposite a fence that extends beyond the building line) would deteriorate to LOS E in the weekday peak hours and LOS D in the Saturday peak hour.

CROSSWALKS

Table 14-45 shows the peak hour volumes, average pedestrian space, and levels of service at analyzed crosswalks in the No Action condition. As shown in **Table 14-45**, all analyzed crosswalks are expected to operate at an acceptable LOS C or better in all peak hours in the No Action condition with the exception of the north and south crosswalks on Park Avenue at East 125th Street which are projected to operate at LOS D in the weekday AM and PM and LOS C in other periods.

CORNER AREAS

Table 14-46 shows the peak hour volumes, average pedestrian space, and levels of service at analyzed corner areas in the No Action condition. As shown in **Table 14-46**, all analyzed corner areas are expected to continue to operate at an uncongested LOS A or B in all peak hours.

POTENTIAL EFFECTS OF SECOND AVENUE SUBWAY PHASE II

While implementation of Phase II of the Second Avenue Subway would likely result in a reduction in pedestrian demand along many analyzed sidewalks and crosswalks providing access to existing Lexington Avenue Line subway stations, some localized increases in demand would likely occur in proximity to proposed entrance locations for new Second Avenue Subway stations. Based on the locations of projected development sites and their estimated subway demand, and data on likely future station entrance locations provided in the 2004 *Second Avenue Subway FEIS*, a total of 20 pedestrian elements were selected for analysis to determine the potential for additional significant adverse pedestrian impacts under a scenario with completion of Second Avenue Subway Phase II by 2027. As shown in **Tables 14-47 through 14-49**, these include the northeast corner at Second Avenue and East 106th Street where an entrance to the new 106th Street station would likely be located, and seven sidewalks, nine corner areas and three crosswalks along corridors providing access to the planned 125th Street station entrances on the Park Avenue medians. The analysis focuses on the weekday AM and PM commuter peak

hours when subway demand, and therefore the potential for subway-related pedestrian impacts, would be greatest.

No Action subway trips were reassigned to the pedestrian elements selected for analysis based on data on the estimated redistribution of subway demand from existing Lexington Avenue Line stations and station entrances to new Second Avenue Subway stations/entrances cited in the 2004 *Second Avenue Subway FEIS*. The resulting AM and PM peak hour levels of service under a scenario with completion of Second Avenue Subway Phase II by 2027 are shown in **Tables 14-47 through 14-49**. As shown in **Tables 14-47 through 14-49**, under this scenario, all analyzed sidewalks, crosswalks and corner areas would operate at an acceptable LOS C or better in both the AM and PM peak hours with Second Avenue Subway Phase II with the exception of the north and south crosswalks on Park Avenue at East 125th Street which would operate at a congested LOS E in both periods.

Table 14-44
No Action Sidewalk Conditions

No.	Location		Effective Width (ft.)	Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
				AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S1	Park Avenue betw. 129th & 130th Streets	West	8.2	226	259	254	160	471.2	406.1	373.2	641.2	B	B	B	A
S2	Park Avenue betw. 127th & 128th Streets	East	8.7	156	227	215	146	724.3	522.0	512.7	764.5	A	B	B	A
S3	128th St betw. Park & Lexington Avenues	South	6.8	545	500	486	504	167.7	176.3	154.8	168.5	B	B	B	B
S4	Park Avenue betw. 126th & 127th Streets	East	7.4	434	349	373	190	232.0	258.4	292.1	555.1	B	B	B	A
S5	126th St betw. Park & Lexington Avenues	North	3.7	576	761	663	764	85.9	48.2	75.3	66.7	C	C	C	C
S6	Park Avenue betw. 125th & 126th Streets	East	8.6	557	416	383	324	210.1	310.9	266.6	395.1	B	B	B	B
S7	126th St betw. Park & Lexington Avenues	South	1.0	685	576	577	448	20.0	20.7	22.5	23.3	E	E	E	D
S8	Park Avenue betw. 125th & 126th Streets	West	9.5	319	400	491	395	419.7	293.3	232.7	358.0	B	B	B	B
S9	Park Avenue betw. 126th & 127th Streets	West	8.5	362	310	393	212	304.8	351.6	260.2	539.7	B	B	B	A
S10	Park Avenue betw. 124th & 125th Streets	East	4.8	291	234	316	232	203.5	292.2	182.6	281.6	B	B	B	B
S11	Park Avenue betw. 120th & 121st Streets	East	7.2	118	204	121	100	666.8	441.5	782.2	969.4	A	B	A	A
S12	Park Avenue betw. 119th & 120th Streets	West	7.5	109	173	129	117	762.9	549.3	764.3	893.5	A	A	A	A
S13	Park Avenue betw. 118th & 119th Streets	West	6.2	99	78	77	79	773.7	1057.6	892.7	1006.9	A	A	A	A
S14	Park Avenue betw. 111th & 112nd Streets	West	2.5	94	79	74	84	370.6	410.9	363.7	287.4	B	B	B	B
S15	112th Street betw. Madison & Park Avenues	South	6.7	96	121	97	75	939.6	543.7	951.8	1117.8	A	A	A	A
S16	Park Avenue betw. 110th & 111th Streets	East	7.0	180	122	111	92	486.5	799.7	779.1	952.1	B	A	A	A
S17	111th St betw. Madison & Park Avenues	North	6.8	182	137	148	73	449.7	573.8	596.7	885.2	B	A	A	A
S18	110th St betw. Park & Lexington Avenues	North	6.3	1,173	699	755	782	69.8	122.3	115.8	123.3	C	B	B	B
S19	Madison Avenue betw. 111th & 112nd Streets	East	3.5	278	243	231	166	171.2	198.2	198.9	273.7	B	B	B	B
S20	3rd Avenue betw. 110th & 111th Streets	East	5.9	644	596	690	672	106.9	129.7	121.5	123.3	B	B	B	B
S21	Lexington Avenue betw. 103rd & 104th Streets	East	9.8	848	679	1,069	683	166.3	191.8	133.2	206.6	B	B	B	B
S22	3rd Avenue betw. 104th & 105th Streets	East	7.5	640	338	697	718	150.0	309.1	149.6	138.6	B	B	B	B
S23	3rd Avenue betw. 104th & 105th Streets	West	6.8	531	297	713	574	172.1	333.5	137.1	172.3	B	B	B	B
S24	Lexington Avenue betw. 127th & 128th Streets	West	8.1	601	500	495	452	191.9	187.0	225.3	229.7	B	B	B	B
S25	Lexington Avenue betw. 125th & 126th Streets	West	8.0	1,258	933	1,067	743	92.1	127.2	110.0	149.7	B	B	B	B
S26	Lexington Avenue betw. 126th & 127th Streets	West	8.0	685	503	530	426	143.9	226.5	210.1	231.8	B	B	B	B
S27	Lexington Avenue betw. 124th & 125th Streets	East	19.2	1,581	1,115	1,141	976	155.5	264.4	247.7	274.0	B	B	B	B
S28	3rd Avenue betw. 123rd & 124th Streets	West	6.5	723	745	718	703	123.5	129.5	137.3	135.8	B	B	B	B
S29	Lexington Avenue betw. 117th & 118th Streets	East	5.9	483	545	705	519	144.7	136.8	114.9	168.9	B	B	B	B
S30	Lexington Avenue betw. 117th & 118th Streets	West	7.7	634	421	454	398	159.3	243.1	244.3	244.9	B	B	B	B
S31	Lexington Avenue betw. 116th & 117th Streets	East	6.0	710	963	1,327	1,056	103.9	87.2	60.7	79.4	B	C	C	C
S32	Lexington Avenue betw. 116th & 117th Streets	West	5.1	1,015	670	700	879	63.6	102.0	105.7	78.4	C	B	B	C

Table 14-45
No Action Crosswalk Conditions

Intersection	Crosswalk		Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Park Avenue & East 126th Street	X1	East	266	293	303	181	220.5	180.6	184.4	278.0	A	A	A	A
Park Avenue & East 125th Street	X2	North	1,459	1,369	1,628	1,269	18.8	26.2	22.6	30.5	D	C	D	C
	X3	South	1,351	1,309	1,614	1,203	16.9	26.6	21.4	30.9	D	C	D	C
Park Avenue & East 111th Street	X4	North	197	91	153	69	81.7	171.1	107.1	261.0	A	A	A	A
	X5	West	104	74	73	43	454.9	548.1	548.7	925.6	A	A	A	A
Park Avenue & East 110th Street	X6	North	448	355	428	378	41.2	58.1	45.2	50.8	B	B	B	B
Madison Avenue & East 111th Street	X7	East	152	146	162	93	246.1	223.9	236.6	400.7	A	A	A	A
Lexington Avenue & East 110th Street	X8	North	878	660	674	671	39.3	56.1	52.4	56.0	C	B	B	B
Lexington Avenue & East 103rd Street	X9	East	914	567	992	602	55.5	94.8	49.4	92.8	B	A	B	A
Lexington Avenue & East 126th Street	X10	West	785	514	699	500	66.8	89.6	78.5	104.3	A	A	A	A
Lexington Avenue & East 124th Street	X11	East	815	749	760	652	65.0	77.9	73.9	79.0	A	A	A	A
Lexington Avenue & East 118th Street	X12	West	417	304	363	321	137.1	199.4	153.8	173.7	A	A	A	A
Lexington Avenue & East 117th Street	X13	East	571	613	829	615	97.3	102.3	68.1	94.6	A	A	A	A
	X14	West	684	433	498	496	87.5	135.2	124.7	106.0	A	A	A	A

Table 14-46
No Action Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Park Avenue & East 129th Street	C1	NW	260.3	301.3	228.4	388.8	A	A	A	A
Park Avenue & East 128th Street	C2	SE	189.6	226.2	240.7	227.5	A	A	A	A
Park Avenue & East 126th Street	C3	NE	101.7	86.3	106.1	103.0	A	A	A	A
	C4	SE	175.0	157.9	169.3	229.5	A	A	A	A
	C5	SW	198.3	210.5	205.3	289.7	A	A	A	A
	C6	NW	67.1	50.4	60.5	49.2	A	B	A	B
Park Avenue & East 125th Street	C7	NE	125.4	145.1	128.0	175.8	A	A	A	A
	C8	SE	115.6	130.3	100.9	145.0	A	A	A	A
	C9	NW	105.4	105.2	95.9	124.3	A	A	A	A
Park Avenue & East 120th Street	C10	NE	521.6	271.0	559.9	618.7	A	A	A	A
Park Avenue & East 119th Street	C11	NE	517.5	312.7	432.5	530.5	A	A	A	A
	C12	SE	297.0	205.1	219.0	295.0	A	A	A	A
	C13	SW	542.7	329.2	427.4	435.5	A	A	A	A
	C14	NW	618.8	326.7	489.2	514.5	A	A	A	A
Park Avenue & East 118th Street	C15	NW	705.1	621.2	712.2	883.9	A	A	A	A
Park Avenue & East 112th Street	C16	SW	503.7	664.6	631.6	783.0	A	A	A	A
Park Avenue & East 111th Street	C17	NE	279.1	449.6	418.7	814.0	A	A	A	A
	C18	SE	316.7	441.9	438.5	482.9	A	A	A	A
	C19	SW	362.5	544.5	482.0	652.5	A	A	A	A
	C20	NW	186.3	327.3	245.3	501.7	A	A	A	A
Park Avenue & East 110th Street	C21	NE	183.5	288.1	224.7	260.0	A	A	A	A
	C22	NW	119.0	175.7	140.7	165.3	A	A	A	A
Madison Avenue & East 112th Street	C23	SE	463.3	473.0	373.6	601.3	A	A	A	A
Madison Avenue & East 111th Street	C24	NE	240.4	296.2	270.8	459.4	A	A	A	A
	C25	SE	258.4	309.7	266.2	352.2	A	A	A	A
Lexington Avenue & East 110th Street	C26	NE	61.9	72.1	62.3	76.6	A	A	A	A
	C27	NW	88.6	140.7	129.5	154.4	A	A	A	A
3rd Avenue & East 110th Street	C28	NE	40.9	64.7	54.4	59.0	B	A	B	B
Lexington Avenue & East 104th Street	C29	SE	129.6	170.6	121.6	217.9	A	A	A	A
Lexington Avenue & East 103rd Street	C30	NE	102.1	133.3	87.8	149.4	A	A	A	A
3rd Avenue & East 105th Street	C31	SE	118.2	173.3	111.3	115.3	A	A	A	A
	C32	SW	166.0	181.9	147.6	167.3	A	A	A	A
3rd Avenue & East 104th Street	C33	NE	132.6	193.1	119.8	157.0	A	A	A	A
	C34	NW	129.1	153.5	97.9	141.7	A	A	A	A
Lexington Avenue & East 128th Street	C35	SW	223.6	221.8	244.6	251.3	A	A	A	A
Lexington Avenue & East 126th Street	C36	SW	62.4	62.8	69.5	85.7	A	A	A	A
	C37	NW	95.2	86.2	86.6	71.0	A	A	A	A
Lexington Avenue & East 124th Street	C38	NE	140.4	197.9	188.1	222.0	A	A	A	A
3rd Avenue & East 124th Street	C39	SW	84.8	104.1	103.1	110.3	A	A	A	A
Lexington Avenue & East 119th Street	C40	SW	274.5	300.0	330.0	353.7	A	A	A	A
Lexington Avenue & East 118th Street	C41	SW	238.4	372.5	315.3	381.1	A	A	A	A
	C42	NW	612.9	740.8	633.4	682.4	A	A	A	A
Lexington Avenue & East 117th Street	C43	NE	309.4	326.2	248.6	270.2	A	A	A	A
	C44	SE	138.0	147.8	111.9	137.8	A	A	A	A
	C45	SW	89.6	137.2	128.1	113.2	A	A	A	A
	C46	NW	191.9	263.3	252.8	194.0	A	A	A	A
2nd Avenue & East 106th Street	C47	NE	176.8	209.3	257.4	301.1	A	A	A	A

Table 14-47
No Action Sidewalk Conditions with Second Avenue Subway Phase II

No.	Location		Effective Width (ft.)	Peak Hour Volumes		Average Pedestrian Space (ft^2/ped)		Platoon-Adjusted Level of Service	
				AM	PM	AM	PM	AM	PM
S1	Park Avenue betw. 129th & 130th Streets	West	8.2	620	707	171.5	133.7	B	B
S2	Park Avenue betw. 127th & 128th Streets	East	8.7	1,279	1,478	87.7	73.9	C	C
S4	Park Avenue betw. 126th & 127th Streets	East	7.4	1,557	1,636	63.9	292.1	C	B
S6	Park Avenue betw. 125th & 126th Streets	East	8.6	1,683	1,651	64.9	61.0	C	C
S8	Park Avenue betw. 125th & 126th Streets	West	9.5	1,473	1,805	90.3	232.7	B	B
S9	Park Avenue betw. 126th & 127th Streets	West	8.5	1,506	1,690	72.6	260.2	C	B
S10	Park Avenue betw. 124th & 125th Streets	East	4.8	853	948	68.7	60.1	C	C

Table 14-48
No Action Crosswalk Conditions with Second Avenue Subway Phase II

Intersection	Crosswalk		Peak Hour Volumes		Average Pedestrian Space (ft^2/ped)		Level of Service	
			AM	PM	AM	PM	AM	PM
Park Avenue & East 126th Street	X1	East	1,391	1,568	38.5	32.2	C	C
Park Avenue & East 125th Street	X2	North	2,616	2,947	10.0	11.9	E	E
	X3	South	2,002	2,350	11.2	14.2	E	E

Table 14-49
No Action Corner Conditions with Second Avenue Subway Phase II

Intersection	Corner		Average Pedestrian Space (ft^2/ped)		Level of Service	
			AM	PM	AM	PM
Park Avenue & East 129th Street	C1	NW	102.1	94.9	A	A
Park Avenue & East 128th Street	C2	SE	62.6	68.4	A	A
Park Avenue & East 126th Street	C3	NE	45.0	42.2	B	B
	C4	SE	62.1	54.5	A	B
	C5	SW	198.3	205.3	A	A
	C6	NW	67.1	60.5	A	A
Park Avenue & East 125th Street	C7	NE	74.8	72.6	A	A
	C8	SE	79.4	69.9	A	A
	C9	NW	57.9	54.0	B	B
2nd Avenue & East 106th Street	C47	NE	29.0	49.3	C	B

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

The Proposed Actions would generate new pedestrian demand on analyzed sidewalks, crosswalks, and corner areas by 2027. This new demand would include trips made solely by walking, as well as pedestrian trips en route to and from subway station entrances and bus stops. Pedestrian trips generated by the Proposed Actions are expected to be most concentrated in proximity to projected development sites and along corridors connecting these sites to area transit services.

As shown in **Table 14-9**, the Proposed Actions are expected to generate a net total of approximately 665 walk-only trips in the weekday AM peak hour, 1,559 in the midday, 1,460 in the PM, and 1,835 in the Saturday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 2,861, 1,621, 3,333, and 2,676 additional pedestrian trips to Project Area sidewalks and crosswalks during these same periods, respectively. These pedestrian volumes were added to the projected No Action volumes to generate the With Action pedestrian volumes for analysis.

Anticipated conditions and significant adverse impacts at analyzed sidewalks, crosswalks, and corner areas in the future with the Proposed Actions are shown in **Tables 14-50 through 14-52**. As discussed below, one sidewalk would be impacted in all peak hours, and there would be no impacts to any analyzed crosswalks or corner areas. Potential mitigation for this sidewalk impact is discussed in Chapter 21, "Mitigation."

SIDEWALKS

Table 14-50 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Actions and the total With Action pedestrian volumes, average pedestrian space, and platoon-adjusted levels of service at analyzed sidewalks. Also identified in **Table 14-50** are those sidewalks that are expected to be significantly adversely impacted in one or more peak hours based on the *CEQR Technical Manual* criteria shown in **Table 14-18** in Section F. As shown in **Table 14-50**, there would be one significant adverse sidewalk impact under the Proposed Actions—the south sidewalk on East 126th Street between Park and Lexington Avenues would operate at LOS E and would be significantly impacted in all analyzed peak hours. This impact would occur at a midblock constraint point where a curbside tree pit is located opposite a fence that extends beyond the building line.

CROSSWALKS

Table 14-51 shows the incremental change in peak hour pedestrian volumes attributable to the proposed rezoning and the total With Action pedestrian volumes, average pedestrian space, and levels of service at analyzed crosswalks. As shown in **Table 14-51**, based on the *CEQR Technical Manual* criteria shown in **Table 14-19** in Section F, there would be no significant adverse impacts to analyzed crosswalk in any peak hour as result of the Proposed Actions.

CORNER AREAS

Table 14-52 shows the total With Action pedestrian volumes, average pedestrian space, and levels of service at analyzed corner areas. As shown in **Table 14-52**, based on the *CEQR Technical Manual* criteria shown in **Table 14-19** in Section F, there would be no significant adverse impacts to any analyzed corner area in any peak hour as a result of the Proposed Actions.

Table 14-50
With Action Sidewalk Conditions

No.	Location		Effective Width (ft.)	Project Increment				Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Platoon-Adjusted Level of Service			
				AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
S1	Park Avenue betw. 129th & 130th Streets	West	8.2	190	266	236	98	416	525	490	258	255.8	200.1	193.2	397.6	B	B	B	B
S2	Park Avenue betw. 127th & 128th Streets	East	8.7	184	242	285	276	340	469	500	422	332.2	252.5	220.2	264.3	B	B	B	B
S3	128th St betw. Park & Lexington Avenues	South	6.8	18	31	38	31	563	531	524	535	162.3	166.0	143.5	158.7	B	B	B	B
S4	Park Avenue betw. 126th & 127th Streets	East	7.4	233	287	355	386	667	636	728	576	150.8	141.5	149.4	182.9	B	B	B	B
S5	126th St betw. Park & Lexington Avenues	North	3.7	118	139	198	209	694	900	861	973	71.0	40.4	57.6	52.0	C	C	C	C
S6	Park Avenue betw. 125th & 126th Streets	East	8.6	143	327	256	303	700	743	639	627	167.0	173.9	159.5	204.0	B	B	B	B
S7	126th St betw. Park & Lexington Avenues	South	1.0	153	206	243	242	838	782	820	690	15.4	13.8	14.3	13.2	E *	E *	E *	E *
S8	Park Avenue betw. 125th & 126th Streets	West	9.5	154	204	215	149	473	604	706	544	283.0	194.0	161.7	259.8	B	B	B	B
S9	Park Avenue betw. 126th & 127th Streets	West	8.5	141	316	353	406	503	626	746	618	219.2	173.9	136.8	184.9	B	B	B	B
S10	Park Avenue betw. 124th & 125th Streets	East	4.8	176	203	219	177	467	437	535	409	126.6	156.2	107.5	159.5	B	B	B	B
S11	Park Avenue betw. 120th & 121st Streets	East	7.2	144	286	235	219	262	490	356	319	300.2	183.6	265.7	303.7	B	B	B	B
S12	Park Avenue betw. 119th & 120th Streets	West	7.5	268	422	392	366	377	595	521	483	220.3	159.4	189.0	216.2	B	B	B	B
S13	Park Avenue betw. 118th & 119th Streets	West	6.2	278	430	403	375	377	508	480	454	202.9	162.1	142.8	174.9	B	B	B	B
S14	Park Avenue betw. 111th & 112nd Streets	West	2.5	4	10	9	10	98	89	83	94	355.4	364.7	324.3	256.8	B	B	B	B
S15	112th Street betw. Madison & Park Avenues	South	6.7	0	-2	0	2	96	119	97	77	939.6	552.8	951.8	1088.8	A	A	A	A
S16	Park Avenue betw. 110th & 111th Streets	East	7.0	1	-6	-1	0	181	116	110	92	483.8	841.1	786.2	952.1	B	A	A	A
S17	111th St betw. Madison & Park Avenues	North	6.8	3	-1	1	2	185	136	149	75	442.4	578.1	592.7	861.6	B	A	A	A
S18	110th St betw. Park & Lexington Avenues	North	6.3	6	7	9	14	1,179	706	764	796	69.5	121.1	114.5	121.2	C	B	B	B
S19	Madison Avenue betw. 111th & 112nd Streets	East	3.5	4	12	10	10	282	255	241	176	168.8	188.9	190.6	258.1	B	B	B	B
S20	3rd Avenue betw. 110th & 111th Streets	East	5.9	169	218	240	269	813	814	930	941	84.4	94.7	89.8	87.8	C	B	C	C
S21	Lexington Avenue betw. 103rd & 104th Streets	East	9.8	189	161	242	203	1,037	840	1,311	886	135.8	154.9	108.4	159.1	B	B	B	B
S22	3rd Avenue betw. 104th & 105th Streets	East	7.5	150	386	365	-290	790	724	1,062	428	121.4	144.0	97.9	232.9	B	B	B	B
S23	3rd Avenue betw. 104th & 105th Streets	West	6.8	165	331	251	252	696	628	964	826	131.1	157.5	101.1	119.5	B	B	B	B
S24	Lexington Avenue betw. 127th & 128th Streets	West	8.1	249	239	367	279	850	739	862	731	135.5	126.3	129.1	141.8	B	B	B	B
S25	Lexington Avenue betw. 125th & 126th Streets	West	8.0	434	390	613	511	1,692	1,323	1,680	1,254	68.1	89.4	69.4	88.3	C	C	C	C
S26	Lexington Avenue betw. 126th & 127th Streets	West	8.0	263	290	414	334	948	793	944	760	103.7	143.4	117.7	129.6	B	B	B	B
S27	Lexington Avenue betw. 124th & 125th Streets	East	19.2	345	90	344	254	1,926	1,205	1,485	1,230	127.5	244.6	190.2	217.3	B	B	B	B
S28	3rd Avenue betw. 123rd & 124th Streets	West	6.5	246	128	251	198	969	873	969	901	91.9	110.4	101.5	105.8	B	B	B	B
S29	Lexington Avenue betw. 117th & 118th Streets	East	5.9	97	68	207	142	580	613	912	661	120.4	121.5	88.5	132.5	B	B	C	B
S30	Lexington Avenue betw. 117th & 118th Streets	West	7.7	255	147	197	196	889	568	651	594	113.4	180.1	170.2	163.9	B	B	B	B
S31	Lexington Avenue betw. 116th & 117th Streets	East	6.0	164	134	399	274	874	1,097	1,726	1,330	84.2	76.4	46.2	62.7	C	C	C	C
S32	Lexington Avenue betw. 116th & 117th Streets	West	5.1	438	206	253	311	1,453	876	953	1,190	43.8	77.7	77.3	57.5	C	C	C	C

Note: * - Denotes a significant adverse impact per 2014 *CEQR Technical Manual* Criteria

Table 14-51
With Action Crosswalk Conditions

Intersection	Crosswalk		Peak Hour Volumes				Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT	AM	MD	PM	SAT
Park Avenue & East 126th Street	X1	East	409	489	525	435	141.9	105.9	104.3	113.9	A	A	A	A
Park Avenue & East 125th Street	X2	North	1,545	1,441	1,739	1,334	17.6	24.7	21.0	28.9	D	C	D	C
	X3	South	1,380	1,342	1,652	1,235	16.5	25.8	20.8	30.0	D	C	D	C
Park Avenue & East 111th Street	X4	North	200	90	154	71	80.4	172.8	106.1	254.3	A	A	A	A
	X5	West	104	70	73	45	454.9	579.8	550.9	883.9	A	A	A	A
Park Avenue & East 110th Street	X6	North	454	362	438	392	40.6	57.0	44.1	49.0	B	B	B	B
Madison Avenue & East 111th Street	X7	East	153	143	163	94	244.4	228.8	235.1	396.8	A	A	A	A
Lexington Avenue & East 110th Street	X8	North	948	697	737	727	36.2	53.0	47.5	51.4	C	B	B	B
Lexington Avenue & East 103rd Street	X9	East	1,126	749	1,265	830	43.7	70.7	37.8	66.0	B	A	C	A
Lexington Avenue & East 126th Street	X10	West	1,088	789	1,134	834	47.1	56.9	46.8	60.8	B	B	B	A
Lexington Avenue & East 124th Street	X11	East	1,079	801	1,021	842	48.7	72.4	54.3	60.3	B	A	B	A
Lexington Avenue & East 118th Street	X12	West	628	429	540	492	88.9	139.9	101.6	111.4	A	A	A	A
Lexington Avenue & East 117th Street	X13	East	693	694	1,075	791	79.1	90.1	50.4	72.9	A	A	B	A
	X14	West	981	591	714	722	59.7	97.7	85.6	71.4	B	A	A	A

Table 14-52
With Action Corner Conditions

Intersection	Corner		Average Pedestrian Space (ft^2/ped)				Level of Service			
			AM	MD	PM	SAT	AM	MD	PM	SAT
Park Avenue & East 129th Street	C1	NW	148.9	150.3	101.9	254.2	A	A	A	A
Park Avenue & East 128th Street	C2	SE	165.3	166.4	187.5	175.8	A	A	A	A
Park Avenue & East 126th Street	C3	NE	75.0	57.4	66.3	56.7	A	B	A	B
	C4	SE	127.7	96.8	103.3	117.5	A	A	A	A
	C5	SW	158.0	137.3	140.9	177.6	A	A	A	A
	C6	NW	49.5	31.8	36.4	27.4	B	C	C	C
Park Avenue & East 125th Street	C7	NE	113.1	124.3	109.3	146.1	A	A	A	A
	C8	SE	102.9	113.8	87.0	121.5	A	A	A	A
	C9	NW	96.3	92.0	84.0	110.6	A	A	A	A
Park Avenue & East 120th Street	C10	NE	318.5	152.8	294.8	321.6	A	A	A	A
Park Avenue & East 119th Street	C11	NE	238.7	159.9	182.4	221.3	A	A	A	A
	C12	SE	155.4	111.6	115.0	141.3	A	A	A	A
	C13	SW	266.6	151.6	199.7	188.3	A	A	A	A
	C14	NW	257.5	139.3	182.8	170.9	A	A	A	A
Park Avenue & East 118th Street	C15	NW	297.7	193.9	239.4	272.0	A	A	A	A
Park Avenue & East 112th Street	C16	SW	496.3	637.1	602.3	720.8	A	A	A	A
Park Avenue & East 111th Street	C17	NE	276.5	469.1	418.3	804.9	A	A	A	A
	C18	SE	312.3	460.1	430.9	455.8	A	A	A	A
	C19	SW	358.3	545.0	470.0	601.6	A	A	A	A
	C20	NW	184.1	337.4	244.5	486.3	A	A	A	A
Park Avenue & East 110th Street	C21	NE	181.3	287.3	221.0	252.6	A	A	A	A
	C22	NW	117.8	173.9	138.1	160.2	A	A	A	A
Madison Avenue & East 112th Street	C23	SE	458.2	451.7	361.3	571.6	A	A	A	A
Madison Avenue & East 111th Street	C24	NE	239.7	299.4	270.1	457.3	A	A	A	A
	C25	SE	257.7	312.8	265.5	351.2	A	A	A	A
Lexington Avenue & East 110th Street	C26	NE	57.7	69.7	58.4	71.4	B	A	B	A
	C27	NW	85.0	137.4	122.9	146.6	A	A	A	A
3rd Avenue & East 110th Street	C28	NE	33.1	50.3	42.2	44.6	C	B	B	B
Lexington Avenue & East 104th Street	C29	SE	110.0	142.1	100.9	167.9	A	A	A	A
Lexington Avenue & East 103rd Street	C30	NE	84.8	110.8	72.3	117.6	A	A	A	A
3rd Avenue & East 105th Street	C31	SE	99.1	116.3	87.7	83.8	A	A	A	A
	C32	SW	140.9	135.4	120.7	127.5	A	A	A	A
3rd Avenue & East 104th Street	C33	NE	116.8	134.1	93.2	115.2	A	A	A	A
	C34	NW	106.0	107.1	76.1	105.5	A	A	A	A
Lexington Avenue & East 128th Street	C35	SW	202.3	206.7	211.8	234.0	A	A	A	A
Lexington Avenue & East 126th Street	C36	SW	48.8	46.1	47.6	57.1	B	B	B	B
	C37	NW	70.8	62.3	57.5	49.0	A	A	B	B
Lexington Avenue & East 124th Street	C38	NE	117.0	180.8	149.0	178.4	A	A	A	A
3rd Avenue & East 124th Street	C39	SW	69.3	93.2	84.5	92.7	A	A	A	A
Lexington Avenue & East 119th Street	C40	SW	185.0	218.6	211.5	218.7	A	A	A	A
Lexington Avenue & East 118th Street	C41	SW	173.0	267.2	209.4	243.9	A	A	A	A
	C42	NW	421.7	549.7	434.5	465.6	A	A	A	A
Lexington Avenue & East 117th Street	C43	NE	256.4	289.0	191.6	217.0	A	A	A	A
	C44	SE	113.7	131.1	86.8	109.4	A	A	A	A
	C45	SW	65.9	106.9	92.7	81.2	A	A	A	A
	C46	NW	139.5	204.0	183.5	143.5	A	A	A	A
2nd Avenue & East 106th Street	C47	NE	166.8	197.6	240.8	273.2	A	A	A	A

POTENTIAL EFFECTS OF SECOND AVENUE SUBWAY PHASE II

As discussed above, implementation of Phase II of the Second Avenue Subway would likely result in a reduction in pedestrian demand along many analyzed sidewalks and crosswalks providing access to existing Lexington Avenue Line subway stations. However, some localized increases in demand would likely occur in proximity to proposed entrance locations for new Second Avenue Line stations. Based on the locations of projected development sites and their estimated subway demand, and data on likely future station entrance locations provided in the 2004 *Second Avenue Subway FEIS*, one corner area in proximity to the planned 106th Street station and five sidewalks, eight corner areas and three crosswalks in proximity to the planned 125th Street station were selected for analysis to determine the potential for additional significant adverse pedestrian impacts under a scenario with completion of Second Avenue Subway Phase II by 2027. The analysis conservatively assumes that all incremental subway trips generated by projected development sites in proximity to Second Avenue would use the new Second Avenue Line stations, although it is likely that some would continue to use Lexington Avenue Line stations.

Tables 14-53 through 14-55 show the sidewalk, crosswalk and corner area levels of service in the AM and PM commuter peak hours (the periods of greatest subway demand) at the 20 pedestrian elements analyzed for the scenario with completion of Second Avenue Subway Phase II in 2027. As shown in **Tables 14-53 through 14-55**, under this scenario all analyzed pedestrian elements would operate at an acceptable LOS C or better in both peak hours with exception of the north and south crosswalks on Park Avenue at East 125th Street which would operate at a congested LOS E in both periods and would be significantly adversely impacted in the AM peak hour. Widening the segment of the north crosswalk west of the Park Avenue median by 1.5 feet (to a total of 19.5 feet) and the segment of the south crosswalk east of the median by 0.5 feet (to a total of 18.5 feet) would fully mitigate these impacts.

Table 14-53
With Action Sidewalk Conditions with Second Avenue Subway Phase II

No.	Location		Effective Width (ft.)	Project Increment		Peak Hour Volumes		Average Pedestrian Space (ft^2/ped)		Platoon-Adjusted Level of Service	
				AM	PM	AM	PM	AM	PM	AM	PM
S1	Park Avenue betw. 129th & 130th Streets	West	8.2	219	267	839	974	126.5	96.8	B	B
S2	Park Avenue betw. 127th & 128th Streets	East	8.7	184	285	1,463	1,763	76.5	61.7	C	C
S4	Park Avenue betw. 126th & 127th Streets	East	7.4	233	355	1,790	1,991	55.4	53.8	C	C
S6	Park Avenue betw. 125th & 126th Streets	East	8.6	245	399	1,928	2,050	59.9	48.7	C	C
S8	Park Avenue betw. 125th & 126th Streets	West	9.5	331	446	1,804	2,251	73.5	49.7	C	C
S9	Park Avenue betw. 126th & 127th Streets	West	8.5	258	483	1,764	2,173	61.7	45.9	C	C
S10	Park Avenue betw. 124th & 125th Streets	East	4.8	222	279	1,075	1,227	54.2	45.9	C	C

Note: * - Denotes a significant adverse impact per 2014 *CEQR Technical Manual* Criteria

Table 14-54
With Action Crosswalk Conditions
with Second Avenue Subway Phase II

Intersection	Crosswalk		Peak Hour Volumes		Average Pedestrian Space (ft^2/ped)		Level of Service	
			AM	PM	AM	PM	AM	PM
Park Avenue & East 126th Street	X1	East	1,585	1,862	33.4	26.5	C	C
Park Avenue & East 125th Street	X2	North	2,981	3,058	8.6	11.4	E *	E
	X3	South	2,161	2,388	10.3	14.0	E *	E

Table 14-55
With Action Corner Conditions
with Second Avenue Subway Phase II

Intersection	Corner		Average Pedestrian Space (ft^2/ped)		Level of Service	
			AM	PM	AM	PM
Park Avenue & East 129th Street	C1	NW	72.6	55.7	A	B
Park Avenue & East 128th Street	C2	SE	59.1	62.5	B	A
Park Avenue & East 126th Street	C3	NE	37.0	31.8	C	C
	C4	SE	52.7	42.3	B	B
	C5	SW	125.4	110.4	A	A
	C6	NW	41.0	29.7	B	C
Park Avenue & East 125th Street	C7	NE	62.7	65.2	A	A
	C8	SE	68.3	62.2	A	A
	C9	NW	49.1	49.1	B	B
2nd Avenue & East 106th Street	C47	SW	24.3	42.0	C	B

J. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

RECENT DOT INITIATIVES

VISION ZERO MANHATTAN PEDESTRIAN SAFETY ACTION PLAN

The City's Vision Zero initiative seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside a motor vehicle. In an effort to drive these fatalities down, DOT and NYPD developed a set of five plans, each of which analyzes the unique conditions of one New York City borough and recommends actions to address the borough's specific challenges to pedestrian safety. These plans pinpoint the conditions and characteristics of pedestrian fatalities and severe injuries; they also identify priority corridors, intersections, and areas that disproportionately account for pedestrian fatalities and severe injuries, prioritizing

them for safety interventions. The plans outline a series of recommended actions comprised of engineering, enforcement, and education measures that intend to alter the physical and behavioral conditions on City streets that lead to pedestrian fatality and injury.

The *Vision Zero Manhattan Pedestrian Safety Action Plan* was released on February 18, 2015. In proximity to the Project Area, East 125th Street and First, Second and Third Avenues were all identified as Priority Corridors, and Park Avenue at East 125th Street and Madison Avenue at East 116th Street were identified as Priority Intersections. No Priority Areas were identified in proximity to the Project Area. Actions recommended in the *Vision Zero Manhattan Pedestrian Safety Action Plan* to enhance pedestrian safety in Manhattan are summarized below.

Engineering and Planning

- Implement at least 50 Vision Zero safety engineering improvements at Priority Corridors, Intersections, and Areas citywide, informed by community input
- Expand exclusive pedestrian crossing time, install expanded speed limit signage, and modify signal timing to reduce off-peak speeding on Priority Corridors and Intersections where feasible
- Expand community outreach and engagement with regard to Priority Corridors, Intersections, and Areas
- Consider area-wide policies for Midtown, such as limiting left-turns from major two-way streets, to improve safety and circulation throughout the area.
- Further expand the off-hours delivery program to reduce truck conflicts with pedestrians.
- Coordinate with MTA to ensure bus operations contribute to a safe pedestrian environment
- Expand a bicycle network in Manhattan that improves safety for all road users
- Proactively design for pedestrian safety in high-growth areas in Manhattan

Enforcement

- Deploy speed camera at Priority Corridors, Intersections, and Areas
- Focus enforcement and deploy dedicated resources to Manhattan NYPD precincts that overlap substantially with Priority Areas
- Prioritize targeted enforcement at all Priority Corridors, Intersections, and Areas annually
- Focus failure-to-yield enforcement on nighttime hours (9 p.m. to midnight)
- Initiate a series of targeted truck enforcement blitzes to reduce failure to yield and keep large trucks on truck routes

Education and Awareness Campaigns

- Target child and senior safety education at Priority Corridors and Priority Areas
- Target intensive street-level outreach at Priority Corridors, Intersections, and Areas

SAFE STREETS FOR SENIORS

Safe Streets for Seniors is a pedestrian safety initiative for older New Yorkers. The Safe Streets for Seniors program studies crash data, and then develops and implements mitigation measures to improve the safety of seniors and other pedestrians, as well as all road users in New York City. Under this program, DOT has identified Senior Pedestrian Focus Areas (SPFAs)

throughout the city based on the density of senior pedestrian (age 65+) crashes resulting in fatalities or severe injuries in a five-year period, as well as variables such as senior trip generators, concentrations of senior centers, and senior housing locations. In 2012, DOT designated an SPFA in East Harlem extending from East 91st Street to East 110th Street between First and Fifth Avenues. Subsequent improvements implemented to address senior concerns have included:

- Modification of 129 traffic signals to accommodate slower walking speeds;
- Installation of countdown signals at 95 intersections along First, Second, Third, Lexington, Park, Madison, and Fifth Avenues;
- Installation of 33 pedestrian islands on First Avenue and 26 pedestrian islands on Second Avenue;
- Removal of one travel lane in each direction and installation of flush center medians with left-turn bays along East 106th Street, along with the installation of pedestrian safety islands at key intersections; and
- Installation of new benches under the CityBench program.

STUDY AREA HIGH CRASH LOCATIONS

Crash data for intersections in the traffic and pedestrian study areas were obtained from DOT for the three-year period between January 1, 2012, and December 31, 2014 (the most recent three-year period for which data are available). The data quantify the total number of reportable (involving a fatality, injury, or more than $1,000 in property damage) and non-reportable crashes as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year reporting period, a total of 589 reportable and non-reportable crashes, 170 pedestrian/bicyclist-related injury crashes and four fatalities occurred at analyzed study area intersections. **Table 14-56** provides a summary of these crashes by year and location, including a breakdown of pedestrian and bicycle crashes.

According to the *CEQR Technical Manual*, a high crash location is one where there were 48 or more reportable and non-reportable crashes or five or more pedestrian/bicyclist-related crashes in any consecutive 12 months within the most recent three-year period for which data are available. As shown in **Table 14-56**, no intersections experienced 48 or more reportable and non-reportable crashes within a consecutive 12-month period during the 2012 to 2014 period; however eight intersections experienced five or more pedestrian/bicyclist-related crashes within a consecutive 12-month period. These intersections, identified as high crash locations in **Table 14-56**, are the following:

- Second Avenue at East 125th Street
- Third Avenue at East 106th Street
- Third Avenue at East 110th Street
- Third Avenue at East 116th Street
- Third Avenue at East 118th Street
- Lexington Avenue at East 116th Street
- Lexington Avenue at East 125th Street
- Park Avenue at East 125th Street

It should be noted that six of the eight high crash locations are at the intersections of major avenues with two-way crosstown corridors (East 125th Street, East 116th Street and East 106th Street) where there are typically increased numbers of vehicular turning movements. Two of the locations are in proximity to subway or commuter rail stations (at Lexington Avenue and East 116th and East 125th Streets, and at Park Avenue and East 125th Street) where there are typically increased levels of pedestrian traffic. It should also be noted that all but one of these intersections are classified as high crash locations based on the number of crashes that occurred in 2013 (the exception being Lexington Avenue/East 116th Street which was a high crash location in 2012). As reflected in the data in **Table 14-56**, at all of these locations, the number of pedestrian and bicycle-related crashes declined markedly from 2013 to 2014, with six of the eight intersections identified as high crash locations in 2012 and 2013 experiencing no pedestrian or bicycle-related crashes in 2014. The reductions in the crash rates at analyzed intersections subsequent to 2013 likely reflect implementation of safety improvement measures under the Safe Streets for Seniors Program and other City initiatives in recent years (e.g., modification of traffic signals to accommodate slower walking speeds, installation of countdown signals, installation of pedestrian islands, etc.).

Second Avenue at East 125th Street

A total of four pedestrian crashes and two bicycle-related crashes occurred at this intersection in 2013, compared to only one pedestrian crash and no bicycle crashes in 2012, and no pedestrian or bicycle crashes in 2014. No prevailing trends or factors potentially contributing to the spike in pedestrian/bicycle crashes in 2013 were identified. Geometric and operational characteristics affecting safety at this intersection include its overall complexity as it is comprised of a relatively high volume, two-way crosstown corridor intersecting a southbound avenue with five moving lanes (including double left-turn lanes), along with on- and off-ramps for the RFK Bridge and an on-street bicycle lane (along Second Avenue). There is also a gas station with multiple curb cuts located at the northwest corner. The intersection is signalized with a three-phase signal plan, and pedestrian signals and high visibility crosswalks have been installed on all approaches with the exception of the approach lane to the RFK Bridge on-ramp. Modification of the traffic signal plan to accommodate slower walking speeds may warrant consideration at this intersection.

Third Avenue at East 106th Street

A total of two pedestrian crashes and three bicycle-related crashes occurred at this intersection in 2013, compared to three pedestrian crashes and one bicycle crash in 2012, and no pedestrian crashes and two bicycle crashes in 2014. Factors cited in several of the crashes included pedestrians walking along the roadway with traffic or crossing against the signal. The intersection is signalized with pedestrian signals and high visibility crosswalks on all approaches. It should be noted that in late 2014 (subsequent to the high crash year of 2013), a striped median with a left-turn bay was installed on the eastbound East 106th Street approach, and a striped median with a raised pedestrian refuge was installed on the westbound approach. On-Street bicycle lanes were also apparently installed outboard of the parking lanes along both curbs of East 106th Street at that time.

Third Avenue at East 110th Street

A total of five pedestrian crashes occurred at this intersection in 2013, compared to only three pedestrian crashes in 2012 and none in 2014. (There were no bicycle-related crashes during the three-year period.) No prevailing trends or factors potentially contributing to the number of

pedestrian crashes in 2013 were identified. The intersection is signalized with pedestrian signals and high visibility crosswalks on all approaches, and the signal timing plan has already been modified to reflect slower walking speeds.

Table 14-56
Summary of Motor Vehicle Crash Data 2012-2014

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicycle Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014
First Ave	East 106th St	0	0	2	0	0	0	0	0	2	4	5	7
	East 125th St	0	0	0	0	1	0	0	1	0	14	30	7
Second Ave	East 106th St	2	0	2	1	0	0	3	0	2	8	1	6
	East 119th St	0	0	0	0	0	0	0	0	0	1	1	1
	East 120th St	0	1	0	0	2	0	0	3	0	3	5	1
	East 121st St	0	1	0	0	0	0	0	1	0	0	3	0
	East 122nd St	0	0	0	0	0	0	0	0	0	0	3	1
	East 123rd St	0	0	0	0	0	0	0	0	0	2	1	2
	East 124th St	1	1	0	0	0	0	1	1	0	1	4	0
	East 125th St	1	4	0	0	2	0	1	**6**	0	10	16	8
	East 126th St	0	0	0	0	0	0	0	0	0	1	8	6
	East 127th St	0	0	0	0	0	0	0	0	0	0	2	2
	East 128th St	0	1	0	0	0	0	0	1	0	1	6	1
Third Ave	East 104th St	2	1	1	0	0	0	2	1	1	4	5	1
	East 105th St	0	0	0	1	0	1	1	0	1	2	4	4
	East 106th St	3	2	0	1	3	2	4	**5**	2	4	7	5
	East 107th St	0	2	0	0	0	0	0	2	0	0	3	0
	East 108th St	0	1	1	0	0	0	0	1	1	0	1	1
	East 109th St	2	1	0	0	1	0	2	2	0	5	6	1
	East 110th St	3	5	0	0	0	0	3	**5**	0	5	7	2
	East 111th St	1	0	0	2	0	0	3	0	0	4	2	2
	East 112th St	1	0	3	1	0	0	2	0	3	5	2	4
	East 113th St	0	0	0	0	0	0	0	0	0	0	0	0
	East 114th St	0	0	0	0	0	0	0	0	0	0	0	0
	East 116th St	3	4	0	0	1	0	3	**5**	0	6	8	1
	East 118th St	0	5	0	0	0	0	0	**5**	0	1	8	1
	East 119th St	0	2	0	0	1	0	0	3	0	1	7	1
	East 120th St	1	0	0	0	0	0	1	0	0	3	2	2
	East 122nd St	0	1	0	0	0	0	0	1	0	1	0	3
	East 123rd St	1	3	0	0	0	0	1	3	0	1	5	1
	East 124th St	0	1	0	0	0	0	0	1	0	1	8	2
	East 125th St	0	1	0	0	0	0	0	1	0	7	8	0
	East 126th St	0	1	0	0	0	0	0	1	0	2	5	4
Lexington Ave	East 103rd St	0	1	0	0	0	0	0	1	0	1	2	2
	East 104th St	1	0	2	0	0	1	1	0	3	3	0	4
	East 110th St	1	0	4	1	0	0	2	0	4	2	3	8
	East 111th St	0	1	0	0	0	0	0	1	0	0	2	0
	East 116th St	5	2	0	1	1	0	**6**	3	0	8	4	0
	East 117th St	0	0	0	0	0	0	0	0	0	1	2	1
	East 118th St	0	0	0	0	0	0	0	0	0	0	3	0
	East 119th St	0	1	0	0	0	0	0	1	0	0	2	1
	East 120th St	0	0	0	0	0	0	0	0	0	1	2	0
	East 124th St	1	0	0	0	1	0	1	1	0	1	1	2
	East 125th St	1	5	0	0	3	0	1	**8**	0	5	19	5
	East 126th St	0	1	1	0	1	0	0	2	1	1	6	2
	East 127th St	1	0	0	0	0	0	1	0	0	0	2	1
	East 128th St	0	2	0	0	0	0	0	2	0	1	5	0
Park Ave	East 110th St	0	1	1	1	3	1	1	4	2	2	5	2
	East 111th St	0	1	0	0	1	0	0	2	0	0	3	2
	East 112th St	0	0	0	0	0	0	0	0	0	2	2	2
	East 118th St	0	0	0	0	0	0	0	0	0	0	4	2
	East 119th St	0	0	0	0	1	2	0	1	2	2	3	3
	East 120th St	0	2	0	0	1	0	0	3	0	3	4	0
	East 125th St	1	10	2	1	2	0	2	**12**	2	4	18	9
	East 126th St	0	2	0	0	0	0	0	2	0	2	4	0
	East 128th St	0	0	0	0	0	0	0	0	0	1	5	0
	East 129th St	0	3	0	0	0	0	0	3	0	0	8	2
Madison Ave	East 111th St	0	0	0	1	0	0	1	0	0	9	3	2
	East 112th St	1	0	0	1	1	0	2	1	0	5	5	4
	East 115th St	1	3	1	0	1	0	1	4	1	3	5	4
	East 116th St	1	2	0	0	0	0	1	2	0	4	8	3
	East 118th St	0	2	0	0	0	0	0	2	0	1	3	0
	East 119th St	0	0	0	0	0	0	0	0	0	0	1	0

Notes:
1 - denotes a high accident location based on *CEQR Technical Manual* criteria.

The eight high crash intersections are discussed in more detail below.

Third Avenue at East 116th Street

A total of four pedestrian crashes and one bicycle-related crash occurred at this intersection in 2013, compared to three pedestrian crashes and no bicycle crashes in 2012, and no pedestrian or bicycle crashes in 2014. Rain and wet pavement were noted as factors in several of the crashes, as were left-turning vehicles. An operational characteristic potentially contributing to accidents at this location is that it is the intersection of a primary two-way crosstown corridor (East 116th Street) and a major northbound avenue with five moving lanes (Third Avenue). The intersection is equipped with pedestrian signals with countdown clocks, and during the 2012 through 2014 period it also featured standard crosswalks. High visibility crosswalks have now been installed on all approaches at this intersection, and the signal timing plan has been modified to reflect slower walking speeds.

Third Avenue at East 118th Street

There were five pedestrian crashes and no bicycle-related crashes at this intersection in 2013, and no pedestrian or bicycle crashes in either 2012 or 2014. Four of the pedestrian crashes involved pedestrians crossing with the signal, and three occurred during darkness. The intersection is equipped with pedestrian signals with countdown clocks, and high visibility crosswalks have been installed on all approaches at this intersection. (Standard crosswalks appear to have been present in 2013). School crossing pavement markings have also been installed on both Third Avenue and East 118th Street, and the signal timing plan has been modified to reflect slower walking speeds. Improvements to street lighting may warrant consideration as a potential safety improvement measure at this intersection.

Lexington Avenue at East 116th Street

There were five pedestrian crashes and one bicycle-related crash at this intersection in 2012, compared with two pedestrian crashes and one bicycle crash in 2013 and no pedestrian or bicycle crashes in 2014. No prevailing trends or factors potentially contributing to the number of pedestrian crashes in 2012 were identified. The presence of bus stops nearby, and subway station entrances on all four corners, likely generate increased pedestrian volumes at this location. The intersection is equipped with pedestrian signals with countdown clocks and standard crosswalks. Installation of high visibility crosswalks on all approaches may warrant consideration as a safety improvement measure at this intersection.

Lexington Avenue at East 125th Street

A total of five pedestrian crashes and three bicycle-related crashes occurred at this intersection in 2013, compared to only one pedestrian crash and no bicycle crashes in 2012, and no pedestrian or bicycle crashes in 2014. Three of the accidents in 2013 occurred during darkness, otherwise no prevailing trends or factors potentially contributing to the spike in pedestrian/bicycle crashes in 2013 were identified. The presence of bus stops nearby (there are dedicated bus lanes along both curbs of East 125th Street), along with subway station entrances on all four corners, likely generate increased pedestrian volumes at this location. The intersection is equipped with pedestrian signals with countdown clocks, and during the 2012 through 2014 period it also featured standard crosswalks. High visibility crosswalks have now been installed on all approaches at this intersection, and the signal timing plan includes a leading pedestrian interval. Improvements to street lighting may warrant consideration as a potential additional safety

improvement measure at this intersection based on the fact that three of the pedestrian crashes occurred during darkness.

Park Avenue at East 125th Street

A total of ten pedestrian crashes and two bicycle-related crashes occurred at this intersection in 2013, compared to only one pedestrian crash and one bicycle crash in 2012, and two pedestrian crashes and no bicycle crashes in 2014. Six of the accidents in 2013 occurred during darkness and three involved pedestrians crossing against the signal, otherwise no prevailing trends or factors potentially contributing to the spike in pedestrian/bicycle crashes in 2013 were identified. Factors potentially affecting safety at this intersection include the presence of a Metro-North Railroad station on an elevated structure above Park Avenue which generates increased pedestrian volumes. This elevated structure also casts much of the intersection in shadow throughout the day, and its supporting columns may potentially affect sightlines. It should also be noted that the wide median on which the railroad station entrances are located divides northbound and southbound Park Avenue to the extent that they essentially function as two distinct intersections each with crosswalks on all four legs. This creates increased opportunity for vehicle/pedestrian conflicts at this location. All approaches at both northbound and southbound Park Avenue are equipped with pedestrian signals with countdown clocks and high visibility crosswalks.

A number of improvements expected to enhance pedestrian safety at this intersection are currently being contemplated by the City, independent of the Proposed Actions. These improvements are expected to include sidewalk extensions (bulb-outs) at corner areas, new pedestrian ramps, and the consolidation of the two existing crosswalks between the north and south medians on Park Avenue into a single wide crosswalk. Lighting under the elevated structure is also expected to be improved as part of this effort.

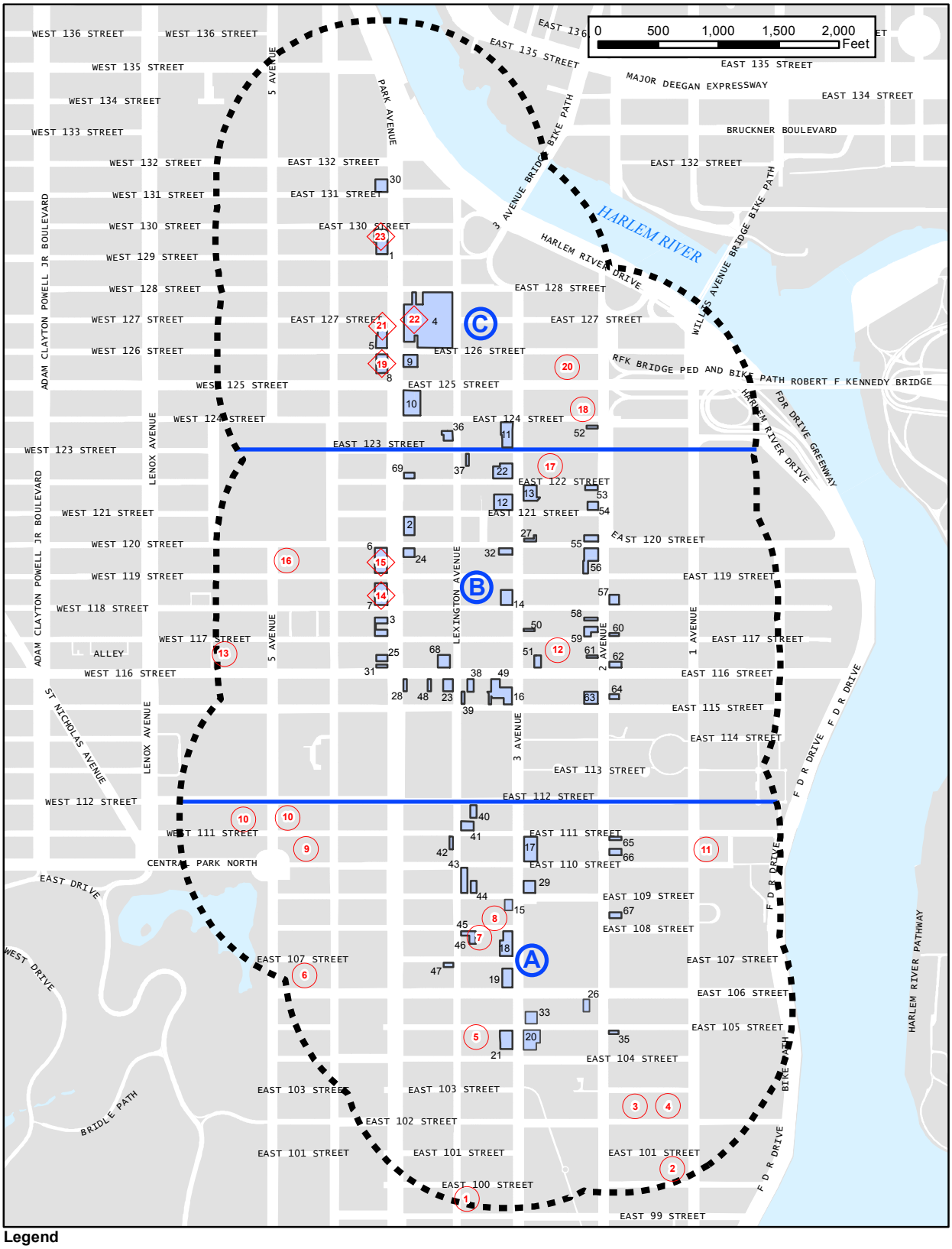
K. PARKING

EXISTING CONDITIONS

OFF-STREET PARKING

Off-street public parking facilities were inventoried during June 2016, September 2016, and January 2017, and a total of 23 public parking lots and garages were identified within ¼-mile of projected development sites. **Figure 14-26** shows the locations of these off-street public parking facilities and **Table 14-57** provides a summary of their names, addresses, license numbers, capacities, and estimated weekday midday and overnight utilization. As shown in **Figure 14-26**, six of the facilities in **Table 14-57**—Nos. 14, 15, 19, 21, 22, and 23—are located on projected development sites. These six facilities have a combined licensed capacity of 572 spaces.

Field observations and interviews with parking attendants were conducted to determine the utilization levels of each parking facility during the midday (noon to 2:00 p.m.) and overnight periods on a typical weekday. As shown in **Table 14-57**, the 23 parking lots and garages within the overall study area have a combined licensed capacity of 3,501 spaces during the midday. This falls to 3,197 spaces during the overnight period when three facilities in Sub-Area A (Nos. 1, 7, and 9 in **Table 14-57**) are closed. During the midday period, approximately 76 percent of spaces within the overall parking study area are utilized, leaving a residual supply of approximately 837 available parking spaces. During the overnight period, approximately 39 percent of spaces are utilized, leaving a residual supply of approximately 1,935 available parking



Legend

- 1 — Off-Street Public Parking Facility
- 14 — Off-Street Public Parking Facility Located on a Projected Development Site
- 68 — Projected Development Site
- 1/4 Mile Radius of Projected Development Sites
- A — Parking Analysis Sub-Area

Source: PHA

Existing Study Area Off-Street Public Parking Facilities

spaces. Of the three sub-areas, Sub-Area B has the highest level of utilization in the midday (81 percent with 131 spaces of available supply) while Sub-Area C has the highest level in the overnight period (61 percent with 285 spaces of available supply).

ON-STREET PARKING

An inventory of existing parking regulations within ¼-mile of projected development sites was compiled from field surveys and on-line sources. Curbside parking regulations for all block faces within the study area are shown in Figure E-1 and listed in accompanying Table E-4 in **Appendix E**. On-street public parking is generally governed by alternate-side-of-the-street regulations to facilitate street cleaning, with more restrictive regulations in place at locations where additional traffic flow capacity is needed, especially during the weekday daytime hours. One-hour and/or two-hour metered public parking is present primarily along portions of Second, Third, Fifth, and Lenox Avenues, and 116th, 125th, and 135th Streets. Based on existing curbside parking regulations, and taking into account curb space obstructed by curb cuts, fire hydrants, and other impediments, there are a total of approximately 9,817 legal curbside parking spaces in the midday and 10,695 spaces during the overnight period within ¼-mile of projected development sites. The number of spaces in parking sub-areas A, B and C total 3,801, 3,865, and 2,151, respectively, in the midday period and 4,257, 4,062, and 2,376, respectively, in the overnight period.

As shown in **Table 14-58**, based on data collected during field surveys conducted in June and September 2016, and January and February 2017, on-street parking within the overall parking study area is approximately 89 percent utilized during the midday period and approximately 83 percent utilized during the overnight period. Approximately 1,095 and 1,795 on-street parking spaces are currently available within the study area during each of these periods, respectively. Of the three sub-areas, Sub-Area C has the highest level of on-street parking utilization in the midday (91 percent) with an available capacity of 198 spaces, while Sub-Areas A and B have the highest utilization in the overnight period (84 percent each) with available capacities of 700 spaces and 641 spaces, respectively.

Table 14-57
Existing Off-Street Public Parking Facilities in the Study Area

Sub-Area	Map No.	Name	Address	License No.	Hours of Operation	Licensed Capacity	Weekday Midday		Weekday Overnight		Notes
							Estimated Utilization (%)	Available Capacity	Estimated Utilization (%)	Available Capacity	
A	1	MP 99, LLC	1559 Lexington Ave	1392680	6A-11P, M-F	80	63%	30	CLOSED	CLOSED	
	2	1955 First Parking Corp.	1955 1st Ave	1183389	24Hrs Daily	109	60%	44	5%	104	
	3	Quick Park East 102nd Street Garage LLC	315 E.102nd St	1461276	24Hrs Daily	196	90%	20	90%	20	
	4	East 102nd St Realty LLC	333 E.102nd St	1182251	24Hrs Daily	155	100%	0	6%	145	
	5	East 105th Street Parking LLC	156 E.105th St	1109621	24Hrs Daily	89	75%	22	33%	60	(a)
	6	Merit Parking LLC	12 E.107th St	760802	24Hrs Daily	1,000	75%	250	33%	670	(a)
	7	Lease Parking Lot, Inc.	158 E.108th St	1249153	7A-7P, M-F 8A-6P Sa	44	50%	22	CLOSED	CLOSED	
	8	Park And Go, LLC	179 E.108th St	1227293	24Hrs Daily	25	72%	7	20%	20	
	9	MP Uptown LLC	1295 5th Ave	1306114	6A-10P, M-F 8A-6P, Sa	180	80%	36	CLOSED	CLOSED	
	10	5th Avenue Property & Parking LLC	1325 5th Ave	1377213	24Hrs Daily	116	50%	58	4%	111	(b)
	11	East 111 Street Properties, LLC	409 E.110th St	1206949	24Hrs Daily	110	75%	27	5%	104	
					Sub-Area A Subtotal:	**2,104**	**75%**	**516**	**31%**	**1,234**	
B	12	Park North Parking Corp.	220 E.117th St	2009547	24Hrs Daily	100	90%	10	10%	90	
	13	116th-117th Street Parking Corp.	23 W.116th St	2015757	24Hrs Daily	113	60%	45	100%	0	
	14	118 Parking Corp.	1682 Park Ave	1180717	24Hrs Daily	52	60%	21	42%	30	
	15	100 Parking Corp.	1831 Madison Ave	1129272	24Hrs Daily	58	69%	18	31%	40	
	16	Harl Parking Corp.	1481 5th Ave	1338636	24Hrs Daily	152	80%	30	50%	76	
	17	Taino Parking Corporation	211 E.122nd St	2027516	24Hrs Daily	200	97%	7	10%	180	
					Sub-Area B Subtotal:	**675**	**81%**	**131**	**38%**	**416**	
C	18	East 124 Garage Corp.	245 E.124th St	1356253	24Hrs Daily	135	100%	0	68%	43	
	19	A&P Parking Corp.	1824 Park Ave	1414015	24Hrs Daily	150	100%	0	14%	129	
	20	East End Parking Corp.	227 E.125th St	1163601	24Hrs Daily	125	60%	50	100%	0	
	21	A&P Parking Corp.	1854-1856 Park Ave	2018236	24Hrs Daily	75	47%	40	13%	65	
	22	Upper Manhattan Parking, LLC	1845 Park Ave	2001043	24Hrs Daily	88	51%	43	45%	48	
	23	1908 Park Avenue Storage LLC	1908 Park Ave	1432040	24Hrs Daily	149	62%	57	100%	0	
					Sub-Area C Subtotal:	**722**	**74%**	**190**	**61%**	**285**	
					Total:	**3,501**	**76%**	**837**	**39%**	**1,935**	

Notes:

Source: PHA June 2016, September 2016 and January 2017 field surveys and interviews with parking facility operators.

Analysis conservatively assumes that facility is fully utilized at 98 percent of licensed capacity as per *CEQR Technical Manual* guidelines.

[a] Midday and overnight utilization data could not be obtained for facilities 5 and 6 and was estimated based on data from nearby facilities.

[b] Address and license number for facility 10 shared by two parking lots, each with a licensed capacity of 58 vehicles.

Table 14-58
Existing On-Street Parking Utilization in the Study Area

	Midday			Overnight		
	Legal Curbside Spaces	Estimated Utilization	Available Capacity	Legal Curbside Spaces	Estimated Utilization	Available Capacity
Sub-Area A	3,801	89%	419	4,257	84%	700
Sub-Area B	3,865	88%	478	4,062	84%	641
Sub-Area C	2,151	91%	198	2,376	81%	454
Total	9,817	89%	1,095	10,695	83%	1,795

Notes:
Based on June and September 2016 and January and February 2017 PHA field surveys.
Excludes authorized vehicle parking.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO ACTION CONDITION)

Between 2017 and 2027, it is expected that parking demand in the vicinity of projected development sites will increase due to long-term background growth as well as development that could occur pursuant to existing zoning. The forecast of parking demand generated by residential development on projected development sites in the No Action condition is based on 2011-2015 five-year ACS auto ownership data. Parking demands from other uses were derived from the forecasts of daily auto trips from these uses.

All but seven of the 68 projected development sites would see the development of new residential, commercial and community facility uses under the No Action RWCDS. A total of approximately 224 on-site accessory parking spaces would be provided on four of the projected development sites under the No Action RWCDS, including 95 spaces on Site 1, 33 spaces on Site 10, 57 spaces on Site 17, and 39 spaces on Site 21. As these new accessory spaces would not be sufficient to accommodate all of the weekday midday and overnight parking demand generated by the new No Action uses, some of the incremental No Action demand is expected to utilize off-street public parking facilities or park on-street.

The forecast of future No Action parking conditions also considers the potential for new demand from the developments not located on projected development sites that are listed in **Table 2-7** in Chapter 2, "Land Use, Zoning, and Public Policy." ACS auto ownership data and auto trip forecasts were used to forecast the parking demands from these developments except where site-specific data were available from secondary sources such as previous environmental studies. In addition, the forecast of future No Action parking conditions incorporates annual background growth rates of 0.25 percent per year for the 2017 through 2022 period and 0.125 percent per year for the 2022 through 2027 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in Manhattan and the Bronx, are applied to account for smaller projects and as-of-right developments not reflected in **Table 2-7**, and general increases in parking demand not attributable to specific development projects.

OFF-STREET PARKING

Under the No Action RWCDS, four existing public parking facilities with a total licensed capacity of 462 spaces would be displaced by new development on projected development sites 1, 4, 5, and 8. As shown in **Table 14-59**, based on this change in the parking supply and the increased demand under the No Action RWCDS, midday off-street public parking demand

within the overall parking study area is expected to total 118 percent of capacity, with a deficit of 526 spaces during this period. Overnight utilization is expected to increase to 82 percent of capacity with a total of 478 parking spaces available at the 16 24-hour public parking facilities that would remain under the No Action RWCDS. The greatest parking deficits would occur in Sub-Area C where the four parking facilities that would be displaced in the No Action condition are located. There would be a shortfall of 709 spaces in the midday and 787 spaces in the overnight period in this sub-area. Sub-Area B would experience a shortfall of 60 spaces in the midday and a surplus of 212 spaces in the overnight period, while Sub-Area A would have surpluses of 243 spaces and 1,053 spaces during these same periods, respectively.

ON-STREET PARKING

A review of traffic and pedestrian improvement measures associated with recently proposed DOT initiatives and mitigation associated with No Action developments found that these measures would affect a total of 22 on-street spaces within the overall parking study area in the midday period and eight spaces in the overnight period. These would include the elimination of approximately two parking spaces in both the midday and overnight periods in Sub-Area B, and the elimination of approximately 20 on-street spaces in the midday and six in the overnight period in Sub-Area C. Consequently, as shown in **Table 14-60**, on-street parking capacity within a ¼-mile of projected development sites is expected to total approximately 9,795 spaces and 10,687 spaces in the midday and overnight periods, respectively, in the future without the Proposed Actions.

After accounting for background growth and demand from No Action developments on projected development sites and in the surrounding area not otherwise accommodated by accessory parking, the demand for on-street parking within the overall study area is expected to increase to 9,413 spaces in the midday period and 9,068 spaces in the overnight period. **Table 14-60** shows that in the future without the Proposed Actions, on-street parking within ¼-mile of projected development sites is expected to be operating at 96 percent of capacity (a surplus of 382 spaces) in the weekday midday versus an existing surplus of 1,095 spaces. In the overnight period, on-street parking is expected to operate at 85 percent of capacity with a surplus of 1,619 spaces in the No Action condition compared to an existing surplus of 1,795 spaces.

On-street parking demand within parking sub-areas A, B and C would increase to 91, 91, and 127 percent of capacity, respectively, in the midday period, and 85, 86, and 116 percent, respectively, in the overnight period. In the No Action condition, a total of 355 and 352 on-street parking spaces would remain available in sub-areas A and B, respectively, in the midday period and 633 and 574 spaces, respectively, in the overnight period. By contrast, Sub-Area C would experience deficits of 568 spaces in the midday and 375 spaces overnight.

Overall, in the future without the Proposed Actions, the combined supply of on-street and public off-street parking capacity within ¼-mile of projected development sites would be sufficient to accommodate overnight demand, and would be operating close to capacity in the weekday midday. Sub-Areas A and B are expected to have surplus parking capacity in both the midday and overnight periods, whereas Sub-Area C is expected to experience deficits of 568 and 375 spaces during each of these periods, respectively, in the No Action condition.

Table 14-59
No Action Off-Street Public Parking Capacity, Demand and Utilization within ¼-Mile of Projected Development Sites

	Sub-Area A		Sub-Area B		Sub-Area C		Total Study Area	
	Midday	Overnight[6]	Midday	Overnight	Midday	Overnight	Midday	Overnight
Capacity								
Existing Capacity[1]	2,062	1,764	662	662	708	708	3,432	3,134
Capacity Displaced by No Action Developments[2]	0	0	0	0	(453)	(453)	(453)	(453)
Total No Action Capacity	2,062	1,764	662	662	255	255	2,979	2,681
Demand								
Existing Demand	1,588	566	544	259	532	437	2,664	1,262
Demand From Background Growth[3]	30	11	10	5	10	8	50	24
Incremental Demand from No Action Developments on Projected Development Sites[4]	91	114	157	170	115	151	363	435
Incremental Demand from Off-Site No Action Developments[5]	110	20	11	16	307	446	428	482
Total No Action Demand	1,819	711	722	450	964	1,042	3,505	2,203
Utilization								
No Action Utilization	88%	40%	109%	68%	378%	409%	118%	82%
No Action Off-Street Parking Surplus/(Deficit)	243	1,053	(60)	212	(709)	(787)	(526)	478

Notes:
[1] Analysis conservatively assumes that facilities are fully utilized at 98 percent of licensed capacity.
[2] Reflects displacement of existing public parking facilities on projected development sites 1, 4, 5, and 8 (facilities 23, 22, 21, and 19 **Table 14-57**) in the No Action condition. Numbers shown represent 98 percent of the licensed capacity (462 spaces).
[3] Reflects annual background growth rates of 0.25 percent per year for the 2017 through 2022 period and 0.125 percent for the 2022 through 2027 period.
[4] Demand from No Action development on projected development sites not accommodated by accessory parking. All sites except Nos. 2, 6, 7, 11, 13, 49, and 69 have new development under the No Action RWCDS.
[5] Demand from developments in proximity to the Project Area not located on projected development sites and not accommodated by accessory parking.
[6] Existing public parking facilities Nos. 1, 7, and 9 in Sub-Area A are closed during the overnight period.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH ACTION CONDITION)

Under the Proposed Actions, the Special East Harlem Corridors District would eliminate the underlying accessory residential parking requirements within the Project Area, and the RWCDS assumes that only nine of the projected development sites (Nos. 4, 6-11, 17, and 18) would provide accessory parking. No new off-street public parking spaces would be provided under the

Proposed Actions, and development on projected development sites 6 and 7 would displace a total of 110 existing spaces in two public parking facilities currently located on these sites (Nos. 15 and 14, respectively, in **Table 14-57**). As discussed previously, total of 462 public parking spaces on projected development sites 1, 4, 5, and 8 would be displaced under the No Action RWCDS, and these spaces would be similarly displaced under the Proposed Actions.

Table 14-60
No Action On-Street Parking Capacity, Demand and Utilization within ¼-Mile of Projected Development Sites

	Sub-Area A		Sub-Area B		Sub-Area C		Overall Study Area	
	Midday	Overnight	Midday	Overnight	Midday	Overnight	Midday	Overnight
Capacity								
Existing Capacity	3,801	4,257	3,865	4,062	2,151	2,376	9,817	10,695
Net Change in No Action Parking Supply[1]	0	0	(2)	(2)	(20)	(6)	(22)	(8)
Total No Action Capacity	3,801	4,257	3,863	4,060	2,131	2,370	9,795	10,687
Demand								
Existing Demand[2]	3,382	3,557	3,387	3,421	1,953	1,922	8,722	8,900
Demand From Background Growth[3]	64	67	64	65	37	36	165	168
Off-Street Public Parking Deficit	0 [4]	0 [4]	60	0 [4]	709	787	526	0 [4]
Total No Action Demand	3,446	3,624	3,511	3,486	2,699	2,745	9,413	9,068
Utilization								
No Action Utilization	91%	85%	91%	86%	127%	116%	96%	85%
No Action On-Street Parking Surplus/(Deficit)	355	633	352	574	(568)	(375)	382	1,619

Notes:
[1] Reflects changes in curbside parking regulations associated with DOT initiatives and mitigation measures for No Action developments.
[2] Based on June 2016, September 2016, and January 2017 PHA field surveys. Excludes authorized vehicle parking.
[3] Reflects annual background growth rates of 0.25 percent per year for the 2017 through 2022 period and 0.125 percent for the 2022 through 2027 period.
[4] There would be off-street public parking capacity surpluses of 243 spaces in the midday and 1,053 spaces overnight in Sub-Area A, 212 spaces overnight in Sub-Area B, and 478 spaces overnight in the overall study area.

Table 14-61 shows the hourly net incremental change in parking demand for each land use under the Proposed Actions compared to the No Action condition. The forecast of parking demand generated by the residential component of the Proposed Actions' RWCDS is based on 2010-2014 5-year ACS data on average vehicles per household for Manhattan Census Tracts 291, 293, 295, 299, 303, and 307 which encompass the Project Area. Parking demands from all other uses are derived from the forecasts of daily auto trips from these uses.

Table 14-61
With Action RWCDS Net Incremental
Weekday Hourly Parking Demand by Land Use

	Local Retail (a)	Office (a)	Residential (a,c)	Hotel (b,d)	Light Industrial (b)	Restaurant (e)	Auto Repair (b)	Destination Retail (a)	Supermarket (b,f)	Laboratory Space (g)	Medical Office Visitors (h)	Medical Office Staff (h)	Total Demand
12-1 AM	0	0	668	-33	0	0	0	0	0	0	0	0	635
1-2	0	0	668	-33	0	0	0	0	0	0	0	0	635
2-3	0	0	668	-33	0	0	0	0	0	0	0	0	635
3-4	0	0	668	-33	0	0	0	0	0	0	0	0	635
4-5	0	0	668	-33	0	0	0	0	0	0	0	0	635
5-6	0	0	646	-33	0	0	0	0	0	0	0	1	614
6-7	0	2	607	-32	0	0	0	0	0	0	0	3	580
7-8	0	19	568	-31	1	0	-1	1	3	1	14	9	584
8-9	0	86	435	-29	4	0	-6	5	3	10	38	48	594
9-10	0	129	418	-26	8	1	-17	13	3	16	70	57	672
10-11	6	124	396	-23	7	7	-18	22	3	17	98	58	697
11-12	0	109	383	-21	8	13	-14	26	5	16	105	58	688
12-1 PM	0	109	386	-29	8	13	-14	30	3	16	105	58	685
1-2	-2	110	387	-27	7	14	-7	32	2	16	105	58	695
2-3	-4	116	396	-26	6	7	-9	31	3	18	100	57	695
3-4	-3	118	422	-28	5	6	-9	28	3	17	88	56	703
4-5	5	90	472	-27	4	4	-3	26	3	12	70	46	702
5-6	3	35	549	-31	0	7	-3	23	3	3	61	7	657
6-7	1	15	592	-31	0	13	-1	23	2	0	37	0	651
7-8	-1	1	630	-31	0	10	0	21	1	0	14	0	645
8-9	0	0	657	-33	0	4	0	15	0	0	4	0	647
9-10	0	0	657	-33	0	1	0	5	0	0	0	0	630
10-11	0	0	663	-33	0	0	0	1	0	0	0	0	631
11-12	0	0	664	-33	0	0	0	0	0	0	0	0	631

Notes:
(a) Parking accumulation pattern based on data from the 2012 *West Harlem Rezoning FEIS*.
(b) Parking accumulation pattern based on data from the 2016 *East New York Rezoning FEIS*.
(c) Assumes 0.19 spaces/D.U. derived from average 2011-2015 ACS Tenure by Vehicles Available data for project area census tracts.
(d) 0.4 spaces/room based on data from the 2008 *East 125th Street Development FEIS.*
(e) Parking accumulation pattern based on data from the 2015 *Vanderbilt Corridor and One Vanderbilt FEIS*.
(f) Parking accumulation pattern based on data from the 2009 *Food Retail Expansion to Support Health (FRESH) Food Store Program*.
(g) Parking accumulation pattern for light industrial use assumed for laboratory space.
(h) Parking accumulation pattern based on data from 2014 *New York Methodist Hospital Center for Community Health EAS.*

As shown in **Table 14-61**, parking demand generated by the various commercial, retail, and community facility uses that would be developed under the Proposed Actions would typically peak during the midday hour, whereas residential parking demand would typically peak during the overnight period. The net decreases in local retail, hotel, and auto repair parking demand shown in **Table 14-61** reflect net reductions in these land uses within the Project Area under the With Action RWCDS. Overall, development associated with the Proposed Actions would generate a peak net parking demand of approximately 695 spaces in the weekday midday (1-2 p.m.) period and 635 spaces in the overnight period. Demand would peak at 703 spaces between 3 p.m. and 4 p.m. These net totals should be considered conservative as they do not reflect any credit for parking demand from existing uses on projected development sites that would be eliminated under the With Action RWCDS.

Under the With Action RWCDS, it is assumed that up to 341 accessory parking spaces would be provided on projected development sites compared to an estimated 224 accessory spaces in the No Action condition. For those sites with accessory parking, it is conservatively assumed that up to 30 percent of new residential development would be designated as affordable and would not include accessory parking.

After accounting for new parking demand and the number of accessory spaces provided on a site-by-site basis under the RWCDS (see **Table E-5** in **Appendix E**), it is estimated that

compared to the No Action condition, incremental parking demand from new development associated with the Proposed Actions would total approximately 448 spaces at off-street public parking facilities and on-street in the weekday midday period and 410 spaces during the overnight period.

OFF-STREET PARKING

A comparison of estimated No Action and With Action parking demand and capacity at study area off-street public parking facilities is provided in **Table 14-62**. Under the With Action RWCDS, two existing public parking facilities with a total licensed capacity of 110 spaces located on projected development sites would be displaced, and no new public parking capacity would be provided on any projected development site.

Table 14-62
With Action Off-Street Public Parking Capacity, Demand and Utilization within ¼-Mile of Projected Development Sites

	Sub-Area A		Sub-Area B		Sub-Area C		Total Study Area	
	Midday	Overnight[3]	Midday	Overnight[3]	Midday	Overnight[3]	Midday	Overnight[3]
Capacity								
No Action Capacity	2,062	1,764	662	662	255	255	2,979	2,681
Capacity Displaced by With Action Development[1]	0	0	(108)	(108)	0	0	(108)	(108)
Total With Action Capacity	2,062	1,764	554	554	255	255	2,871	2,573
Demand								
No Action Demand	1,819	711	722	450	964	1,042	3,505	2,203
Incremental Demand from With Action Developments[2]	125	124	174	240	149	46	448	410
Total With Action Demand	1,944	835	896	690	1,113	1,088	3,953	2,613
Utilization								
With Action Utilization	94%	47%	162%	125%	436%	427%	138%	102%
With Action Off-Street Parking Surplus/(Deficit)	118	929	(342)	(136)	(858)	(833)	(1,082)	(40)

Notes:
[1] Reflects displacement of existing public parking facilities on projected developments sites 6 and 7 (facilities 15 and 14 in **Table 14-57**) under the Proposed Actions. Numbers shown represent 98 percent of the licensed capacity (110 spaces).
[2] Includes demand not otherwise accommodated in on-site accessory parking. The numbers reflect the net incremental change compared to the No Action RWCDS.
[3] Existing public parking facilities Nos. 1, 7, and 9 in **Table 14-57** are closed overnight.

As shown in **Table 14-62**, compared to the No Action RWCDS, development associated with Proposed Actions would result in a demand for 448 more off-street public parking spaces within

the overall parking study area in the weekday midday period and 410 more spaces during the overnight period. Demand for off-street public parking in the study area would total approximately 3,953 spaces in the weekday midday, and 2,613 spaces during the overnight period.

As shown in **Table 14-62**, after accounting for No Action capacity displaced from projected development sites, off-street public parking in the overall study area would be operating at approximately 138 percent of capacity with a deficit of 1,082 spaces in the weekday midday, and at 102 percent of capacity with a deficit of 40 spaces during the overnight period. The greatest parking deficit would occur in Sub-Area C where there would be a shortfall of 858 spaces in the midday and 833 spaces in the overnight period. Sub-Area B would experience shortfalls of 342 spaces in the midday and 136 spaces in the overnight period, while Sub-Area A would have surpluses of 118 spaces and 929 spaces during these same periods, respectively.

As discussed in Section F, "Transportation Analysis Methodologies," in this area of Manhattan the inability of a proposed action or the surrounding area to accommodate future parking demands would be considered a parking shortfall, but would generally not be considered significant under *CEQR Technical Manual* guidelines due to the magnitude of available alternative modes of transportation. The shortfalls in off-street public parking spaces in the overall study area and sub-areas B and C during the weekday midday and overnight periods under the Proposed Actions would therefore not be considered a significant adverse parking impact. The ability of the on-street parking supply to accommodate this excess demand is assessed below.

ON-STREET PARKING

As shown in **Table 14-63**, compared to the No Action RWCDS, development associated with the Proposed Actions and the displacement of 110 parking spaces in two existing public parking facilities on projected development sites would result in a net increase in study area on-street parking demand of approximately 556 spaces in the weekday midday period and 40 spaces in the overnight period. On-street parking demand within the overall study area would therefore total approximately 9,969 spaces in the weekday midday and 9,108 spaces overnight. Utilization would increase from 96 percent of capacity in the No Action condition to 102 percent with the Proposed Actions in the midday period, and remain essentially unchanged at 85 percent of capacity in the overnight period. There would be a deficit of approximately 174 on-street parking spaces within the overall study area in the midday period, while approximately 1,579 on-street spaces would remain available during the overnight period.

On-street parking utilization within parking Sub-Area A would remain essentially unchanged at 91 percent of capacity in the midday and 85 percent of capacity in the overnight period. Utilization within Sub-Area B would increase from 91 percent to 98 percent in the midday, and from 86 percent to 89 percent in the overnight period, while demand within Sub-Area C would increase from 127 percent of capacity to 134 percent in the midday and from 116 percent to 118 percent in the overnight period. A total of 355 and 633 on-street parking spaces would remain available in Sub-Area A in the midday and overnight periods, respectively, and 70 and 438 spaces, respectively in Sub-Area B. By contrast, Sub-Area C would experience on-street parking deficits of 717 spaces in the midday and 421 spaces overnight in the With Action condition.

Table 14-63
With Action On-Street Parking Capacity, Demand and Utilization within ¼-Mile of Projected Development Sites

	Sub-Area A		Sub-Area B		Sub-Area C		Overall Study Area	
	Weekday Midday	Overnight	Weekday Midday	Overnight	Weekday Midday	Overnight	Weekday Midday	Overnight
Capacity								
Total With Action Capacity[1]	3,801	4,257	3,863	4,060	2,131	2,370	9,795	10,687
Demand								
No Action Demand	3,466	3,624	3,511	3,486	2,699	2,745	9,413	9,068
Incremental Demand From Proposed Actions[2]	0 [3]	0 [3]	282	136	149	46	556	40
Total With Action Demand	3,466	3,624	3,793	3,622	2,848	2,791	9,969	9,108
Utilization								
With Action Utilization	91%	85%	98%	89%	134%	118%	102%	85%
With Action On-Street Parking Surplus/(Deficit)	355	633	70	438	(717)	(421)	(174)	1,579

Notes:
[1] There would be no change to the No Action on-street parking supply as a result of the Proposed Actions.
[2] Includes demand from With Action developments on projected development sites not otherwise accommodated by on-site accessory parking or in off-street public parking facilities, and demand displaced from existing public parking facilities on projected development sites.
[3] There would be off-street public parking capacity surpluses of 118 spaces in the midday and 929 spaces overnight in Sub-Area A. These off-street parking surpluses are rounded to zero when determining on-street parking demand.

In summary, in the future with the Proposed Actions there would be a deficit of approximately 174 spaces of on-street and off-street public parking capacity within ¼-mile of projected development sites in the weekday midday period, while approximately 1,579 on-street spaces would remain available during the overnight period. The deficit in the midday period would reflect project demand not otherwise accommodated in accessory or off-street public parking facilities as well as demand displaced from existing parking facilities on projected development sites. The greatest parking shortfalls would occur in the northern half of the Project Area as this is where much of the new incremental demand would be concentrated and where most of the existing parking capacity that would be displaced under the RWCDS is located. While some drivers destined for the Project Area would potentially have to travel a greater distance (e.g., between ¼ and ½ mile) to find available parking in the midday, this shortfall would not be considered a significant adverse impact based on *CEQR Technical Manual* criteria due to the magnitude of available alternative modes of transportation. Therefore, the Proposed Actions are not expected to result in significant adverse parking impacts during the weekday midday peak period for commercial and retail parking demand, nor during the overnight peak period for residential demand.

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