Chapter 17: Traffic and Parking

A. INTRODUCTION

This chapter describes the existing traffic and parking characteristics of the study area, conditions projected in the Future without the Proposed Actions, conditions following implementation of the Proposed Actions, and identification of any associated impacts. As described in Chapter 1, "Project Description," the Proposed Actions would result in a mixed-use development on the Development Site and in residential development at two the Additional Housing Sites.

The chapter describes existing (2008) and projected (2017, 2019) traffic and parking conditions in the traffic and parking study areas with and without the Proposed Actions. An assessment of the Proposed Actions' potential traffic impacts for a 2017 interim year of development was undertaken for the purposes of determining: (1) whether any significant adverse impact identified with the completion of the Proposed Actions in 2019 would occur prior to the project's completion; (2) the availability and feasibility of mitigation measures for any significant adverse impact projected to occur in 2017; and (3) the potential for any significant adverse impact to occur in 2017 that would be eliminated by the completion of the full development program for the Proposed Actions. In addition, an examination was undertaken to determine whether any significant adverse environmental impact identified in 2017 would occur in an earlier year. Temporary impacts and street and roadway conditions that could occur during construction resulting from the Proposed Actions are presented in Chapter 21, "Construction Impacts."

PRINCIPAL CONCLUSIONS

The Proposed Actions would include substantial commercial and residential development on the Development Site, resulting in an increase in the number of vehicle trips into and out of the Development Site study area. Although anticipated development of the Additional Housing Sites would generate a minimal volume of additional vehicle trips, the number of vehicle trips that would be cumulatively generated by the Development Site and Additional Housing Sites forms the basis of the traffic impact evaluation within the traffic study area, which extends from West 23rd Street to West 54th Street and from Twelfth Avenue east to Broadway. Within this study area, 112 intersections were selected for detailed traffic impact analysis, consisting of 109 signalized and three unsignalized intersections. These intersections were analyzed for weekday AM weekday midday, weekday PM, and Saturday midday peak hour conditions. Due to the remoteness of the Additional Housing Sites from the Development Site and the minimal off-site parking demand that they would generate, the parking study area was focused within one-half mile of the Development Site.

Existing conditions traffic analysis indicated that although most intersections in the traffic study area operate at overall acceptable levels during the four analysis peak hours, individual approach movements at numerous intersections operate at mid-Level of Service (LOS) D or worse.

Specifically, 62 approach movements at 38 intersections operate at mid-LOS D, LOS E or LOS F in the AM peak hour; 37 approach movements at 32 intersections operate at mid-LOS D, LOS E or LOS F in the midday peak hour; 90 approach movements at 59 intersections operate at mid-LOS D, LOS E or LOS F in the PM peak hour; and 34 approach movements at 27 intersections operate at mid-LOS D, LOS E or LOS F in the Saturday midday peak hour. Little on-street parking is available weekdays in the parking study area, with most parking supply restricted to commercial vehicles and the few unrestricted spaces are fully utilized. Off-street parking surveys indicated a midday weekday off-street utilization rate of 79 percent with approximately 1,100 spaces available and a weekday overnight utilization rate of 37 percent with approximately 2,350 spaces available.

Significant levels of development were assumed within and in the area surrounding the traffic study area for analysis of the Future without the Proposed Actions condition. Vehicle trips generated by this development would result in a substantial deterioration in traffic operations from existing 2008 conditions to the 2019 full Build analysis year, with similar conditions projected for the 2017 interim analysis year. For example, in the weekday PM peak hour, the most congested condition in the study area, the number of intersection approach movements that would operate at mid-LOS D or worse would deteriorate from the 90 approach movements at 59 intersections indicated above for existing conditions to 143 approach movements at 84 intersections that would operate at mid-LOS D, LOS E or LOS F in the traffic study area under the 2019 Future without the Proposed Actions condition. Off-street parking demand would also increase significantly in the parking study area in the Future without the Proposed Actions condition. Off-street parking demand is projected to increase to 134 percent of supply during the weekday midday in 2019, but it is estimated that over 1,100 overnight spaces would be available. Interim year 2017 conditions would be similar.

For the Future with the Proposed Actions condition, the worst-case development scenario at the Development Site was analyzed for each traffic and parking analysis time period. Although traffic volumes generated by the Proposed Actions would cause further deterioration in traffic operations, the number of intersection approach movements that would operate at mid-LOS D or worse would not substantially increase. For example, in the weekday 2019 PM peak hour, the number of intersection approach movements that would operate at LOS E or LOS F is projected to increase from 130 intersection approach movements to 140 intersection approach movements with a slight reduction in the number of approach movements projected to operate in mid-LOS D. The 2017 Future with the Proposed Actions condition would be essentially the same with 138 intersection approach movements projected to operate in LOS E or F, as compared to 129 approach movements projected to operate at these levels in the 2017 Future without the Proposed Actions condition.

Under the 2019 Future with the Proposed Actions condition, significant adverse traffic impacts were identified for 81 intersection approaches at 64 intersections during the weekday AM peak hour, 75 approach movements at 60 intersections during the weekday midday peak hour, 96 approach movements at 75 intersections during the weekday PM peak hour, and 51 approach movements at 47 intersections during the Saturday midday peak hour. Under the 2017 Future with the Proposed Actions condition, significant adverse impacts were identified at 70 approach movements at 59 intersections during the weekday AM peak hour, 64 approach movements at 51 intersections during the weekday midday peak hour, 88 approach movements at 72 intersections during the weekday PM peak hour, and 42 approach movements at 41 intersections during the Saturday midday peak hour. In nearly all cases, the intersection approach movements on which a

significant adverse traffic impact would occur in 2017 would also a have significant adverse traffic impact in 2019.

The Proposed Actions would further exacerbate the weekday midday off-street parking shortfall in the parking study area, but not substantially. It is assumed that 1,600 accessory parking spaces would be provided at the Development Site, but the parking analysis indicated that this supply would not accommodate all the parking demand generated by the Proposed Actions during the weekday midday time period. However, it is expected that the available off-street parking supply would be able to accommodate the expected increase in overnight demand for all scenarios of the Proposed Actions in both 2017 and 2019. The reasonable worst-case development scenario would increase weekday midday off-site parking demand by approximately 320 spaces above 2019 demand levels in the Future without the Proposed Actions with the off-street utilization rate increasing from 134 percent to 139 percent of parking supply. Interim year 2017 weekday midday conditions would be slightly worse due to the assumption that only 850 of the 1,600 accessory spaces would be available in 2017 with a worst case off-site weekday demand of approximately 460 parking spaces. However, according to the *CEQR Technical Manual*, for proposed actions within the Manhattan Business District (defined as the area south of 61st Street), the inability of a proposed action or the surrounding area to accommodate projected future parking demands would be considered a parking shortfall, but is not deemed to be a significant adverse impact. The unsatisfied demand for parking spaces during the midday peak utilization period would result in vehicles parking outside of the parking study area and motorists walking greater distances to their destinations. As parking shortfalls do not constitute significant adverse impacts for CEQR purposes, mitigation is not required.

B. METHODOLOGY

The traffic and parking analyses provide an assessment of the impact of vehicular (auto, taxi, bus, and truck) trips generated by the Proposed Actions on traffic conditions and the effect of parking demand related to the Proposed Actions on available parking supply. As the Proposed Actions would be developed over a period of time, the traffic and parking analyses examine conditions in two analysis years—2019 as the Build year for complete development of the project sites and 2017 as an interim Build year for partial development of the sites. For the traffic and parking analyses in this chapter, the findings of the 2019 Build year analysis will be discussed in detail first, followed by the results of the 2017 interim Build year analysis.

The traffic analyses use the Maximum Commercial Scenario of the Development Site as the reasonable worst-case development scenario for the weekday analyses and the Maximum Residential Scenario-Hotel Option as the reasonable worst-case development scenario for the Saturday analysis combined with the projected development assumption for each of the Additional Housing Sites. As discussed later in this chapter, the Maximum Commercial Scenario would typically generate a higher level of travel demand during the weekday peak hours compared to both the Maximum Residential Scenario-Office Option and the Maximum Residential Scenario-Hotel Option. During the Saturday midday peak hour, the Maximum Residential Scenario options would generate more trips compared to the Maximum Commercial Scenario as a result of their larger residential components. Between the Maximum Residential Scenario options, the hotel option would generate more trips compared to the office option on a Saturday. As the comparative levels of parking demand generated by the development scenarios would exhibit greater fluctuation depending on the analysis period, the parking analyses examine conditions for all of the development scenarios.

According to the *City Environmental Quality Review (CEQR) Technical Manual*, actions proposed below 60th Street in Manhattan that would result in more than 240 residential dwelling units or 115,000 gross square feet (gsf) of office development require a traffic analysis. As the Proposed Actions include development above these thresholds, a complete traffic analysis has been prepared. This section describes the traffic and parking analysis methodologies employed, including selection of analysis hours and locations, data collection, and assumptions.

STUDY AREA

CEQR Technical Manual guidelines suggest that intersections through which 50 or more project-generated vehicles may be expected to travel during peak periods should be analyzed as the basis for determining project impacts. To identify the scale of the traffic study area and proposed traffic analysis locations, project-generated weekday vehicle trips were assigned to the Manhattan roadway network and the projected number of project-generated vehicle trips that would travel through each intersection was summarized for reasonable worst-case conditions. Specific traffic study locations were then selected through coordination with the New York City Departments of City Planning and Transportation (DCP and NYCDOT).

The traffic study area, identified in Figure 17-1, extends south from the Development Site to West 23rd Street and north to West 54th Street, including intersections in the vicinity of the Additional Housing Sites on Ninth and Tenth Avenues. In the westerly direction, the study area is bounded by Twelfth Avenue, while in the easterly direction it extends east to Broadway. Within this study area, 112 intersections were selected for detailed traffic impact analysis, consisting of 109 signalized and three unsignalized intersections. Outside of the study area, project-generated traffic would be substantially dispersed and traffic related impacts would be unlikely to occur.

PEAK HOURS FOR ANALYSIS

Hour-by-hour estimates of the vehicular trips likely to be generated by the Proposed Actions indicate that trip generation would be greatest in the traditional weekday AM, midday, and PM peak traffic hours: 8 to 9 AM; Noon to 1 PM; and 5 to 6 PM. These hours, therefore, were selected for analysis of weekday traffic conditions. Weekend vehicular activity expected to be generated by the Proposed Actions, while less peaked and lower in total volume than weekday trip generation, could result in traffic impacts as well. For this reason, the Saturday midday 1 to 2 PM period was also selected for analysis.

CAPACITY ANALYSIS

Capacity analyses of conditions at the study area intersections were performed in accordance with the methodology presented in the *Highway Capacity Manual* (*HCM*). Traffic data required for these analyses include turning movement volumes and other physical and operational elements. Official traffic signal timings were provided by NYCDOT for use in the signalized intersection analyses. Field inventories were conducted to document curbside parking regulations, lane usage and other physical characteristics needed as input to the analysis.

For signalized intersections, the *HCM* methodology provides a volume-to-capacity (v/c) ratio for each approach. A v/c ratio of 0.95 to 1.0 indicates near-capacity conditions, with potentially substantial delays. V/c ratios greater than 1.05 indicate saturated conditions with significant queues. The *HCM* also characterizes level of service (LOS), a qualitative measure of the delay



Project Sites

Analysis Intersection (Signalized)

Analysis Intersection (Unsignalized)

Traffic Study Area
Figure 17-1

typically experienced by drivers at an intersection. LOS ranges from LOS A (average delays per vehicle of 10 seconds or less) to LOS F (80 seconds or more average delay per vehicle).

At unsignalized intersections, the *HCM* assumes that major street traffic is unaffected by minor street demand. Left turns from the major street are assumed to be affected by the opposing traffic, if any while minor (or stop sign-controlled) street traffic is affected by all conflicting movements. The *HCM* methodology characterizes level of service on the basis of the delay experienced by minor street traffic, but employs different threshold delay values.

Table 17-1 provides the LOS/delay relationship for signalized and unsignalized intersections based on *HCM* methodology. LOS A, B, and C represent favorable to fair conditions, while at LOS D flow is impeded and delays become noticeable. LOS E represents the limit of acceptable delay, while LOS F is unacceptable to most drivers with delays exceeding 80 seconds.

Table 17-1
Roadway Level of Service (LOS) Criteria

Level of Service	Average Delay per Vehicle (Seconds)	
	Signalized Intersections	Unsignalized Intersections
A	Less than 10.1	Less than 10.1
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	Greater than 80.0	Greater than 50.0

TRANSPORTATION PLANNING FACTORS

Both the Maximum Commercial Scenario and Maximum Residential Scenario-Hotel Option would contain residences, retail space and a public school, and either office or hotel space. Table 17-2 compares the project components in each development scenario on the Development Site for 2019 and 2017. For the retail space, 80 percent is projected to be local retail (attracting trips from the surrounding neighborhood) and 20 percent is projected to be destination retail (attracting trips from a wider geographic area). As shown in Table 17-2, while there would be fewer dwelling units and less retail space in 2017 compared to 2019, there would be no change in the amount of office, hotel, or public school space between 2017 and 2019.

In addition to the development on the Development Site, the Proposed Actions would include the development of two Additional Housing Sites. The Ninth Avenue Site would be completed by 2017 and include approximately 108 dwelling units, 30,000 gross square feet (gsf) of office space used as a training facility by the Metropolitan Transportation Authority (MTA), and 6,750 gsf of local retail. The Tenth Avenue Site would be completed by 2019 and include approximately 204 dwelling units and 10,800 gsf of local retail. Although these sites would generate fewer than 50 peak hour vehicle strips, for conservative purposes the traffic analyses considered the cumulative effect of projected-generated trips from both the Development Site and the Additional Housing Sites.

Table 17-2
Reasonable Worst-Case Development Scenarios for the Development Site

Project Component	Maximum Residential Scenarios		Maximum Commercial Scenario
	Office Option	Hotel Option	
2019 Analysis Year			
Residential	5,347 units	5,762 units	4,624 units
Office	1,495,000 gsf	0 gsf	2,185,000 gsf
Hotel	0 gsf	1,200 rooms	0 gsf
Local Retail	176,400 gsf	168,000 gsf	176,400 gsf
Destination Retail	44,100 gsf	42,000 gsf	44,100 gsf
Public School	120,000 gsf	120,000 gsf	120,000 gsf
2017 Analysis Year			
Residential	1,948 units	1,948 units	1,896 units
Office	1,495,000 gsf	0 gsf	2,185,000 gsf
Hotel	0 gsf	1,200 rooms	0 gsf
Local Retail	130,200 gsf	121,800 gsf	130,200 gsf
Destination Retail	32,550 gsf	30,450 gsf	32,550 gsf
Retail	162,750 gsf	152,250 gsf	162,750 gsf
Public School	120,000 gsf	120,000 gsf	120,000 gsf

Table 17-3 summarizes the transportation planning factors used to forecast travel demand for the various project components. The trip generation rates, temporal distributions, in/out splits, modal splits, and vehicle occupancy rates were based on: (1) accepted *CEQR Technical Manual* criteria; (2) rates that were developed for the *No. 7 Subway Extension–Hudson Yards Rezoning and Development Program Final Generic Environmental Impact Statement ("Hudson Yards FGEIS")*, updated where appropriate with 2000 Census journey-to-work and reverse journey-to-work data for census tracts in the study area; (3) factors developed for other EISs for similar development proposals in Manhattan as well as other New York City boroughs with similar levels of transit access; and (4) standard professional references.

The background growth in the demand for parking applied for the study area, i.e., the growth in parking demand independent of specific development projects expected to be completed in the future in the study area, is consistent with that developed and applied for the *Hudson Yards FGEIS.* Further details on the process used to select trip generation rates are presented in Appendix E, "Transportation Technical Memos and Analyses."

Table 17-3
Transportation Planning Assumptions

Land Use:	Residential		Office		Local Retail		Destination Retail	
Trip Generation:	(1)	(2)	(6)	(8)	(10,11)	(12,11)	(6) (11)	(13) (11)
	Weekday	**Saturday**	**Weekday**	**Saturday**	**Weekday**	**Saturday**	**Weekday**	**Saturday**
Daily Person Trips	8.075	9.57	18.0	3.87	205	240	159	185
Net Daily Person Trips	8.075	9.57	18.0	3.87	154	180	119	139
	per dwelling unit		per 1,000 gsf		per 1,000 gsf		per 1,000 gsf	
Temporal Distribution:	(1,3)		(1,14)		(6,7)		(6,13)	
AM (8-9)	9.1%		11.8%		3.1%		0.0%	
MD (12-1)	4.7%		15.0%		19.0%		9.5%	
PM (5-6)	10.7%		13.7%		9.6%		9.8%	
SAT (1-2)	7.0%		15.0%		9.5%		9.9%	
In/Out Splits:	(1,3)		(1,14)		(6)		(6,13)	
	In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
AM (8-9)	15%	85%	96%	4%	50%	50%	0%	0%
MD (12-1)	50%	50%	48%	52%	50%	50%	55%	45%
PM (5-6)	70%	30%	5%	95%	50%	50%	47%	53%
SAT (1-2)	50%	50%	57%	43%	50%	50%	52%	48%
Modal Splits:	(4)		(9)	(6)	(6)		(3,6)	
	All		**AM/PM**	**MD/SAT**	**All**		**PM**	**MD/SAT**
Auto	6.6%		9.9%	2.0%	2.0%		9.0%	9.0%
Taxi	6.5%		2.4%	3.0%	3.0%		4.0%	4.0%
Bus	5.8%		15.8%	6.0%	6.0%		8.0%	8.0%
Subway	37.5%		43.7%	6.0%	6.0%		26.5%	20.0%
Railroad	2.0%		20.1%	0.0%	0.0%		2.0%	0.0%
Walk	40.3%		7.2%	83.0%	83.0%		50.5%	59.0%
Other	1.3%		0.3%	0.0%	0.0%		0.0%	0.0%
Work at Home	0.0%		0.6%	0.0%	0.0%		0.0%	0.0%
	100.0%		100.0%	100.0%	100.0%		100.0%	100.0%
Vehicle Occupancy:	(6)		(6)		(6)		(6)	
Auto	1.65		1.65		1.65		2.00	
Taxi	1.40		1.40		1.40		2.00	
Truck Trip Generation:	(6)	(7)	(6)	(7)	(6)	(7)	(6)	(15)
	Weekday	**Saturday**	**Weekday**	**Saturday**	**Weekday**	**Saturday**	**Weekday**	**Saturday**
	0.03	0.01	0.16	0.01	0.35	0.02	0.35	0.02
	per dwelling unit		per 1,000 gsf		per 1,000 gsf		per 1,000 gsf	
	(6,7)		(7)		(6,7)		(6,15)	
AM (8-9)	12.2%		7.0%		7.7%		7.7%	
MD (12-1)	8.7%		7.0%		11.0%		11.0%	
PM (5-6)	2.0%		3.0%		1.0%		1.0%	
SAT (1-2)	9.0%		11.0%		11.0%		11.0%	
	In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Sources:

1 Pushkarev & Zupan, "Urban Space for Pedestrians," 1975.
2 ITE Trip Generation, 7th Edition, Land Use Code 220: High Rise Apartment Ratio of Weekday to Saturday Trip Generation Rates
3 Farley/Moynihan West FEIS, 2006, Table 13-1
4 *Hudson Yards FGEIS*, Appendix S-1 Based Upon 2000 US Census Journey-to-Work "Residence of Worker" data
5 Assumes approximately 8.3 students per staff based upon *Hudson Yards FGEIS*, Appendix S-1*
6 No. 7 Subway Extension - Hudson Yards Rezoning and Development Program FGEIS, 2004.
7 Atlantic Yards and Arena Redevelopment FEIS, 2006
8 ITE Trip Generation, 7th Edition, Land Use Code 710: General Office Building Ratio of Weekday to Saturday Trip Generation Rates
9 *Hudson Yards FGEIS*, Appendix S-1 Updated by NYCDCP, NYCDOT and NYCT Working Group
10 City Environmental Quality Review (CEQR) Technical Manual, Appendix 3, 2001
11 Assumes 25% linked trips for retail uses as per No. 7 Subway Extension - Hudson Yards Rezoning and Development Program FGEIS, 2004.
12 ITE Trip Generation, 7th Edition, Land Use Code 851: Convenience Retail Ratio of Weekday to Saturday Trip Generation Rates
13 ITE Trip Generation, 7th Edition, Land Use Code 820: Shopping Center Ratio of Weekday to Saturday Trip Generation Rates Directional distribution based upon Saturday peak hour of the generator
14 ITE Trip Generation, 7th Edition, Land Use Code 710: General Office Building Ratio of Saturday Peak Hour Trip Generation Rate to Saturday Daily Rate. Directional distribution based upon Saturday peak hour of the generator
15 Assumes same Saturday truck trip generation rate as local retail.
16 Hotel Saturday trip generation rate assumed same as weekday as per NYCDOT 3-14-08*
17 Survey conducted as part of PS 59 Expansion, March 2007. To be used as per NYCDOT directive 11-5-08*
18 NYCDOT directive 11-5-08*
19 Curbside Pickup & Delivery Operations & Arterial Traffic Impacts, FHWA, February, 1981.*
20 Adult accompanying children walking to and from school based upon 88 per cent walk share and one parent per two children*
21 Adopted and modified from PS/IS at 268-284 Dyckman Street, Manhattan, 2004*
22 As per the *Hudson Yards FGEIS*, for hotels adjacent to the Jacob K. Javits Convention Center, 2 daily person trips per room are assumed to be linked walk trips between the Convention Center and the hotel.*

* Source indicator found in Table 17-3 (cont'd) on following page

Table 17-3 (cont'd)
Transportation Planning Assumptions

Land Use:	Hotel		Elementary School (Students)		Elementary School (Parents)		Intermediate School (Students)		School (Staff)	
Trip Generation:	(6,16,22)		(17)		(6, 20)		(21)		(5, 6)	
	Weekday	**Saturday**	**Weekday**	**Saturday**	**Weekday**	**Saturday**	**Weekday**	**Saturday**	**Weekday**	**Saturday**
Daily Person Trips	9.42	9.42	2	0.0	1.8	0.0	2	0.0	2.0	0.0
Net Daily Person Trips	7.42	7.42	2	0.0	1.8	0.0	2	0.0	2.0	0.0
	per room		per student		per student		per student		per employee	
Temporal Distribution:	(3,6)		(6)		(6)		(6)		(6)	
AM (8-9)	7.5%		50.0%		50.0%		50.0%		5.0%	
MD (12-1)	14.4%		0.0%		0.0%		0.0%		0.0%	
PM (5-6)	12.8%		2.5%		2.5%		2.5%		2.5%	
SAT (1-2)	7.5%		0.0%		0.0%		0.0%		0.0%	
In/Out Splits:	(3,6)		(6)		(6)		(6)		(6)	
	In	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
AM (8-9)	39%	61%	100%	0%	100%	100%	100%	0%	100%	0%
MD (12-1)	54%	46%	50%	50%	100%	100%	50%	50%	50%	50%
PM (5-6)	65%	35%	0%	100%	100%	100%	0%	100%	0%	100%
SAT (1-2)	56%	44%	0%	0%	0%	0%	0%	0%	0%	0%
Modal Splits:	(3,6)	(6)	(17)		(6)		(21)		(9)	(6)
	AM/PM/SAT	**MIDDAY**	**AM/MD/PM**		**AM/MD/PM**		**AM/MD/PM**		**AM/PM**	**MIDDAY**
Auto	9.0%	8.0%	6.2%		0%		0%		9.9%	2.0%
Taxi	18.0%	15.0%	1.7%		0%		0%		2.4%	3.0%
Bus	3.0%	3.0%	0.0%		0%		40%		15.8%	6.0%
Subway	24.0%	13.0%	0.0%		0%		15%		43.7%	6.0%
Railroad	0.0%	0.0%	0.0%		0%		0%		20.1%	0.0%
Walk	46.0%	61.0%	88.2%		100.0%		45.0%		7.2%	83.0%
Other (School Bus)	0.0%	0.0%	3.9%		0.0%		0.0%		0.9%	0.0%
Work at Home	0.0%	0.0%	0.0%		0.0%		0.0%		0.0%	0.0%
	100.0%	100.0%	100.0%		100.0%		100.0%		100.0%	100.0%
Vehicle Occupancy:	(6)		(17,18)						(17)	
Auto	1.40		1.74		NA		NA		1.20	
Taxi	1.80		1.40		NA		NA		1.40	
Truck Trip Generation:	(6)	(19)							(6)	
	Weekday	**Saturday**							**Weekday**	**Saturday**
	0.06	0.01							0.03	0.00
	per 1,000 gsf								per 1,000 gsf	
	(6,19)								(6)	
AM (8-9)	12.2%								9.6%	
MD (12-1)	8.7%								11.0%	
PM (5-6)	1.0%								1.0%	
SAT (1-2)	9.0%								0.0%	
	In	**Out**							**In**	**Out**
	50.0%	50.0%							50.0%	50.0%

Sources:

1 Pushkarev & Zupan, "Urban Space for Pedestrians," 1975.
2 ITE Trip Generation, 7th Edition, Land Use Code 220: High Rise Apartment Ratio of Weekday to Saturday Trip Generation Rates
3 Farley/Moynihan West FEIS, 2006, Table 13-1
4 *Hudson Yards FGEIS*, Appendix S-1 Based Upon 2000 US Census Journey-to-Work "Residence of Worker" data
5 Assumes approximately 8.3 students per staff based upon *Hudson Yards FGEIS*, Appendix S-1
6 No. 7 Subway Extension - Hudson Yards Rezoning and Development Program FGEIS, 2004.
7 Atlantic Yards and Arena Redevelopment FEIS, 2006
8 ITE Trip Generation, 7th Edition, Land Use Code 710: General Office Building Ratio of Weekday to Saturday Trip Generation Rates
9 *Hudson Yards FGEIS*, Appendix S-1 Updated by NYCDCP, NYCDOT and NYCT Working Group
10 City Environmental Quality Review (CEQR) Technical Manual, Appendix 3, 2001
11 Assumes 25% linked trips for retail uses as per No. 7 Subway Extension - Hudson Yards Rezoning and Development Program FGEIS, 2004.
12 ITE Trip Generation, 7th Edition, Land Use Code 851: Convenience Retail Ratio of Weekday to Saturday Trip Generation Rates
13 ITE Trip Generation, 7th Edition, Land Use Code 820: Shopping Center Ratio of Weekday to Saturday Trip Generation Rates Directional distribution based upon Saturday peak hour of the generator
14 ITE Trip Generation, 7th Edition, Land Use Code 710: General Office Building Ratio of Saturday Peak Hour Trip Generation Rate to Saturday Daily Rate. Directional distribution based upon Saturday peak hour of the generator
15 Assumes same Saturday truck trip generation rate as local retail.
16 Hotel Saturday trip generation rate assumed same as weekday as per NYCDOT 3-14-08
17 Survey conducted as part of PS 59 Expansion, March 2007. To be used as per NYCDOT directive 11-5-08
18 NYCDOT directive 11-5-08
19 Curbside Pickup & Delivery Operations & Arterial Traffic Impacts, FHWA, February, 1981.
20 Adult accompanying children walking to and from school based upon 88 per cent walk share and one parent per two children
21 Adopted and modified from PS/IS at 268-284 Dyckman Street, Manhattan, 2004
22 As per the *Hudson Yards FGEIS*, for hotels adjacent to the Jacob K. Javits Convention Center, 2 daily person trips per room are assumed to be linked walk trips between the Convention Center and the hotel.

VEHICLE TRIP GENERATION

The number of peak hour vehicle trips that would be generated in 2019 by the Maximum Residential Scenario-Office Option, Maximum Residential Scenario-Hotel Option, and Maximum Commercial Scenario are summarized in Tables 17-4, 17-5, and 17-6, respectively. Table 17-7 summarizes the number of vehicle trips that would be generated by the Additional Housing Sites, both of which would be developed by 2019.

The number of peak hour vehicle trips that would be generated in 2017 by the Maximum Residential Scenario-Office Option, Maximum Residential Scenario-Hotel Option, and Maximum Commercial Scenario are summarized in Tables 17-8, 17-9, and 17-10, respectively. Only the Ninth Avenue Site would be completed by 2017 (refer to Table 17-7 for the vehicle trips generated by this site).

Table 17-11 provides a comparison of the number of vehicle trips that would be generated by each of the reasonable worst-case development scenarios in 2019 and 2017. In both analysis years, the Maximum Commercial Scenario would generate the most vehicle trips during the weekday AM, midday, and PM peak hours, while the Maximum Residential Scenario-Hotel Option would generate the most vehicle trips during the Saturday midday peak hour. The traffic analyses, therefore, assume the Maximum Commercial Scenario as the reasonable worst-case development scenario for the weekday analyses and the Maximum Residential Scenario-Hotel Option as the reasonable worst-case development scenario for the Saturday analysis.

IMPACT CRITERIA

Based on the thresholds established for signalized intersections in the *CEQR Technical Manual*, a traffic impact would occur if a No Build LOS A, B or C deteriorates to unacceptable mid-LOS D, or to a LOS E or F in the Future with the Proposed Actions conditions. The *CEQR Technical Manual* further states that for a No Build mid-LOS D, an increase of five or more seconds of delay in a lane group in the Future with the Proposed Actions condition should be considered significant. For No Build LOS E, an increase in delay of four seconds should be considered significant. For No Build LOS F, three seconds of delay should be considered significant, however, if a Future without the Proposed Actions LOS F condition already has delays in excess of 120 seconds, an increase of one second in delay should be considered significant, unless the Proposed Actions would generate fewer than five vehicles through that lane group in the peak hour. For unsignalized intersections, similar impact criteria are applicable, however for a minor street to trigger a significant impact, 90 passenger car equivalents must be identified in the Future with the Proposed Actions condition in any peak hour.

Table 17-4

Vehicle Trips Generated by Maximum Residential Scenario (Office Option) - 2019

AM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	24	10	0	27	---	61
	Out	134	10	0	155	---	299
	Total	158	20	0	182	---	360
Office	In	183	8	0	52	---	243
	Out	8	8	0	2	---	18
	Total	191	16	0	54	---	261
Local Retail	In	5	2	0	9	---	16
	Out	5	2	0	9	---	16
	Total	10	4	0	18	---	32
Destination Retail	In	0	1	0	0	---	1
	Out	0	1	0	0	---	1
	Total	0	2	0	0	---	2
Elementary School	In	15	0	2	5	---	22
	Out	15	0	2	0	---	17
	Total	30	0	4	5	---	39
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	1	0	0	0	---	1
	Out	0	0	0	0	---	0
	Total	1	0	0	0	---	1
Total Trips	In	228	21	2	93	213	464
	Out	162	21	2	166	213	398
	Total	390	42	4	259	426	862

MD

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	41	7	0	47	---	95
	Out	41	7	0	47	---	95
	Total	82	14	0	94	---	190
Office	In	23	8	0	42	---	73
	Out	25	8	0	45	---	78
	Total	48	16	0	87	---	151
Local Retail	In	31	3	0	55	---	89
	Out	31	3	0	55	---	89
	Total	62	6	0	110	---	178
Destination Retail	In	12	1	0	5	---	18
	Out	10	1	0	4	---	15
	Total	22	2	0	9	---	33
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	107	19	0	149	226	352
	Out	107	19	0	151	226	352
	Total	214	38	0	300	452	704

PM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	129	2	0	150	---	281
	Out	55	2	0	64	---	121
	Total	184	4	0	214	---	402
Office	In	11	4	0	3	---	18
	Out	210	4	0	60	---	274
	Total	221	8	0	63	---	292
Local Retail	In	16	0	0	28	---	44
	Out	16	0	0	28	---	44
	Total	32	0	0	56	---	88
Destination Retail	In	11	0	0	5	---	16
	Out	12	0	0	5	---	17
	Total	23	0	0	10	---	33
Elementary School	In	1	0	1	0	---	2
	Out	1	0	1	0	---	2
	Total	2	0	2	0	---	4
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	168	6	1	186	250	425
	Out	294	6	1	157	250	551
	Total	462	12	2	343	500	976

SAT

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	72	7	0	83	---	162
	Out	72	7	0	83	---	162
	Total	144	14	0	166	---	324
Office	In	6	1	0	11	---	18
	Out	5	1	0	8	---	14
	Total	11	2	0	19	---	32
Local Retail	In	18	3	0	32	---	53
	Out	18	3	0	32	---	53
	Total	36	6	0	64	---	106
Destination Retail	In	14	1	0	6	---	21
	Out	13	1	0	6	---	20
	Total	27	2	0	12	---	41
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	110	12	0	132	195	317
	Out	108	12	0	129	195	315
	Total	218	24	0	261	390	632

Table 17-5
Vehicle Trips Generated by Maximum Residential Scenario (Hotel Option) – 2019

AM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	25	11	0	29	---	65
	Out	144	11	0	167	---	322
	Total	169	22	0	196	---	387
Hotel	In	17	4	0	26	---	47
	Out	26	4	0	41	---	71
	Total	43	8	0	67	---	118
Local Retail	In	5	2	0	9	---	16
	Out	5	2	0	9	---	16
	Total	10	4	0	18	---	32
Destination Retail	In	0	1	0	0	---	1
	Out	0	1	0	0	---	1
	Total	0	2	0	0	---	2
Elementary School	In	15	0	2	5	---	22
	Out	15	0	2	0	---	17
	Total	30	0	4	5	---	39
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	1	0	0	0	---	1
	Out	0	0	0	0	---	0
	Total	1	0	0	0	---	1
Total Trips	In	63	18	2	69	252	335
	Out	190	18	2	217	252	462
	Total	253	36	4	286	504	797

MD

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	44	8	0	51	---	103
	Out	44	8	0	51	---	103
	Total	88	16	0	102	---	206
Hotel	In	40	3	0	58	---	101
	Out	34	3	0	49	---	86
	Total	74	6	0	107	---	187
Local Retail	In	30	3	0	53	---	86
	Out	30	3	0	53	---	86
	Total	60	6	0	106	---	172
Destination Retail	In	12	1	0	5	---	18
	Out	10	1	0	4	---	15
	Total	22	2	0	9	---	33
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	126	15	0	167	241	382
	Out	118	15	0	157	241	374
	Total	244	30	0	324	482	756

PM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	139	2	0	162	---	303
	Out	60	2	0	69	---	131
	Total	199	4	0	231	---	434
Hotel	In	48	0	0	74	---	122
	Out	26	0	0	40	---	66
	Total	74	0	0	114	---	188
Local Retail	In	15	0	0	27	---	42
	Out	15	0	0	27	---	42
	Total	30	0	0	54	---	84
Destination Retail	In	10	0	0	5	---	15
	Out	12	0	0	5	---	17
	Total	22	0	0	10	---	32
Elementary School	In	1	0	1	0	---	2
	Out	1	0	1	0	---	2
	Total	2	0	2	0	---	4
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	213	2	1	268	275	491
	Out	114	2	1	141	275	392
	Total	327	4	2	409	550	883

SAT

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	77	8	0	90	---	175
	Out	77	8	0	90	---	175
	Total	154	16	0	180	---	350
Hotel	In	24	0	0	37	---	61
	Out	19	0	0	29	---	48
	Total	43	0	0	66	---	109
Local Retail	In	17	3	0	31	---	51
	Out	17	3	0	31	---	51
	Total	34	6	0	62	---	102
Destination Retail	In	14	1	0	6	---	21
	Out	12	1	0	6	---	19
	Total	26	2	0	12	---	40
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	132	12	0	164	238	382
	Out	125	12	0	156	238	375
	Total	257	24	0	320	476	757

Table 17-6
Vehicle Trips Generated by Maximum Commercial Scenario – 2019

AM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	20	8	0	24	---	52
	Out	116	8	0	134	---	258
	Total	136	16	0	158	---	310
Office	In	267	12	0	76	---	355
	Out	11	12	0	3	---	26
	Total	278	24	0	79	---	381
Local Retail	In	5	2	0	9	---	16
	Out	5	2	0	9	---	16
	Total	10	4	0	18	---	32
Destination Retail	In	0	1	0	0	---	1
	Out	0	1	0	0	---	1
	Total	0	2	0	0	---	2
Elementary School	In	15	0	2	5	---	22
	Out	15	0	2	0	---	17
	Total	30	0	4	5	---	39
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	1	0	0	0	---	1
	Out	0	0	0	0	---	0
	Total	1	0	0	0	---	1
Total Trips	In	308	23	2	114	203	536
	Out	147	23	2	146	203	375
	Total	455	46	4	260	406	911

MD

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	35	6	0	41	---	82
	Out	35	6	0	41	---	82
	Total	70	12	0	82	---	164
Office	In	34	12	0	61	---	107
	Out	37	12	0	66	---	115
	Total	71	24	0	127	---	222
Local Retail	In	31	3	0	55	---	89
	Out	31	3	0	55	---	89
	Total	62	6	0	110	---	178
Destination Retail	In	12	1	0	5	---	18
	Out	10	1	0	4	---	15
	Total	22	2	0	9	---	33
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	112	22	0	162	247	381
	Out	113	22	0	166	247	382
	Total	225	44	0	328	494	763

PM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	112	1	0	130	---	243
	Out	48	1	0	56	---	105
	Total	160	2	0	186	---	348
Office	In	16	5	0	5	---	26
	Out	307	5	0	88	---	400
	Total	323	10	0	93	---	426
Local Retail	In	16	0	0	28	---	44
	Out	16	0	0	28	---	44
	Total	32	0	0	56	---	88
Destination Retail	In	11	0	0	5	---	16
	Out	12	0	0	5	---	17
	Total	23	0	0	10	---	33
Elementary School	In	1	0	1	0	---	2
	Out	1	0	1	0	---	2
	Total	2	0	2	0	---	4
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	156	6	1	168	261	424
	Out	384	6	1	177	261	652
	Total	540	12	2	345	522	1,076

SAT

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	62	6	0	72	---	140
	Out	62	6	0	72	---	140
	Total	124	12	0	144	---	280
Office	In	9	1	0	15	---	25
	Out	7	1	0	12	---	20
	Total	16	2	0	27	---	45
Local Retail	In	18	3	0	32	---	53
	Out	18	3	0	32	---	53
	Total	36	6	0	64	---	106
Destination Retail	In	14	1	0	6	---	21
	Out	13	1	0	6	---	20
	Total	27	2	0	12	---	41
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	103	11	0	125	185	299
	Out	100	11	0	122	185	296
	Total	203	22	0	247	370	595

Table 17-7
Vehicle Trips Generated by Additional Housing Sites

Site		AM Auto	AM Truck	AM Balanced Taxi	AM Total	MD Auto	MD Truck	MD Balanced Taxi	MD Total
Ninth Avenue Site	In	4	0	5	9	2	0	6	8
	Out	2	0	5	7	3	0	6	9
	Total	6	0	10	16	5	0	12	17
Tenth Avenue Site	In	1	0	10	11	3	0	8	11
	Out	4	0	10	14	3	0	8	11
	Total	5	0	20	25	6	0	16	22

Site		PM Auto	PM Truck	PM Balanced Taxi	PM Total	SAT Auto	SAT Truck	SAT Balanced Taxi	SAT Total
Ninth Avenue Site	In	3	0	7	10	2	0	5	7
	Out	6	0	7	13	2	0	5	7
	Total	9	0	14	23	4	0	10	14
Tenth Avenue Site	In	5	0	10	15	3	0	9	12
	Out	3	0	10	13	3	0	9	12
	Total	8	0	20	28	6	0	18	24

Table 17-8
Vehicle Trips Generated by Maximum Residential Scenario (Office Option) – 2017

AM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	9	4	0	10	---	23
	Out	49	4	0	56	---	109
	Total	58	8	0	66	---	132
Office	In	183	8	0	52	---	243
	Out	8	8	0	2	---	18
	Total	191	16	0	54	---	261
Local Retail	In	4	2	0	7	---	13
	Out	4	2	0	7	---	13
	Total	8	4	0	14	---	26
Destination Retail	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Elementary School	In	15	0	2	5	---	22
	Out	15	0	2	0	---	17
	Total	30	0	4	5	---	39
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	1	0	0	0	---	1
	Out	0	0	0	0	---	0
	Total	1	0	0	0	---	1
Total Trips	In	212	14	2	74	102	330
	Out	76	14	2	65	102	194
	Total	288	28	4	139	204	524

MD

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	15	3	0	17	---	35
	Out	15	3	0	17	---	35
	Total	30	6	0	34	---	70
Office	In	23	8	0	42	---	73
	Out	25	8	0	45	---	78
	Total	48	16	0	87	---	151
Local Retail	In	23	3	0	41	---	67
	Out	23	3	0	41	---	67
	Total	46	6	0	82	---	134
Destination Retail	In	9	1	0	4	---	14
	Out	7	1	0	3	---	11
	Total	16	2	0	7	---	25
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	70	15	0	104	158	243
	Out	70	15	0	106	158	243
	Total	140	30	0	210	316	486

PM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	47	1	0	55	---	103
	Out	20	1	0	23	---	44
	Total	67	2	0	78	---	147
Office	In	11	4	0	3	---	18
	Out	210	4	0	60	---	274
	Total	221	8	0	63	---	292
Local Retail	In	12	0	0	21	---	33
	Out	12	0	0	21	---	33
	Total	24	0	0	42	---	66
Destination Retail	In	8	0	0	4	---	12
	Out	9	0	0	4	---	13
	Total	17	0	0	8	---	25
Elementary School	In	1	0	1	0	---	2
	Out	1	0	1	0	---	2
	Total	2	0	2	0	---	4
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	79	5	1	83	150	235
	Out	252	5	1	108	150	408
	Total	331	10	2	191	300	643

SAT

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	26	3	0	30	---	59
	Out	26	3	0	30	---	59
	Total	52	6	0	60	---	118
Office	In	6	1	0	11	---	18
	Out	5	1	0	8	---	14
	Total	11	2	0	19	---	32
Local Retail	In	13	3	0	24	---	40
	Out	13	3	0	24	---	40
	Total	26	6	0	48	---	80
Destination Retail	In	10	1	0	5	---	16
	Out	10	1	0	4	---	15
	Total	20	2	0	9	---	31
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	55	8	0	70	101	164
	Out	54	8	0	66	101	163
	Total	109	16	0	136	202	327

Table 17-9
Vehicle Trips Generated by Maximum Residential Scenario (Hotel Option) – 2017

AM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	9	4	0	10	---	23
	Out	49	4	0	56	---	109
	Total	58	8	0	66	---	132
Hotel	In	17	4	0	26	---	47
	Out	26	4	0	41	---	71
	Total	43	8	0	67	---	118
Local Retail	In	4	2	0	6	---	12
	Out	4	2	0	6	---	12
	Total	8	4	0	12	---	24
Destination Retail	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Elementary School	In	15	0	2	5	---	22
	Out	15	0	2	0	---	17
	Total	30	0	4	5	---	39
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	1	0	0	0	---	1
	Out	0	0	0	0	---	0
	Total	1	0	0	0	---	1
Total Trips	In	46	10	2	47	127	185
	Out	94	10	2	103	127	233
	Total	140	20	4	150	254	418

MD

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	15	3	0	17	---	35
	Out	15	3	0	17	---	35
	Total	30	6	0	34	---	70
Hotel	In	40	3	0	58	---	101
	Out	34	3	0	49	---	86
	Total	74	6	0	107	---	187
Local Retail	In	22	2	0	38	---	62
	Out	22	2	0	38	---	62
	Total	44	4	0	76	---	124
Destination Retail	In	9	1	0	4	---	14
	Out	7	1	0	3	---	11
	Total	16	2	0	7	---	25
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	86	9	0	117	166	261
	Out	78	9	0	107	166	253
	Total	164	18	0	224	332	514

PM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	47	1	0	55	---	103
	Out	20	1	0	23	---	44
	Total	67	2	0	78	---	147
Hotel	In	48	0	0	74	---	122
	Out	26	0	0	40	---	66
	Total	74	0	0	114	---	188
Local Retail	In	11	0	0	19	---	30
	Out	11	0	0	19	---	30
	Total	22	0	0	38	---	60
Destination Retail	In	8	0	0	3	---	11
	Out	8	0	0	4	---	12
	Total	16	0	0	7	---	23
Elementary School	In	1	0	1	0	---	2
	Out	1	0	1	0	---	2
	Total	2	0	2	0	---	4
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	115	1	1	151	162	279
	Out	66	1	1	86	162	230
	Total	181	2	2	237	324	509

SAT

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	26	3	0	30	---	59
	Out	26	3	0	30	---	59
	Total	52	6	0	60	---	118
Hotel	In	24	0	0	37	---	61
	Out	19	0	0	29	---	48
	Total	43	0	0	66	---	109
Local Retail	In	13	2	0	22	---	37
	Out	13	2	0	22	---	37
	Total	26	4	0	44	---	74
Destination Retail	In	10	1	0	4	---	15
	Out	9	1	0	4	---	14
	Total	19	2	0	8	---	29
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	73	6	0	93	132	211
	Out	67	6	0	85	132	205
	Total	140	12	0	178	264	416

Table 17-10
Vehicle Trips Generated by Maximum Commercial Scenario – 2017

AM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	8	3	0	10	---	21
	Out	47	3	0	55	---	105
	Total	55	6	0	65	---	126
Office	In	267	12	0	76	---	355
	Out	11	12	0	3	---	26
	Total	278	24	0	79	---	381
Local Retail	In	4	2	0	7	---	13
	Out	4	2	0	7	---	13
	Total	8	4	0	14	---	26
Destination Retail	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Elementary School	In	15	0	2	5	---	22
	Out	15	0	2	0	---	17
	Total	30	0	4	5	---	39
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	1	0	0	0	---	1
	Out	0	0	0	0	---	0
	Total	1	0	0	0	---	1
Total Trips	In	295	17	2	98	114	428
	Out	77	17	2	65	114	210
	Total	372	34	4	163	228	638

MD

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	14	2	0	17	---	33
	Out	14	2	0	17	---	33
	Total	28	4	0	34	---	66
Office	In	34	12	0	61	---	107
	Out	37	12	0	66	---	115
	Total	71	24	0	127	---	222
Local Retail	In	23	3	0	41	---	67
	Out	23	3	0	41	---	67
	Total	46	6	0	82	---	134
Destination Retail	In	9	1	0	4	---	14
	Out	7	1	0	3	---	11
	Total	16	2	0	7	---	25
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	80	18	0	123	189	287
	Out	81	18	0	127	189	288
	Total	161	36	0	250	378	575

PM

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	46	1	0	53	---	100
	Out	20	1	0	23	---	44
	Total	66	2	0	76	---	144
Office	In	16	5	0	5	---	26
	Out	307	5	0	88	---	400
	Total	323	10	0	93	---	426
Local Retail	In	12	0	0	21	---	33
	Out	12	0	0	21	---	33
	Total	24	0	0	42	---	66
Destination Retail	In	8	0	0	4	---	12
	Out	9	0	0	4	---	13
	Total	17	0	0	8	---	25
Elementary School	In	1	0	1	0	---	2
	Out	1	0	1	0	---	2
	Total	2	0	2	0	---	4
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	83	6	1	83	178	268
	Out	349	6	1	136	178	534
	Total	432	12	2	219	356	802

SAT

Land Use		Auto	Truck	School Bus	Taxi	Balanced Taxi	Total
Residential	In	25	3	0	29	---	57
	Out	25	3	0	29	---	57
	Total	50	6	0	58	---	114
Office	In	9	1	0	15	---	25
	Out	7	1	0	12	---	20
	Total	16	2	0	27	---	45
Local Retail	In	13	3	0	24	---	40
	Out	13	3	0	24	---	40
	Total	26	6	0	48	---	80
Destination Retail	In	10	1	0	5	---	16
	Out	10	1	0	4	---	15
	Total	20	2	0	9	---	31
Elementary School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Intermediate School	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
School (Staff)	In	0	0	0	0	---	0
	Out	0	0	0	0	---	0
	Total	0	0	0	0	---	0
Total Trips	In	57	8	0	73	106	171
	Out	55	8	0	69	106	169
	Total	112	16	0	142	212	340

Table 17-11
Comparison of Peak Hour Vehicle Trips
For Development Site Reasonable Worst-Case Development Scenarios

	2019			2017		
	Maximum Residential Scenario		Maximum	Maximum Residential Scenario		Maximum
Peak Hour	Office Option	Hotel Option	Commercial Scenario	Office Option	Hotel Option	Commercial Scenario
Auto Trips (In & Out Combined)						
AM	390	253	455	288	140	372
MD	214	244	225	140	164	161
PM	462	327	540	331	181	432
SAT	218	257	203	109	140	112
Balanced Taxi Trips (In & Out Combined)						
AM	426	504	406	204	254	228
MD	452	482	494	316	332	378
PM	500	550	522	300	324	356
SAT	390	476	370	202	264	212
Truck Trips (In & Out Combined)						
AM	42	36	46	28	20	34
MD	38	30	44	30	18	36
PM	12	4	12	10	2	12
SAT	24	24	22	16	12	16
School Bus Trips (In & Out Combined)						
AM	4	4	4	4	4	4
MD	0	0	0	0	0	0
PM	2	2	2	2	2	2
SAT	0	0	0	0	0	0
Total Vehicle Trips (In & Out Combined)						
AM	862	797	911	524	418	638
MD	704	756	763	486	514	575
PM	976	883	1,076	643	509	802
SAT	632	757	595	327	416	340

C. EXISTING CONDITIONS

STUDY AREA ROADWAY NETWORK

The roadway network within the study area is a grid composed of streets and avenues with general characteristics as follows.

STREETS

In Manhattan, streets generally run east-west (crosstown), most carrying one-way traffic with curb-to-curb widths varying from 30 to 34 feet and sidewalks that range from 11 to 15 feet in width. Even-numbered streets generally serve eastbound traffic, while odd-numbered streets generally serve westbound traffic. The exceptions are West 23rd, West 34th, and West 42nd Streets, which carry two-way traffic in curb-to-curb widths that range from 53 to 60 feet with sidewalks from approximately 20 to 24 feet in width. West 23rd Street and West 42nd Street have two moving lanes plus a curb lane in each direction. West 34th Street and West 42nd Street have exclusive bus lanes in operation and are discussed separately below under Special Study Area Street Operations.

AVENUES

In Manhattan, avenues generally run north-south (uptown/downtown) and are typically 60 to 70 feet wide from curb to curb, with sidewalks ranging from 15 to 20 feet in width. Sixth, Eighth, and Tenth Avenues are one-way northbound and Seventh and Ninth Avenues flow one-way southbound. Eleventh Avenue operations vary, operating one-way southbound from West 34th Street to West 24th Street and from West 44th Street to West 40th Street, and two-way between West 22nd and West 24th Streets and between West 34th and West 40th Streets. Broadway carries one-way, southbound traffic. Unlike the other avenues, Broadway runs diagonally through the eastern edge of the study area, creating a unique intersection at its junction with Sixth Avenue and West 34th Street (Herald Square). Generally, one-way north-south roadways provide at least three travel lanes, except for a segment of Broadway between West 42nd and West 35th Streets, which has a pedestrian plaza and bicycle lane (further discussed below under Special Study Area Street Operations).

Route 9A (Twelfth Avenue within the study area) is a two-way north-south roadway along the Hudson River waterfront extending from the Henry Hudson Bridge to South Ferry and the Brooklyn Battery Tunnel. This roadway, the westernmost arterial in Manhattan, serves as a principal route through the study area and connects with the Henry Hudson Parkway to the north. Twelfth Avenue provides seven travel lanes within the study area (four northbound and three southbound) with on-street parking in some areas along the northbound side, and a landscaped median and left turn bays. There are buffered jogging and biking trails that run along the western edge of Twelfth Avenue within Hudson River Park.

OTHER ROADWAY INFRASTRUCTURE

In addition to the streets and avenues, two major traffic-related facilities are located within the study area, the Lincoln Tunnel and the Port Authority Bus Terminal (PABT). The Lincoln Tunnel and its access ramps are located within the study area to the north of the Development Site. As the major gateway to Midtown Manhattan from New Jersey and points west, Lincoln Tunnel operations affect the study area, especially during the weekday PM peak period.

The Lincoln Tunnel, operated by the Port Authority of New York and New Jersey (PANYNJ), consists of three two-lane tubes. The north tube, located at West 39th Street and Eleventh Avenue, always operates in a westbound direction. The south tube, located at West 38th Street and Tenth Avenue, operates in an eastbound direction only. The center tube, at West 39th Street and Tenth Avenue, is configured to allow each lane to operate in either a westbound or eastbound direction. The center tube currently operates under the following plan:

- Weekday AM peak: two lanes eastbound;
- Weekday midday peak: one lane in each direction; and
- Weekday PM peak: two lanes westbound.

During off-peak hours, the Lincoln Tunnel generally operates with three lanes in each direction, while during weekday commuting peak hours, the tunnel operates with four lanes in the peak direction and two lanes in the non-peak direction. During the weekday AM peak period, PANYNJ operates a 2½-mile exclusive bus lane (XBL) on Route 495 from the New Jersey Turnpike to the Lincoln Tunnel. Utilizing the XBL, commuter buses operate on a dedicated route to the Tunnel, avoiding congestion and significantly reducing travel time.

Dyer Avenue is located between Ninth and Tenth Avenues. It operates at-grade from West 34th to West 38th Streets and from West 39th to West 42nd Streets, providing egress from the Lincoln Tunnel's center and south tubes. The Lincoln Tunnel Expressway is located between Ninth and Tenth Avenues. It operates at grade from West 30th to West 33rd Streets, flowing both northbound and southbound from West 30th to West 31st Streets, and southbound only from West 31st to West 33rd Streets. The roadway operates below grade north of West 33rd Street and serves as an ingress/egress route to and from the Lincoln Tunnel's center and south tubes and access to the north tube. Cardinal Stepinac Place/Galvin Plaza is located between Tenth and Eleventh Avenues, providing access to the Lincoln Tunnel's north tube from West 39th Street and West 40th Street and southbound from Cardinal Stepinac Place between West 40th and West 41st Streets. This roadway serves as access to the Lincoln Tunnel's north tube. The Lincoln Tunnel also provides direct access to the PABT via a series of above- and below-grade ramps and tunnels.

The PABT is located generally between Eighth and Ninth Avenues, from West 40th to West 42nd Streets. The terminal is situated above the 42nd Street Station of the Eighth Avenue subway line (A, C, and E trains), which is connected by a below-grade passageway to the Times Square subway station at Seventh Avenue and Broadway. The PABT is operated by PANYNJ and serves as the City's primary bus terminal for many suburban and inter-city bus lines, providing commuter access to upstate New York, New Jersey, and Pennsylvania. Regional service to an extended area (including connections to routes across the country) is also provided at the PABT. On a typical weekday, nearly 200,000 passenger trips pass through the PABT on approximately 7,000 bus movements.

EXCEPTIONS TO THE GRID SYSTEM

The regular Midtown Manhattan street grid is interrupted by the following facilities, which span across more than one square block and interrupt the standard street grid:

- PABT (between West 40th and West 42nd Streets, from Eighth to Ninth Avenues);
- Jacob K. Javits Convention Center, or the "Convention Center" (between West 34th and West 39th Streets, from Eleventh to Twelfth Avenues);
- Penn Station/Madison Square Garden (between West 31st and West 33rd Streets, from Seventh to Eighth Avenues);
- James A. Farley U.S. Post Office Building (between West 31st and West 33rd Streets, from Eighth to Ninth Avenues);
- Caemmerer Rail Yard, which includes the Development Site (between West 30th and West 33rd Streets, from Tenth to Twelfth Avenues with the Eleventh Avenue viaduct over the rail yard separating the Western Rail Yard and Eastern Rail Yard);
- U.S. Post Office Vehicle Maintenance Facility (between West 24th and West 26th Streets from Eleventh to Twelfth Avenues);
- Penn South Housing Project (various blocks between West 26th and West 29th Streets, from Eighth to Ninth Avenues); and
- Chelsea Waterside Park (between West 22nd and West 24th Streets, from Eleventh to Twelfth Avenues).

Due to these structures and a variety of grid deviations, the following streets are not continuous:

- West 27th Street between Eighth and Tenth Avenues;
- West 31st Street between Tenth and Twelfth Avenues;
- West 32nd Street between Seventh and Twelfth Avenues; and
- West 23rd, West 25th, West 35th, West 36th, West 37th, and West 38th Streets between Eleventh and Twelfth Avenues.

SPECIAL STUDY AREA STREET OPERATIONS

Along several corridors in the study area, street space is reserved for the exclusive use of certain vehicles, non-motorized transportation or pedestrians. NYCDOT has developed programs to enhance mobility by transit and bicycle city wide and has implemented several significant projects in the study area. Exclusive bus lanes have recently been installed on 34th Street. The curb lane in each direction is designated as a bus only lane from Eleventh Avenue to First Avenue with varying cross sections and hours of operation by project segment. From Ninth Avenue to Third Avenue, a total of three lanes westbound and two lanes eastbound are provided with the curb lane restricted to buses only weekdays from 7 AM to 7 PM. Except by buses, left turns are generally prohibited from Ninth Avenue to Third Avenue during weekdays. Also, the curb lanes on 42nd Street are reserved for buses only from Dyer Avenue to Park Avenue during weekday AM and PM peak periods, and the west curb lane of Eleventh Avenue is designated for buses only from West 42nd Street to West 37th Street between 7AM and 7PM. At West 37th Street, the Eleventh Avenue bus lane flows into the bus curbside layover area in front of the Convention Center.

Bicycle lanes have been installed on several corridors in the study area. Northbound Class 2 Bicycle Lanes (on-street striped route) are in place on Eighth Avenue extending from south of the study area to West 39th Street, on Eighth Avenue from West 42nd Street to north of the study area and also on Sixth Avenue south of West 42nd Street. A Class 1 Bicycle Path (separated on-street path) is in place on Ninth Avenue from south of the study area to West 31st Street. The design provides a completely protected bicycle path along the east curb lane isolated from Ninth Avenue traffic by adjacent parked vehicles, concrete islands or buffer areas.

Broadway Boulevard extends on Broadway from West 42nd Street to West 35th Street and includes a pedestrian plaza area installed in the roadbed along the east side of Broadway with planters and furniture, plus a Class 1 Bicycle Path. Two southbound lanes plus turn lanes are available for traffic within this segment of Broadway.

Other special street operations in the study area are the PM peak period provisions for Lincoln Tunnel access that affect certain study area roadways, the closure of West 39th Street between Ninth Avenue and Tenth Avenue on weekends between 9 AM and 6 PM for the Hell's Kitchen flea market, and the permanent closure of West 39th Street between Twelfth and Eleventh Avenues.

TRUCK ROUTES

The City of New York has regulations that restrict trucks to local and through truck routes plus other area-wide restrictions in effect in parts of West Midtown. 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."[1]

[1] City of New York, *Rules of the City of New York, Traffic Rules and Regulations,* Volume II, Chapter 4-13.

Through trucks are defined as having "neither an origin nor a destination within the Borough of Manhattan."[1] In the study area, through trucks are restricted to the following routes:

- Eleventh Avenue from West 34th Street to West 42nd Street;
- Twelfth Avenue from south of the study area to West 34th Street;
- West 42nd Street from Dyer Avenue to Eleventh Avenue;
- West 34th Street from Twelfth Avenue to Dyer Avenue;
- West 34th Street east of Dyer Avenue (excluding the period from 11 AM to 6 PM); and
- Dyer Avenue from the Lincoln Tunnel to West 34th Street.

Local truck routes are designated routes for trucks that are "intended for the purpose of delivery, loading, or providing service within the Borough of Manhattan."[2] Generally, trucks must travel on local truck routes up to the nearest intersection to their destination. Designated local truck routes in the study area are as follows:

- Seventh Avenue south of West 31st Street
- Eighth Avenue
- Ninth Avenue
- Tenth Avenue
- Eleventh Avenue south of West 34th Street and north of West 42nd Street
- Twelfth Avenue north of West 33rd Street;
- Broadway south of West 31st Street;
- 23rd Street from First Avenue to Twelfth Avenue;
- West 30th Street from Broadway to Eleventh Avenue;
- 31st Street from Third Avenue to Tenth Avenue;
- 34th Street east of Dyer Avenue (11 AM to 6 PM);
- West 40th Street from the Lincoln Tunnel entrance to Ninth Avenue;
- West 41st Street from Ninth Avenue to the Lincoln Tunnel entrance; and
- 42nd Street from First Avenue to Twelfth Avenue.

Restriction of all entering trucks or trucks having an overall length of 33 feet or more are also in effect weekdays during specified hours in designated sub-areas within the traffic study area.

TRAFFIC CONTROL

Traffic movements at most intersections in the study area are controlled by traffic signals operating on a 90-second cycle. The major exception is Twelfth Avenue, which operates on either a 150-second or a 120-second cycle. The allocation of cycle time is generally 60 percent to the avenues, 35 percent to the streets, and 5 percent for clearance intervals. Pedestrian signals ("Walk" or "Don't Walk" symbols) are provided at nearly all intersections throughout the study

[1] ibid.

[2] ibid.

area. At some intersections lead pedestrian intervals are provided that allow for a short walk period before the vehicles receive a green signal at the start of the phase.

TRAFFIC VOLUMES

The base year traffic conditions described in this section represent 2008 conditions. An extensive data collection program, including automatic traffic recorder (ATR) counts, manual turning movement and vehicle classification counts, travel time and delay surveys, and an inventory of roadway geometry and intersection signal timing was undertaken in September and October of 2008.

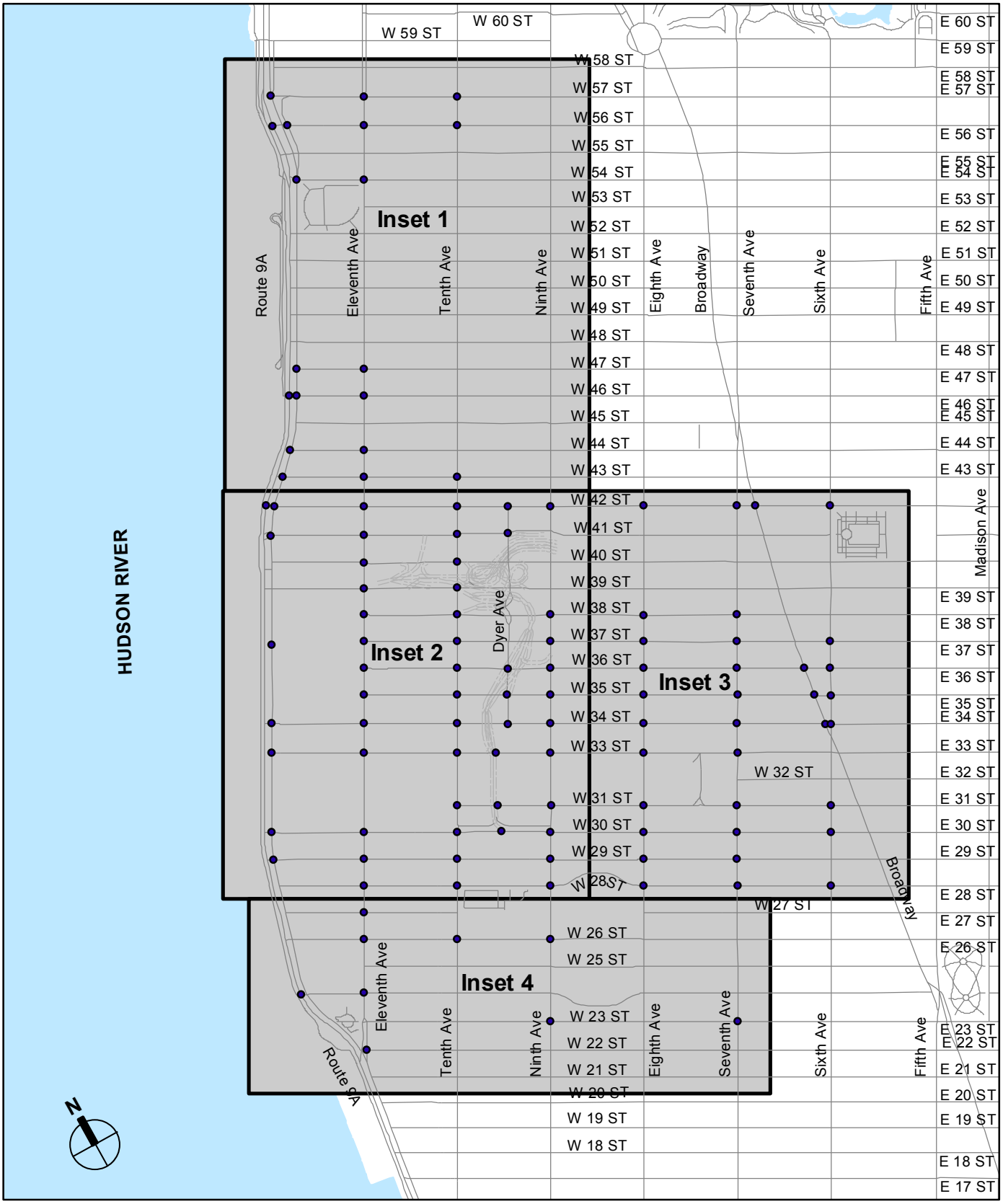
Peak hour traffic volumes in the study area are generally substantially higher along north-south avenues than along the east-west cross-town streets. In the vicinity of the Development Site, Twelfth Avenue carries considerably higher traffic volumes than other avenues. Traffic flows on Twelfth Avenue are typically higher southbound during the weekday AM and midday peak hours, higher northbound during the PM peak hour and balanced on Saturday with peak directional traffic volumes between 2,500 and 3,000 vehicles per hour (vph). Since Eleventh Avenue functions as a continuous southbound corridor, southbound traffic levels on Eleventh Avenue south of West 40th Street are considerably higher than northbound flows. In the two-way section between West 34th Street and West 40th Street, northbound traffic volumes are generally less than 400 vph while southbound traffic levels exceed 1,000 vph during the AM peak hour. Further east of the Development Site, traffic volumes on northbound Tenth Avenue and southbound Ninth Avenue generally approximate or exceed 1,500 vph with slightly higher levels on Tenth Avenue. Likewise, Eighth Avenue northbound traffic volumes and Seventh Avenue southbound traffic volumes generally peak at similar levels with a slightly higher peak on Seventh Avenue.

Peak hour traffic volumes on east-west streets in the vicinity of the Development Site are generally at approximately 500 vph or less with some exceptions, generally related to travel to and from the Lincoln Tunnel. Traffic volumes on West 30th Street between the Lincoln Tunnel Expressway and Eighth Avenue vary between approximately 600 vph and 800 vph. Also, traffic volumes westbound on West 34th Street east of Tenth Avenue range from approximately 600 vph to 800 vph during the PM peak hour and traffic volumes exceed 700 vph on West 30th Street between Tenth Avenue and the Lincoln Tunnel Expressway.

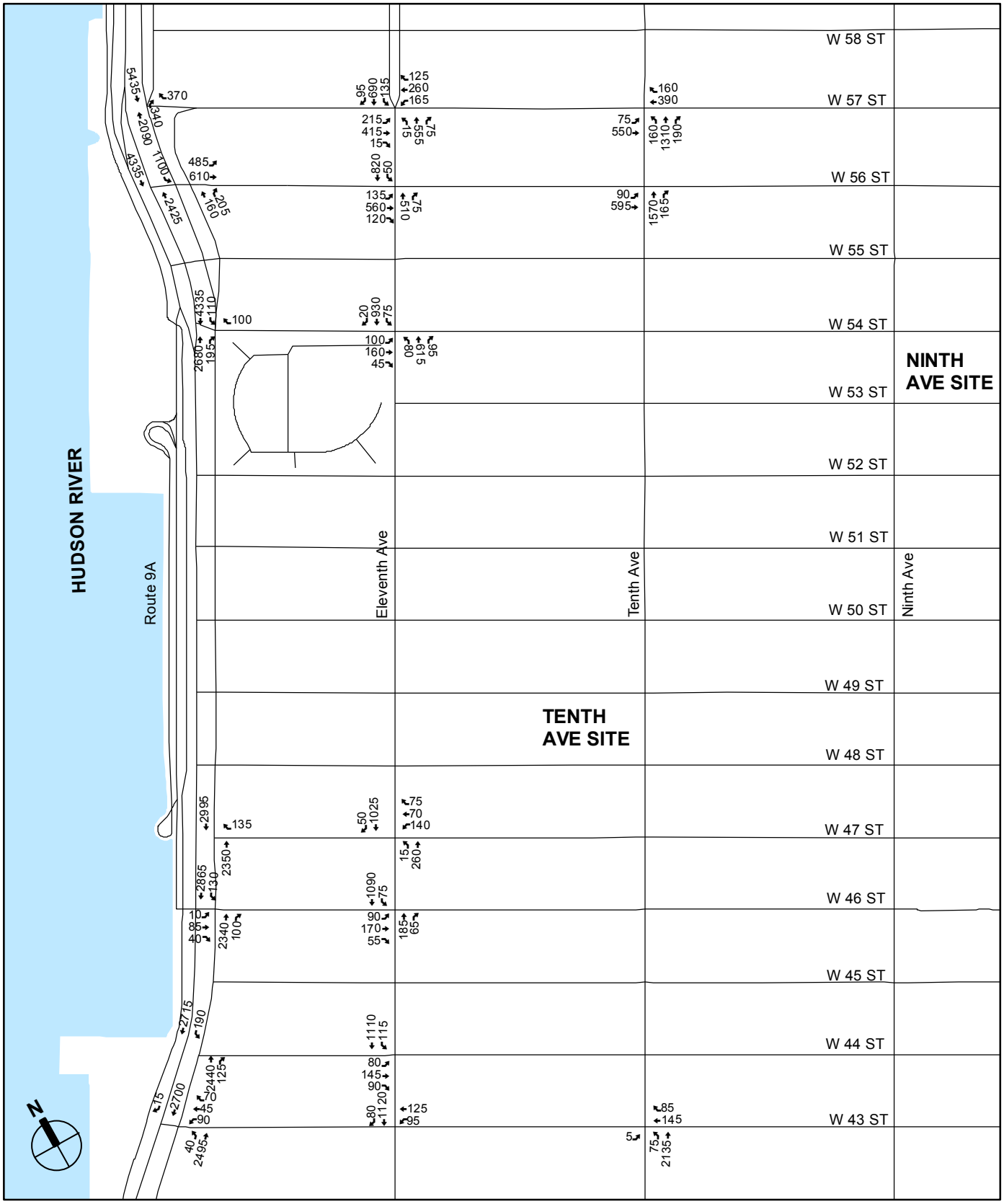
Figures 17-2 through 17-18 provide the 2008 base traffic volumes for the typical weekday AM (8 AM to 9 AM), midday (12 noon to 1 PM), PM (5 PM to 6 PM) and typical Saturday midday (1 PM to 2 PM) peak hours, respectively, in the study area.

INTERSECTION CAPACITY ANALYSIS

Although most intersections in the traffic study area operate at overall acceptable levels during the four analysis peak hours, individual approach movements at numerous intersections operate at mid-LOS D or worse. Overall 62 approach movements at 38 intersections operate at mid-LOS D, LOS E or LOS F in the AM peak hour; 37 approach movements at 32 intersections operate at mid-LOS D, LOS E, or LOS F in the midday peak hour, 90 approach movements at 59 intersections operate at mid-LOS D, LOS E, or LOS F in the PM peak hour; and 34 approach movements at 27 intersections operate at mid-LOS D, LOS E, or LOS F in the Saturday midday peak hour. These findings are presented in Table 17-12. Intersection approaches or individual approach movements operating at capacity or within LOS E or F are discussed below. Detailed analysis results, including the v/c ratio, delay, and LOS, for intersections with one or more approach or lane group operating at mid-LOS D or worse are provided in Table 17-13 for the weekday AM, midday, PM and Saturday midday peak periods.



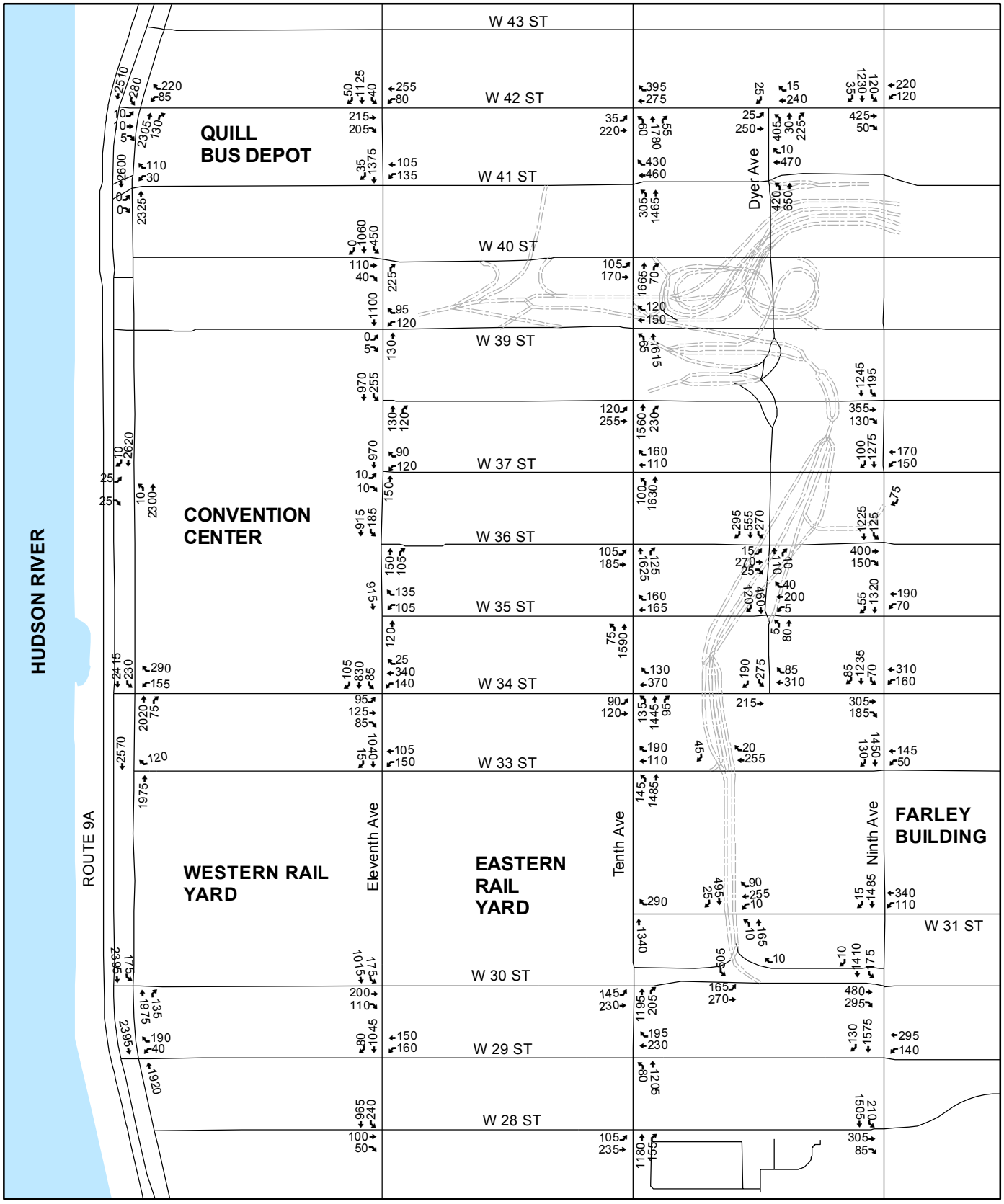
2008 Existing Traffic Volumes: Key Map
(Weekday AM, Midday, PM Peak Hours)



2008 Existing Traffic Volumes - Inset 1
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

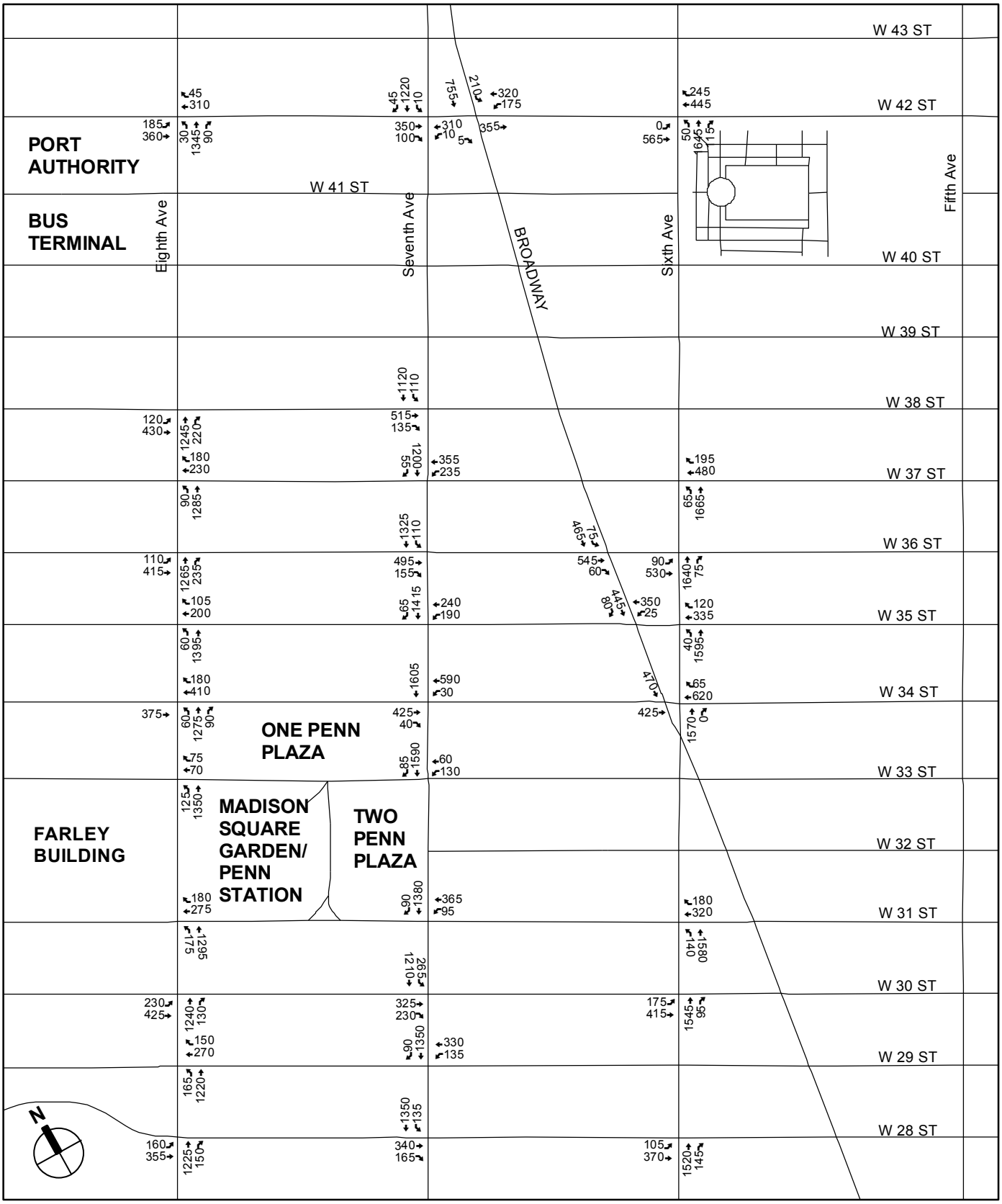
Figure 17-3



2008 Existing Traffic Volumes - Inset 2
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-4



0 500 1,000 Feet

2008 Existing Traffic Volumes - Inset 3
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-5

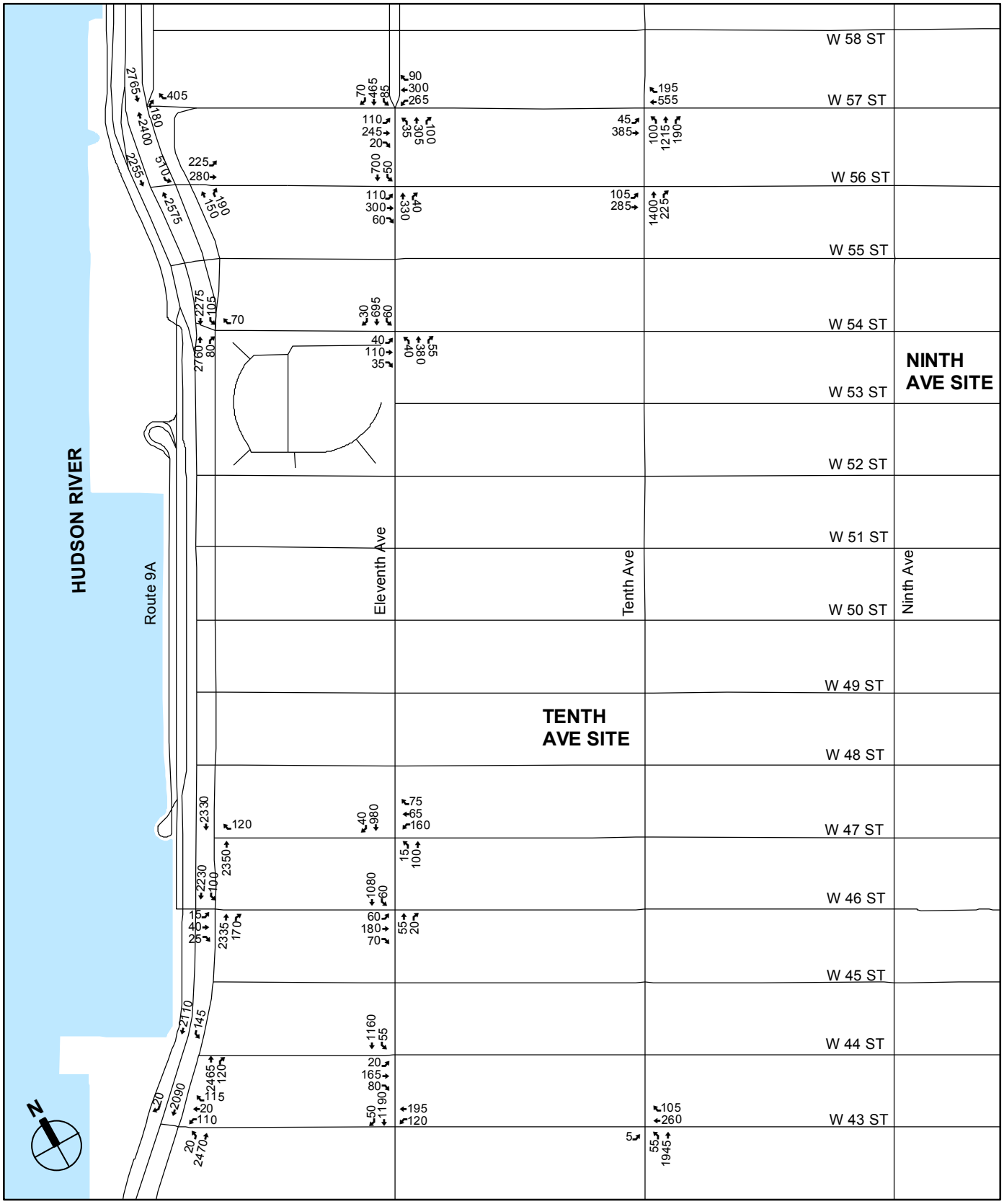


0 500 1,000 Feet

2008 Existing Traffic Volumes - Inset 4
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

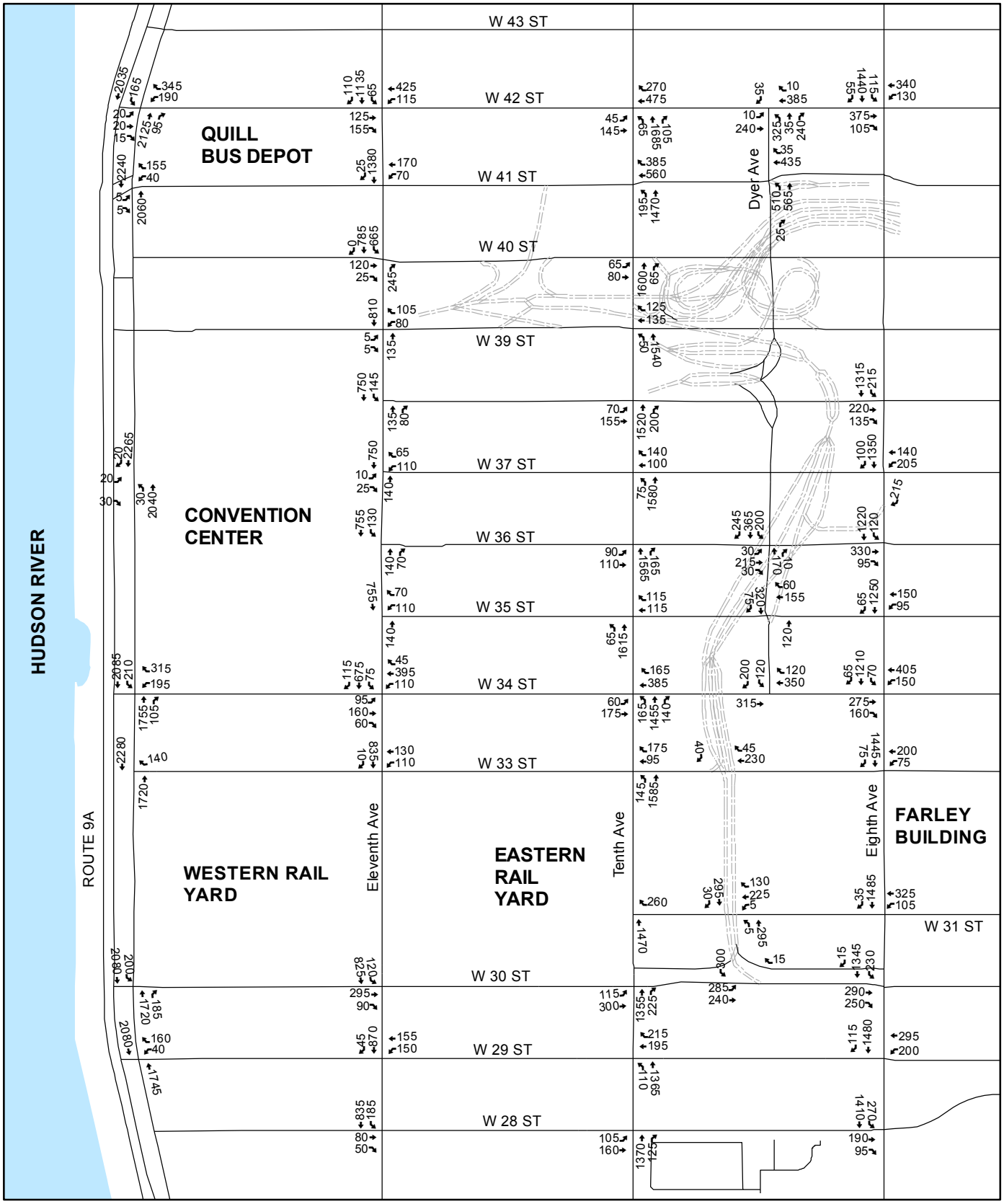
Figure 17-6



2008 Existing Traffic Volumes - Inset 1
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-7

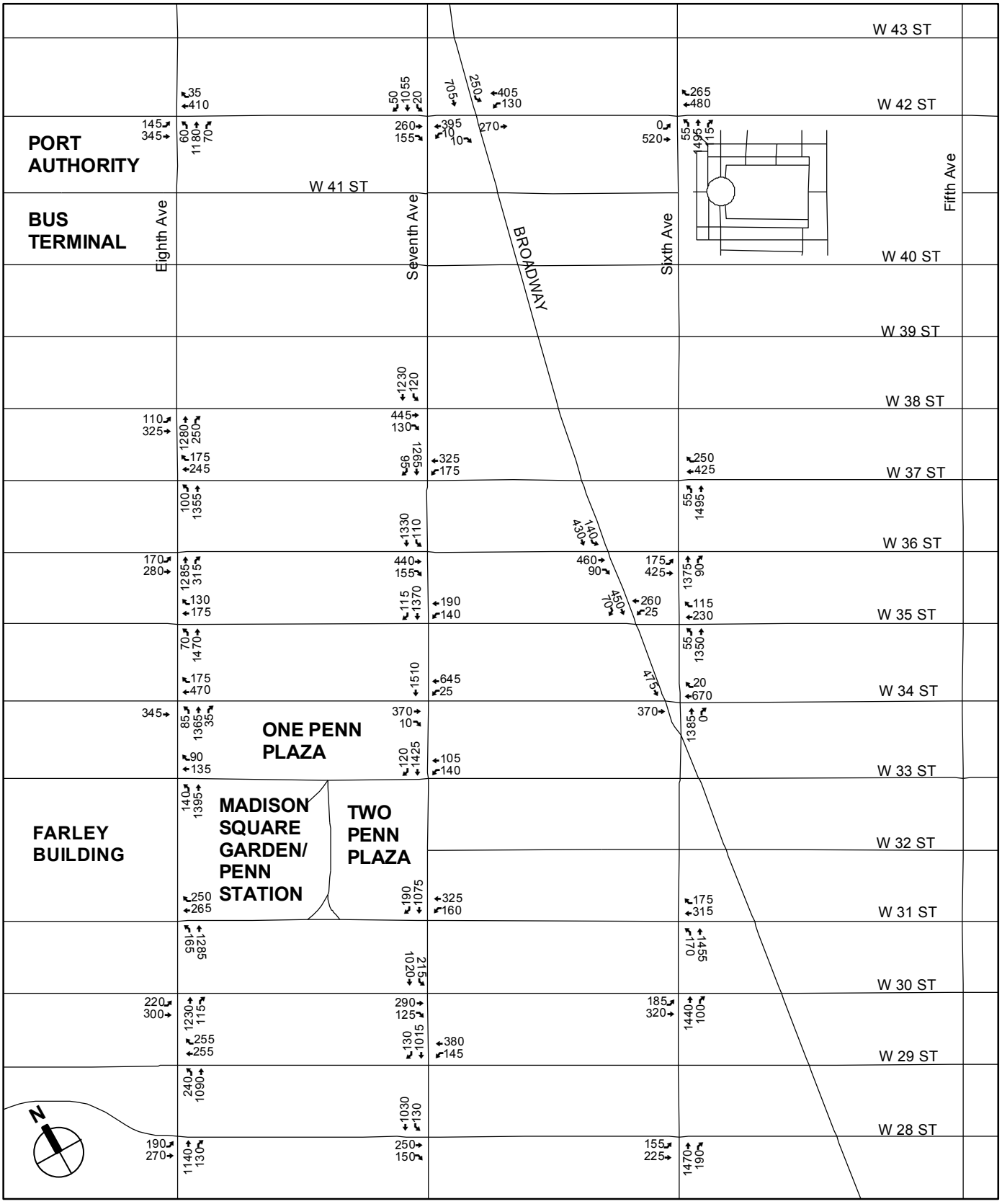


0 500 1,000 Feet

2008 Existing Traffic Volumes - Inset 2
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-8



0 500 1,000 Feet

2008 Existing Traffic Volumes - Inset 3
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-9

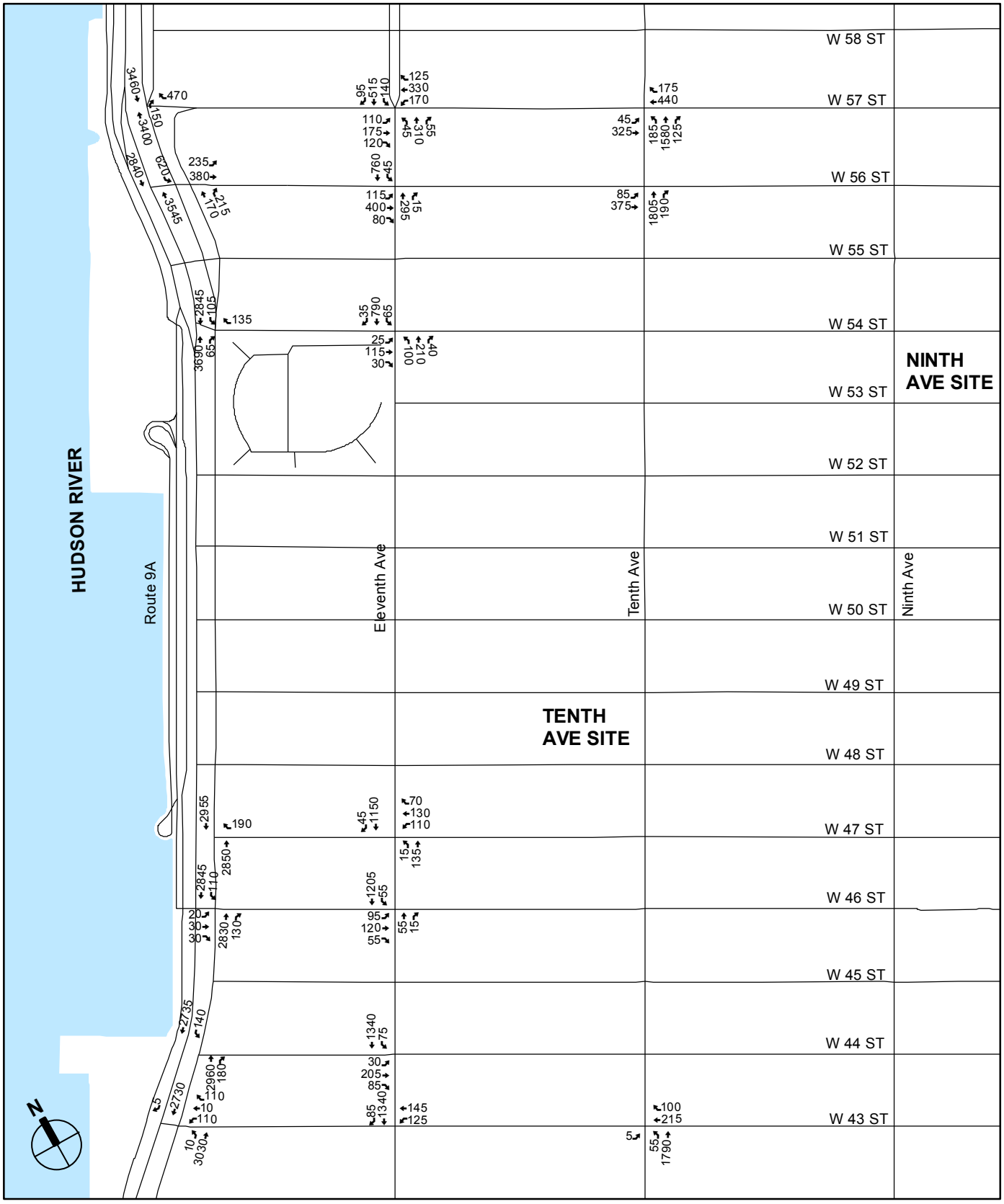


0 500 1,000 Feet

2008 Existing Traffic Volumes - Inset 4
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

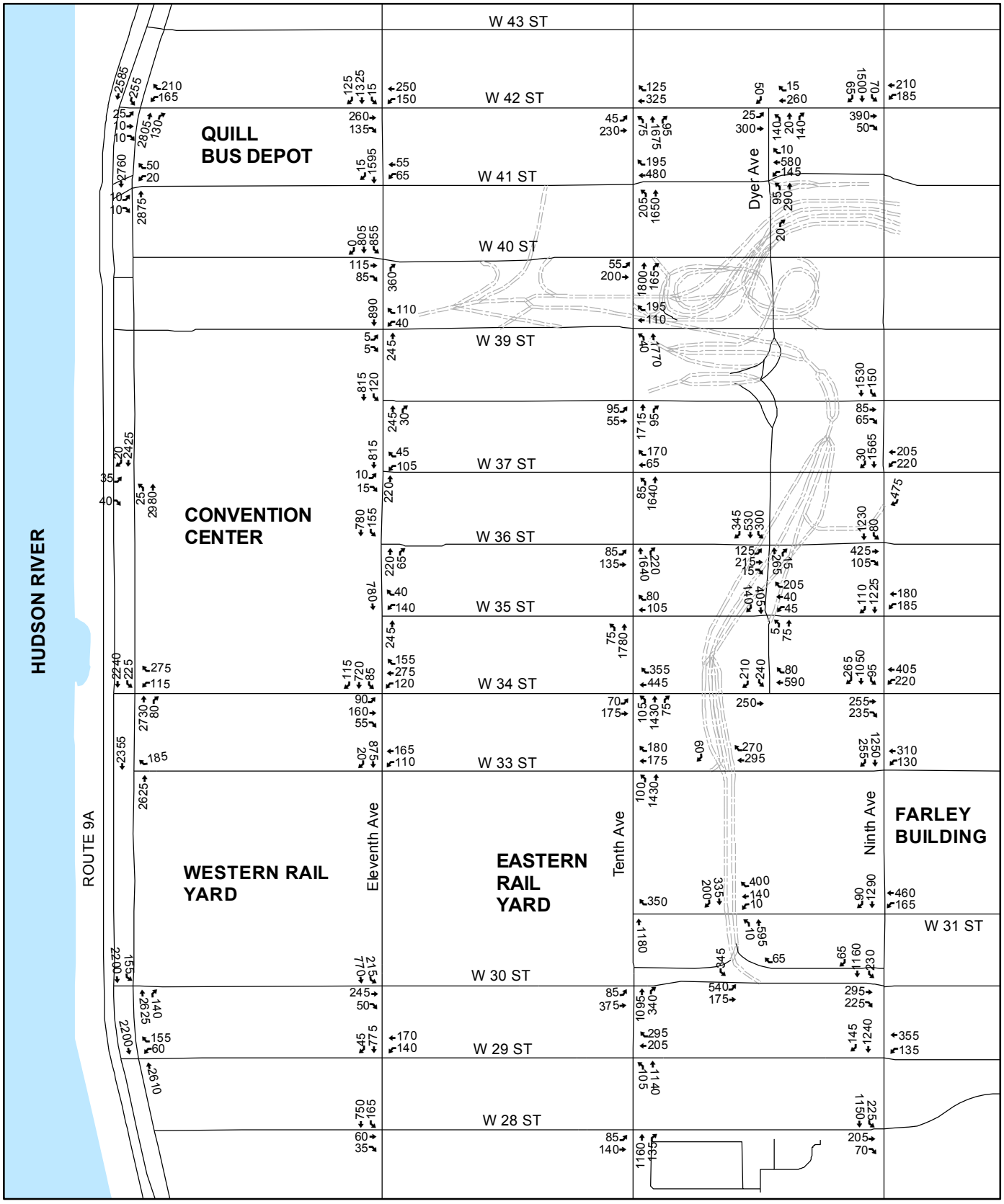
Figure 17-10



2008 Existing Traffic Volumes - Inset 1
(Weekday PM Peak Hour)

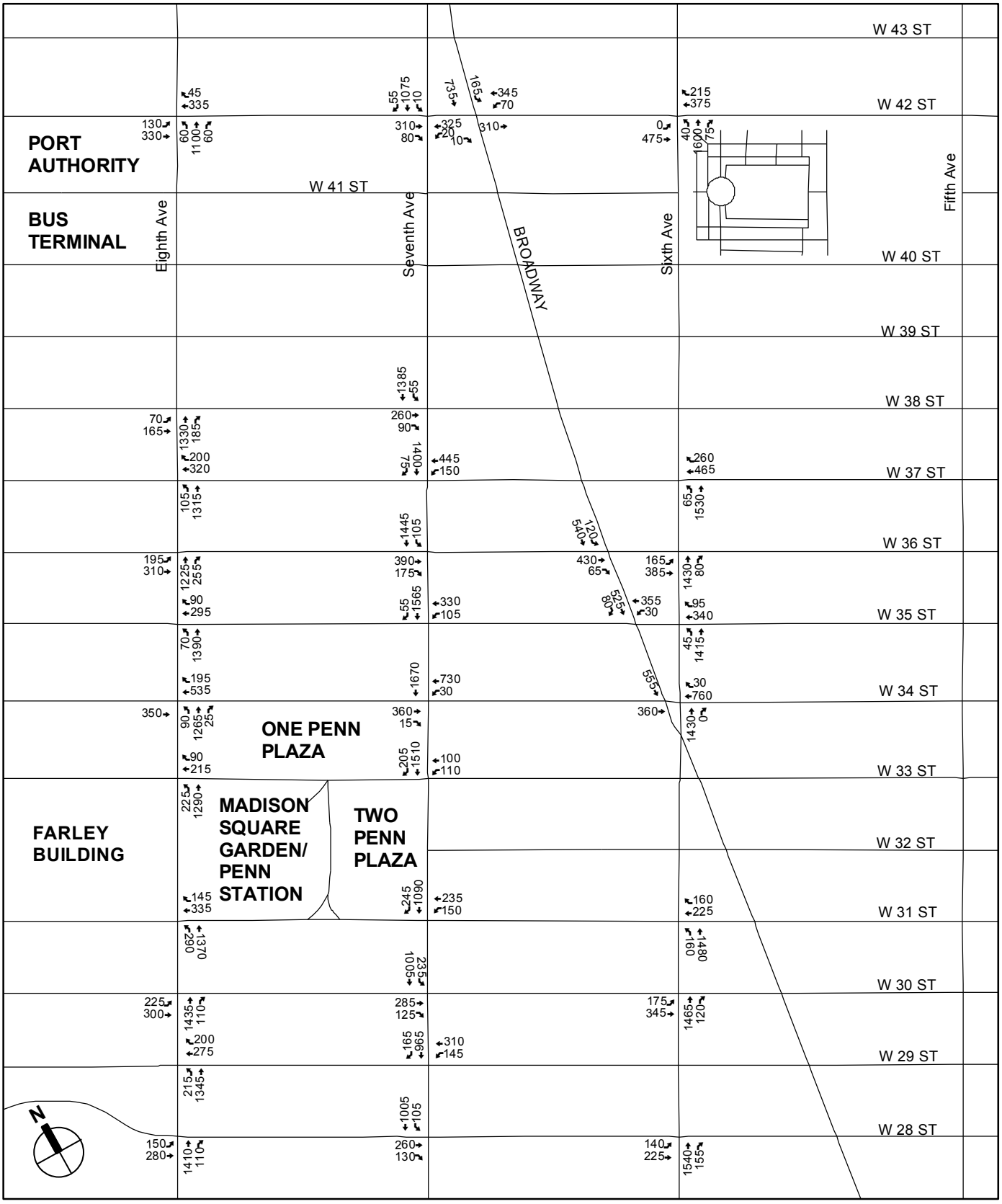
WESTERN **RAIL YARD**

Figure 17-11



0 500 1,000 Feet

2008 Existing Traffic Volumes - Inset 2
(Weekday PM Peak Hour)



0 500 1,000 Feet

2008 Existing Traffic Volumes - Inset 3
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-13

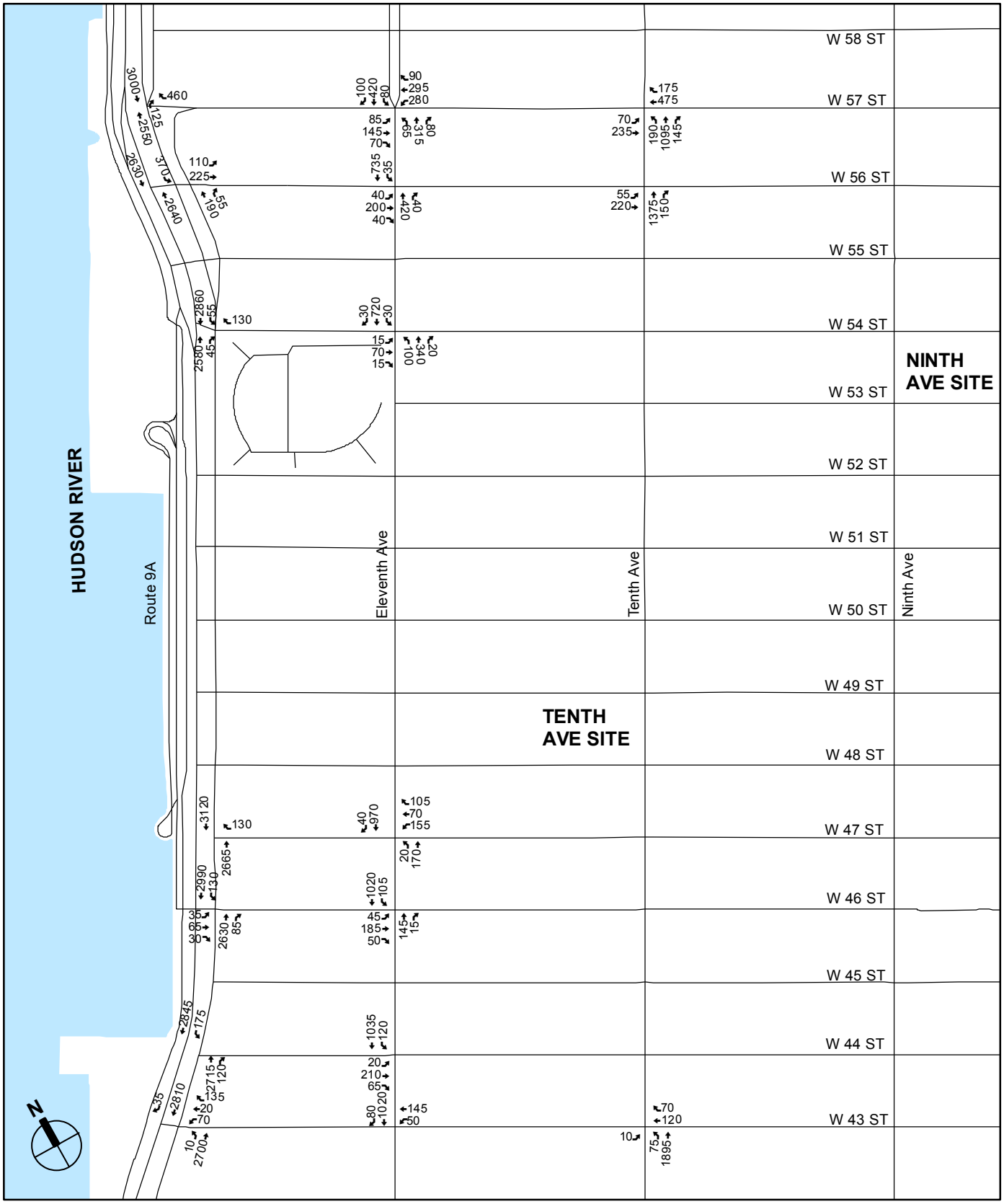


0 500 1,000 Feet

2008 Existing Traffic Volumes - Inset 4
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

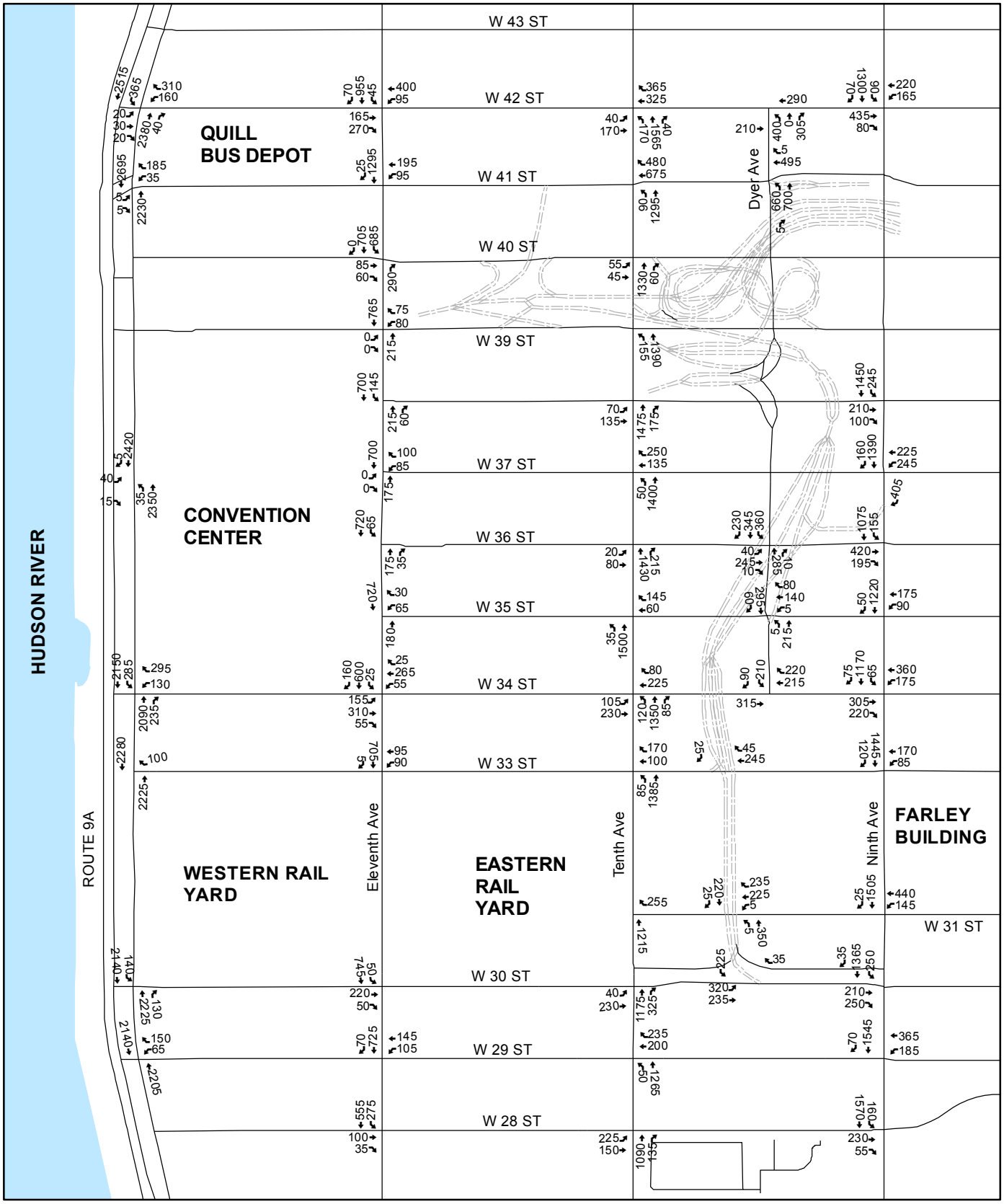
Figure 17-14



2008 Existing Traffic Volumes - Inset 1
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

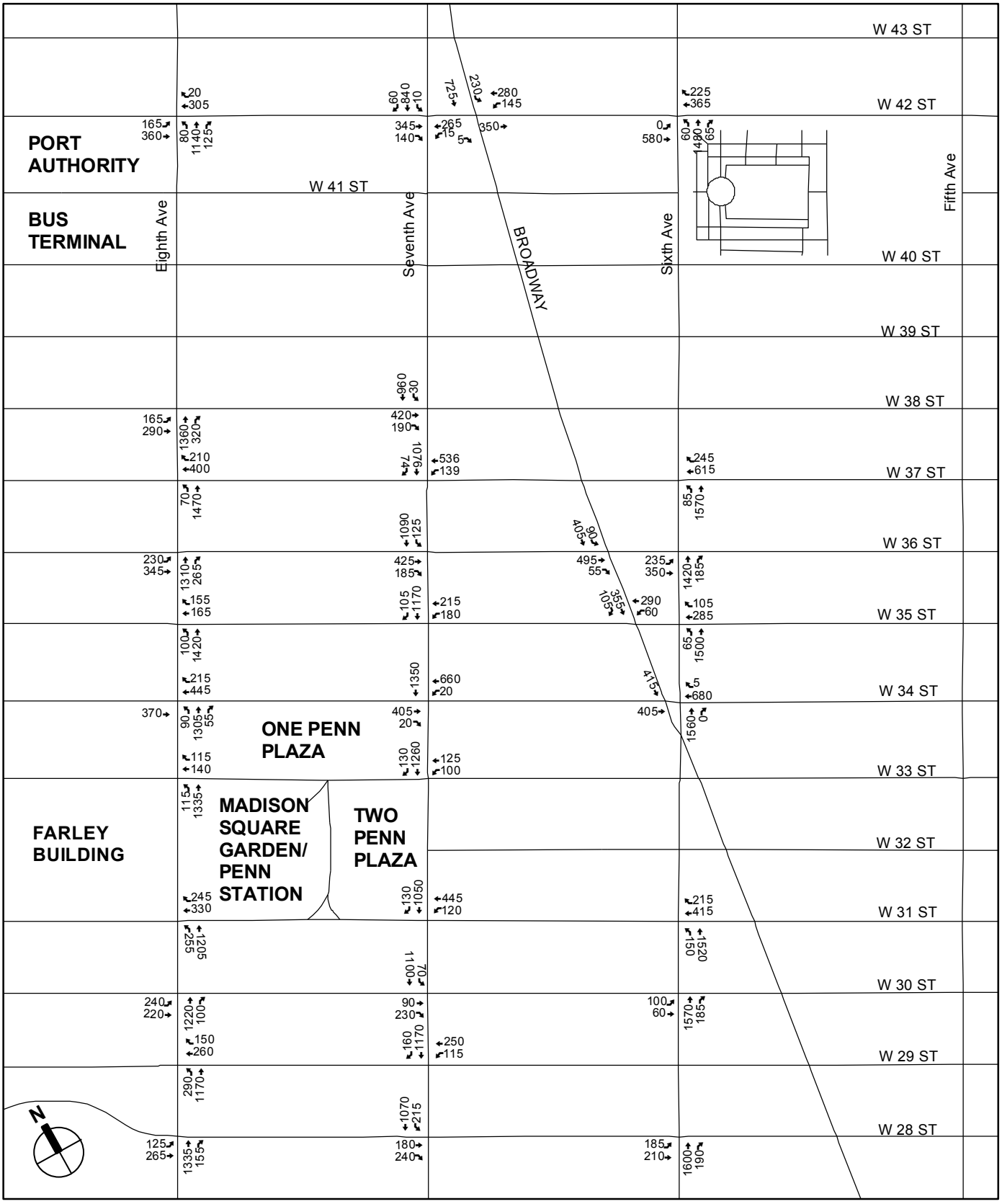
Figure 17-15



2008 Existing Traffic Volumes - Inset 2
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-16



2008 Existing Traffic Volumes - Inset 3
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-17



0 500 1,000 Feet

2008 Existing Traffic Volumes - Inset 4
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-18

Table 17-12
Number of Intersection Approach Movements
at Mid-LOS D, LOS E, or LOS F

	Analysis Hour			
Level of Service	AM	Weekday Midday	PM	Saturday Midday
Mid-LOS D	20	11	11	9
LOS E	25	9	28	7
LOS F	17	17	51	18

SIXTH AVENUE

- The West 28th Street eastbound approach to Sixth Avenue operates at LOS F during the weekday midday and Saturday midday peak hours.
- The West 30th Street eastbound approach to Sixth Avenue operates at LOS F during the weekday midday and PM peak hours.
- The West 34th Street eastbound approach to Sixth Avenue operates at LOS F during the weekday AM and midday, and Saturday midday peak hours. The West 34th Street westbound approach to Sixth Avenue operates at LOS F during the weekday AM and PM peak hours.
- The left turn lane on the West 36th Street eastbound approach to Sixth Avenue operates at LOS E during the weekday midday peak hour and at LOS F during the Saturday midday peak hour.

SEVENTH AVENUE

- The West 28th Street eastbound approach to Seventh Avenue operates at LOS F during the weekday AM and Saturday midday peak hour.
- The West 29th Street westbound approach to Seventh Avenue operates at LOS F during the weekday midday peak hour and at LOS E during the weekday PM peak hour.
- The West 30th Street eastbound approach operates at LOS F during the weekday PM peak hour.
- The West 31st Street westbound approach to Seventh Avenue operates at LOS E during the Saturday midday peak hour.
- The West 33rd Street westbound approach to Seventh Avenue operates at LOS E during the weekday AM and PM peak hours at LOS F during the weekday midday peak hour.
- The West 34th Street eastbound approach to Seventh Avenue operates at LOS E during the Saturday midday peak hour.
- The West 35th Street westbound approach to Seventh Avenue operates at LOS F during the weekday AM peak hour.
- The West 36th Street eastbound approach to Seventh Avenue operates at LOS F during the weekday AM peak hour.
- The West 37th Street westbound approach to Seventh Avenue operates at LOS F during the Saturday midday peak hour.

- The West 38th Street eastbound approach to Seventh Avenue operates at LOS F during the Saturday midday peak hour.

EIGHTH AVENUE

- The West 29th Street westbound approach to Eighth Avenue operates at LOS F during the weekday midday peak hour and PM peak hours.
- The West 30th Street eastbound approach to Eighth Avenue operates at LOS F during the weekday midday and PM peak hours.
- The West 31st Street westbound approach to Eighth Avenue operates at LOS F during the Saturday midday peak hour.
- The West 35th Street westbound approach to Eighth Avenue operates at LOS F during the weekday PM peak hour and at LOS E during the Saturday midday peak hour.
- The West 36th Street eastbound approach to Eighth Avenue operates at LOS F during the weekday AM and midday peak hours, and Saturday midday peak hour.

NINTH AVENUE

- The left turn lane on the Ninth Avenue southbound approach to West 30th operates at LOS F during the weekday midday and PM peak hours, and Saturday midday peak hour.
- The West 30th Street eastbound approach to Ninth Avenue operates at LOS F during the weekday PM peak hour.
- The West 31st Street westbound approach to Ninth Avenue operates at LOS F during the weekday PM peak hour.
- The West 33rd Street westbound approach to Ninth Avenue operates at LOS F during the weekday PM peak hour.
- The right turn lane on the West 34th Street eastbound approach to Ninth Avenue operates at LOS E during the weekday AM peak hour and at LOS F during the weekday PM peak hour.
- The West 35th Street westbound approach to Ninth Avenue operates at LOS F during the weekday PM peak hour.
- The through and right turn lanes to the southbound Ninth Avenue approach to the Lincoln Tunnel Expressway at West 37th Street operates at LOS F during the weekday PM peak hour.
- The through lanes at the southbound Ninth Avenue approach to West 37th Street leading to the Lincoln Tunnel Expressway operate at LOS F during the weekday PM peak hour.
- The West 42nd Street eastbound approach to Ninth Avenue operates in LOS F during the weekday midday peak hour.

TENTH AVENUE

- The West 26th Street eastbound approach to Tenth Avenue operates at LOS E during the weekday AM and PM peak hours.
- The West 28th Street eastbound approach to Tenth Avenue operates at LOS E during the weekday AM peak hour and at LOS F during the Saturday midday peak hour.

- The West 30th Street eastbound approach to Tenth Avenue operates at LOS E during the weekday midday and PM peak hours.
- The right turn lane on the West 34th Street westbound approach to Tenth Avenue operates at LOS F during the weekday PM peak hour.
- The West 36th Street eastbound approach to Tenth Avenue operates at LOS F during the weekday midday peak hour.
- The Tenth Avenue northbound approach to West 36th Street operates at LOS F during the weekday PM peak hour.
- The West 37th Street westbound approach to Tenth Avenue operates at LOS F during the weekday PM peak hour.
- The West 38th Street eastbound approach to Tenth Avenue operates at LOS F during the weekday PM peak hour.
- The right turn lane on the West 39th Street westbound approach to Tenth Avenue operates at LOS F during the weekday PM peak hour.
- The Tenth Avenue northbound approach to West 39th Street operates at capacity and at LOS F during the weekday PM peak hour.
- The West 40th Street eastbound approach to Tenth Avenue operates at LOS F during the weekday PM peak hour.
- The Tenth Avenue northbound approach to West 40th Street operates at LOS F during the weekday PM peak hour.
- The left turn lane on the Tenth Avenue northbound approach to West 41st Street operates at LOS E during the weekday PM peak hour.
- The West 42nd Street eastbound approach to Tenth Avenue operates at LOS F during the weekday AM, midday, and PM peak hours and at LOS F during the Saturday midday peak hour. The West 42nd Street westbound approach to Tenth Avenue operates at LOS F during the weekday AM, midday, and PM peak hours, and Saturday midday peak hour.
- The West 43rd Street westbound approach to Tenth Avenue operates at LOS E during the weekday midday peak hour.

ELEVENTH AVENUE

- The through and right turn lane group on the Eleventh Avenue southbound approach to Twelfth Avenue operates at LOS E during the weekday AM and PM peak hours.
- The Twelfth Avenue northbound approach to Eleventh Avenue operates at LOS F during the weekday PM peak hour.
- The through and right turn lane group on the Eleventh Avenue southbound approach to West 24th Street operates at LOS F during the weekday AM and midday peak hours.
- The West 26th Street eastbound approach to Eleventh Avenue operates at LOS F during the weekday AM and PM peak hours and at LOS E during the weekday midday peak hour.
- The Eleventh Avenue northbound approach to West 38th Street operates at LOS F during the weekday PM peak hour.
- The Eleventh Avenue northbound approach to West 39th Street operates at LOS F during the weekday PM peak hour.

- The right turn lanes on the Eleventh Avenue northbound approach to West 40th Street and the Lincoln Tunnel operate at LOS F during the weekday PM peak hour.
- The left turn lanes on the Eleventh Avenue southbound approach to West 40th Street and the Lincoln Tunnel operate at LOS F during the weekday PM peak hour.
- The West 40th Street eastbound approach to Eleventh Avenue operates at LOS E during the weekday PM peak hour.
- The through lanes on the Eleventh Avenue southbound approach to West 41st Street leading to the Lincoln Tunnel operate at LOS F during the weekday PM peak hour.
- The left turn lane on the West 42nd Street westbound approach to Eleventh Avenue operates at LOS F during the weekday PM peak hour and the left turn and through lane group on the West 42nd Street westbound approach to Eleventh Avenue operates at LOS E during the weekday PM peak hour.
- The through lane on the Eleventh Avenue southbound approach to West 42nd Street leading to the Lincoln Tunnel operates at capacity and at LOS F during the weekday PM peak hour.
- The through lanes on the Eleventh Avenue southbound approach to West 43rd Street leading to the Lincoln Tunnel operate at LOS F during the weekday PM peak hour.
- The through lanes on the Eleventh Avenue southbound approach to West 44th Street leading to the Lincoln Tunnel operate at LOS F during the weekday PM peak hour.
- The West 54th Street eastbound approach to Eleventh Avenue operates at LOS E during the weekday AM peak hour.
- The West 57th Street eastbound approach to Eleventh Avenue operates at LOS E during the weekday AM and PM peak hours. The left turn lane on the West 57th Street westbound approach to Eleventh Avenue operates at LOS E during the weekday midday and Saturday midday peak hours. The through and right turn lane group on the West 57th Street westbound approach to Eleventh Avenue operates at LOS F during the Saturday midday peak hour.

TWELFTH AVENUE

- The West 24th Street westbound approach to Twelfth Avenue operates at LOS E during the weekday AM and PM peak hours. The left turn lane on the Twelfth Avenue southbound approach to West 24th Street operates at LOS F during the weekday AM and PM peak hours, the Saturday midday peak hour and at LOS E during the weekday midday peak hour.
- The West 29th Street westbound approach to Twelfth Avenue operates at LOS F during the weekday AM and PM peak hours and at LOS E during the weekday AM, midday, and PM and Saturday midday peak hours.
- The left turn lane on the Twelfth Avenue southbound approach to West 30th Street operates at LOS F during all peak hours.
- The left turn lane on the West 34th Street westbound approach to Twelfth Avenue operates at LOS E during the weekday AM and PM peak hours. The left and right turn lanes on the West 34th Street westbound approach to Twelfth Avenue operate at LOS E during the weekday AM and PM peak hours. The left turn lanes on the Twelfth Avenue southbound approach to West 34th Street operate at LOS F during weekday PM peak hour and at LOS E during the weekday AM and midday peak hours and Saturday midday peak hour.

- The left turn lane on the Twelfth Avenue northbound approach to the Pier 79 Ferry Terminal operates at LOS E during the weekday AM and PM peak hours. The Twelfth Avenue southbound approach to the Pier 79 Ferry Terminal operates at LOS F during the weekday AM and Saturday midday peak hours. The exit from the Pier 79 Ferry Terminal operates at LOS E during the weekday PM peak hour.
- The through lanes on the Twelfth Avenue northbound and southbound approaches to West 41st Street operate at LOS F during the weekday AM peak hour. The southbound through lanes operate at LOS E during the Saturday midday peak hour. The left and right turn lanes on the West 41st Street westbound approach to Twelfth Avenue operate at LOS E during the weekday PM peak hour.
- The left turn lanes on the West 42nd Street westbound approach to Twelfth Avenue operate at LOS E and the left turn lanes on the Twelfth Avenue southbound approach to West 42nd Street operate at LOS F during the weekday PM peak hour. The through lanes on the Twelfth Avenue northbound approach to West 42nd Street operate at LOS F during the Saturday midday peak hour.
- The West 43rd Street westbound approach to Twelfth Avenue operates at LOS E during the weekday AM and PM peak hours. The left turn lane on the Twelfth Avenue northbound approach to West 43rd Street operates at LOS F during the weekday AM peak hour and at LOS E during the weekday midday and PM peak hours.
- The left turn lane on the Twelfth Avenue southbound approach to West 44th Street operates at LOS E during the weekday AM and PM peak hours.
- The left turn lane on the Twelfth Avenue southbound approach to West 46th Street operates at LOS F during all time periods. The West 46th Street eastbound approach to Twelfth Avenue operates at LOS E during the weekday AM peak hour.
- The right turn lane on the westbound West 54th Street approach to Twelfth Avenue operates at LOS E during the weekday AM and PM peak hours. The left turn lane on the Twelfth Avenue southbound approach to West 54th Street operates at LOS E during the weekday AM and PM peak hours. The through lanes on the Twelfth Avenue southbound approach to West 54th Street operates at LOS E during the weekday AM peak hour.
- The left turn lanes on the Twelfth Avenue southbound approach to West 56th Street operate at LOS F during the weekday, midday, and PM peak hours.
- The right turn lanes on the West 57th Street westbound approach to Twelfth Avenue operate at LOS F during the weekday PM peak hour.

BROADWAY

- The through lanes on the West 35th Street westbound approach to Broadway operate at LOS E during the weekday PM peak hour.

DYER AVENUE

- The Dyer Avenue southbound approach to West 34th Street operates at LOS E during the AM peak hour. The left turn plus right turn and right turn lane group on the Dyer Avenue southbound approach to West 34th Street operates at LOS E during the weekday PM peak hour. The right turn lane on the West 34th Street westbound approach to Dyer Avenue operates at LOS F during the PM peak hour.

- The West 35th Street westbound approach to Dyer Avenue operates at LOS F during the weekday PM peak hour.
- The West 36th Street eastbound approach to Dyer operates at LOS E during the weekday AM peak hour.
- The Dyer Avenue northbound approach to West 36th Street operates at LOS F during the PM peak hour.
- The West 41st Street westbound approach to Dyer Avenue operates at LOS F during the PM peak hour.
- The through lane leading to the Lincoln Tunnel on the West 42nd Street westbound approach to Dyer Avenue operates at LOS F during the PM peak hour.

Detailed analysis results, including the v/c ratio, delay, and LOS, for intersections with one or more approach or lane group operating at mid-LOS D or worse are provided in Table 17-13 for the weekday AM, midday, PM and Saturday midday peak periods.

PARKING SUPPLY AND UTILIZATION

Existing parking conditions were evaluated by conducting a field inventory of on-street parking regulations and off-street public parking facilities within the parking study area defined below. The future parking demand associated with the Proposed Actions is expected to be concentrated in the vicinity of the Development Site with little demand generated by the Additional Housing Sites. Further, it is expected that this demand would be primarily accommodated off-street. Therefore, the on-street parking assessment involved only an inventory of the parking study area's on-street parking regulations, whereas detailed surveys of supply and utilization were conducted at the area's off-street parking facilities.

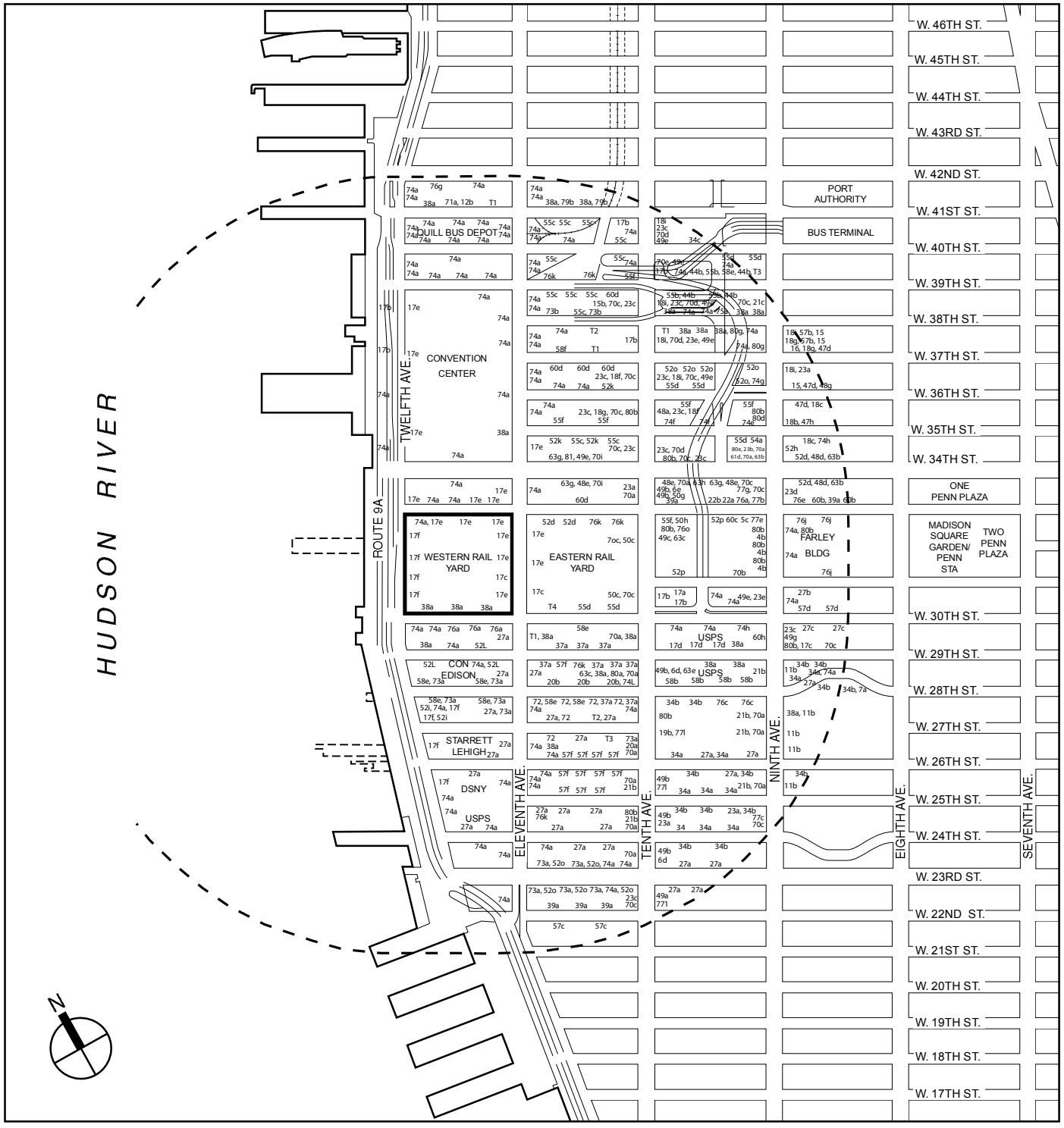
ON-STREET PARKING

On-street parking regulations within ½-mile of the Development Site were surveyed in August and September 2008 as shown on Figure 17-19. Most of the parking study area's curbside regulations restrict weekday daytime usage to commercial loading and unloading activities, authorized vehicles or prohibit parking overall. Unrestricted parking, with the exception of street cleaning regulations, is permitted along a limited number of blocks southeast of the Development Site, such as along West 29th Street between Eleventh and Tenth Avenues, and West 26th, West 25th, and West 24th Streets between Ninth and Tenth Avenues. However, these spaces serve mainly for storage of area residents' vehicles and little weekday parking turnover occurs.

OFF-STREET PARKING

In June and November of 2008, an inventory was conducted of licensed capacities at public parking lots and garages within ½-mile of the Development Site and of their approximate utilization during weekday midday and overnight periods. Within this study area, 36 facilities with an overall capacity of approximately 5,200 daytime and 3,800 overnight spaces were identified, located as shown in Figure 17-20 and detailed in Table 17-14. Based on the estimated parking utilization shown in Table 17-14, the area's parking demand is the lowest overnight when approximately 35 percent of the overnight spaces are utilized and peaks during midday at approximately 80 percent of the area's overall off-street parking supply, leaving a midday residual supply of approximately 1,000 off-street parking spaces.

3.11.09



Project Site

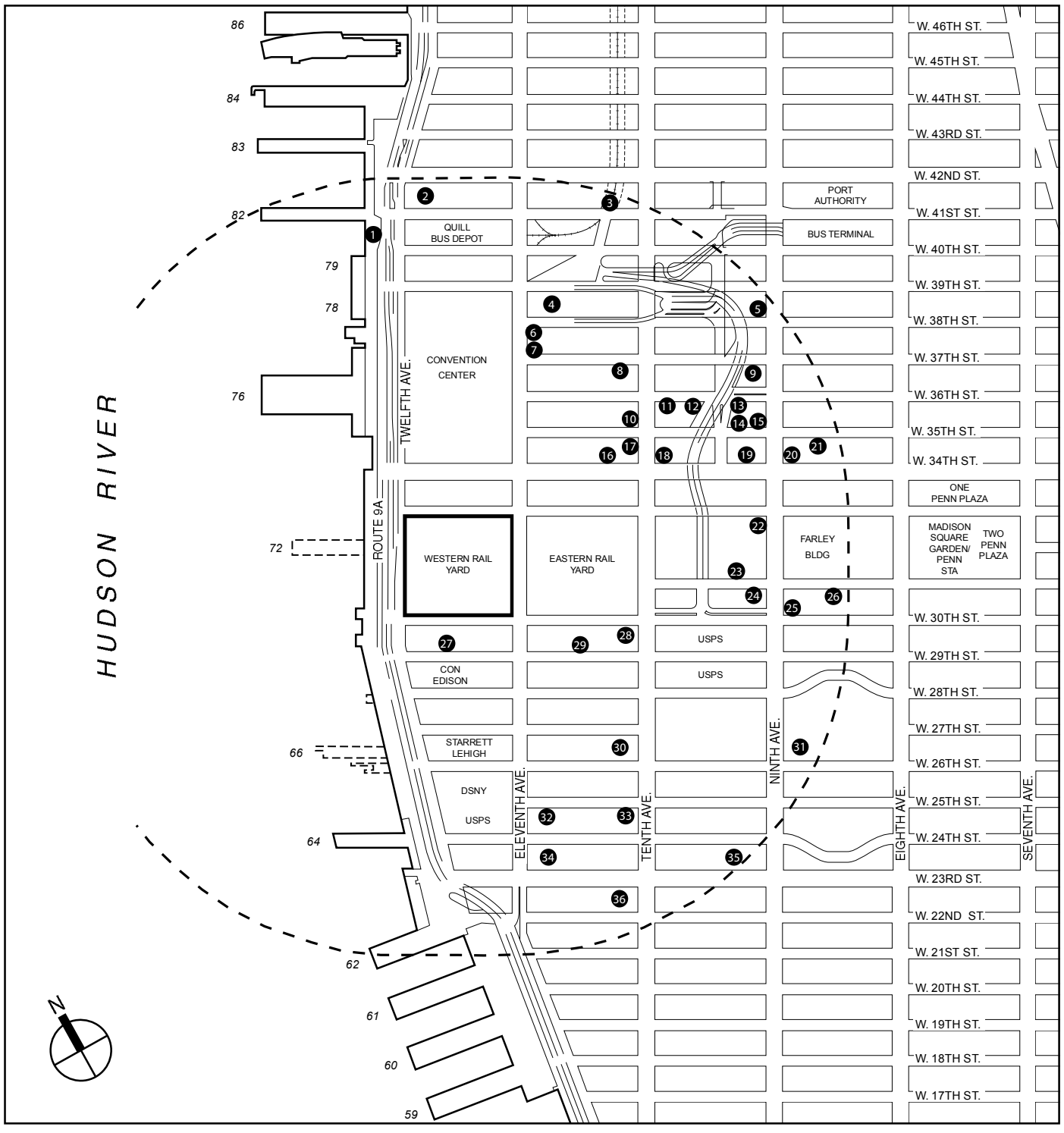
Study Area Boundary (1/2-mile radius)

see __ for description of parking regulations

0 400 1000 FEET
SCALE

On-Street Parking Regulations

Figure 17-19



Off-Street Parking Facilities

Figure 17-20

Table 17-13

Existing Conditions Intersection Approach Movements Operating at LOS Mid-D, E or F

		AM				Midday				PM				Saturday			
Intersection	Approach	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS
Sixth Avenue @ 28th Street	EB					LT	0.75	143.1	F					LT	0.74	127.0	F
Sixth Avenue @ 30th Street	EB					LT	0.78	100.5	F	LT	0.78	97.8	F				
Sixth Avenue @ 34th Street	EB	T	1.05	268.5	F	T	1.04	234.5	F	T	0.85	47.4	D	T	1.03	354.3	F
	WB	TR	1.01	104.2	F	TR	0.91	46.1	D	TR	1.05	256.7	F				
SIxth Avenue @ 36th Street	EB					L	0.79	59.1	E	L	0.71	50.9	D	L	1.02	173.1	F
Seventh Avenue @ 28th Street	EB	TR	0.73	232.1	F									TR	0.67	237.3	F
Seventh Avenue @ 29th Street	WB	LT	0.95	54.6	D	LT	1.05	299.4	F	LT	0.95	55.6	E				
Seventh Avenue @ 30th Street	EB									T	0.59	97.5	F				
										R	0.33	95.5	F				
Seventh Avenue @ 31st Street	WB					LT	0.93	49.4	D					LT	0.97	56.0	E
Seventh Avenue @ 33rd Street	WB	LT	0.92	75.8	E	LT	1.05	282.5	F	LT	0.92	73.0	E	LT	0.81	52.6	D
Seventh Avenue @ 34th Street	EB													TR	0.43	73.6	E
Seventh Avenue @ 35th Street	WB	LT	0.60	137.2	F												
Seventh Avenue @ 36th Street	EB	TR	0.83	239.6	F												
Seventh Avenue @ 37th Street	WB													LT	0.64	94.5	F
Seventh Avenue @ 38th Street	EB													TR	0.70	151.1	F
Eighth Avenue @ 29th Street	WB	TR	0.90	47.2	D	TR	1.03	292.1	F	TR	1.04	222.2	F				
Eighth Avenue @ 30th Street	EB					LT	0.57	99.9	F	LT	0.60	113.8	F				
Eighth Avenue @ 31st Street	WB													TR	0.61	102.6	F
Eighth Avenue @ 35th Street	WB	TR	0.88	53.3	D					TR	1.04	232.6	F	TR	0.98	72.9	E
Eighth Avenue @ 36th Street	EB	LT	0.62	125.8	F	LT	0.48	80.5	F					LT	0.71	172.2	F
Ninth Avenue @ 23rd Street	EB	TR	0.85	46.3	D												
Ninth Avenue @ 28th Street	EB	TR	0.92	51.6	D												
Ninth Avenue @ 30th Street	EB									TR	0.55	179.2	F				
	SB	L	0.73	51.6	D	L	1.05	219.8	F	L	1.03	212.2	F	L	1.05	208.5	F
Ninth Avenue @ 31st Street	WB									LTR	0.72	158.9	F				
Ninth Avenue @ 33rd Street	WB									LT	1.05	267.3	F				
Ninth Avenue @ 34th Street	EB	R	0.87	63.0	E	R	0.75	47.1	D	R	1.05	286.6	F				
Ninth Avenue @ 35th Street	WB									LT	1.04	232.9	F				
Ninth Avenue @ 36th Street	EB	TR	0.73	49.9	D												
Ninth Avenue @ 37th Street	SB									TR (LnT)	1.00	180.0	F				
Ninth Avenue @ 38th Street	SB									T (LnT)	1.00	185.7	F				
Ninth Avenue @ 42nd Street	EB					TR	0.53	176.1	F								
Tenth Avenue @ 26th Street	EB	LT	0.92	57.3	E	LT	0.85	46.0	D	LT	0.94	61.5	E				
Tenth Avenue @ 28th Street	EB	LT	0.98	73.0	E									LT	1.05	272.2	F
Tenth Avenue @ 30th Street	EB	LT	0.86	46.5	D	LT	0.94	58.7	E	LT	0.99	68.6	E				
Tenth Avenue @ 31st Street	WB									R	0.56	48.5	D				
Tenth Avenue @ 34th Street	WB									R	1.04	246.5	F				
Tenth Avenue @ 36th Street	EB					LT	0.29	104.6	F								
Tenth Avenue @ 37th Street	WB									LT	1.00	95.5	F				
Tenth Avenue @ 38th Street	SB									TR	1.00	91.0	F				
Tenth Avenue @ 39th Street	WB									T	0.20	48.2	D				
										R	0.44	86.3	F				
Tenth Avenue @ 40th Street	EB									LT	0.32	86.0	F				
Tenth Avenue @ 41st Street	NB									L	0.75	63.4	E				
Tenth Avenue @ 42nd Street	EB	LT	1.05	284.0	F	LT	1.04	261.5	F	LT	1.01	124.7	F	LT	0.97	81.6	F
	WB					TR	1.03	182.1	F					TR	1.02	139.0	F
Tenth Avenue @ 43rd Street	WB					TR	0.40	75.9	E								
Eleventh Avenue/ 12th Avenue @ 22nd Street		T	0.45	51.7	D					T	0.57	54.9	D				
	SB (11th)	TR	0.54	57.8	E					TR	0.78	72.3	E				
	NB (12th)									T	1.02	93.7	F				
Eleventh Avenue @ 24th Street	SB	TR	1.03	137.9	F	TR	1.04	141.5	F								
Eleventh Avenue @ 26th Street	EB	TR	1.00	87.4	F	TR	0.85	55.7	E	TR	1.05	277.2	F				
Eleventh Avenue @ 38th Street	NB									TR	1.00	388.4	F				
Eleventh Avenue @ 39th Street	NB									T	1.00	428.4	F				
Eleventh Avenue @ 40th Street	EB									TR	0.85	61.4	E				
Eleventh Avenue @ 41st Street	SB									T (LnT)	1.00	118.2	F				

Table 17-13 (cont'd)

Existing Conditions Intersection Approach Movements Operating at LOS Mid-D, E or F

Intersection	Approach	AM Movt.	AM V/C Ratio	AM Delay Sec/Veh	AM LOS	Midday Movt	Midday V/C Ratio	Midday Delay Sec/Veh	Midday LOS	PM Movt.	PM V/C Ratio	PM Delay Sec/Veh	PM LOS	Saturday Movt.	Saturday V/C Ratio	Saturday Delay Sec/Veh	Saturday LOS
Eleventh Avenue @ 42nd Street	WB									L	0.33	113.9	F				
										LT	0.33	67.1	E				
	SB									T (LnT)	1.00	153.1	F				
Eleventh Avenue @ 43rd Street	SB									T (LnT)	1.00	169.6	F				
Eleventh Avenue @ 44th Street	SB									T (LnT)	1.00	170.6	F				
Eleventh Avenue @ 54th Street	EB	LTR	0.88	57.4	E												
Eleventh Avenue @ 57th Street	EB	TR	1.00	72.6	E					TR	0.94	67.0	E				
	WB	L	0.86	54.7	D	L	0.93	65.1	E					L	0.90	55.6	E
														TR	1.02	153.2	F
Twelfth Avenue @ 24th Street	WB	L	0.45	65.5	E					L	0.58	66.5	E	L	0.47	46.0	D
		LTR	0.48	67.0	E	LTR	0.47	46.8	D	LTR	0.58	67.3	E	LTR	0.46	46.0	D
		R	0.48	67.9	E	R	0.48	47.4	D	R	0.58	68.2	E	R	0.47	47.0	D
	SB	L	0.95	128.2	F	L	0.65	73.7	E	L	0.63	85.6	F	L	1.05	314.3	F
Twelfth Avenue @ 29th Street	WB	LR	1.05	321.0	F	LR	0.82	69.9	E	LR	1.02	192.0	F	LR	0.83	69.0	E
Twelfth Avenue @ 30th Street	SB	L	1.05	313.8	F	L	1.05	275.6	F	L	1.05	326.4	F	L	0.84	87.8	F
Twelfth Avenue @ 34th Street	WB	L	0.52	62.1	E					L	0.44	58.6	E				
		LR	0.52	62.3	E					LR	0.45	59.0	E				
	SB	L	0.47	59.3	E	L	0.59	55.7	E	L	1.04	282.8	F	L	0.73	61.2	E
Twelfth Avenue @ Pier 79 Ferry Terminal	EB	LR	0.12	52.5	D					LR	0.24	60.4	E				
		R	0.12	53.1	D					R	0.25	61.9	E				
	NB	L	0.10	63.7	E	L	0.19	50.3	D	L	0.29	72.4	E	L	0.25	51.5	D
	SB	TR	1.04	102.2	F									TR	1.05	106.4	F
Twelfth Avenue @ 41st Street	EB									LR	0.06	47.3	D				
	WB	L	0.07	50.5	D					L	0.06	59.7	E				
		R	0.30	54.6	D					R	0.19	61.7	E				
	NB	T	1.01	95.7	F												
	SB	T	1.05	80.4	F									T	1.03	77.4	E
Twelfth Avenue @ 42nd Street	EB	LTR	0.04	46.2	D					LTR	0.08	46.7	D				
	WB	L	0.33	52.6	D					L	0.64	64.3	E				
										R	0.65	50.0	D				
	NB					T	0.97	49.6	D					T	1.05	111.0	F
	SB	L	0.46	53.6	D					L	0.85	89.3	F				
Twelfth Avenue @ 43th Street	WB	LTR	0.57	61.0	E					LTR	0.67	65.3	E				
	NB	L	0.95	159.2	F	L	0.31	58.4	E	L	0.16	68.3	E	L	0.10	52.4	D
Twelfth Avenue @ 44th Street	SB	L	0.65	59.1	E	L	0.53	45.0	D	L	0.55	61.6	E	L	0.59	46.9	D
Twelfth Avenue@ 46th Street	EB	LTR	0.27	56.4	E					LTR	0.16	51.8	D				
	NB	TR	0.83	54.9	D												
	SB	L	0.81	90.2	F	L	0.84	97.3	F	L	1.02	220.6	F	L	1.04	300.2	F
Twelfth Avenue @ 54th Street	WB	R	0.43	57.9	E					R	0.58	64.8	E				
	SB	L	0.50	59.1	E					L	0.37	55.8	E				
		T	1.04	72.4	E												
Twelfth Avenue @ 56th Street	NB	T	0.98	52.9	D												
	SB					L	0.99	83.3	F	L	0.93	311.0	F	L	0.68	51.4	D
Twelfth Avenue @ 57th Street	WB									R	0.51	191.3	F				
Broadway @ 35th Street	WB	T	0.89	51.8	D					T	0.91	55.3	E				
Dyer Ave @ 31st Street	SB									TR	0.88	46.4	D				
Dyer Ave @ 34th Street	SB	L	0.80	61.5	E					L	0.73	54.3	D				
		LR	0.79	60.9	E					LR	0.74	56.0	E				
		R	0.80	65.4	E					R	0.74	57.7	E				
Dyer Ave @ 35th Street	WB									LTR	0.55	146.6	F				
Dyer Ave @ 36th Street	EB	TR	0.46	56.3	E	TR	0.39	52.8	D	TR	0.34	46.9	D				
Dyer Avenue @ 41st Street	WB									TR	0.42	46.5	D				
Dyer Avenue @ 42nd Street	WB									T (LnT)	1.00	1171.0	F				

Shading indicates movement not at LOS Mid-D, E, or F.
LOS = Level of Service

Table 17-14
2008 Existing Off-Street Parking Utilization

Map #	Name	Address	License Number	Licensed Capacity	Weekday Midday		Weekday Overnight	
					Utilization Rate	Available Capacity	Utilization Rate	Available Capacity
1	Circle Line Sightseeing Yachts Inc.	Pier 81	4296229	290	70%	87	Closed	
2	Quik Park W. 41st St. LLC	601 W. 41st St.	1266247	194	50%	97	90%	19
3	JDS Parking LLC	561 Tenth Ave.	1130760	71	85%	11	45%	39
4	Central Parking Systems	541 W. 38th St.	1101898	221	50%	111	Closed	
5	L Park 30 LLC	405 W. 38th St.	1249180	30	60%	12	Closed	
6	Car Park Systems	462-470 Eleventh Ave.	1298308 1298309	42	60%	17	Closed	
7	Westside Express Parking	456 Eleventh Ave.	1134101	20	75%	5	Closed	
8	E-Z Sprint	517-525 W. 36th St.	999365	25	95%	1	Closed	
9	9th Ave. Parking LLC	404 W. 37th St.	1142024	166	65%	58	Closed	
10	Enterprise of 35th W.	451 Tenth Ave.	1276761	123	95%	6	Closed	
11	Imperial Parking	452 Tenth Ave.	1258468 1104818	142	90%	14	Closed	
12	21st Parking	436-438 W. 36th St. 447 W. 35th St.	1262199 1262417	90	85%	14	60%	36
13	Central Parking System of NY	416 W. 36th St.	1199948	28	95%	1	Closed	
14	Central Parking System	415 W. 35th St.	1085596	52	50%	26	30%	36
15	Edison Park Fast	451 Ninth Ave. 409 W. 35th St.	976955 976953	154	80%	31	Closed	
16	509 W. 34th St Parking Corp	509 W. 34th St.	1254421	200	95%	10	20%	160
17	34th St. Parking Corp.	435 Tenth Ave.	976181	99	100%	0	5%	94
18	21st Parking LLC	444 Tenth Ave.	1268783	25	100%	0	Closed	
19	Central Parking System, Inc.	441 Ninth Ave.	367203	160	90%	16	25%	120
20	34th & 9th Parking	436-438 Ninth Ave.	1166499	140	95%	7	20%	112
21	Lincoln Garage LLC D/B/A Meyer Parking	323-331 W. 34th St.	1182737	500	75%	125	30%	350
22	Edison 9th Ave. Corp	401-409 Ninth Ave.	428456	115	75%	29	20%	92
23	Tunnel Parking Corp	425 W. 31st St.	1014335	145	50%	73	20%	116
24	Madison Square Parking Corp.	359-63 Ninth Ave.	993927	40	95%	2	50%	20
25	Secure Parking LLC	363 W. 30th St.	1099298	18	90%	2	Closed	
26	Post Office Garage LLC D/B/A Meyers Parking	340 W. 31st. St.	1181008	255	100%	0	30%	179
27	29 Operator Corp.	260-270 Twelfth Ave.	1258489	89	100%	0	20%	71
28	Enterprise 30th St. Parking LLC	343 Tenth Ave.	1060717	50	80%	10	30%	35
29	Enterprise 30th St. Parking LLC	529-539 W. 29th St.	1083289	100	75%	25	30%	70
30	West 26th Parking Corp.	279 Tenth Ave.	892932	140	50%	70	Closed	
31	Impact Car Park LLC	333 W. 26th St.	1079092	839	95%	42	30%	587
32	550 W. 25th St. Car Park, LLC	550 W. 25th St.	1192617	163	85%	24	25%	122
33	249 Parking	249 Tenth Ave.	427868	120	20%	96	65%	42
34	555 West Garage	549 W. 24th St.	1214704	70	90%	7	75%	18
35	Quik Park Garage	423-431 W. 23rd St.	998590	185	100%	0	90%	19
36	514 West	514 W. 23rd St.	920084	81	100%	0	80%	16
			Totals	**5,182**	**80%**	**1,029**	**37%**	**2,353**

STUDY AREA ACCIDENT PATTERNS

Accident data for intersections within an area bounded on the north by West 37th Street, on the south by West 26th Street, on the east by Seventh Avenue and on the west by Twelfth Avenue, generally encompassing the pedestrian study area for the Development Site, were obtained from the NYCDOT. This information provides the most recent three years of available accident data, from January 1, 2006, to December 31, 2008 and is presented in Table 17-15. The table provides, by intersection, the total number of accidents, the total number of reportable accidents (involving fatality, injury or more than $1,000 in property damage), the number of fatalities and injuries during the study period, as well as a yearly breakdown of pedestrian- and bicycle-related injuries or fatalities at each intersection.

Table 17-15
2006 to 2008 Accident History

Intersection		2006, 2007, 2008 Overall Accidents[1]				Injuries or Fatalities by Year								
						Pedestrian			Bicycle			Combined[2]		
Main Street	Cross Street	Total Accidents	Reportable Accidents	Fatalities	Injuries	2006	2007	2008	2006	2007	2008	2006	2007	2008
Twelfth Ave.	West 26th St.	48	9	0	10	0	0	0	1	0	0	1	0	0
Twelfth Ave.	West 27th St.	24	0	0	0	0	0	0	0	0	0	0	0	0
Twelfth Ave.	West 28th St.	21	2	0	2	0	0	0	0	0	0	0	0	0
Twelfth Ave.	West 29th St.	40	7	0	8	1	0	0	0	0	0	1	0	0
Twelfth Ave.	West 30th St.	94	22	2	31	0	1	1	0	1	0	0	2	1
Twelfth Ave.	West 33rd St.	49	4	0	6	0	0	0	0	0	0	0	0	0
Twelfth Ave.	West 34th St.	160	18	0	27	0	0	0	0	1	0	0	1	0
Twelfth Ave.	Police Tow Pound	23	2	0	3	0	0	0	0	0	0	0	0	0
Twelfth Ave.	Pier 79 Ferry Terminal	46	5	0	5	0	0	0	0	0	0	0	0	0
Eleventh Ave.	West 26th St.	47	6	0	6	2	2	0	2	0	0	4	2	0
Eleventh Ave.	West 27th St.	38	1	0	1	0	0	0	0	0	0	0	0	0
Eleventh Ave.	West 28th St.	32	3	0	3	0	0	0	0	0	0	0	0	0
Eleventh Ave.	West 29th St.	47	3	0	3	0	0	2	0	0	0	0	0	2
Eleventh Ave.	West 30th St.	89	17	0	24	0	0	0	1	0	1	1	0	1
Eleventh Ave.	West 33rd St.	31	6	0	12	0	0	1	0	0	0	0	0	1
Eleventh Ave.	West 34th St.	108	17	0	22	0	2	0	1	0	2	1	2	2
Eleventh Ave.	West 35th St.	24	2	0	2	0	0	1	0	0	0	0	0	1
Eleventh Ave.	West 36th St.	32	1	0	1	0	0	0	0	0	0	0	0	0
Eleventh Ave.	West 37th St.	53	5	0	8	2	0	2	0	0	0	2	0	2
Tenth Ave.	West 26th St.	96	15	0	19	5	1	1	2	0	0	7	1	1
Tenth Ave.	West 27th St.	77	10	0	10	1	3	2	0	0	0	1	3	2
Tenth Ave.	West 28th St.	67	8	0	10	0	3	0	0	0	0	0	3	0
Tenth Ave.	West 29th St.	83	3	0	4	0	0	0	1	0	0	1	0	0
Tenth Ave.	West 30th St.	88	9	0	9	1	1	0	0	0	0	1	1	0
Tenth Ave.	West 31st St.	25	7	0	8	0	0	1	0	0	1	0	0	2
Tenth Ave.	West 33rd St.	49	5	0	9	0	0	1	0	0	0	0	0	1
Tenth Ave.	West 34th St.	174	23	0	29	2	3	3	0	3	0	2	6	3
Tenth Ave.	West 35th St.	60	3	0	3	0	1	0	0	0	0	0	1	0
Tenth Ave.	West 36th St.	118	11	0	16	0	1	1	0	0	0	0	1	1
Tenth Ave.	West 37th St.	64	4	0	4	0	2	0	0	1	0	0	3	0
Ninth Ave.	West 26th St.	41	11	0	11	3	3	2	1	0	1	4	3	3
Ninth Ave.	Mid- block Crossing	9	0	0	0	0	0	0	0	0	0	0	0	0
Ninth Ave.	West 28th St.	67	14	1	16	4	4	1	1	0	0	5	4	1
Ninth Ave.	West 29th St.	49	14	1	18	5	0	1	1	4	2	6	4	3
Ninth Ave.	West 30th St.	109	19	0	28	2	6	4	0	0	1	2	6	5
Ninth Ave.	West 32nd St.	59	11	0	13	2	2	2	0	1	0	2	3	2
Ninth Ave.	West 33rd St.	59	10	0	12	0	1	2	0	1	1	0	2	3
Ninth Ave.	West 34th St.	203	25	0	32	5	2	2	1	1	2	6	3	4
Ninth Ave.	West 35th St.	96	5	0	8	1	0	2	0	0	0	1	0	2
Ninth Ave.	West 36th St.	93	9	0	10	1	2	1	1	0	0	2	2	1
Ninth Ave.	West 37th St.	147	19	0	19	4	2	5	1	1	0	5	3	5
Eighth Ave.	West 26th St.	45	8	0	9	0	2	3	0	1	2	0	3	5
Eighth Ave.	West 27th St.	13	5	0	5	1	1	0	1	0	0	2	1	0
Eighth Ave.	West 28th St.	67	14	0	17	3	4	3	1	0	1	4	4	4
Eighth Ave.	West 29th St.	81	18	0	18	6	4	3	0	0	1	6	4	4
Eighth Ave.	West 30th St.	116	14	0	15	2	8	3	1	0	0	3	8	3
Eighth Ave.	West 31st St.	189	11	0	15	0	2	5	0	2	1	0	4	6
Eighth Ave.	Post Office Crossing	8	2	0	2	0	0	0	0	0	0	0	0	0
Eighth Ave.	West 33rd St.	154	17	0	19	4	1	3	2	2	1	6	3	4
Eighth Ave.	West 34th St.	284	52	0	60	13	7	10	5	1	2	18	8	12
Eighth Ave.	West 35th St.	85	6	0	6	0	3	1	1	1	0	1	4	1
Eighth Ave.	West 36th St.	130	21	0	22	3	4	6	1	4	0	4	8	6
Eighth Ave.	West 37th St.	151	21	0	25	4	3	2	1	2	1	5	5	3
Seventh Ave.	West 26th St.	60	10	0	15	3	2	1	0	1	1	3	3	2
Seventh Ave.	West 27th St.	57	13	0	14	4	3	4	1	0	0	5	3	4
Seventh Ave.	West 28th St.	70	8	0	17	2	2	1	1	0	0	3	2	1

Table 17-15 (cont'd)
2006 to 2008 Accident History

Intersection		2006, 2007, 2008 Overall Accidents[1]				Injuries or Fatalities by Year								
						Pedestrian			Bicycle			Combined[2]		
Main Street	Cross Street	Total Accidents	Reportable Accidents	Fatalities	Injuries	2006	2007	2008	2006	2007	2008	2006	2007	2008
Seventh Ave.	West 29th St.	68	17	0	17	2	2	3	0	1	4	2	3	7
Seventh Ave.	West 30th St.	98	12	0	15	0	2	3	0	1	0	0	3	3
Seventh Ave.	West 31st St.	131	16	0	16	2	1	2	1	2	2	3	3	4
Seventh Ave.	West 32nd St.	86	12	0	15	2	6	4	0	0	0	2	6	4
Seventh Ave.	West 33rd St.	143	18	0	20	3	7	3	1	0	0	4	7	3
Seventh Ave.	West 34th St.	282	40	0	54	6	7	9	2	0	0	8	7	9
Seventh Ave.	West 35th St.	112	18	0	23	5	8	3	0	0	0	5	8	3
Seventh Ave.	West 36th St.	119	18	0	30	3	1	12	1	1	0	4	2	12
Seventh Ave.	West 37th St.	115	27	0	38	8	6	8	3	1	1	11	7	9
Total		5503	763	4	949	117	128	130	37	34	28	154	162	158

Notes:
1 Overall accidents includes accidents involving one or more motor vehicles or a motor vehicle with a pedestrian or bicycle.
2 A combined total of five or more pedestrian and/or bicycle related accidents in any one year is the *CEQR* criteria for identifying a high accident location.
Source: NYCDOT

Overall, a total of approximately 5,500 total accidents and 763 reportable accidents occurred in the accident study area during the three-year reporting period. Four fatalities and 949 injuries occurred, of which 375 were pedestrian related and 99 were bicycle accident-related. Over 100 total accidents occurred at each of the intersections of West 34th Street with Seventh Avenue, Eighth Avenue, Ninth Avenue, Tenth Avenue, Eleventh Avenue and Twelfth Avenue. The highest number of total accidents occurred at the intersection of West 34th Street and Eighth Avenue (284). This intersection also experienced the most reportable accidents (52) of any intersection in the accident study area over the reporting period.

According to the *CEQR* criteria, a high accident location is one where five or more combined pedestrian and/or bicycle-related accidents have occurred in any single year over the most recent three-year period. More than five combined pedestrian and/or bicycle injuries or fatalities occurred at 23 intersections in the study area during a one or more years over the three year period, with the highest number reported at the intersection of Eighth Avenue and West 34th Street in 2006.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

Traffic and parking conditions in the Future without the Proposed Actions were assessed to establish the condition against which potential impacts from the Proposed Actions are evaluated. The analysis of the Future without the Proposed Actions in this section focuses on typical weekday and Saturday conditions in 2019, the year the Development Site is scheduled for completion. As noted above, a 2017 interim year assessment of potential impacts of the partial completion of the Western Rail Yard development has also been incorporated in the traffic analysis conducted for this EIS. A description of the Future without the Proposed Actions condition in the 2017 interim year is also presented below.

ROADWAY MODIFICATIONS

Several modifications to the study area roadway network are expected to in place by 2017 and 2019. These modifications are expected to be implemented as part of the Hudson Yards area

development and other development in the study area and in accordance with NYCDOT initiatives.

HUDSON PARK AND BOULEVARD

The first phase of Hudson Park and Boulevard, between Tenth and Eleventh Avenues from West 33rd Street to West 36th Street, is expected to be completed prior to 2017. The first phase of Hudson Park and Boulevard would include a one-way northbound segment from West 33rd Street to West 36th Street and a one-way southbound segment from West 36th Street to West 35th Street.

EASTERN RAIL YARD

Two north-south and two east-west publicly accessible roadways would be constructed within the Eastern Rail Yard development site to provide access to buildings internal to the site and improve overall vehicular and pedestrian circulation. The two new east-west roadways (generally in line with West 31st Street operating one-way westbound and West 32nd Street operating one-way eastbound) would intersect with Eleventh Avenue and extend within the site to a new internal north-south roadway constructed along the extended alignment of Hudson Park and Boulevard. This north-south roadway would operate one-way north of, and one-way south of its intersection with the new roadway generally in line with West 32nd Street. Also, a southbound roadway would be constructed from West 33rd Street to the roadway generally in line with West 32nd Street. Analysis locations in the Future without the Proposed Actions include the intersections of Eleventh Avenue with the roadways generally in line with West 31st and 32nd Streets and the intersection of West 33rd Street with the new Eastern Rail Yard north-south roadway and Hudson Park and Boulevard.

SAFE STREETS FOR SENIORS

NYCDOT has implemented a city wide program of improving pedestrian safety conditions for senior citizens. One traffic signal timing factor considered at intersections is the pedestrian walk time assumed for crossing. Within designated areas, NYCDOT has proposed reducing the assumed pedestrian crossing walk rate from four to three feet per second to provide additional pedestrian crossing time. The Midtown West/Chelsea Senior Safety Area overlaps a large portion of the Western Rail Yard traffic study area. Traffic signal timings within this Senior Safety Area were checked for conformance with this revised pedestrian walk rate parameter and modified as necessary in the Future with and without the Proposed Actions conditions to satisfy reduced walking rate traffic signal timing requirements.

OTHER ROADWAY MODIFICATIONS

NYCDOT is “planning” to implement pedestrian safety improvements on Seventh Avenue from West 31st to West 34th Streets, consisting of corner bulb-outs and curbline relocations. It is also planning to convert West 41st Street between Tenth and Eleventh and Tenth Avenues from its current one-way westbound operation to two-way with one eastbound and one westbound lane. However, only eastbound local traffic destined to the buildings fronting West 41st Street would be accommodated, not access to the Lincoln Tunnel. It is anticipated that the closure of West 39th Street between Eleventh and Twelfth Avenues, as in existing conditions, would continue in the future.

HUDSON YARDS FGEIS MITIGATION

The mitigation measures proposed in the *Hudson Yards FGEIS* were determined inappropriate for inclusion in the Western Rail Yard traffic impact analysis given the significant number of changes that have occurred in the study area since the completion of the *Hudson Yards FGEIS*, including a reduction in area-wide traffic volumes, numerous changes to the traffic network, a reduction in auto mode share, and changes to the Hudson Yards development program. An analysis of the changed conditions was prepared as part of this DEIS and is documented in Appendix E, "Transportation Technical Memos and Analyses." In effect, the exclusion of such mitigation measures in the 2017 and 2019 Future without the Proposed Actions condition analysis presents a potentially more conservative indication of the levels of congestion that may occur in the future in the study area.

An additional comparison was performed of the mitigation measures developed for the 2019 analysis year of this DEIS and the 2025 analysis year of the *Hudson Yards FGEIS* and concluded that there will still be an ability to develop additional mitigation measures to address the adverse traffic impact that may result from the Hudson Yards rezoning and other projects as the projected development in Far West Midtown materializes. Documentation of this comparison is also included in Appendix E, "Transportation Technical Memos and Analyses."

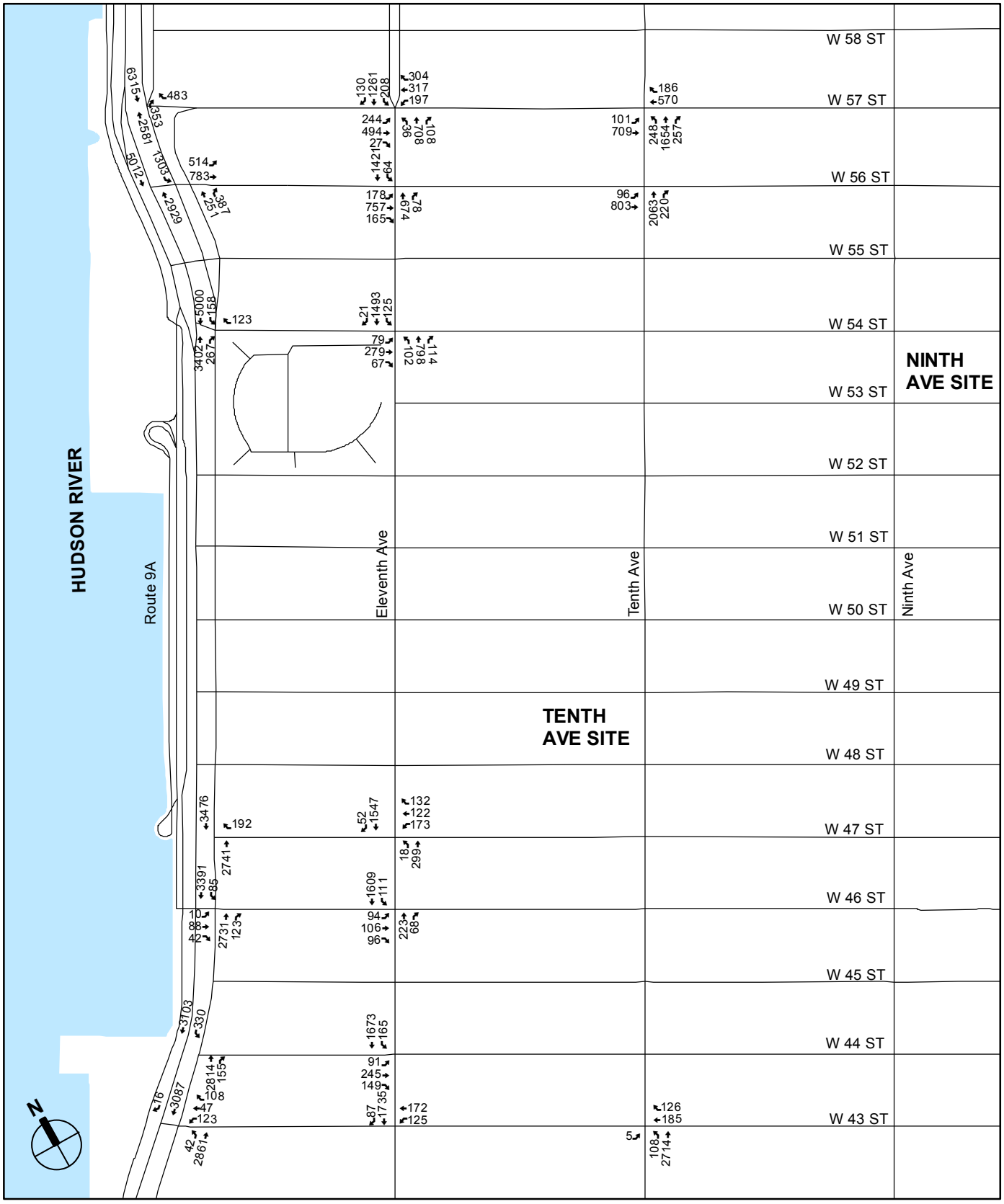
Also, recognizing the long-term nature of the traffic projections in the *Hudson Yards FGEIS* and the potential for significant changes over time, in 2005 the City of New York agreed to implement a traffic monitoring and management program when the first five million square feet of development associated with the Hudson Yards rezoning were completed. In coordination with NYCDOT, the monitoring program would serve to identify the need to implement specific mitigation measures.

TRAFFIC VOLUMES

Traffic volumes on the study area roadway network in the Future without the Proposed Actions were derived through a combination of background traffic growth and traffic projected to be generated by specific developments anticipated to be completed by 2019. A description of Future without the Proposed Actions (or "No Build") development projects whose projected trips were included in the traffic volume networks in the Future without the Proposed Actions analysis is provided in Chapter 2, "Framework for Analysis." A similar process was employed to derive study area roadway network traffic volumes for the 2017 interim analysis year. However, no additional No Build projects are projected to be completed between 2017 and 2019. Details related to the traffic assignment process are presented in the Appendix E memo: "Western Rail Yard EIS Traffic Assignment Assumptions for Off-Street Parking Facilities."

For the 2017 interim year analysis traffic forecasts, a cumulative background growth rate of approximately 3.3 percent was applied to 2008 conditions to represent background growth occurring over the 2008 to 2017 period. For the 2019 traffic forecasts, a cumulative background growth rate of approximately 3.8 percent was applied to 2008 conditions to represent background growth occurring over the 2008 to 2019 period.

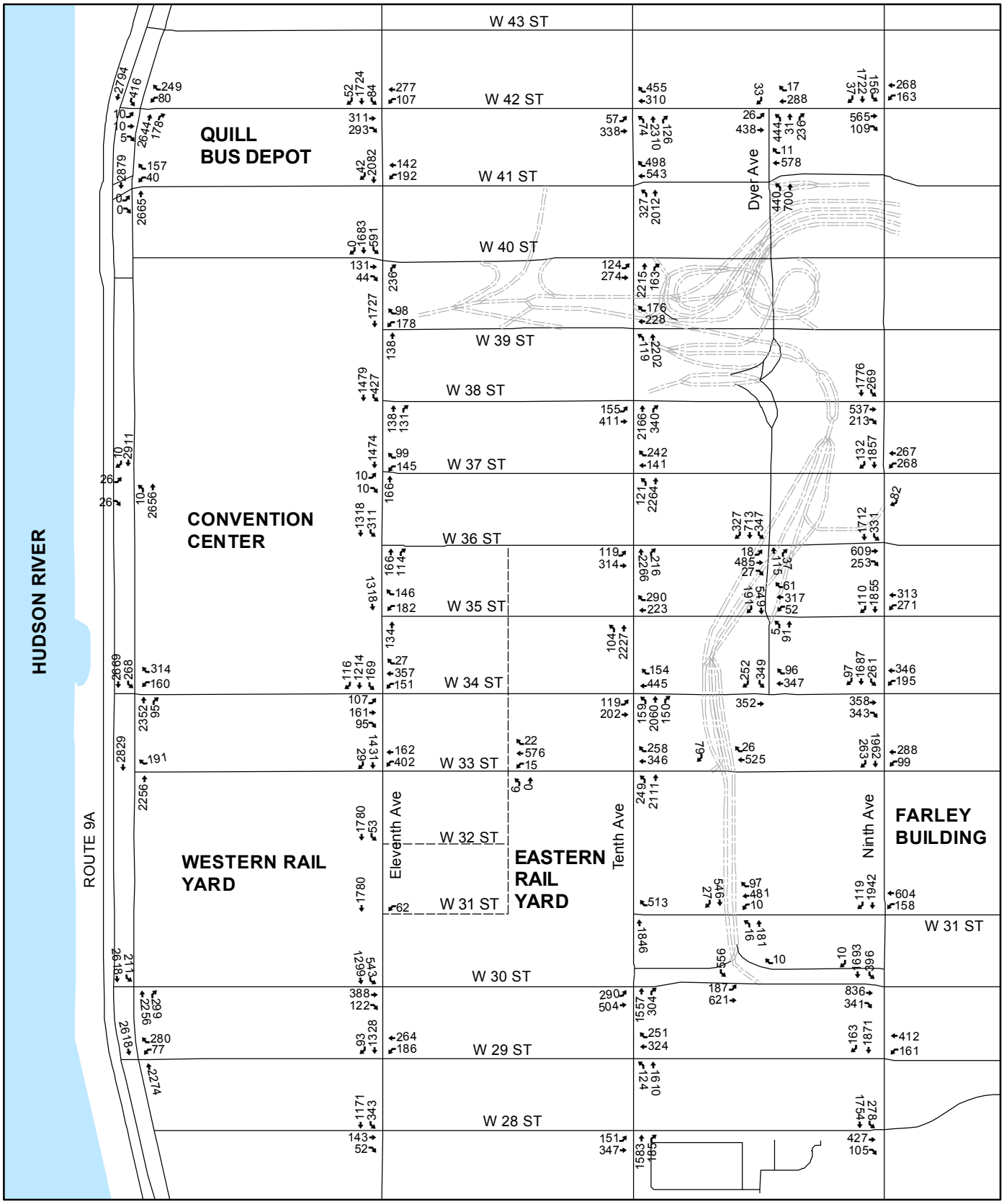
Figures 17-21 through 17-36 provide the 2019 No Build traffic volumes for the typical weekday AM (8 AM to 9 AM), midday (12 noon to 1PM), PM (5 PM to 6 PM) and typical Saturday midday (1 PM to 2 PM) peak hours, respectively, in the study area. No Build traffic volumes for the 2017 interim analysis year are provided in Appendix E, "Transportation Technical Memos and Analyses."



2019 No Build Traffic Volumes - Inset 1
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

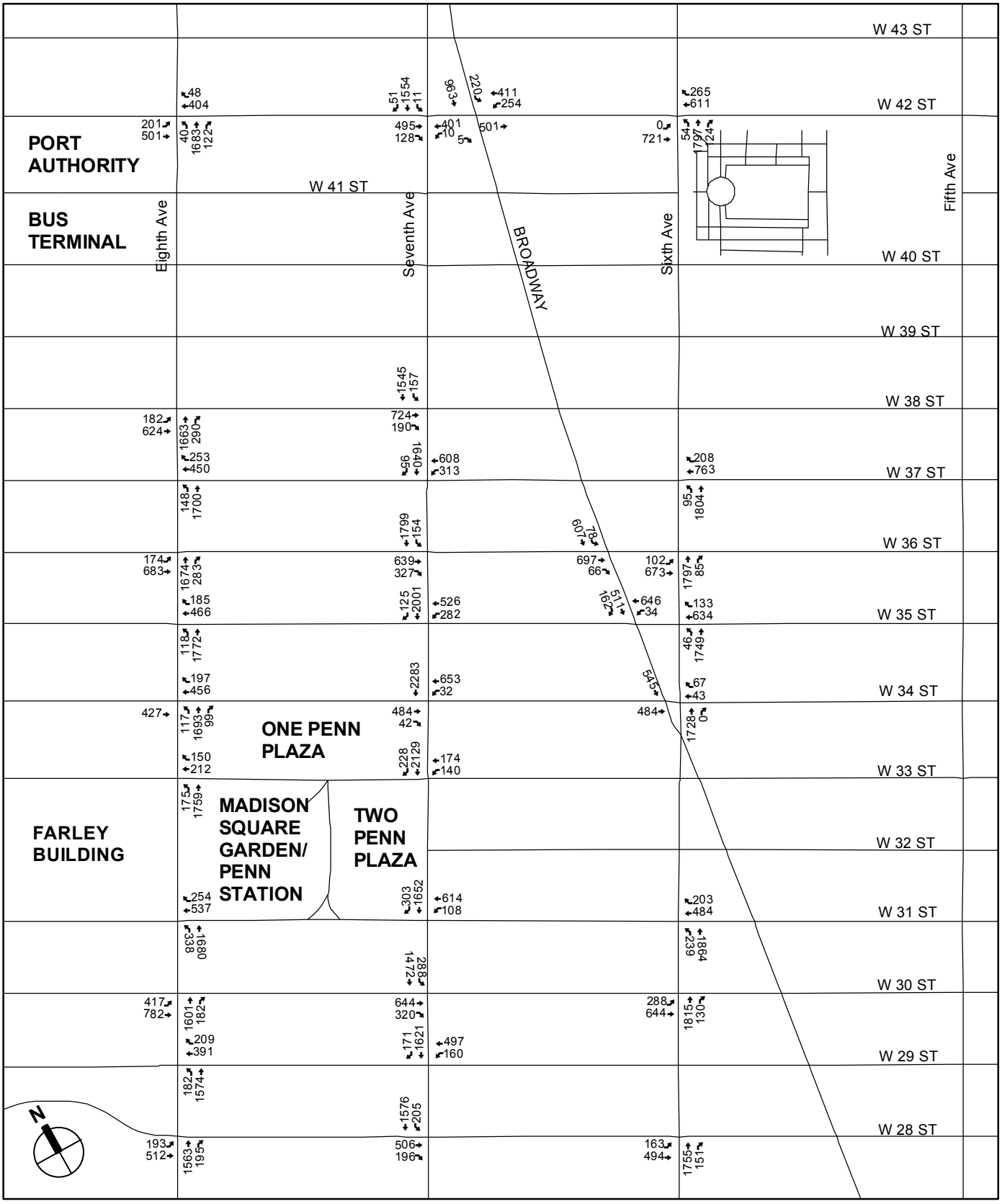
Figure 17-21



2019 No Build Traffic Volumes - Inset 2
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-22



0 500 1,000 Feet

2019 No Build Traffic Volumes - Inset 3
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-23

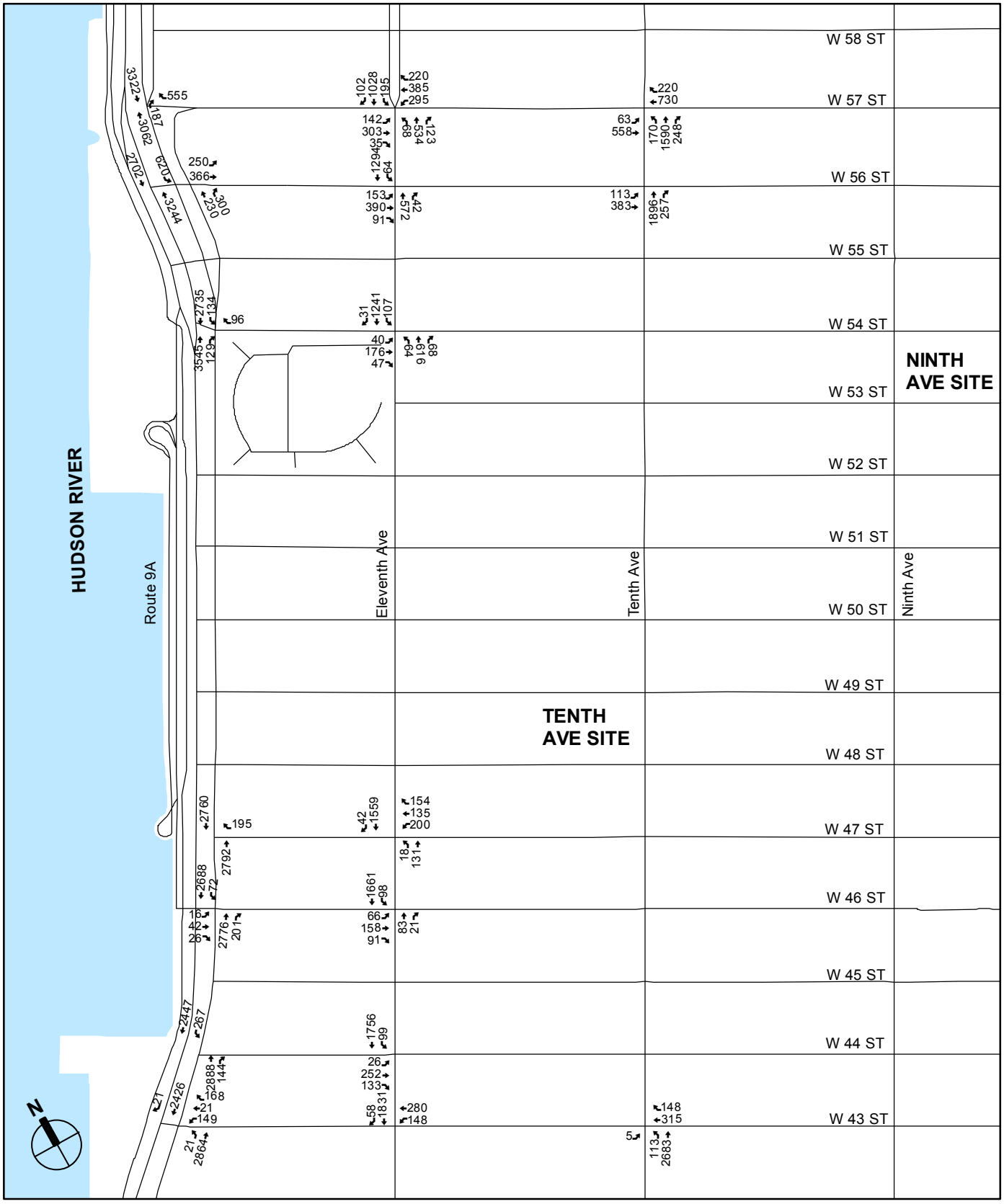


0 500 1,000 Feet

2019 No Build Traffic Volumes - Inset 4
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

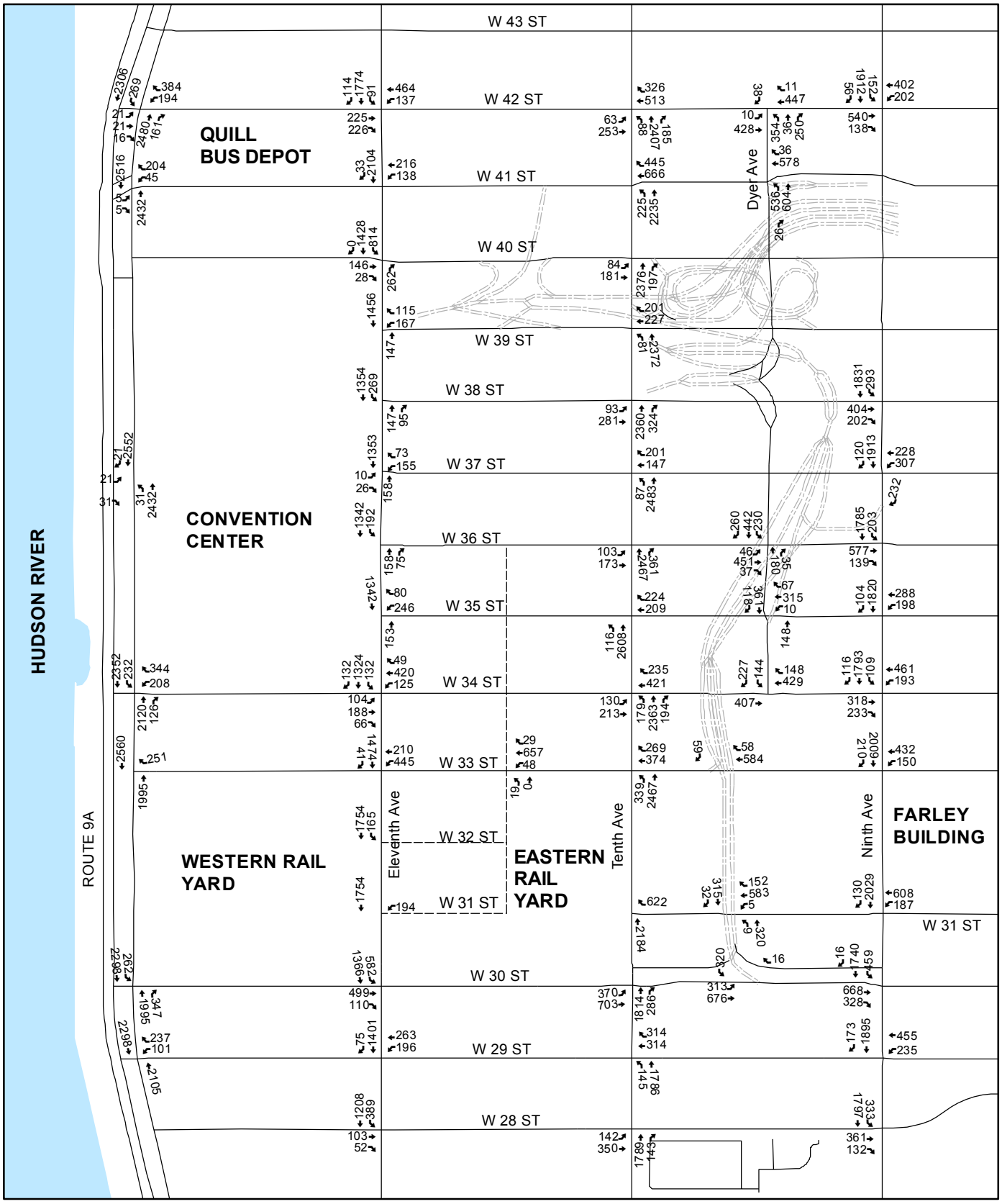
Figure 17-24



2019 No Build Traffic Volumes - Inset 1
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

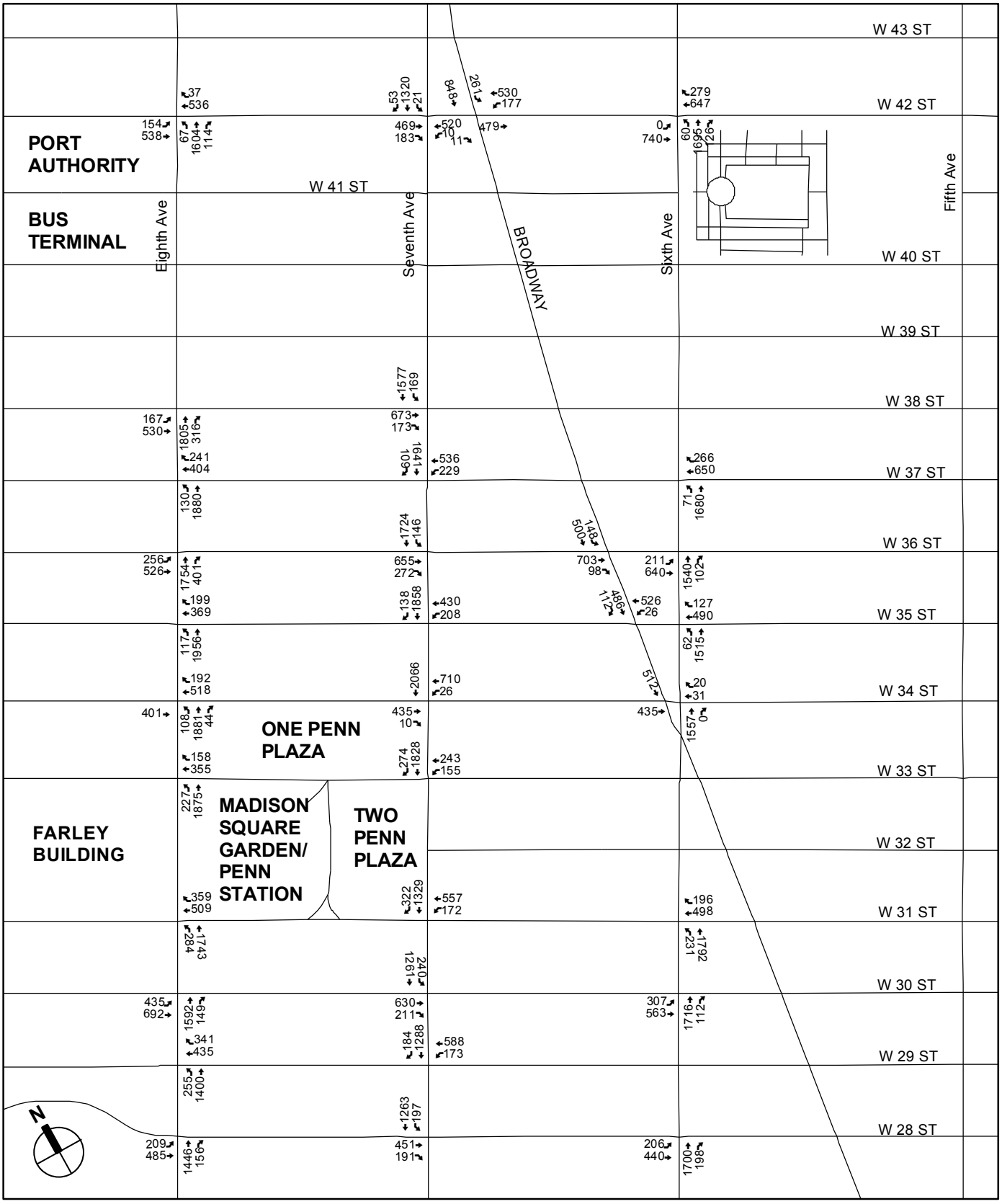
Figure 17-25



2019 No Build Traffic Volumes - Inset 2
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-26



0 500 1,000 Feet

2019 No Build Traffic Volumes - Inset 3
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

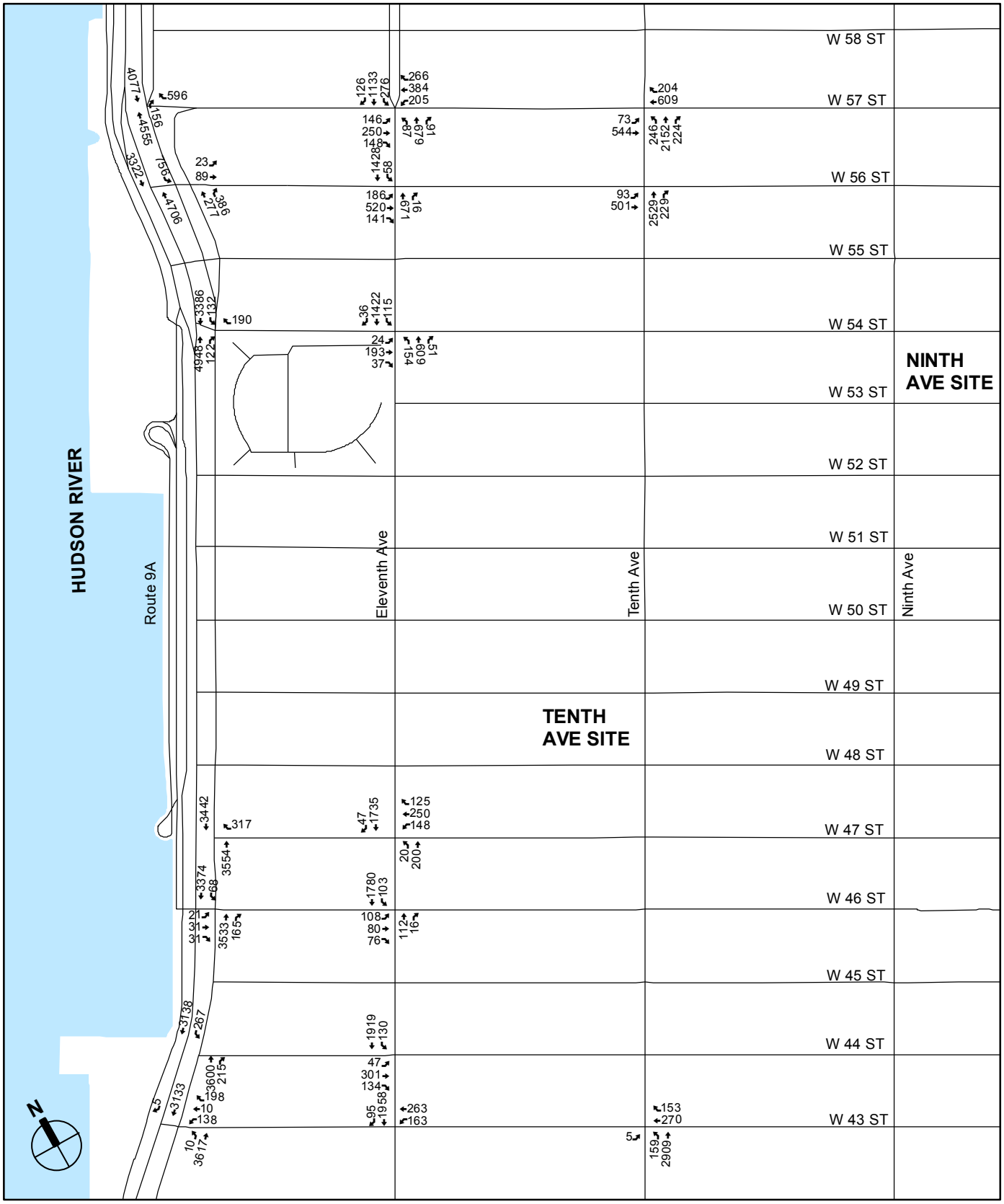
Figure 17-27



2019 No Build Traffic Volumes - Inset 4
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

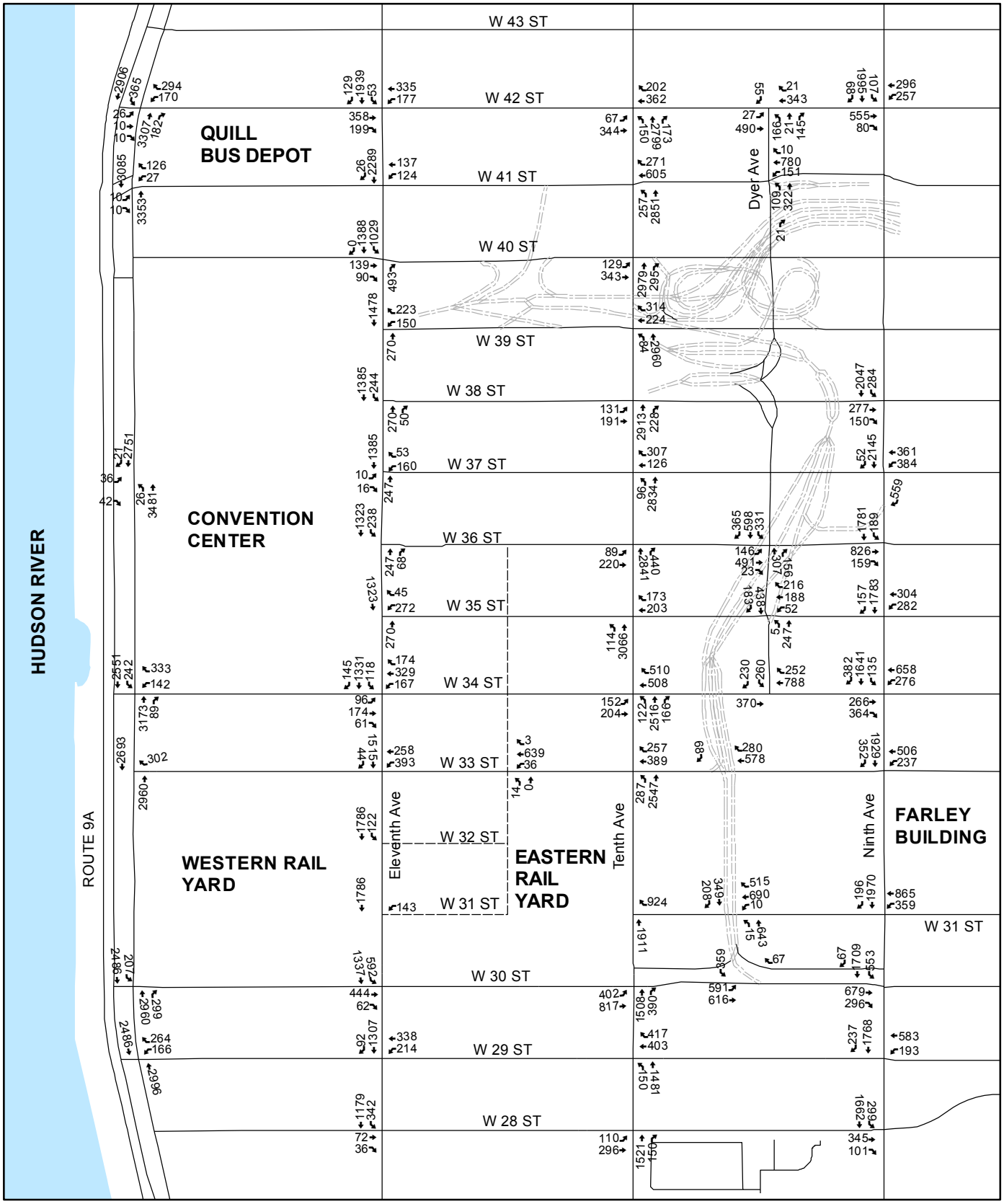
Figure 17-28



2019 No Build Traffic Volumes - Inset 1
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

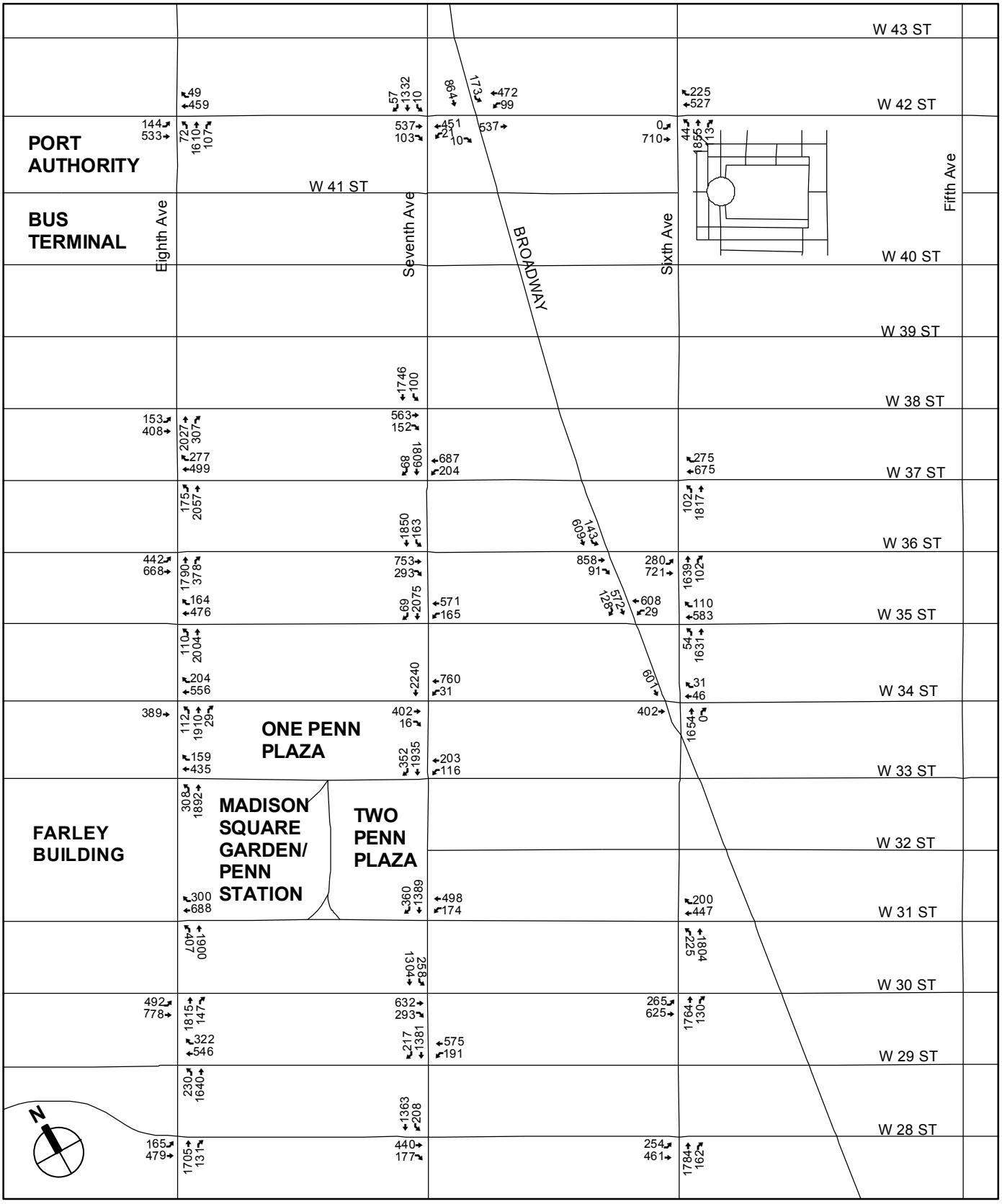
Figure 17-29



2019 No Build Traffic Volumes - Inset 2
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-30



0 500 1,000 Feet

2019 No Build Traffic Volumes - Inset 3
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

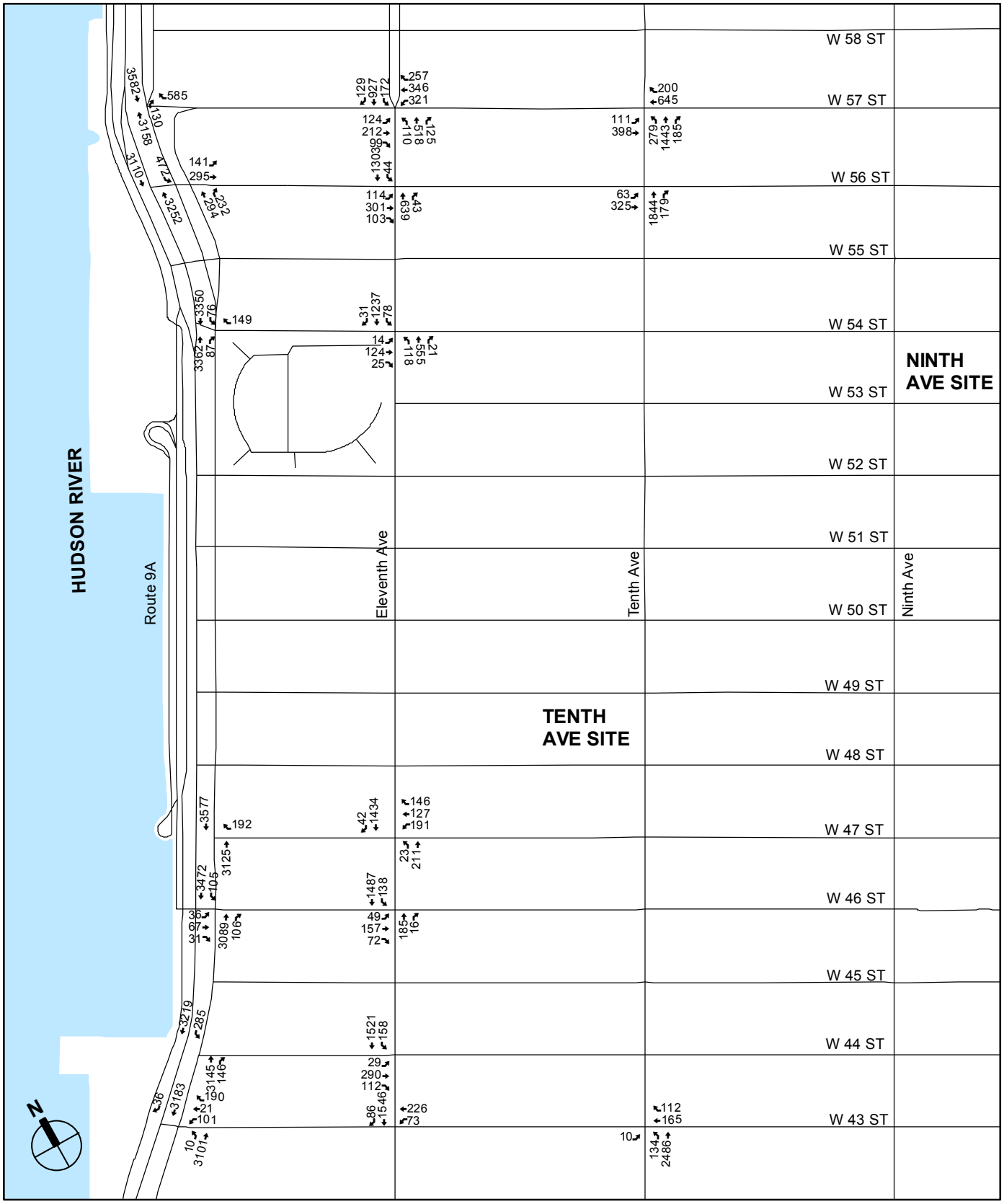
Figure 17-31



2019 No Build Traffic Volumes - Inset 4
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

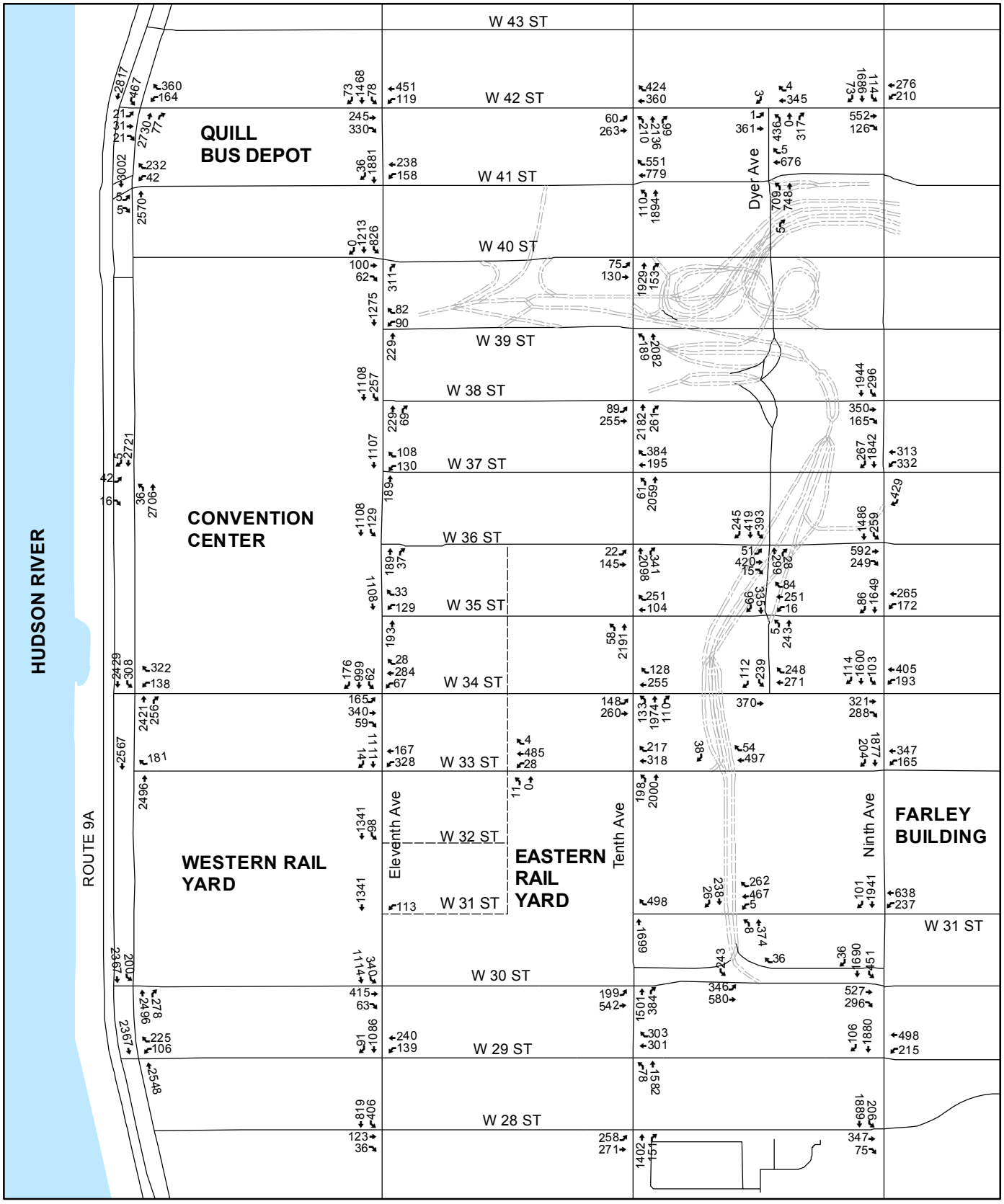
Figure 17-32



2019 No Build Traffic Volumes - Inset 1
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-33



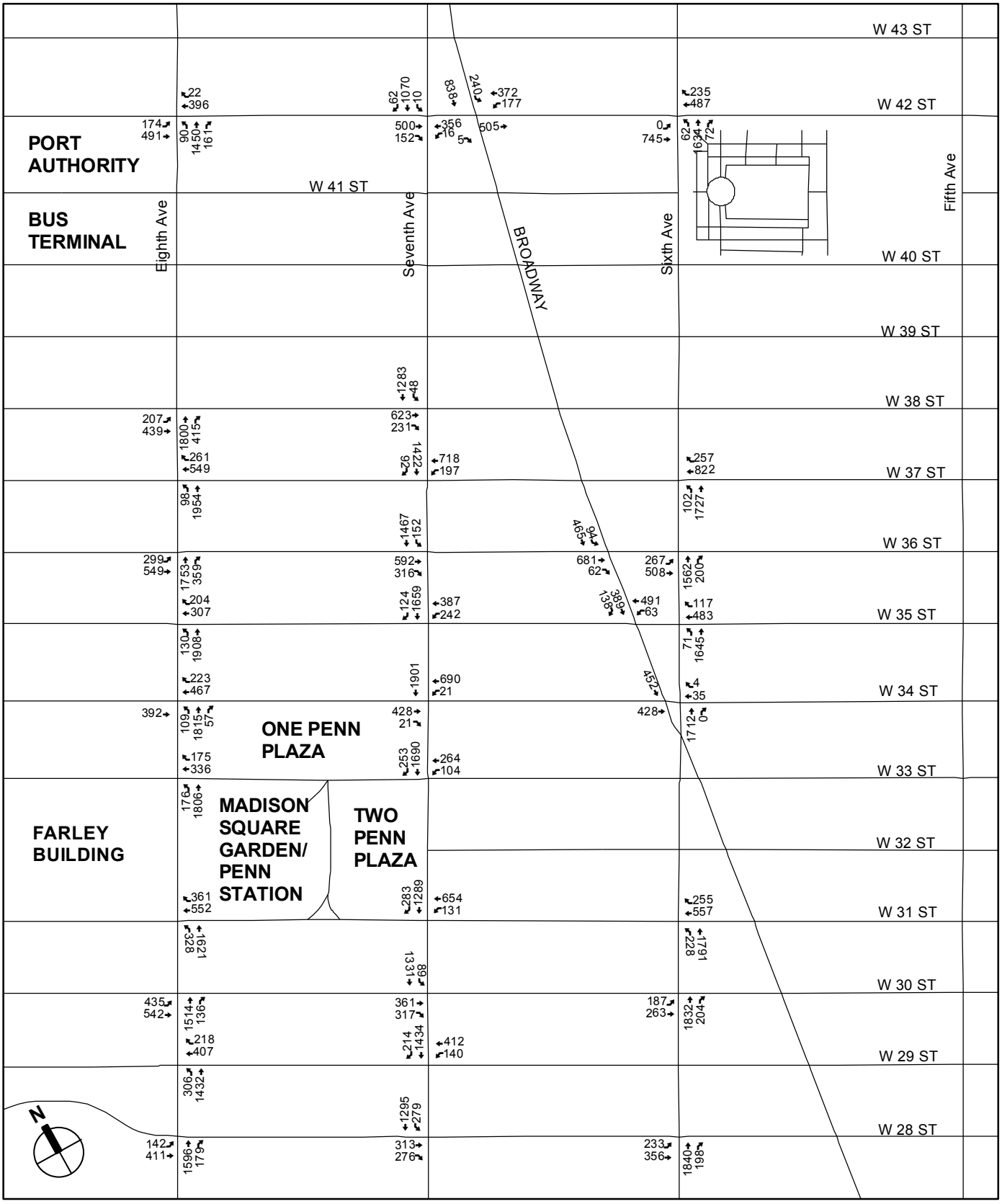
0 500 1,000 Feet

New Streets (Not to Scale)

2019 No Build Traffic Volumes - Inset 2
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-34



0 500 1,000 Feet

2019 No Build Traffic Volumes - Inset 3
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-35



0 500 1,000 Feet

2019 No Build Traffic Volumes - Inset 4
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-36

INTERSECTION CAPACITY ANALYSIS

Capacity analyses for 2019 in the Future without the Proposed Actions at the study area intersections were performed in accordance with the methodology presented in the *Highway Capacity Manual (HCM)*, as described above for existing conditions. As shown in Table 17-16, in the 2019 Future without the Proposed Actions condition 116 approach movements at 75 intersections would operate at mid-LOS D, LOS E, or LOS F in the AM peak hour; 108 approach movements at 78 intersections would operate at mid-LOS D, LOS E, or LOS F in the midday peak hour; 144 approach movements at 89 intersections would operate at mid-LOS D, LOS E, or LOS F in the PM peak hour; and 83 approach movements at 70 intersection would operate at mid-LOS D, LOS E, or LOS F in the Saturday midday peak hour. The PM peak hour would be the most congested in the study area as demonstrated by the overall number of approach movements projected to operate at mid-LOS D or worse and in the number of approach movements projected to operate in LOS E or LOS F.

Table 17-16
2019 Future without the Proposed Actions
Number of Intersection Approach Movements
at Mid-LOS D, LOS E, or LOS F

	Analysis Hour			
Level of Service	AM	Weekday Midday	PM	Saturday Midday
Mid-LOS D	17	22	12	24
LOS E	25	18	26	6
LOS F	74	68	106	53

In the 2017 Future without the Proposed Actions condition, as shown in Table 17-17, 111 approach movements at 73 intersections would operate at mid-LOS F, LOS E, or LOS F in the AM peak hour; 101 approach movements at 76 intersections would operate at mid-LOS D, LOS E, LOS F in the midday peak hour; 143 approach movements at 87 intersections would operate at mid-LOS D, LOS E, or LOS F in the PM peak hour; and 79 approach movements at 68 intersections would operate at mid-LOS F, LOS E, or LOS F in the Saturday midday peak hour. This finding represents generally similar conditions as those presented above for the 2019 analysis year in the Future without the Proposed Actions, as would be expected since no additional No Build projects are anticipated to be completed between 2017 and 2019, as noted above. Likewise as noted above, the PM peak hour would be the most congested in the study area in the 2017 interim year in the Future without the Proposed Actions, as demonstrated by the overall number of approach movements projected to operate at mid-LOS D or worse and in the number of approach movements projected to operate in LOS E or LOS F.

Detailed analysis results in the Future without the Proposed Actions, including the v/c ratio, delay, and LOS, for intersections with one or more approach or lane group operating at mid-LOS D or worse are provided for the weekday AM, midday, PM, and Saturday midday peak hours in Table 17-18 for 2019 and in Table 17-19 for 2017.

Table 17-17
2017 Future without the Proposed Actions
Number of Intersection Approach Movements
at Mid-LOS D, LOS E, or LOS F

	Analysis Hour			
Level of Service	AM	Weekday Midday	PM	Saturday Midday
Mid-LOS D	13	23	12	22
LOS E	26	15	28	6
LOS F	72	63	103	51

Table 17-18
2019 Future without the Proposed Actions
Intersection Approach Movements Operating at LOS Mid-D, E or F

Intersection	Approach	AM				Midday				PM				Saturday			
		Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS
Sixth Avenue @ 28th Street	EB	LT	1.22	342.9	F	LT	1.20	335.5	F	LT	1.31	381.6	F	LT	1.07	281.3	F
Sixth Avenue @ 30th Street	EB	LT	1.41	380.2	F	LT	1.33	346.2	F	LT	1.28	318.7	F	LT	0.65	63.0	E
	NB	TR	1.01	86.3	F	TR	0.92	53.9	D					TR	1.01	84.2	F
Sixth Avenue @ 34th Street	EB													T	0.60	49.8	D
	NB	T	1.44	329.0	F	T	1.18	124.0	F	T	1.28	251.1	F	T	1.29	251.1	F
	SB	T	1.64	505.2	F	T	1.54	461.4	F	T	1.81	579.6	F	T	1.36	384.1	F
Sixth Avenue @ 35th Street	WB	TR	0.96	52.0	D												
Sixth Avenue @ 36th Street	EB					L	0.94	81.6	F	L	1.01	128.0	F	L	1.15	228.1	F
Sixth Avenue @ 42nd Street	WB	R	0.85	61.0	E	R	0.82	50.1	D								
Seventh Avenue @ 23rd Street	EB	TR	0.93	46.8	D	TR	0.91	45.0	D								
Seventh Avenue @ 28th Street	EB	TR	0.95	328.7	F									TR	0.86	298.8	F
Seventh Avenue @ 29th Street	WB	LT	1.29	385.6	F	LT	1.46	451.8	F	LT	1.51	479.9	F	LT	1.04	219.9	F
Seventh Avenue @ 30th Street	EB	T	1.35	427.0	F	T	1.32	414.3	F	T	1.25	372.4	F				
	EB									R	0.75	206.4	F				
Seventh Avenue @ 31st Street	WB	LT	1.29	365.9	F	LT	1.37	410.7	F	LT	1.21	332.1	F	LT	1.33	373.4	F
Seventh Avenue @ 33rd Street	WB	LT	1.21	581.9	F	LT	1.48	671.2	F	LT	1.14	522.1	F	LT	1.13	459.6	F
	SB	TR	1.12	112.1	F	TR	1.02	75.7	E	TR	1.08	95.3	F				
Seventh Avenue @ 34th Street	EB	T	0.98	61.7	E	T	0.89	46.2	D					TR	0.45	74.8	E
Seventh Avenue @ 35th Street	WB	L	0.87	50.5	D												
	WB	LT	1.26	421.9	F	LT	1.05	266.7	F	LT	1.38	474.4	F	LT	0.89	47.8	D
Seventh Avenue @ 36th Street	EB	TR	1.26	436.5	F	TR	1.06	285.2	F	TR	1.26	415.8	F	TR	1.18	407.1	F
Seventh Avenue @ 37th Street	WB													LT	0.87	183.4	F
Seventh Avenue @ 38th Street	EB	TR	1.16	389.5	F									TR	0.95	269.4	F
Eighth Avenue @ 29th Street	WB	TR	1.26	389.9	F	TR	1.49	465.7	F	TR	1.80	625.3	F	TR	1.21	349.9	F
Eighth Avenue @ 30th Street	EB	LT	1.27	389.5	F	LT	1.21	365.8	F	LT	1.31	399.6	F	LT	1.02	131.5	F
Eighth Avenue @ 31st Street	WB					TR	1.10	367.0	F	TR	1.09	324.7	F	TR	1.08	340.9	F
	NB									LT	1.09	120.7	F				
Eighth Avenue @ 33rd Street	NB	LT	1.09	138.5	F	LT	1.18	177.5	F	LT	1.26	212.8	F	LT	1.06	124.3	F
Eighth Avenue @ 34th Street	NB	LTR	1.10	147.6	F	LTR	1.13	153.7	F	LTR	1.12	147.9	F	LTR	1.04	116.9	F
Eighth Avenue @ 35th Street	WB	TR	1.73	660.4	F	TR	1.23	383.4	F	TR	1.69	639.1	F	TR	1.44	549.5	F
Eighth Avenue @ 36th Street	EB	LT	0.96	278.7	F	LT	0.78	149.6	F	LT	1.31	432.7	F	LT	1.00	316.1	F
	NB					TR	1.04	102.0	F								
Eighth Avenue @ 37th Street	WB									TR	0.95	47.3	D	TR	0.96	49.3	D
Eighth Avenue @ 38th Street	NB									TR	1.01	81.6	F	TR	0.94	49.2	D
Ninth Avenue @ 23rd Street	EB	TR	0.95	60.0	E									TR	0.87	46.5	D
	SB													TR	1.06	116.2	F
Ninth Avenue @ 28th Street	EB	TR	1.21	388.3	F	TR	1.07	323.7	F	TR	0.94	53.6	D	TR	0.90	47.5	D
Ninth Avenue @ 29th Street	SB	TR	1.13	134.7	F	TR	1.13	133.8	F					TR	1.01	82.7	F
Ninth Avenue @ 30th Street	EB	TR	1.21	475.2	F	TR	1.15	492.2	F	TR	1.00	395.1	F				
	SB	L	1.62	428.7	F	L	2.10	655.6	F	L	2.35	756.6	F	L	1.86	538.2	F
Ninth Avenue @ 31st Street	WB					LTR	1.01	97.3	F	LTR	1.47	509.3	F	LTR	1.03	175.9	F
Ninth Avenue @ 33rd Street	WB	LT	1.03	193.7	F	LT	1.50	546.3	F	LT	1.75	633.6	F	LT	1.52	604.6	F

Table 17-18 (cont'd)
2019 Future without the Proposed Actions
Intersection Approach Movements Operating at LOS Mid-D, E or F

Intersection	Approach	AM				Midday				PM				Saturday			
		Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS
Ninth Avenue @ 34th Street	EB	T	0.93	58.8	E	T	0.84	46.3	D								
		R	2.01	761.6	F	R	1.44	533.9	F	R	1.97	727.2	F				
	WB	DefL	0.88	58.7	E					LT	1.08	330.0	F				
	SB	LTR	1.26	215.3	F	LTR	1.18	178.9	F	LTR	1.36	262.4	F				
Ninth Avenue @ 35th Street	WB	LT	1.54	575.9	F	LT	1.28	463.1	F	LT	1.59	604.5	F	LT	1.01	113.8	F
Ninth Avenue @ 36th Street	EB	TR	1.10	180.6	F	TR	0.89	79.4	E	TR	1.17	200.2	F	TR	1.06	165.0	F
	SB	LT	1.10	113.1	F	LT	1.05	94.0	F	LT	1.01	79.8	E				
Ninth Avenue @ 37th Street	WB					LT	0.91	48.5	D	LT	1.17	463.9	F	LT	0.92	48.3	D
Ninth Avenue @ 38th Street	EB	TR	1.20	482.7	F	TR	0.90	45.9	D								
Ninth Avenue @ 42nd Street	EB					TR	0.62	158.3	F								
	WB	DefL	1.12	566.4	F	DefL	1.15	689.8	F	DefL	1.38	802.7	F	DefL	1.05	294.7	F
	SB	LTR	1.09	138.9	F	LTR	1.19	181.2	F	LTR	1.17	168.9	F				
Tenth Avenue @ 26th Street	EB	LT	1.11	410.6	F	LT	1.16	409.7	F	LT	1.20	433.6	F	LT	0.89	50.6	D
Tenth Avenue @ 28th Street	EB	LT	1.40	534.0	F	LT	1.29	465.1	F	LT	1.04	225.7	F	LT	1.43	534.8	F
Tenth Avenue @ 29th Street	WB					TR	0.97	58.6	E	TR	1.17	435.8	F				
Tenth Avenue @ 30th Street	EB	LT	2.01	768.6	F	LT	2.87	1169.0	F	LT	2.90	1149.0	F	LT	1.70	608.4	F
	NB					R	1.56	444.8	F	R	1.31	271.8	F	R	1.25	245.1	F
Tenth Avenue @ 31st Street	WB	R	1.26	348.8	F	R	2.24	867.2	F	R	2.39	857.9	F	R	1.28	369.6	F
Tenth Avenue @ 33rd Street	WB	TR	0.94	50.6	D	TR	0.97	55.7	E								
	NB					LT	1.07	153.7	F	LT	1.06	150.3	F				
Tenth Avenue @ 34th Street	EB	DefL	0.73	50.3	D	DefL	0.85	67.9	E	DefL	1.00	101.2	F	DefL	0.77	50.8	D
	WB					R	1.27	483.7	F	R	2.30	874.8	F				
	NB					LTR	1.07	101.0	F	LTR	1.35	219.2	F				
Tenth Avenue @ 35th Street	WB	TR	1.53	443.1	F	TR	1.32	360.7	F	TR	1.04	227.2	F	TR	1.05	253.9	F
Tenth Avenue @ 36th Street	EB					LT	0.41	131.2	F								
	NB					TR	1.05	91.0	F	TR	1.53	299.5	F				
Tenth Avenue @ 37th Street	NB									LT	1.37	229.7	F				
Tenth Avenue @ 38th Street	NB									TR	1.43	252.8	F				
Tenth Avenue @ 39th Street	WB									T	0.39	58.4	E				
										R	0.80	228.7	F				
Tenth Avenue @ 40th Street	EB									LT	0.57	118.0	F				
	NB									TR	0.99	74.3	E				
Tenth Avenue @ 41st Street	NB	L	0.88	45.9	D					L	1.16	258.8	F				
										T	1.04	106.2	F				
Tenth Avenue @ 42nd Street	EB	LT	2.05	750.4	F	LT	2.24	930.9	F	LT	1.88	647.7	F	LT	2.04	797.7	F
	WB	TR	1.06	296.4	F	TR	1.40	400.8	F					TR	1.47	458.5	F
										T (LnT)	0.72	68.2	E				
Tenth Avenue @ 43rd Street	WB					TR	0.56	116.5	F								
	NB	LT	1.19	158.1	F	LT	1.22	172.8	F					LT	1.00	82.6	F
Tenth Avenue @ 56th Street	EB													LT	1.09	411.2	F
Tenth Avenue @ 57st Street	EB	LT	1.08	370.1	F	LT	0.99	60.3	E	LT	0.96	52.6	D	LT	0.92	48.7	D
	WB					TR	1.04	210.0	F								
Eleventh Avenue/ Twelfth Avenue @ 22nd Street	WB (11th)	T	0.57	54.2	D					T	0.78	62.3	E				
		TR	0.43	54.1	D					TR	0.65	63.4	E				
	NB (9A)	T	1.07	115.2	F	T	1.05	111.8	F	T	1.16	149.4	F	T	1.13	141.5	F
Eleventh Avenue @ 24th Street	SB	TR	1.25	217.9	F	TR	1.40	283.7	F	TR	1.33	251.0	F				
Eleventh Avenue @ 26th Street	EB	TR	1.09	413.4	F	TR	0.92	67.6	E	TR	1.12	405.6	F				
Eleventh Avenue @ 29th Street	WB									LT	1.02	138.4	F				
Eleventh Avenue @ 30th Street	EB	TR	0.99	60.4	E	TR	1.15	321.3	F	TR	0.93	46.6	D				
	SB	LT	1.05	124.2	F	LT	1.14	159.4	F	LT	1.05	117.8	F				
Eleventh Avenue @ 33rd Street	WB					L	0.87	67.9	E								
						LT	0.91	52.5	D								
Eleventh Avenue @ 34th Street	WB									TR	0.92	53.2	D				
Eleventh Avenue @ 37th Street	WB	L	0.75	54.0	D	L	0.81	61.4	E	L	0.77	54.8	D				
Eleventh Avenue@ 38th Street	SB	LT	1.08	112.7	F												
Eleventh Avenue @ 40th Street	EB									TR	0.94	75.5	E				
Eleventh Avenue @ 41st Street	SB									T (LnT)	1.16	172.9	F				

Table 17-18 (cont'd)
2019 Future without the Proposed Actions
Intersection Approach Movements Operating at LOS Mid-D, E or F

Intersection	Approach	AM				Midday				PM				Saturday			
		Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS
Eleventh Avenue @ 42nd Street	EB													TR	0.91	46.0	D
	WB									L	0.43	235.2	F				
										LT	0.51	103.7	F				
	SB	LT	1.00	45.0	D	LT	1.01	110.8	F								
						R	0.74	46.7	D	R	0.92	78.7	E				
Eleventh Avenue @ 43rd Street	WB					LT	0.83	46.3	D								
Eleventh Avenue @ 44th Street	EB	LTR	1.26	593.6	F	LTR	0.82	45.9	D	LTR	1.13	503.4	F				
										T	1.26	170.0	F				
Eleventh Avenue @ 47th Street	WB	LTR	0.98	71.2	E	LTR	0.98	68.6	E	LTR	0.93	55.8	E	LTR	0.89	51.4	D
	SB									TR	1.04	82.0	F				
Eleventh Avenue @ 54th Street	EB	LTR	1.22	370.2	F												
	NB	L	0.84	57.0	E					L	1.50	549.8	F	L	0.83	51.6	D
Eleventh Avenue @ 56th Street	EB	LTR	1.08	290.9	F												
Eleventh Avenue @ 57th Street	EB	L	1.14	631.9	F												
		TR	1.20	384.8	F	TR	0.94	63.4	E	TR	1.24	492.3	F	TR	0.90	58.4	E
	WB	L	1.03	204.8	F	L	1.21	599.3	F					L	1.22	569.2	F
														TR	1.69	662.0	F
	NB					L	0.65	45.3	D	L	1.05	297.5	F	L	0.94	88.8	F
	SB	L	1.30	369.4	F	L	0.97	78.2	E	L	1.50	423.5	F	L	0.82	48.8	D
Twelfth Avenue @ 24th Street	WB	L	0.56	70.3	E	L	0.51	47.4	D	L	0.67	71.0	E	L	0.50	46.8	D
		LTR	0.49	67.7	E	LTR	0.49	47.4	D	LTR	0.66	71.0	E	LTR	0.53	48.0	D
		R	0.49	68.4	E	R	0.49	47.9	D	R	0.69	72.9	E	R	0.50	47.9	D
	NB	TR	1.01	82.1	F	TR	1.02	102.9	F	TR	1.13	134.2	F	TR	1.11	129.5	F
	SB	L	0.97	134.1	F	L	0.67	74.9	E	L	0.65	87.7	F	L	1.10	523.8	F
						T	1.02	124.8	F								
Twelfth Avenue @ 29th Street	WB	LR	1.68	883.6	F	LR	1.40	691.6	F	LR	1.96	992.9	F	LR	1.26	596.0	F
Twelfth Avenue @ 30th Street	EB	LTR	0.00	64.4	E	LTR	0.00	49.5	D	LTR	0.00	64.4	E	LTR	0.00	49.5	D
	SB	L	1.25	377.3	F	L	1.37	388.4	F	L	1.39	446.8	F	L	1.20	342.7	F
Twelfth Avenue @ 34th Street	WB	L	0.42	58.6	E					L	0.47	59.3	E				
		LR	0.43	58.7	E					LR	0.46	59.2	E				
		R	0.66	45.1	D					R	0.61	50.6	D				
	SB	L	0.54	61.1	E	L	0.65	57.8	E	L	1.12	595.8	F	L	0.78	64.2	E
Twelfth Avenue @ Pier 79 Ferry Terminal	EB	LR	0.13	52.8	D					LR	0.26	60.7	E				
		R	0.12	52.9	D					R	0.25	62.0	E				
	NB	L	0.10	63.7	E	L	0.20	50.4	D	L	0.30	72.6	E	L	0.26	51.6	D
	SB	TR	1.14	141.7	F	TR	1.09	120.3	F					TR	1.17	153.5	F
Twelfth Avenue @ 41st Street	EB									LR	0.06	47.3	D				
	WB	L	0.09	50.8	D					L	0.08	60.0	E				
		R	0.41	56.8	E					R	0.47	67.8	E				
	NB	T	1.15	157.1	F	T	1.10	138.4	F	T	1.02	81.2	F	T	1.06	120.3	F
	SB	T	1.16	126.2	F	T	1.02	75.7	E					T	1.14	117.9	F
Twelfth Avenue @ 42nd Street	EB	LTR	0.04	46.2	D					LTR	0.08	46.7	D				
	WB	L	0.32	52.2	D	L	0.60	45.7	D	L	0.66	65.3	E				
										R	0.85	66.0	E				
	NB	T	0.98	53.4	D	T	1.12	141.5	F					T	1.19	167.8	F
	SB	L	0.67	59.3	E	-				L	1.20	358.7	F	L	0.69	48.6	D
Twelfth Avenue @ 43th Street	WB	LTR	0.78	72.8	E	LTR	0.76	53.6	D	LTR	1.00	108.4	F	LTR	0.69	49.4	D
	NB	L	1.00	172.9	F	L	0.33	59.2	E	L	0.16	68.0	E	L	0.10	52.3	D
Twelfth Avenue @ 44th Street	SB	L	1.09	291.7	F	L	0.96	81.9	F	L	1.02	189.3	F	L	0.94	79.0	E
Twelfth Avenue@ 46th Street	EB	LTR	0.28	56.6	E					LTR	0.17	51.9	D				
	NB	TR	0.97	108.8	F	TR	1.13	177.9	F	TR	1.14	166.6	F	TR	1.11	166.2	F
	SB	L	0.53	69.9	E	L	0.60	71.2	E	L	0.63	84.3	F	L	0.84	97.2	F
Twelfth Avenue @ 54th Street	WB	R	0.53	61.5	E					R	0.81	82.0	F	R	0.52	45.7	D
	NB	TR	1.02	105.4	F	TR	1.05	118.1	F	TR	1.24	192.7	F				
	SB	L	0.72	69.3	E					L	0.47	58.2	E				
		T	1.19	133.4	F												
Twelfth Avenue @ 56th Street (SR)	NB	TR	0.94	58.4	E												
Twelfth Avenue @ 56th Street	NB	T	1.17	169.7	F					T	1.24	165.7	F				
	SB	L	1.00	56.9	E	L	1.20	479.2	F	L	1.12	391.4	F	L	0.86	62.0	E

Table 17-18 (cont'd)
2019 Future without the Proposed Actions
Intersection Approach Movements Operating at LOS Mid-D, E or F

Intersection	Approach	AM				Midday				PM				Saturday			
		Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS
Twelfth Avenue @ 57th Street	WB									R	0.64	239.4	F				
Broadway @ 35th Street	WB	T	1.59	320.5	F	T	1.29	193.9	F	T	1.51	286.1	F	T	1.15	134.5	F
Broadway @ 42nd Street	WB	DefL	1.36	654.9	F												
Dyer Ave @ 31st Street	WB									LTR	0.86	52.5	D				
	SB									TR	0.91	50.1	D				
Dyer Ave @ 34th Street	SB	L	0.98	93.1	F	L	0.61	46.2	D	L	0.79	59.2	E				
		LR	0.99	96.1	F	LR	0.60	46.4	D	LR	0.80	61.0	E				
		R	0.99	100.3	F	R	0.61	47.5	D	R	0.80	63.6	E				
Dyer Ave @ 35th Street	WB									LTR	0.76	196.7	F				
Dyer Ave @ 36th Street	EB	TR	0.75	89.4	F	TR	0.72	81.6	F	TR	0.72	76.4	E				
Dyer Avenue @ 41st Street	NB									TR	0.56	52.7	D				
Unsignalized Intersections																	
Twelfth Avenue @ 33rd Street	WB									R	0.88	57.1	F				
Twelfth Avenue @ 47th Street	WB					R	0.61	31.5	D	R	2.09	559.5	F	R	0.98	104.5	F

Notes:
Shading indicates movement not at LOS Mid-D, E, or F.
Delay Calculated at greater than 300 seconds is considered unreliable

Table 17-19
2017 Future without the Proposed Actions
Intersection Approach Movements Operating at LOS Mid-D, E or F

Intersection	Approach	AM				MD				PM				Saturday			
		Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS
Sixth Avenue @ 28th Street	EB	LT	1.21	340.7	F	LT	1.19	333.4	F	LT	1.31	380.1	F	LT	1.06	280.2	F
Sixth Avenue @ 30th Street	EB	LT	1.40	377.7	F	LT	1.32	345.6	F	LT	1.28	317.0	F	LT	0.64	62.8	E
	NB	TR	1.01	85.1	F	TR	0.91	52.3	D								
Sixth Avenue @ 34th Street	EB													T	0.59	49.4	D
	NB	T	1.44	326.1	F	T	1.18	204.6	F	T	1.27	248.5	F	T	1.28	248.3	F
	SB	T	1.63	501.4	F	T	1.54	460.2	F	T	1.80	574.5	F	T	1.35	381.7	F
Sixth Avenue @ 35th Street	WB	TR	0.95	50.7	D												
Sixth Avenue @ 36th Street	EB					L	0.94	80.7	F	L	1.01	127.1	F	L	1.14	226.7	F
Sixth Avenue @ 42nd Street	WB	R	0.86	62.5	E	R	0.84	54.1	D								
Seventh Avenue @ 23rd Street	EB	TR	0.92	46.0	D												
Seventh Avenue @ 28th Street	EB	TR	0.95	326.3	F									TR	0.85	295.5	F
Seventh Avenue @ 29th Street	WB	LT	1.28	381.7	F	LT	1.44	446.2	F	LT	1.50	477.4	F	LT	1.03	184.3	F
Seventh Avenue @ 30th Street	EB	T	1.34	424.5	F	T	1.32	414.3	F	T	1.25	370.8	F				
										R	0.75	204.7	F				
Seventh Avenue @ 31st Street	WB	LT	1.29	365.2	F	LT	1.36	406.2	F	LT	1.20	329.5	F	LT	1.33	370.1	F
Seventh Avenue @ 33rd Street	WB	LT	1.21	577.2	F	LT	1.47	666.0	F	LT	1.14	520.9	F	LT	1.12	455.3	F
	SB	TR	1.11	108.4	F	TR	1.01	72.7	E	TR	1.07	91.2	F				
Seventh Avenue 34th Street	EB	T	0.98	60.8	E	T	0.89	45.7	D					TR	0.45	74.6	E
Seventh Avenue @ 35th Street	WB	L	0.87	50.1	D												
	WB	LT	1.25	419.1	F	LT	1.03	187.9	F	LT	1.37	476.5	F	LT	0.88	46.6	D
Seventh Avenue @ 36th Street	EB	TR	1.24	430.7	F	TR	1.04	209.5	F	TR	1.24	408.6	F	TR	1.16	397.7	F
Seventh Avenue @ 37th Street	WB													LT	0.87	181.5	F
Seventh Avenue @ 38th Street	EB	TR	1.15	386.1	F									TR	0.94	263.0	F
Eighth Avenue @ 29th Street	WB	TR	1.25	385.8	F	TR	1.48	461.7	F	TR	1.79	620.9	F	TR	1.20	345.5	F
Eighth Avenue @ 30th Street	EB	LT	1.26	385.2	F	LT	1.20	360.5	F	LT	1.30	394.6	F	LT	1.01	92.5	F

Table 17-19 (cont'd)
2017 Future without the Proposed Actions
Intersection Approach Movements Operating at LOS Mid-D, E or F

Intersection	Approach	AM				MD				PM				Saturday			
		Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS
Eighth Avenue @ 31st Street	WB					TR	1.08	357.1	F	TR	1.08	319.2	F	TR	1.06	333.6	F
	NB									LT	1.09	118.0	F				
Eighth Avenue @ 33rd Street	NB	LT	1.08	134.4	F	LT	1.17	171.9	F	LT	1.25	207.0	F	LT	1.04	119.8	F
Eighth Avenue @ 34th Street	NB	LTR	1.10	145.1	F	LTR	1.12	150.5	F	LTR	1.11	144.4	F	LTR	1.03	114.5	F
Eighth Avenue @ 35th Street	WB	TR	1.72	652.1	F	TR	1.21	375.4	F	TR	1.66	626.1	F	TR	1.43	546.3	F
Eighth Avenue @ 36th Street	EB	LT	0.95	273.0	F	LT	0.77	145.9	F	LT	1.30	427.8	F	LT	0.99	307.3	F
	NB					TR	1.03	99.1	F								
Eighth Avenue @ 37th Street	WB									TR	0.95	46.2	D	TR	0.96	48.6	D
Eighth Avenue @ 38th Street	NB													TR	0.93	45.9	D
Ninth Avenue @ 23rd Street	EB	TR	0.94	59.0	E									TR	0.86	46.2	D
	SB													TR	1.06	114.4	F
Ninth Avenue @ 28th Street	EB	TR	1.21	386.6	F	TR	1.06	300.2	F	TR	0.94	53.3	D	TR	0.90	46.9	D
Ninth Avenue @ 29th Street	SB	TR	1.13	132.7	F	TR	1.13	131.8	F					TR	1.01	81.8	F
Ninth Avenue @ 30th Street	EB	TR	1.21	472.4	F	TR	1.14	489.2	F	TR	0.99	388.5	F				
	SB	L	1.62	428.7	F	L	2.10	653.6	F	L	2.33	751.2	F	L	1.85	534.8	F
Ninth Avenue @ 31st Street	WB					LTR	1.00	62.2	E	LTR	1.46	504.8	F	LTR	1.02	136.4	F
Ninth Avenue @ 33rd Street	WB	LT	1.02	154.6	F	LT	1.48	542.6	F	LT	1.73	623.7	F	LT	1.51	598.8	F
Ninth Avenue @ 34th Street	EB	T	0.92	56.6	E	T	0.83	46.0	D								
		R	2.00	759.2	F	R	1.44	533.9	F	R	1.96	719.1	F				
	WB	DefL	0.87	57.2	E					LT	1.08	327.8	F				
	SB	LTR	1.25	213.2	F	LTR	1.18	176.7	F	LTR	1.36	260.5	F				
Ninth Avenue @ 35th Street	WB	LT	1.54	573.7	F	LT	1.28	462.0	F	LT	1.59	602.2	F	LT	1.01	113.3	F
Ninth Avenue @ 36th Street	EB	TR	1.09	177.2	F	TR	0.87	73.9	E	TR	1.16	194.1	F	TR	1.05	160.4	F
	SB	LT	1.10	111.7	F	LT	1.05	92.8	F	LT	1.01	78.7	E				
Ninth Avenue @ 37th Street	WB					LT	0.90	47.6	D	LT	1.16	459.1	F	LT	0.92	47.3	D
Ninth Avenue @ 38th Street	EB	TR	1.18	476.5	F	TR	0.90	45.2	D								
Ninth Avenue @ 42nd Street	EB					TR	0.62	156.1	F								
	WB	DefL	1.11	535.4	F	DefL	1.15	684.5	F	DefL	1.37	798.4	F	DefL	1.04	239.9	F
	SB	LTR	1.08	135.1	F	LTR	1.18	176.0	F	LTR	1.15	161.5	F				
Tenth Avenue @ 26th Street	EB	LT	1.10	407.0	F	LT	1.15	405.1	F	LT	1.18	424.8	F	LT	0.88	49.3	D
Tenth Avenue @ 28th Street	EB	LT	1.40	534.2	F	LT	1.29	464.0	F	LT	1.04	225.7	F	LT	1.43	532.6	F
Tenth Avenue @ 29th Street	WB					TR	0.97	56.7	E	TR	1.17	433.1	F				
Tenth Avenue @ 30th Street	EB	LT	1.99	762.9	F	LT	2.85	1164.0	F	LT	2.88	1140.0	F	LT	1.69	601.9	F
	NB					R	1.55	442.6	F	R	1.30	269.2	F	R	1.25	243.8	F
Tenth Avenue @ 31st Street	WB	R	1.25	344.0	F	R	2.20	853.5	F	R	2.37	849.1	F	R	1.26	360.5	F
Tenth Avenue @ 33rd Street	WB	TR	0.93	48.9	D	TR	0.96	54.6	D								
	NB					LT	1.06	151.8	F	LT	1.06	148.0	F				
Tenth Avenue @ 34th Street	EB	DefL	0.73	50.3	D	DefL	0.85	67.9	E	DefL	0.99	99.2	F	DefL	0.76	50.3	D
	WB					R	1.26	473.4	F	R	2.28	867.1	F				
	NB					LTR	1.06	99.1	F	LTR	1.34	215.7	F				
Tenth Avenue @ 35th Street	WB	TR	1.50	428.7	F	TR	1.30	350.2	F	TR	1.02	155.9	F	TR	1.04	229.0	F
Tenth Avenue @ 36th Street	EB					LT	0.40	129.7	F								
	NB					TR	1.04	88.6	F	TR	1.52	295.1	F				
Tenth Avenue @ 37th Street	NB									LT	1.36	225.0	F				
Tenth Avenue @ 38th Street	NB									TR	1.42	247.3	F				
Tenth Avenue @ 39th Street	WB									T	0.39	58.3	E				
										R	0.76	204.2	F				
Tenth Avenue @ 40th Street	EB									LT	0.57	117.0	F				
	NB									TR	0.98	68.9	E				
Tenth Avenue @ 41st Street	NB									L	1.10	233.3	F				
										T	1.03	103.1	F				
Tenth Avenue @ 42nd Street	EB	LT	1.99	718.4	F	LT	2.17	892.4	F	LT	1.81	606.9	F	LT	1.96	753.6	F
	WB	TR	1.03	180.6	F	TR	1.35	382.1	F					TR	1.44	441.5	F
Tenth Avenue @ 43rd Street	WB					TR	0.56	115.8	F								
	NB	LT	1.17	151.6	F	LT	1.21	169.3	F					LT	1.00	81.4	F
Tenth Avenue @ 56th Street	EB													LT	1.08	387.6	F
Tenth Avenue @ 57th Street	EB	LT	1.01	95.0	F												
	WB					TR	0.98	52.5	D								

Table 17-19 (cont'd)
2017 Future without the Proposed Actions
Intersection Approach Movements Operating at LOS Mid-D, E or F

Intersection	Approach	AM				MD				PM				Saturday			
		Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS
Eleventh Avenue/ Twelfth Avenue @ 22nd Street	SB (11th)	T	0.55	53.8	D					T	0.77	61.6	E				
		TR	0.47	55.2	E					TR	0.68	64.9	E				
	NB (9A)	T	1.06	108.9	F	T	1.03	106.7	F	T	1.14	140.1	F	T	1.11	132.4	F
Eleventh Avenue @ 24th Street	SB	TR	1.24	214.7	F	TR	1.39	280.3	F	TR	1.32	248.0	F				
Eleventh Avenue @ 26th Street	EB	TR	1.08	399.8	F	TR	0.91	64.3	E	TR	1.10	397.8	F				
Eleventh Avenue @ 29th Street	WB									LT	1.02	137.1	F				
Eleventh Avenue @ 30th Street	EB	TR	0.98	58.6	E	TR	1.17	330.9	F	TR	0.92	45.2	D				
	SB	LT	1.06	126.2	F	LT	1.13	155.5	F	LT	1.04	116.6	F				
Eleventh Avenue @ 33rd Street	WB					L	0.73	46.5	D								
Eleventh Avenue @ 34th Street	WB									TR	0.91	52.4	D				
Eleventh Avenue @ 37th Street	WB	L	0.75	53.1	D	L	0.81	60.1	E	L	0.77	53.9	D				
Eleventh Avenue @ 38th Street	SB	LT	1.07	106.9	F												
Eleventh Avenue @ 40th Street	EB									TR	0.94	75.5	E				
Eleventh Avenue @ 41st Street	SB									T (LnT)	1.15	169.3	F				
Eleventh Avenue @ 42nd Street	EB													TR	0.91	45.8	D
	WB									L	0.46	248.0	F				
										LT	0.49	98.4	F				
	SB					LT	0.99	102.6	F								
						R	0.74	46.7	D	R	0.92	78.7	E				
Eleventh Avenue @ 43rd Street	WB					LT	0.83	46.0	D								
Eleventh Avenue @ 44th Street	EB	LTR	1.26	597.3	F	LTR	0.82	45.9	D	LTR	1.13	504.4	F				
	SB									T	1.29	183.4	F				
Eleventh Avenue @ 47th Street	WB	LTR	0.97	68.8	E	LTR	0.96	63.7	E	LTR	0.91	53.0	D	LTR	0.86	48.7	D
	SB									TR	1.03	77.1	E				
Eleventh Avenue @ 54th Street	EB	LTR	1.19	357.7	F												
	NB									L	1.33	448.6	F				
Eleventh Avenue @ 56th Street	EB	LTR	1.07	286.7	F												
Eleventh Avenue @ 57th Street	EB	L	1.09	443.4	F												
		TR	1.19	381.3	F	TR	0.93	62.4	E	TR	1.22	481.5	F	TR	0.90	57.1	E
	WB	L	1.03	203.4	F	L	1.18	585.8	F					L	1.20	560.1	F
														TR	1.60	616.0	F
	NB									L	0.87	76.1	E	L	0.78	54.3	D
	SB	L	1.03	201.1	F					L	1.17	271.9	F				
Twelfth Avenue @ 24th Street	WB	L	0.51	67.8	E	L	0.49	46.9	D	L	0.67	71.0	E	L	0.51	47.0	D
		LTR	0.51	68.1	E	LTR	0.50	47.7	D	LTR	0.67	72.1	E	LTR	0.51	47.6	D
		R	0.51	69.3	E	R	0.49	47.8	D	R	0.67	71.0	E	R	0.52	48.4	D
	NB									TR	1.11	125.9	F	TR	1.09	120.9	F
	SB	L	0.97	132.5	F	L	0.67	74.9	E	L	0.65	87.2	F	L	1.08	426.6	F
						T	1.00	46.3	D								
Twelfth Avenue @ 29th Street	WB	LR	1.66	874.1	F	LR	1.38	679.2	F	LR	1.95	987.2	F	LR	1.25	591.7	F
Twelfth Avenue @ 30th Street	EB	LTR	0.00	64.4	E	LTR	0.00	49.5	D	LTR	0.00	64.4	E	LTR	0.00	49.5	D
	SB	L	1.21	364.6	F	L	1.32	370.3	F	L	1.34	427.2	F	L	1.16	328.7	F
Twelfth Avenue @ 34th Street	WB	L	0.45	59.5	E					L	0.48	59.8	E				
		LR	0.48	60.4	E					LR	0.49	60.0	E				
										R	0.58	49.4	D				
	SB	L	0.54	61.0	E	L	0.65	57.7	E	L	1.11	555.9	F	L	0.78	63.9	E

Table 17-19 (cont'd)
2017 Future without the Proposed Actions
Intersection Approach Movements Operating at LOS Mid-D, E or F

Intersection	Approach	AM				MD				PM				Saturday			
		Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS	Movt.	V/C Ratio	Delay Sec/Veh	LOS
Twelfth Avenue @ Pier 79 Ferry Terminal	EB	LR	0.13	52.6	D					LR	0.25	60.5	E				
		R	0.13	53.2	D					R	0.25	61.9	E				
	NB	L	0.10	63.7	E	L	0.20	50.4	D	L	0.30	72.6	E	L	0.26	51.6	D
	SB	TR	1.12	131.6	F	TR	1.06	110.1	F					TR	1.15	142.6	F
Twelfth Avenue @ 41st Street	EB									LR	0.06	47.3	D				
	WB	L	0.09	50.8	D					L	0.08	60.0	E				
		R	0.41	56.8	E					R	0.47	67.7	E				
	NB	T	1.13	148.1	F	T	1.07	126.6	F	T	1.01	75.9	E	T	1.03	112.1	F
	SB	T	1.14	115.7	F									T	1.11	108.1	F
Twelfth Avenue @ 42nd Street	EB	LTR	0.04	46.2	D					LTR	0.08	46.7	D				
	WB	L	0.32	52.2	D	L	0.60	45.6	D	L	0.66	65.1	E				
										R	0.84	65.3	E				
	NB	T	0.97	49.9	D	T	1.09	129.7	F					T	1.16	156.3	F
	SB	L	0.67	59.2	E					L	1.20	357.5	F	L	0.68	48.5	D
Twelfth Avenue @ 43th Street	WB	LTR	0.78	72.6	E	LTR	0.76	53.3	D	LTR	1.00	107.7	F	LTR	0.69	49.3	D
	NB	L	0.97	165.9	F	L	0.33	59.2	E	L	0.16	68.0	E	L	0.10	52.3	D
Twelfth Avenue @ 44th Street	SB	L	1.09	291.7	F	L	0.96	81.9	F	L	1.02	189.3	F	L	0.94	78.4	E
Twelfth Avenue@ 46th Street	EB	LTR	0.28	56.5	E					LTR	0.17	51.9	D				
	NB	TR	0.95	99.6	F	TR	1.10	168.1	F	TR	1.12	158.6	F	TR	1.09	157.3	F
	SB	L	0.53	69.9	E	L	0.59	70.7	E	L	0.61	83.3	F	L	0.83	94.9	F
Twelfth Avenue @ 54th Street	WB	R	0.52	61.4	E					R	0.81	81.6	F	R	0.52	45.6	D
	NB	TR	1.01	72.2	E	TR	1.03	110.8	F	TR	1.23	185.2	F				
	SB	L	0.70	68.0	E					L	0.44	57.4	E				
		T	1.18	129.9	F												
Twelfth Avenue @ 56th Street (SR)	NB	TR	0.93	55.4	E												
Twelfth Avenue @ 56th Street	NB	T	1.15	164.0	F					T	1.23	160.3	F				
	SB	L	0.99	55.5	E	L	1.19	474.3	F	L	1.11	387.3	F	L	0.85	61.2	E
Twelfth Avenue @ 57th Street	WB									R	0.62	230.9	F				
Broadway @ 35th Street	WB	T	1.58	316.4	F	T	1.28	188.1	F	T	1.49	279.9	F	T	1.14	131.2	F
Broadway @ 42nd Street	WB	DefL	1.34	647.7	F												
Dyer Ave @ 31st Street	WB									LTR	0.85	51.3	D				
	SB									TR	0.91	49.9	D				
Dyer Ave @ 34th Street	SB	L	0.98	93.1	F	L	0.60	45.8	D	L	0.78	58.8	E				
		LR	0.99	94.9	F	LR	0.60	46.7	D	LR	0.80	61.0	E				
		R	0.99	99.0	F	R	0.61	47.5	D	R	0.79	62.4	E				
Dyer Ave @ 35th Street	WB									LTR	0.76	195.2	F				
Dyer Ave @ 36th Street	EB	TR	0.74	86.7	F	TR	0.70	78.7	E	TR	0.70	73.7	E				
Dyer Avenue @ 41st Street	WB									TR	0.56	52.6	D				
Unsignalized Intersections																	
Twelfth Avenue @ 33rd Street	WB									R	0.86	53.9	F				
Twelfth Avenue @ 47th Street	WB									R	1.71	383.0	F	R	0.89	79.8	F

Shading indicates movement not at LOS Mid-D, E, or F.
Delay Calculated at greater than 300 seconds is considered unreliable, though the congestion at this level is considered an impact.

PARKING CONDITIONS

Demand for future parking was projected based upon hourly parking accumulation profiles of No Build development projects within the parking study area and on a background growth in demand for new parking; projections were also based on No Build development projects outside the parking study area periphery, if a portion of their demand would spill over into the study area. The background demand for parking in the study area is projected to grow at a rate below that of background vehicular traffic, which is consistent with the background growth component

of the parking projections developed for the *Hudson Yards FGEIS*. Overall, background parking demand is projected to increase by 1.0 percent between 2008 and 2017 and by 1.3 percent between 2008 and 2019.

The supply of available off-street parking is also expected to change in the study area, both due to the displacement of existing parking facilities by No Build projects and by public parking supply that may be added by certain No Build projects. Nine existing facilities are expected to be displaced resulting in a loss of approximately 933 daytime spaces. However, ten public parking facilities are anticipated to be incorporated into No Build projects, adding 1,620 public spaces, thus resulting a net increase of approximately 687 off-street spaces in the study area. It was assumed that these additional facilities would be open 24 hours.

As noted in the discussion of existing conditions above, most of the parking study area's curbside regulations restrict weekday daytime usage to commercial loading and unloading activities, authorized vehicles or prohibit parking overall. This condition is not expected to change in the future and no on-street parking availability was assumed in the future, as was assumed for existing conditions.

Due to background growth in parking demand and parking demand generated by developments assumed to be completed by 2019 in the Future without the Proposed Actions, off-street parking is anticipated to be more highly utilized in 2019. Table 17-20 presents the anticipated 2019 off-street parking capacity and utilization for the weekday midday and overnight analysis periods in the Future without the Proposed Actions. As shown, weekday midday parking demand is projected to exceed available study area off-street capacity by approximately 2,100 spaces, including the anticipated increase in weekday midday parking supply. Overnight parking is expected to be available in the study area in 2019 in the Future without the Proposed Actions with approximately 1,150 overnight spaces available and a utilization rate of approximately 76 percent.

Table 17-20
2019 Future without the Proposed Actions:
Off-Street Parking Utilization

Analysis Period	Total Capacity	Demand	Utilization Rate	Available Spaces
Weekday Midday	5,869	7,926	135%	(2,057)
Weekday Overnight	4,764	3,614	76%	1,150

No difference is projected between the 2019 and 2017 off-street parking supply or demand generated by No Build projects in the Future without the Proposed Actions. The only distinction between the 2019 and 2017 parking demand projections in the Future without the Proposed Actions is the minimal increment in background demand growth between 2017 and 2019, and therefore, the 2017 and 2019 parking utilization and available space projections are substantively the same, as shown in Table 17-21.

Table 17-21
2017 Future without the Proposed Actions:
Off-Street Parking Utilization

Analysis Period	Total Capacity	Demand	Utilization Rate	Available Spaces
Weekday Midday	5,869	7,915	135%	(2,046)
Weekday Overnight	4,764	3,614	76%	1,150

E. PROBABLE IMPACTS OF THE PROPOSED ACTIONS

This section presents the projected traffic and parking conditions in the 2019 Future with the Proposed Actions, assuming the full mixed-use development at the Development Site as well as the completion of the development of the Additional Housing Sites. Also presented in this section are projected traffic and parking conditions in the 2017 Future with the Proposed Actions.

As discussed earlier in this chapter, the Maximum Commercial Scenario for the Development Site would typically generate a higher level of travel demand during the weekday peak hours than both options for the Maximum Residential Scenario (the office and hotel options). During the Saturday midday peak hour, both of the options for the Maximum Residential Scenario would generate more trips than the Maximum Commercial Scenario, as a result of the larger residential component. Between the two options for the Maximum Residential Scenario, the hotel option would generate more trips than the office option on a Saturday. Therefore, the traffic analyses reasonable worst-case development scenario assumes the Maximum Commercial Scenario for the weekday analyses and the Maximum Residential Scenario-Hotel Option for the Saturday analysis. As the comparative levels of parking demand generated by the development scenarios would exhibit greater fluctuation depending on the analysis period, the parking analyses examine the Future with the Proposed Actions for all scenarios.

DEVELOPMENT SITE CHARACTERISTICS

Current plans for the Development Site propose a northern upland connection from Eleventh Avenue that would align approximately with West 32nd Street. This upland connection is intended to provide vehicular access for internal passenger drop off to the commercial building and residential buildings on the north side of the site and would continue west with a cul-de-sac drop off to provide vehicular access to the residential buildings further west. It is anticipated that there would also be a southern upland connection accessible from Eleventh Avenue that aligns approximately with West 31st Street. This southern upland connection would provide access to the residential buildings in the western portion of the site in a cul-de-sac drop off, as well as to the retail uses at the base of these buildings.

An approximately 850 space accessory parking facility would be located on terra firma, on the south side of the Development Site, with access provided via a driveway located on West 30th Street and from the southern roadway. These off-street parking spaces would be accessory to the residential uses. In addition, an approximately 750 space accessory parking facility would be located on the platform on the north side of the Development Site with access via a driveway on West 33rd Street and from the northern roadway; of these, 270 spaces would serve accessory commercial uses and the remainder would be accessory to the residential uses. As described in Chapter 1, “Project Description,” it is anticipated that the West 30th Street (850-space) parking facility would be completed and operational by 2017, while the West 33rd Street (750-space) parking facility would be completed and operational by 2019.

TRAFFIC VOLUMES

Future traffic volumes on the study area roadway network in the Future with the Proposed Actions were derived through the addition of incremental vehicle trips projected to be generated by the Proposed Actions to the traffic volumes expected to be present on the study area roadways absent the Proposed Actions, i.e., the No Build traffic volumes presented above. A

similar process was employed to derive study area roadway network traffic volumes for the 2017 Build year, incorporating the development expected to be completed in the Future with the Proposed Actions by 2017. The development components assumed for full development of the Development Site and completed for the 2017 Build year were provided earlier in Table 17-2. Completion of the Ninth Avenue Additional Housing Site is assumed by 2017—the Tenth Avenue Additional Housing Site is assumed to be completed by the 2019 analysis year.

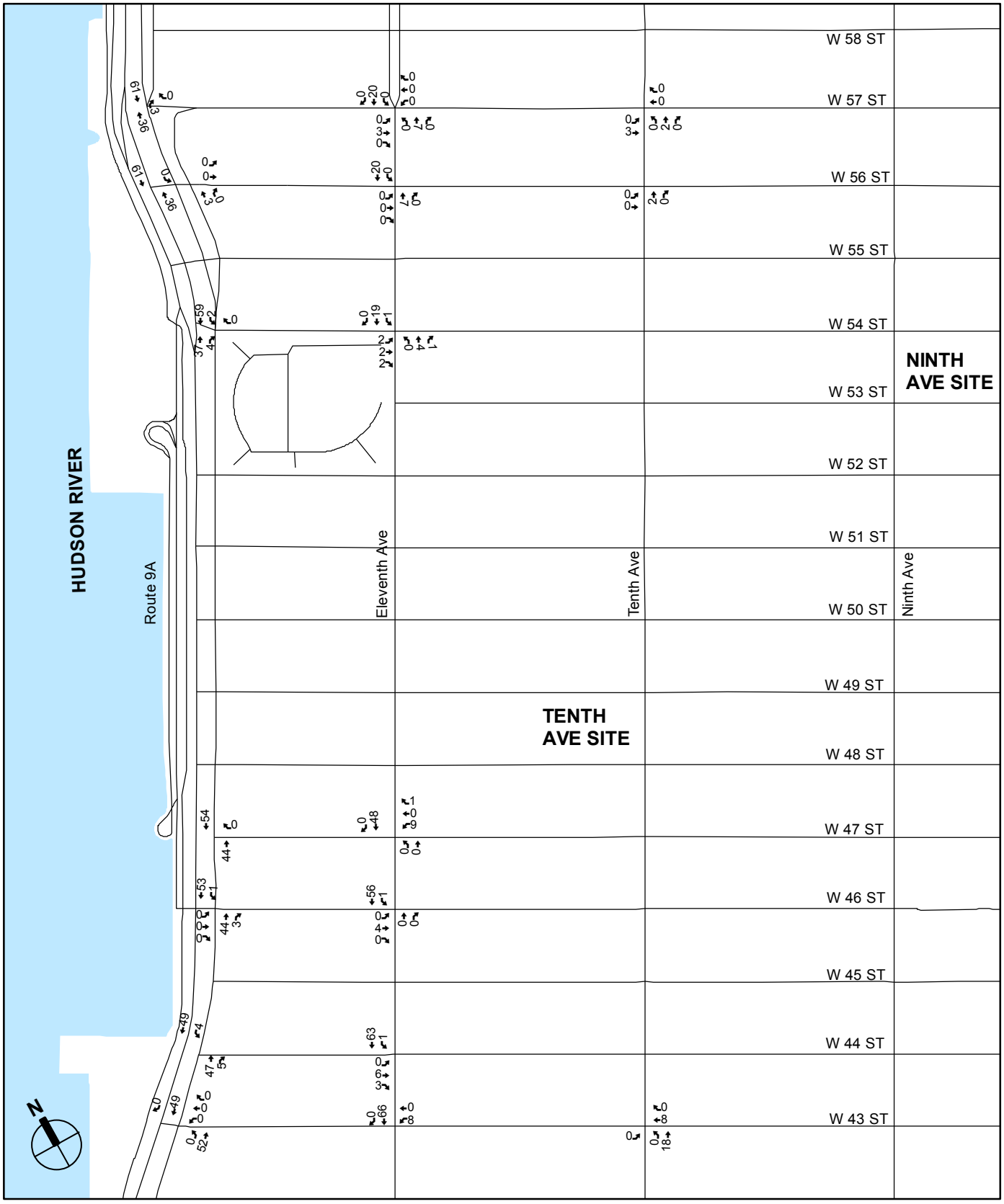
Figures 17-37 through 17-52 provide the 2019 incremental traffic volumes in the Future with the Proposed Actions for the typical weekday AM (8 AM to 9 AM), midday (12 noon to 1 PM), PM (5 PM to 6 PM), and typical Saturday midday (1 PM to 2 PM) peak hours, respectively, at the study intersection analysis locations. As noted above, the reasonable worst case scenario for the traffic analyses assumes the Maximum Commercial Scenario for trip generation and analysis of the weekday AM, midday and PM peak hours and the Maximum Residential Scenario-Hotel Option for trip generation and analysis of the Saturday midday peak hour. Figures 17-53 through 17-68 provide the 2019 traffic volumes in the Future with the Proposed Actions, derived from the addition of the Build incremental traffic volumes to the 2019 No Build traffic volumes, for the typical weekday AM (8 AM to 9 AM), midday (12 noon to 1 PM), PM (5 PM to 6 PM), and typical Saturday midday (1 PM to 2 PM) peak hours, respectively, at the study intersection analysis locations.

Incremental and Build traffic volumes for the 2017 interim analysis year are provided in Appendix E, "Transportation Technical Memos and Analyses."

INTERSECTION CAPACITY ANALYSIS

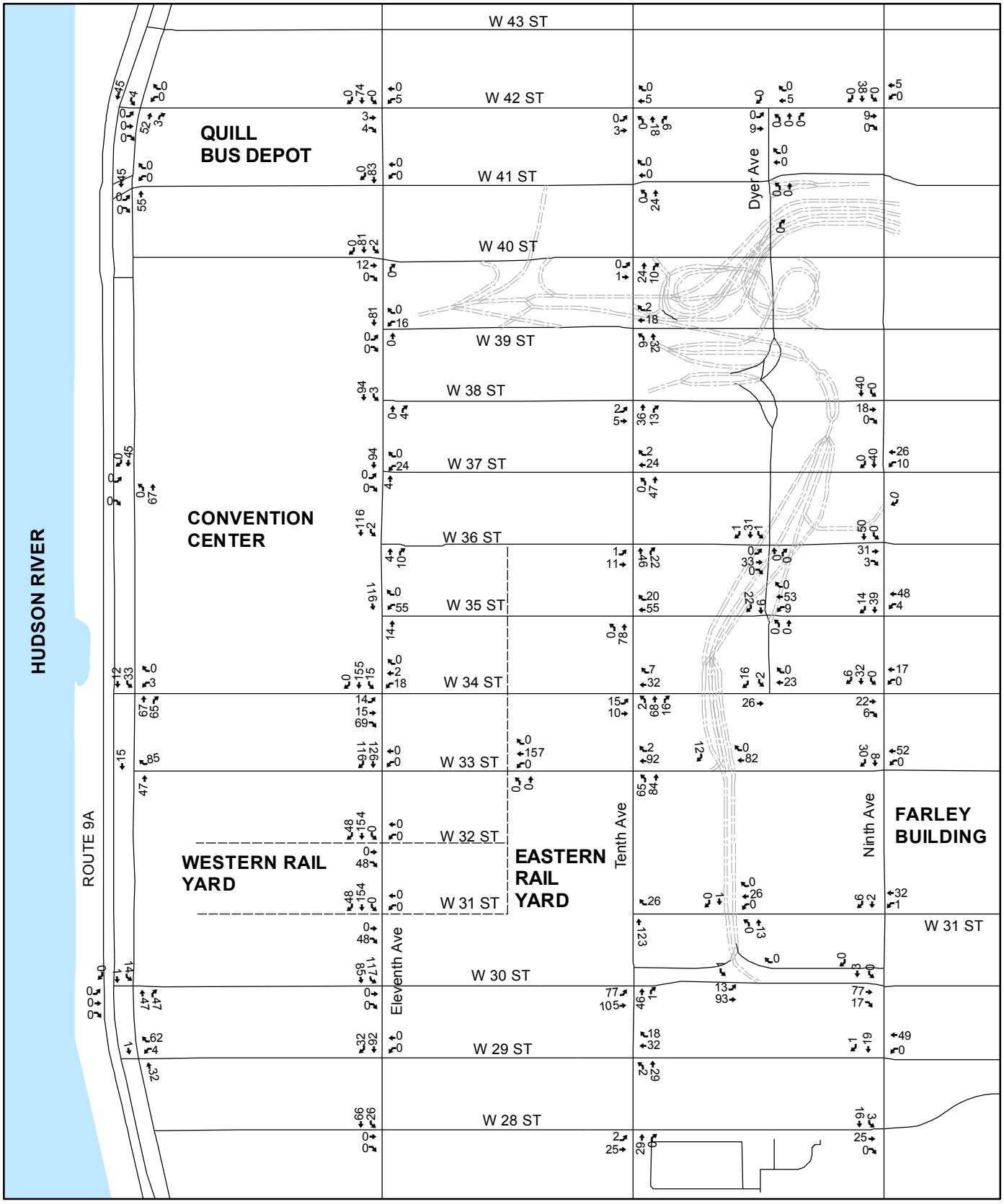
Capacity analyses of 2019 and 2017 in the Future with the Proposed Actions conditions at the study area intersections were performed in accordance with the methodology presented in the *Highway Capacity Manual (HCM)*, as described previously for existing and Future without the Proposed Actions conditions.

The number of intersection approach movements projected to operate within mid-LOS D, LOS E or LOS F during each 2019 build hour is provided in Table 17-22, along with the change in the number of intersection approach movements that would operate within each LOS from the 2019 Future without the Proposed Actions condition. Under the 2019 Future with the Proposed Actions condition, 122 approach movements at 75 intersections would operate at mid-LOS D, LOS E, or LOS F in the AM peak hour; 114 approach movements at 75 intersections would operate at mid-LOS D, LOS E, or LOS F in the midday peak hour; 151 approach movements at 86 intersections would operate at mid-LOS D, LOS E, or LOS F in the PM peak hour; and 88 approach movements at 67 intersections would operate at mid-LOS D, LOS E, or LOS F in the Saturday midday peak hour. The increment in approach movements that would operate at mid-LOS D or worse as a result of project generated traffic is less than ten percent above the overall total for the 2019 Future without the Proposed Actions condition, as indicated in Table 17-16. Under the 2019 Future with the Proposed Actions condition, the PM peak hour would be the most congested in the study area as demonstrated by the overall number of approach movements projected to operate at mid-LOS D or worse, and in the number of approach movements projected to operate in LOS E or LOS F.



0 500 1,000 Feet

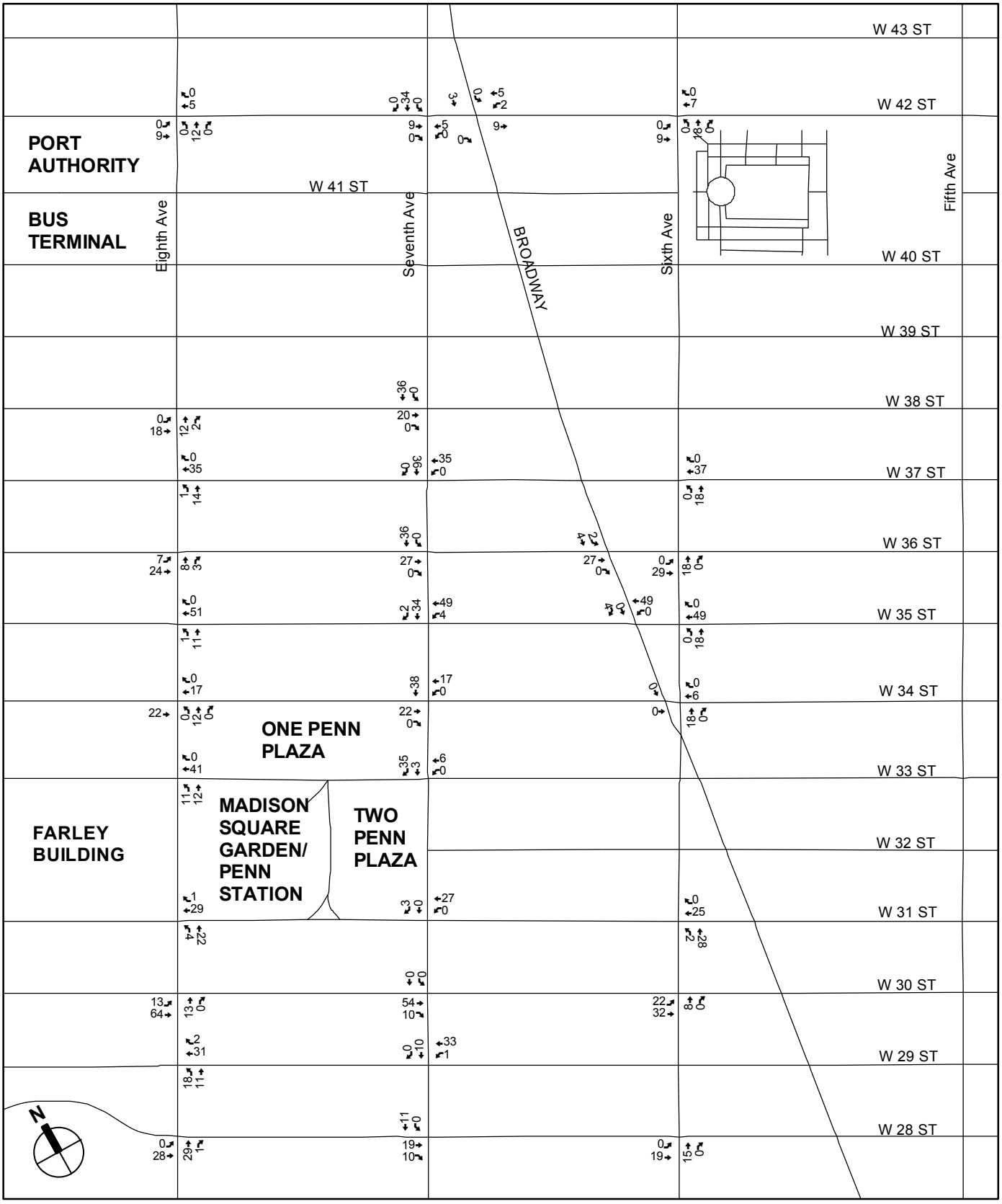
2019 Build Increment Traffic Volumes - Inset 1
(Weekday AM Peak Hour)



2019 Build Increment Traffic Volumes - Inset 2
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-38



0 500 1,000 Feet

2019 Build Increment Traffic Volumes - Inset 3
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

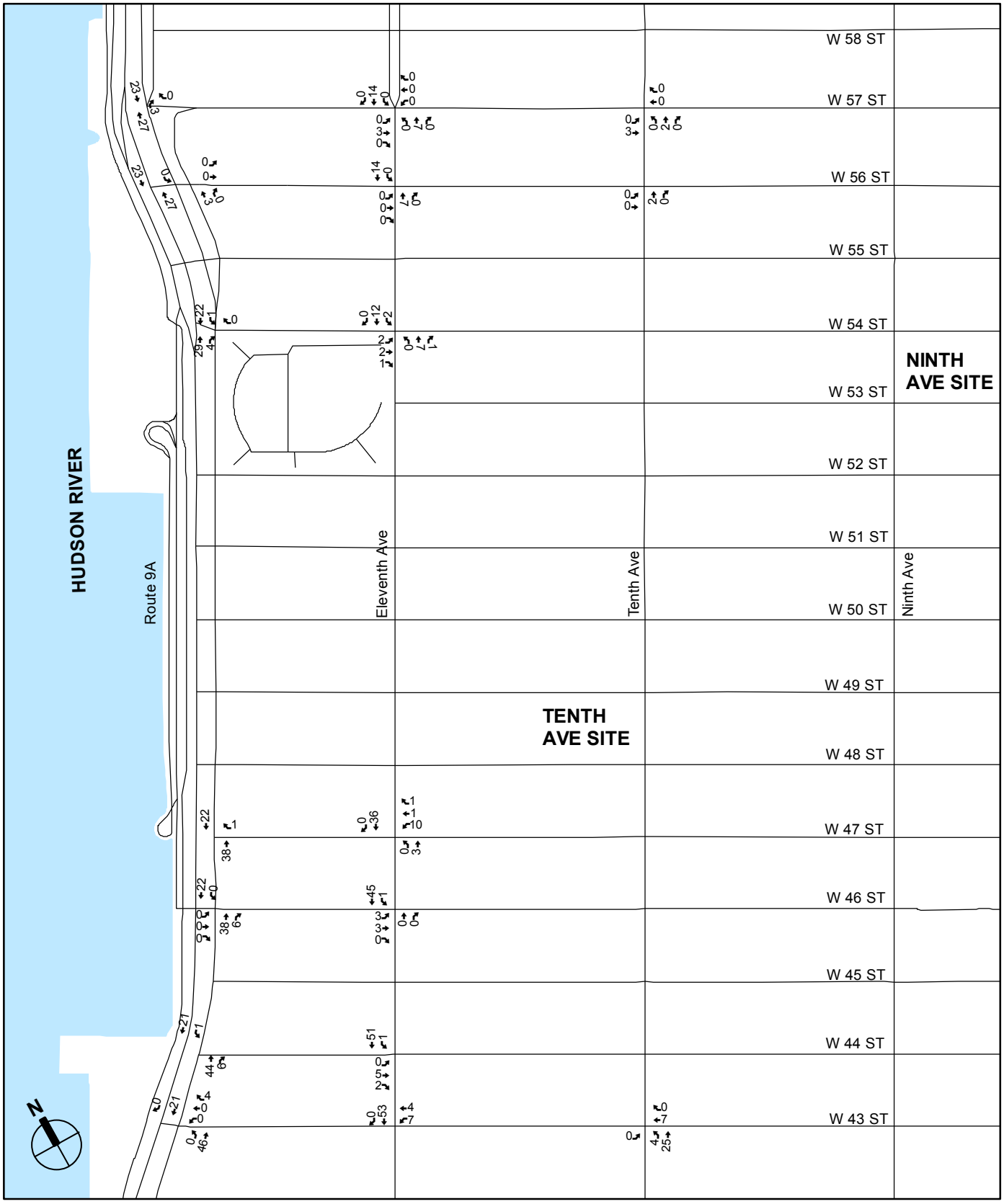
Figure 17-39



2019 Build Increment Traffic Volumes - Inset 4
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-40

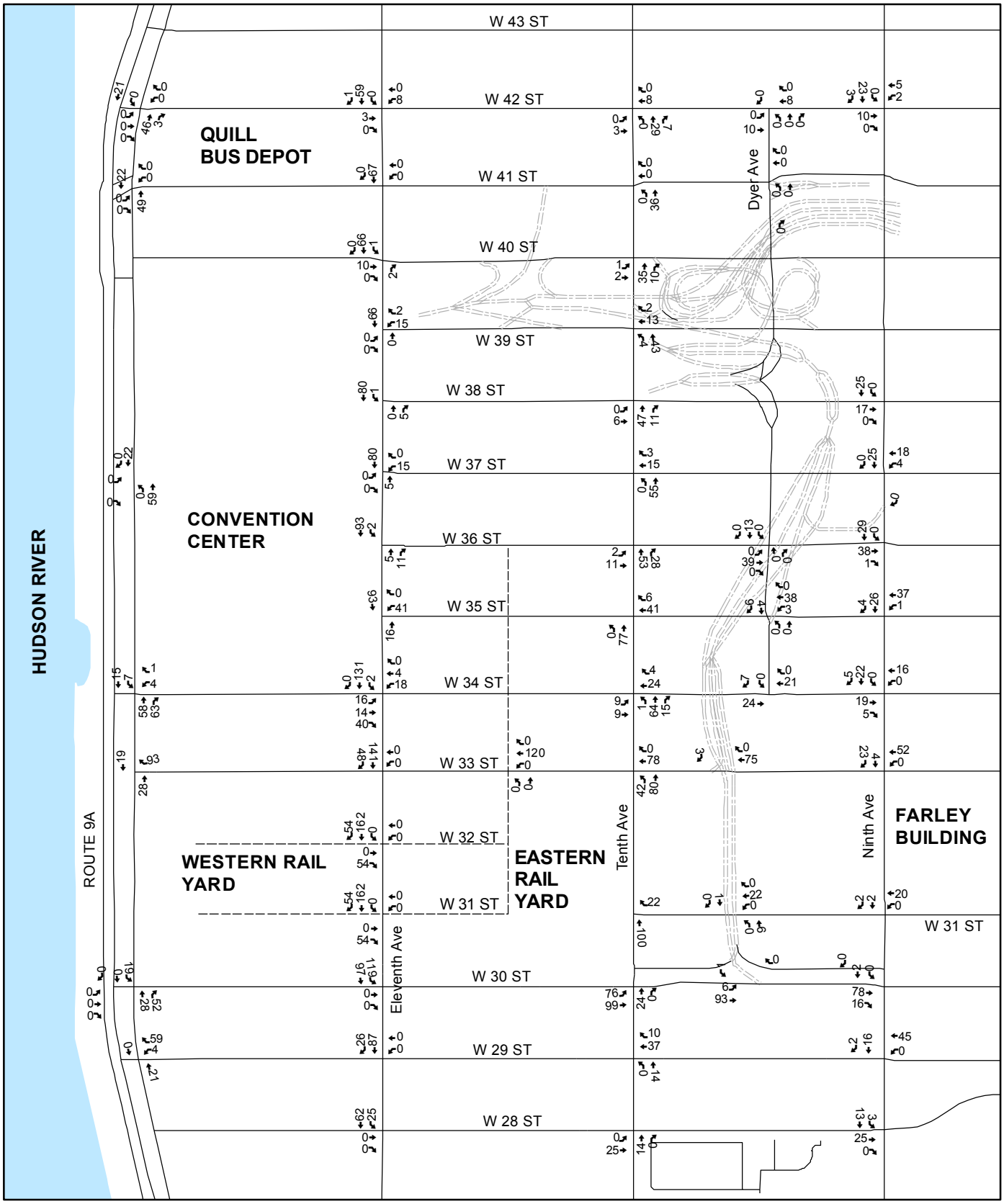


0 500 1,000 Feet

2019 Build Increment Traffic Volumes - Inset 1
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-41



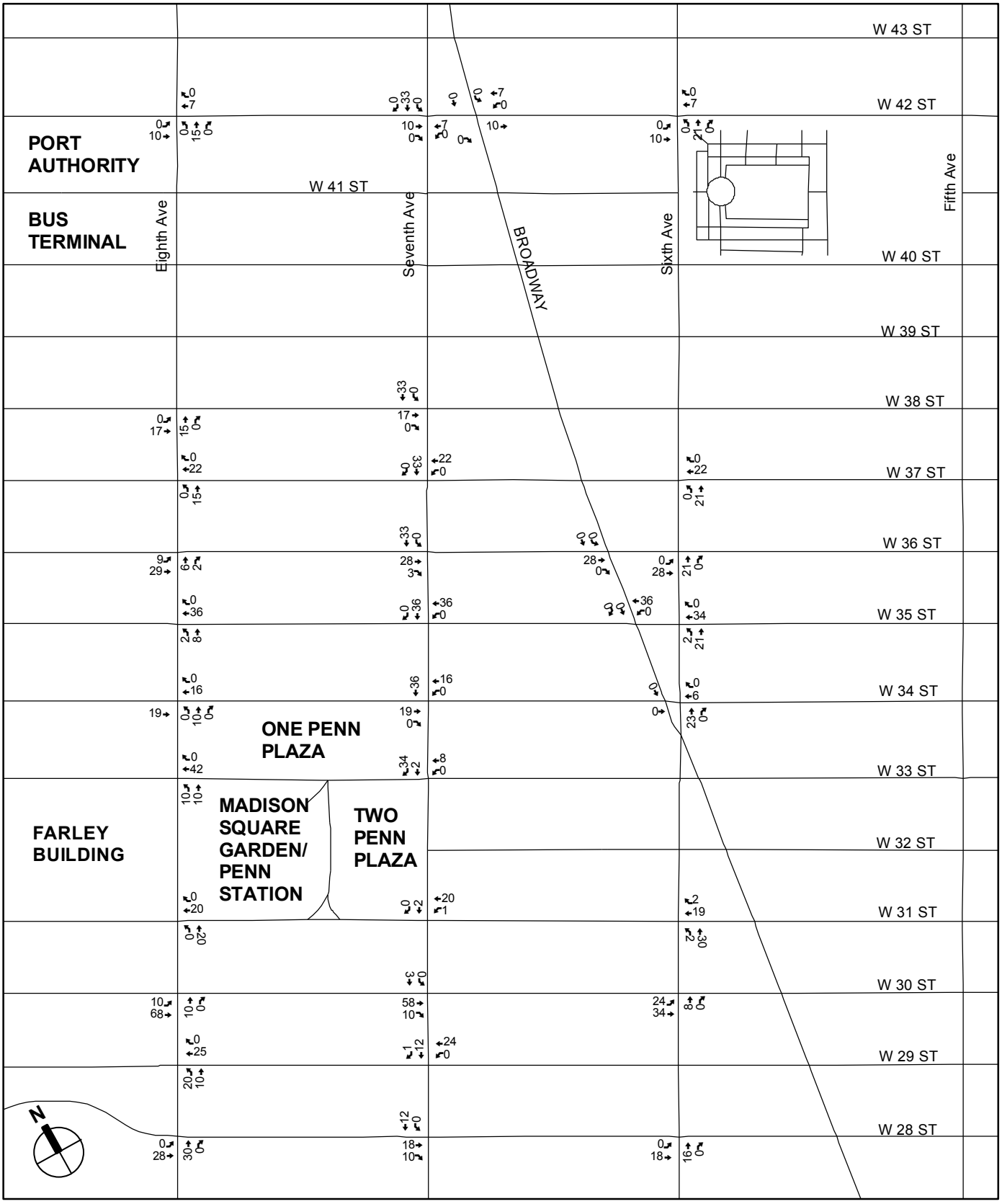
0 500 1,000 Feet

New Streets (Not to Scale)

2019 Build Increment Traffic Volumes - Inset 2
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-42



0 500 1,000 Feet

2019 Build Increment Traffic Volumes - Inset 3
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-43

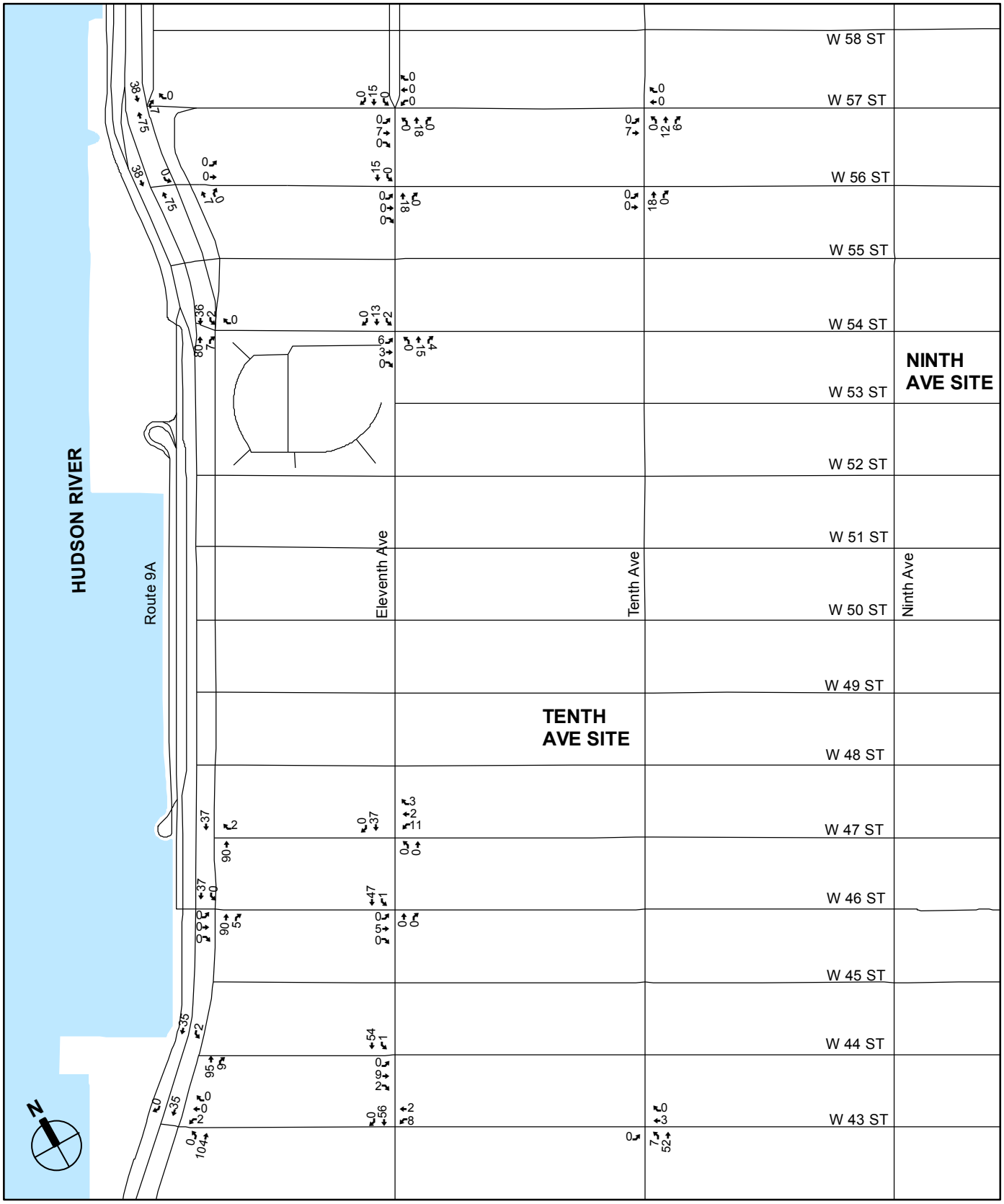


0 500 1,000 Feet

2019 Build Increment Traffic Volumes - Inset 4
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-44

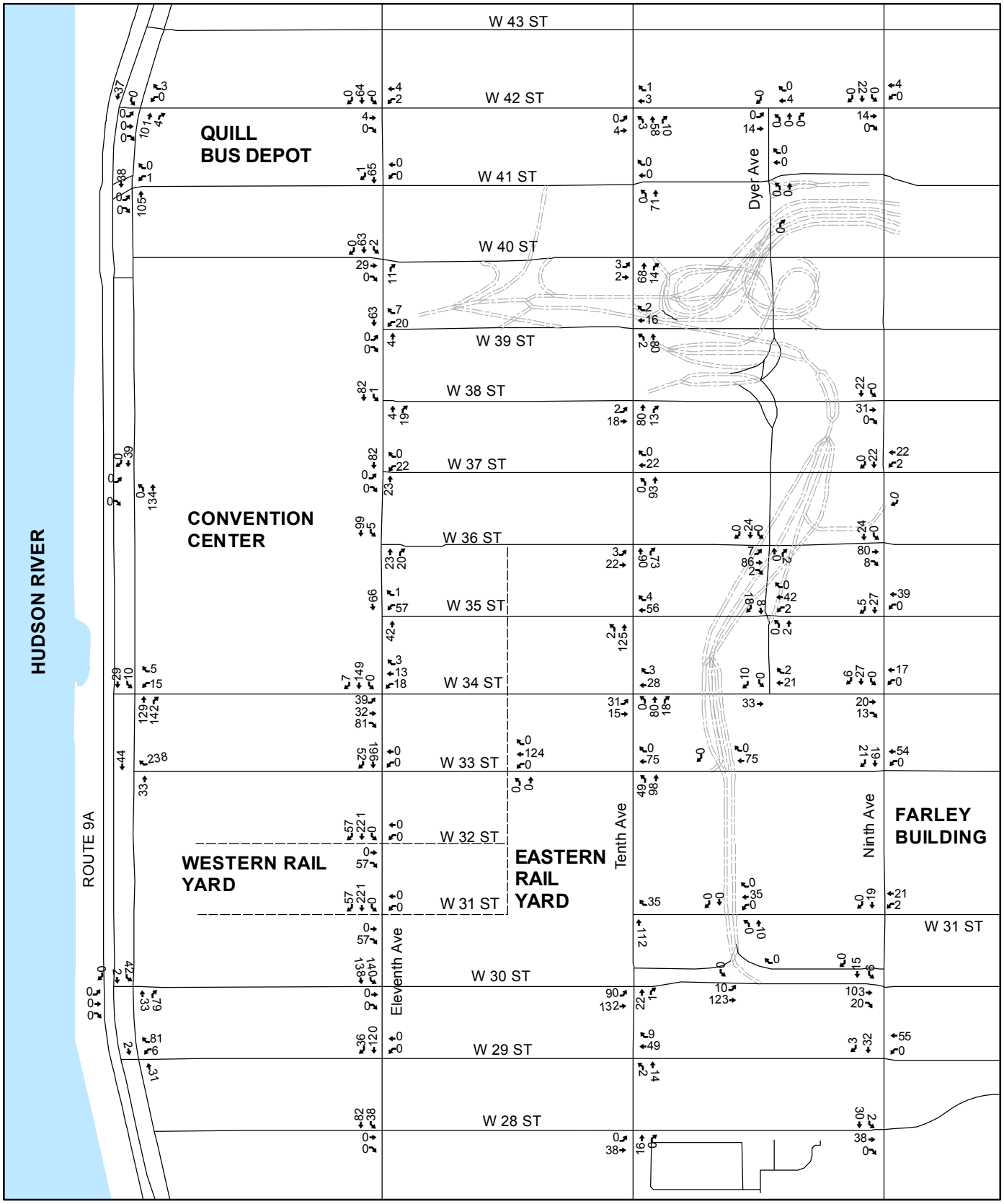


0 500 1,000 Feet

2019 Build Increment Traffic Volumes - Inset 1
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-45



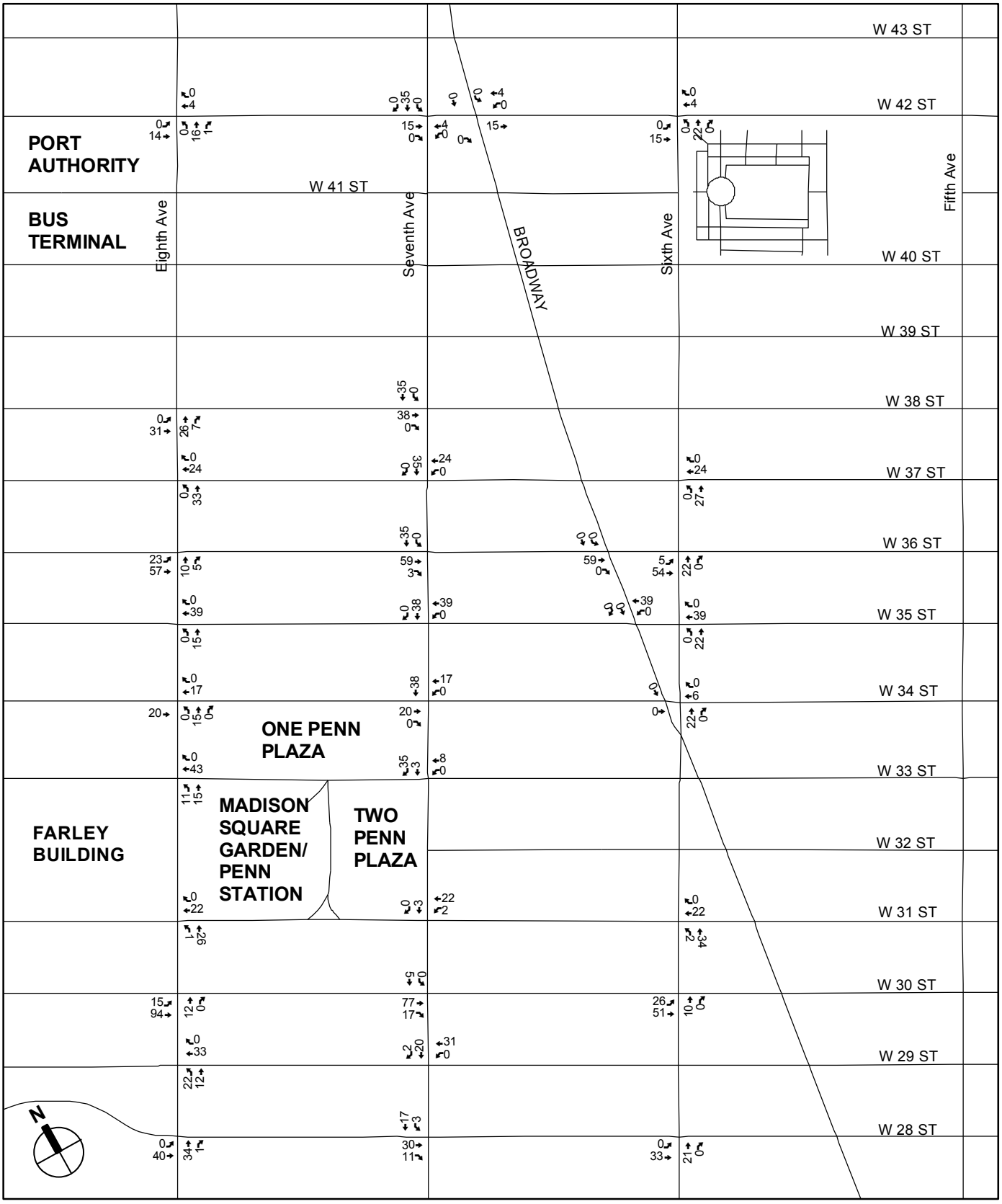
0 500 1,000 Feet

New Streets (Not to Scale)

2019 Build Increment Traffic Volumes - Inset 2
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-46



0 500 1,000 Feet

2019 Build Increment Traffic Volumes - Inset 3
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

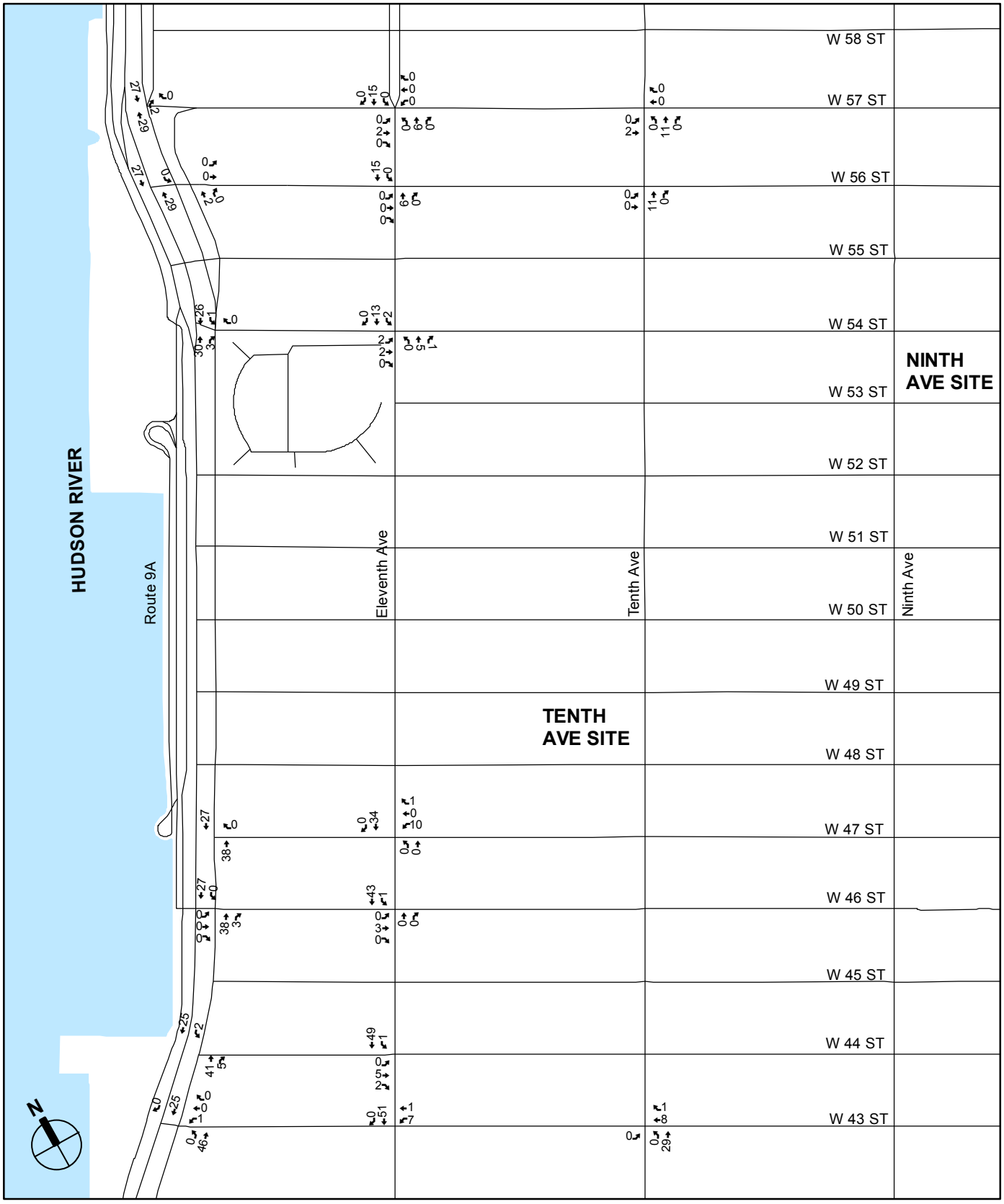
Figure 17-47



2019 Build Increment Traffic Volumes - Inset 4
(Weekday PM Peak Hour)

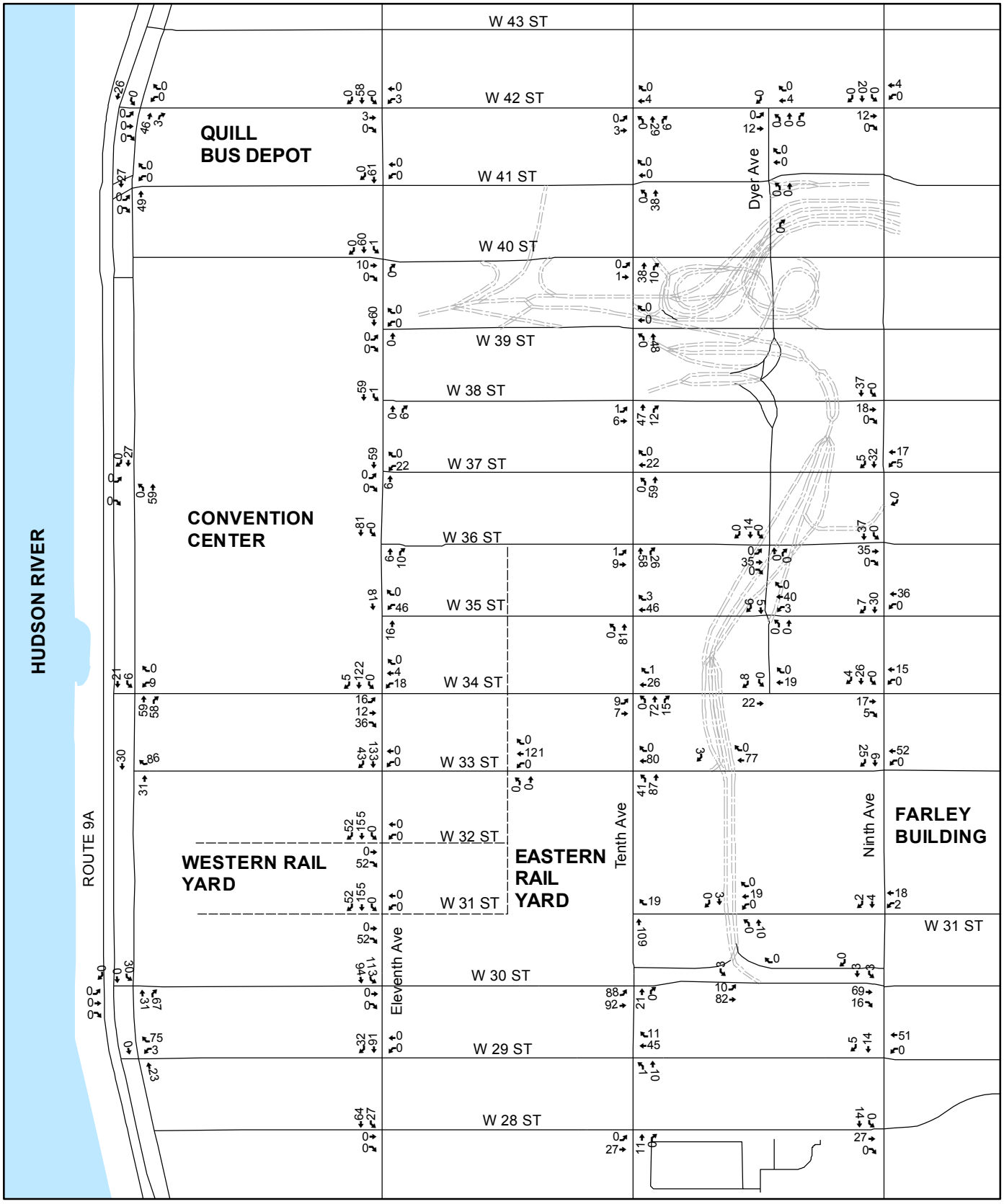
WESTERN **RAIL YARD**

Figure 17-48



0 500 1,000 Feet

2019 Build Increment Traffic Volumes - Inset 1
(Saturday Midday Peak Hour)



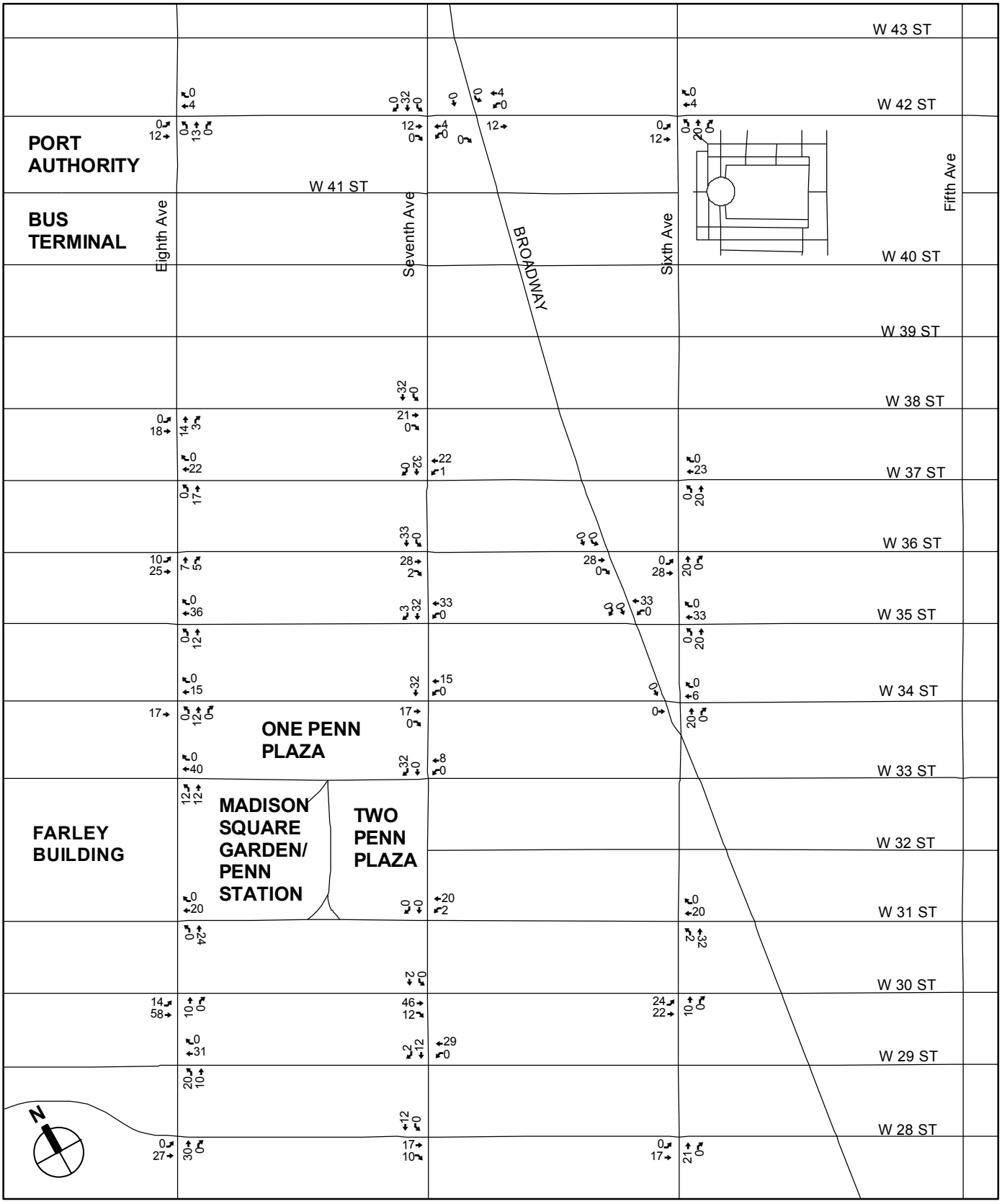
0 500 1,000 Feet

New Streets (Not to Scale)

2019 Build Increment Traffic Volumes - Inset 2
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-50



0 500 1,000 Feet

2019 Build Increment Traffic Volumes - Inset 3
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

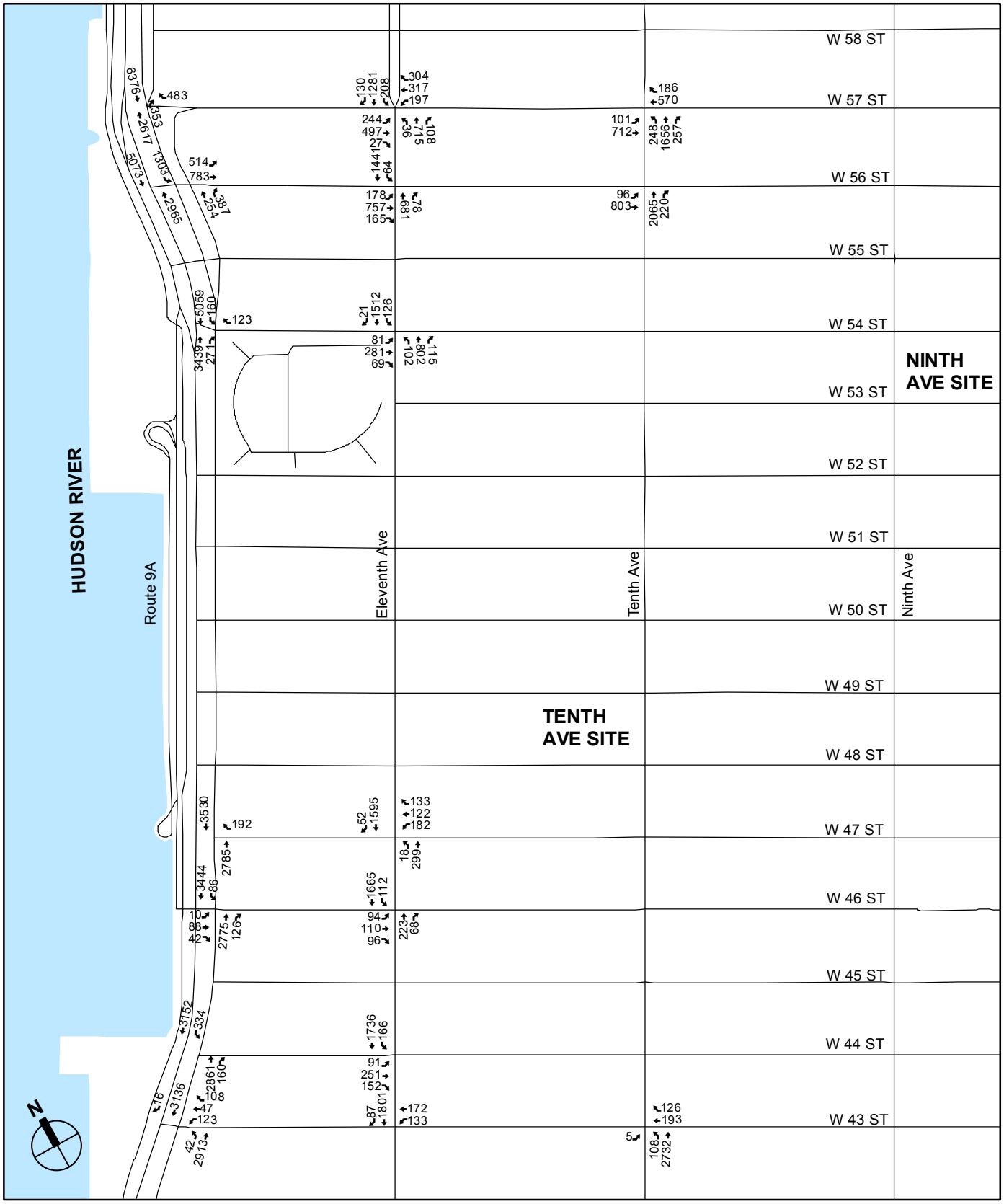
Figure 17-51



2019 Build Increment Traffic Volumes - Inset 4
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

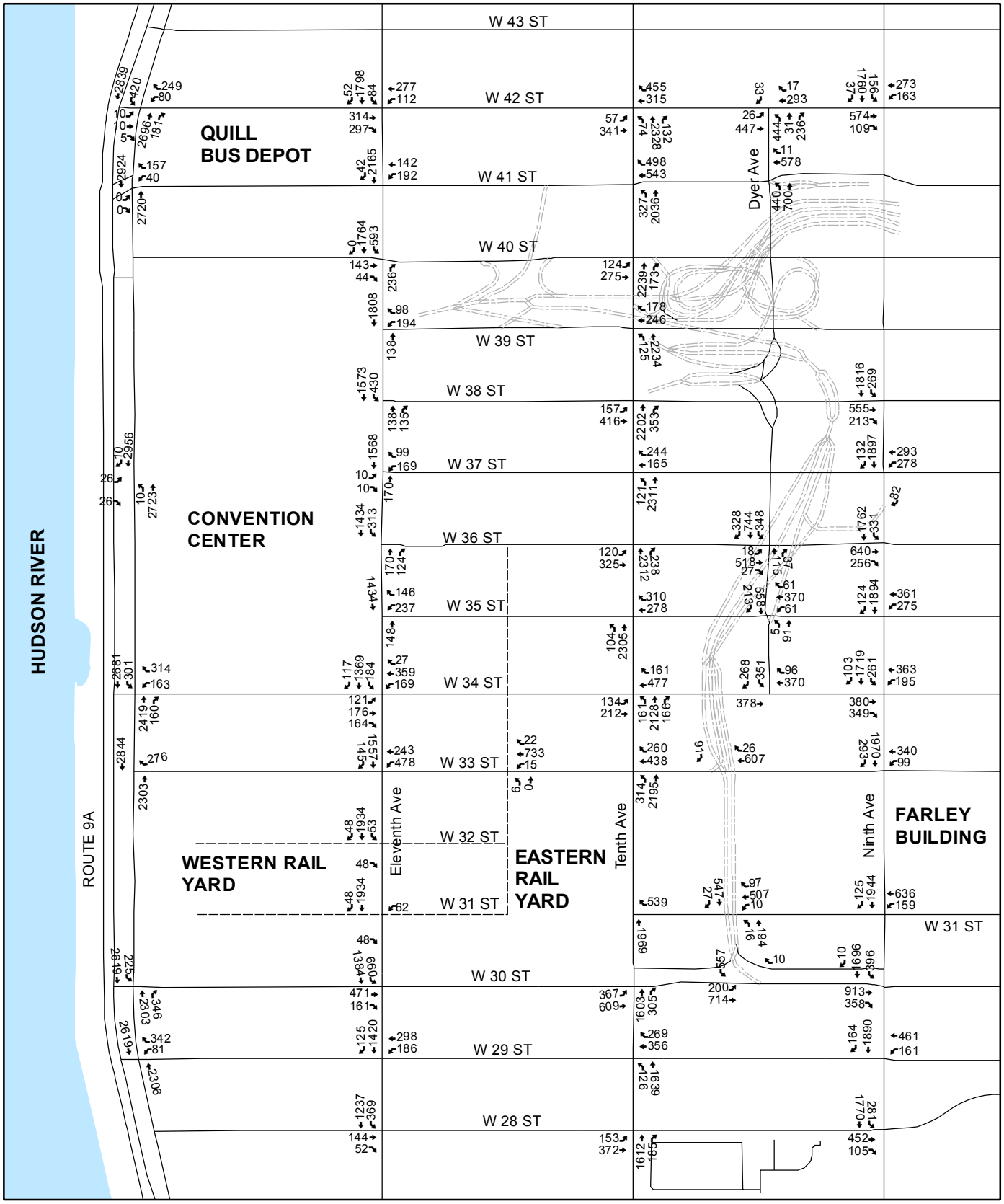
Figure 17-52



2019 Build Traffic Volumes - Inset 1
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-53



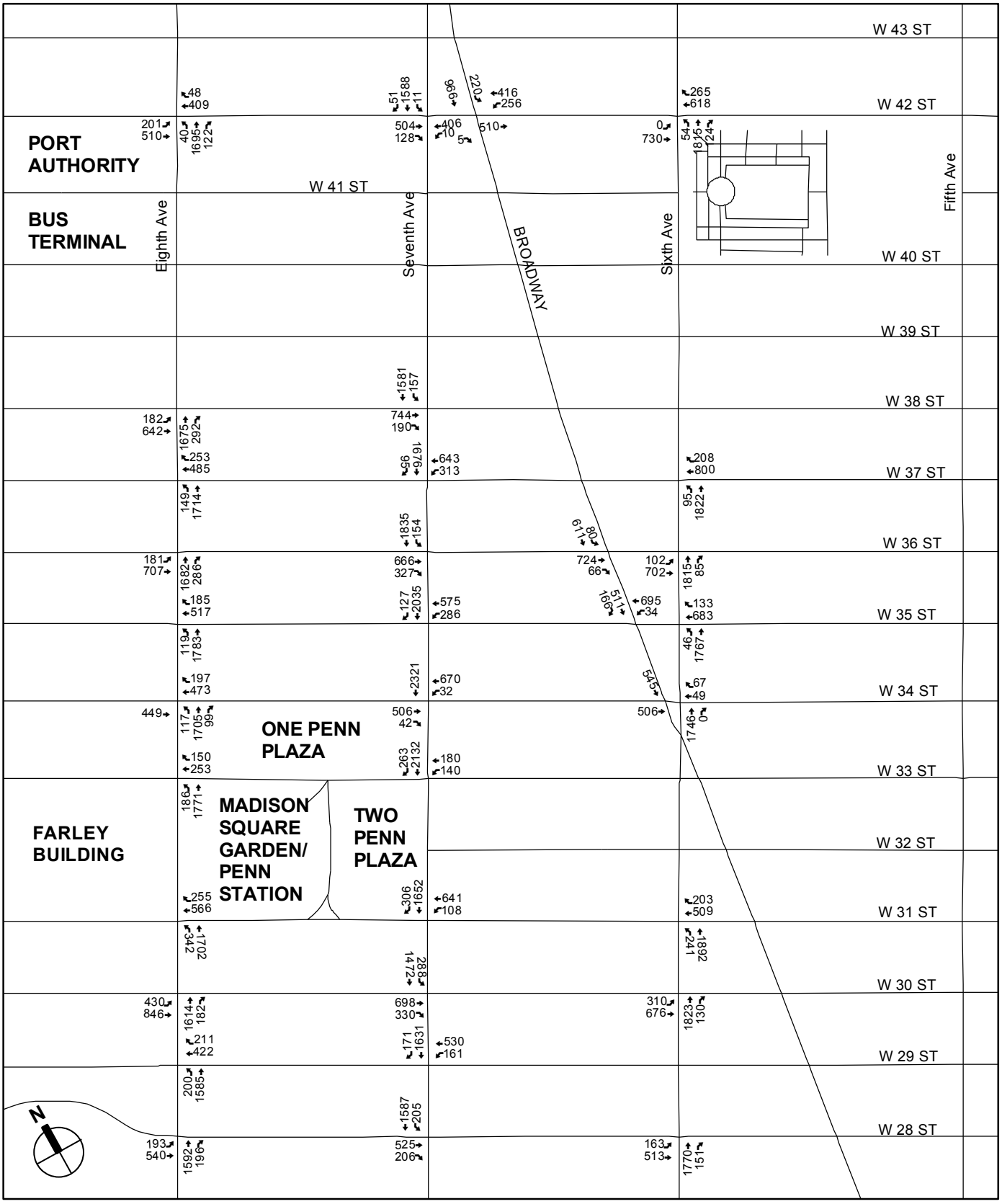
0 500 1,000 Feet

New Streets (Not to Scale)

2019 Build Traffic Volumes - Inset 2
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-54

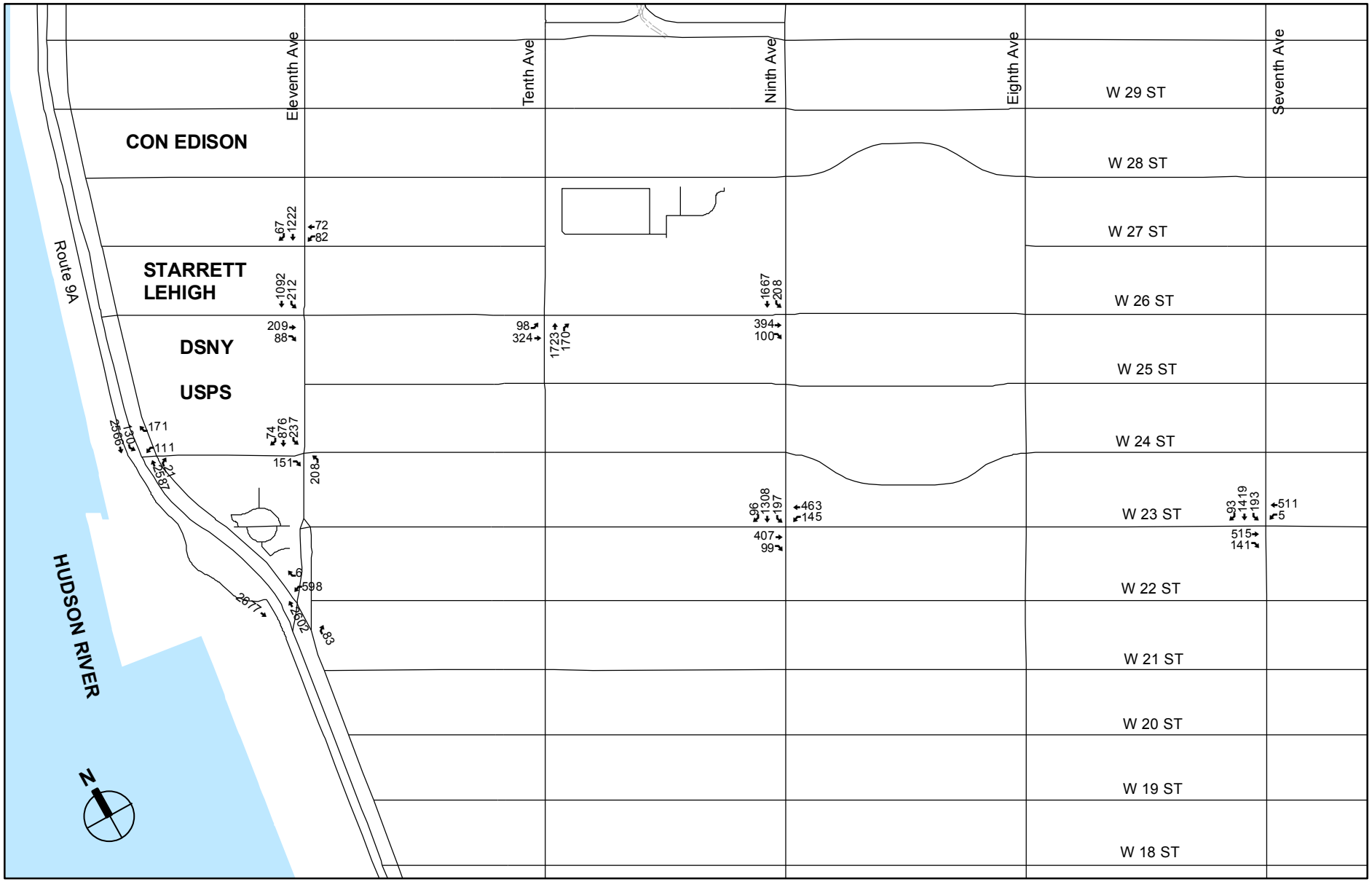


0 500 1,000 Feet

2019 Build Traffic Volumes - Inset 3
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-55

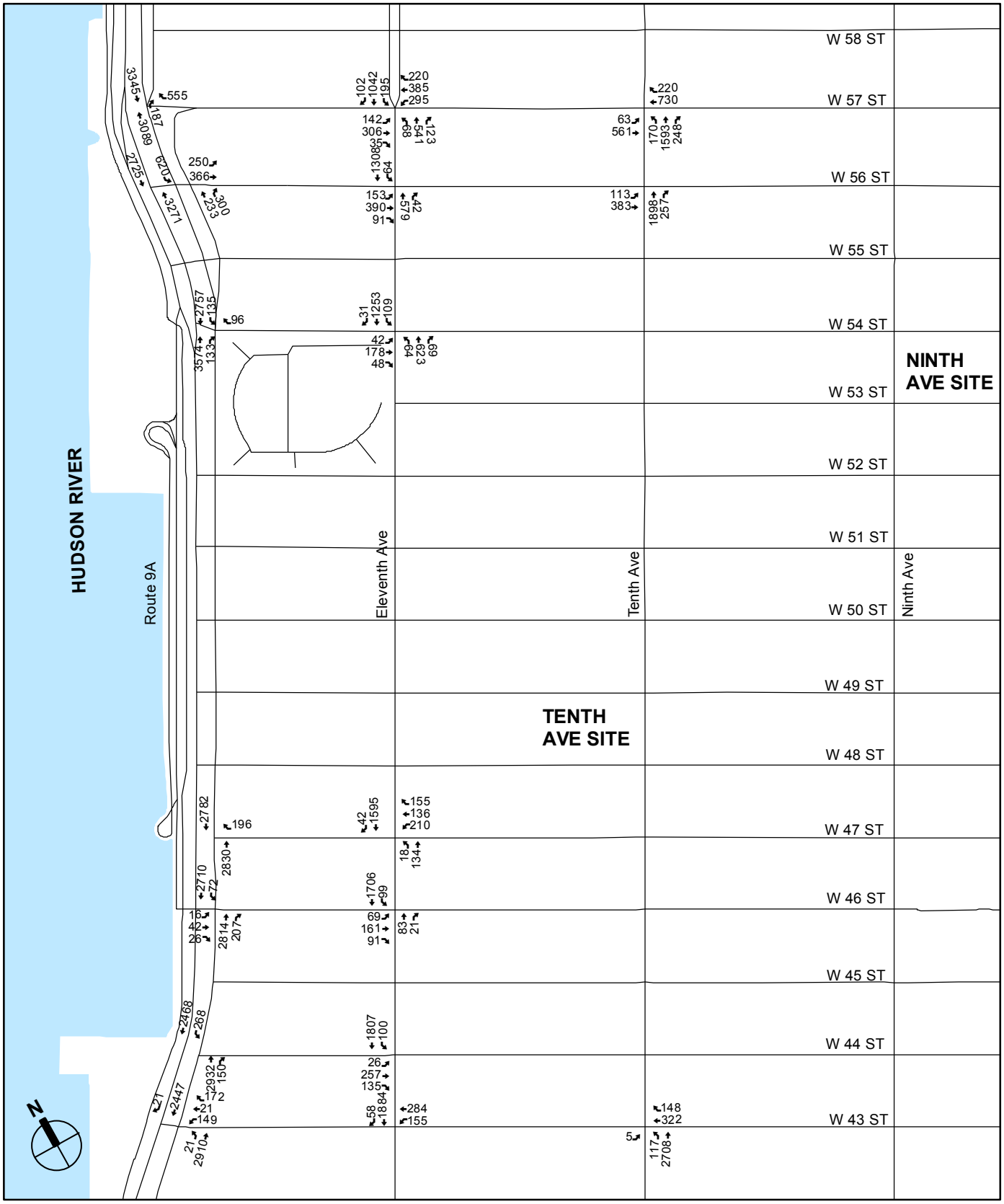


0 500 1,000 Feet

2019 Build Traffic Volumes - Inset 4
(Weekday AM Peak Hour)

WESTERN **RAIL YARD**

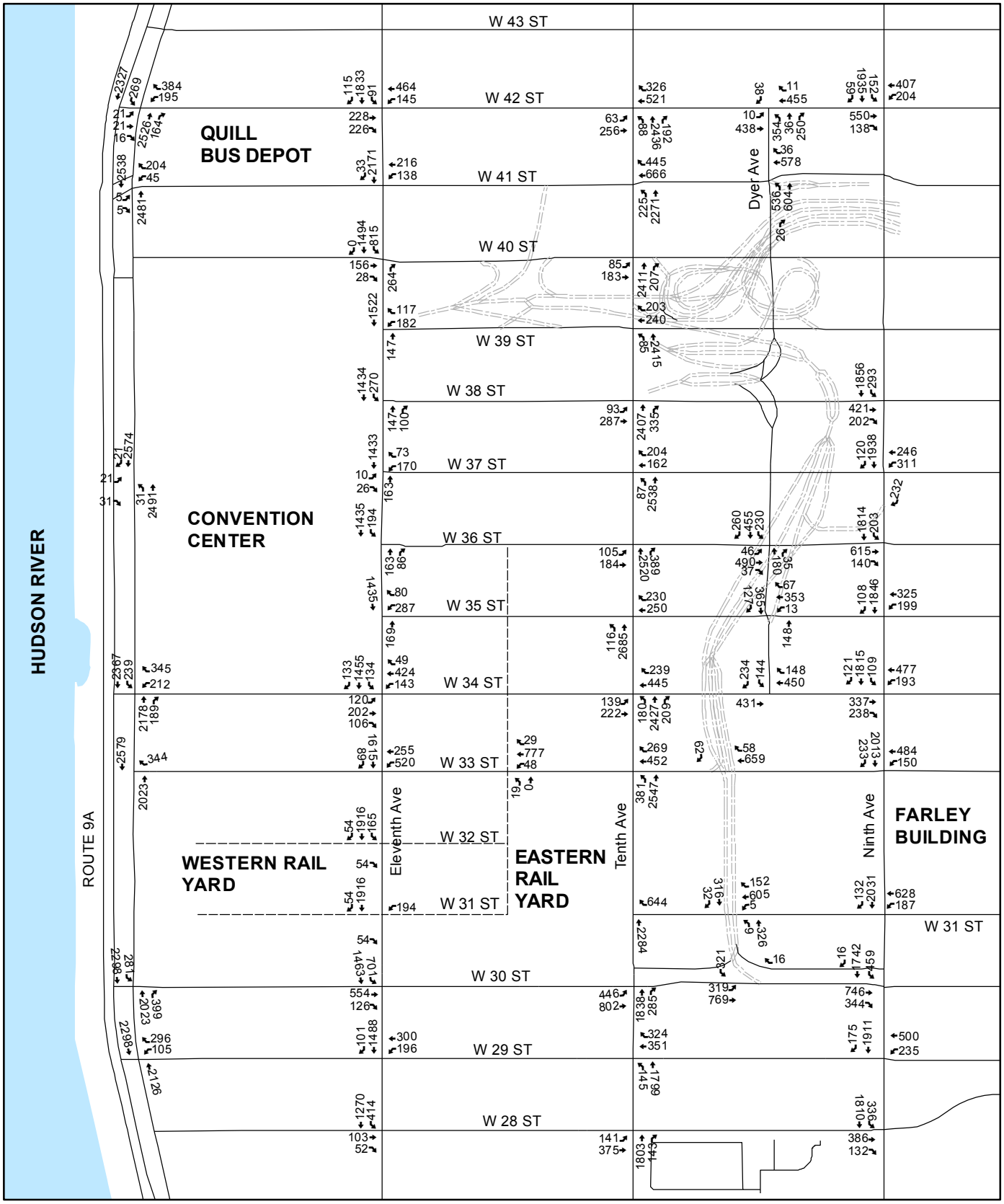
Figure 17-56



2019 Build Traffic Volumes - Inset 1
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-57



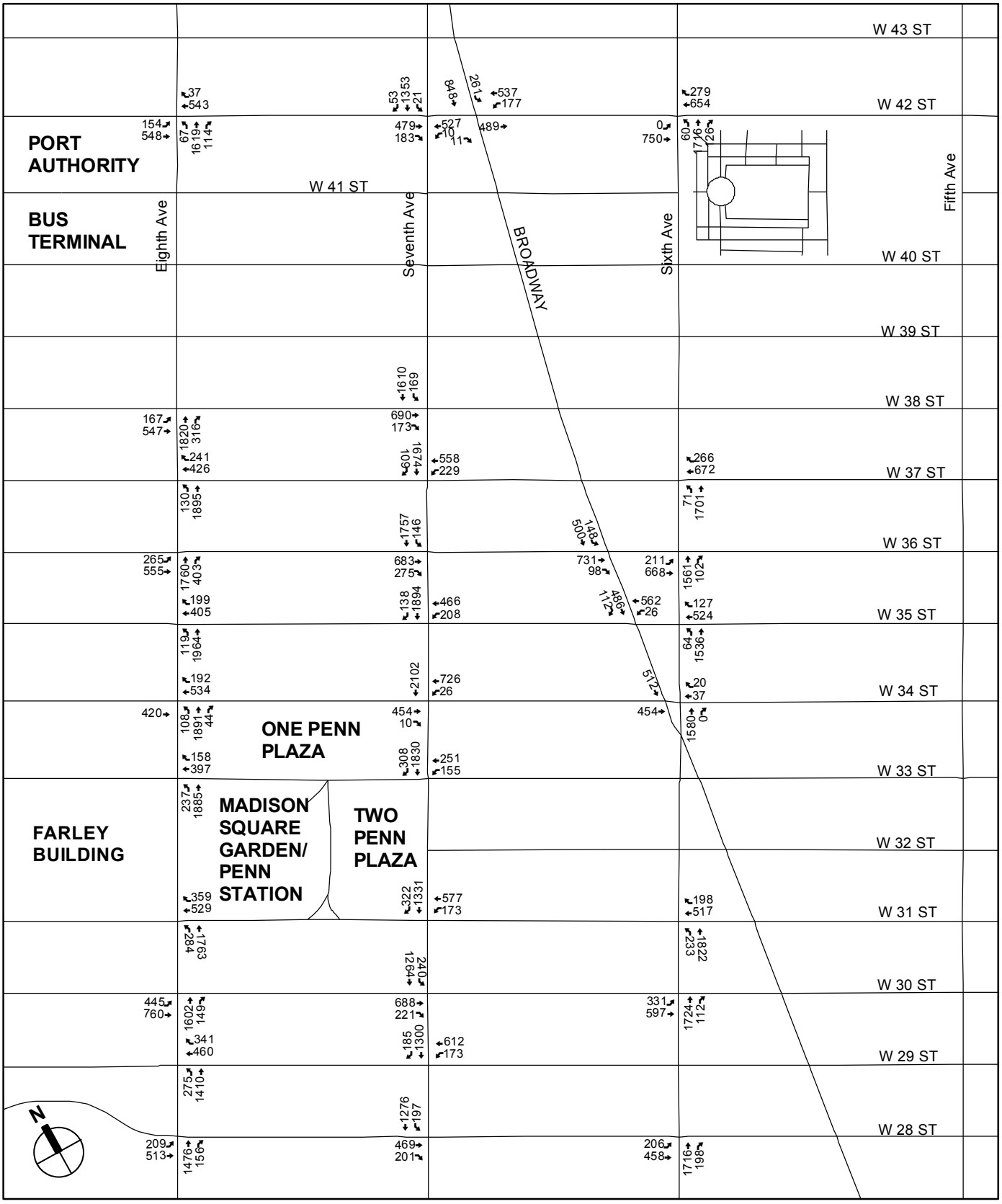
0 500 1,000 Feet

New Streets (Not to Scale)

2019 Build Traffic Volumes - Inset 2
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-58



0 500 1,000 Feet

2019 Build Traffic Volumes - Inset 3
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-59

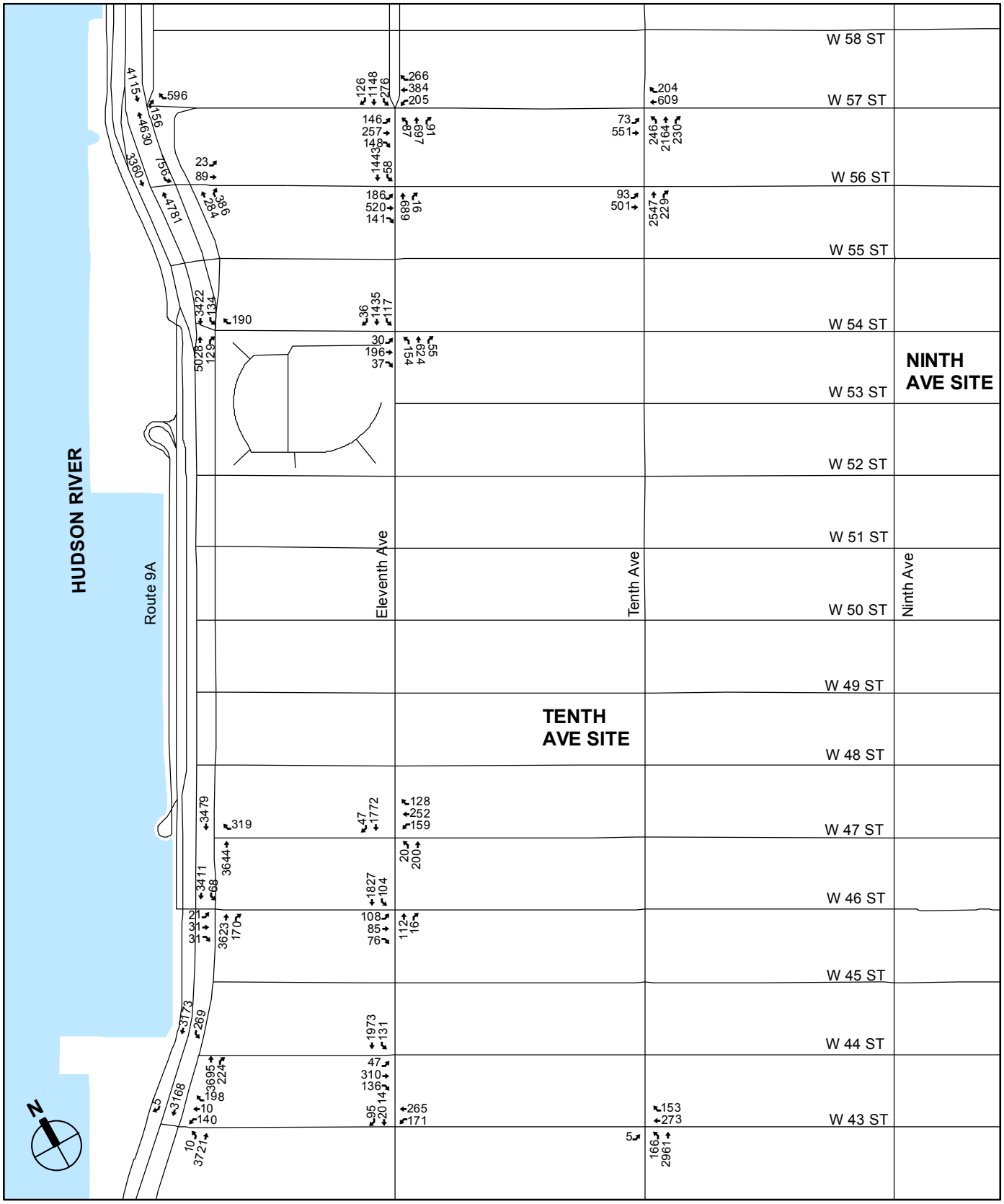


0 500 1,000 Feet

2019 Build Traffic Volumes - Inset 4
(Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

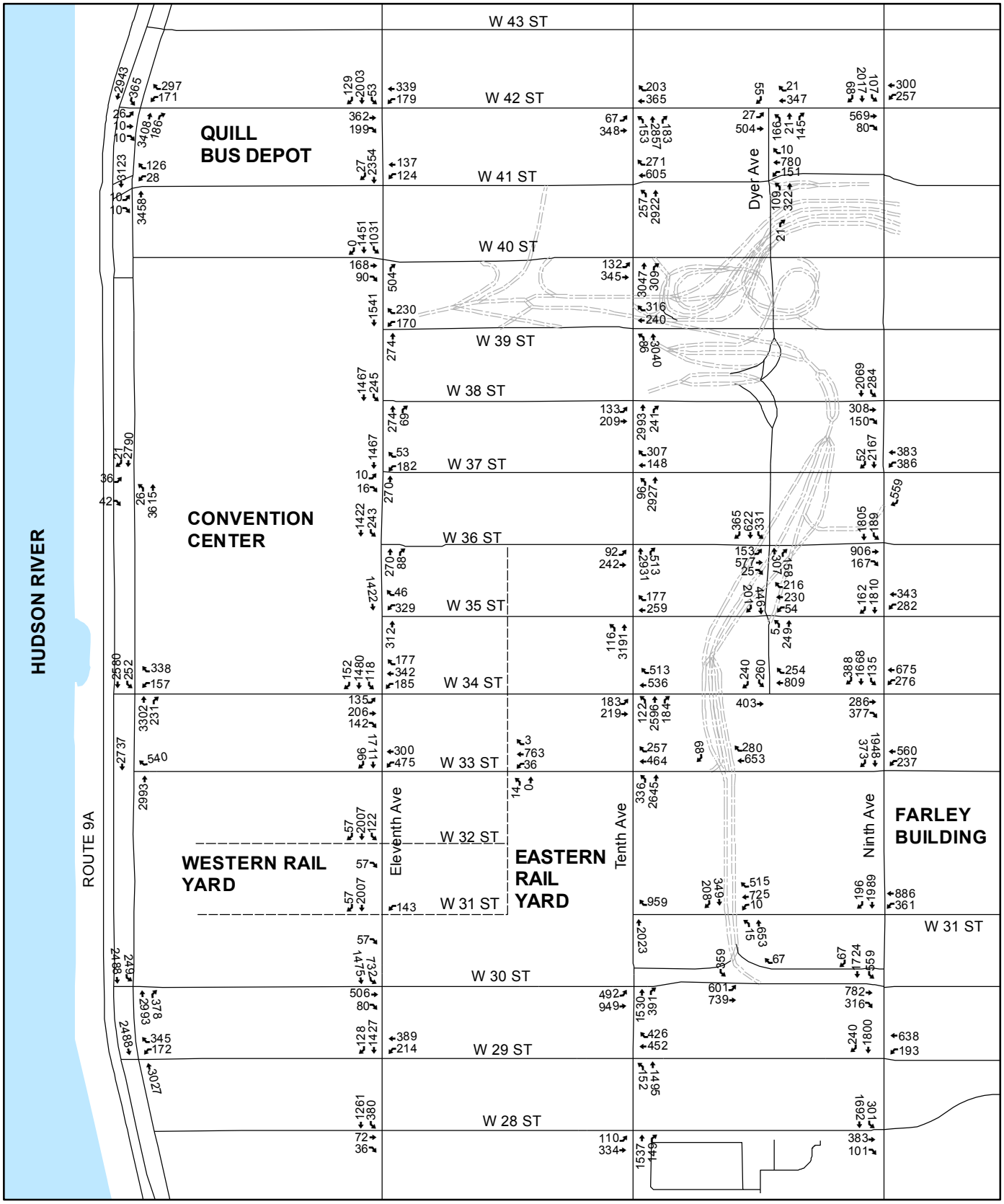
Figure 17-60



2019 Build Traffic Volumes - Inset 1
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

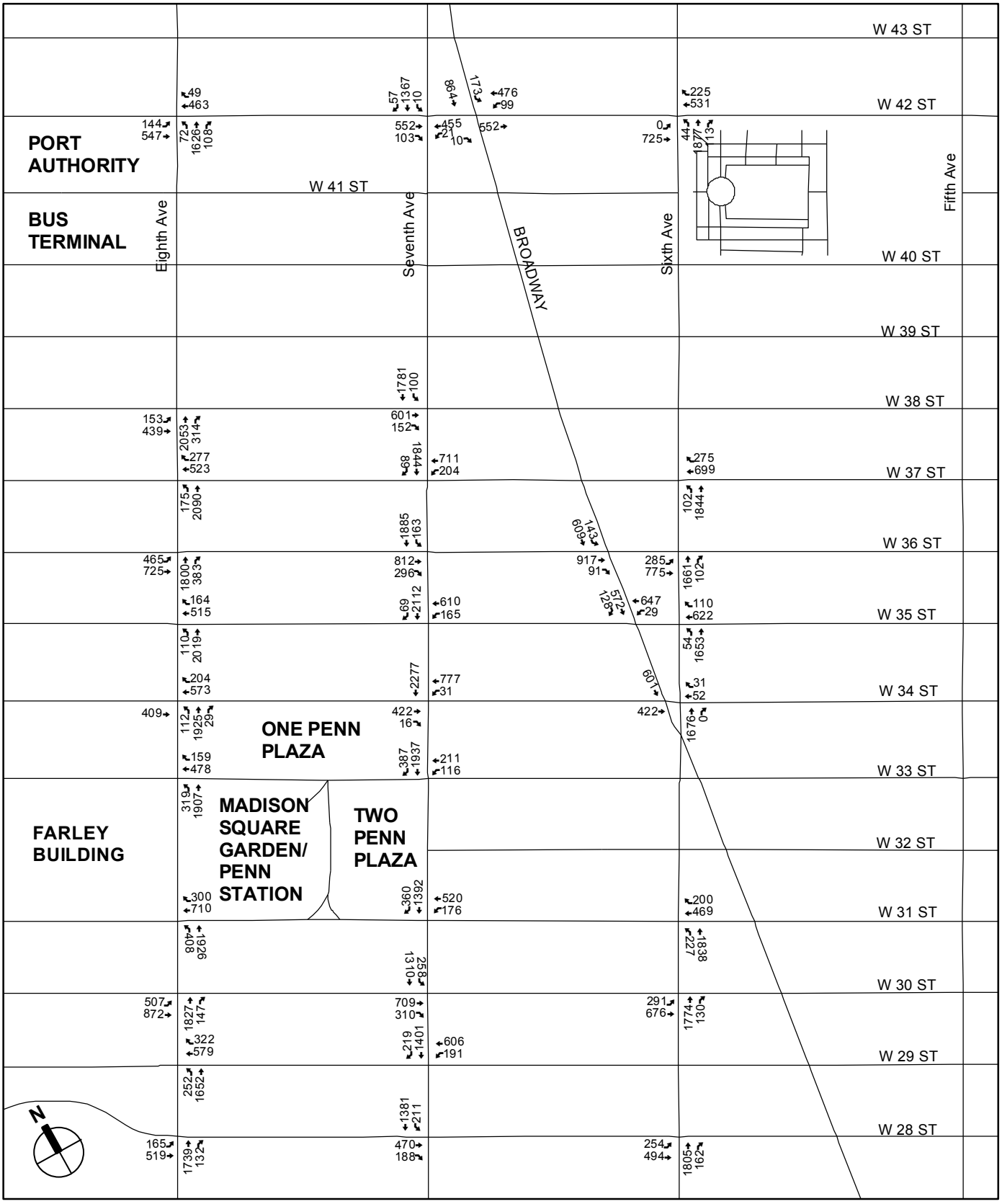
Figure 17-61



2019 Build Traffic Volumes - Inset 2
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-62



0 500 1,000 Feet

2019 Build Traffic Volumes - Inset 3
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

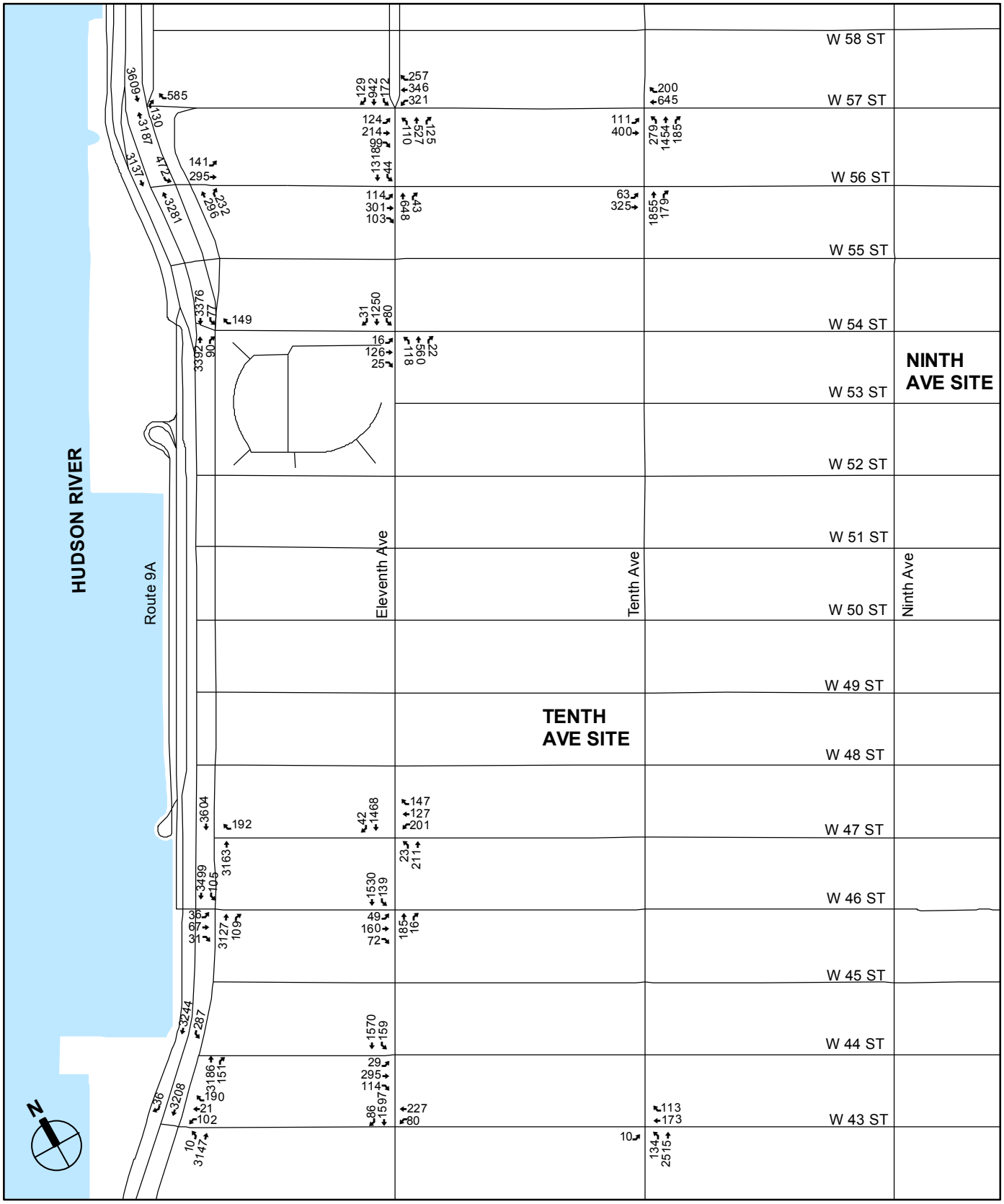
Figure 17-63



2019 Build Traffic Volumes - Inset 4
(Weekday PM Peak Hour)

WESTERN **RAIL YARD**

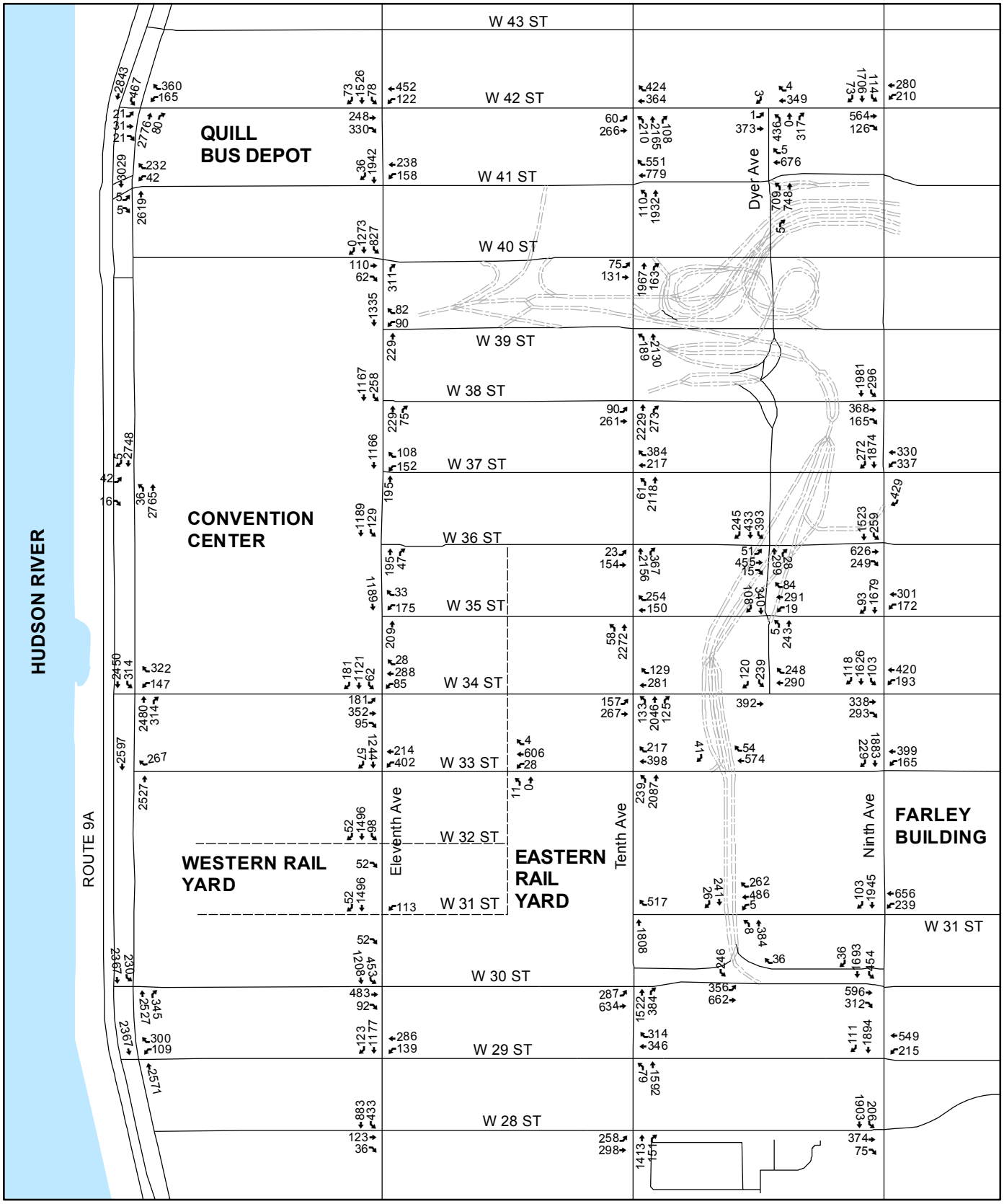
Figure 17-64



2019 Build Traffic Volumes - Inset 1
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-65



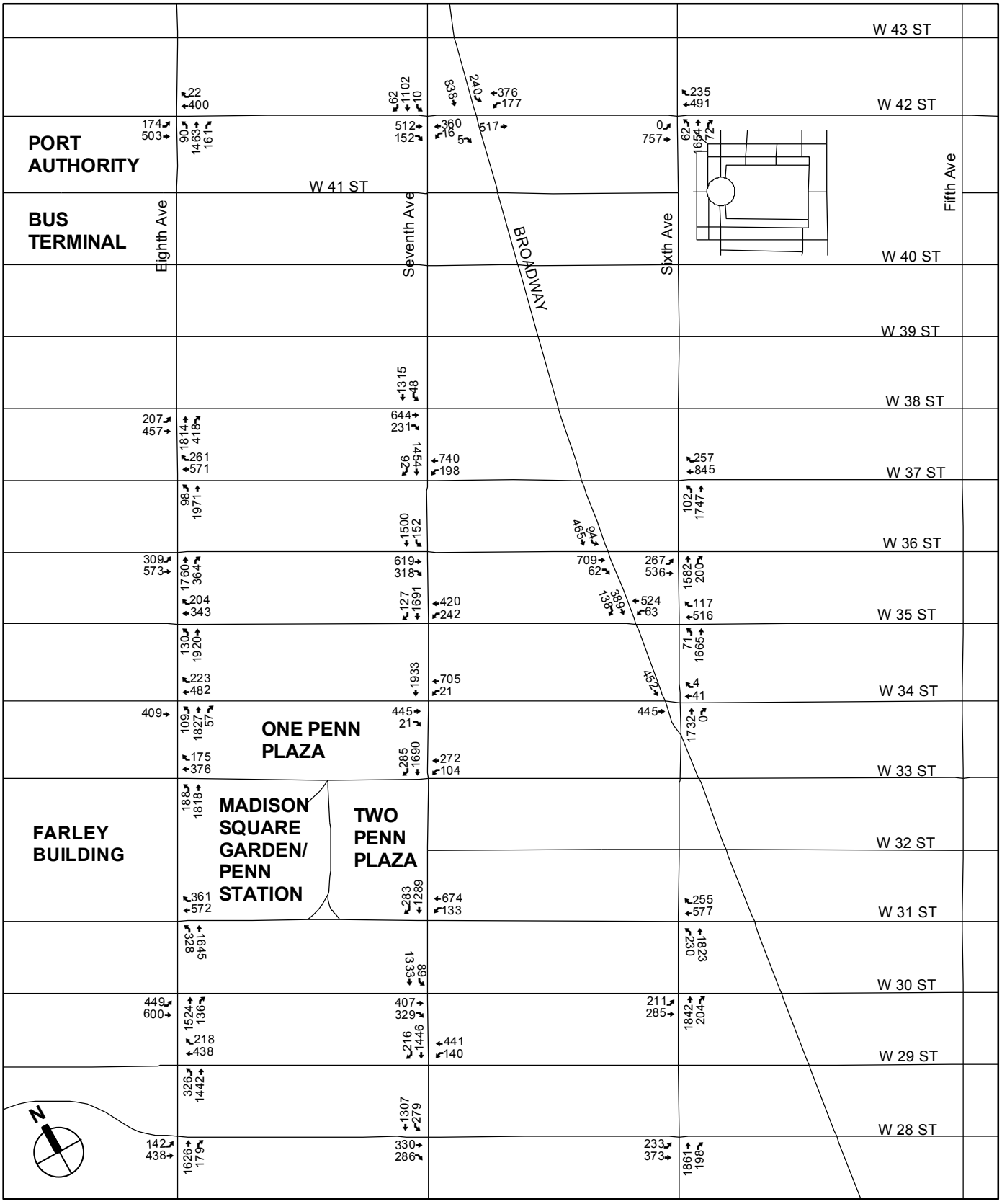
0 500 1,000 Feet

New Streets (Not to Scale)

2019 Build Traffic Volumes - Inset 2
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-66



2019 Build Traffic Volumes - Inset 3
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-67



2019 Build Traffic Volumes - Inset 4
(Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-68

Table 17-22
2019 Future with the Proposed Actions:
Number of Intersection Approach Movements at Mid-LOS D, LOS E or LOS F

	Analysis Hour			
Level of Service	**AM**	**Weekday Midday**	**PM**	**Saturday Midday**
Mid-LOS D	14(-3)	24(+2)	11(-1)	23(-1)
LOS E	29(+4)	13(-5)	28(+2)	10(+4)
LOS F	79(+5)	78(+10)	112(+6)	55(+2)

Notes: (+/-X) indicates the change in the number of intersection approach movements within each LOS from that of Future without the Proposed Actions condition.
(n/c) indicates no change from that of the Future without the Proposed Actions condition.

The number of intersection approach movements projected to operate within mid-LOS D, LOS E, or LOS F during each analysis hour in the 2017 Future with the Proposed Actions is provided in Table 17-23, as well as with the change in the number of intersection approach movements that would operate within each LOS from 2017 Future without the Proposed Actions condition. In the 2017 Future with the Proposed Actions condition, 117 approach movements at 73 intersections would operate at mid-LOS D, LOS E, or LOS F in the AM peak hour; 108 approach movements at 74 intersections would operate at mid-LOS D, LOS E, or LOS F in the midday peak hour; 148 approach movements at 86 intersections would operate at mid-LOS D, LOS E, or LOS F in the PM peak hour; and 80 approach movements at 61 intersections would operate at mid-LOS D, LOS E, or LOS F in the Saturday midday peak hour. The weekday PM peak hour would also be the most congested in the study area as demonstrated by the overall number of approach movements projected to operate at mid-LOS D or worse, and in the number of approach movements projected to operate in LOS E or LOS F. Overall, the number of approaches that would operate at mid-LOS D or worse under the 2017 Future with the Proposed Actions condition was determined to be slightly in less than under the 2019 Future with the Proposed Actions condition, as indicated in a comparison of Tables 17-22 and Table 17-23.

Table 17-23
2017 Future with the Proposed Actions:
Number of Intersection Approach Movements at Mid-LOS D, LOS E or LOS F

	Analysis Hour			
Level of Service	**AM**	**Weekday Midday**	**PM**	**Saturday Midday**
Mid-LOS D	13(n/c)	25(+2)	10(-2)	21(n/c)
LOS E	28(+2)	11(-3)	31(+4)	8(+2)
LOS F	76(+5)	72(+10)	107(+5)	51(+1)

Note: (+/-X) indicates the change in the number of intersection approach movements within each LOS from that of Future Without the Proposed Actions condition.
(n/c) indicates no change from that of the Future Without the Proposed Actions condition.

Detailed Future with and without the Proposed Actions analysis results, including v/c ratio, delay, and LOS, for intersections with one or more approach or lane group operating at mid-LOS D or worse are provided in Table 17-25A through 17-25D for the weekday AM, midday, PM and Saturday midday 2019 Build peak hours, and in Table 17-26A through 17-26D for the weekday AM, midday, PM and Saturday midday interim year 2017 peak hours.

SIGNIFICANT ADVERSE TRAFFIC IMPACTS

Based on the thresholds established for signalized intersections in the *CEQR Technical Manual*, a significant adverse traffic impact would occur if a No Build LOS A, B or C deteriorates to unacceptable mid-LOS D, or a LOS E or F in the Future with the Proposed Actions condition.

The *CEQR Technical Manual* further states that, for a future without the proposed actions condition mid-LOS D, an increase of five or more seconds of delay in a lane group in the future with the proposed actions condition should be considered significant. For No Build LOS E, an increase in delay of four seconds should be considered significant. For No Build LOS F, a three second increase in delay should be considered significant. However, if a No Build LOS F condition already has delays in excess of 120 seconds, an increase of one second in delay should be considered significant, unless the proposed action would generate fewer than five vehicles through that lane group in the peak hour. For unsignalized intersections, similar impact criteria are applicable; however, for a minor street to trigger a significant impact, 90 passenger car equivalents must be identified in the future with the proposed actions condition in any peak hour.

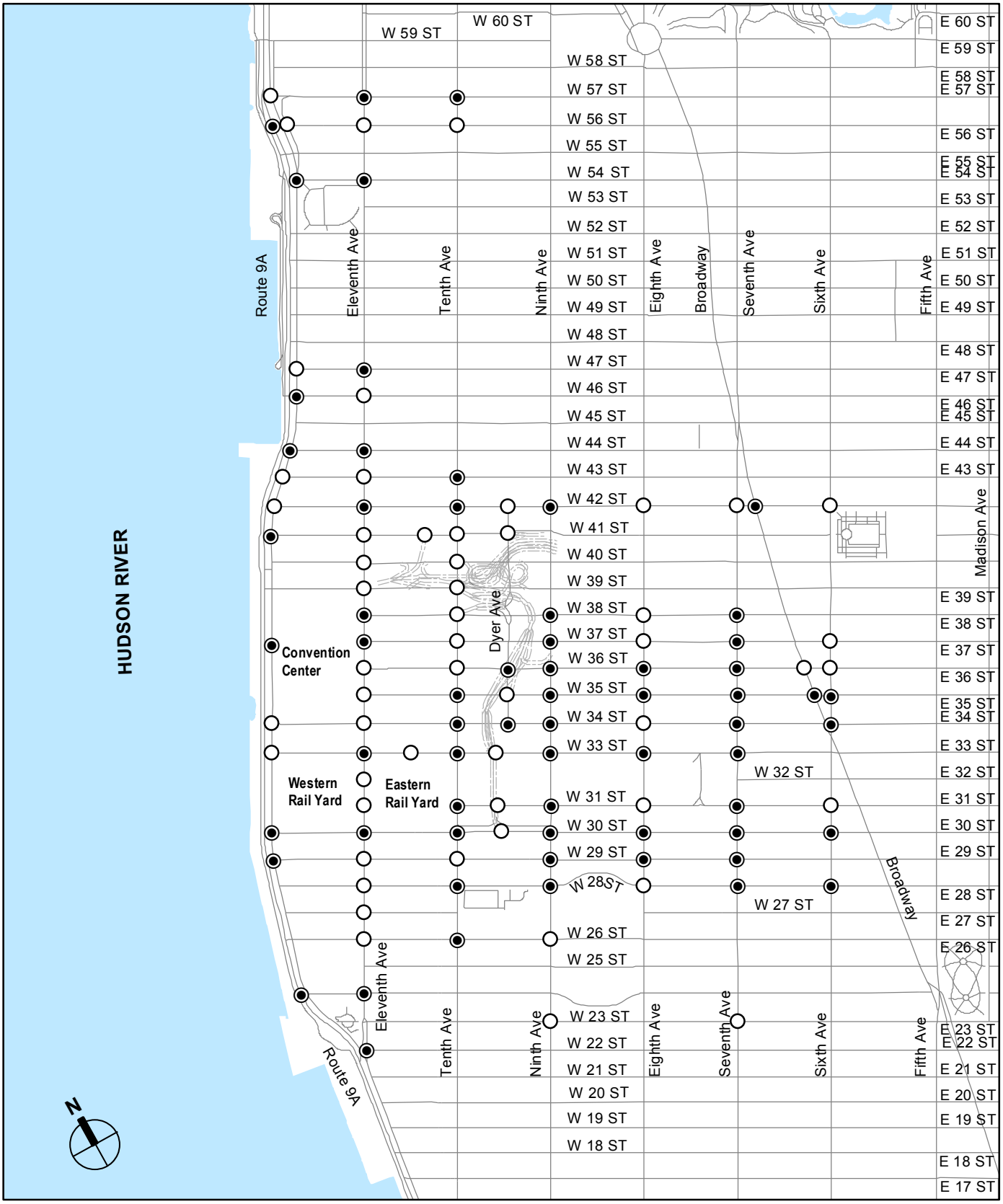
Table 17-24 summarizes the number of intersection approach movements with significant adverse impacts in the 2019 and 2017 Future with the Proposed Actions conditions. In the 2019 Future with the Proposed Actions condition, 81 approach movements with significant adverse impacts were identified at 64 intersections during the weekday AM peak hour, 75 approach movements with significant adverse impacts were identified at 60 intersections during the weekday midday peak hour, 96 approach movements with significant adverse impacts were identified at 75 intersections during the weekday PM peak hour, and 51 approach movements with significant adverse impacts were identified at 47 intersections during the Saturday midday peak hour. In the 2017 Future with the Proposed Actions condition, 70 approach movements with significant adverse impacts were identified at 59 intersections during the weekday AM peak hour, 64 approach movements with significant adverse impacts were identified at 51 intersections during the weekday midday peak hour, 88 approach movements with significant adverse impacts were identified at 72 intersections during the weekday PM peak hour, and 42 approach movements with significant adverse impacts were identified at 41 intersections during the Saturday midday peak hour.

Table 17-24
2017 and 2019 Future with the Proposed Actions:
Number of Significantly Impacted Approach Movements

	Analysis Hour			
Analysis Year	AM	Weekday Midday	PM	Saturday Midday
2019	81	75	96	51
2017	70	64	88	42

Appropriate measures to mitigate these significant impacts are identifed along with the evaluation of their effectiveness in Chapter 24, “Mitigation.”

Intersections where significant traffic impacts are projected to occur are presented in Figures 17-69 through 17-72 for 2019 Future with the Proposed Actions weekday AM, midday, PM, and Saturday midday conditions, respectively. Figures 17-73 through 17-76 present intersections with significant impacts for interim year 2017 Future with the Proposed Actions weekday AM, midday, PM, and Saturday midday conditions, respectively.



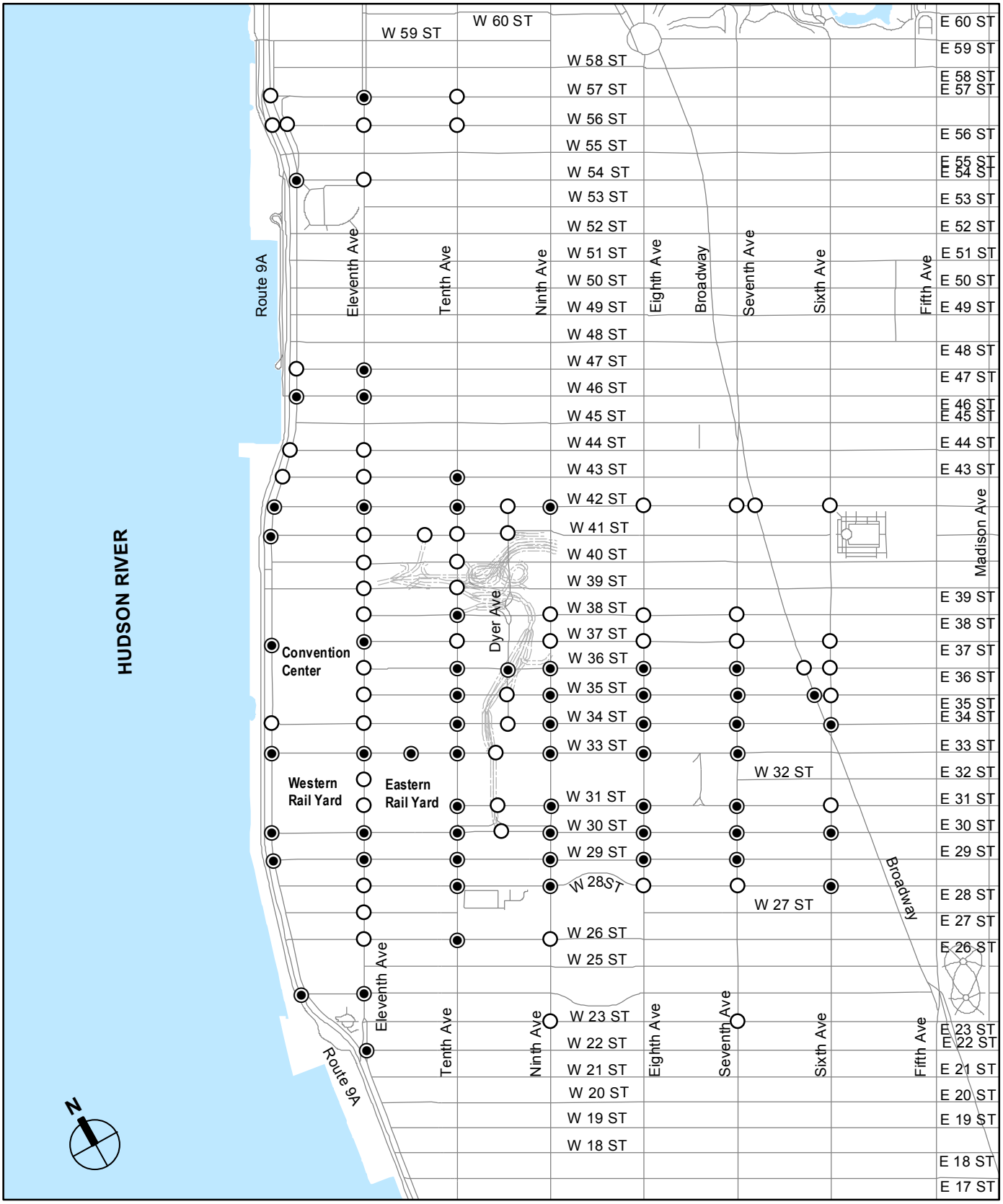
○ *No Significant Impact*

◉ *Significant Impact*

2019 Future With Proposed Action: Intersections With Significant Adverse Impacts (Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-69



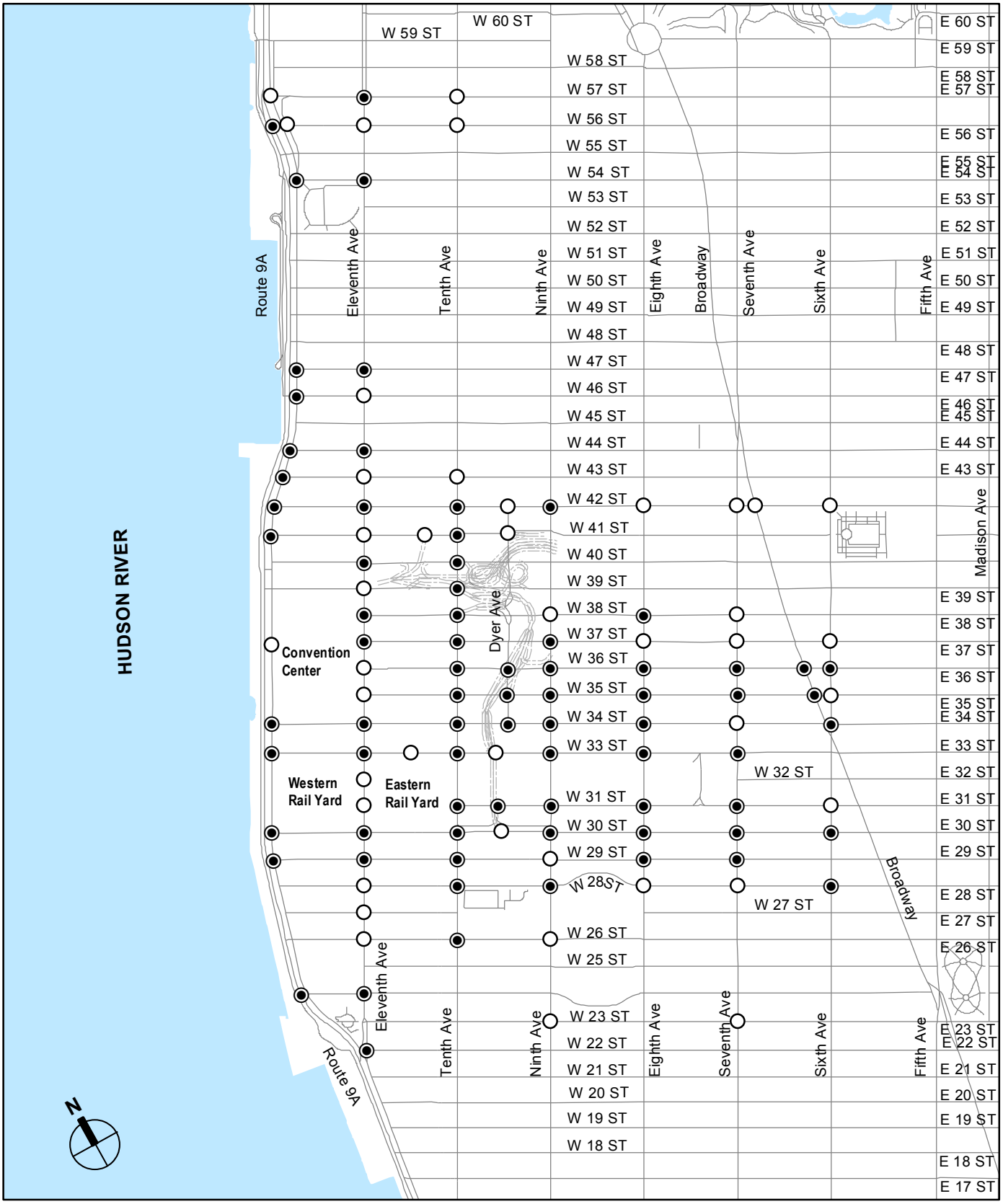
○ *No Significant Impact*

◉ *Significant Impact*

2019 Future With Proposed Action: Intersections With Significant Adverse Impacts (Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-70



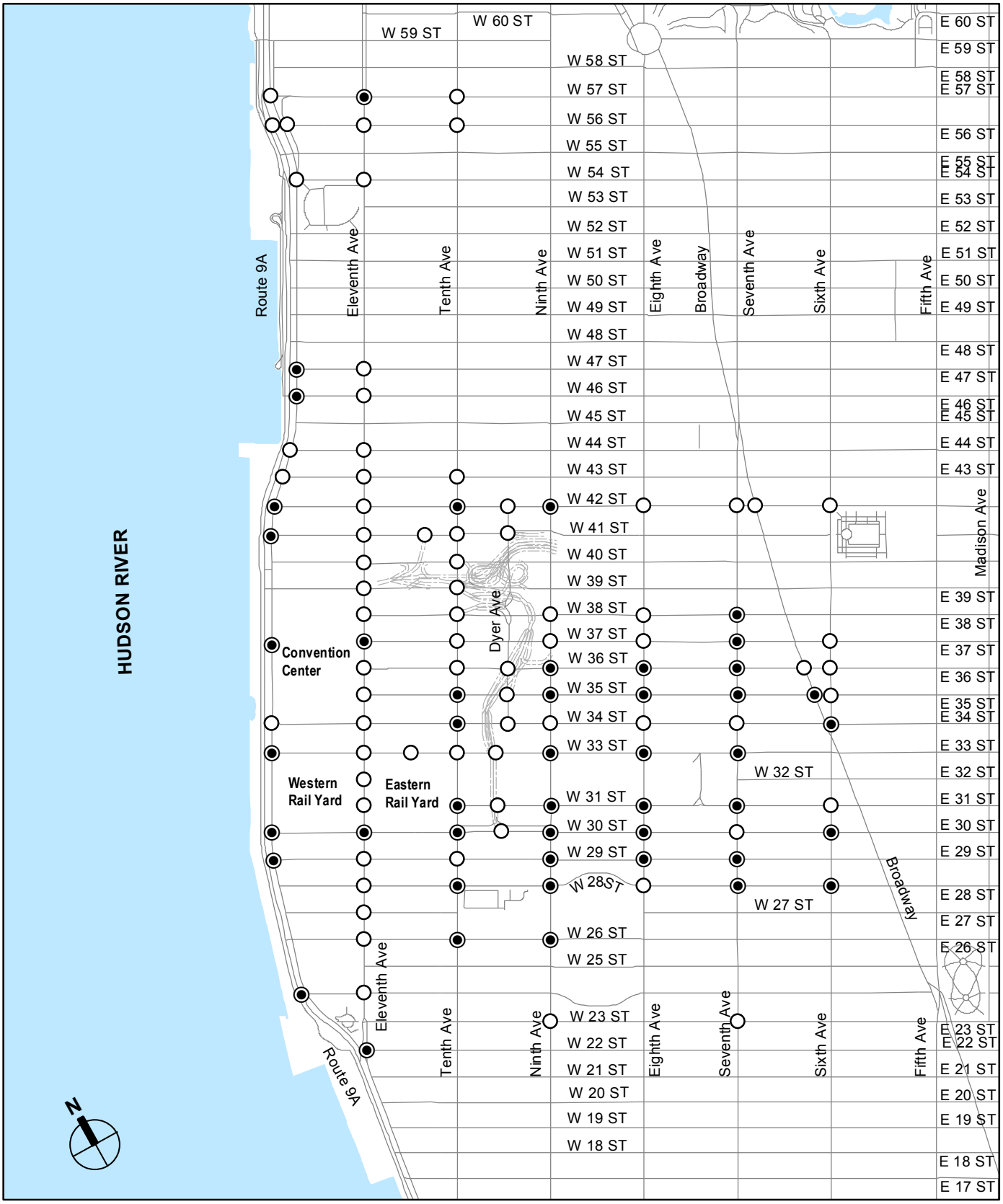
○ *No Significant Impact*

◉ *Significant Impact*

2019 Future With Proposed Action: Intersections With Significant Adverse Impacts (Weekday PM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-71



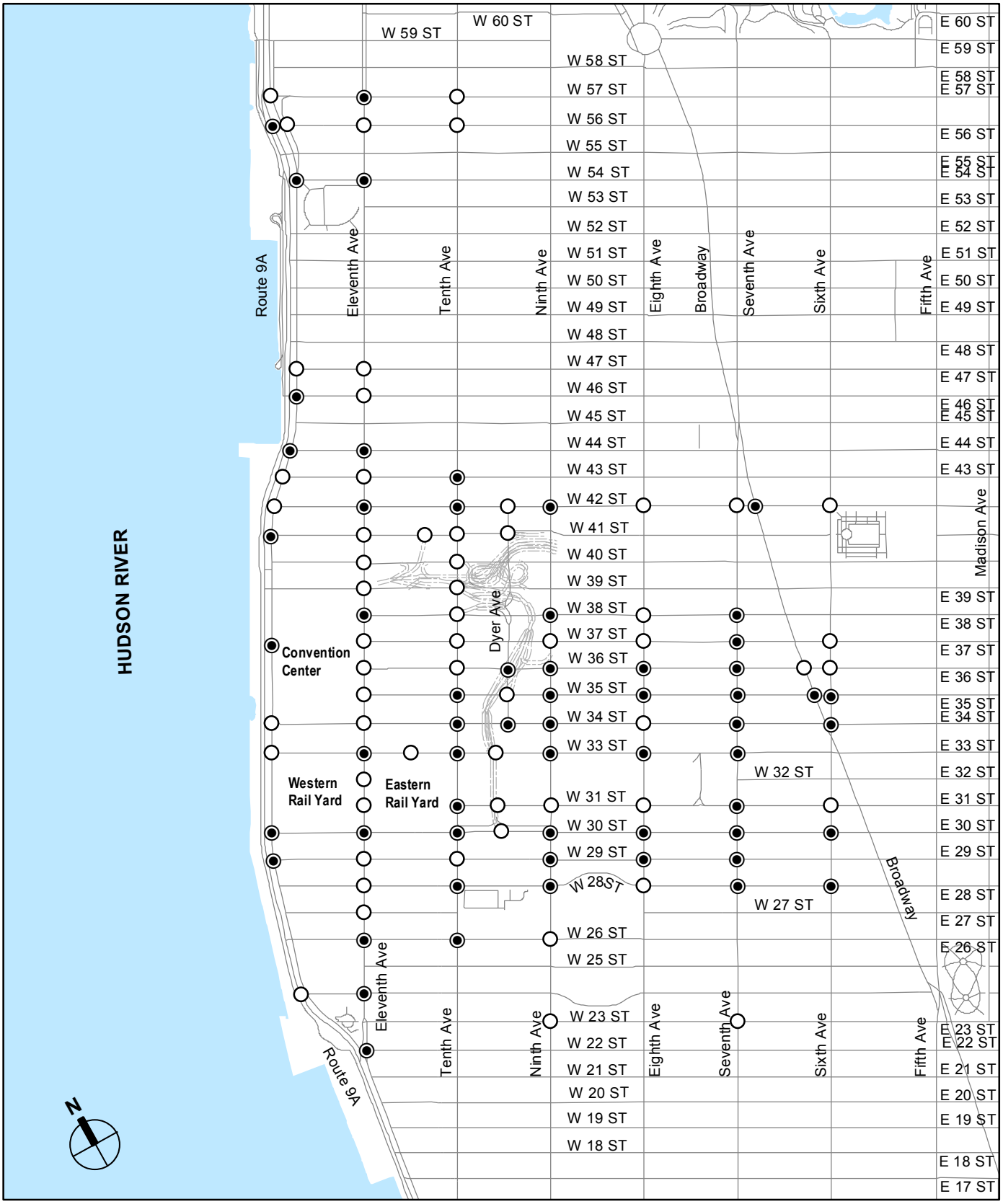
○ *No Significant Impact*

◉ *Significant Impact*

2019 Future With Proposed Action: Intersections With Significant Adverse Impacts (Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-72



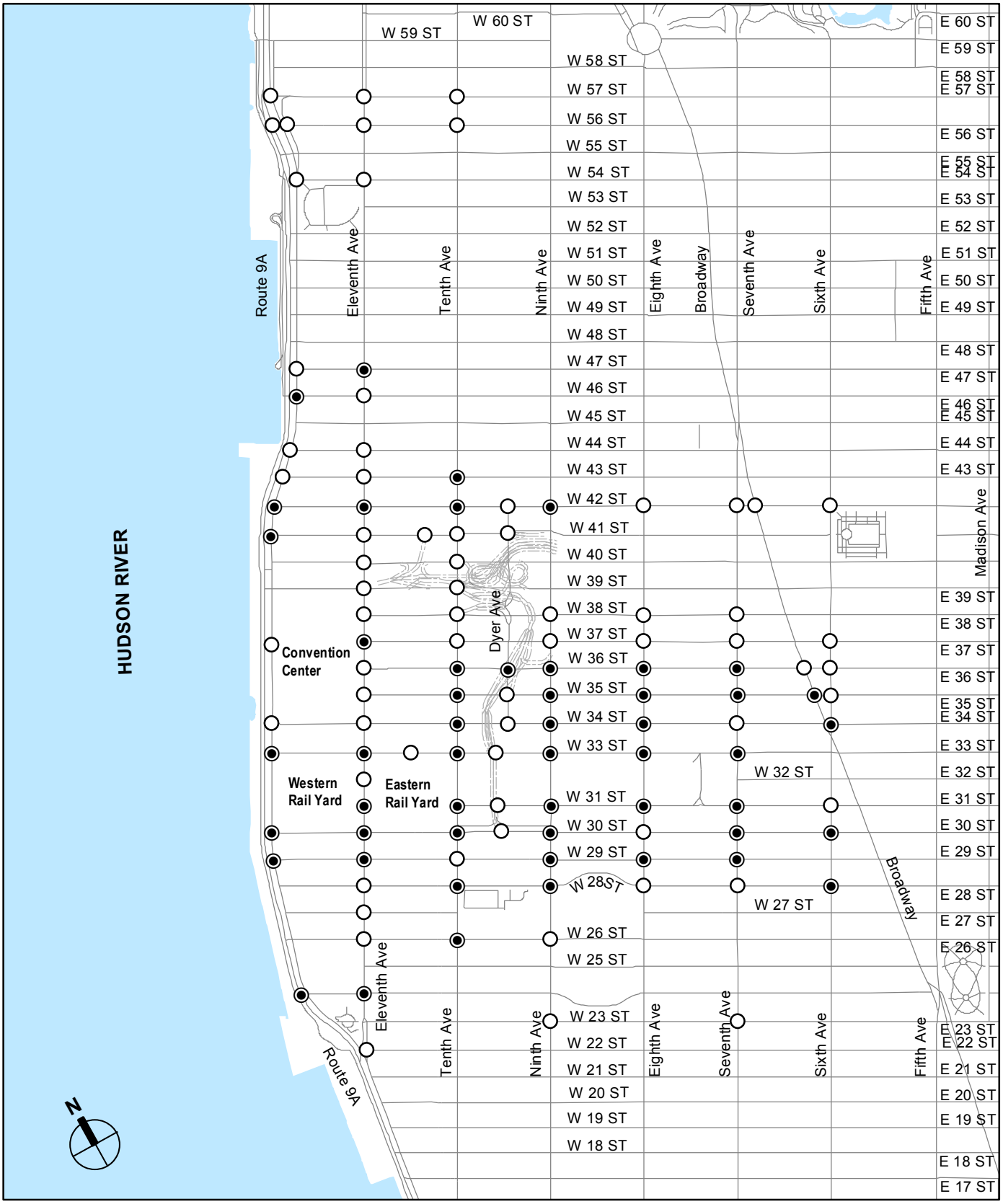
○ *No Significant Impact*

◉ *Significant Impact*

2017 Future With Proposed Action: Intersections With Significant Adverse Impacts (Weekday AM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-73



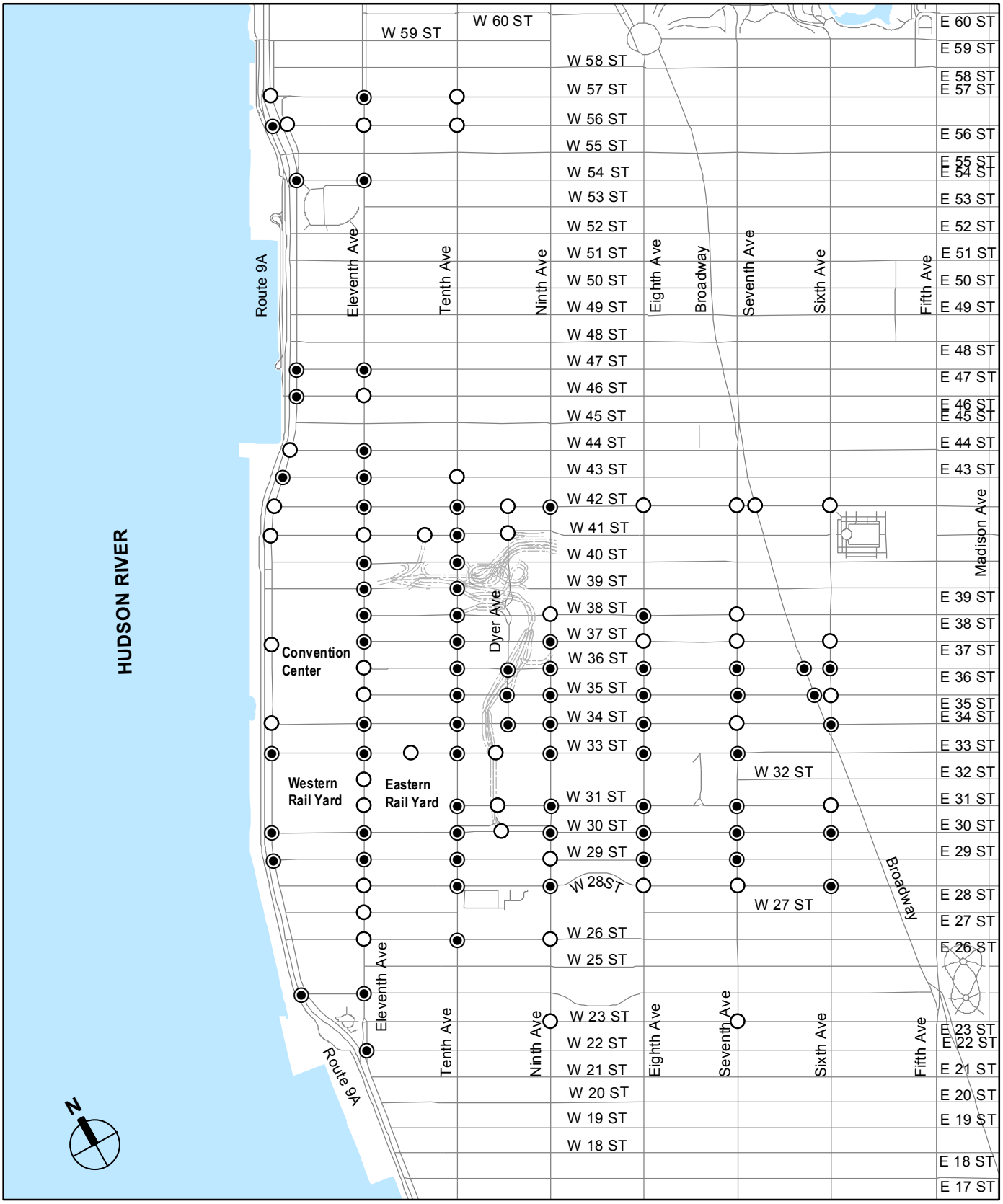
○ *No Significant Impact*

◉ *Significant Impact*

2017 Future With Proposed Action: Intersections With Significant Adverse Impacts (Weekday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-74



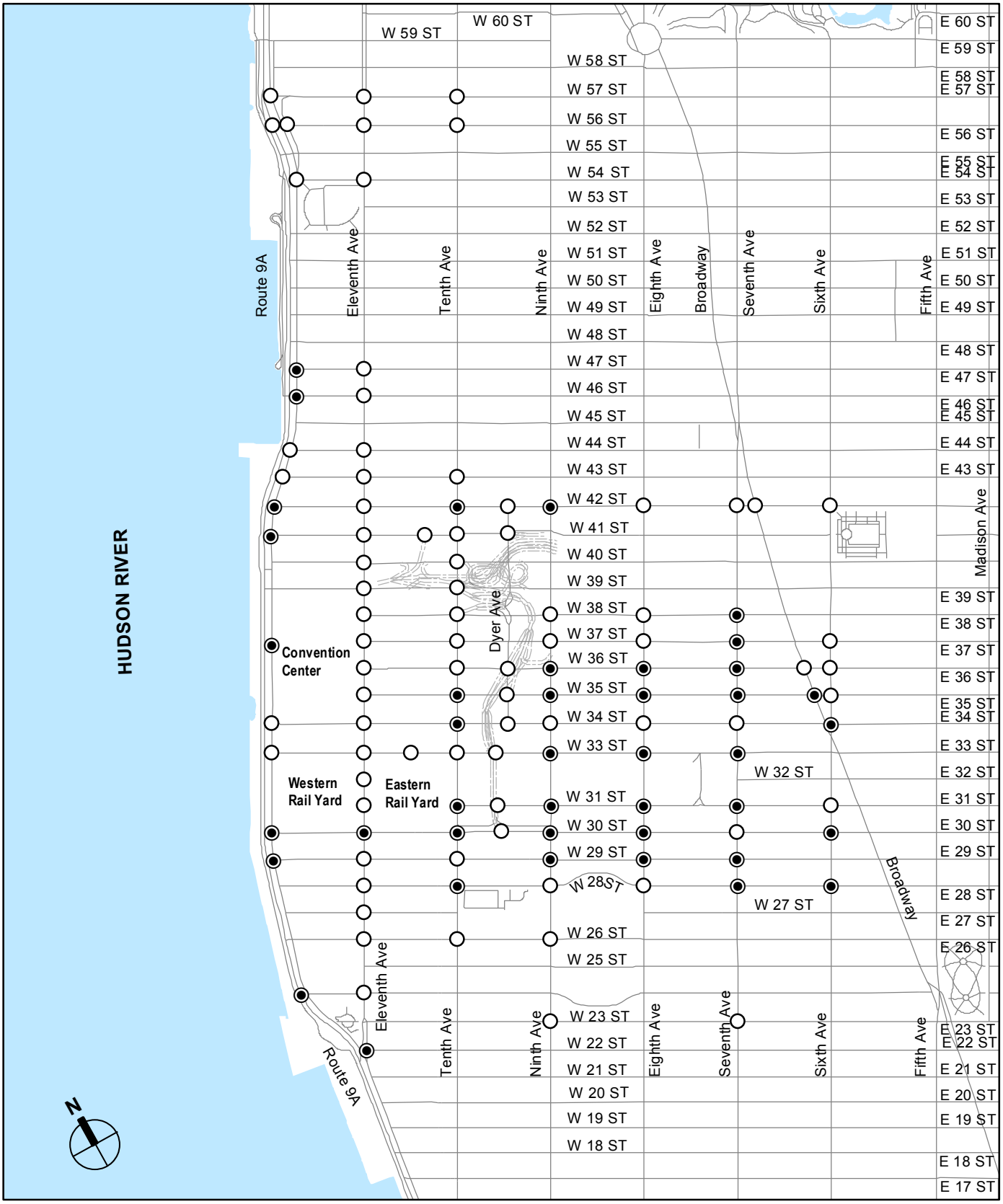
○ *No Significant Impact*

◉ *Significant Impact*

2017 Future With Proposed Action: Intersections With Significant Adverse Impacts (Weekday PM Peak Hour)

WESTERN **RAIL YARD**

Figure 17-75



○ *No Significant Impact*

◉ *Significant Impact*

2017 Future With Proposed Action: Intersections With Significant Adverse Impacts (Saturday Midday Peak Hour)

WESTERN **RAIL YARD**

Figure 17-76

Shaded intersection approaches/movements in Table 17-25A through 17-25D and in Table 17-26A through 17-26D indicate where significant impacts are projected to occur under CEQR criteria. Also indicated is the incremental average delay in seconds per vehicle for each intersection approach/movement relative to the 2019 and 2017 Future without the Proposed Actions conditions.

Nearly every significant adverse traffic impact identified for 2019 Future with the Proposed Actions conditions would also occur in the 2017 interim Future with the Proposed Actions conditions. However, five significant adverse traffic impacts identified in the 2017 interim Future with the Proposed Actions condition would not occur in 2019 due to changes in parking supply at the Development Site and changes in projected traffic assignments.

PARKING CONDITIONS

Off-street parking conditions were analyzed considering the anticipated full mixed-use development of the Development Site in 2019 under the specific parking demand characteristics of the Maximum Commercial Scenario, the Maximum Residential Scenario-Office Option, and the Maximum Residential Scenario-Hotel Option in order to determine which scenario generates the highest off-street demand during the weekday midday and weekday overnight analysis periods. As described for the Future without the Proposed Actions condition, no on-street parking supply was assumed to be available to absorb future parking demand. As stated above, a total of up to 1,600 accessory parking spaces would be provided on the Development Site as a result of the Proposed Actions, with 270 of these spaces accessory for commercial uses and 1,330 spaces accessory for residential uses.

Table 17-27 provides the 2019 off-street parking utilization projections for each development scenario. It should be noted that the off-street supply indicated is that related to off-site parking facilities and the demand and utilization rates reflect off-site conditions after the absorption of project-generated parking demand by the accessory parking supply provided as part of the Proposed Actions on the Development Site. As shown, the maximum weekday midday and weekday overnight off-site, off-street demand would be generated by the Maximum Residential Scenario-Hotel Option. The weekday midday off-street parking shortfall under this scenario is projected to be 2,379 spaces, a shortfall approximately 320 spaces above No Build levels. Weekday overnight off-street off-site parking spaces are projected to be available under all development scenarios.

Projected 2017 Future with the Proposed Actions off-street, off-site parking conditions in the Future without the Proposed Actions are presented in Table 17-28. Interim year development levels, as indicated in Table 17-2, were incorporated in the 2017 parking demand forecasts. Projected interim 2017 year off-street, off-site parking demand characteristics in the Future with the Proposed Actions are slightly different than those projected under full development discussed above. This is because it is anticipated that only 850 of the 1,600 accessory spaces, all accessory for residential uses, would be available for use in 2017. Therefore, in 2017, considering site development levels and on-site parking supply, more site-generated parking demand would need to be accommodated off-site, including all commercial parking demand. The maximum weekday midday shortfall would be generated by the Maximum Commercial Scenario at 2,508 spaces. Weekday overnight off-street off-site parking spaces are projected to be available under all development scenarios for the 2017 Future with the Proposed Actions.

Table 17-25A
2019 Future with the Proposed Actions: Weekday AM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Sixth Avenue @ 28th Street	EB	LT	1.22	342.9	F	EB	LT	1.25	356.1	F	13.2
Sixth Avenue @ 30th Street	EB	LT	1.41	380.2	F	EB	LT	1.49	414.8	F	34.6
	NB	TR	1.01	86.3	F	NB	TR	1.02	108.8	F	22.5
Sixth Avenue @ 34th Street	NB	T	1.44	329.0	F	NB	T	1.46	335.6	F	6.6
	SB	T	1.64	505.2	F	SB	T	1.64	505.2	F	0.0
Sixth Avenue @ 35th Street	WB	TR	0.96	52.0	D	WB	TR	1.01	100.5	F	48.5
Sixth Avenue @ 42nd Street	WB	R	0.85	61.0	E	WB	R	0.85	61.0	E	0.0
Seventh Avenue @ 23rd Street	EB	TR	0.93	46.8	D	EB	TR	0.93	47.6	D	0.8
Seventh Avenue @ 28th Street	EB	TR	0.95	328.7	F	EB	TR	1.00	357.3	F	28.6
Seventh Avenue @ 29th Street	WB	LT	1.29	385.6	F	WB	LT	1.35	409.7	F	24.1
Seventh Avenue @ 30th Street	EB	T	1.35	427.0	F	EB	T	1.45	467.4	F	40.4
	EB	R	0.85	44.6	D	EB	R	0.88	47.8	D	3.2
Seventh Avenue @ 31st Street	WB	LT	1.29	365.9	F	WB	LT	1.33	380.4	F	14.5
Seventh Avenue @ 33rd Street	WB	LT	1.21	581.9	F	WB	LT	1.22	580.4	F	-1.5
	SB	TR	1.12	112.1	F	SB	TR	1.15	124.6	F	12.5
Seventh Avenue @ 34th Street	EB	T	0.98	61.7	E	EB	T	1.03	184.5	F	122.8
Seventh Avenue @ 35th Street	WB	L	0.87	50.5	D	WB	L	0.88	52.2	D	1.7
		LT	1.26	421.9	F		LT	1.37	470.5	F	48.6
Seventh Avenue @ 36th Street	EB	TR	1.26	436.5	F	EB	TR	1.28	447.1	F	10.6
Seventh Avenue @ 37th Street	WB	LT	0.96	44.7	D	WB	LT	0.99	51.8	D	7.1
Seventh Avenue @ 38th Street	EB	TR	1.16	389.5	F	EB	TR	1.18	394.2	F	4.7
Eighth Avenue @ 29th Street	WB	TR	1.26	389.9	F	WB	TR	1.32	412.1	F	22.2
Eighth Avenue @ 30th Street	EB	LT	1.27	389.5	F	EB	LT	1.35	420.4	F	30.9
Eighth Avenue @ 33rd Street	NB	LT	1.09	138.5	F	NB	LT	1.10	145.1	F	6.6
Eighth Avenue @ 34th Street	NB	LTR	1.10	147.6	F	NB	LTR	1.10	146.0	F	-1.6
Eighth Avenue @ 35th Street	WB	TR	1.73	660.4	F	WB	TR	1.84	702.9	F	42.5
Eighth Avenue @ 36th Street	EB	LT	0.96	278.7	F	EB	LT	1.00	300.8	F	22.1
Ninth Avenue @ 23rd Street	EB	TR	0.95	60.0	E	EB	TR	0.96	61.7	E	1.7

Table 17-25A (cont'd)
2019 Future with the Proposed Actions: Weekday AM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without he Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Ninth Avenue @ 28th Street	EB	TR	1.21	388.3	F	EB	TR	1.27	410.4	F	22.1
Ninth Avenue @ 29th Street	SB	TR	1.13	134.7	F	SB	TR	1.14	139.3	F	4.6
Ninth Avenue	EB	TR	1.21	475.2	F	EB	TR	1.31	515.9	F	40.7
@ 30th Street	SB	L	1.62	428.7	F	SB	L	1.62	428.7	F	0.0
Ninth Avenue @ 31st Street	WB	LTR	0.90	42.4	D	WB	LTR	0.94	47.4	D	5.0
Ninth Avenue @ 33rd Street	WB	LT	1.03	193.7	F	WB	LT	1.13	396.4	F	202.7
	EB	T	0.93	58.8	E	EB	T	0.98	69.0	E	10.2
Ninth Avenue		R	2.01	761.6	F		R	2.04	776.4	F	14.8
@ 34th Street	WB	DefL	0.88	58.7	E	WB	DefL	0.91	65.8	E	7.1
	SB	LTR	1.26	215.3	F	SB	LTR	1.28	225.2	F	9.9
Ninth Avenue @ 35th Street	WB	LT	1.54	575.9	F	WB	LT	1.65	618.6	F	42.7
Ninth Avenue	EB	TR	1.10	180.6	F	EB	TR	1.14	195.9	F	15.3
@ 36th Street	SB	LT	1.10	113.1	F	SB	LT	1.13	123.5	F	10.4
Ninth Avenue @ 37th Street	WB	LT	0.85	41.6	D	WB	LT	0.91	47.3	D	5.7
Ninth Avenue @ 38th Street	EB	TR	1.20	482.7	F	EB	TR	1.21	485.4	F	2.7
Ninth Avenue	WB	DefL	1.12	566.4	F	WB	DefL	1.13	619.4	F	53.0
@ 42nd Street	SB	LTR	1.09	138.9	F	SB	LTR	1.11	146.8	F	7.9
Tenth Avenue @ 26th Street	EB	LT	1.11	410.6	F	EB	LT	1.15	423.8	F	13.2
Tenth Avenue @ 28th Street	EB	LT	1.40	534.0	F	EB	LT	1.46	557.2	F	23.2
Tenth Avenue	EB	LT	2.01	768.6	F	EB	LT	2.47	977.3	F	208.7
@ 30th Street	NB	R	0.83	29.1	C	NB	R	0.98	58.5	E	29.4
Tenth Avenue @ 31st Street	WB	R	1.26	348.8	F	WB	R	1.36	396.7	F	47.9
Tenth Avenue @ 33rd Street	WB	TR	0.94	50.6	D	WB	TR	1.03	175.7	F	125.1
Tenth Avenue @ 34th Street	EB	DefL	0.73	50.3	D	EB	DefL	0.87	70.0	E	19.7
Tenth Avenue @ 35th Street	WB	TR	1.53	443.1	F	WB	TR	1.71	520.1	F	77.0
Tenth Avenue @ 41st Street	NB	L	0.88	45.9	D	NB	L	0.88	45.9	D	0.0
Tenth Avenue	EB	LT	2.05	750.4	F	EB	LT	2.08	768.5	F	18.1
@ 42nd Street	WB	TR	1.06	296.4	F	WB	TR	1.06	298.2	F	1.8
Tenth Avenue @ 43rd Street	NB	LT	1.19	158.1	F	NB	LT	1.20	161.2	F	3.1
Tenth Avenue @ 57st Street	EB	LT	1.08	370.1	F	EB	LT	1.09	376.0	F	5.9
Eleventh Ave./	SB (11th)	T	0.57	54.2	D	SB (11th)	T	0.56	54.1	D	-0.1
Twelfth Ave.		TR	0.43	54.1	D		TR	0.48	55.6	E	1.5
@ 22nd Street	NB (12th)	T	1.07	115.2	F	NB (12th)	T	1.09	120.6	F	5.4
Eleventh Avenue @ 24th Street	SB	TR	1.25	217.9	F	SB	TR	1.29	236.0	F	18.1
Eleventh Avenue @ 26th Street	EB	TR	1.09	413.4	F	EB	TR	1.09	413.4	F	0.0

Table 17-25A (cont'd)
2019 Future with the Proposed Actions: Weekday AM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	**Approach**	**Movement**	**V/C Ratio**	**Delay Sec/Veh**	**LOS**	**Approach**	**Movement**	**V/C Ratio**	**Delay Sec/Veh**	**LOS**	**Delay Increment Sec/Veh**
Eleventh Avenue @ 30th Street	EB	TR	0.99	60.4	E	EB	TR	1.22	353.2	F	292.8
	SB	LT	1.05	124.2	F	SB	LT	1.19	177.9	F	53.7
Eleventh Avenue @ 33rd Street	WB	L	0.53	33.7	C	WB	L	0.97	86.3	F	52.6
		LT	0.63	32.9	C		LT	0.97	62.3	E	29.4
Eleventh Avenue @ 37th Street	WB	L	0.75	54.0	D	WB	L	0.87	68.6	E	14.6
Eleventh Avenue @ 38th Street	SB	LT	1.08	112.7	F	SB	LT	1.13	132.1	F	19.4
Eleventh Avenue @ 42nd Street	SB	LT	1.00	45.0	D	SB	LT	1.03	115.5	F	70.5
Eleventh Avenue @ 44th Street	EB	LTR	1.26	593.6	F	EB	LTR	1.27	597.9	F	4.3
Eleventh Avenue @ 47th Street	WB	LTR	0.98	71.2	E	WB	LTR	1.00	77.1	E	5.9
	SB	TR	0.95	36.6	D	SB	TR	0.98	54.2	D	17.6
Eleventh Avenue @ 54th Street	EB	LTR	1.22	370.2	F	EB	LTR	1.23	376.7	F	6.5
	NB	L	0.84	57.0	E	NB	L	0.86	63.1	E	6.1
Eleventh Avenue @ 56th Street	EB	LTR	1.08	290.9	F	EB	LTR	1.08	290.9	F	0.0
Eleventh Avenue @ 57th Street	EB	L	1.14	631.9	F	EB	L	1.14	631.9	F	0.0
		TR	1.20	384.8	F		TR	1.21	387.4	F	2.6
	WB	L	1.03	204.8	F	WB	L	1.03	204.7	F	-0.1
	SB	L	1.30	369.4	F	SB	L	1.32	378.0	F	8.6
Twelfth Avenue @ 24th Street	WB	L	0.56	70.3	E	WB	L	0.52	68.2	E	-2.1
		LTR	0.49	67.7	E		LTR	0.52	68.5	E	0.8
		R	0.49	68.4	E		R	0.53	70.0	E	1.6
	NB	TR	1.01	82.1	F	NB	TR	1.02	93.7	F	11.6
	SB	L	0.97	134.1	F	SB	L	0.97	134.1	F	0.0
Twelfth Avenue @ 29th Street	WB	LR	1.68	883.6	F	WB	LR	1.97	1007.0	F	123.4
Twelfth Avenue @ 30th Street	EB	LTR		64.4	E	EB	LTR		64.4	E	0.0
	SB	L	1.25	377.3	F	SB	L	1.35	418.7	F	41.4
Twelfth Avenue @ 34th Street	WB	L	0.42	58.6	E	WB	L	0.47	60.3	E	1.7
		LR	0.43	58.7	E		LR	0.47	59.9	E	1.2
	SB	L	0.54	61.1	E	SB	L	0.60	62.8	E	1.7
Twelfth Avenue @ Pier 79 Ferry Terminal	EB	LR	0.13	52.8	D	EB	LR	0.13	52.6	D	-0.2
		R	0.12	52.9	D		R	0.13	53.2	D	0.3
	NB	L	0.10	63.7	E	NB	L	0.10	63.7	E	0.0
	SB	TR	1.14	141.7	F	SB	TR	1.16	149.1	F	7.4
Twelfth Avenue @ 41st Street	WB	L	0.09	50.8	D	WB	L	0.09	50.8	D	0.0
		R	0.41	56.8	E		R	0.41	56.8	E	0.0
	NB	T	1.15	157.1	F	NB	T	1.17	167.3	F	10.2
	SB	T	1.16	126.2	F	SB	T	1.18	134.2	F	8.0

Table 17-25A (cont'd)
2019 Future with the Proposed Actions: Weekday AM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Twelfth Avenue @ 42nd Street	EB	LTR	0.04	46.2	D	EB	LTR	0.04	46.2	D	0.0
	WB	L	0.32	52.2	D	WB	L	0.32	52.2	D	0.0
	NB	T	0.98	53.4	D	NB	T	1.00	58.1	E	4.7
	SB	L	0.67	59.3	E	SB	L	0.68	59.5	E	0.2
Twelfth Avenue @ 43rd Street	WB	LTR	0.78	72.8	E	WB	LTR	0.78	72.8	E	0.0
	NB	L	1.00	172.9	F	NB	L	1.00	172.9	F	0.0
Twelfth Avenue @ 44th Street	SB	L	1.09	291.7	F	SB	L	1.11	297.1	F	5.4
Twelfth Avenue@ 46th Street	EB	LTR	0.28	56.6	E	EB	LTR	0.28	56.6	E	0.0
	NB	TR	0.97	108.8	F	NB	TR	0.98	118.8	F	10.0
	SB	L	0.53	69.9	E	SB	L	0.54	70.1	E	0.2
Twelfth Avenue @ 54th Street	WB	R	0.53	61.5	E	WB	R	0.53	61.5	E	0.0
	NB	TR	1.02	105.4	F	NB	TR	1.03	109.0	F	3.6
	SB	L	0.72	69.3	E	SB	L	0.72	69.8	E	0.5
		T	1.19	133.4	F		T	1.20	139.6	F	6.2
Twelfth Avenue @ 56th Street (SR)	NB	TR	0.94	58.4	E	NB	TR	0.95	58.6	E	0.2
Twelfth Avenue @ 56th Street	NB	T	1.17	169.7	F	NB	T	1.18	175.9	F	6.2
	SB	L	1.00	56.9	E	SB	L	1.00	56.9	E	0.0
Broadway @ 35th Street	WB	T	1.59	320.5	F	WB	T	1.71	373.9	F	53.4
Broadway @ 42nd Street	WB	DefL	1.36	654.9	F	WB	DefL	1.39	674.9	F	20.0
Dyer Ave @ 34th Street	SB	L	0.98	93.1	F	SB	L	1.10	127.8	F	34.7
		LR	0.99	96.1	F		LR	1.10	128.7	F	32.6
		R	0.99	100.3	F		R	0.83	139.5	F	39.2
Dyer Ave @ 36th Street	EB	TR	0.75	89.4	F	EB	TR	0.79	99.4	F	10.0
UNSIGNALIZED INTERSECTIONS											
(No Intersections with Significant adverse Impacts)											

Notes:
Shading denotes approach movement subject to significant adverse impact. No shading denotes movement with 45.0 or more seconds of delay, but not subject to significant adverse impact.
Delay calculated at greater than 300 seconds is considered unreliable, though the congestion at this level is considered an impact.
Negative delay increments are attributable to rounding, changes in heavy vehicle percentages, shared lane percentages, or pedestrian volumes.

Table 17-25B
2019 Future with the Proposed Actions: Weekday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Sixth Avenue @ 28th Street	**EB**	**LT**	**1.20**	**335.5**	**F**	**EB**	**LT**	**1.23**	**345.4**	**F**	**9.9**
Sixth Avenue @ 30th Street	EB	LT	1.33	346.2	F	EB	LT	1.41	381.6	F	35.4
	NB	TR	0.92	53.9	D	NB	TR	0.92	55.4	E	1.5
Sixth Avenue @ 31st Street	NB	LT	0.91	44.0	D	NB	LT	0.92	48.5	D	4.5
Sixth Avenue @ 34th Street	NB	T	1.18	124.0	F	NB	T	1.20	214.3	F	90.3
	SB	T	1.54	461.4	F	SB	T	1.54	461.4	F	0.0
Sixth Avenue @ 36th Street	EB	L	0.94	81.6	F	EB	L	0.94	81.6	F	0.0
Sixth Avenue @ 42nd Street	WB	R	0.82	50.1	D	WB	R	0.84	53.5	D	3.4
Seventh Avenue @ 23rd Street	EB	TR	0.91	45.0	D	EB	TR	0.92	46.0	D	1.0
Seventh Avenue @ 29th Street	WB	LT	1.46	451.8	F	WB	LT	1.50	468.5	F	16.7
Seventh Avenue @ 30th Street	EB	T	1.32	414.3	F	EB	T	1.43	458.0	F	43.7
Seventh Avenue @ 31st Street	WB	LT	1.37	410.7	F	WB	LT	1.41	426.2	F	15.5
Seventh Avenue @ 33rd Street	WB	LT	1.48	671.2	F	WB	LT	1.49	675.8	F	4.6
	SB	TR	1.02	75.7	E	SB	TR	1.05	84.6	F	8.9
Seventh Avenue @ 34th Street	EB	T	0.89	46.2	D	EB	T	0.93	52.3	D	6.1
Seventh Avenue @ 35th Street	WB	LT	1.05	266.7	F	WB	LT	1.12	372.9	F	106.2
Seventh Avenue @ 36th Street	EB	TR	1.06	285.2	F	EB	TR	1.09	330.5	F	45.3
Eighth Avenue @ 29th Street	WB	TR	1.49	465.7	F	WB	TR	1.53	481.6	F	15.9
Eighth Avenue @ 30th Street	EB	LT	1.21	365.8	F	EB	LT	1.26	377.0	F	11.2
Eighth Avenue @ 31st Street	WB	TR	1.10	367.0	F	WB	TR	1.12	371.3	F	4.3
Eighth Avenue @ 33rd Street	NB	LT	1.18	177.5	F	NB	LT	1.19	183.3	F	5.8
Eighth Avenue @ 34th Street	WB	LTR	1.13	153.7	F	WB	LTR	1.13	155.8	F	2.1
Eighth Avenue @ 35th Street	NB	TR	1.23	383.4	F	NB	TR	1.28	399.8	F	16.4
Eighth Avenue @ 36th Street	EB	LT	0.78	149.6	F	EB	LT	0.81	162.7	F	13.1
	NB	TR	1.04	102.0	F	NB	TR	1.04	103.3	F	1.3
Ninth Avenue @ 28th Street	EB	TR	1.07	323.7	F	EB	TR	1.12	340.6	F	16.9
Ninth Avenue @ 29th Street	SB	TR	1.13	133.8	F	SB	TR	1.14	137.6	F	3.8
Ninth Avenue @ 30th Street	EB	TR	1.15	492.2	F	EB	TR	1.23	515.6	F	23.4
	SB	L	2.10	655.6	F	SB	L	2.10	655.6	F	0.0
Ninth Avenue @ 31st Street	WB	LTR	1.01	97.3	F	WB	LTR	1.03	176.2	F	78.9
Ninth Avenue @ 33rd Street	WB	LT	1.50	546.3	F	WB	LT	1.60	589.5	F	43.2
Ninth Avenue @ 34th Street	EB	T	0.84	46.3	D	EB	T	0.88	51.4	D	5.1
		R	1.44	533.9	F		R	1.48	548.6	F	14.7
	SB	LTR	1.18	178.9	F	SB	LTR	1.20	185.5	F	6.6
Ninth Avenue @ 35th Street	WB	LT	1.28	463.1	F	WB	LT	1.36	489.8	F	26.7

Table 17-25B (cont'd)
2019 Future with the Proposed Actions: Weekday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Ninth Avenue @ 36th Street	EB	TR	0.89	79.4	E	EB	TR	0.93	99.0	F	19.6
		LT	1.05	94.0	F		LT	1.07	99.2	F	5.2
Ninth Avenue @ 37th Street	WB	LT	0.91	48.5	D	WB	LT	0.93	52.3	D	3.8
Ninth Avenue @ 38th Street	EB	TR	0.90	45.9	D	EB	TR	0.93	48.9	D	3.0
Ninth Avenue @ 42nd Street	EB	TR	0.62	158.3	F	EB	TR	0.63	160.9	F	2.6
	WB	DefL	1.15	689.8	F	WB	DefL	1.17	763.6	F	73.8
	SB	LTR	1.19	181.2	F	SB	LTR	1.21	187.4	F	6.2
Tenth Avenue @ 26th Street	EB	LT	1.16	409.7	F	EB	LT	1.20	424.0	F	14.3
Tenth Avenue @ 28th Street	EB	LT	1.29	465.1	F	EB	LT	1.35	487.9	F	22.8
Tenth Avenue @ 29th Street	WB	TR	0.97	58.6	E	WB	TR	1.01	103.6	F	45.0
Tenth Avenue @ 30th Street	EB	LT	2.87	1169.0	F	EB	LT	3.36	1392.0	F	223.0
	NB	R	1.55	442.6	F	NB	R	1.55	442.6	F	0.0
Tenth Avenue @ 31st Street	WB	R	2.24	867.2	F	WB	R	2.31	902.2	F	35.0
Tenth Avenue @ 33rd Street	WB	TR	0.97	55.7	E	WB	TR	1.04	217.4	F	161.7
	NB	LT	1.07	153.7	F	NB	LT	1.12	175.1	F	21.4
Tenth Avenue @ 34th Street	EB	DefL	0.85	67.9	E	EB	DefL	0.94	85.8	F	17.9
	WB	R	1.27	483.7	F	WB	R	1.29	485.4	F	1.7
	NB	LTR	1.07	101.0	F	NB	LTR	1.10	113.9	F	12.9
Tenth Avenue @ 35th Street	WB	TR	1.32	360.7	F	WB	TR	1.43	400.4	F	39.7
	NB	LT	0.99	28.8	C	NB	LT	1.02	82.4	F	53.6
Tenth Avenue @ 36th Street	EB	LT	0.41	131.2	F	EB	LT	0.43	133.7	F	2.5
	NB	TR	1.05	91.0	F	NB	TR	1.08	103.0	F	12.0
Tenth Avenue @ 38th Street	NB	TR	0.99	27.5	C	NB	TR	1.01	76.0	E	48.5
Tenth Avenue @ 42nd Street	EB	LT	2.24	930.9	F	EB	LT	2.28	949.2	F	18.3
	WB	TR	1.40	400.8	F	WB	TR	1.40	403.8	F	3.0
Tenth Avenue @ 43rd Street	WB	TR	0.56	116.5	F	WB	TR	0.57	117.6	F	1.1
	NB	LT	1.22	172.8	F	NB	LT	1.23	178.4	F	5.6
Tenth Avenue @ 57st Street	EB	LT	0.99	60.3	E	EB	LT	1.00	61.8	E	1.5
	WB	TR	1.04	210.0	F	WB	TR	1.04	210.0	F	0.0
Eleventh Ave./ Twelfth Ave. @ 22nd Street	NB (12th)	T	1.05	111.8	F	NB (12th)	T	1.07	119.1	F	7.3
Eleventh Avenue @ 24th Street	SB	TR	1.40	283.7	F	SB	TR	1.45	307.4	F	23.7
Eleventh Avenue @ 26th Street	EB	TR	0.92	67.6	E	EB	TR	0.92	67.6	E	0.0
Eleventh Avenue @ 29th Street	WB	LT	0.90	43.7	D	WB	LT	0.99	60.7	E	17.0
Eleventh Avenue @ 30th Street	EB	TR	1.15	321.3	F	EB	TR	1.30	384.6	F	63.3
	SB	LT	1.14	159.4	F	SB	LT	1.29	224.4	F	65.0
Eleventh Avenue @ 33rd Street	WB	L	0.87	67.9	E	WB	L	1.16	287.8	F	219.9
		LT	0.91	52.5	D		LT	1.09	188.2	F	135.7
Eleventh Avenue @ 37th Street	WB	L	0.81	61.4	E	WB	L	0.89	72.1	E	10.7
Eleventh Avenue @ 42nd Street	SB	LT	1.01	110.8	F	SB	LT	1.04	120.1	F	9.3
		R	0.74	46.7	D		R	0.74	47.4	D	0.7
Eleventh Avenue @ 43rd Street	WB	LT	0.83	46.3	D	WB	LT	0.86	48.4	D	2.1
Eleventh Avenue @ 44th Street	EB	LTR	0.82	45.9	D	EB	LTR	0.84	47.1	D	1.2

Table 17-25B (cont'd)
2019 Future with the Proposed Actions: Weekday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	**Approach**	**Movement**	**V/C Ratio**	**Delay Sec/Veh**	**LOS**	**Approach**	**Movement**	**V/C Ratio**	**Delay Sec/Veh**	**LOS**	**Delay Increment Sec/Veh**
Eleventh Avenue @ 46th Street	SB	T	0.94	34.8	C	SB	T	0.97	45.3	D	10.5
Eleventh Avenue @ 47th Street	WB	LTR	0.98	68.6	E	WB	LTR	1.00	74.2	E	5.6
	SB	TR	0.95	38.8	D	SB	TR	0.97	49.3	D	10.5
Eleventh Avenue @ 57th Street	EB	TR	0.94	63.4	E	EB	TR	0.95	66.6	E	3.2
	WB	L	1.21	599.3	F	WB	L	1.21	602.9	F	3.6
	NB	L	0.65	45.3	D	NB	L	0.67	47.8	D	2.5
	SB	L	0.97	78.2	E	SB	L	0.98	80.8	F	2.6
Twelfth Avenue @ 24th Street	WB	L	0.51	47.4	D	WB	L	0.49	46.9	D	-0.5
		LTR	0.49	47.4	D		LTR	0.49	47.4	D	0.0
		R	0.49	47.9	D		R	0.51	48.7	D	0.8
	NB	TR	1.02	102.9	F	NB	TR	1.04	109.4	F	6.5
	SB	L	0.67	74.9	E	SB	L	0.67	74.9	E	0.0
		T	1.02	124.8	F		T	1.02	125.4	F	0.6
Twelfth Avenue @ 29th Street	WB	LR	1.40	691.6	F	WB	LR	1.66	797.9	F	106.3
Twelfth Avenue @ 30th Street	EB	LTR	0.00	49.5	D	EB	LTR		49.5	D	0.0
	SB	L	1.37	388.4	F	SB	L	1.47	429.7	F	41.3
Twelfth Avenue @ 34th Street	SB	L	0.65	57.8	E	SB	L	0.67	58.6	E	0.8
Twelfth Avenue @ Pier 79 Ferry Terminal	NB	L	0.20	50.4	D	NB	L	0.20	50.4	D	0.0
	SB	TR	1.09	120.3	F	SB	TR	1.10	124.0	F	3.7
Twelfth Avenue @ 41st Street	NB	T	1.10	138.4	F	NB	T	1.12	147.4	F	9.0
	SB	T	1.02	75.7	E	SB	T	1.03	78.5	E	2.8
Twelfth Avenue @ 42nd Street	WB	L	0.60	45.7	D	WB	L	0.61	45.8	D	0.1
	NB	T	1.12	141.5	F	NB	T	1.14	150.2	F	8.7
Twelfth Avenue @ 43rd Street	WB	LTR	0.76	53.6	D	WB	LTR	0.77	54.2	D	0.6
	NB	L	0.33	59.2	E	NB	L	0.33	59.2	E	0.0
Twelfth Avenue @ 44th Street	SB	L	0.96	81.9	F	SB	L	0.96	82.5	F	0.6
Twelfth Avenue@ 46th Street	NB	TR	1.13	177.9	F	NB	TR	1.15	185.6	F	7.7
	SB	L	0.60	71.2	E	SB	L	0.60	71.2	E	0.0
Twelfth Avenue @ 54th Street	NB	TR	1.05	118.1	F	NB	TR	1.06	121.7	F	3.6
Twelfth Avenue @ 56th Street	SB	L	1.20	479.2	F	SB	L	1.20	479.2	F	0.0
Hudson Blvd NB @ 33rd Street	WB	TR	0.88	23.9	C	WB	TR	1.00	45.9	D	22.0
Broadway @ 35th Street	WB	T	1.29	193.9	F	WB	T	1.37	225.6	F	31.7
Dyer Ave @ 34th Street	SB	L	0.61	46.2	D	SB	L	0.63	47.1	D	0.9
		LR	0.60	46.4	D		LR	0.61	47.2	D	0.8
		R	0.61	47.5	D		R	0.60	47.0	D	-0.5
Dyer Ave @ 36th Street	EB	TR	0.72	81.6	F	EB	TR	0.77	91.8	F	10.2
UNSIGNALIZED INTERSECTIONS											
Twelfth Ave @ 33rd Street	WB	R	0.64	27.9	D	WB	R	2.83	897.2	F	869.3

Notes:
Shading denotes approach movement subject to significant adverse impact. No shading denotes movement with 45.0 or more seconds of delay, but not subject to significant adverse impact
Delay calculated at greater than 300 seconds is considered unreliable, though the congestion at this level is considered an impact.
Negative delay increments are attributable to rounding, changes in heavy vehicle percentages, shared lane percentages, or pedestrian volumes.

Table 17-25C
2019 Future with the Proposed Actions: Weekday PM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Sixth Avenue @ 28th Street	EB	LT	1.31	381.6	F	EB	LT	1.36	400.9	F	19.3
Sixth Avenue @ 30th Street	EB	LT	1.28	318.7	F	EB	LT	1.39	365.6	F	46.9
Sixth Avenue @ 34th Street	NB	T	1.28	251.1	F	NB	T	1.30	258.4	F	7.3
	SB	T	1.81	579.6	F	SB	T	1.81	579.6	F	0.0
Sixth Avenue @ 36th Street	EB	L	1.01	128.0	F	EB	L	1.03	169.6	F	41.6
Seventh Avenue @ 29th Street	WB	LT	1.51	479.9	F	WB	LT	1.56	503.6	F	23.7
Seventh Avenue @ 30th Street	EB	T	1.25	372.4	F	EB	T	1.39	429.4	F	57.0
		R	0.75	206.4	F		R	0.79	228.8	F	22.4
Seventh Avenue @ 31st Street	WB	LT	1.21	332.1	F	WB	LT	1.25	348.4	F	16.3
Seventh Avenue @ 33rd Street	WB	LT	1.14	522.1	F	WB	LT	1.16	526.3	F	4.2
	SB	TR	1.08	95.3	F	SB	TR	1.11	107.4	F	12.1
Seventh Avenue @ 35th Street	WB	LT	1.38	474.4	F	WB	LT	1.47	514.9	F	40.5
Seventh Avenue @ 36th Street	EB	TR	1.26	415.8	F	EB	TR	1.32	436.8	F	21.0
Eighth Avenue @ 29th Street	WB	TR	1.80	625.3	F	WB	TR	1.85	642.9	F	17.6
Eighth Avenue @ 30th Street	EB	LT	1.31	399.6	F	EB	LT	1.37	415.8	F	16.2
Eighth Avenue @ 31st Street	WB	TR	1.09	324.7	F	WB	TR	1.11	330.9	F	6.2
	NB	LT	1.09	120.7	F	NB	LT	1.10	121.8	F	1.1
Eighth Avenue @ 33rd Street	NB	LT	1.26	212.8	F	NB	LT	1.28	219.5	F	6.7
Eighth Avenue @ 34th Street	NB	LTR	1.12	147.9	F	NB	LTR	1.12	150.7	F	2.8
Eighth Avenue @ 35th Street	WB	TR	1.69	639.1	F	WB	TR	1.77	673.7	F	34.6
Eighth Avenue @ 36th Street	EB	LT	1.31	432.7	F	EB	LT	1.40	470.7	F	38.0
Eighth Avenue @ 37th Street	WB	TR	0.95	47.3	D	WB	TR	0.98	52.1	D	4.8
Eighth Avenue @ 38th Street	NB	TR	1.01	81.6	F	NB	TR	1.03	97.7	F	16.1
Ninth Avenue @ 28th Street	EB	TR	0.94	53.6	D	EB	TR	1.02	143.4	F	89.8
Ninth Avenue @ 30th Street	EB	TR	1.00	395.1	F	EB	TR	1.11	429.8	F	34.7
	SB	L	2.35	756.6	F	SB	L	2.37	767.4	F	10.8
Ninth Avenue @ 31st Street	WB	LTR	1.47	509.3	F	WB	LTR	1.49	519.3	F	10.0
Ninth Avenue @ 33rd Street	WB	LT	1.75	633.6	F	WB	LT	1.83	665.2	F	31.6
Ninth Avenue @ 34th Street	EB	R	1.97	727.2	F	EB	R	2.04	753.1	F	25.9
	WB	LT	1.08	330.0	F	WB	LT	1.11	343.1	F	13.1
	SB	LTR	1.36	262.4	F	SB	LTR	1.38	271.3	F	8.9

Table 17-25C (cont'd)
2019 Future with the Proposed Actions: Weekday PM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Ninth Avenue @ 35th Street	WB	LT	1.59	604.5	F	WB	LT	1.67	632.3	F	27.8
Ninth Avenue @ 36th Street	EB	TR	1.17	200.2	F	EB	TR	1.26	238.3	F	38.1
	SB	LT	1.01	79.8	E	SB	LT	1.02	82.9	F	3.1
Ninth Avenue @ 37th Street	WB	LT	1.17	463.9	F	WB	LT	1.19	470.1	F	6.2
	SB	TR (LnT)	1.21	253.4	F	SB	TR (LnT)	1.21	253.4	F	0.0
Ninth Avenue @ 38th Street	SB	T (LnT)	1.16	238.7	F	SB	T (LnT)	1.16	238.7	F	0.0
Ninth Avenue @ 42nd Street	WB	DefL	1.38	802.7	F	WB	DefL	1.42	833.3	F	30.6
	SB	LTR	1.17	168.9	F	SB	LTR	1.18	173.9	F	5.0
Tenth Avenue @ 26th Street	EB	LT	1.20	433.6	F	EB	LT	1.25	448.7	F	15.1
Tenth Avenue @ 28th Street	EB	LT	1.04	225.7	F	EB	LT	1.13	394.8	F	169.1
Tenth Avenue @ 29th Street	WB	TR	1.17	435.8	F	WB	TR	1.24	455.3	F	19.5
Tenth Avenue @ 30th Street	EB	LT	2.90	1149.0	F	EB	LT	3.45	1399.0	F	250.0
	NB	R	1.31	271.8	F	NB	R	1.34	285.9	F	14.1
Tenth Avenue @ 31st Street	WB	R	2.39	857.9	F	WB	R	2.59	958.3	F	100.4
Tenth Avenue @ 33rd Street	WB	TR	0.91	44.4	D	WB	TR	0.98	56.4	E	12.0
	NB	LT	1.06	150.3	F	NB	LT	1.12	170.7	F	20.4
Tenth Avenue @ 34th Street	EB	DefL	1.00	101.2	F	EB	DefL	1.25	934.2	F	833.0
	WB	R	2.30	874.8	F	WB	R	2.34	897.4	F	22.6
	NB	LTR	1.35	219.2	F	NB	LTR	1.40	241.9	F	22.7
Tenth Avenue @ 35th Street	WB	TR	1.04	227.2	F	WB	TR	1.16	274.7	F	47.5
Tenth Avenue @ 36th Street	NB	TR	1.76	411.2	F	NB	TR	1.86	456.1	F	44.9
Tenth Avenue @ 37th Street	NB	LT	1.67	374.5	F	NB	LT	1.72	397.8	F	23.3
Tenth Avenue @ 38th Street	NB	TR	1.72	395.9	F	NB	TR	1.77	419.9	F	24.0
Tenth Avenue @ 39th Street	WB	T	2.00	1497.0	E	WB	T	2.14	1560.0	F	63.0
		R	1.82	1059.0	F		R	1.83	1064.0	F	5.0
	NB	LT	1.65	400.2	F	NB	LT	1.69	420.3	F	20.1
Tenth Avenue @ 40th Street	EB	LT	0.57	118.0	F	EB	LT	0.58	119.0	F	1.0
	NB	TR	1.65	393.8	F	NB	TR	1.69	412.8	F	19.0
Tenth Avenue @ 41st Street	WB	T	1.25	510.0		WB	T	1.25	510.0	F	0.0
	NB	L	1.55	469.6	F	NB	L	1.55	469.6	F	0.0
		T	1.04	106.2	F		T	1.07	115.6	F	9.4
Tenth Avenue @ 42nd Street	EB	LT	1.88	647.7	F	EB	LT	1.89	650.8	F	3.1
	WB	T (LnT)	1.29	804.6	F	WB	T (LnT)	1.28	793.6	F	-11.0
Tenth Avenue @ 57th Street	EB	LT	0.96	52.6	D	EB	LT	0.97	54.4	D	1.8
Eleventh Ave./Twelfth Ave. @ 22nd Street	SB (11th)	T	0.78	62.3	E	SB (11th)	T	0.79	62.6	E	0.3
		TR	0.65	63.4	E		TR	0.70	66.1	E	2.7
	NB (12th)	T	1.16	149.4	F	NB (12th)	T	1.18	154.4	F	5.0
Eleventh Avenue @ 24th Street	SB	TR	1.33	251.0	F	SB	TR	1.39	276.2	F	25.2
Eleventh Avenue @ 26th Street	EB	TR	1.12	405.6	F	EB	TR	1.12	405.6	F	0.0

Table 17-25C (cont'd)
2019 Future with the Proposed Actions: Weekday PM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Eleventh Avenue @ 29th Street	WB	LT	1.02	138.4	F	WB	LT	1.11	299.5	F	161.1
Eleventh Avenue @ 30th Street	EB	TR	0.93	46.6	D	EB	TR	1.08	287.0	F	240.4
	SB	LT	1.05	117.8	F	SB	LT	1.23	194.2	F	76.4
Eleventh Avenue @ 33rd Street	WB	L	0.63	38.7	D	WB	L	0.92	115.2	F	76.5
		LT	0.73	35.9	D		LT	1.06	122.2	F	86.3
Eleventh Avenue @ 34th Street	WB	TR	0.92	53.2	D	WB	TR	0.98	66.2	E	13.0
Eleventh Avenue @ 37th Street	WB	L	0.77	54.8	D	WB	L	0.88	68.3	E	13.5
Eleventh Avenue @ 38th Street	NB	TR	1.21	477.4	F	NB	TR	1.33	530.9	F	53.5
Eleventh Avenue @ 39th Street	NB	T	1.08	448.4	F	NB	T	1.09	448.0	F	-0.4
Eleventh Avenue @ 40th Street	EB	TR	0.94	75.5	E	EB	TR	1.01	131.9	F	56.4
	NB	R	1.07	255.8	F	NB	R	1.09	260.0	F	4.2
	SB	L	1.00	130.0	F	SB	L	1.00	130.5	F	0.5
Eleventh Avenue @ 41st Street	SB	T (LnT)	1.16	172.9	F	SB	T (LnT)	1.16	172.9	F	0.0
Eleventh Avenue @ 42nd Street	WB	L	0.43	235.2	F	WB	L	0.41	227.7	F	-7.5
		LT	0.51	103.7	F		LT	0.53	109.7	F	6.0
	SB	R	0.92	78.7	E	SB	R	0.92	78.7	E	0.0
		LT (LnT)	1.31	271.1	F		LT (LnT)	1.31	271.1	F	0.0
Eleventh Avenue @ 43rd Street	WB	LT	0.81	44.2	D	WB	LT	0.83	46.2	D	2.0
	SB	T (LnT)	1.26	259.3	F	SB	T (LnT)	1.25	254.1	F	-5.2
Eleventh Avenue @ 44th Street	EB	LTR	1.13	503.4	F	EB	LTR	1.15	508.8	F	5.4
	SB	T	1.26	170.0	F	SB	T	1.32	194.7	F	24.7
		T (LnT)	1.26	260.4	F		T (LnT)	1.26	260.4	F	0.0
Eleventh Avenue @ 47th Street	WB	LTR	0.93	55.8	E	WB	LTR	0.96	61.1	E	5.3
	SB	TR	1.04	82.0	F	SB	TR	1.07	89.5	F	7.5
Eleventh Avenue @ 54th Street	NB	L	1.50	549.8	F	NB	L	1.54	576.2	F	26.4
Eleventh Avenue @ 57th Street	EB	TR	1.24	492.3	F	EB	TR	1.26	499.2	F	6.9
	WB	L	0.72	44.9	D	WB	L	0.73	45.8	D	0.9
	NB	L	1.05	297.5	F	NB	L	1.07	393.5	F	96.0
	SB	L	1.50	423.5	F	SB	L	1.53	440.5	F	17.0
Twelfth Avenue @ 24th Street	WB	L	0.67	71.0	E	WB	L	0.68	71.8	E	0.8
		LTR	0.66	71.0	E		LTR	0.67	71.6	E	0.6
		R	0.69	72.9	E		R	0.69	72.9	E	0.0
	NB	TR	1.13	134.2	F	NB	TR	1.14	139.0	F	4.8
	SB	L	0.65	87.7	F	SB	L	0.65	87.7	F	0.0
Twelfth Avenue @ 29th Street	WB	LR	1.96	992.9	F	WB	LR	2.35	1168.0	F	175.1

Table 17-25C (cont'd)
2019 Future with the Proposed Actions: Weekday PM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	**Approach**	**Movement**	**V/C Ratio**	**Delay Sec/Veh**	**LOS**	**Approach**	**Movement**	**V/C Ratio**	**Delay Sec/Veh**	**LOS**	**Delay Increment Sec/Veh**
Twelfth Avenue @ 30th Street	EB	LTR	0.00	64.4	E	EB	LTR		64.4	E	0.0
	SB	L	1.39	446.8	F	SB	L	1.67	566.4	F	119.6
Twelfth Avenue @ 34th Street	WB	L	0.47	59.3	E	WB	L	0.47	59.3	E	0.0
		LR	0.46	59.2	E		LR	0.51	60.9	E	1.7
		R	0.61	50.6	D		R	0.62	51.1	D	0.5
	SB	L	1.12	595.8	F	SB	L	1.15	714.1	F	118.3
Twelfth Avenue @ Pier 79 Ferry Terminal	EB	LR	0.26	60.7	E	EB	LR	0.25	60.6	E	-0.1
		R	0.25	62.0	E		R	0.26	62.3	E	0.3
	NB	L	0.30	72.6	E	NB	L	0.30	72.6	E	0.0
Twelfth Avenue @ 41st Street	EB	LR	0.06	47.3	D	EB	LR	0.06	47.3	D	0.0
	WB	L	0.08	60.0	E	WB	L	0.08	60.0	E	0.0
		R	0.47	67.8	E		R	0.47	67.8	E	0.0
	NB	T	1.02	81.2	F	NB	T	1.06	92.3	F	11.1
Twelfth Avenue @ 42nd Street	EB	LTR	0.08	46.7	D	EB	LTR	0.08	46.7	D	0.0
	WB	L	0.66	65.3	E	WB	L	0.66	65.6	E	0.3
		R	0.85	66.0	E		R	0.86	67.4	E	1.4
	NB	T	0.98	30.7	C	NB	T	1.01	77.1	E	46.4
	SB	L	1.20	358.7	F	SB	L	1.20	358.7	F	0.0
Twelfth Avenue @ 43th Street	WB	LTR	1.00	108.4	F	WB	LTR	1.01	149.5	F	41.1
	NB	L	0.16	68.0	E	NB	L	0.16	68.0	E	0.0
Twelfth Avenue @ 44th Street	SB	L	1.02	189.3	F	SB	L	1.03	227.0	F	37.7
Twelfth Avenue@ 46th Street	EB	LTR	0.17	51.9	D	EB	LTR	0.17	51.9	D	0.0
	NB	TR	1.14	166.6	F	NB	TR	1.16	179.3	F	12.7
	SB	L	0.63	84.3	F	SB	L	0.63	84.3	F	0.0
Twelfth Avenue @ 54th Street	WB	R	0.81	82.0	F	WB	R	0.81	82.0	F	0.0
	NB	TR	1.24	192.7	F	NB	TR	1.26	202.4	F	9.7
	SB	L	0.47	58.2	E	SB	L	0.47	58.5	E	0.3
Twelfth Avenue @ 56th Street	NB	T	1.24	165.7	F	NB	T	1.26	174.5	F	8.8
	SB	L	1.12	391.4	F	SB	L	1.12	391.4	F	0.0
Twelfth Avenue @ 57th Street	WB	R	0.64	239.4	F	WB	R	0.64	239.4	F	0.0
Broadway @ 35th Street	WB	T	1.51	286.1	F	WB	T	1.59	321.5	F	35.4
Broadway @ 36th Street	EB	TR	0.95	42.1	D	EB	TR	0.99	51.4	D	9.3
Dyer Ave @ 31st Street	WB	LTR	0.86	52.5	D	WB	LTR	0.88	59.0	E	6.5
	NB	LT	0.82	44.3	D	NB	LT	0.83	45.4	D	1.1
	SB	TR	0.91	50.1	D	SB	TR	0.91	50.1	D	0.0
Dyer Ave @ 34th Street	WB	R	2.76	1350.0	F	WB	R	2.78	1359.0	F	9.0
	SB	L	0.79	59.2	E	SB	L	0.81	61.6	E	2.4
		LR	0.80	61.0	E		LR	0.82	63.7	E	2.7
		R	0.80	63.6	E		R	0.81	64.8	E	1.2
Dyer Ave @ 35th Street	WB	LTR	0.76	196.7	F	WB	LTR	0.82	216.1	F	19.4
Dyer Ave @ 36th Street	EB	TR	0.72	76.4	E	EB	TR	0.84	113.1	F	36.7
	NB	TR	1.68	559.7	F	NB	TR	1.69	562.7	F	3.0
Dyer Avenue @ 41st Street	WB	TR	1.32	495.5	F	WB	TR	1.32	495.5	F	0.0
Dyer Avenue @ 42nd Street	WB	T (LnT)	1.57	1378.0	F	WB	T (LnT)	1.57	1378.0	F	0.0

Table 17-25C (cont'd)
2019 Future with the Proposed Actions: Weekday PM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
UNSIGNALIZED INTERSECTIONS											
Twelfth Avenue @ 33rd Street	WB	R	0.88	57.1	F	WB	R	1.91	448.8	F	391.7
Twelfth Avenue @ 47th Street	WB	R	1.87	456.6	F	WB	R	2.09	559.5	F	102.9

Notes:
Shading denotes approach movement subject to significant adverse impact. No shading denotes movement with 45.0 or more seconds of delay, but not subject to significant adverse impact
Delay calculated at greater than 300 seconds is considered unreliable, though the congestion at this level is considered an impact.
Negative delay increments are attributable to rounding, changes in heavy vehicle percentages, shared lane percentages, or pedestrian volumes.

Table 17-25D
2019 Future with the Proposed Actions: Saturday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Sixth Avenue @ 28th Street	EB	LT	1.07	281.3	F	EB	LT	1.09	288.7	F	7.4
Sixth Avenue @ 30th Street	EB	LT	0.65	63.0	E	EB	LT	0.72	76.3	E	13.3
	NB	TR	1.01	84.2	F	NB	TR	1.01	85.5	F	1.3
Sixth Avenue @ 34th Street	EB	T	0.60	49.8	D	EB	T	0.62	53.5	D	3.7
	NB	T	1.29	251.1	F	NB	T	1.30	257.6	F	6.5
	SB	T	1.36	384.1	F	SB	T	1.36	384.1	F	0.0
Sixth Avenue @ 36th Street	EB	L	1.15	228.1	F	EB	L	1.15	228.1	F	0.0
Seventh Avenue @ 28th Street	EB	TR	0.86	298.8	F	EB	TR	0.90	316.4	F	17.6
Seventh Avenue @ 29th Street	WB	LT	1.04	219.9	F	WB	LT	1.09	299.0	F	79.1
Seventh Avenue @ 31st Street	WB	LT	1.33	373.4	F	WB	LT	1.37	388.2	F	14.8
Seventh Avenue @ 33rd Street	WB	LT	1.13	459.6	F	WB	LT	1.15	465.8	F	6.2
Seventh Avenue @ 34th Street	EB	TR	0.45	74.8	E	EB	TR	0.47	77.7	E	2.9
Seventh Avenue @ 35th Street	WB	LT	0.89	47.8	D	WB	LT	0.96	61.1	E	13.3
Seventh Avenue @ 36th Street	EB	TR	1.18	407.1	F	EB	TR	1.21	418.0	F	10.9
Seventh Avenue @ 37th Street	WB	LT	0.87	183.4	F	WB	LT	0.89	194.7	F	11.3
Seventh Avenue @ 38th Street	EB	TR	0.95	269.4	F	EB	TR	0.97	282.2	F	12.8
Eighth Avenue @ 29th Street	WB	TR	1.21	349.9	F	WB	TR	1.26	370.8	F	20.9
Eighth Avenue @ 30th Street	EB	LT	1.02	131.5	F	EB	LT	1.08	303.0	F	171.5
Eighth Avenue @ 31st Street	WB	TR	1.08	340.9	F	WB	TR	1.10	344.9	F	4.0
Eighth Avenue @ 33rd Street	NB	LT	1.06	124.3	F	NB	LT	1.07	130.2	F	5.9
Eighth Avenue @ 34th Street	NB	LTR	1.04	116.9	F	NB	LTR	1.04	118.6	F	1.7
Eighth Avenue @ 35th Street	WB	TR	1.44	549.5	F	WB	TR	1.51	572.8	F	23.3
Eighth Avenue @ 36th Street	EB	LT	1.00	316.1	F	EB	LT	1.04	325.5	F	9.4
Eighth Avenue @ 37th Street	WB	TR	0.96	49.3	D	WB	TR	0.99	53.9	D	4.6
Eighth Avenue @ 38th Street	NB	TR	0.94	49.2	D	NB	TR	0.94	52.5	D	3.3
Ninth Avenue @ 23rd Street	EB	TR	0.87	46.5	D	EB	TR	0.87	47.2	D	0.7
	SB	TR	1.06	116.2	F	SB	TR	1.07	118.6	F	2.4

Table 17-25D (cont'd)
2019 Future with the Proposed Actions: Saturday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Ninth Avenue @ 26th Street	SB	T	1.00	42.5	D	SB	T	1.01	84.7	F	42.2
Ninth Avenue @ 28th Street	EB	TR	0.90	47.5	D	EB	TR	0.96	57.4	E	9.9
Ninth Avenue @ 29th Street	SB	TR	1.01	82.7	F	SB	TR	1.02	90.8	F	8.1
Ninth Avenue	EB	TR	0.88	41.2	D	EB	TR	0.95	50.4	D	9.2
@ 30th Street	SB	L	1.86	538.2	F	SB	L	1.87	543.4	F	5.2
Ninth Avenue @ 31st Street	WB	LTR	1.03	175.9	F	WB	LTR	1.05	256.2	F	80.3
Ninth Avenue @ 33rd Street	WB	LT	1.52	604.6	F	WB	LT	1.65	651.8	F	47.2
Ninth Avenue @ 34th Street	EB	TR	0.90	44.5	D	EB	TR	0.93	49.1	D	4.6
Ninth Avenue @ 35th Street	WB	LT	1.01	113.8	F	WB	LT	1.08	347.8	F	234.0
Ninth Avenue @ 36th Street	EB	TR	1.06	165.0	F	EB	TR	1.09	174.7	F	9.7
Ninth Avenue @ 37th Street	WB	LT	0.92	48.3	D	WB	LT	0.95	53.2	D	4.9
Ninth Avenue @ 42nd Street	WB	DefL	1.05	294.7	F	WB	DefL	1.06	319.8	F	25.1
Tenth Avenue @ 26th Street	EB	LT	0.89	50.6	D	EB	LT	0.93	57.6	E	7.0
Tenth Avenue @ 28th Street	EB	LT	1.43	534.8	F	EB	LT	1.50	562.1	F	27.3
Tenth Avenue	EB	LT	1.70	608.4	F	EB	LT	2.17	822.4	F	214.0
@ 30th Street	NB	R	1.25	245.1	F	NB	R	1.24	241.3	F	-3.8
Tenth Avenue @ 31st Street	WB	R	1.28	369.6	F	WB	R	1.36	403.5	F	33.9
Tenth Avenue @ 34th Street	EB	DefL	0.77	50.8	D	EB	DefL	0.85	61.9	E	11.1
Tenth Avenue @ 35th Street	WB	TR	1.05	253.9	F	WB	TR	1.16	287.7	F	33.8
Tenth Avenue	EB	LT	2.04	797.7	F	EB	LT	2.07	812.9	F	15.2
@ 42nd Street	WB	TR	1.47	458.5	F	WB	TR	1.48	460.0	F	1.5
Tenth Avenue @ 43rd Street	NB	LT	1.00	82.6	F	NB	LT	1.01	85.3	F	2.7
Tenth Avenue @ 56th Street	EB	LT	1.09	411.2	F	EB	LT	1.09	411.2	F	0.0
Tenth Avenue @ 57st Street	EB	LT	0.92	48.7	D	EB	LT	0.93	49.2	D	0.5
Eleventh Ave./Twelfth Ave. @ 22nd Street	NB (12th)	T	1.13	141.5	F	NB (12th)	T	1.14	145.3	F	3.8
Eleventh Avenue @ 30th Street	EB	TR	0.87	39.2	D	EB	TR	1.05	258.0	F	218.8
Eleventh Avenue @ 37th Street	WB	L	0.59	40.6	D	WB	L	0.69	46.4	D	5.8
Eleventh Avenue @ 42nd Street	EB	TR	0.91	46.0	D	EB	TR	0.92	46.9	D	0.9

Table 17-25D (cont'd)
2019 Future with the Proposed Actions: Saturday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	**Approach**	**Movement**	**V/C Ratio**	**Delay Sec/Veh**	**LOS**	**Approach**	**Movement**	**V/C Ratio**	**Delay Sec/Veh**	**LOS**	**Delay Increment Sec/Veh**
Eleventh Avenue @ 44th Street	EB	LTR	0.81	44.2	D	EB	LTR	0.82	45.2	D	1.0
Eleventh Avenue @ 47th Street	WB	LTR	0.89	51.4	D	WB	LTR	0.91	54.5	D	3.1
Eleventh Avenue @ 54th Street	NB	L	0.83	51.6	D	NB	L	0.85	55.2	E	3.6
Eleventh Avenue @ 57th Street	EB	TR	0.90	58.4	E	EB	TR	0.91	58.9	E	0.5
	WB	L	1.22	569.2	F	WB	L	1.22	572.5	F	3.3
		TR	1.69	662.0	F		TR	1.69	662.0	F	0.0
	NB	L	0.94	88.8	F	NB	L	0.96	95.6	F	6.8
	SB	L	0.82	48.8	D	SB	L	0.83	50.6	D	1.8
Twelfth Avenue @ 24th Street	WB	L	0.50	46.8	D	WB	L	0.53	47.8	D	1.0
		LTR	0.53	48.0	D		LTR	0.51	47.3	D	-0.7
		R	0.50	47.9	D		R	0.50	47.9	D	0.0
	NB	TR	1.11	129.5	F	NB	TR	1.12	133.1	F	3.6
	SB	L	1.10	523.8	F	SB	L	1.10	523.8	F	0.0
Twelfth Avenue @ 29th Street	WB	LR	1.26	596.0	F	WB	LR	1.56	721.1	F	125.1
Twelfth Avenue @ 30th Street	EB	LTR		49.5	D	EB	LTR		49.5	D	0.0
	SB	L	1.20	342.7	F	SB	L	1.38	414.2	F	71.5
Twelfth Avenue @ 34th Street	SB	L	0.78	64.2	E	SB	L	0.80	65.4	E	1.2
Twelfth Avenue @ Pier 79 Ferry Terminal	NB	L	0.26	51.6	D	NB	L	0.26	51.6	D	0.0
	SB	TR	1.17	153.5	F	SB	TR	1.18	158.5	F	5.0
Twelfth Avenue @ 41st Street	NB	T	1.06	120.3	F	NB	T	1.08	127.9	F	7.6
	SB	T	1.14	117.9	F	SB	T	1.15	122.2	F	4.3
Twelfth Avenue @ 42nd Street	NB	T	1.19	167.8	F	NB	T	1.21	176.4	F	8.6
	SB	L	0.69	48.6	D	SB	L	0.69	48.6	D	0.0
Twelfth Avenue @ 43rd Street	WB	LTR	0.69	49.4	D	WB	LTR	0.69	49.5	D	0.1
	NB	L	0.10	52.3	D	NB	L	0.10	52.3	D	0.0
Twelfth Avenue @ 44th Street	SB	L	0.94	79.0	E	SB	L	0.95	80.0	F	1.0
Twelfth Avenue@ 46th Street	NB	TR	1.11	166.2	F	NB	TR	1.13	172.1	F	5.9
	SB	L	0.84	97.2	F	SB	L	0.84	97.2	F	0.0
Twelfth Avenue @ 54th Street	WB	R	0.52	45.7	D	WB	R	0.52	45.7	D	0.0
Twelfth Avenue @ 56th Street	SB	L	0.86	62.0	E	SB	L	0.86	62.0	E	0.0
Broadway @ 35th Street	WB	T	1.15	134.5	F	WB	T	1.22	164.7	F	30.2

Table 17-25D (cont'd)
2019 Future with the Proposed Actions: Saturday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2019 Future Without the Proposed Action					2019 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
UNSIGNALIZED INTERSECTIONS											
Twelfth Avenue @ 33rd Street	WB	R	0.41	17.9	C	WB	R	1.06	112.4	F	94.5
Twelfth Avenue @ 47th Street	WB	R	0.98	104.5	F	WB	R	1.03	121	F	16.5

Notes:
Shading denotes approach movement subject to significant adverse impact. No shading denotes movement with 45.0 or more seconds of delay, but not subject to significant adverse impact
Delay calculated at greater than 300 seconds is considered unreliable, though the congestion at this level is considered an impact.
Negative delay increments are attributable to rounding, changes in heavy vehicle percentages, shared lane percentages, or pedestrian volumes.

Table 17-26A
2017 Future with the Proposed Actions: Weekday AM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Sixth Avenue @ 28th Street	EB	LT	1.21	340.7	F	EB	LT	1.23	345.9	F	5.2
Sixth Avenue @ 30th Street	EB	LT	1.40	377.7	F	EB	LT	1.44	395.1	F	17.4
	NB	TR	1.01	85.1	F	NB	TR	1.01	86.3	F	1.2
Sixth Avenue @ 34th Street	NB	T	1.44	326.1	F	NB	T	1.45	331.1	F	5.0
	SB	T	1.63	501.4	F	SB	T	1.63	501.4	F	0.0
Sixth Avenue @ 35th Street	WB	TR	0.95	50.7	D	WB	TR	0.99	57.7	E	7.0
Sixth Avenue @ 42nd Street	WB	R	0.86	62.5	E	WB	R	0.76	58.8	E	-3.7
Seventh Avenue @ 23rd Street	EB	TR	0.92	46.0	D	EB	TR	0.93	46.6	D	0.6
Seventh Avenue @ 28th Street	EB	TR	0.95	326.3	F	EB	TR	0.97	341.7	F	15.4
Seventh Avenue @ 29th Street	WB	LT	1.28	381.7	F	WB	LT	1.30	391.4	F	9.7
Seventh Avenue @ 30th Street	EB	T	1.34	424.5	F	EB	T	1.38	437.6	F	13.1
	EB	R	0.85	44.3	D	EB	R	0.86	45.8	D	1.5
Seventh Avenue @ 31st Street	WB	LT	1.29	365.2	F	WB	LT	1.31	373.9	F	8.7
Seventh Avenue @ 33rd Street	WB	LT	1.21	577.2	F	WB	LT	1.21	577.5	F	0.3
	SB	TR	1.11	108.4	F	SB	TR	1.13	116.0	F	7.6
Seventh Avenue @ 34th Street	EB	T	0.98	60.8	E	EB	T	1.01	102.6	F	41.8
Seventh Avenue @ 35th Street	WB	L	0.87	50.1	D	WB	L	0.88	51.7	D	1.6
	WB	LT	1.25	419.1	F	WB	LT	1.36	464.7	F	45.6
Seventh Avenue @ 36th Street	EB	TR	1.24	430.7	F	EB	TR	1.26	437.1	F	6.4
Seventh Avenue @ 37th Street	WB	LT	0.96	43.9	D	WB	LT	0.98	49.2	D	5.3
Seventh Avenue @ 38th Street	EB	TR	1.15	386.1	F	EB	TR	1.16	390.0	F	3.9
Eighth Avenue @ 29th Street	WB	TR	1.25	385.8	F	WB	TR	1.28	396.0	F	10.2
Eighth Avenue @ 30th Street	EB	LT	1.26	385.2	F	EB	LT	1.30	399.5	F	14.3
Eighth Avenue @ 33rd Street	NB	LT	1.08	134.4	F	NB	LT	1.09	140.6	F	6.2
Eighth Avenue @ 34th Street	NB	LTR	1.10	145.1	F	NB	LTR	1.10	143.5	F	-1.6
Eighth Avenue @ 35th Street	WB	TR	1.72	652.1	F	WB	TR	1.82	696.3	F	44.2
Eighth Avenue @ 36th Street	EB	LT	0.95	273.0	F	EB	LT	0.97	284.8	F	11.8
Ninth Avenue @ 23rd Street	EB	TR	0.94	59.0	E	EB	TR	0.95	60.0	E	1.0

Table 17-26A (cont'd)
2017 Future with the Proposed Actions: Weekday AM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Ninth Avenue @ 28th Street	EB	TR	1.21	386.6	F	EB	TR	1.24	399.6	F	13.0
Ninth Avenue @ 29th Street	SB	TR	1.13	132.7	F	SB	TR	1.13	135.7	F	3.0
Ninth Avenue	EB	TR	1.21	472.4	F	EB	TR	1.26	498.8	F	26.4
@ 30th Street	SB	L	1.62	428.7	F	SB	L	1.62	428.7	F	0.0
Ninth Avenue @ 33rd Street	WB	LT	1.02	154.6	F	WB	LT	1.09	388.6	F	234.0
Ninth Avenue @ 34th Street	EB	T	0.92	56.6	E	EB	T	0.95	63.1	E	6.5
		R	2.00	759.2	F		R	2.02	769.0	F	9.8
	WB	DefL	0.87	57.2	E	WB	DefL	0.89	61.2	E	4.0
	SB	LTR	1.25	213.2	F	SB	LTR	1.28	223.8	F	10.6
Ninth Avenue @ 35th Street	WB	LT	1.54	573.7	F	WB	LT	1.65	620.4	F	46.7
Ninth Avenue	EB	TR	1.09	177.2	F	EB	TR	1.13	190.3	F	13.1
@ 36th Street	SB	LT	1.1	111.7	F	SB	LT	1.13	123.5	F	11.8
Ninth Avenue @ 37th Street	WB	LT	0.85	41.2	D	WB	LT	0.89	46.0	D	4.8
Ninth Avenue @ 38th Street	EB	TR	1.18	476.5	F	EB	TR	1.19	478.7	F	2.2
Ninth Avenue	WB	DefL	1.11	535.4	F	WB	DefL	1.12	564.2	F	28.8
@ 42nd Street	SB	LTR	1.08	135.1	F	SB	LTR	1.10	143.9	F	8.8
Tenth Avenue @ 26th Street	EB	LT	1.10	407.0	F	EB	LT	1.13	414.3	F	7.3
Tenth Avenue @ 28th Street	EB	LT	1.40	534.2	F	EB	LT	1.44	551.0	F	16.8
Tenth Avenue	EB	LT	1.99	762.9	F	EB	LT	2.21	861.0	F	98.1
@ 30th Street	NB	R	0.82	28.8	C	NB	R	0.96	51.7	D	22.9
Tenth Avenue @ 31st Street	WB	R	1.25	344.0	F	WB	R	1.29	367.4	F	23.4
Tenth Avenue @ 33rd Street	WB	TR	0.93	48.9	D	WB	TR	0.99	60.6	E	11.7
Tenth Avenue @ 34th Street	EB	DefL	0.73	50.3	D	EB	DefL	0.93	83.6	F	33.3
Tenth Avenue @ 35th Street	WB	TR	1.50	428.7	F	WB	TR	1.69	515.0	F	86.3
Tenth Avenue	EB	LT	1.99	718.4	F	EB	LT	2.01	730.3	F	11.9
@ 42nd Street	WB	TR	1.03	180.6	F	WB	TR	1.03	180.5	F	-0.1
Tenth Avenue @ 43st Street	NB	LT	1.17	151.6	F	NB	LT	1.18	154.0	F	2.4
Tenth Avenue @ 57st Street	EB	LT	1.01	95.0	F	EB	LT	1.01	95.6	F	0.6
Eleventh Ave./Twelfth Ave. @ 22nd Street	SB (11th)	T	0.55	53.8	D	SB (11th)	T	0.57	54.2	D	0.4
		TR	0.47	55.2	E		TR	0.43	54.1	E	-1.1
	NB (12th)	T	1.06	108.9	F	NB (12th)	T	1.07	112.3	F	3.4
Eleventh Avenue @ 24th Street	SB	TR	1.24	214.7	F	SB	TR	1.26	225.5	F	10.8
Eleventh Avenue @ 26th Street	EB	TR	1.08	399.8	F	EB	TR	1.09	414.6	F	14.8

Table 17-26A (cont'd)
2017 Future with the Proposed Actions: Weekday AM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Eleventh Avenue @ 30th Street	EB	TR	0.98	58.6	E	EB	TR	1.13	319.3	F	260.7
	SB	LT	1.06	126.2	F	SB	LT	1.13	155.2	F	29.0
Eleventh Avenue @ 33rd Street	WB	L	0.53	33.2	C	WB	L	0.98	94.1	F	60.9
		LT	0.55	30.8	C		LT	0.95	61.6	E	30.8
Eleventh Avenue @ 37th Street	WB	L	0.75	53.1	D	WB	L	0.78	56.7	E	3.6
Eleventh Avenue @ 38th Street	SB	LT	1.07	106.9	F	SB	LT	1.12	125.8	F	18.9
Eleventh Avenue @ 42nd Street	SB	LT	0.98	41.2	D	SB	LT	1.01	85.9	F	44.7
Eleventh Avenue @ 44th Street	EB	LTR	1.26	597.3	F	EB	LTR	1.29	604.4	F	7.1
Eleventh Avenue @ 47th Street	WB	LTR	0.97	68.8	E	WB	LTR	0.98	71.3	E	2.5
Eleventh Avenue @ 54th Street	EB	LTR	1.19	357.7	F	EB	LTR	1.22	371.1	F	13.4
Eleventh Avenue @ 56th Street	EB	LTR	1.07	286.7	F	EB	LTR	1.07	287.5	F	0.8
Eleventh Avenue @ 57th Street	EB	L	1.09	443.4	F	EB	L	1.09	443.4	F	0.0
		TR	1.19	381.3	F		TR	1.19	383.1	F	1.8
	WB	L	1.03	203.4	F	WB	L	1.03	203.4	F	0.0
	SB	L	1.03	201.1	F	SB	L	1.04	243.7	F	42.6
Twelfth Avenue @ 24th Street	WB	L	0.51	67.8	E	WB	L	0.54	69.1	E	1.3
		LTR	0.51	68.1	E		LTR	0.51	68.3	E	0.2
		R	0.51	69.3	E		R	0.49	68.0	E	-1.3
	SB	L	0.97	132.5	F	SB	L	0.97	132.5	F	0.0
Twelfth Avenue @ 29th Street	WB	LR	1.66	874.1	F	WB	LR	1.81	932.6	F	58.5
Twelfth Avenue @ 30th Street	EB	LTR	0.00	64.4	E	EB	LTR		64.4	E	0.0
	SB	L	1.21	364.6	F	SB	L	1.26	383.8	F	19.2
Twelfth Avenue @ 34th Street	WB	L	0.45	59.5	E	WB	L	0.47	60.1	E	0.6
		LR	0.48	60.4	E		LR	0.48	60.3	E	-0.1
	SB	L	0.54	61.0	E	SB	L	0.55	61.3	E	0.3
Twelfth Avenue @ Pier 79 Ferry Terminal	EB	LR	0.13	52.6	D	EB	LR	0.11	52.3	D	-0.3
		R	0.13	53.2	D		R	0.14	53.5	D	0.3
	NB	L	0.10	63.7	E	NB	L	0.10	63.7	E	0.0
	SB	TR	1.12	131.6	F	SB	TR	1.12	133.3	F	1.7
Twelfth Avenue @ 41st Street	WB	L	0.09	50.8	D	WB	L	0.09	50.8	D	0.0
		R	0.41	56.8	E		R	0.41	56.8	E	0.0
	NB	T	1.13	148.1	F	NB	T	1.14	153.3	F	5.2
	SB	T	1.14	115.7	F	SB	T	1.14	117.6	F	1.9

Table 17-26A (cont'd)
2017 Future with the Proposed Actions: Weekday AM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					
Intersection	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Delay Increment Sec/Veh
Twelfth Avenue @ 42nd Street	EB	LTR	0.04	46.2	D	EB	LTR	0.04	46.2	D	0.0
	WB	L	0.32	52.2	D	WB	L	0.32	52.2	D	0.0
	NB	T	0.97	49.9	D	NB	T	0.98	51.7	D	1.8
	SB	L	0.67	59.2	E	SB	L	0.68	59.7	E	0.5
Twelfth Avenue @ 43th Street	WB	LTR	0.78	72.6	E	WB	LTR	0.78	72.6	E	0.0
	NB	L	0.97	165.9	F	NB	L	0.97	165.9	F	0.0
Twelfth Avenue @ 44th Street	SB	L	1.09	291.7	F	SB	L	1.13	303.6	F	11.9
Twelfth Avenue@ 46th Street	EB	LTR	0.28	56.5	E	EB	LTR	0.28	56.5	E	0.0
	NB	TR	0.95	99.6	F	NB	TR	0.96	104.0	F	4.4
	SB	L	0.53	69.9	E	SB	L	0.57	71.4	E	1.5
Twelfth Avenue @ 54th Street	WB	R	0.52	61.4	E	WB	R	0.52	61.4	E	0.0
	NB	TR	1.01	72.2	E	NB	TR	1.01	73.7	E	1.5
	SB	L	0.70	68.0	E	SB	L	0.72	69.8	E	1.8
		T	1.18	129.9	F		T	1.19	134.2	F	4.3
Twelfth Avenue @ 56th Street (SR)	NB	TR	0.93	55.4	E	NB	TR	0.93	55.6	E	0.2
Twelfth Avenue @ 56th Street	NB	T	1.15	164.0	F	NB	T	1.16	166.7	F	2.7
	SB	L	0.99	55.5	E	SB	L	0.99	55.8	E	0.3
Broadway @ 35th Street	WB	T	1.58	316.4	F	WB	T	1.68	360.5	F	44.1
Broadway @ 42nd Street	WB	DefL	1.34	647.7	F	WB	DefL	1.39	663.2	F	15.5
Dyer Ave @ 34th Street	SB	L	0.98	93.1	F	SB	L	1.10	127.8	F	34.7
		LR	0.99	94.9	F		LR	0.95	98.5	F	3.6
		R	0.99	99.0	F		R	1.05	260.4	F	161.4
Dyer Ave @ 36th Street	EB	TR	0.74	86.7	F	EB	TR	0.77	92.6	F	5.9
UNSIGNALIZED INTERSECTIONS											
(No Intersections with Significant Adverse Impacts)											

Notes:
Shading denotes approach movement subject to significant adverse impact. No shading denotes movement with 45.0 or more seconds of delay, but not subject to significant adverse impact
Delay calculated at greater than 300 seconds is considered unreliable, though the congestion at this level is considered an impact.
Negative delay increments are attributable to rounding, changes in heavy vehicle percentages, shared lane percentages, or pedestrian volumes.

Table 17-26B
2017 Future with the Proposed Actions: Weekday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Sixth Avenue @ 28th Street	EB	LT	1.19	333.4	F	EB	LT	1.22	341.6	F	8.2
Sixth Avenue @ 30th Street	EB	LT	1.32	345.6	F	EB	LT	1.38	367.9	F	22.3
	NB	TR	0.91	52.3	D	NB	TR	0.92	53.6	D	1.3
Sixth Avenue @ 31st Street	NB	LT	0.91	43.1	D	NB	LT	0.92	46.6	D	3.5
Sixth Avenue @ 34th Street	NB	T	1.18	204.6	F	NB	T	1.19	211.0	F	6.4
	SB	T	1.54	460.2	F	SB	T	1.54	460.2	F	0.0
Sixth Avenue @ 36th Street	EB	L	0.94	80.7	F	EB	L	0.94	80.7	F	0.0
Sixth Avenue @ 42nd Street	WB	R	0.84	54.1	D	WB	R	0.83	52.3	D	-1.8
Seventh Avenue @ 29th Street	WB	LT	1.44	446.2	F	WB	LT	1.46	455.0	F	8.8
Seventh Avenue @ 30th Street	EB	T	1.32	414.3	F	EB	T	1.38	435.9	F	21.6
Seventh Avenue @ 31st Street	WB	LT	1.36	406.2	F	WB	LT	1.39	416.3	F	10.1
Seventh Avenue @ 33rd Street	WB	LT	1.47	666.0	F	WB	LT	1.48	668.3	F	2.3
	SB	TR	1.01	72.7	E	SB	TR	1.04	82.3	F	9.6
Seventh Avenue @ 34th Street	EB	T	0.89	45.7	D	EB	T	0.92	50.3	D	4.6
Seventh Avenue @ 35th Street	WB	LT	1.03	187.9	F	WB	LT	1.09	360.9	F	173.0
Seventh Avenue @ 36th Street	EB	TR	1.04	209.5	F	EB	TR	1.07	322.3	F	112.8
Eighth Avenue @ 29th Street	WB	TR	1.48	461.7	F	WB	TR	1.50	468.9	F	7.2
Eighth Avenue @ 30th Street	EB	LT	1.20	360.5	F	EB	LT	1.22	359.8	F	-0.7
Eighth Avenue @ 31st Street	WB	TR	1.08	357.1	F	WB	TR	1.09	362.3	F	5.2
Eighth Avenue @ 33rd Street	NB	LT	1.17	171.9	F	NB	LT	1.19	180.0	F	8.1
Eighth Avenue @ 34th Street	NB	LTR	1.12	150.5	F	NB	LTR	1.12	152.6	F	2.1
Eighth Avenue @ 35th Street	WB	TR	1.21	375.4	F	WB	TR	1.25	387.2	F	11.8
Eighth Avenue @ 36th Street	EB	LT	0.77	145.9	F	EB	LT	0.80	157.1	F	11.2
	NB	TR	1.03	99.1	F	NB	TR	1.04	100.4	F	1.3
Ninth Avenue @ 28th Street	EB	TR	1.06	300.2	F	EB	TR	1.10	332.7	F	32.5
Ninth Avenue @ 29th Street	SB	TR	1.13	131.8	F	SB	TR	1.14	135.4	F	3.6
Ninth Avenue @ 30th Street	EB	TR	1.14	489.2	F	EB	TR	1.19	503.5	F	14.3
	SB	L	2.10	653.6	F	SB	L	2.10	655.6	F	2.0
Ninth Avenue @ 31st Street	WB	LTR	1.00	62.2	E	WB	LTR	1.01	98.1	F	35.9
Ninth Avenue @ 33rd Street	WB	LT	1.48	542.6	F	WB	LT	1.57	576.0	F	33.4
Ninth Avenue @ 34th Street	EB	T	0.83	46.0	D	EB	T	0.87	49.4	D	3.4
		R	1.44	533.9	F		R	1.48	551.1	F	17.2
	SB	LTR	1.18	176.7	F	SB	LTR	1.19	182.5	F	5.8
Ninth Avenue @ 35th Street	WB	LT	1.28	462.0	F	WB	LT	1.34	486.9	F	24.9
Ninth Avenue @ 36th Street	EB	TR	0.87	73.9	E	EB	TR	0.92	94.1	F	20.2
	SB	LT	1.05	92.8	F	SB	LT	1.06	98.1	F	5.3

Table 17-26B (cont'd)
2017 Future with the Proposed Actions: Weekday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Ninth Avenue @ 37th Street	WB	LT	0.90	47.6	D	WB	LT	0.93	51.8	D	4.2
Ninth Avenue @ 38th Street	EB	TR	0.90	45.2	D	EB	TR	0.91	46.3	D	1.1
Ninth Avenue @ 42nd Street	EB	TR	0.62	156.1	F	EB	TR	0.63	158.9	F	2.8
	WB	DefL	1.15	684.5	F	WB	DefL	1.16	720.3	F	35.8
	SB	LTR	1.18	176.0	F	SB	LTR	1.19	180.3	F	4.3
Tenth Avenue @ 26th Street	EB	LT	1.15	405.1	F	EB	LT	1.17	413.5	F	8.4
Tenth Avenue @ 28th Street	EB	LT	1.29	464.0	F	EB	LT	1.33	479.6	F	15.6
Tenth Avenue @ 29th Street	WB	TR	0.97	56.7	E	WB	TR	0.97	56.4	E	-0.3
Tenth Avenue @ 30th Street	EB	LT	2.85	1164.0	F	EB	LT	3.12	1284.0	F	120.0
	NB	R	1.55	442.6	F	NB	R	1.55	442.6	F	0.0
Tenth Avenue @ 31st Street	WB	R	2.20	853.5	F	WB	R	2.26	877.8	F	24.3
Tenth Avenue @ 33rd Street	WB	TR	0.96	54.6	D	WB	TR	1.02	139.1	F	84.5
	NB	LT	1.06	151.8	F	NB	LT	1.09	163.3	F	11.5
Tenth Avenue @ 34th Street	EB	DefL	0.85	67.9	E	EB	DefL	0.95	88.7	F	20.8
	WB	R	1.26	473.4	F	WB	R	1.28	483.3	F	9.9
	NB	LTR	1.06	99.1	F	NB	LTR	1.08	106.0	F	6.9
Tenth Avenue @ 35th Street	WB	TR	1.30	350.2	F	WB	TR	1.38	381.8	F	31.6
	NB	LT	0.99	27.7	C	NB	LT	1.01	75.3	E	47.6
Tenth Avenue @ 36th Street	EB	LT	0.40	129.7	F	EB	LT	0.42	131.4	F	1.7
	NB	TR	1.04	88.6	F	NB	TR	1.07	98.0	F	9.4
Tenth Avenue @ 42nd Street	EB	LT	2.17	892.4	F	EB	LT	2.20	907.0	F	14.6
	WB	TR	1.35	382.1	F	WB	TR	1.36	383.6	F	1.5
Tenth Avenue @ 43st Street	WB	TR	0.56	115.8	F	WB	TR	0.56	116.2	F	0.4
	NB	LT	1.21	169.3	F	NB	LT	1.21	170.5	F	1.2
Tenth Avenue @ 57st Street	WB	TR	0.98	52.5	D	WB	TR	0.98	52.5	D	0.0
Eleventh Ave/ Twelfth Ave @ 22nd Street	NB (12th)	T	1.03	106.7	F	NB (12th)	T	1.03	107.9	F	1.2
Eleventh Avenue @ 24th Street	SB	TR	1.39	280.3	F	SB	TR	1.43	297.5	F	17.2
Eleventh Avenue @ 26th Street	EB	TR	0.91	64.3	E	EB	TR	0.91	64.3	E	0.0
Eleventh Avenue @ 29th Street	WB	LT	0.90	43.5	D	WB	LT	0.96	54.4	D	10.9
Eleventh Avenue @ 30th Street	EB	TR	1.17	330.9	F	EB	TR	1.26	373.0	F	42.1
	SB	LT	1.13	155.5	F	SB	LT	1.22	194.7	F	39.2
Eleventh Avenue @ 31st Street	WB	L	0.59	35.3	D	WB	LT	0.90	70.4	E	35.1
Eleventh Avenue @ 33rd Street	WB	L	0.73	46.5	D	WB	L	1.33	352.6	F	306.1
		LT	0.78	39.4	D		LT	0.93	114.7	F	75.3
Eleventh Avenue @ 37th Street	WB	L	0.81	60.1	E	WB	L	0.85	65.6	E	5.5
Eleventh Avenue @ 42nd Street	SB	LT	0.99	102.6	F	SB	LT	1.01	111.3	F	8.7
		R	0.74	46.7	D		R	0.74	46.7	D	0.0

Table 17-26B (cont'd)
2017 Future with the Proposed Actions: Weekday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Eleventh Avenue @ 43rd Street	WB	LT	0.83	46.0	D	WB	LT	0.84	47.1	D	1.1
Eleventh Avenue @ 44th Street	EB	LTR	0.82	45.9	D	EB	LTR	0.84	47.2	D	1.3
Eleventh Avenue @ 47th Street	WB	LTR	0.96	63.7	E	WB	LTR	0.98	68.6	E	4.9
Eleventh Avenue @ 57th Street	EB	TR	0.93	62.4	E	EB	TR	0.93	62.9	E	0.5
	WB	L	1.18	585.8	F	WB	L	1.18	585.8	F	0.0
Twelfth Avenue @ 24th Street	WB	L	0.49	46.9	D	WB	L	0.51	46.7	D	-0.2
		LTR	0.50	47.7	D		LTR	0.49	48.0	D	0.3
		R	0.49	47.8	D		R	0.49	47.8	D	0.0
	NB	TR	1.00	44.8	D	NB	TR	1.01	84.3	F	39.5
	SB	L	0.67	74.9	E	SB	L	0.67	74.9	E	0.0
		T	1.00	46.3	D		T	1.00	46.6	D	0.3
Twelfth Avenue @ 29th Street	WB	LR	1.38	679.2	F	WB	LR	1.53	741.8	F	62.6
Twelfth Avenue @ 30th Street	EB	LTR	0.00	49.5	D	EB	LTR		49.5	D	0.0
	SB	L	1.32	370.3	F	SB	L	1.40	400.7	F	30.4
Twelfth Avenue @ 34th Street	SB	L	0.65	57.7	E	SB	L	0.65	57.7	E	0.0
Twelfth Avenue @ Pier 79 Ferry Terminal	NB	L	0.20	50.4	D	NB	L	0.20	50.4	D	0.0
	SB	TR	1.06	110.1	F	SB	TR	1.06	111.6	F	1.5
Twelfth Avenue @ 41st Street	NB	T	1.07	126.6	F	NB	T	1.08	131.7	F	5.1
	SB	T	1.00	44.0	D	SB	T	1.00	45.1	D	1.1
Twelfth Avenue @ 42nd Street	WB	L	0.60	45.6	D	WB	L	0.60	45.6	D	0.0
	NB	T	1.09	129.7	F	NB	T	1.10	134.5	F	4.8
Twelfth Avenue @ 43th Street	WB	LTR	0.76	53.3	D	WB	LTR	0.77	53.8	D	0.5
	NB	L	0.33	59.2	E	NB	L	0.33	59.2	E	0.0
Twelfth Avenue @ 44th Street	SB	L	0.96	81.9	F	SB	L	0.97	83.6	F	1.7
Twelfth Avenue@ 46th Street	NB	TR	1.10	168.1	F	NB	TR	1.11	171.6	F	3.5
	SB	L	0.59	70.7	E	SB	L	0.59	70.7	E	0.0
Twelfth Avenue @ 54th Street	NB	TR	1.03	110.8	F	NB	TR	1.03	112.6	F	1.8
Twelfth Avenue @ 56th Street	SB	L	1.19	474.3	F	SB	L	1.19	474.3	F	0.0
Broadway @ 35th Street	WB	T	1.28	188.1	F	WB	T	1.33	209.9	F	21.8
Broadway @ 42nd Street	WB	DefL	0.77	42.5	D	WB	DefL	0.80	45.2	D	2.7
Dyer Ave @ 34th Street	SB	L	0.60	45.8	D	SB	L	0.64	46.2	D	0.4
		LR	0.60	46.7	D		LR	0.60	48.2	D	1.5
		R	0.61	47.5	D		R	0.60	47.3	D	-0.2
Dyer Ave @ 36th Street	EB	TR	0.70	78.7	E	EB	TR	0.75	86.5	F	7.8
UNSIGNALIZED INTERSECTIONS											
Twelfth Avenue @ 33rd Street	WB	R	0.62	26.8	D	WB	R	1.77	411.6	F	384.8

Notes:
Shading denotes approach movement subject to significant adverse impact. No shading denotes movement with 45.0 or more seconds of delay, but not subject to significant adverse impact
Delay calculated at greater than 300 seconds is considered unreliable, though the congestion at this level is considered an impact.
Negative delay increments are attributable to rounding, changes in heavy vehicle percentages, shared lane percentages, or pedestrian volumes.

Table 17-26C
2017 Future with the Proposed Actions: Weekday PM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Sixth Avenue @ 28th Street	EB	LT	1.31	380.1	F	EB	LT	1.34	391.0	F	10.9
Sixth Avenue @ 30th Street	EB	LT	1.28	317.0	F	EB	LT	1.33	338.3	F	21.3
Sixth Avenue @ 34th Street	NB	T	1.27	248.5	F	NB	T	1.29	253.3	F	4.8
	SB	T	1.80	574.5	F	SB	T	1.80	577.1	F	2.6
Sixth Avenue @ 36th Street	EB	L	1.01	127.1	F	EB	L	1.03	171.5	F	44.4
Seventh Avenue @ 29th Street	WB	LT	1.50	477.4	F	WB	LT	1.52	486.4	F	9.0
Seventh Avenue @ 30th Street	EB	T	1.25	370.8	F	EB	T	1.32	400.9	F	30.1
	EB	R	0.75	204.7	F	EB	R	0.78	223.3	F	18.6
Seventh Avenue @ 31st Street	WB	LT	1.20	329.5	F	WB	LT	1.23	340.0	F	10.5
Seventh Avenue @ 33rd Street	WB	LT	1.14	520.9	F	WB	LT	1.15	523.0	F	2.1
	SB	TR	1.07	91.2	F	SB	TR	1.10	105.0	F	13.8
Seventh Avenue @ 35th Street	WB	LT	1.37	476.5	F	WB	LT	1.43	496.1	F	19.6
Seventh Avenue @ 36th Street	EB	TR	1.24	408.6	F	EB	TR	1.30	429.0	F	20.4
Eighth Avenue @ 29th Street	WB	TR	1.79	620.9	F	WB	TR	1.82	633.9	F	13.0
Eighth Avenue @ 30th Street	EB	LT	1.30	394.6	F	EB	LT	1.34	410.6	F	16.0
Eighth Avenue @ 31st Street	WB	TR	1.08	319.2	F	WB	TR	1.09	322.3	F	3.1
	NB	LT	1.09	118.0	F	NB	LT	1.09	119.7	F	1.7
Eighth Avenue @ 33rd Street	NB	LT	1.25	207.0	F	NB	LT	1.27	216.6	F	9.6
Eighth Avenue @ 34th Street	NB	LTR	1.11	144.4	F	NB	LTR	1.12	147.5	F	3.1
Eighth Avenue @ 35th Street	WB	TR	1.66	626.1	F	WB	TR	1.72	651.7	F	25.6
Eighth Avenue @ 36th Street	EB	LT	1.30	427.8	F	EB	LT	1.41	477.1	F	49.3
Eighth Avenue @ 37th Street	WB	TR	0.95	46.2	D	WB	TR	0.96	48.7	D	2.5
Eighth Avenue @ 38th Street	NB	TR	1.00	39.0	D	NB	TR	1.03	97.2	F	58.2
Ninth Avenue @ 28th Street	EB	TR	0.94	53.3	D	EB	TR	0.98	61.3	E	8.0
Ninth Avenue @ 30th Street	EB	TR	0.99	388.5	F	EB	TR	1.05	406.0	F	17.5
	SB	L	2.33	751.2	F	SB	L	2.36	763.8	F	12.6
Ninth Avenue @ 31st Street	WB	LTR	1.46	504.8	F	WB	LTR	1.48	515.0	F	10.2
Ninth Avenue @ 33rd Street	WB	LT	1.73	623.7	F	WB	LT	1.80	652.4	F	28.7
Ninth Avenue @ 34th Street	EB	R	1.96	719.1	F	EB	R	2.02	744.1	F	25.0
	WB	LT	1.08	327.8	F	WB	LT	1.09	335.6	F	7.8
	SB	LTR	1.36	260.5	F	SB	LTR	1.39	274.4	F	13.9
Ninth Avenue @ 35th Street	WB	LT	1.59	602.2	F	WB	LT	1.64	621.8	F	19.6
Ninth Avenue @ 36th Street	EB	TR	1.16	194.1	F	EB	TR	1.27	240.7	F	46.6
	SB	LT	1.01	78.7	E	SB	LT	1.02	81.0	F	2.3
Ninth Avenue @ 37th Street	WB	LT	1.16	459.1	F	WB	LT	1.17	460.6	F	1.5
	SB	TR (LnT)	1.18	244.1	F	SB	TR (LnT)	1.18	244.1	F	0.0
Ninth Avenue @ 38th Street	SB	T (LnT)	1.04	197.0	F	SB	T (LnT)	1.15	232.9	F	35.9

Table 17-26C (cont'd)
2017 Future with the Proposed Actions: Weekday PM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Ninth Avenue @ 42nd Street	WB	DefL	1.37	798.4	F	WB	DefL	1.40	822.7	F	24.3
	SB	LTR	1.15	161.5	F	SB	LTR	1.16	164.3	F	2.8
Tenth Avenue @ 26th Street	EB	LT	1.18	424.8	F	EB	LT	1.21	433.6	F	8.8
Tenth Avenue @ 28th Street	EB	LT	1.04	225.7	F	EB	LT	1.08	376.3	F	150.6
Tenth Avenue @ 29th Street	WB	TR	1.17	433.1	F	WB	TR	1.19	436.5	F	3.4
Tenth Avenue @ 30th Street	EB	LT	2.88	1140.0	F	EB	LT	3.16	1270.0	F	130.0
	NB	R	1.30	269.2	F	NB	R	1.33	280.5	F	11.3
Tenth Avenue @ 31st Street	WB	R	2.37	849.1	F	WB	R	2.47	897.1	F	48.0
Tenth Avenue @ 33rd Street	WB	TR	0.90	43.9	D	WB	TR	0.95	51.4	D	7.5
	NB	LT	1.06	148.0	F	NB	LT	1.09	158.3	F	10.3
Tenth Avenue @ 34th Street	EB	DefL	0.99	99.2	F	EB	DefL	1.23	915.7	F	816.5
	WB	R	2.28	867.1	F	WB	R	2.36	905.1	F	38.0
	NB	LTR	1.34	215.7	F	NB	LTR	1.37	230.9	F	15.2
Tenth Avenue @ 35th Street	WB	TR	1.02	155.9	F	WB	TR	1.11	257.3	F	101.4
Tenth Avenue @ 36th Street	NB	TR	1.75	406.1	F	NB	TR	1.86	454.9	F	48.8
Tenth Avenue @ 37th Street	NB	LT	1.66	369.2	F	NB	LT	1.71	394.9	F	25.7
Tenth Avenue @ 38th Street	NB	TR	1.71	389.3	F	NB	TR	1.77	417.5	F	28.2
Tenth Avenue @ 39th Street	WB	T	1.99	1493.0	F	WB	T	2.09	1537.0	F	44.0
		R	1.73	1002.0	F		R	1.73	1002.0	F	0.0
	NB	LT	1.63	394.8	F	NB	LT	1.70	422.8	F	28.0
Tenth Avenue @ 40th Street	EB	LT	0.57	117.0	F	EB	LT	0.59	124.1	F	7.1
	NB	TR	1.63	387.8	F	NB	TR	1.68	410.6	F	22.8
Tenth Avenue @ 41st Street	WB	T	1.25	508.4	F	WB	T	1.25	508.4	F	0.0
	NB	L	1.47	428.0	F	NB	L	1.47	428.0	F	0.0
		T	1.03	103.1	F		T	1.07	118.1	F	15.0
Tenth Avenue @ 42nd Street	EB	LT	1.81	606.9	F	EB	LT	1.81	611.1	F	4.2
	WB	T (LnT)	1.28	793.6	F	WB	T (LnT)	1.28	793.6	F	0.0
Eleventh Ave./ Twelfth Ave. @ 22nd Street	SB (11th)	T	0.77	61.6	E	SB (11th)	T	0.79	62.4	E	0.8
		TR	0.68	64.9	E		TR	0.66	63.6	E	-1.3
	NB (12th)	T	1.14	140.1	F	NB (12th)	T	1.15	142.0	F	1.9
Eleventh Avenue @ 24th Street	SB	TR	1.32	248.0	F	SB	TR	1.36	267.4	F	19.4
Eleventh Avenue @ 26th Street	EB	TR	1.10	397.8	F	EB	TR	1.10	397.8	F	0.0
Eleventh Avenue @ 29th Street	WB	LT	1.02	137.1	F	WB	LT	1.07	287.0	F	149.9
Eleventh Avenue @ 30th Street	EB	TR	0.92	45.2	D	EB	TR	1.00	62.8	E	17.6
	SB	LT	1.04	116.6	F	SB	LT	1.14	152.9	F	36.3
Eleventh Avenue @ 33rd Street	WB	L	0.60	36.0	D	WB	L	0.95	85.2	F	49.2
		LT	0.63	32.5	C		LT	0.95	57.5	E	25.0
Eleventh Avenue @ 34th Street	WB	TR	0.91	52.4	D	WB	TR	0.99	66.5	E	14.1
Eleventh Avenue @ 37th Street	WB	L	0.77	53.9	D	WB	L	0.83	60.8	E	6.9
Eleventh Avenue @ 38th Street	NB	TR	1.20	470.4	F	NB	TR	1.31	516.6	F	46.2
Eleventh Avenue @ 39th Street	NB	T	1.07	446.0	F	NB	T	1.10	451.7	F	5.7

Table 17-26C (cont'd)
2017 Future with the Proposed Actions: Weekday PM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Eleventh Avenue @ 40th Street	EB	TR	0.94	75.5	E	EB	TR	0.94	76.3	E	0.8
	NB	R	1.07	253.8	F	NB	R	1.13	275.0	F	21.2
	SB	L	1.00	126.4	F	SB	L	1.00	127.0	F	0.6
Eleventh Avenue @ 41st Street	SB	T (LnT)	1.15	169.3	F	SB	T (LnT)	1.15	169.3	F	0.0
Eleventh Avenue @ 42nd Street	WB	L	0.46	248.0	F	WB	L	0.42	233.5	F	-14.5
		LT	0.49	98.4	F		LT	0.52	106.6	F	8.2
	SB	R	0.92	78.7	E	SB	R	0.92	78.7	E	0.0
		LT (LnT)	1.29	264.9	F		LT (LnT)	1.29	264.9	F	0.0
Eleventh Avenue @ 43rd Street	WB	LT	0.81	43.9	D	WB	LT	0.83	45.7	D	1.8
	SB	T (LnT)	1.17	221.1	F		T (LnT)	1.26	257.9	F	36.8
Eleventh Avenue @ 44th Street	EB	LTR	1.13	504.4	F	EB	LTR	1.15	510.0	F	5.6
	SB	T	1.29	183.4	F	SB	T	1.27	175.1	F	-8.3
		T (LnT)	1.17	222.1	F		T (LnT)	1.26	259.0	F	36.9
Eleventh Avenue @ 47th Street	WB	LTR	0.91	53.0	D	WB	LTR	0.93	56.0	E	3.0
	SB	TR	1.03	77.1	E	SB	TR	1.04	81.1	F	4.0
Eleventh Avenue @ 54th Street	NB	L	1.33	448.6	F	NB	L	1.36	465.3	F	16.7
Eleventh Avenue @ 57th Street	EB	TR	1.22	481.5	F	EB	TR	1.22	481.5	F	0.0
	NB	L	0.87	76.1	E	NB	L	0.88	78.3	E	2.2
	SB	L	1.17	271.9	F	SB	L	1.19	285.8	F	13.9
Twelfth Avenue @ 24th Street	WB	L	0.67	71.0	E	WB	L	0.68	71.8	E	0.8
		LTR	0.67	72.1	E		LTR	0.68	72.7	E	0.6
		R	0.67	71.0	E		R	0.68	72.3	E	1.3
	NB	TR	1.11	125.9	F	NB	TR	1.11	127.6	F	1.7
	SB	L	0.65	87.2	F	SB	L	0.65	87.2	F	0.0
Twelfth Avenue @ 29th Street	WB	LR	1.95	987.2	F	WB	LR	2.19	1095.0	F	107.8
Twelfth Avenue @ 30th Street	EB	LTR	0.00	64.4	E	EB	LTR		64.4	E	0.0
	SB	L	1.34	427.2	F	SB	L	1.52	504.5	F	77.3
Twelfth Avenue @ 34th Street	WB	L	0.48	59.8	E	WB	L	0.49	59.8	E	0.0
		LR	0.49	60.0	E		LR	0.48	59.9	E	-0.1
		R	0.58	49.4	D		R	0.64	52.0	D	2.6
	SB	L	1.11	555.9	F	SB	L	1.11	555.9	F	0.0
Twelfth Avenue @ Pier 79 Ferry Terminal	EB	LR	0.25	60.5	E	EB	LR	0.27	61.1	E	0.6
		R	0.25	61.9	E		R	0.22	61.2	E	-0.7
	NB	L	0.30	72.6	E	NB	L	0.30	72.6	E	0.0
Twelfth Avenue @ 41st Street	EB	LR	0.06	47.3	D	EB	LR	0.06	47.3	D	0.0
	WB	L	0.08	60.0	E	WB	L	0.08	60.0	E	0.0
		R	0.47	67.7	E		R	0.47	67.7	E	0.0
	NB	T	1.01	75.9	E	NB	T	1.02	79.6	E	3.7
Twelfth Avenue @ 42nd Street	EB	LTR	0.08	46.7	D	EB	LTR	0.08	46.7	D	0.0
	WB	L	0.66	65.1	E	WB	L	0.66	65.3	E	0.2
		R	0.84	65.3	E		R	0.85	66.7	E	1.4
	SB	L	1.20	357.5	F	SB	L	1.20	357.5	F	0.0
Twelfth Avenue @ 43th Street	WB	LTR	1.00	107.7	F	WB	LTR	1.02	182.1	F	74.4
	NB	L	0.16	68.0	E	NB	L	0.16	68.0	E	0.0
Twelfth Avenue @ 44th Street	SB	L	1.02	189.3	F	SB	L	1.02	190.2	F	0.9
Twelfth Avenue@ 46th Street	EB	LTR	0.17	51.9	D	EB	LTR	0.17	51.9	D	0.0
	NB	TR	1.12	158.6	F	NB	TR	1.13	165.0	F	6.4
	SB	L	0.61	83.3	F	SB	L	0.61	83.3	F	0.0
Twelfth Avenue @ 54th Street	WB	R	0.81	81.6	F	WB	R	0.81	82.0	F	0.4
	NB	TR	1.23	185.2	F	NB	TR	1.24	191.2	F	6.0
	SB	L	0.44	57.4	E	SB	L	0.44	57.5	E	0.1

Table 17-26C (cont'd)
2017 Future with the Proposed Actions: Weekday PM Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Twelfth Avenue @ 56th Street	NB	T	1.23	160.3	F	NB	T	1.24	167.0	F	6.7
	SB	L	1.11	387.3	F	SB	L	1.11	387.3	F	0.0
Twelfth Avenue @ 57th Street	WB	R	0.62	230.9	F	WB	R	0.62	230.9	F	0.0
Broadway @ 35th Street	WB	T	1.49	279.9	F	WB	T	1.54	302.1	F	22.2
Broadway @ 36th Street	EB	TR	0.94	41.0	D	EB	TR	0.98	48.7	D	7.7
Dyer Ave @ 31st Street	WB	LTR	0.85	51.3	D	WB	LTR	0.87	55.5	E	4.2
	NB	LT	0.81	44.0	D	NB	LT	0.83	45.4	D	1.4
	SB	TR	0.91	49.9	D	SB	TR	0.91	49.9	D	0.0
Dyer Ave @ 34th Street	WB	R	2.76	1350.0	F	WB	R	2.82	1373.0	F	23.0
	SB	L	0.78	58.8	E	SB	L	0.78	58.8	E	0.0
		LR	0.80	61.0	E		LR	0.81	62.6	E	1.6
		R	0.79	62.4	E		R	0.82	66.1	E	3.7
Dyer Ave @ 35th Street	WB	LTR	0.76	195.2	F	WB	LTR	0.80	207.8	F	12.6
Dyer Ave @ 36th Street	EB	TR	0.70	73.7	E	EB	TR	0.84	115.1	F	41.4
	NB	TR	1.67	556.6	F	NB	TR	1.70	570.2	F	13.6
Dyer Avenue @ 41st Street	WB	TR	1.32	494.1	F	WB	TR	1.32	494.1	F	0.0
Dyer Avenue @ 42nd Street	WB	T (LnT)	1.60	1387.0	F	WB	T (LnT)	1.60	1387.0	F	0.0
UNSIGNALIZED INTERSECTIONS											
Twelfth Avenue @ 33rd Street	WB	R	0.86	53.9	F	WB	R	1.14	131.6	F	77.7
Twelfth Avenue @ 47th Street	WB	R	1.71	383.0	F	WB	R	1.82	435.2	F	52.2

Notes:
Shading denotes approach movement subject to significant adverse impact. No shading denotes movement with 45.0 or more seconds of delay, but not subject to significant adverse impact
Delay calculated at greater than 300 seconds is considered unreliable, though the congestion at this level is considered an impact.
Negative delay increments are attributable to rounding, changes in heavy vehicle percentages, shared lane percentages, or pedestrian volumes.

Table 17-26D
2017 Future with the Proposed Actions: Saturday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Sixth Avenue @ 28th Street	EB	LT	1.06	280.2	F	EB	LT	1.08	285.6	F	5.4
Sixth Avenue @ 30th Street	EB	LT	0.64	62.8	E	EB	LT	0.68	68.4	E	5.6
	NB	TR	1.00	44.7	D	NB	TR	1.01	84.0	F	39.3
Sixth Avenue @ 34th Street	EB	T	0.59	49.4	D	EB	T	0.61	52.0	D	2.6
	NB	T	1.28	248.3	F	NB	T	1.29	252.6	F	4.3
	SB	T	1.35	381.7	F	SB	T	1.35	381.7	F	0.0
Sixth Avenue @ 36th Street	EB	L	1.14	226.7	F	EB	L	1.14	226.7	F	0.0
Seventh Avenue @ 28th Street	EB	TR	0.85	295.5	F	EB	TR	0.88	305.8	F	10.3
Seventh Avenue @ 29th Street	WB	LT	1.03	184.3	F	WB	LT	1.06	288.0	F	103.7
Seventh Avenue @ 31st Street	WB	LT	1.33	370.1	F	WB	LT	1.35	381.2	F	11.1
Seventh Avenue @ 33rd Street	WB	LT	1.12	455.3	F	WB	LT	1.13	458.4	F	3.1
Seventh Avenue @ 34th Street	EB	TR	0.45	74.6	E	EB	TR	0.46	76.7	E	2.1
Seventh Avenue @ 35th Street	WB	LT	0.88	46.6	D	WB	LT	0.93	54.2	D	7.6
Seventh Avenue @ 36th Street	EB	TR	1.16	397.7	F	EB	TR	1.18	405.2	F	7.5
Seventh Avenue @ 37th Street	WB	LT	0.87	181.5	F	WB	LT	0.88	187.1	F	5.6
Seventh Avenue @ 38th Street	EB	TR	0.94	263.0	F	EB	TR	0.95	268.5	F	5.5
Eighth Avenue @ 29th Street	WB	TR	1.20	345.5	F	WB	TR	1.22	355.3	F	9.8
Eighth Avenue @ 30th Street	EB	LT	1.01	92.5	F	EB	LT	1.04	209.4	F	116.9
Eighth Avenue @ 31st Street	WB	TR	1.06	333.6	F	WB	TR	1.08	337.5	F	3.9
Eighth Avenue @ 33rd Street	NB	LT	1.04	119.8	F	NB	LT	1.06	124.4	F	4.6
Eighth Avenue @ 34th Street	NB	LTR	1.03	114.5	F	NB	LTR	1.03	115.6	F	1.1
Eighth Avenue @ 35th Street	WB	TR	1.43	546.3	F	WB	TR	1.47	559.9	F	13.6
Eighth Avenue @ 36th Street	EB	LT	0.99	307.3	F	EB	LT	1.01	319.2	F	11.9
Eighth Avenue @ 37th Street	WB	TR	0.96	48.6	D	WB	TR	0.97	50.9	D	2.3
Eighth Avenue @ 38th Street	NB	TR	0.93	45.9	D	NB	TR	0.93	47.5	D	1.6
Ninth Avenue @ 23rd Street	EB	TR	0.86	46.2	D	EB	TR	0.87	46.5	D	0.3
	SB	TR	1.06	114.4	F	SB	TR	1.06	116.4	F	2.0
Ninth Avenue @ 28th Street	EB	TR	0.90	46.9	D	EB	TR	0.93	51.1	D	4.2
Ninth Avenue @ 29th Street	SB	TR	1.01	81.8	F	SB	TR	1.02	88.5	F	6.7
Ninth Avenue @ 30th Street	SB	L	1.85	534.8	F	SB	L	1.87	543.4	F	8.6
Ninth Avenue @ 31st Street	WB	LTR	1.02	136.4	F	WB	LTR	1.03	176.2	F	39.8
Ninth Avenue @ 33rd Street	WB	LT	1.51	598.8	F	WB	LT	1.59	629.1	F	30.3

Table 17-26D (cont'd)
2017 Future with the Proposed Actions: Saturday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Ninth Avenue @ 34th Street	EB	TR	0.89	44.0	D	EB	TR	0.92	47.3	D	3.3
Ninth Avenue @ 35th Street	WB	LT	1.01	113.3	F	WB	LT	1.06	302.7	F	189.4
Ninth Avenue @ 36th Street	EB	TR	1.05	160.4	F	EB	TR	1.06	165.2	F	4.8
Ninth Avenue @ 37th Street	WB	LT	0.92	47.3	D	WB	LT	0.93	50.0	D	2.7
Ninth Avenue @ 42nd Street	WB	DefL	1.04	239.9	F	WB	DefL	1.04	242.2	F	2.3
Tenth Avenue @ 26th Street	EB	LT	0.88	49.3	D	EB	LT	0.89	51.3	D	2.0
Tenth Avenue @ 28th Street	EB	LT	1.43	532.6	F	EB	LT	1.46	545.7	F	13.1
Tenth Avenue @ 30th Street	EB	LT	1.69	601.9	F	EB	LT	1.87	685.1	F	83.2
	NB	R	1.25	243.8	F	NB	R	1.22	231.0	F	-12.8
Tenth Avenue @ 31st Street	WB	R	1.26	360.5	F	WB	R	1.28	368.0	F	7.5
Tenth Avenue @ 34th Street	EB	DefL	0.76	50.3	D	EB	DefL	0.83	59.6	E	9.3
Tenth Avenue @ 35th Street	WB	TR	1.04	229.0	F	WB	TR	1.09	263.7	F	34.7
Tenth Avenue @ 42nd Street	EB	LT	1.96	753.6	F	EB	LT	1.97	756.2	F	2.6
	WB	TR	1.44	441.5	F	WB	TR	1.44	441.5	F	0.0
Tenth Avenue @ 43st Street	NB	LT	1.00	81.4	F	NB	LT	1.01	83.6	F	2.2
Tenth Avenue @ 56th Street	EB	LT	1.08	387.6	F	EB	LT	1.08	387.6	F	0.0
Eleventh Ave./Twelfth Ave. @ 22nd Street	NB (12th)	T	1.11	132.4	F	NB (12th)	T	1.11	133.7	F	1.3
Eleventh Avenue @ 30th Street	EB	TR	0.86	38.4	D	EB	TR	0.95	51.4	D	13.0
Eleventh Avenue @ 42nd Street	EB	TR	0.91	45.8	D	EB	TR	0.91	46.4	D	0.6
Eleventh Avenue @ 47th Street	WB	LTR	0.86	48.7	D	WB	LTR	0.87	49.9	D	1.2
Eleventh Avenue @ 57th Street	EB	TR	0.90	57.1	E	EB	TR	0.90	57.1	E	0.0
	WB	L	1.20	560.1	F	WB	L	1.20	560.1	F	0.0
		TR	1.60	616.0	F		TR	1.60	616.0	F	0.0
	NB	L	0.78	54.3	D	NB	L	0.79	55.2	E	0.9
Twelfth Avenue @ 24th Street	WB	L	0.51	47.0	D	WB	L	0.51	47.1	D	0.1
		LTR	0.51	47.6	D		LTR	0.51	47.3	D	-0.3
		R	0.52	48.4	D		R	0.52	48.7	D	0.3
	NB	TR	1.09	120.9	F	NB	TR	1.09	122.2	F	1.3
	SB	L	1.08	426.6	F	SB	L	1.08	426.6	F	0.0
Twelfth Avenue @ 29th Street	WB	LR	1.25	591.7	F	WB	LR	1.39	644.5	F	52.8
Twelfth Avenue @ 30th Street	EB	LTR	0.00	49.5	D	EB	LTR	0.00	49.5	D	0.0
	SB	L	1.16	328.7	F	SB	L	1.25	363.5	F	34.8
Twelfth Avenue @ 34th Street	SB	L	0.78	63.9	E	SB	L	0.78	63.9	E	0.0
Twelfth Avenue @ Pier 79 Ferry Terminal	NB	L	0.26	51.6	D	NB	L	0.26	51.6	D	0.0
	SB	TR	1.15	142.6	F	SB	TR	1.15	144.4	F	1.8
Twelfth Avenue @ 41st Street	NB	T	1.03	112.1	F	NB	T	1.04	115.2	F	3.1
	SB	T	1.11	108.1	F	SB	T	1.12	109.6	F	1.5

Table 17-26D (cont'd)
2017 Future with the Proposed Actions: Saturday Midday Peak Hour
Intersection Approach Movements Operating at LOS Mid-D, E, or F

Intersection	2017 Future Without the Proposed Action					2017 Future With the Proposed Action					Delay Increment Sec/Veh
	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	Approach	Movement	V/C Ratio	Delay Sec/Veh	LOS	
Twelfth Avenue @ 42nd Street	NB	T	1.16	156.3	F	NB	T	1.17	160.5	F	4.2
	SB	L	0.68	48.5	D	SB	L	0.68	48.5	D	0.0
Twelfth Avenue @ 43th Street	WB	LTR	0.69	49.3	D	WB	LTR	0.69	49.2	D	-0.1
	NB	L	0.10	52.3	D	NB	L	0.10	52.3	D	0.0
Twelfth Avenue @ 44th Street	SB	L	0.94	78.4	E	SB	L	0.94	79.0	E	0.6
Twelfth Avenue@ 46th Street	NB	TR	1.09	157.3	F	NB	TR	1.10	160.1	F	2.8
	SB	L	0.83	94.9	F	SB	L	0.83	94.9	F	0.0
Twelfth Avenue @ 54th Street	WB	R	0.52	45.6	D	WB	R	0.52	45.6	D	0.0
Twelfth Avenue @ 56th Street	SB	L	0.85	61.2	E	SB	L	0.85	61.2	E	0.0
Broadway @ 35th Street	WB	T	1.14	131.2	F	WB	T	1.19	149.7	F	18.5
UNSIGNALIZED INTERSECTIONS											
Twelfth Avenue @ 47th Street	WB	R	0.89	79.8	F	WB	R	0.91	85.2	F	5.4

Notes:
Shading denotes approach movement subject to significant adverse impact. No shading denotes movement with 45.0 or more seconds of delay, but not subject to significant adverse impact
Delay calculated at greater than 300 seconds is considered unreliable, though the congestion at this level is considered an impact.
Negative delay increments are attributable to rounding, changes in heavy vehicle percentages, shared lane percentages, or pedestrian volumes.

Table 17-27
2019 Future with the Proposed Actions:
Off-Street Parking Utilization

Analysis Period	Total Capacity	Parking Demand			Utilization Rate	Available Spaces
		No Build	Build Increment	Total Demand		
Maximum Commercial Scenario						
Weekday Midday	5,869	7,926	203	8,129	139%	(2,260)
Weekday Overnight	4,764	3,614	207	3,821	80%	943
Maximum Residential Scenario-Office Option						
Weekday Midday	5,869	7,926	263	8,189	140%	(2,320)
Weekday Overnight	4,764	3,614	448	4,062	85%	702
Maximum Residential Scenario-Hotel Option						
Weekday Midday	5,869	7,926	322	8,248	141%	(2,379)
Weekday Overnight	4,764	3,614	586	4,200	88%	564

Table 17-28
2017 Future with the Proposed Actions:
Off-Street Parking Utilization

Analysis Period	Total Capacity	Parking Demand			Utilization Rate	Available Spaces
		No Build	Build Increment	Total Demand		
Maximum Commercial Scenario						
Weekday Midday	5,869	7,915	462	8,377	143%	(2,508)
Weekday Overnight	4,764	3,611	0	3,611	76%	1,153

Maximum Residential Scenario-Office Option						
Weekday Midday	5,869	7,915	319	8,234	140%	(2,365)
Weekday Overnight	4,764	3,611	0	3,611	76%	1,153
Maximum Residential Scenario-Hotel Option						
Weekday Midday	5,869	7,915	39	7,955	136%	(2,086)
Weekday Overnight	4,764	3,611	78	3,689	77%	1,075

As indicated above, off-street parking levels would be expected to be above capacity during the weekday midday period for all scenarios of the proposed action in both 2017 and 2019. However, it is expected that the available off-street parking system would be able to accommodate the expected increase in overnight demand for all scenarios of the proposed action in both 2017 and 2019. According to the *CEQR Technical Manual*, for proposed actions within the Manhattan Business District (defined as the area south of 61st Street), the inability of the proposed action or the surrounding area to accommodate projected future parking demands would be considered a parking shortfall, but is not deemed to be a significant adverse impact. The unsatisfied demand for parking spaces during the midday peak utilization period would result in vehicles parking outside of the parking study area and motorists walking greater distances to their destinations. As parking shortfalls do not constitute significant adverse impacts for CEQR purposes, mitigation is not required.

TRAFFIC SAFETY

As discussed under Existing Conditions and indicated on Table 17-15, several intersections in the study area exceed the CEQR criteria of five or more pedestrian related accidents during any one year over the three year accident history period. The accident histories at the following intersections along each avenue indicated five or more combined pedestrian and bicycle related accidents over the three year accident history period:

- Tenth Avenue—The intersections of Tenth Avenue and West 26th Street and Tenth West 34th Street.
- Ninth Avenue—The intersections of Ninth Avenue and West 28th Street, West 29th Street, West 30th Street, West 34th Street and West 37th Street
- Eighth Avenue—The intersections of Eighth Avenue and West 26th Street, West 29th Street, West 30th Street, West 31st Street, West 33rd Street, West 34th Street, West 36th Street and West 37th Street
- Seventh Avenue—The intersections of Seventh Avenue and West 27th Street, West 29th Street, West 32nd Street, West 33rd Street, West 34th Street, West 35th Street, West 36th Street and West 37th Street.

Significant changes have occurred in the study area, primarily in 2008, which would have the effect of changing pedestrian and bicycle accident patterns in the study area in the future in comparison to the accident history over the 2006 to 2008 period. These changes include the installation of a Class 1 Bicycle Path (separated on-street path) on Ninth Avenue from south of the study area to West 31st Street and a Class 2 Bicycle Lane (on-street striped route) on Eighth Avenue. Also, with the implementation of the exclusive bus lanes on West 34th Street, certain turning movements were prohibited, such as the eastbound West 34th Street left turn at Eighth Avenue, which should reduce the number of vehicle/pedestrian conflicts at this high accident location and along the 34th Street corridor overall. In addition, the NYCDOT has initiated specific pedestrian safety programs in the study area, such as implementation of lead pedestrian

intervals and the Safe Streets for Seniors program which provides increased pedestrian clearance time at intersections where concentrations of senior citizens have been identified. Overall, the above measures should provide significant benefits to study area pedestrian and bicycle safety.

As indicated above, concentrations of pedestrian and bicycle accidents mostly occur in the eastern portion of the study area, east of Tenth Avenue, where significant existing volumes of pedestrians are present. The Proposed Actions would generate additional vehicle and pedestrian volumes in the study area, but mostly concentrated to the west in the area of the Development Site and adjacent to subway stations entrances/exits serving the project components. No high pedestrian/bicycle accident locations were indicated along Twelfth Avenue or Eleventh Avenue, which are adjacent to the Development Site. The Proposed Actions will generate pedestrian volumes along key pedestrian corridors leading to and from the Development Site and locations to the east, such as Penn Station. As discussed in Chapter 24, "Mitigation," proposed pedestrian mitigation measure would include bulb outs and crosswalk widening along West 33rd Street between Eighth and Eleventh Avenues. High visibility crosswalks and stop bars at intersections surrounding the Development Site would also be repainted to improve pedestrian safety at these intersections.

Between the DEIS and the FEIS, an examination will be made, as relevant data becomes available, of the effectiveness of NYCDOT improvements described above in reducing accidents. The measures that have been implemented by NYCDOT, in combination with the Proposed Actions' mitigation measures mentioned above, are anticipated to provide benefits to study area pedestrian and bicycle safety. Therefore, the Proposed Action would not reasonably be expected to significantly increase the number of accidents in the study area. ✷