Chapter 14: Transportation

A. INTRODUCTION

Following the guidance of the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, this chapter considers the potential transportation impacts from the proposed actions. As described in Chapter 1, "Project Description," the applicants, the New York City Department of City Planning (DCP) and SJC 33 Owner 2015 LLC, are proposing a series of discretionary actions (the proposed actions) that would facilitate the redevelopment of St. John's Terminal Building at 550 Washington Street (Block 596, Lot 1) (the development site) with a mix of residential and commercial uses, and public open space (the proposed project) in Manhattan Community District 2. In the future with the proposed actions (the With Action condition), the development site is assumed to be redeveloped into the North, Center, and South Sites with one of the two development programs: the proposed project or the proposed project with big box retail. The proposed project would consist of approximately 1,334,100 gross square feet (gsf) of residential use (1,586 dwelling units), 160,000 gsf of retail use, 229,700 gsf of hotel use (353 rooms), 41,400 gsf of event space, and 830 accessory parking spaces.[1] The proposed project with big box retail would include the same amount of residential, hotel, and event space uses; however, there would be more retail space with less parking, specifically 255,000 gsf of retail use (including approximately 104,800 gsf of big box retail) and 412 accessory parking spaces. In the future without the proposed project actions (the No Action condition), the development site would be developed with approximately 427,000 gsf of office use, 322,000 gsf of retail use, 285,000 gsf of hotel use (438 rooms), 50,000 gsf of event space, and 176 accessory parking spaces. **Table 14-1** provides a comparison of the future with and without the proposed actions.

As noted in Chapter 1, "Project Description," the South Site could contain either hotel or office use. The Environmental Impact Statement (EIS) analyses are generally based on hotel use as a more conservative assumption and the transportation analyses presented in this chapter assumed a 229,700 gsf hotel use. However, because of different travel patterns between the hotel and office uses, developing the South Site with office instead of a hotel could have the potential to result in additional significant adverse traffic impacts, which will be explored between the Draft EIS (DEIS) and Final EIS (FEIS) in coordination with the New York City Department of Transportation (NYCDOT).

This chapter examines the potential effects of the two proposed development programs on the study area transportation systems, and compares the With Action Condition to the No Action Condition in the 2024 analysis year to identify potential impacts, and, if warranted, determine feasible mitigation measures that would be appropriate to address those impacts (see Chapter 22, "Mitigation"). The

[1] Shortly before completion of the DEIS, the number of proposed parking spaces was reduced from 830 to 772. Because analyses based on the larger number of parking spaces are more "conservative" in terms of disclosing potential impacts, the DEIS analyses have not been updated to reflect the lower number. The FEIS analyses will be revised to reflect the actual, proposed number of parking spaces.

travel demand projections, trip assignments, and capacity analysis contained in this chapter were conducted pursuant to the methodologies outlined in the *CEQR Technical Manual*.

Table 14-1
Comparison of the Future With and Without the Proposed Actions

Components	Future without the proposed actions (No Action)	Future with the proposed actions (With Action)			
		Without Big Box Retail	Increment	With Big Box Retail	Increment
Residential					
GSF	0	1,334,100	1,334,100	1,334,100	1,334,100
Dwelling Unit	0	1,586	1,586	1,586	1,586
Office (GSF)	427,000	0	-427,000	0	-427,000
Retail (GSF)					
Destination	260,500	123,000	-137,500	113,200	-147,300
Big Box	0	0	0	104,800	104,800
Local	61,500	37,000	-24,500	37,000	-24,500
Total	322,000	160,000	-162,000	255,000	-67,000
Hotel					
GSF	285,000	229,700	-55,300	229,700	-55,300
Room*	438	353	-85	353	-85
Event Space					
GSF	50,000	41,400	-8,600	41,400	-8,600
Person	1,500	1,242	-258	1,242	-258
Accessory Parking (Space)	176	830	654	412	236

Notes: GSF = Gross Square Feet.
* Based on one room per 650 GSF (*606 West 57th Street FEIS. 2014*).
Source: SJC 33 Owner 2015 LLC and CookFox Architects, 2015.

PRINCIPAL CONCLUSIONS

The proposed actions would have the potential for significant adverse traffic impacts in both the proposed project and the proposed project with big box retail scenarios. All of the significant adverse traffic impacts identified under the proposed project—except for the intersection of West Houston Street at Varick Street during the weekday PM peak hour and the intersection of Canal Street at Hudson Street during the weekday PM peak hour—could be fully mitigated with standard mitigation measures. For the proposed project with big box retail, all of the significant adverse traffic impacts—except for the intersections of West Houston Street at Varick Street, West Houston Street at West Street, Canal Street at Hudson Street, Spring Street at West Street, and Spring Street at Washington Street—could be fully mitigated with standard mitigation measures.

The proposed actions would not result in significant adverse impacts to transit, pedestrians, or parking.

TRAFFIC

Traffic conditions were evaluated at 18 intersections for the weekday AM, midday, PM, and Saturday peak hours. In the 2024 With Action (the proposed project) condition, there would be the potential for significant adverse traffic impacts at seven intersections during the weekday AM peak hour, two intersections during the weekday midday peak hour, six intersections during the weekday PM peak hour, and four intersections during the Saturday peak hour. In the 2024 With Action (the proposed project with big box retail) condition there would be the potential for

significant adverse traffic impacts at five intersections during the weekday AM peak hour, six intersections during the weekday midday peak hour, nine intersections during the weekday PM peak hour, and five intersections during the Saturday peak hour.

Table 14-2 and Table 14-3 provide a summary of the impacted locations by lane group and analysis time period. Potential measures to mitigate the projected traffic impacts are described in Chapter 22, "Mitigation." As detailed in that chapter, all of the significant adverse traffic impacts identified under the proposed project—except for the intersection of West Houston Street at Varick Street during the weekday PM peak hour and the intersection of Canal Street at Hudson Street during the weekday PM peak hour—could be fully mitigated with standard mitigation measures, including signal timing changes and approach daylighting and restriping. For the proposed project with big box retail, all of the significant adverse traffic impacts—except for the intersections of West Houston Street at Varick Street, West Houston Street at West Street, Canal Street at Hudson Street, Spring Street at West Street, and Spring Street at Washington Street during one or more analysis peak hours—could be fully mitigated with standard mitigation measures, including signal timing changes and approach daylighting and restriping.

Table 14-2
Summary of Significant Adverse Traffic Impacts
Proposed Project

Intersection		Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
EB/WB Street	NB/SB Street				
Clarkson Street	Washington Street	SB-LT		SB-LT	
West Houston Street	Washington Street	SB-TR		SB-TR	SB-TR
West Houston Street	Varick Street			SB-TR (West Lanes)	
Clarkson Street	West Street	SB-L	SB-L	SB-L	SB-L
West Houston Street	West Street	EB-L	WB-R	WB-R	WB-R
Canal Street (North)	West Street	WB-L			
Canal Street	Hudson Street			NB-LT (West Lanes)	
Clarkson Street	Hudson Street	EB-LT			EB-LT
Clarkson Street	Varick Street	EB-TR			
Total Impacted Intersections/Lane Groups		**7/7**	**2/2**	**6/6**	**4/4**

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

Table 14-3
Summary of Significant Adverse Traffic Impacts
Proposed Project with Big Box Retail

Intersection		Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
EB/WB Street	NB/SB Street				
Clarkson Street	Washington Street	SB-LT		SB-LT	
West Houston Street	Washington Street	SB-TR	SB-TR	WB-LT SB-TR	SB-TR
West Houston Street	Varick Street			SB-TR (West Lanes)	
Clarkson Street	West Street		SB-L	SB-L	SB-L
West Houston Street	West Street	EB-L	WB-R	WB-R	WB-R
Canal Street (North)	West Street		WB-LR WB-R		WB-LR WB-R
Canal Street	Hudson Street		NB-LT (West Lanes)	NB-LT (West Lanes)	
Clarkson Street	Hudson Street	EB-LT	EB-LT	EB-LT	EB-LT
Clarkson Street	Varick Street	EB-TR			
Spring Street	West Street			WB-R	
Spring Street	Washington Street			SB-LTR	
Total Impacted Intersections/Lane Groups		**5/5**	**6/7**	**9/10**	**5/6**

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

In addition, as described in Chapter 2, "Analytical Framework," either proposed development program could be built all at once or may be phased, and development of the three development sites may take place in any order. Therefore, an "interim impact assessment" was conducted and presented in Chapter 22, "Mitigation," to determine the impacts that could occur prior to the 2024 full build-out and the mitigation measures that could be advanced to address these impacts.

TRANSIT

It was determined that under either proposed development program, the incremental subway trips would be dispersed among the area's multiple subway stations/lines such that no single subway station/line would exceed the *CEQR Technical Manual* analysis threshold of 200 or more peak hour subway trips per station. Therefore, a detailed analysis of subway facilities is not warranted and neither proposed development program is expected to result in any significant adverse subway impacts.

In addition, incremental bus trips would be fewer than 50 peak hour bus riders in a single direction. Therefore, based on *CEQR Technical Manual* guidelines a detailed analysis of buses is not warranted and neither proposed development program is expected to result in any significant adverse bus line-haul impacts.

PEDESTRIANS

Based on a detailed assignment of project-generated pedestrian trips and in consultation with NYCDOT, two sidewalks and one crosswalk were identified as warranting detailed analysis for the weekday AM, midday, and PM, and Saturday peak hours. The analysis results showed that neither development program would have the potential to result in any significant adverse pedestrian impacts.

VEHICULAR AND PEDESTRIAN SAFETY

Crash data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the time period between October 1, 2011 and September 30, 2014. During this period, a total of 151 reportable and non-reportable accidents, zero fatalities, 131 injuries, and 36 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies one high accident location in the 2011 to 2014 period at the intersection of Varick Street at West Houston Street. A summary of the identified high accident location, prevailing trends, project-specific effects, and recommended safety measures is provided in **Table 14-4**.

Table 14-4
Summary of High Accident Locations

High Accident Intersections	Prevailing Trends	Peak Hour Project-Specific Effects	Recommended Safety Measures
Seventh Avenue/Varick Street and West Houston Street	Failure to yield R.o.W.	Incremental trips: 58 vehicles and 54 peds	Restriping faded crosswalks

Source: NYSDOT crash data; October 1, 2011 to September 30, 2014.

PARKING

The proposed project would include 830 parking spaces on the development site. Accounting for the incremental parking supply and demand generated by the proposed project, the With Action

public parking utilization is expected to increase to a maximum of 85 percent during the weekday midday peak period. The proposed project with big box retail would include 412 parking spaces on the development site. Accounting for the incremental parking supply and demand generated by the proposed project with big box retail, the With Action public parking utilization is expected to increase to a maximum of 97 percent during the weekday midday peak period. Under both With Action scenarios, the parking utilization levels are within the area's parking capacity. Therefore, both development programs are not expected to result in the potential for parking shortfalls or significant adverse parking impacts.

SOUTH SITE OFFICE USE

As noted in Chapter 1, "Project Description," the South Site could contain either hotel or office use. The EIS analyses are generally based on hotel use as a more conservative assumption and the transportation analyses presented in this chapter assumed a 229,700-gsf hotel use. However, because of different travel patterns between the hotel and office uses, developing the South Site with office instead of a hotel could have the potential to result in additional significant adverse traffic impacts which will be explored between the DEIS and FEIS in coordination with NYCDOT.

If the South Site is developed with office use instead of hotel use, the proposed actions would not result in any significant adverse impacts with respect to subways, buses, and pedestrians.

B. PRELIMINARY ANALYSIS METHODOLOGY AND SCREENING ASSESSMENT

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

LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by each proposed development program during the weekday AM, midday, PM, and Saturday peak hours. These estimates were then compared to the *CEQR Technical Manual* thresholds to determine if a Level 2 screening and/or quantified operational analyses would be warranted.

TRANSPORTATION PLANNING ASSUMPTIONS

Trip generation factors for each proposed development program were developed based on information from the *CEQR Technical Manual*, 2013 *Hudson Square Rezoning FEIS*, U.S. Census Data, and other approved EASs and EISs. The travel demand assumptions and trip generation sources are summarized in **Table 14-5**.

Table 14-5
Travel Demand Assumptions

Use	Residential				Office				Destination Retail				Big Box Retail			
Total Daily Person Trip	(1) Weekday 8.075 Trips / DU			Saturday 9.600	(1) Weekday 18.0 Trips / KSF			Saturday 3.9	(1) Weekday 78.2 Trips / KSF			Saturday 92.5	(1) Weekday 78.2 Trips / KSF			Saturday 92.5
Trip Linkage	0%			0%	0%			0%	0%			0%	0%			0%
Net Daily Person trip	Weekday 8.075 Trips / DU			Saturday 9.600	Weekday 18.0 Trips / KSF			Saturday 3.9	Weekday 78.2 Trips / KSF			Saturday 92.5	Weekday 78.2 Trips / KSF			Saturday 92.5
	AM	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**
Temporal	(1)				(1)				(1)				(1)			
	10%	5%	11%	8%	12%	15%	14%	17%	3%	9%	9%	11%	3%	9%	9%	11%
Direction	(2)				(2)				(2)				(2)			
In	15%	50%	70%	50%	96%	48%	5%	57%	50%	55%	47%	52%	50%	55%	47%	52%
Out	85%	50%	30%	50%	4%	52%	95%	43%	50%	45%	53%	48%	50%	45%	53%	48%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(3)				(2)(4)				(2)				(2)(7)			
	AM	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**
Auto	8.0%	8.0%	8.0%	8.0%	13.0%	2.0%	13.0%	2.0%	9.0%	9.0%	9.0%	9.0%	35.0%	35.0%	35.0%	35.0%
Taxi	8.0%	8.0%	8.0%	8.0%	2.0%	3.0%	2.0%	3.0%	4.0%	4.0%	4.0%	4.0%	5.0%	5.0%	5.0%	5.0%
Subway	55.0%	55.0%	55.0%	55.0%	68.0%	6.0%	68.0%	6.0%	28.5%	20.0%	28.5%	20.0%	28.5%	20.0%	28.5%	20.0%
Railroad	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bus	1.0%	1.0%	1.0%	1.0%	10.0%	6.0%	10.0%	6.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Walk	28.0%	28.0%	28.0%	28.0%	7.0%	83.0%	7.0%	83.0%	50.5%	59.0%	50.5%	59.0%	23.5%	32.0%	23.5%	32.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(2)(3) Weekday/Saturday				(2)(4) Weekday/Saturday				(2) Weekday/Saturday				(8) Weekday/Saturday			
Auto	1.14				1.13				2.00				1.3/1.4			
Taxi	1.40				1.40				2.00				1.3/1.4			
Daily Delivery Trip Generation Rate	(1) Weekday 0.06 Delivery Trips / DU			Saturday 0.02	(1) Weekday 0.32 Delivery Trips / KSF			Saturday 0.01	(2) Weekday 0.35 Delivery Trips / KSF			Saturday 0.04	(2) Weekday 0.35 Delivery Trips / KSF			Saturday 0.04
	AM	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**
Delivery Temporal	(1)				(1)				(2)				(2)			
	12%	9%	2%	9%	10%	11%	2%	11%	8%	11%	2%	11%	8%	11%	2%	11%
Delivery Direction	(1)				(1)				(2)				(2)			
In	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Table 14-5 (cont'd)
Travel Demand Assumptions

Use	Local Retail				Hotel				Event Space			
Total Daily Person Trip	(1) Weekday 205.0 Trips / KSF			Saturday 240.0	(1) Weekday 9.4 Trips / Room			Saturday 9.4	(5) Weekday 2.68 Trips / Person			Saturday 2.68
Trip Linkage	25%			25%	0%			0%	0%			0%
Net Daily Person trip	Weekday 153.75 Trips / KSF			Saturday 180.0	Weekday 9.4 Trips / Room			Saturday 9.4	Weekday 2.68 Trips / Person			Saturday 2.68
	AM	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**
Temporal	(1)				(1)				(5)			
	3%	19%	10%	10%	8%	14%	13%	9%	0%	0%	32%	0%
Direction	(2)				(2)				(5)			
In	50%	50%	50%	50%	39%	54%	65%	56%	50%	50%	75%	50%
Out	50%	50%	50%	50%	61%	46%	35%	44%	50%	50%	25%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Modal Split	(2)				(2)				(6)			
	AM	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**
Auto	2.0%	2.0%	2.0%	2.0%	9.0%	8.0%	9.0%	9.0%	17.4%	17.4%	17.4%	17.4%
Taxi	3.0%	3.0%	3.0%	3.0%	18.0%	15.0%	18.0%	18.0%	6.4%	6.4%	6.4%	6.4%
Subway	6.0%	6.0%	6.0%	6.0%	24.0%	13.0%	24.0%	24.0%	20.0%	20.0%	20.0%	20.0%
Railroad	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Bus	6.0%	6.0%	6.0%	6.0%	3.0%	3.0%	3.0%	3.0%	8.4%	8.4%	8.4%	8.4%
Walk	83.0%	83.0%	83.0%	83.0%	46.0%	61.0%	46.0%	46.0%	47.8%	47.8%	47.8%	47.8%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(2) Weekday/Saturday				(2) Weekday/Saturday				(6) Weekday/Saturday			
Auto	1.65				1.40				2.20			
Taxi	1.40				1.80				2.30			
Daily Delivery Trip Generation Rate	(1) Weekday 0.35 Delivery Trips / KSF			Saturday 0.04	(2) Weekday 0.06 Delivery Trips / Room			Saturday 0.01	(5) Weekday 0.01 Delivery Trips / Person			Saturday 0.01
	AM	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**	**AM**	**MD**	**PM**	**Saturday**
Delivery Temporal	(1)				(2)				(5)			
	8%	11%	2%	11%	12.2%	8.7%	1.0%	9.0%	0.0%	6.0%	1.0%	0.0%
Delivery Direction	(1)				(2)				(5)			
In	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sources:
(1) 2014 *CEQR Technical Manual*
(2) *Hudson Square Rezoning FEIS* (2013)
(3) U.S. Census Bureau, ACS 2009-2013 Five-Year Estimates - Journey-to-Work (JTW) Data for Census Tracts 33, 37, 39, 47, 49, 67, and 69.
(4) U.S. Census Bureau, ACS 2006-2010 Five-Year Estimates. Special Tabulation: Census Transportation Planning – Reverse-Journey-to-Work (RJTW) Data for Census Tracts 33, 37, 39, 47, 49, 67, and 69.
(5) *Pier 57 Redevelopment FEIS* (2013) - PM assumed to be the same as Pier 57 Park Evening.
(6) *Hudson Square Rezoning FEIS* (2013). Modal split and vehicle occupancy assumed the same as Catering Hall use.
(7) Based on destination retail factors and adjusted for higher auto share based on the results of the East River Plaza travel demand survey conducted in 2010.
(8) Based on NYCDOT surveys.

Residential

The daily person trip rate and temporal distribution are from the *CEQR Technical Manual*. The directional distributions for all peak hours are from the 2013 *Hudson Square Rezoning FEIS.* The modal split is based on the Journey-to-Work (JTW) data for the 2009-2013 U.S. Census Bureau American Community Survey (ACS) for Manhattan census tracts 33, 37, 39, 47, 49, 67, and 69. The vehicle occupancies are from the 2009-2013 U.S. Census ACS for autos and from the 2013 *Hudson Square Rezoning FEIS* for taxis. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

Office

The daily person trip rate and temporal distribution are from the *CEQR Technical Manual*. The directional distributions for all peak hours are based on the 2013 *Hudson Square Rezoning FEIS*. The weekday AM and PM peak hour modal splits are based on the Reverse-Journey-to-Work (RJTW) data for the 2006-2010 U.S. Census Bureau ACS (Special Tabulation: Census Transportation Planning) for Manhattan census tracts 33, 37, 39, 47, 49, 67, and 69. The weekday midday and Saturday peak hour modal splits are based on the 2013 *Hudson Square Rezoning FEIS*. The vehicle occupancies are from the 2006-2010 U.S. Census ACS for autos and from the 2013 *Hudson Square Rezoning FEIS* for taxis. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

Destination Retail

The daily person trip rate and temporal distribution are from the *CEQR Technical Manual*. The directional distributions, modal split, and vehicle occupancies are from the 2013 *Hudson Square Rezoning FEIS*. The daily delivery trip rate and temporal and directional distributions are also from the 2013 *Hudson Square Rezoning FEIS*.

Big Box Retail

The travel demand assumptions for the big box retail are based on the destination retail use. The modal split was adjusted for a higher auto share based on the results of the East River Plaza travel demand survey conducted in 2010. And the vehicle occupancies are based on NYCDOT surveys.

Local Retail

The daily person trip rate and temporal distribution are from the *CEQR Technical Manual*. In keeping with accepted City practice, a 25-percent linked trip credit was applied to the local retail trip generation estimates. The directional distributions, modal split, and vehicle occupancies are from the 2013 *Hudson Square Rezoning FEIS*. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

Hotel

The daily person trip rate and temporal distribution are from the *CEQR Technical Manual*. The directional distributions, modal split, and vehicle occupancies are from the 2013 *Hudson Square Rezoning FEIS*. The daily delivery trip rate and temporal and directional distributions are also from the 2013 *Hudson Square Rezoning FEIS*.

Event Space

The daily person trip rate and temporal and directional distributions are from the 2013 *Pier 57 Redevelopment FEIS*. The modal split and vehicle occupancies are from the 2013 *Hudson Square Rezoning FEIS*. It was assumed that the event space's modal splits and vehicle occupancies would be the same as those for the catering hall use in the 2013 *Hudson Square Rezoning FEIS*. The daily delivery trip rate and temporal and directional distributions are from the 2013 *Pier 57 Redevelopment FEIS*.

TRAVEL DEMAND PROJECTION SUMMARY

As summarized in **Table 14-6**, in the future without the proposed project, the No Action development is estimated to generate 2,149, 5,361, 5,674, and 4,410 person trips during the

weekday AM, midday, PM, and Saturday peak hours, respectively. Approximately 282, 407, 590, and 344 vehicle trips would be generated during the same respective peak hours.

Table 14-6
Trip Generation Summary: No Action Development

Peak Hour	In/Out	Person Trip						Vehicle Trip			
		Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	In	158	57	729	126	393	1,463	127	47	14	188
	Out	54	53	169	43	367	686	33	47	14	94
	Total	212	110	898	169	760	2,149	160	94	28	282
Midday	In	145	131	329	177	1,990	2,772	85	109	15	209
	Out	125	118	289	164	1,893	2,589	74	109	15	198
	Total	270	249	618	341	3,883	5,361	159	218	30	407
PM	In	293	174	587	193	1,452	2,699	148	117	2	267
	Out	302	128	1,109	241	1,195	2,975	204	117	2	323
	Total	595	302	1,696	434	2,647	5,674	352	234	4	590
Saturday	In	157	114	369	159	1,501	2,300	86	89	1	176
	Out	143	101	333	147	1,386	2,110	78	89	1	168
	Total	300	215	702	306	2,887	4,410	164	178	2	344

As summarized in **Table 14-7,** in the future with the proposed project, the With Action development would generate 2,009, 3,053, 4,338, and 3,436 person trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. Approximately 334, 314, 503, and 379 vehicle trips would be generated during the same respective peak hours.

Table 14-7
Trip Generation Summary: Proposed Project

Peak Hour	In/Out	Person Trip						Vehicle Trip			
		Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	In	39	43	177	22	246	527	27	96	10	133
	Out	117	125	684	33	523	1,482	95	96	10	201
	Total	156	168	861	55	769	2,009	122	192	20	334
Midday	In	100	99	336	81	973	1,589	66	86	8	160
	Out	89	90	314	72	899	1,464	60	86	8	154
	Total	189	189	650	153	1,872	3,053	126	172	16	314
PM	In	286	205	902	135	1,228	2,756	173	121	1	295
	Out	141	105	469	85	782	1,582	86	121	1	208
	Total	427	310	1,371	220	2,010	4,338	259	242	2	503
Saturday	In	130	115	525	83	908	1,761	88	103	1	192
	Out	122	107	507	78	861	1,675	83	103	1	187
	Total	252	222	1,032	161	1,769	3,436	171	206	2	379

As summarized in **Table 14-8**, in the future with the proposed project with big box retail, the With Action development would generate 2,231, 3,722, 5,006, and 4,403 person trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. Approximately 416, 550, 739, and 695 vehicle trips would be generated during the same respective peak hours.

Table 14-8
Trip Generation Summary: Proposed Project with Big Box Retail

Peak Hour	In/Out	Person Trip						Vehicle Trip			
		Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	In	81	48	209	31	269	638	59	104	11	174
	Out	159	130	716	42	546	1,593	127	104	11	242
	Total	240	178	925	73	815	2,231	186	208	22	416
Midday	In	238	118	410	110	1,081	1,957	173	105	10	288
	Out	202	105	374	97	987	1,765	147	105	10	262
	Total	440	223	784	207	2,068	3,722	320	210	20	550
PM	In	404	221	992	160	1,293	3,070	264	142	1	407
	Out	275	124	569	113	855	1,936	189	142	1	332
	Total	679	345	1,561	273	2,148	5,006	453	284	2	739
Saturday	In	319	141	626	123	1,054	2,263	224	130	1	355
	Out	297	131	600	115	997	2,140	209	130	1	340
	Total	616	272	1,226	238	2,051	4,403	433	260	2	695

As summarized in **Table 14-1** above, each of the development programs would provide on-site parking—176 spaces under the No Action condition, 830 spaces under the proposed project, and 412 spaces under the proposed project with big box retail. These parking spaces would be used primarily for the development site's residents, employees, and visitors. But when there is excess capacity, the parking spaces would be available for use by the general public. To determine the potential trip-making associated with off-site generated trips resulting from an excess availability in on-site parking supply, parking demand estimates were developed for each of the three development programs. As presented in **Table 14-9**, excess parking capacity would be expected only under the proposed project.

Table 14-9
Development Program Parking Demand Summary

Hour	No Action		Proposed Project		Proposed Project with Big Box Retail	
	Weekday	Saturday	Weekday	Saturday	Weekday	Saturday
12 AM - 01 AM	28	28	552	552	552	552
01 AM - 02 AM	29	29	553	553	553	553
02 AM - 03 AM	29	29	553	553	553	553
03 AM - 04 AM	29	29	553	553	553	553
04 AM - 05 AM	29	29	553	553	553	553
05 AM - 06 AM	29	29	553	553	553	553
06 AM - 07 AM	29	29	553	548	553	548
07 AM - 08 AM	37	34	524	531	524	543
08 AM - 09 AM	131	44	456	513	456	547
09 AM - 10 AM	210	53	421	490	440	544
10 AM - 11 AM	213	75	402	468	445	551
11 AM - 12 PM	217	116	396	453	457	622
12 PM - 01 PM	228	126	402	421	483	604
01 PM - 02 PM	233	134	400	426	489	619
02 PM - 03 PM	230	134	396	437	476	639
03 PM - 04 PM	237	126	396	445	491	653
04 PM - 05 PM	225	117	444	457	530	658
05 PM - 06 PM	169	124	531	480	605	681
06 PM - 07 PM	118	147	539	526	598	705
07 PM - 08 PM	100	171	559	592	618	707
08 PM - 09 PM	43	123	525	594	574	651
09 PM - 10 PM	24	75	527	591	527	591
10 PM - 11 PM	26	25	540	549	540	549
11 PM - 12 AM	27	27	551	551	551	551
Parking Demand	**237**	**171**	**559**	**594**	**618**	**707**
Parking Supply	**176**		**830**		**412**	

Note: Parking demand estimates developed based on travel demand assumptions presented in **Table 14-5**.

Parking data on the adjacent 1,909-space Pier 40 parking facility were obtained from the Hudson River Park Trust to estimate the amount of additional traffic expected to be generated by the excess parking capacity forecasted for the proposed project. In addition, based on current development trends in the area, it is assumed that the forecasted excess parking capacity would attract other off-site residential parking demand to the proposed garage resulting in an additional overnight parking demand of approximately 239 vehicles. As shown in **Tables 14-10A and 14-10B**, the additional trip-making would amount to 102, 50, 91, and 75 vehicle trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively. Adding these vehicle trips to those summarized in **Table 14-7** would yield 436, 364, 594, and 454 vehicle trips during the same corresponding peak hours.

Table 14-10A
Proposed Project Parking Demand Analysis—Weekday

	Proposed Project [1]				Area Residential [2][3]				Transient Parkers [4][5]				Total			
Hour	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand
12 AM - 01 AM	8	7	15	552	4	4	8	239	5	8	13	-3	17	19	36	788
01 AM - 02 AM	4	3	7	553	2	2	4	239	2	4	6	-5	8	9	17	787
02 AM - 03 AM	2	2	4	553	1	1	2	239	0	2	2	-7	3	5	8	785
03 AM - 04 AM	2	2	4	553	1	1	2	239	1	1	2	-7	4	4	8	785
04 AM - 05 AM	2	2	4	553	1	1	2	239	6	0	6	-1	9	3	12	791
05 AM - 06 AM	2	2	4	553	1	1	2	239	5	1	6	3	8	4	12	795
06 AM - 07 AM	3	3	6	553	2	2	4	239	13	2	15	14	18	7	25	806
07 AM - 08 AM	6	35	41	524	2	18	20	223	34	4	38	44	42	57	99	791
08 AM - 09 AM	27	95	122	456	8	43	51	188	36	15	51	65	71	153	224	709
09 AM - 10 AM	21	56	77	421	7	26	33	169	42	12	54	95	70	94	164	685
10 AM - 11 AM	24	43	67	402	6	19	25	156	17	13	30	99	47	75	122	657
11 AM - 12 PM	33	39	72	396	9	13	22	152	13	11	24	101	55	63	118	649
12 PM - 01 PM	66	60	126	402	13	13	26	152	12	12	24	101	91	85	176	655
01 PM - 02 PM	63	65	128	400	12	12	24	152	12	14	26	99	87	91	178	651
02 PM - 03 PM	47	51	98	396	11	11	22	152	13	18	31	94	71	80	151	642
03 PM - 04 PM	50	50	100	396	14	13	27	153	14	20	34	88	78	83	161	637
04 PM - 05 PM	108	60	168	444	22	14	36	161	17	24	41	81	147	98	245	686
05 PM - 06 PM	173	86	259	531	39	17	56	183	15	20	35	76	227	123	350	790
06 PM - 07 PM	102	94	196	539	33	14	47	202	12	27	39	61	147	135	282	802
07 PM - 08 PM	92	72	164	559	29	12	41	219	10	19	29	52	131	103	234	830
08 PM - 09 PM	39	73	112	525	13	5	18	227	7	25	32	34	59	103	162	786
09 PM - 10 PM	27	25	52	527	10	4	14	233	6	27	33	13	43	56	99	773
10 PM - 11 PM	20	7	27	540	8	5	13	236	5	12	17	6	33	24	57	782
11 PM - 12 AM	17	6	23	551	7	4	11	239	5	11	16	0	29	21	50	790

Notes:
(1) Proposed project parking demand estimates developed based on travel demand assumptions presented in **Table 14-5**.
(2) Off-site residential generated parking demand estimates based on the proposed project residential travel demand assumptions and parking demand profiles.
(3) Average vehicle occupancy of 1.14 based on U.S. Census ACS 2009-2013 JTW statistics.
(4) Travel demand assumptions for the transient parkers were based on detailed 24 hour ins and outs profiles developed from the Hudson River Park Trust Pier 40 parking facility data.
(5) Average vehicle occupancy of 1.13 based on U.S. Census ACS 2006-2010 RJTW statistics.

Table 14-10B
Proposed Project Parking Demand Analysis—Saturday

Hour	Proposed Project [1]				Area Residential [2][3]				Transient Parkers [4][5]				Total			
	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand	In	Out	Total	Parking Demand
12 AM - 01 AM	4	3	7	552	1	1	2	239	4	7	11	-3	9	11	20	788
01 AM - 02 AM	4	3	7	553	1	1	2	239	2	8	10	-9	7	12	19	783
02 AM - 03 AM	0	0	0	553	0	0	0	239	1	6	7	-14	1	6	7	778
03 AM - 04 AM	0	0	0	553	0	0	0	239	1	2	3	-15	1	2	3	777
04 AM - 05 AM	0	0	0	553	0	0	0	239	1	1	2	-15	1	1	2	777
05 AM - 06 AM	5	5	10	553	3	3	6	239	0	0	0	-15	8	8	16	777
06 AM - 07 AM	3	8	11	548	1	4	5	236	1	2	3	-16	5	14	19	768
07 AM - 08 AM	12	29	41	531	5	14	19	227	2	6	8	-20	19	49	68	738
08 AM - 09 AM	22	40	62	513	6	18	24	215	5	10	15	-25	33	68	101	703
09 AM - 10 AM	25	48	73	490	7	22	29	200	5	15	20	-35	37	85	122	655
10 AM - 11 AM	36	58	94	468	9	27	36	182	5	15	20	-45	50	100	150	605
11 AM - 12 PM	62	77	139	453	10	29	39	163	16	17	33	-46	88	123	211	570
12 PM - 01 PM	54	86	140	421	10	31	41	142	21	12	33	-37	85	129	214	526
01 PM - 02 PM	88	83	171	426	24	24	48	142	15	12	27	-34	127	119	246	534
02 PM - 03 PM	79	68	147	437	25	18	43	149	10	11	21	-35	114	97	211	551
03 PM - 04 PM	79	71	150	445	25	17	42	157	10	9	19	-34	114	97	211	568
04 PM - 05 PM	70	58	128	457	25	17	42	165	15	14	29	-33	110	89	199	589
05 PM - 06 PM	89	66	155	480	25	17	42	173	17	32	49	-48	131	115	246	605
06 PM - 07 PM	118	72	190	526	27	15	42	185	19	15	34	-44	164	102	266	667
07 PM - 08 PM	146	80	226	592	31	10	41	206	18	8	26	-34	195	98	293	764
08 PM - 09 PM	85	83	168	594	27	9	36	224	20	9	29	-23	132	101	233	795
09 PM - 10 PM	61	64	125	591	22	7	29	239	22	4	26	-5	105	75	180	825
10 PM - 11 PM	20	62	82	549	9	9	18	239	14	5	19	4	43	76	119	792
11 PM - 12 AM	7	5	12	551	3	3	6	239	12	16	28	0	22	24	46	790

Notes:
(1) Proposed project parking demand estimates developed based on travel demand assumptions presented in **Table 14-5**.
(2) Off-site residential generated parking demand estimates based on the proposed project residential travel demand assumptions and parking demand profiles.
(3) Average vehicle occupancy of 1.14 based on U.S. Census ACS 2009-2013 JTW statistics.
(4) Travel demand assumptions for the transient parkers were based on detailed 24 hour ins and outs profiles developed from the Hudson River Park Trust Pier 40 parking facility data.
(5) Average vehicle occupancy of 1.13 based on U.S. Census ACS 2006-2010 RJTW statistics.

The net incremental trips generated in the future without and with the proposed actions under the proposed project and the proposed project with big box retail development scenarios are shown in **Tables 14-11 and 14-12**, respectively.

Table 14-11
Trip Generation Summary: Proposed Project Net Incremental Trips

Peak Hour	In/Out	Person Trip						Vehicle Trip			
		Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	In	-53	-14	-552	-104	-147	-870	-56	49	-4	-11
	Out	113	72	515	-10	156	846	120	49	-4	165
	Total	60	58	-37	-114	9	-24	64	98	-8	154
Midday	In	-16	-32	7	-96	-1,017	-1,154	6	-23	-7	-24
	Out	-7	-28	25	-92	-994	-1,096	11	-23	-7	-19
	Total	-23	-60	32	-188	-2,011	-2,250	17	-46	-14	-43
PM	In	35	31	315	-58	-224	99	79	4	-1	82
	Out	-100	-23	-640	-156	-413	-1,332	-81	4	-1	-78
	Total	-65	8	-325	-214	-637	-1,233	-2	8	-2	4
Saturday	In	14	1	156	-76	-593	-498	41	14	0	55
	Out	23	6	174	-69	-525	-391	41	14	0	55
	Total	37	7	330	-145	-1,118	-889	82	28	0	110

Table 14-12
Trip Generation Summary: Proposed Project with Big Box Retail Net Incremental Trips

Peak Hour	In/Out	Person Trip						Vehicle Trip			
		Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	In	-77	-9	-520	-95	-124	-825	-68	57	-3	-14
	Out	105	77	547	-1	179	907	94	57	-3	148
	Total	28	68	27	-96	55	82	26	114	-6	134
Midday	In	93	-13	81	-67	-909	-815	88	-4	-5	79
	Out	77	-13	85	-67	-906	-824	73	-4	-5	64
	Total	170	-26	166	-134	-1,815	-1,639	161	-8	-10	143
PM	In	111	47	405	-33	-159	371	116	25	-1	140
	Out	-27	-4	-540	-128	-340	-1,039	-15	25	-1	9
	Total	84	43	-135	-161	-499	-668	101	50	-2	149
Saturday	In	162	27	257	-36	-447	-37	138	41	0	179
	Out	154	30	267	-32	-389	30	131	41	0	172
	Total	316	57	524	-68	-836	-7	269	82	0	351

Traffic

As shown in **Table 14-11**, the net incremental trips generated by the proposed project would be 154, -43, 4, and 110 vehicle trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. For the proposed project with big box retail, the net incremental trips, as shown in **Table 14-12**, would be 134, 143, 149, and 351 vehicle trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. Since the incremental vehicle trips would be greater than 50 vehicles under both development programs, Level 2 screening assessments (presented in the section below) were conducted to determine if a quantified traffic analysis is warranted.

Transit

As shown in **Table 14-11**, the net incremental transit trips generated by the proposed project were projected to be -37, 32, -325, and 330 person trips by subway and -114, -188, -214, and -145 person trips by bus during the weekday AM, midday, PM, and Saturday peak hours, respectively. For the proposed project with big box retail, the net incremental transit trips, as shown in **Table 14-12**, would be 27, 166, -135, and 524 person trips by subway and -96, -134, -161, and -68 person trips by bus during the weekday AM, midday, PM, and Saturday peak hours, respectively. The incremental subway trips under both development scenarios would be below the *CEQR Technical Manual* analysis threshold of 200 transit trips during the weekday AM and PM peak hours. Similarly, the incremental bus trips under both development scenarios would be below the *CEQR Technical Manual* analysis threshold of 50 peak hour bus trips on a particular route in one direction. Therefore, based on *CEQR Technical Manual* guidelines a detailed analysis of buses is not warranted and the proposed project is not expected to result in any significant adverse bus line-haul impacts. However, an assignment of the projected subway trips, presented below, was undertaken to determine if the varying directionality of the projected subway trips and/or the varying distribution patterns associated with the No Action and With Action land uses would result in the need to prepare a detailed analysis of subway station elements and line-haul conditions.

Pedestrian

Other than the person trips by autos that are made directly to/from the on-site parking, all person trips generated by the proposed project and those generated by off-site generated uses would

traverse the pedestrian elements surrounding the project site. As shown in **Table 14-11**, the net incremental person trips generated by the proposed project would be -24, -2,250, -1,233, and -889 person trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. For the proposed project with big box retail, the net incremental person trips, as shown in **Table 14-12**, would be 82, -1,639, -668, and -7 person trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. The incremental person trips under both development scenarios would be below the *CEQR Technical Manual* analysis threshold of 200 peak hour person trips. However, an assignment of the projected pedestrian trips, presented below, was undertaken to determine if the varying directionality of the projected pedestrian trips and/or the varying distribution patterns associated with the No Action and With Action land uses would result in the need to prepare a detailed analysis of area sidewalks, corner reservoirs, and crosswalks.

LEVEL 2 SCREENING ASSESSMENT

A Level 2 screening assessment involves the distribution and assignment of projected trips to the transportation network and the determination of whether specific locations are expected to experience incremental trips exceeding *CEQR Technical Manual* thresholds. Typically, if the results of this analysis show that the proposed project would result in 50 or more peak hour vehicle trips through an intersection, 50 or more peak hour bus riders on a bus route in a single direction, 200 or more peak hour subway passengers per station, or 200 or more peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, pedestrian, and parking impacts. Based on consultation with NYCDOT and in consideration of congested conditions currently experienced in the area, numerous locations that are expected to incur fewer trips than these thresholds were also included in the analyses.

SITE ACCESS AND EGRESS

For the No Action development, entrances for all components of the development site would be distributed throughout the North, Center, and South Sites. The No Action development site's cellar-level parking spaces are assumed to provide internal connections to each site's components. Specifically, the North Site would have entrances to the cellar-level parking spaces and loading docks along West Street. The Center Site would have a loading dock entrance on the Washington Street frontage. A new through-block driveway would also be created at the Center Site with access from both West Street and Washington Street. The South Site would have an entrance to the cellar-level parking spaces along the southern edge of the building with access from a service alley connecting Washington Street to West Street. The No Action ground level site plan is shown in **Figure 14-1**.

Similarly, for the proposed actions, entrances for all components of the development site would be distributed throughout the North, Center, and South Sites. In addition, the development site's cellar-level parking spaces are assumed to provide internal connections to each site's components.

Under the proposed project, the North Site would have entrances to the cellar-level parking spaces and loading dock along West Street. The Center Site would have a loading dock entrance on the West Street frontage and an entrance to the cellar-level parking spaces from the new through-block driveway south of the Center Site buildings. The vehicular entrance to the Center Site parking garage would be located on this driveway, which would also provide access to a

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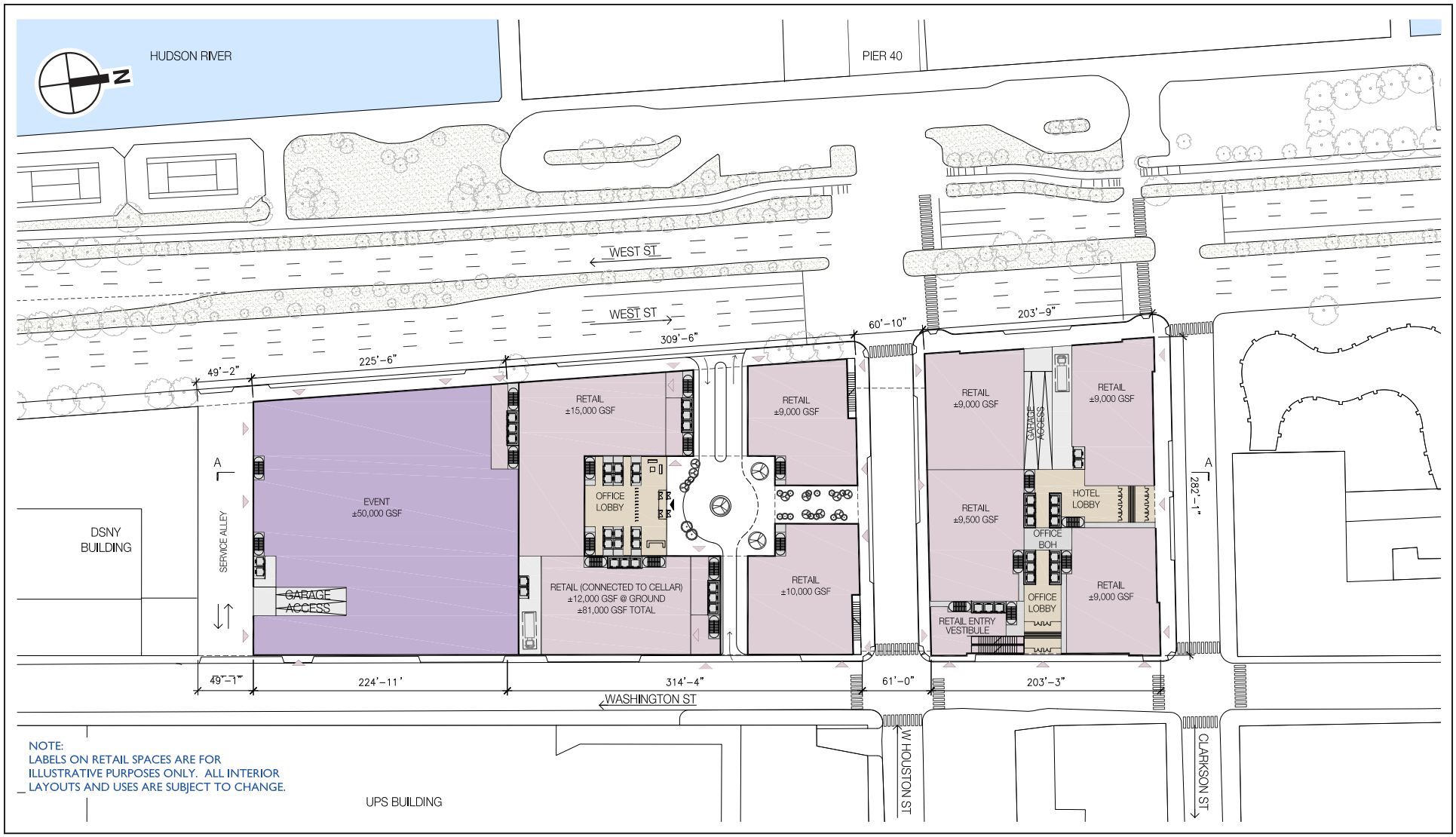

SOURCE: Cook Fox

550 WASHINGTON STREET

No Action Ground Floor Plan

Figure 14-1

vehicular drop-off area located in front of the South Site hotel or office building. The South Site is immediately south of the through-block driveway at the southern end of the Center Site and is the remainder of the development site. The South Site is expected to have an entrance to the cellar-level parking spaces along the West Street frontage. The service alley under the proposed project would be limited to deliveries and would generally not be available to other project-generated vehicles. The proposed project ground level site plan is shown in **Figure 14-2**.

Under the proposed project with big box retail, the North Site would have entrances to the cellar-level parking spaces and loading dock along West Street. The Center Site would have a loading dock entrance along the West Street and Washington Street frontages. The new through-block driveway would also be created separating the Center and South Sites. The South Site is expected to have an entrance to the cellar-level parking spaces along the West Street frontage. Similarly, the service alley under the proposed project with big box retail would be limited to deliveries and generally not be available to other project-generated vehicles. The proposed project with big box retail ground level site plan is shown in **Figure 14-3**.

Coordination has been undertaken with NYSDOT regarding the future access points and curb cuts along the western frontage of the development site.

CHANGES TO TRAFFIC CIRCULATION

The proposed actions would create a new through-block driveway between the Center Site and South Site which would extend from Washington Street to West Street. The new through-block driveway is anticipated to allow vehicles to enter and exit from either Washington Street or West Street and provide an internal layover area which could be used for vehicles to turn around and exit from the same street which they entered in.

TRAFFIC

As shown in **Tables 14-11 and 14-12**, incremental vehicle trips resulting from both proposed development programs would exceed the *CEQR* Level-1 screening threshold during the weekday AM and Saturday peak hours in the proposed project and during the weekday AM, midday, PM, and Saturday peak hours in the proposed project with big box retail. These vehicle trips were assigned to area intersections based on the most likely travel routes to and from the project site, prevailing travel patterns, commuter origin-destination (O-D) summaries from the census data, the configuration of the roadway network, and the anticipated locations of site access and egress. Auto trips were assigned to the proposed project's garages. Taxi trips were assigned to the block faces along West Houston Street, Washington Street, and West Street. All delivery trips were assigned to the project site via NYCDOT-designated truck routes. Traffic assignments for autos, taxis, and deliveries for individual components are discussed below.

Residential

Auto trips generated by the residential uses were assigned to the surrounding roadway network based on the 2006-2010 U.S. Census ACS JTW origin-destination estimates. Many of the residential trips would travel to work destinations within the local region of Manhattan (43 percent) with the remaining trips traveling to the Bronx (six percent), to Brooklyn (six percent) to Queens (three percent), to Staten Island (one percent), to Long Island (seven percent), to counties in Upstate New York (seven percent), to Connecticut (15 percent), and to New Jersey (12 percent). Residential trips would originate from parking spaces on the development site. Subsequently, vehicles would use the most direct routes via local streets to travel to reach their

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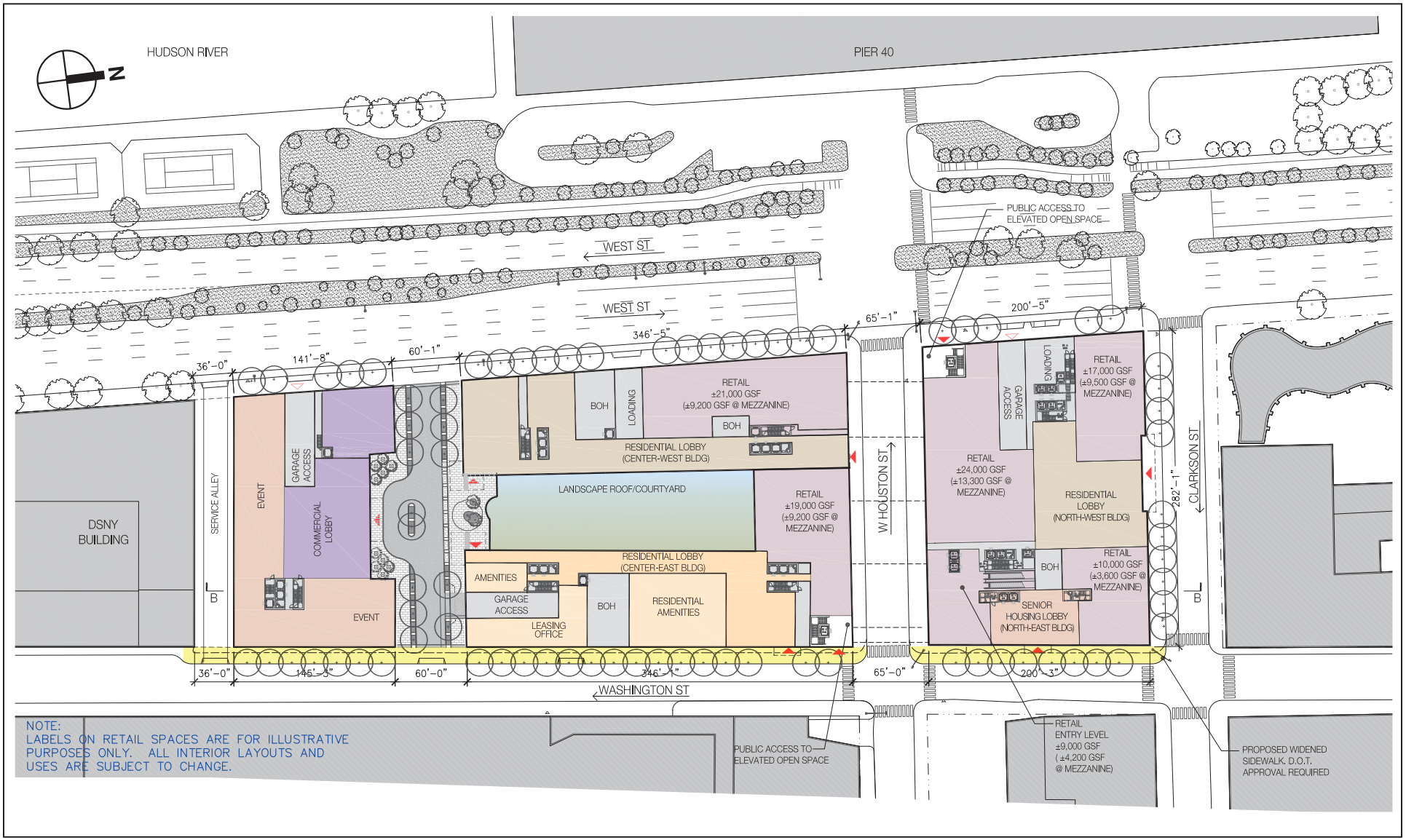
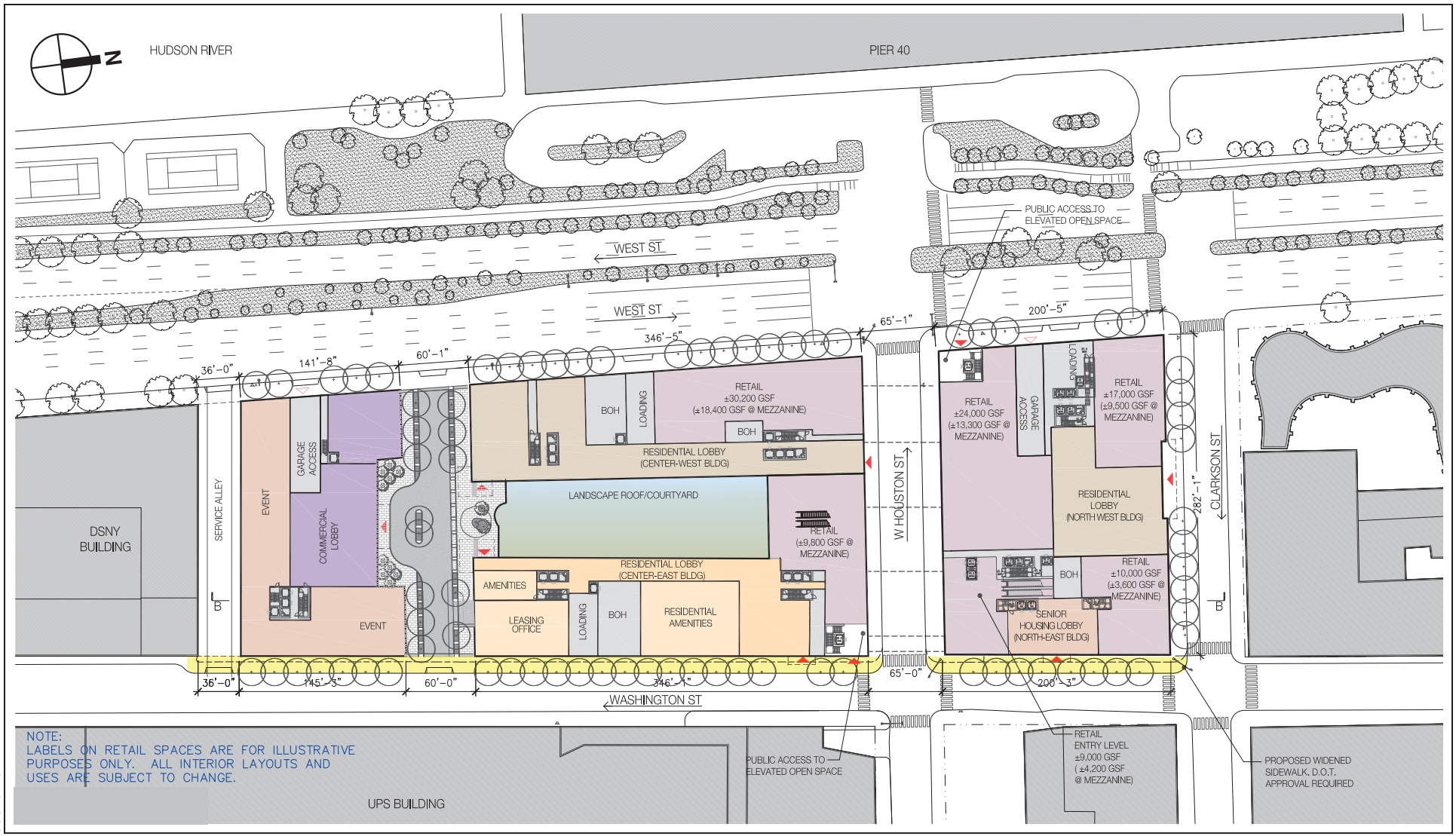


SOURCE: Cook Fox

Pedestrian Entrance
Vehicular Entrance
Street Trees
Widened Sidwalk

550 WASHINGTON STREET

Proposed Ground Floor Plan
Figure 14-2



SOURCE: Cook Fox

Pedestrian Entrance
Vehicular Entrance
Street Trees
Widened Sidwalk

550 WASHINGTON STREET

Proposed Ground Floor Plan:
Proposed Project with Big Box Retail
Figure 14-3

destinations. The majority of trips traveling north were assigned to West Street, with the remaining trips utilizing Greenwich Street and Hudson Street. Vehicles heading east are expected to use West Houston Street via Clarkson Street or crosstown streets north of the development site via West Street. Southbound trips were assigned to West Street and Varick Street.

Office

The assignments for auto trips generated by the office use were based on the 2006-2010 U.S. Census ACS RJTW origin-destination estimates. Many of the office trips would originate from New Jersey (25 percent) with the remaining trips traveling from the Bronx (six percent), from Brooklyn (14 percent), from Manhattan (seven percent), from Queens (16 percent), from Staten Island (four percent), from Long Island (14 percent), from counties in Upstate New York (12 percent), and from Connecticut (two percent). All of the office auto trips were assigned to parking spaces on the development site. The majority of trips from the Bronx were expected to reach the site via Harlem River crossings, and subsequently along the FDR Drive or West Side Highway. Trips from Brooklyn are expected to use East River crossings to enter Manhattan and will then approach the study area via the most direct routes available, primarily along West Street, Hudson Street, Avenue of Americas, and West Houston Street. Trips from Queens and Long Island were assigned to the Queensboro Bridge, Queens-Midtown Tunnel, and Williamsburg Bridge, and subsequently along area roadways. Trips traveling from Upstate New York and Connecticut were assigned the West Side Highway or the FDR Drive. Trips originating in New Jersey were assigned through the Holland Tunnel or Lincoln Tunnel to the West Side Highway. Most of the trips within Manhattan were assigned from points north of the development site and would approach the study area via the most direct routes available.

Destination Retail

The destination retail component is expected to draw patrons from within a three-mile radius of the development site; therefore, a majority of the auto trips are expected to come from within Manhattan with some trips expected to come from New Jersey. Overall, the vehicle trips generated by the destination retail component were distributed to the study area roadways in the following manner: approximately 60 percent of project-generated trips were assumed to approach the development site from the north, 25 percent from the south, 10 percent from the east, and 5 percent from the west. Departing trips were assigned along the same routes as arrivals.

Big Box Retail

The big box retail component is expected to have travel patterns similar to the destination retail component, with trips originating mostly from within Manhattan residential areas, and some from neighboring boroughs within New York City and outside of New York City.

Local Retail

The local retail uses are expected to serve patrons from the immediate area. Therefore, auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas. Overall, the vehicle trips generated by the local retail component were distributed to the study area roadway network in the following manner: approximately 35 percent assigned to points north of the development site, 35 percent to points south, and 30 percent to points east. Trips were assigned to various roadways leading to the development site including West Street,

Washington Street, Varick Street, West Houston Street, Hudson Street, and Avenue of the Americas.

Hotel

Hotel auto trip assignments were split between the area's three major airports: John F. Kennedy (JFK), LaGuardia, and Newark Liberty International. Trips to JFK and LaGuardia Airports were split between the east river crossings—Queensboro Bridge and Queens-Midtown Tunnel; whereas the trips to Newark Liberty International Airport were assigned to the Holland Tunnel and Lincoln Tunnel. Overall, the vehicle trips generated by the hotel component were distributed to the study area roadways in the following manner: approximately 25 percent of project-generated trips were assumed to approach the development site from the north, 45 percent from the south, and 30 percent from the east.

Event Space

The event space is expected to have travel patterns similar to the destination retail component, with trips originating mostly from within Manhattan residential areas, and some from neighboring boroughs within New York City and outside of New York City.

Taxis

Taxi pick-ups and drop offs for all project components were assigned to the various block faces of the development site along West Houston Street, Washington Street and West Street.

Deliveries

Truck delivery trips for all land uses were assigned to NYCDOT-designated truck routes as long as possible until reaching the area surrounding the development site. These trips were then distributed to the development site's truck loading docks and service alley.

Summary

Figures 14-4 through 14-7 show the No Action project-generated vehicle trips for the weekday AM, midday, PM, and Saturday peak hours. **Figures 14-8 through 14-11** show the proposed project's project-generated vehicle trips for the weekday AM, midday, PM, and Saturday peak hours. **Figures 14-12 through 14-15** show the net incremental vehicle trips for the proposed project for the weekday AM, midday, PM, and Saturday peak hours. **Figures 14-16 through 14-19** show the proposed project with big box retail project-generated vehicle trips for the weekday AM, midday, PM, and Saturday peak hours. And **Figures 14-20 through 14-23** show the net incremental vehicle trips for the proposed project with big box retail for the weekday AM, midday, PM, and Saturday peak hours. **Tables 14-13 and 14-14** summarize the net incremental vehicle trips generated by the proposed project and the proposed project with big box retail, respectively. According to the *CEQR Technical Manual*, intersections expected to incur 50 or more incremental peak hour vehicle trips as a result of a proposed action would have the potential for significant adverse traffic impacts and should be assessed in a quantified traffic impact analysis. As presented in **Figure 14-24** and **Tables 14-13 and 14-14**, 18 intersections, comprising the study area, have been selected for analysis for both the proposed project and proposed project with big box retail. These intersections include those expected to incur 50 or more project-generated vehicle trips during the weekday AM, midday, PM, and/or Saturday peak hours, as well as several other intersections selected for analysis per consultation with NYCDOT.

5/3/2016

Development Site

0 400 FEET

No Action Project Generated Vehicle Trips
Weekday AM Peak Hour
Figure 14-4

5/3/2016

Development Site

0 400 FEET

No Action Project Generated Vehicle Trips
Weekday Midday Peak Hour

5/3/2016

Development Site

0 400 FEET

No Action Project Generated Vehicle Trips
Weekday PM Peak Hour

Figure 14-6

5/3/2016

Development Site

0 400 FEET

No Action Project Generated Vehicle Trips
Saturday Peak Hour
Figure 14-7

5/3/2016

Development Site

0 400 FEET

Proposed Project Generated Vehicle Trips
Weekday AM Peak Hour
Figure 14-8

5/3/2016

Development Site

0 400 FEET

Proposed Project Generated Vehicle Trips
Weekday Midday Peak Hour
Figure 14-9

5/3/2016

Development Site

0 400 FEET

Proposed Project Generated Vehicle Trips
Weekday PM Peak Hour
Figure 14-10

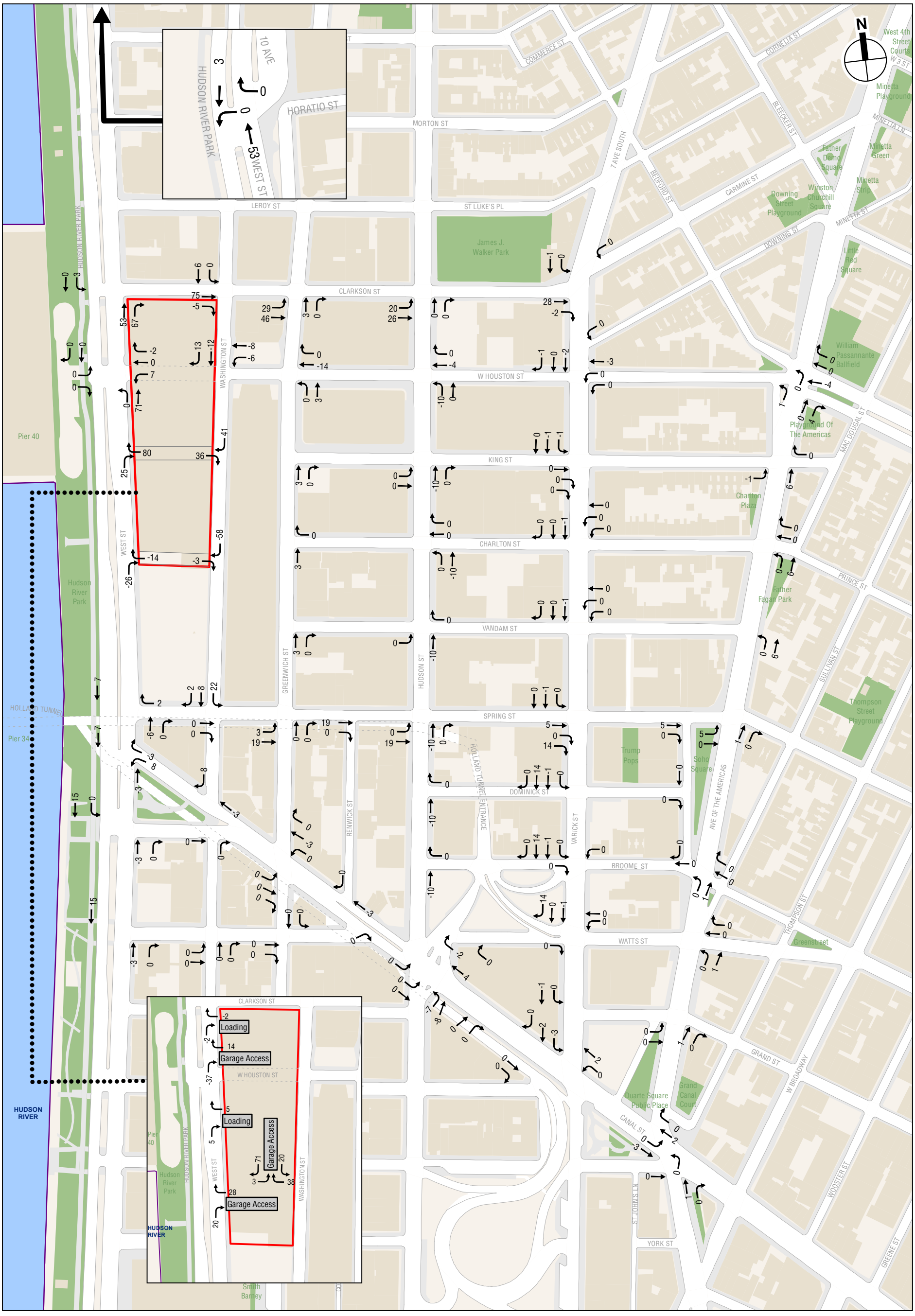
5/3/2016

Development Site

0 400 FEET

Proposed Project Generated Vehicle Trips
Saturday Peak Hour
Figure 14-11

5/3/2016



Development Site

0 400 FEET

Proposed Project Incremental Vehicle Trips
Weekday AM Peak Hour
Figure 14-12

5/3/2016



Development Site

0 400 FEET

Proposed Project Incremental Vehicle Trips
Weekday Midday Peak Hour

Figure 14-13

5/3/2016



Development Site

0 400 FEET

Proposed Project Incremental Vehicle Trips
Weekday PM Peak Hour
Figure 14-14

5/3/2016



Proposed Project Incremental Vehicle Trips
Saturday Peak Hour
Figure 14-15

5/3/2016

Development Site

0 400 FEET

Proposed Project With Big Box Retail Project Generated Vehicle Trips
Weekday AM Peak Hour

Figure 14-16

5/3/2016

Development Site

0 400 FEET

Proposed Project With Big Box Retail Project Generated Vehicle Trips
Weekday Midday Peak Hour

Figure 14-17

5/3/2016



Development Site

0 400 FEET

Proposed Project With Big Box Retail Project Generated Vehicle Trips
Weekday PM Peak Hour
Figure 14-18

5/3/2016



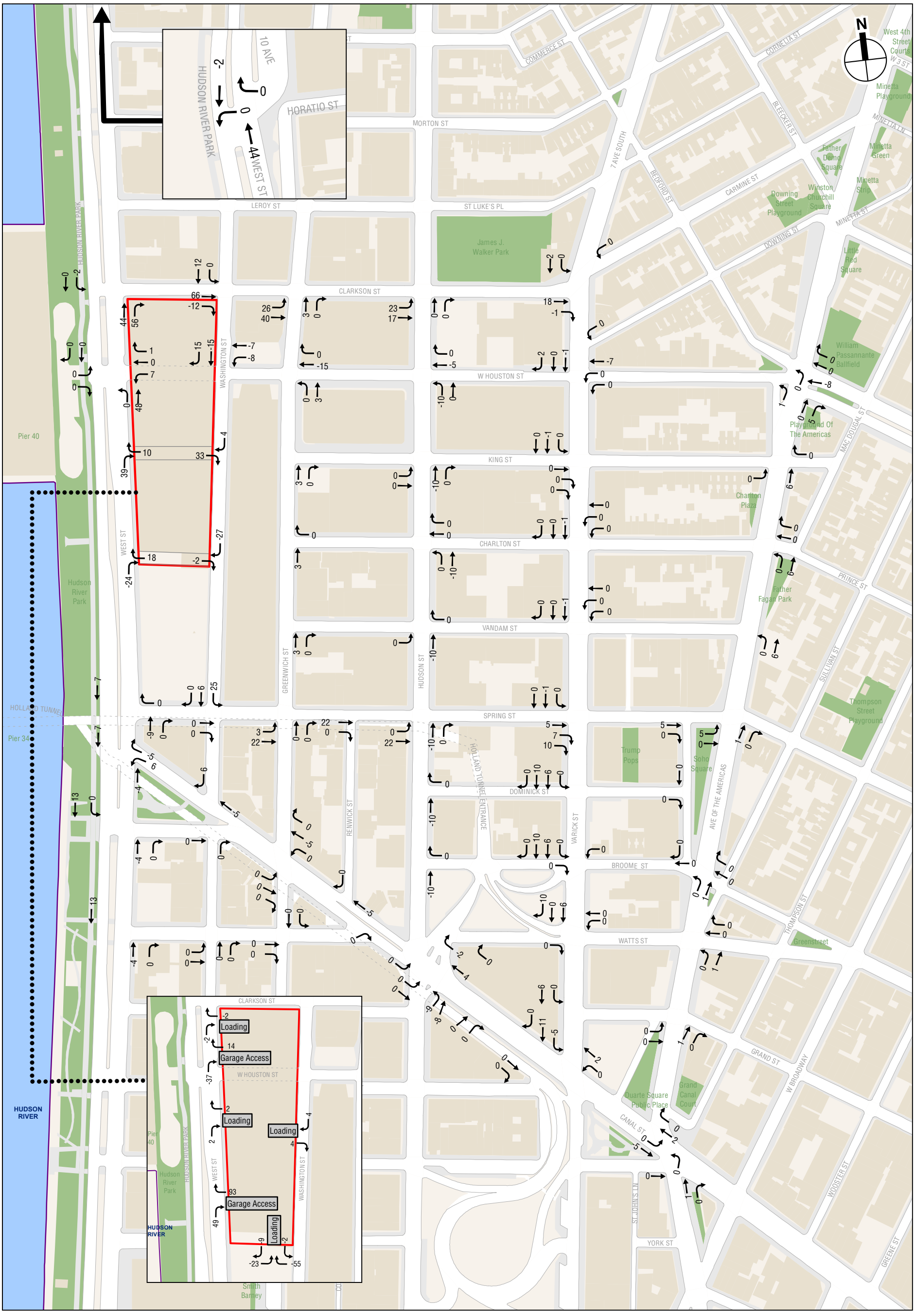
Development Site

0 400 FEET

Proposed Project With Big Box Retail Project Generated Vehicle Trips
Saturday Peak Hour

Figure 14-19

5/3/2016

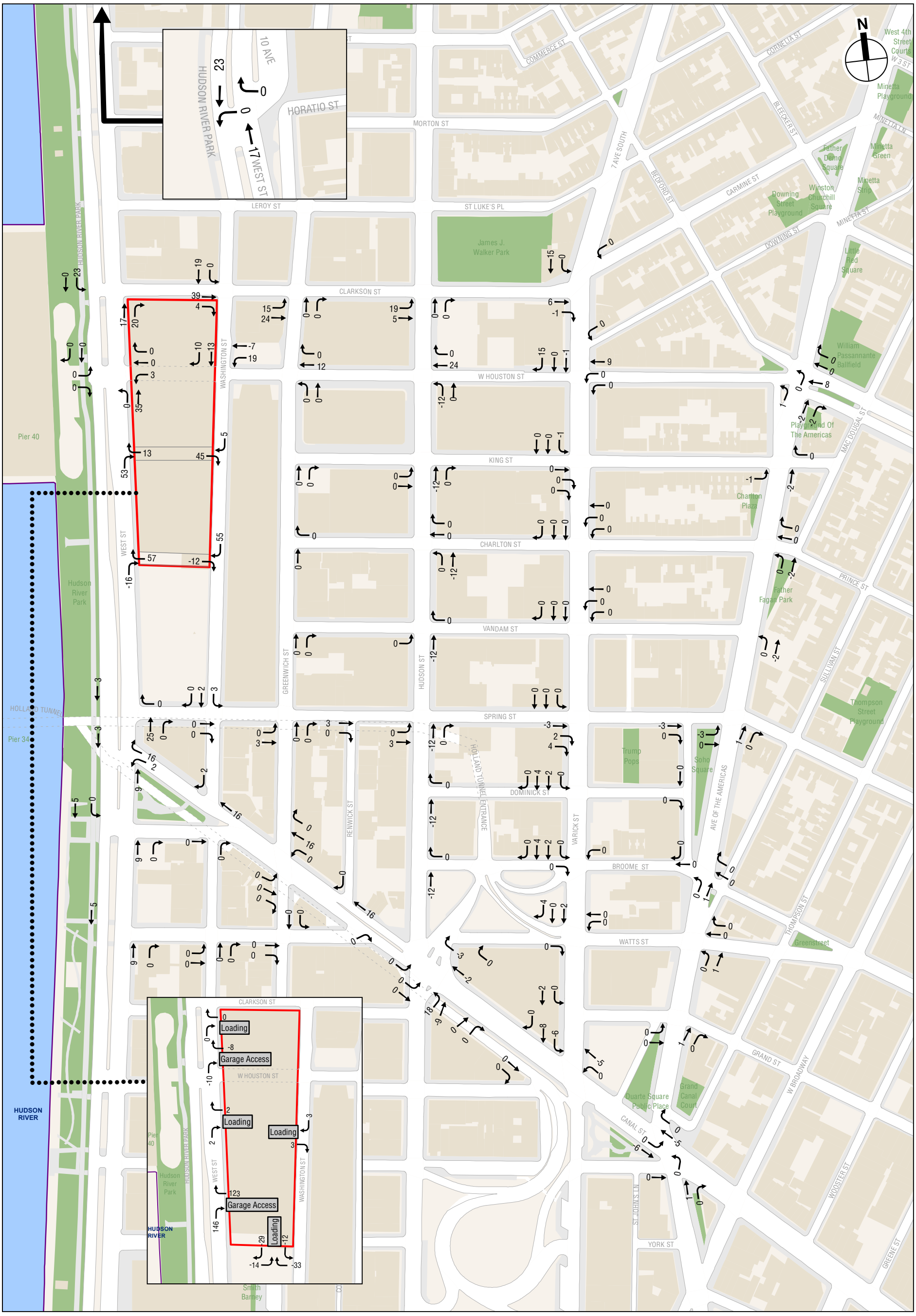


Development Site

0 400 FEET

Proposed Project With Big Box Retail Incremental Vehicle Trips
Weekday AM Peak Hour
Figure 14-20

5/3/2016



Development Site

0 400 FEET

Proposed Project With Big Box Retail Incremental Vehicle Trips
Weekday Midday Peak Hour

Figure 14-21

5/3/2016

Development Site

0 400 FEET

Proposed Project With Big Box Retail Incremental Vehicle Trips
Weekday PM Peak Hour
Figure 14-22

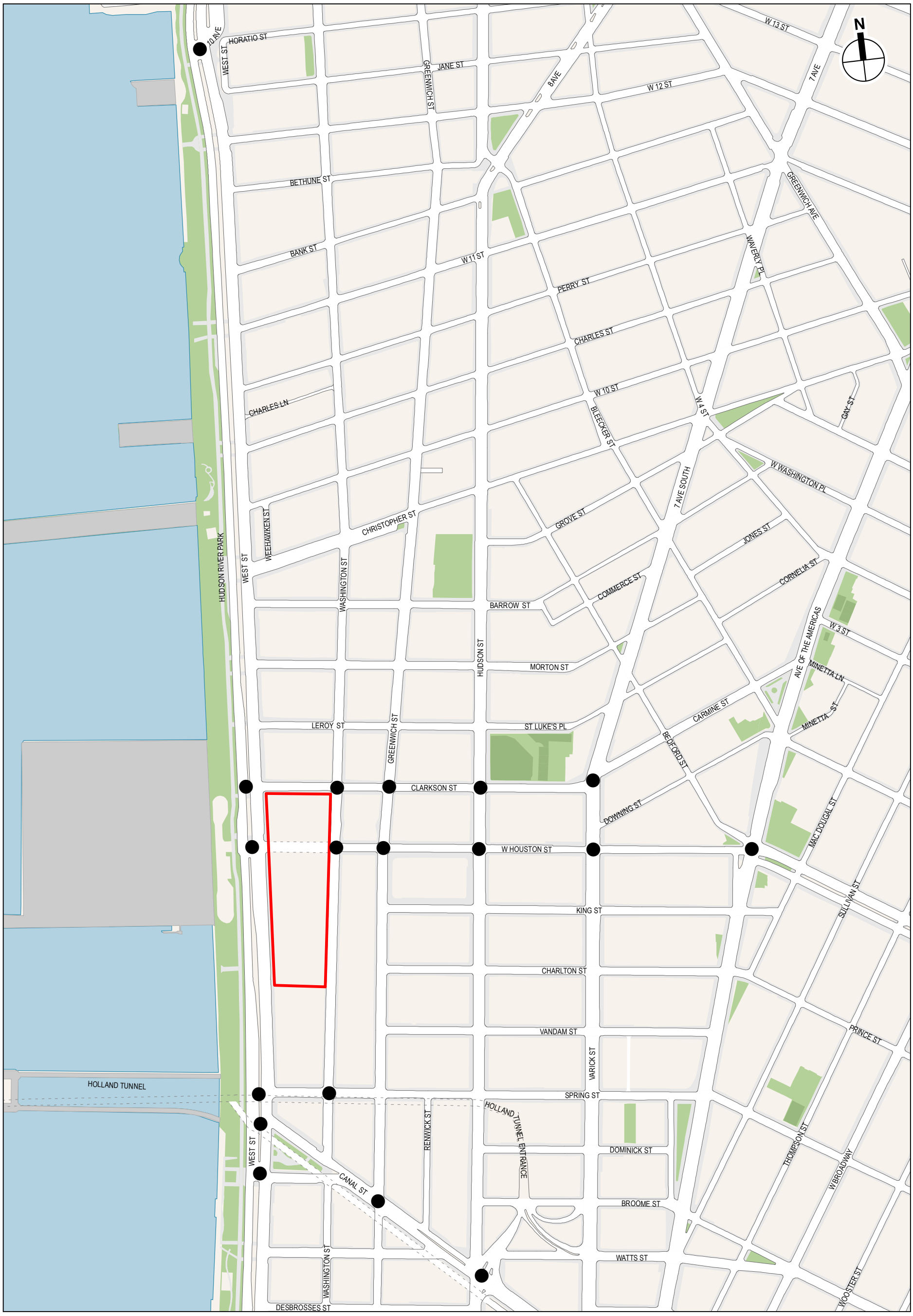
5/3/2016

Development Site

0 400 FEET

Proposed Project With Big Box Retail Incremental Vehicle Trips
Saturday Peak Hour
Figure 14-23

5/3/2016



Development Site

Traffic Analysis Location

0 500 FEET

550 WASHINGTON STREET

Traffic Analysis Locations
Figure 14-24

Table 14-13
Traffic Level 2 Screening Analysis Results—Selected Analysis Locations
Proposed Project

Intersection	Weekday			Saturday	Selected Analysis Locations
	AM	Midday	PM		
West Street and Clarkson Street	**123**	-15	-36	**62**	✓
West Street and West Houston Street	**76**	-23	-34	33	✓
West Street and Spring Street	3	-2	**59**	12	✓
West Street and Canal Street (North)	9	-10	-1	9	✓
West Street and Canal Street (South)	12	-5	-6	6	✓
Washington Street and Clarkson Street	**76**	-23	-11	45	✓
Washington Street and West Houston Street	-13	-39	39	35	✓
Washington Street and Spring Street	32	-14	14	9	✓
Washington Street and Canal Street	5	-8	-4	5	
Greenwich Street and Clarkson Street	**78**	-3	-23	28	✓
Greenwich Street and West Houston Street	-11	-19	27	18	✓
Greenwich Street and King Street	3	0	3	3	
Greenwich Street and Charlton Street	3	0	3	3	
Greenwich Street and Vandam Street	3	0	3	3	
Greenwich Street and Spring Street	22	-16	-28	2	
Greenwich Street and Canal Street	-3	-5	5	3	✓
Hudson Street and Clarkson Street	46	0	-18	18	✓
Hudson Street and West Houston Street	-14	-19	24	15	✓
Hudson Street and Canal Street	-13	-17	-3	-3	✓
Varick Street and Clarkson Street/Carmine Street	25	-7	-4	20	✓
Varick Street and West Houston Street	-6	-9	31	22	✓
Sixth Avenue and West Houston Street	1	-5	24	15	✓
Tenth Avenue and West Street	**56**	9	23	**52**	✓

Note: ✓ denotes intersections selected for the detailed traffic analysis.

Table 14-14
Traffic Level 2 Screening Analysis Results—Selected Analysis Locations
Proposed Project with Big Box Retail

Intersection	Weekday			Saturday	Selected Analysis Locations
	AM	Midday	PM		
West Street and Clarkson Street	**98**	**60**	32	**166**	✓
West Street and West Houston Street	**56**	38	31	**122**	✓
West Street and Spring Street	30	**126**	**186**	**180**	✓
West Street and Canal Street (North)	4	30	28	**60**	✓
West Street and Canal Street (South)	9	14	7	31	✓
Washington Street and Clarkson Street	**66**	**62**	**58**	**158**	✓
Washington Street and West Houston Street	-15	35	**78**	**124**	✓
Washington Street and Spring Street	**63**	**103**	**141**	**165**	✓
Washington Street and Canal Street	1	18	17	38	
Greenwich Street and Clarkson Street	**69**	39	23	**88**	✓
Greenwich Street and West Houston Street	-12	12	43	**54**	✓
Greenwich Street and King Street	3	0	3	3	
Greenwich Street and Charlton Street	3	0	3	3	
Greenwich Street and Vandam Street	3	0	3	3	
Greenwich Street and Spring Street	25	3	-9	27	
Greenwich Street and Canal Street	-5	16	21	29	✓
Hudson Street and Clarkson Street	40	24	7	**52**	✓
Hudson Street and West Houston Street	-15	12	40	**51**	✓
Hudson Street and Canal Street	-15	4	13	23	✓
Varick Street and Clarkson Street/Carmine Street	19	20	19	**55**	✓
Varick Street and West Houston Street	-6	23	47	**58**	✓
Sixth Avenue and West Houston Street	-2	5	23	23	✓
Tenth Avenue and West Street	42	40	43	**92**	✓

Note: ✓ denotes intersections selected for the detailed traffic analysis.

TRANSIT

As described above, incremental bus trips would be fewer than 50 peak hour bus riders in a single direction. Therefore, based on *CEQR Technical Manual* guidelines a detailed analysis of buses is not warranted and neither proposed development program is expected to result in any significant adverse bus line-haul impacts. An assignment of the projected subway trips was undertaken to determine if the varying directionality of the projected subway trips and/or the varying distribution patterns associated with the No Action and With Action land uses would result in the need to prepare a detailed analysis of subway station elements and line-haul conditions. As shown in **Figure 14-25**, the development site is served by multiple subway stations/lines, including the Houston Street Station (No. 1 train), the Spring Street Station (C and E trains), and the West 4th Street Station (A, B, C, and D trains). Under either proposed development program, with the incremental subway trips dispersed among these subway stations/lines, no single subway station/line, as summarized in **Tables 14-15 and 14-16**, would incur project-generated trips during the critical weekday AM and PM transit peak hours that exceed the *CEQR Technical Manual* analysis threshold of 200 or more peak hour subway trips per station. Therefore, a detailed analysis of subway facilities is not warranted and the proposed actions are not expected to result in any significant adverse subway impacts.

Table 14-15
Transit Level 2 Screening Analysis Results
Proposed Project

Transit Elements	In/Out (to/from site)	Incremental Trips - Weekday	
		AM	PM
Houston Street Subway Station (1)	In - Via North Side of West Houston Street	-172	98
	In - Via South Side of West Houston Street	-49	28
	Out - Via North Side of West Houston Street	161	-200
	Out - Via South Side of West Houston Street	45	-56
	Total - North Side of West Houston Street	**-11**	**-102**
	Total - South Side of West Houston Street	**-4**	**-28**
Spring Street Subway Station (C,E)	In - Via North Side of Spring Street	-193	110
	Out - Via North Side of Spring Street	180	-224
	Total - North Side of Spring Street	**-13**	**-114**
West 4th Street Subway Station (A,B,C,D)	In - Via North Side of Clarkson Street	-108	61
	In - Via South Side of Clarkson Street	-30	17
	Out - Via North Side of Clarkson Street	100	-125
	Out - Via South Side of Clarkson Street	28	-35
	Total - North Side of Clarkson Street	**-8**	**-64**
	Total - South Side of Clarkson Street	**-2**	**-18**



550 WASHINGTON STREET

Study Area Transit Map
Figure 14-25

Table 14-16
Transit Level 2 Screening Analysis Results
Proposed Project with Big Box Retail

Transit Elements	In/Out (to/from site)	Incremental Trips - Weekday	
		AM	PM
Houston Street Subway Station (1)	In - Via North Side of West Houston Street	-162	126
	In - Via South Side of West Houston Street	-46	36
	Out - Via North Side of West Houston Street	171	-168
	Out - Via South Side of West Houston Street	48	-48
	Total - North Side of West Houston Street	**9**	**-42**
	Total - South Side of West Houston Street	**2**	**-12**
Spring Street Subway Station (C,E)	In - Via North Side of Spring Street	-182	142
	Out - Via North Side of Spring Street	191	-189
	Total - North Side of Spring Street	**9**	**-47**
West 4th Street Subway Station (A,B,C,D)	In - Via North Side of Clarkson Street	-101	79
	In - Via South Side of Clarkson Street	-29	22
	Out - Via North Side of Clarkson Street	107	-105
	Out - Via South Side of Clarkson Street	30	-30
	Total - North Side of Clarkson Street	**6**	**-26**
	Total - South Side of Clarkson Street	**1**	**-8**

PEDESTRIANS

As shown in **Tables 14-11 and 14-12**, the projected peak hour incremental pedestrian trips would not exceed the *CEQR* analysis threshold of 200 pedestrians during any peak hour. However, an assignment of the projected pedestrian trips was undertaken to determine if the varying directionality of the projected pedestrian trips and/or the varying distribution patterns associated with the No Action and With Action land uses would result in the need to prepare a detailed analysis of area sidewalks, corner reservoirs, and crosswalks. Level 2 pedestrian trip assignments were individually developed for all the proposed project components. **Figures 14-26 through 14-29** show the No Action project-generated pedestrian trips for the weekday AM, midday, PM, and Saturday peak hours. **Figures 14-30 through 14-33** show the proposed project's project-generated pedestrian trips for the weekday AM, midday, PM, and Saturday peak hours. **Figures 14-34 through 14-37** show the net incremental pedestrian trips for the proposed project for the weekday AM, midday, PM, and Saturday peak hours. **Figures 14-38 through 14-41** show the proposed project with big box retail project-generated pedestrian trips for the weekday AM, midday, PM, and Saturday peak hours. And **Figures 14-42 through 14-45** show the net incremental pedestrian trips for the proposed project with big box retail for the weekday AM, midday, PM, and Saturday peak hours. Pedestrian assignments for the various travel modes are discussed below.

5/3/2016

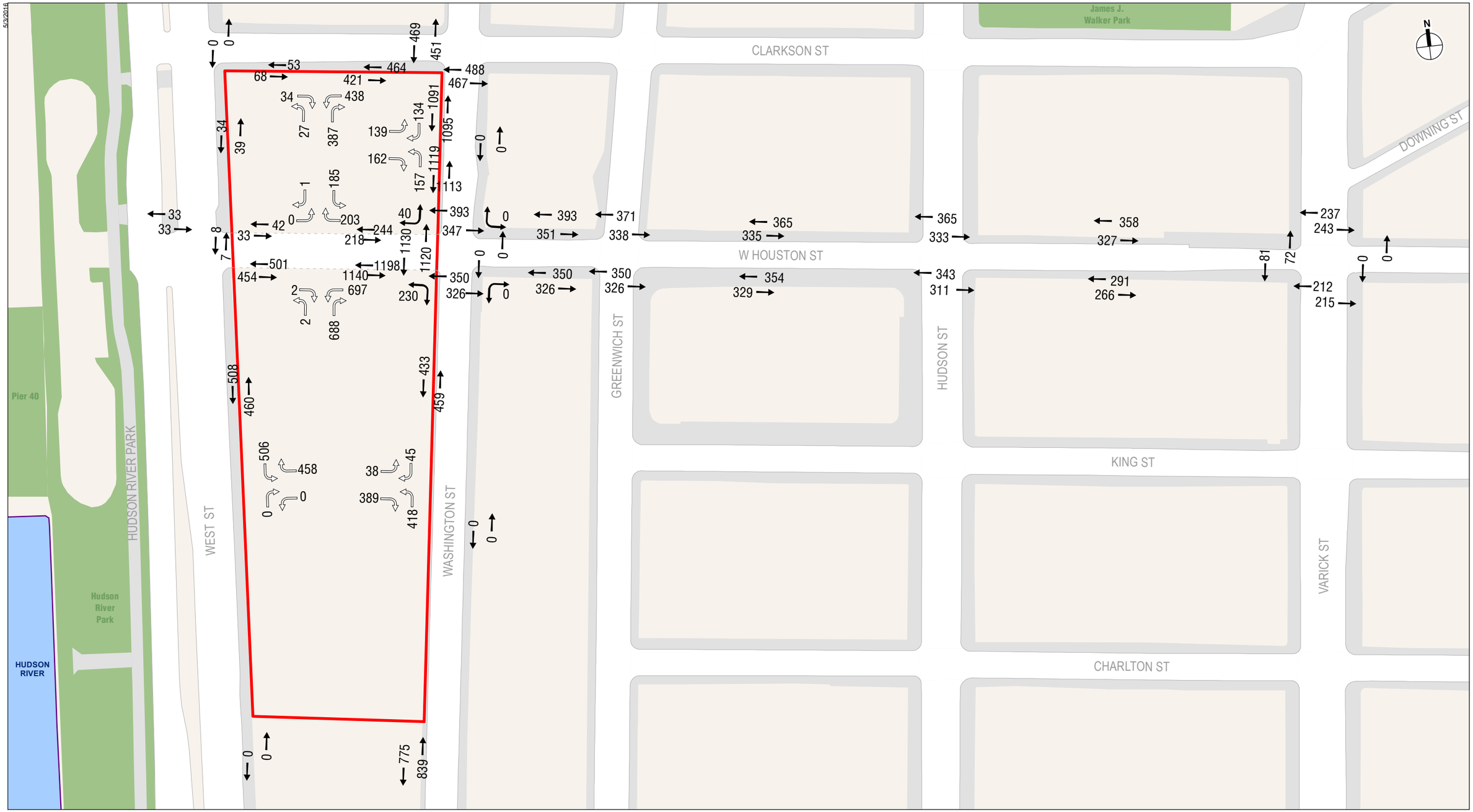


Development Site

Total Entrance In and Out Trips Along This Frontage

No Action Project Generated Pedestrian Trips
Weekday AM Peak Hour
Figure 14-26

5/3/2016



Development Site

Total Entrance In and Out Trips Along This Frontage

No Action Project Generated Pedestrian Trips
Weekday Midday Peak Hour
Figure 14-27

5/3/2016



Development Site

Total Entrance In and Out Trips Along This Frontage

No Action Project Generated Pedestrian Trips
Weekday PM Peak Hour
Figure 14-28

5/3/2016

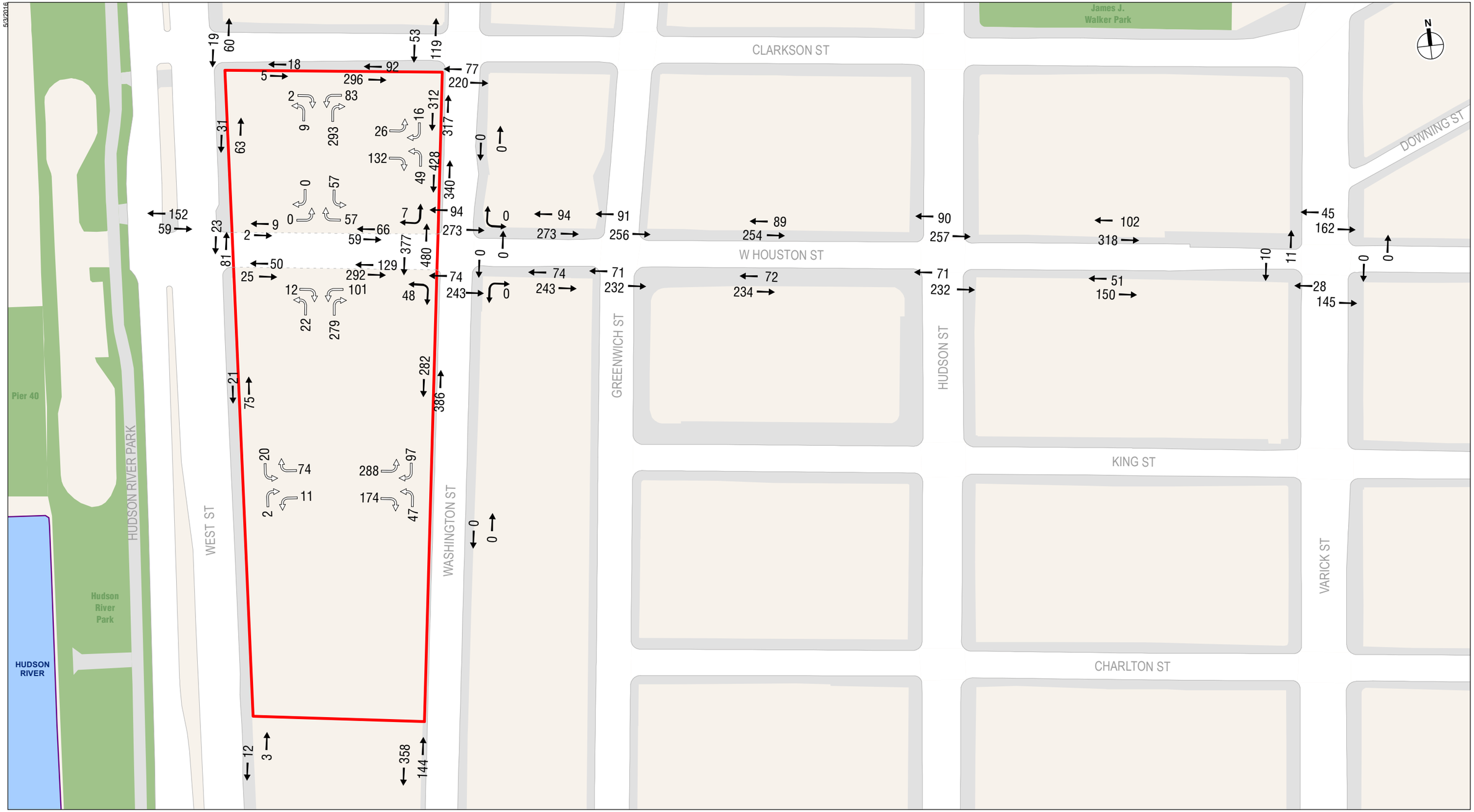
Development Site

Total Entrance In and Out Trips Along This Frontage

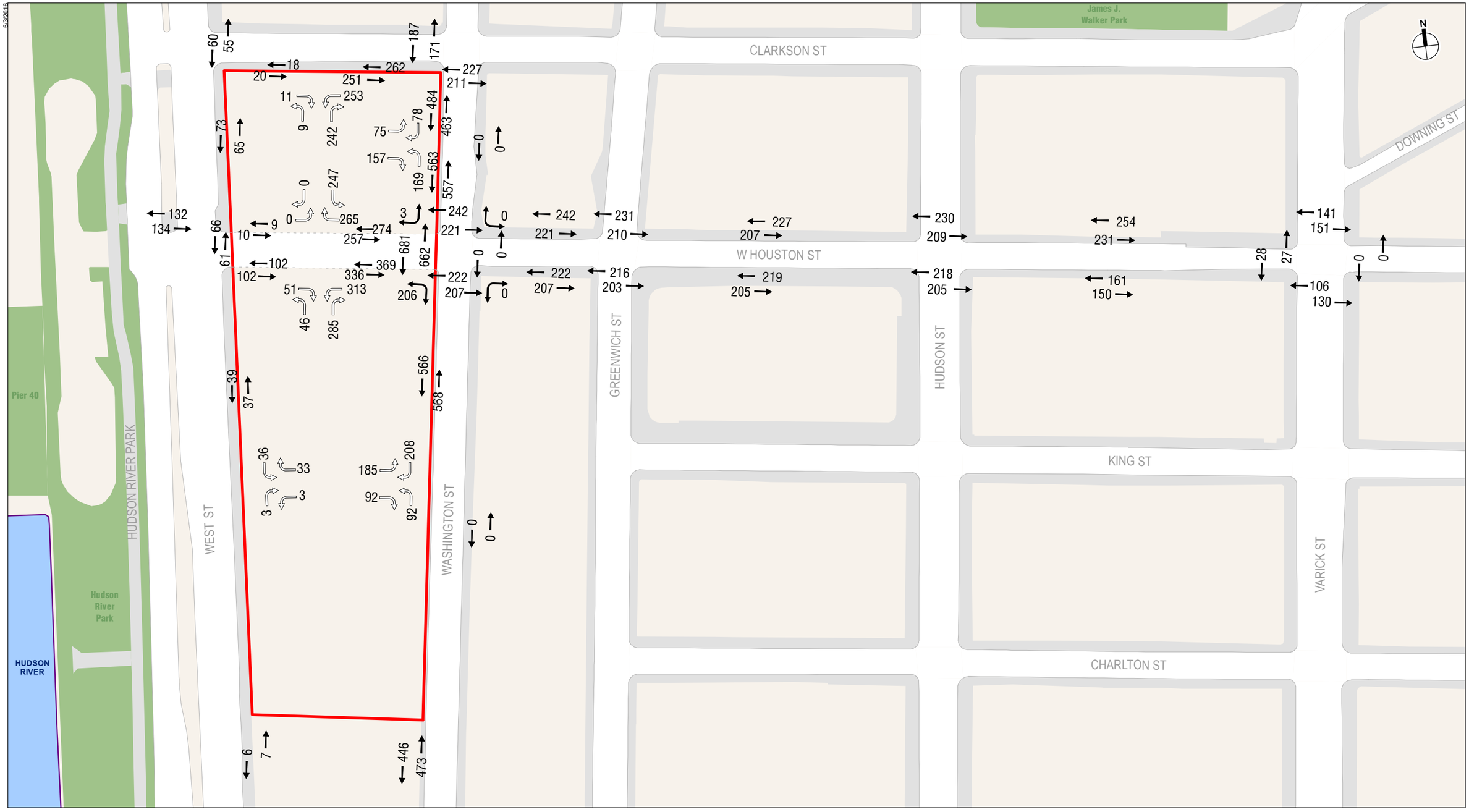
0 200 FEET

No Action Project Generated Pedestrian Trips
Saturday Peak Hour
Figure 14-29

5/3/2016


CLARKSON ST
W HOUSTON ST
KING ST
CHARLTON ST
GREENWICH ST
HUDSON ST
VARICK ST
WASHINGTON ST
WEST ST
DOWNING ST
HUDSON RIVER PARK
James J. Walker Park
Pier 40
Hudson River Park
HUDSON RIVER
N
0
0
0

5/3/2016


CLARKSON ST
W HOUSTON ST
KING ST
CHARLTON ST
GREENWICH ST
HUDSON ST
WASHINGTON ST
WEST ST
VARICK ST
DOWNING ST
HUDSON RIVER PARK
Pier 40
James J. Walker Park
Hudson River Park
HUDSON RIVER
N
60 55 187 171
18 20 262 251 227 211
11 253 9 242 484 463 78 75 157 563 169 557 247 0 265 3 242 274 257 221 681 662 369 336 102 102 222 206 207 313 51 46 285 566 568 39 37 208 185 92 92 33 36 3 3 0 0 0

5/3/2016

CLARKSON ST
W HOUSTON ST
KING ST
CHARLTON ST
GREENWICH ST
HUDSON ST
WASHINGTON ST
WEST ST
VARICK ST
DOWNING ST
HUDSON RIVER PARK
James J. Walker Park
Pier 40
Hudson River Park
HUDSON RIVER

Development Site

Total Entrance In and Out Trips Along This Frontage

0 200 FEET

Proposed Project Generated Pedestrian Trips
Weekday PM Peak Hour
Figure 14-32

5/3/2016

CLARKSON ST
W HOUSTON ST
KING ST
CHARLTON ST
GREENWICH ST
HUDSON ST
WASHINGTON ST
WEST ST
VARICK ST
DOWNING ST
HUDSON RIVER PARK
James J. Walker Park
Pier 40
Hudson River Park
HUDSON RIVER

Development Site

Total Entrance In and Out Trips Along This Frontage

0 200 FEET

Proposed Project Generated Pedestrian Trips
Saturday Peak Hour
Figure 14-33

5/3/2016

CLARKSON ST
W HOUSTON ST
KING ST
CHARLTON ST
GREENWICH ST
HUDSON ST
VARICK ST
WASHINGTON ST
WEST ST
DOWNING ST
HUDSON RIVER PARK
James J. Walker Park
Pier 40
Hudson River Park
HUDSON RIVER

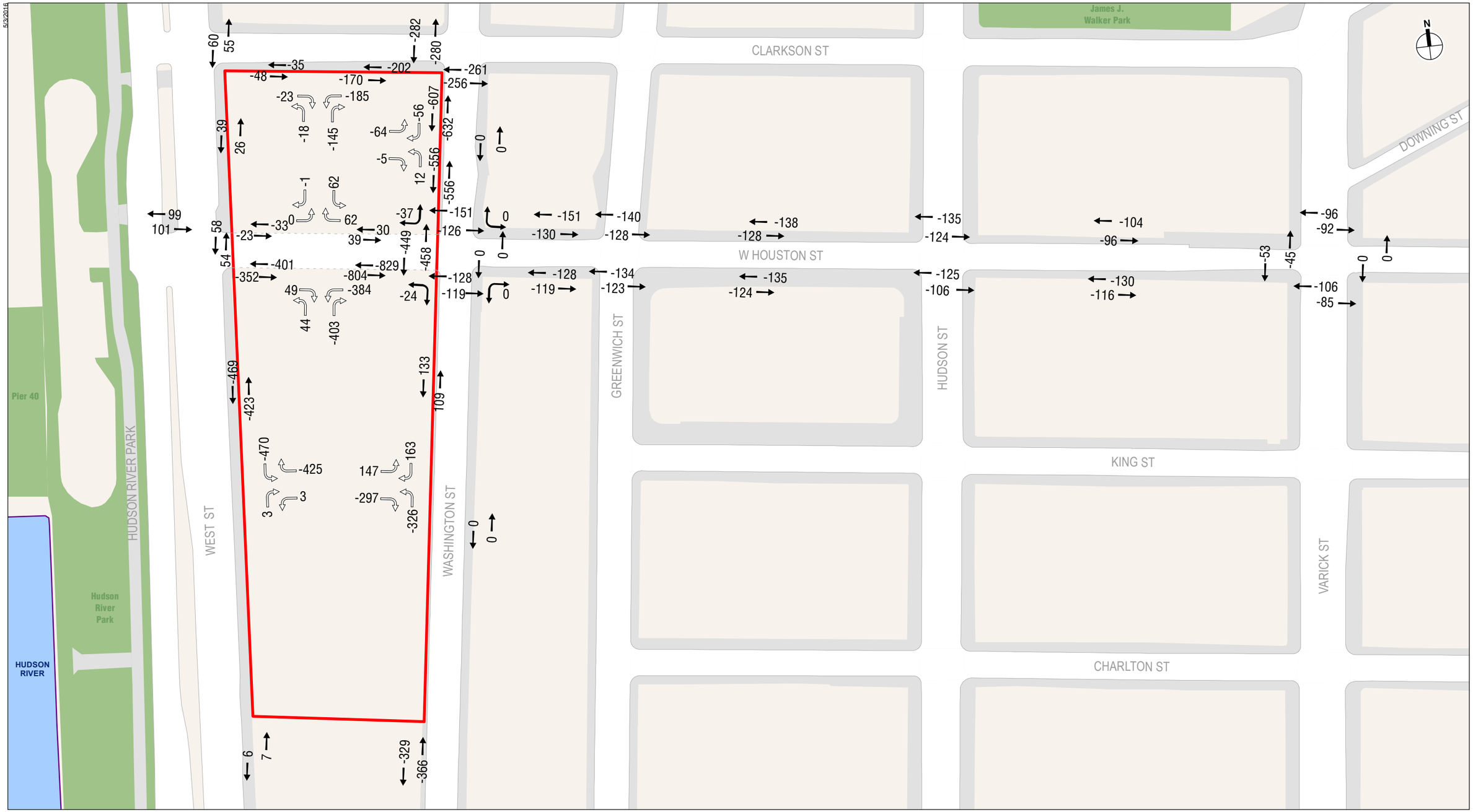
Development Site

Total Entrance In and Out Trips Along This Frontage

0 200 FEET

Proposed Project Incremental Pedestrian Trips
Weekday AM Peak Hour
Figure 14-34

5/3/2016

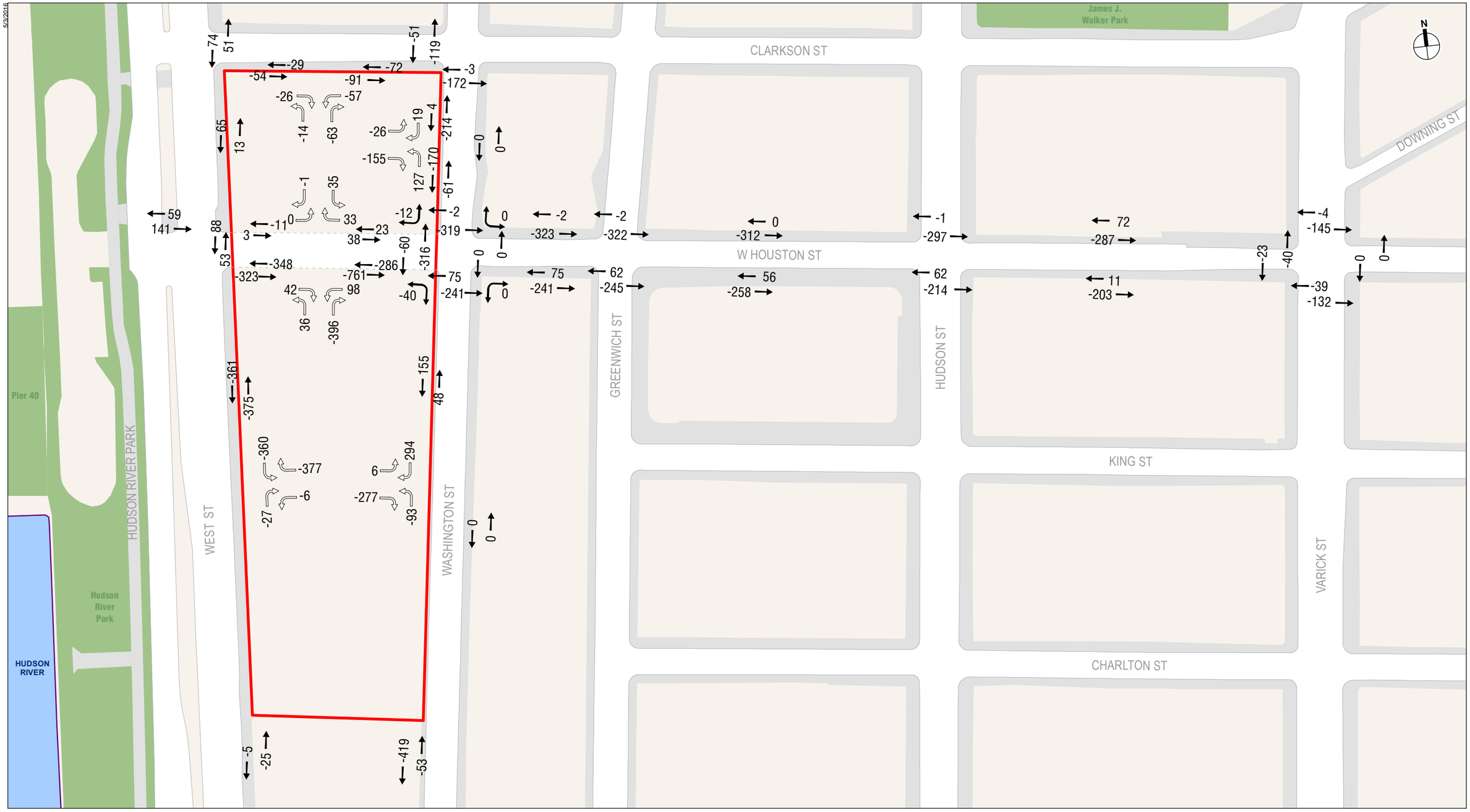


Development Site

Total Entrance In and Out Trips Along This Frontage

Proposed Project Incremental Pedestrian Trips
Weekday Midday Peak Hour
Figure 14-35

5/3/2016



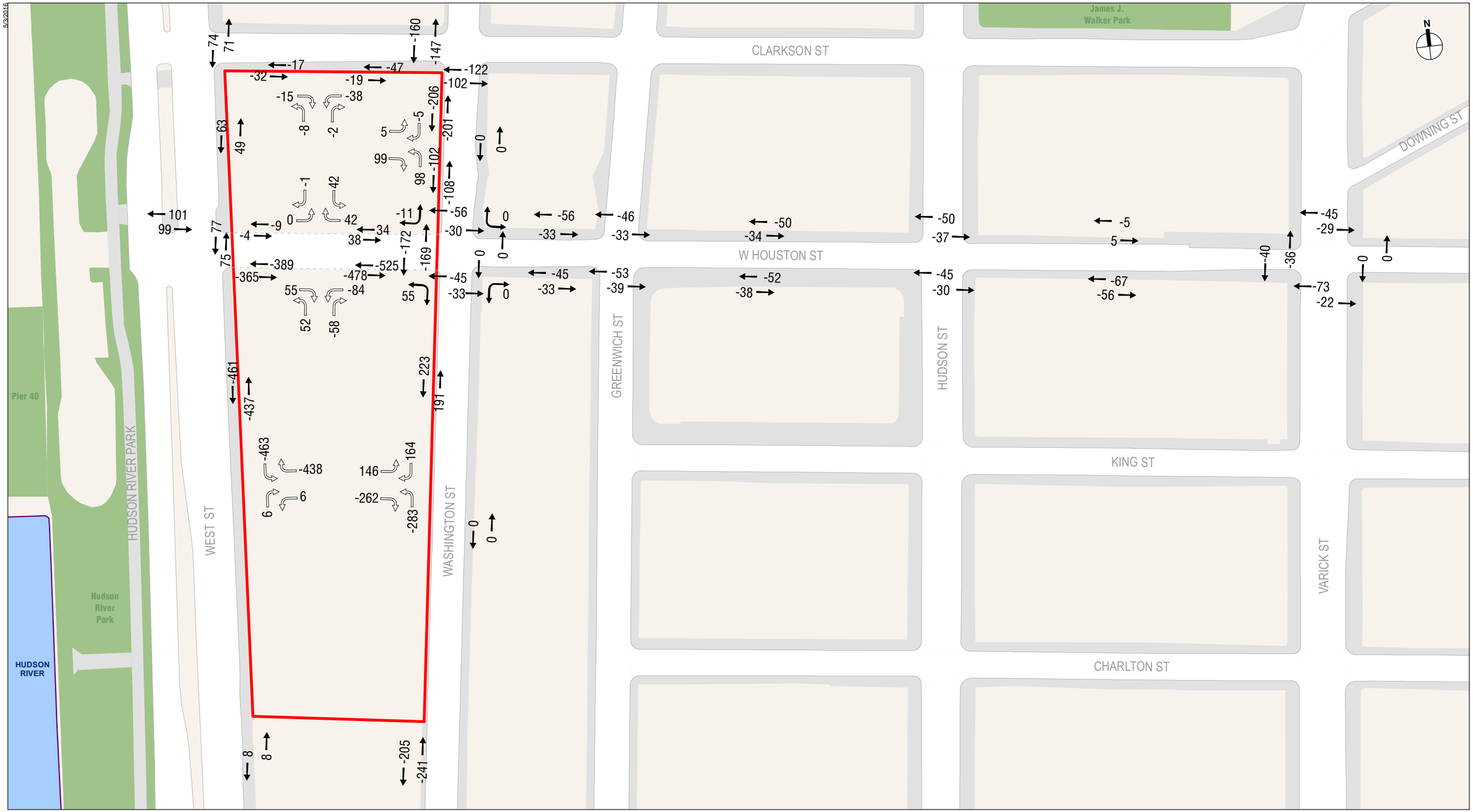
Development Site

Total Entrance In and Out Trips Along This Frontage

0 200 FEET

Proposed Project Incremental Pedestrian Trips
Weekday PM Peak Hour
Figure 14-36

5/3/2016



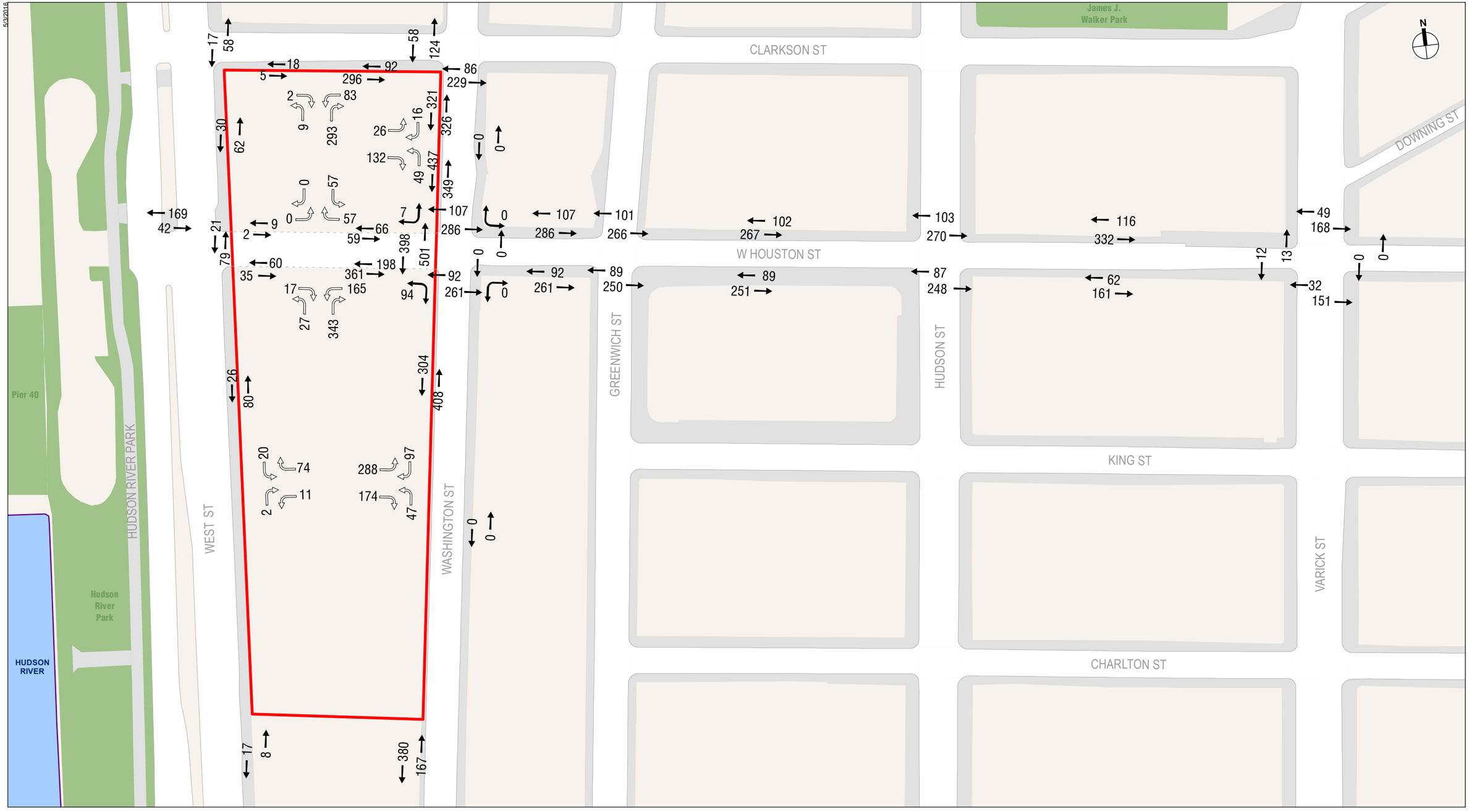
Development Site

Total Entrance In and Out Trips Along This Frontage

0 200 FEET

Proposed Project Incremental Pedestrian Trips
Saturday Peak Hour
Figure 14-37

5/3/2016



Development Site

Total Entrance In and Out Trips Along This Frontage

Proposed Project With Big Box Retail Project Generated Pedestrian Trips
Weekday AM Peak Hour
Figure 14-38

5/3/2016

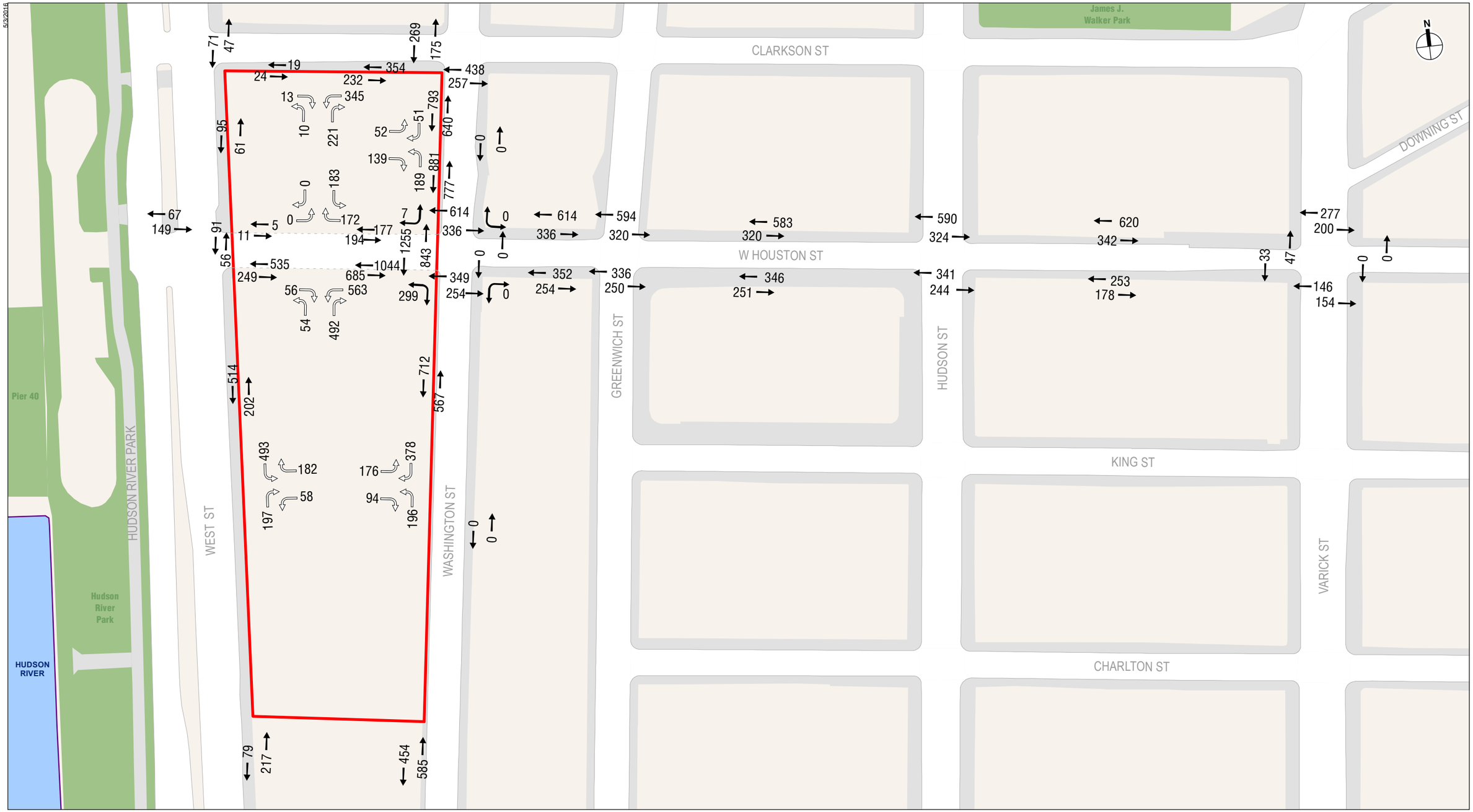


Development Site

Total Entrance In and Out Trips Along This Frontage

Proposed Project With Big Box Retail Project Generated Pedestrian Trips
Weekday Midday Peak Hour
Figure 14-39

5/3/2016

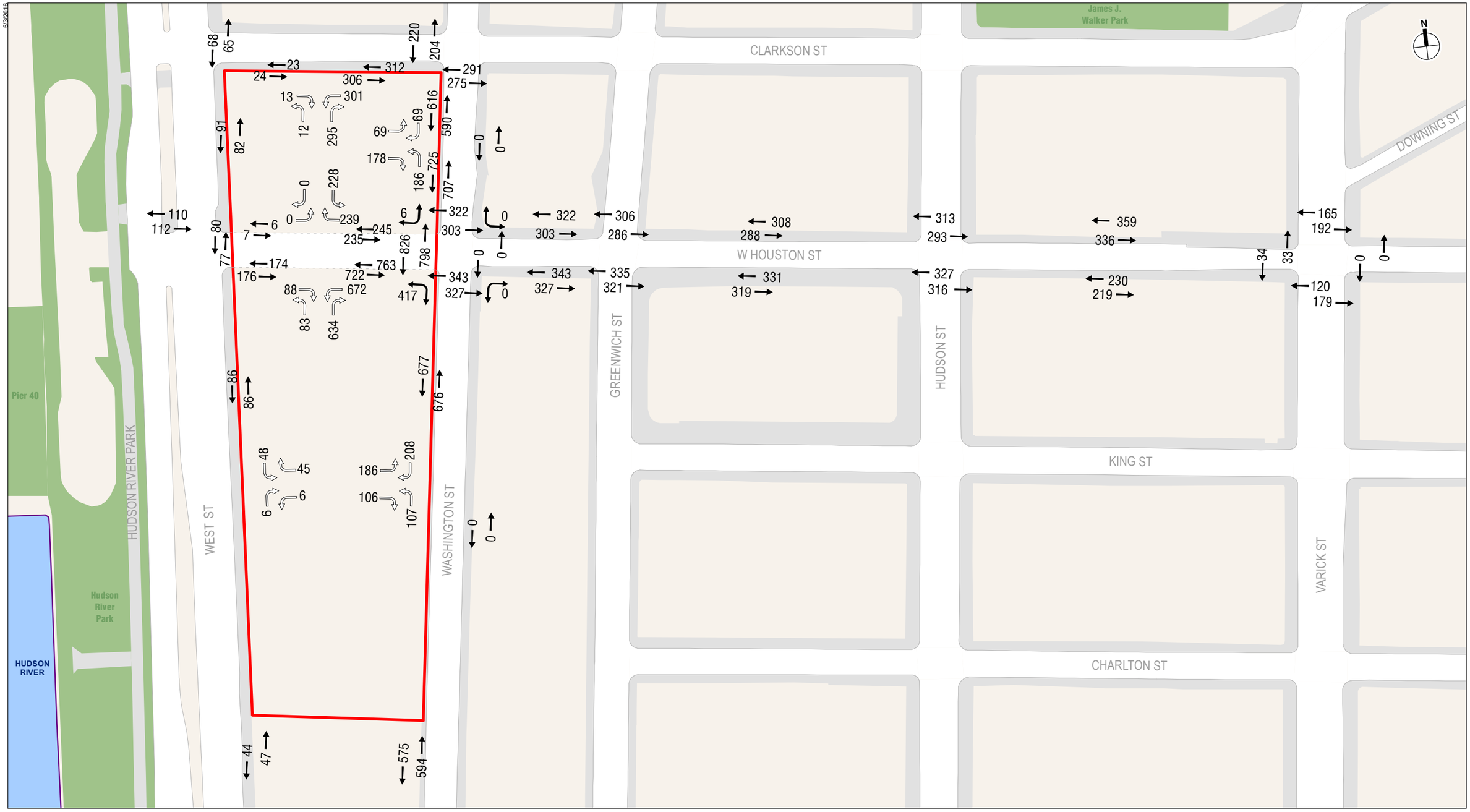


Development Site

Total Entrance In and Out Trips Along This Frontage

Proposed Project With Big Box Retail Project Generated Pedestrian Trips
Weekday PM Peak Hour
Figure 14-40

5/3/2016

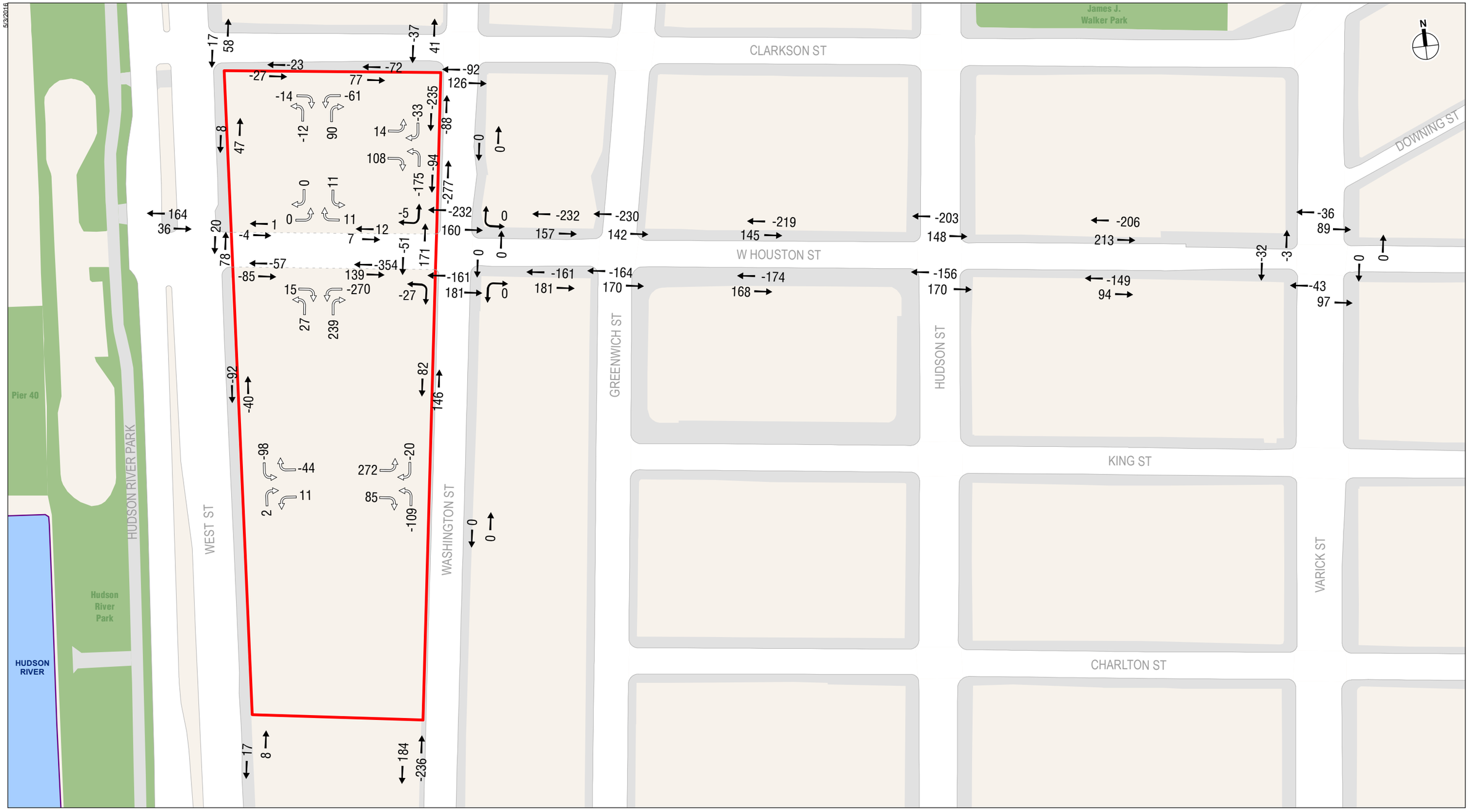


Development Site

Total Entrance In and Out Trips Along This Frontage

Proposed Project With Big Box Retail Project Generated Pedestrian Trips
Saturday Peak Hour
Figure 14-41

5/3/2016



Development Site

Total Entrance In and Out Trips Along This Frontage

0 200 FEET

Proposed Project With Big Box Retail Incremental Pedestrian Trips
Weekday AM Peak Hour
Figure 14-42

5/3/2016



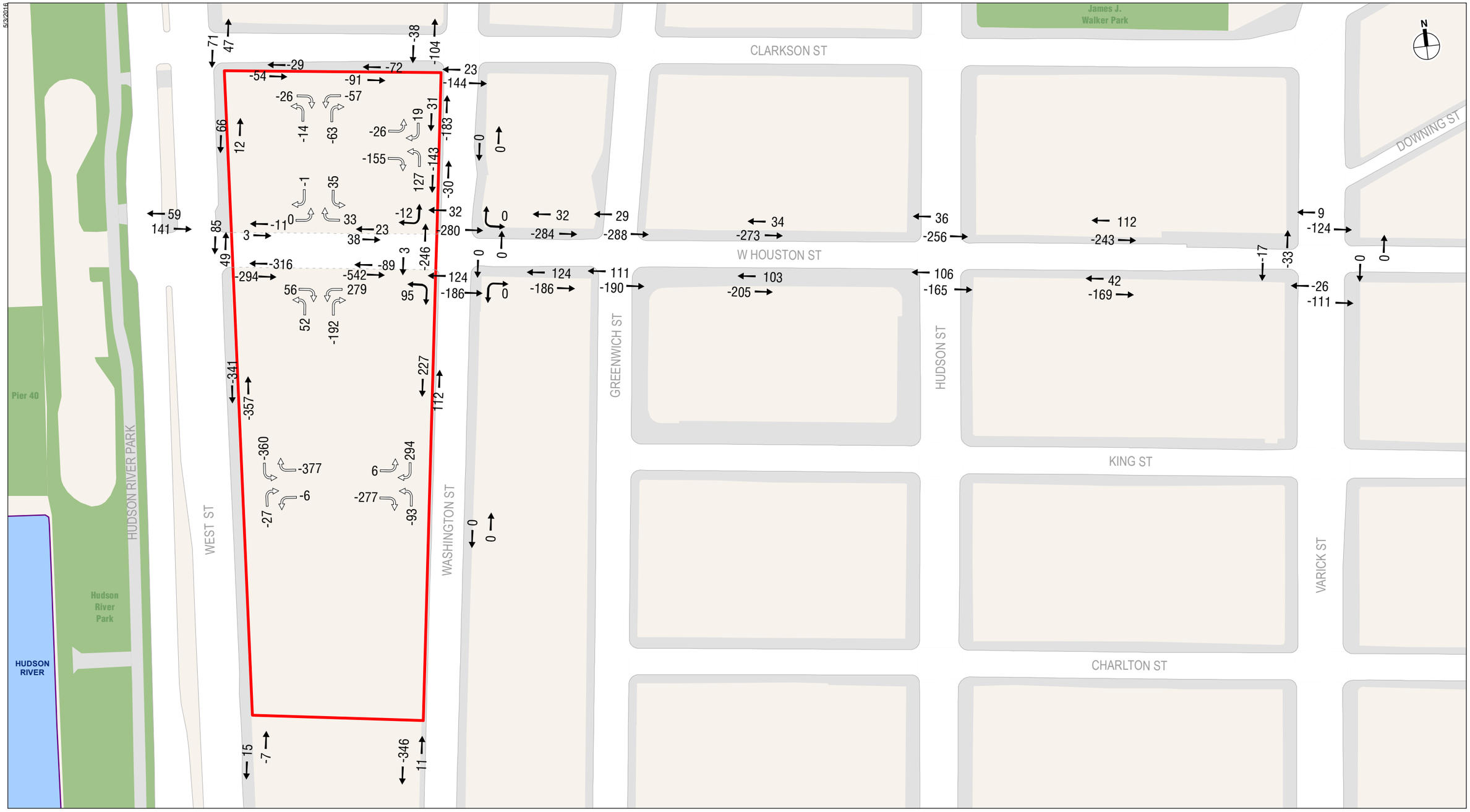
Development Site

Total Entrance In and Out Trips Along This Frontage

0 200 FEET

Proposed Project With Big Box Retail Incremental Pedestrian Trips
Weekday Midday Peak Hour
Figure 14-43

5/3/2016



Development Site

Total Entrance In and Out Trips Along This Frontage

Proposed Project With Big Box Retail Incremental Pedestrian Trips
Weekday PM Peak Hour
Figure 14-44

5/3/2016

CLARKSON ST
W HOUSTON ST
KING ST
CHARLTON ST
GREENWICH ST
HUDSON ST
WASHINGTON ST
WEST ST
VARICK ST
DOWNING ST
HUDSON RIVER PARK
James J. Walker Park
Pier 40
Hudson River Park
HUDSON RIVER

Development Site

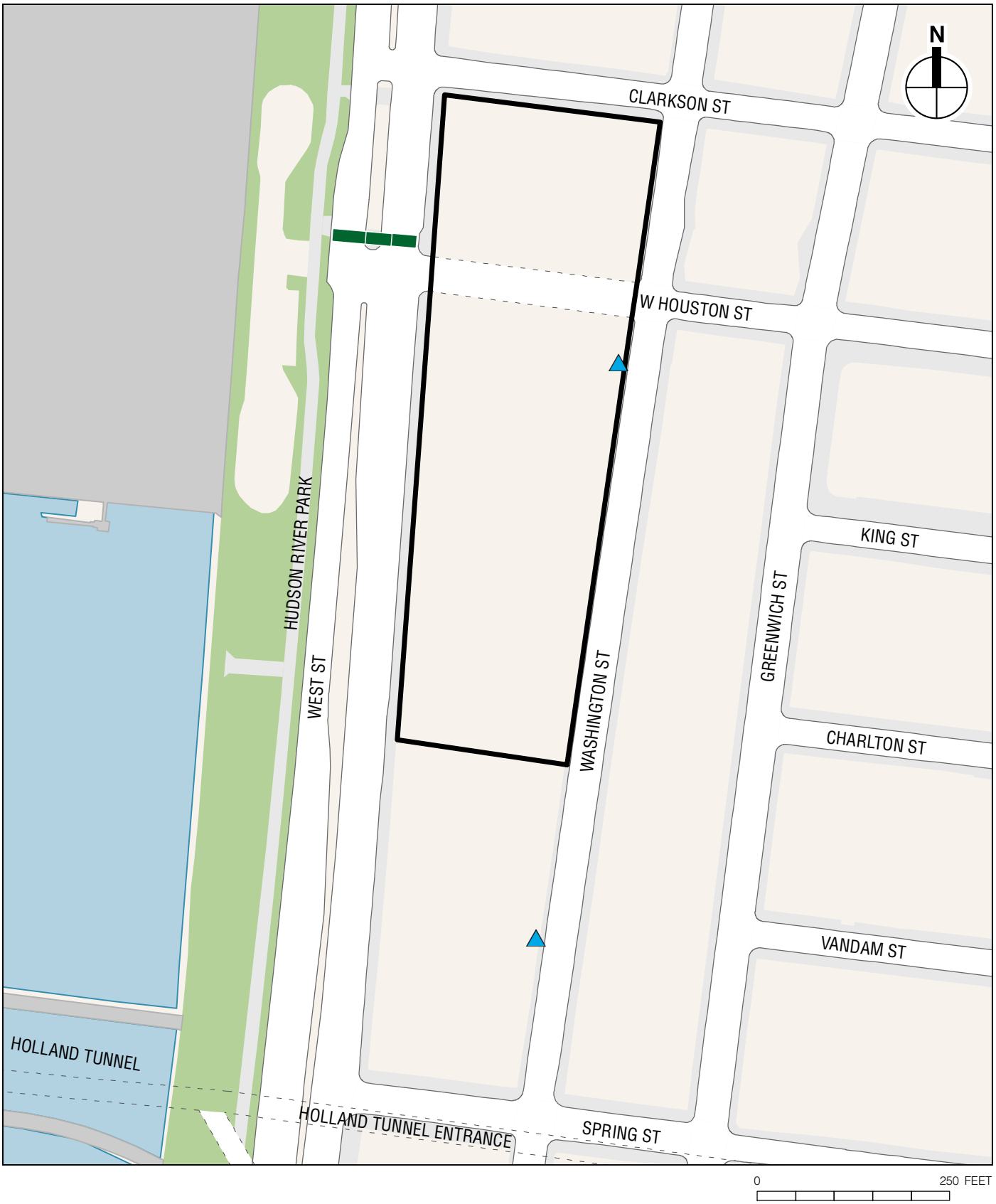
Total Entrance In and Out Trips Along This Frontage

0 200 FEET

Proposed Project With Big Box Retail Incremental Pedestrian Trips
Saturday Peak Hour

- Auto Trips – Motorists would park at the development site's proposed cellar-level parking garages.
- Taxi Trips – Taxi patrons would get dropped off and picked up along West Houston Street, Washington Street, and West Street.
- City Bus Trips – City bus riders would use buses stopping on Washington Street, Varick Street, and Hudson Street, and would get off at bus stops nearest to the development site.
- Subway Trips – Subway riders were assigned to the Houston Street Station (No. 1 train), the Spring Street Station (C and E trains), and the West 4th Street Station (A, B, C, and D trains). Based on New York City Transit (NYCT) data and station proximity to the development site, approximately 40 percent of the riders were assigned to the Houston Street Station, 35 percent were assigned to the Spring Street Station, and 25 percent were assigned to the West 4th Street Station.
- Walk-Only Trips – Pedestrian walk-only trips were developed by distributing project-generated person trips to surrounding pedestrian facilities (i.e., sidewalks, corner reservoirs, and crosswalks) based on population data as well as the land use characteristics of the surrounding neighborhood.

Tables 14-17 and 14-18 summarize the net incremental pedestrian trips generated by the proposed project and the proposed project with big box retail, respectively. Based on the detailed assignment of pedestrian trips and in consultation with NYCDOT, two sidewalks and one crosswalk were selected for detailed analysis for all peak hours, as shown in **Figure 14-46** and presented in **Tables 14-17 and 14-18**.



Development Site

Pedestrian Analysis Locations

Crosswalk

Sidewalk

550 WASHINGTON STREET

Pedestrian Analysis Locations

Figure 14-46

Table 14-17
Pedestrian Level 2 Screening Analysis Results—Selected Analysis Locations
Proposed Project

Pedestrian Elements	Weekday AM	Weekday Midday	Weekday PM	Saturday	Selected Analysis Location
Clarkson Street and West Street					
East Crosswalk	79	115	125	145	
West Houston Street and West Street					
East Sidewalk along West Street between Clarkson Street and West Houston Street	57	65	78	112	
East Sidewalk along West Street between West Houston Street and Spring Street: Northern Segment	-142	-892	-736	-898	
East Sidewalk along West Street between West Houston Street and Spring Street: Southern Segment	15	13	-30	16	
North Crosswalk	14	-41	13	1	✓
East Crosswalk	102	112	141	152	
Washington Street and Clarkson Street					
South Sidewalk along Clarkson Street between Washington Street and West Street: Eastern Segment	5	-372	-163	-66	
South Sidewalk along Clarkson Street between Washington Street and West Street: Western Segment	-50	-83	-83	-49	
South Crosswalk	16	-517	-175	-224	
West Crosswalk	-6	-562	-170	-307	
	AM	**Midday**	**PM**		
Washington Street and West Houston Street					
East Sidewalk along Washington Street between West Houston Street and Clarkson Street	0	0	0	0	
North Sidewalk along West Houston Street between Washington Street and Greenwich Street	-101	-281	-325	-89	
East Sidewalk along Washington Street between West Houston Street and Spring Street	0	0	0	0	
South Sidewalk along West Houston Street between Washington Street and Greenwich Street	-16	-247	-166	-78	
West Sidewalk along Washington Street between West Houston Street and Spring Street: Northern Segment	184	242	203	414	✓
West Sidewalk along Washington Street between West Houston Street and Spring Street: Southern Segment	-97	-695	-472	-446	✓
South Sidewalk along West Houston Street between Washington Street and West Street: Eastern Segment	-353	-1633	-1047	-1003	
South Sidewalk along West Houston Street between Washington Street and West Street: Western Segment	-162	-753	-671	-754	
West Sidewalk along Washington Street between West Houston Street and Clarkson Street: Northern Segment	-341	-1239	-210	-407	
West Sidewalk along Washington Street between West Houston Street and Clarkson Street: Southern Segment	-389	-1112	-231	-210	
North Sidewalk along West Houston Street between Washington Street and West Street: Eastern Segment	19	69	61	72	
North Sidewalk along West Houston Street between Washington Street and West Street: Western Segment	-3	-56	-8	-13	
Northeast Corner	-98	-277	-321	-86	
Northwest Corner	-25	-1221	-709	-438	
Southeast Corner	-16	-247	-166	-78	
Southwest Corner	-11	-1178	-582	-364	
North Crosswalk	-98	-277	-321	-86	
East Crosswalk	0	0	0	0	
South Crosswalk	-16	-247	-166	-78	
West Crosswalk	78	-907	-376	-341	
Greenwich Street and West Houston Street					
North Crosswalk	-108	-268	-324	-79	
South Crosswalk	-30	-257	-183	-92	
Hudson Street and West Houston Street					
North Sidewalk along West Houston Street between Hudson Street and Varick Street	-21	-200	-215	0	
South Sidewalk along West Houston Street between Hudson Street and Varick Street	-77	-246	-192	-123	
South Sidewalk along West Houston Street between Hudson Street and Greenwich Street	-40	-259	-202	-90	
North Sidewalk along West Houston Street between Hudson Street and Greenwich Street	-100	-266	-312	-84	
North Crosswalk	-81	-259	-298	-87	
South Crosswalk	-18	-231	-152	-75	
Varick Street and West Houston Street					
North Crosswalk	43	-188	-149	-74	
East Crosswalk	0	0	0	0	
South Crosswalk	44	-191	-171	-95	
West Crosswalk	-39	-98	-63	-76	

Note: ✓ denotes pedestrian elements selected for detailed analysis.

Table 14-18
Pedestrian Level 2 Screening Analysis Results—Selected Analysis Locations
Proposed Project with Big Box Retail

Pedestrian Elements	Weekday AM	Weekday Midday	Weekday PM	Saturday	Selected Analysis Location
Clarkson Street and West Street					
East Crosswalk	75	107	118	133	
West Houston Street and West Street					
East Sidewalk along West Street between Clarkson Street and West Houston Street	55	64	78	111	
East Sidewalk along West Street between West Houston Street and Spring Street: Northern Segment	-132	-841	-698	-823	
East Sidewalk along West Street between West Houston Street and Spring Street: Southern Segment	25	64	8	91	
North Crosswalk	14	-41	13	1	✓
East Crosswalk	98	104	134	140	
Washington Street and Clarkson Street					
South Sidewalk along Clarkson Street between Washington Street and West Street: Eastern Segment	5	-372	-163	-66	
South Sidewalk along Clarkson Street between Washington Street and West Street: Western Segment	-50	-83	-83	-49	
South Crosswalk	34	-458	-121	-138	
West Crosswalk	4	-521	-142	-247	
Washington Street and West Houston Street					
East Sidewalk along Washington Street between West Houston Street and Clarkson Street	0	0	0	0	
North Sidewalk along West Houston Street between Washington Street and Greenwich Street	-75	-215	-252	5	
East Sidewalk along Washington Street between West Houston Street and Spring Street	0	0	0	0	
South Sidewalk along West Houston Street between Washington Street and Greenwich Street	20	-152	-62	60	
West Sidewalk along Washington Street between West Houston Street and Spring Street: Northern Segment	228	381	339	612	✓
West Sidewalk along Washington Street between West Houston Street and Spring Street: Southern Segment	-52	-556	-335	-247	✓
South Sidewalk along West Houston Street between Washington Street and West Street: Eastern Segment	-215	-1215	-631	-400	
South Sidewalk along West Houston Street between Washington Street and West Street: Western Segment	-142	-666	-610	-630	
West Sidewalk along Washington Street between West Houston Street and Clarkson Street: Northern Segment	-323	-1169	-152	-315	
West Sidewalk along Washington Street between West Houston Street and Clarkson Street: Southern Segment	-371	-1042	-173	-118	
North Sidewalk along West Houston Street between Washington Street and West Street: Eastern Segment	19	69	61	72	
North Sidewalk along West Houston Street between Washington Street and West Street: Western Segment	-3	-56	-8	-13	
Northeast Corner	-72	-211	-248	8	
Northwest Corner	43	-1026	-503	-160	
Southeast Corner	20	-152	-62	60	
Southwest Corner	113	-816	-210	156	
North Crosswalk	-72	-211	-248	8	
East Crosswalk	0	0	0	0	
South Crosswalk	20	-152	-62	60	
West Crosswalk	120	-778	-243	-157	
Greenwich Street and West Houston Street					
North Crosswalk	-88	-209	-259	6	
South Crosswalk	6	-162	-79	46	
Hudson Street and West Houston Street					
North Sidewalk along West Houston Street between Hudson Street and Varick Street	7	-128	-131	104	
South Sidewalk along West Houston Street between Hudson Street and Varick Street	-55	-185	-127	-36	
South Sidewalk along West Houston Street between Hudson Street and Greenwich Street	-6	-167	-102	40	
North Sidewalk along West Houston Street between Hudson Street and Greenwich Street	-74	-203	-239	6	
North Crosswalk	-55	-193	-220	8	
South Crosswalk	14	-143	-59	51	
Varick Street and West Houston Street					
North Crosswalk	53	-155	-115	-26	
East Crosswalk	0	0	0	0	
South Crosswalk	54	-159	-137	-48	
West Crosswalk	-35	-83	-50	-56	

Note: ✓ denotes pedestrian elements selected for detailed analysis.

C. TRANSPORTATION ANALYSIS METHODOLOGIES

TRAFFIC OPERATIONS

The operation of all of the signalized intersections and unsignalized intersection in the study area were assessed using methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the *Highway Capacity Software (HCS+ 5.5)*. The *HCM* procedure evaluates the levels of service (LOS) for signalized and unsignalized intersections using average stop control delay, in seconds per vehicle, as described below.

SIGNALIZED INTERSECTIONS

The average control delay per vehicle is the basis for LOS determination for individual lane groups (grouping of movements in one or more travel lanes), the approaches, and the overall intersection. The levels of service are defined in **Table 14-19**.

Table 14-19
Level of Service Criteria for Signalized Intersections

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

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

Although the HCM methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the *HCM*. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most efficient condition in terms of traffic engineering standards, where an approach or the whole intersection processes traffic close to its theoretical maximum capacity with minimal delay. However, very high v/c ratios—especially those approaching or greater than 1.0—are often correlated with a deteriorated LOS. Other important variables affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The *HCM* methodology also provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio. The overall intersection delay, which determines the intersection's LOS, is based on a weighted average of control delays of the individual lane groups. Within New York City, the midpoint of LOS D (45 seconds of delay) is generally considered as the threshold between acceptable and unacceptable operations.

Significant Impact Criteria

According to the criteria presented in the *CEQR Technical Manual*, impacts are considered significant and require examination of mitigation if they result in an increase in the With Action condition of 5 or more seconds of delay in a lane group over No Action levels beyond mid-LOS D. For No Action LOS E, a 4-second increase in delay is considered significant. For No Action LOS F, a 3-second increase in delay is considered significant. In addition, impacts are considered significant if levels of service deteriorate from acceptable A, B, or C in the No Action condition to marginally unacceptable LOS D (a delay in excess of 45 seconds, the midpoint of LOS D), or unacceptable LOS E or F in the With Action condition.

UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, the average control delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS criteria for unsignalized intersections are summarized in **Table 14-20**.

Table 14-20
Level of Service Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000.

The LOS thresholds for unsignalized intersections are different from those for signalized intersections. The primary reason is that drivers expect different levels of performance from different types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection; hence, the corresponding control delays are higher at a signalized intersection than at an unsignalized intersection for the same LOS. In addition, certain driver behavioral considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections. For these reasons, the corresponding delay thresholds for unsignalized intersections are lower than those of signalized intersections. As with signalized intersections, within New York City, the midpoint of LOS D (30 seconds of delay) is generally perceived as the threshold between acceptable and unacceptable operations.

Significant Impact Criteria

The same sliding scale of significant delays described for signalized intersections applies for unsignalized intersections. For the minor street to trigger significant impacts, at least 90 passenger car equivalents (PCE) must be identified in the With Action condition in any peak hour.

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalks and crosswalks in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2010 *HCM*, pursuant to procedures detailed in the *CEQR Technical Manual*.

The primary performance measure for sidewalks and walkways is pedestrian space, expressed as square feet per pedestrian (SFP), which is an indicator of the quality of pedestrian movement and comfort. The calculation of the sidewalk SFP is based on the pedestrian volumes by direction, the effective sidewalk or walkway width, and average walking speed. The SFP forms the basis for a sidewalk LOS analysis. The determination of sidewalk LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas, platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Crosswalks are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Crosswalk LOS is a function of time and space. Crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk. The LOS standards for sidewalks, corner reservoirs, and crosswalks are summarized in **Table 14-21**. The *CEQR Technical Manual* specifies acceptable LOS in Central Business District (CBD) areas is mid-LOS D or better.

Table 14-21
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	> 60 SFP	> 530 SFP	> 60 SFP
B	> 40 and ≤ 60 SFP	> 90 and ≤ 530 SFP	> 40 and ≤ 60 SFP
C	> 24 and ≤ 40 SFP	> 40 and ≤ 90 SFP	> 24 and ≤ 40 SFP
D	> 15 and ≤ 24 SFP	> 23 and ≤ 40 SFP	> 15 and ≤ 24 SFP
E	> 8 and ≤ 15 SFP	> 11 and ≤ 23 SFP	> 8 and ≤ 15 SFP
F	≤ 8 SFP	≤ 11 SFP	≤ 8 SFP

Notes: SFP = square feet per pedestrian.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

SIGNIFICANT IMPACT CRITERIA

The determination of significant pedestrian impacts considers the level of predicted decrease in pedestrian space between the No Action and With Action conditions. For different pedestrian elements, flow conditions, and area types, the CEQR procedure for impact determination corresponds with various sliding-scale formulas, as further detailed below.

Sidewalks

There are two sliding-scale formulas for determining significant sidewalk impacts. For non-platoon flow, the determination of significant sidewalk impacts is based on the sliding scale using the following formula: $Y \geq X/9.0 - 0.31$, where Y is the decrease in pedestrian space in SFP and X is the No Action pedestrian space in SFP. For platoon flow, the sliding-scale formula is $Y \geq X/(9.5 - 0.321)$. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, these formulas would apply only if the With Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 14-22** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

Crosswalks

The determination of significant crosswalk impacts is also based on a sliding scale using the following formula: $Y \geq X/9.0 - 0.31$, where Y is the decrease in pedestrian space in SFP and X is the No Action pedestrian space in SFP. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, this formula would apply only if the With Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 14-23** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant crosswalk impacts.

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

An evaluation of vehicular and pedestrian safety is necessary for locations within the traffic and pedestrian study areas that have been identified as high accident locations, where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent 3-year period for which data are available. For these locations, accident trends are identified to determine whether projected vehicular and pedestrian traffic would further impact safety at these locations. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety are identified and coordinated with NYCDOT for their approval.

PARKING CONDITIONS ASSESSMENT

The parking analysis identifies the extent to which off-street parking is available and utilized under existing and future conditions. It takes into consideration anticipated changes in area parking supply and provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from parking displacement attributable to or additional demand generated by a proposed project. Typically, this analysis encompasses a study area within a ¼-mile of the project site. If the analysis concludes a shortfall in parking within the ¼-mile study area, the study area could sometimes be extended to a ½-mile to identify additional parking supply.

Table 14-22
Significant Impact Guidance for Sidewalks

Non-Platoon Flow				Platoon Flow			
Sliding Scale Formula: ***Y ≥ X/9.0 – 0.31***				**Sliding Scale Formula:** ***Y ≥ X/(9.5 – 0.321)***			
Non-CBD Areas		**CBD Areas**		**Non-CBD Areas**		**CBD Areas**	
No Action Ped. Space (X, SFP)	**With Action Ped. Space Reduc. (Y, SFP)**	**No Action Ped. Space (X, SFP)**	**With Action Ped. Space Reduc. (Y, SFP)**	**No Action Ped. Space (X, SFP)**	**With Action Ped. Space Reduc. (Y, SFP)**	**No Action Ped. Space (X, SFP)**	**With Action Ped. Space Reduc. (Y, SFP)**
–	–	–	–	43.5 to 44.3	≥ 4.3	–	–
–	–	–	–	42.5 to 43.4	≥ 4.2	–	–
–	–	–	–	41.6 to 42.4	≥ 4.1	–	–
–	–	–	–	40.6 to 41.5	≥ 4.0	–	–
–	–	–	–	39.7 to 40.5	≥ 3.9	–	–
–	–	–	–	38.7 to 39.6	≥ 3.8	38.7 to 39.2	≥ 3.8
–	–	–	–	37.8 to 38.6	≥ 3.7	37.8 to 38.6	≥ 3.7
–	–	–	–	36.8 to 37.7	≥ 3.6	36.8 to 37.7	≥ 3.6
–	–	–	–	35.9 to 36.7	≥ 3.5	35.9 to 36.7	≥ 3.5
–	–	–	–	34.9 to 35.8	≥ 3.4	34.9 to 35.8	≥ 3.4
–	–	–	–	34.0 to 34.8	≥ 3.3	34.0 to 34.8	≥ 3.3
–	–	–	–	33.0 to 33.9	≥ 3.2	33.0 to 33.9	≥ 3.2
–	–	–	–	32.1 to 32.9	≥ 3.1	32.1 to 32.9	≥ 3.1
–	–	–	–	31.1 to 32.0	≥ 3.0	31.1 to 32.0	≥ 3.0
–	–	–	–	30.2 to 31.0	≥ 2.9	30.2 to 31.0	≥ 2.9
–	–	–	–	29.2 to 30.1	≥ 2.8	29.2 to 30.1	≥ 2.8
25.8 to 26.6	≥ 2.6	–	–	28.3 to 29.1	≥ 2.7	28.3 to 29.1	≥ 2.7
24.9 to 25.7	≥ 2.5	–	–	27.3 to 28.2	≥ 2.6	27.3 to 28.2	≥ 2.6
24.0 to 24.8	≥ 2.4	–	–	26.4 to 27.2	≥ 2.5	26.4 to 27.2	≥ 2.5
23.1 to 23.9	≥ 2.3	–	–	25.4 to 26.3	≥ 2.4	25.4 to 26.3	≥ 2.4
22.2 to 23.0	≥ 2.2	–	–	24.5 to 25.3	≥ 2.3	24.5 to 25.3	≥ 2.3
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1	23.5 to 24.4	≥ 2.2	23.5 to 24.4	≥ 2.2
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0	22.6 to 23.4	≥ 2.1	22.6 to 23.4	≥ 2.1
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9	21.6 to 22.5	≥ 2.0	21.6 to 22.5	≥ 2.0
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8	20.7 to 21.5	≥ 1.9	20.7 to 21.5	≥ 1.9
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7	19.7 to 20.6	≥ 1.8	19.7 to 20.6	≥ 1.8
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6	18.8 to 19.6	≥ 1.7	18.8 to 19.6	≥ 1.7
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5	17.8 to 18.7	≥ 1.6	17.8 to 18.7	≥ 1.6
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4	16.9 to 17.7	≥ 1.5	16.9 to 17.7	≥ 1.5
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3	15.9 to 16.8	≥ 1.4	15.9 to 16.8	≥ 1.4
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2	15.0 to 15.8	≥ 1.3	15.0 to 15.8	≥ 1.3
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1	14.0 to 14.9	≥ 1.2	14.0 to 14.9	≥ 1.2
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0	13.1 to 13.9	≥ 1.1	13.1 to 13.9	≥ 1.1
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9	12.1 to 13.0	≥ 1.0	12.1 to 13.0	≥ 1.0
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8	11.2 to 12.0	≥ 0.9	11.2 to 12.0	≥ 0.9
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7	10.2 to 11.1	≥ 0.8	10.2 to 11.1	≥ 0.8
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6	9.3 to 10.1	≥ 0.7	9.3 to 10.1	≥ 0.7
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5	8.3 to 9.2	≥ 0.6	8.3 to 9.2	≥ 0.6
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4	7.4 to 8.2	≥ 0.5	7.4 to 8.2	≥ 0.5
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3	6.4 to 7.3	≥ 0.4	6.4 to 7.3	≥ 0.4
< 5.1	≥ 0.2	< 5.1	≥ 0.2	< 6.4	≥ 0.3	< 6.4	≥ 0.3

Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.

Table 14-23
Significant Impact Guidance for Crosswalks

Sliding Scale Formula: *Y ≥ X/9.0 – 0.31*			
Non-CBD Areas		**CBD Areas**	
No Action Pedestrian Space (X, SFP)	**With Action Pedestrian Space Reduction (Y, SFP)**	**No Action Pedestrian Space (X, SFP)**	**With Action Pedestrian Space Reduction (Y, SFP)**
25.8 to 26.6	≥ 2.6	–	–
24.9 to 25.7	≥ 2.5	–	–
24.0 to 24.8	≥ 2.4	–	–
23.1 to 23.9	≥ 2.3	–	–
22.2 to 23.0	≥ 2.2	–	–
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3
< 5.1	≥ 0.2	< 5.1	≥ 0.2
Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP.			
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*.			

For proposed projects located in Manhattan or other CBD areas, the inability of the proposed project or the surrounding area to accommodate the project's future parking demand is considered a parking shortfall, but is generally not considered significant due to the magnitude of available alternative modes of transportation. For other areas in New York City, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within a ¼-mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area, proximity of the project to such transit, and patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall. In some cases, if there is adequate parking supply within a ½-mile of the project site, the projected parking shortfall may also not necessarily be considered significant.

D. DETAILED TRAFFIC ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology and Screening Assessment," in consultation with NYCDOT, 18 intersections have been selected for analysis in the weekday AM, midday, PM, and Saturday peak periods. All analysis intersections are signalized except for the Spring Street intersections at West Street and Washington Street, and the intersection of Clarkson Street and Greenwich Street.

2015 EXISTING CONDITIONS

ROADWAY NETWORK AND TRAFFIC STUDY AREA

The traffic study area characterizes the Lower Manhattan grid pattern with major north-south avenues and east-west minor cross streets. Many of these roadways provide access to and egress from the Holland Tunnel.

West Street, located on the western edge of the study area, is a major north/south arterial on the west side of Manhattan. It operates with four to five moving lanes (including turning lanes) in each direction. Restrictive parking regulations prevail along certain segments of the arterial. West Street is a through truck route between the Brooklyn-Battery Tunnel and West 34th Street. It operates with a center median and exclusive turn lanes at major intersections. Traffic flow on the arterial is controlled by signals that are often spaced by several blocks and operating at long 120- to 150-second cycles.

Washington Street is an approximately 40 feet wide one-way southbound roadway that runs from West 14th Street to Canal Street. It generally operates with one travel lane and a Class II southbound bike lane. Curbside parking is generally prohibited along the west curbside with "No Parking Anytime" regulations, while curbside parking along the east curbside is generally permitted with alternate side of the street cleaning regulations.

Canal Street extends in the east-west direction and is an important commuter route for traffic entering and exiting Manhattan via the Manhattan Bridge. It provides access to both the Manhattan Bridge on the east and the Holland Tunnel and West Street on the west. Canal Street generally consists of three travel lanes in each direction with "No Standing Anytime" curbside parking regulations on either side along most of the study area. Canal Street is a through truck route along its entire length. Left-turn prohibitions from Canal Street are in effect at several intersections in the study area due to heavy through volumes. Canal Street is generally characterized by mixed-use developments.

Varick Street is a southerly extension of the Seventh Avenue South corridor and runs one way southbound; the roadway consists of a 60-foot wide roadway with four travel lanes. Varick Street's eastern and western travel lanes are separated by bollards between Vandam Street and the entrance to the Holland Tunnel at Watts street, which channelizes southbound through traffic, and relieves congestion caused by tunnel-bound traffic. Curbside parking is generally prohibited along both sides of the street. Varick Street is generally characterized by commercial and retail uses. It is a local and through truck route within the study area.

Hudson Street is a one-way northbound roadway that is approximately 50 feet wide. North of Canal Street, Hudson Street consists of two travel lanes and curbside parking interspersed with loading/unloading regulations. North of Dominick Street, a Class II northbound bike lane is also provided. Hudson Street is a local truck route within the study area. South of Canal Street, Hudson Street consists of four travel lanes and intermittent curbside parking. Hudson Street provides access to the Holland Tunnel via an entrance just north of Canal Street. In addition, a channelized right-turn lane also allows for turns from Hudson Street onto eastbound Canal Street.

Houston Street is a primarily two-way east-west arterial spanning the width of Manhattan, with East Houston Street extending from the East River to Broadway, and West Houston Street extending from Broadway to the Hudson River. East of Avenue of the Americas, the roadway is separated by a pedestrian refuge island and generally contains three eastbound travel lanes and

four westbound travel lanes. West of Sixth Avenue, Houston Street runs one-way westbound, with two travel lanes. There is curbside parking or bus staging along certain segments of the street.

Avenue of the Americas is a one-way northbound roadway extending from Franklin Street to West 59th Street. It generally contains four travel lanes. There is curbside parking or bus staging along certain segments of the street. Avenue of the Americas is a through truck route within the study area.

Other principal streets within the study area include Greenwich Street, which is a one-way northbound street that forms a one-way pair with Washington Street, within the study area. And Clarkson Street, which is a one-way eastbound street from West Street to Varick Street.

TRAFFIC CONDITIONS

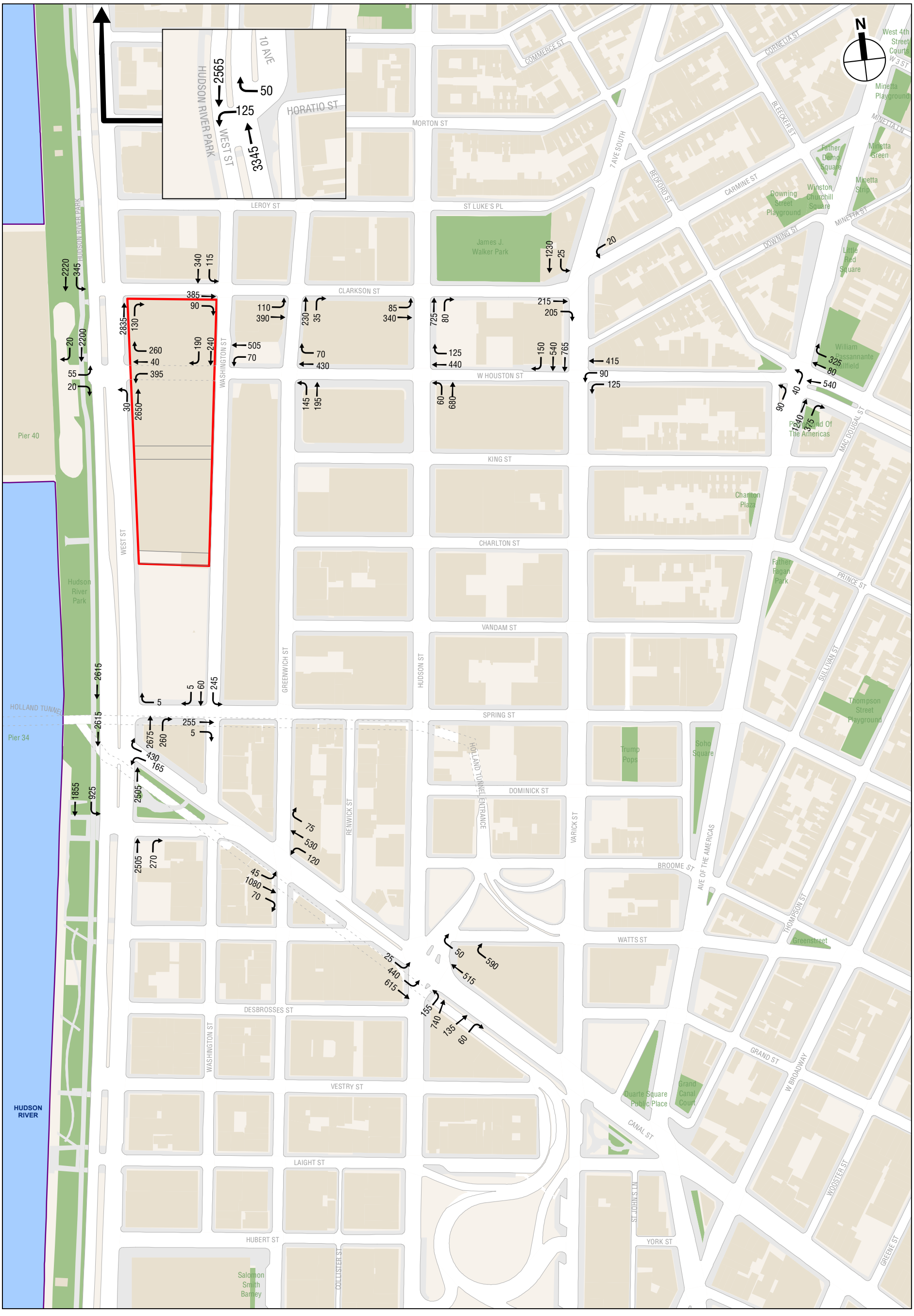
Traffic data were collected in June 2015 and November 2015 for the weekday AM, midday, PM, and Saturday peak periods via a combination of manual intersection counts and 24-hour Automatic Traffic Recorder (ATR) counts. Existing (2015) peak period traffic volumes were developed based on these counts and supplemented, as needed, by baseline traffic volumes developed as part of the 2013 *Pier 57 Redevelopment FEIS*. The standard peak hours in Manhattan south of 110th Street generally occur from 8:00 AM to 9:00 AM, 12:00 PM to 1:00 PM, and 5:00 PM to 6:00 PM on weekdays. For analysis, the highest peak hour traffic volumes (from 8:30 AM to 9:30 AM, 12:15 PM to 1:15 PM, and 5:00 PM to 6:00 PM) during the respective peak periods based on the collected data were used. For the Saturday condition, the 3:15 PM to 4:15 PM hour was determined to be the analysis peak hour based on the collected data.

Inventories of roadway geometry, traffic controls, bus stops, and parking regulations/activities were recorded to provide appropriate inputs for the operational analyses. Official signal timings were also obtained from NYCDOT for use in the analysis of the study area signalized intersections. **Figures 14-47 through 14-50** show the 2015 existing traffic volumes for the weekday AM, midday, PM, and Saturday peak hours, respectively.

LEVELS OF SERVICE

A summary of the 2015 existing conditions traffic analysis results are presented in **Table 14-24**. Details on level-of-service, v/c ratios, and average delays are presented in **Tables 14-25 and 14-26**. Overall, the capacity analysis indicates that most of the study area's intersection approaches/lane groups operate acceptably—at mid-LOS D or better (delays of 45 seconds or less per vehicle for signalized intersections and 30 seconds or less per vehicle for unsignalized intersections) for the peak hours. Approaches/lane groups operating beyond mid-LOS D and those with v/c ratios of 0.90 or greater are listed below.

5/3/2016

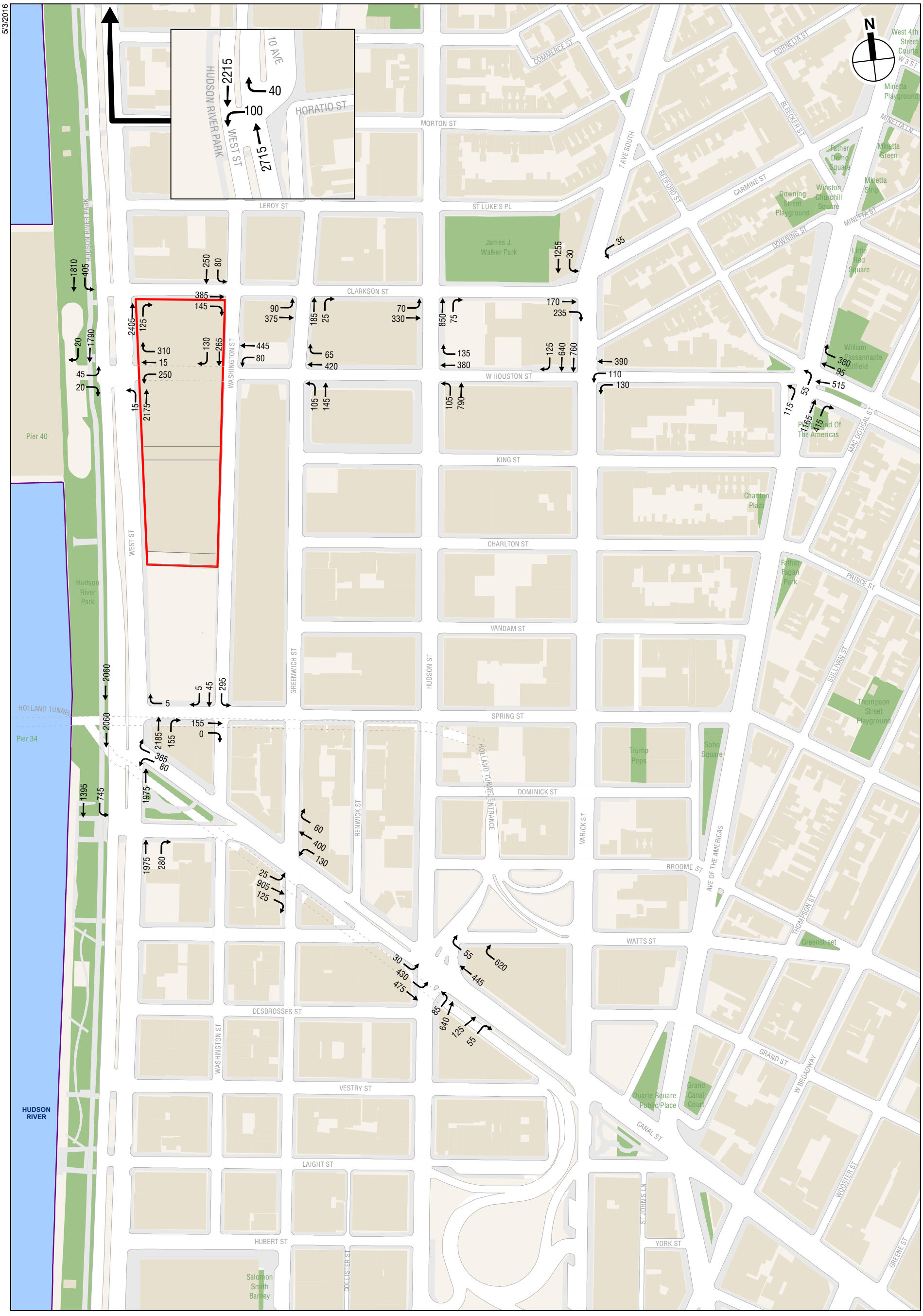


Development Site

0 400 FEET

2015 Existing Traffic Volumes
Weekday AM Peak Hour
Figure 14-47

5/3/2016

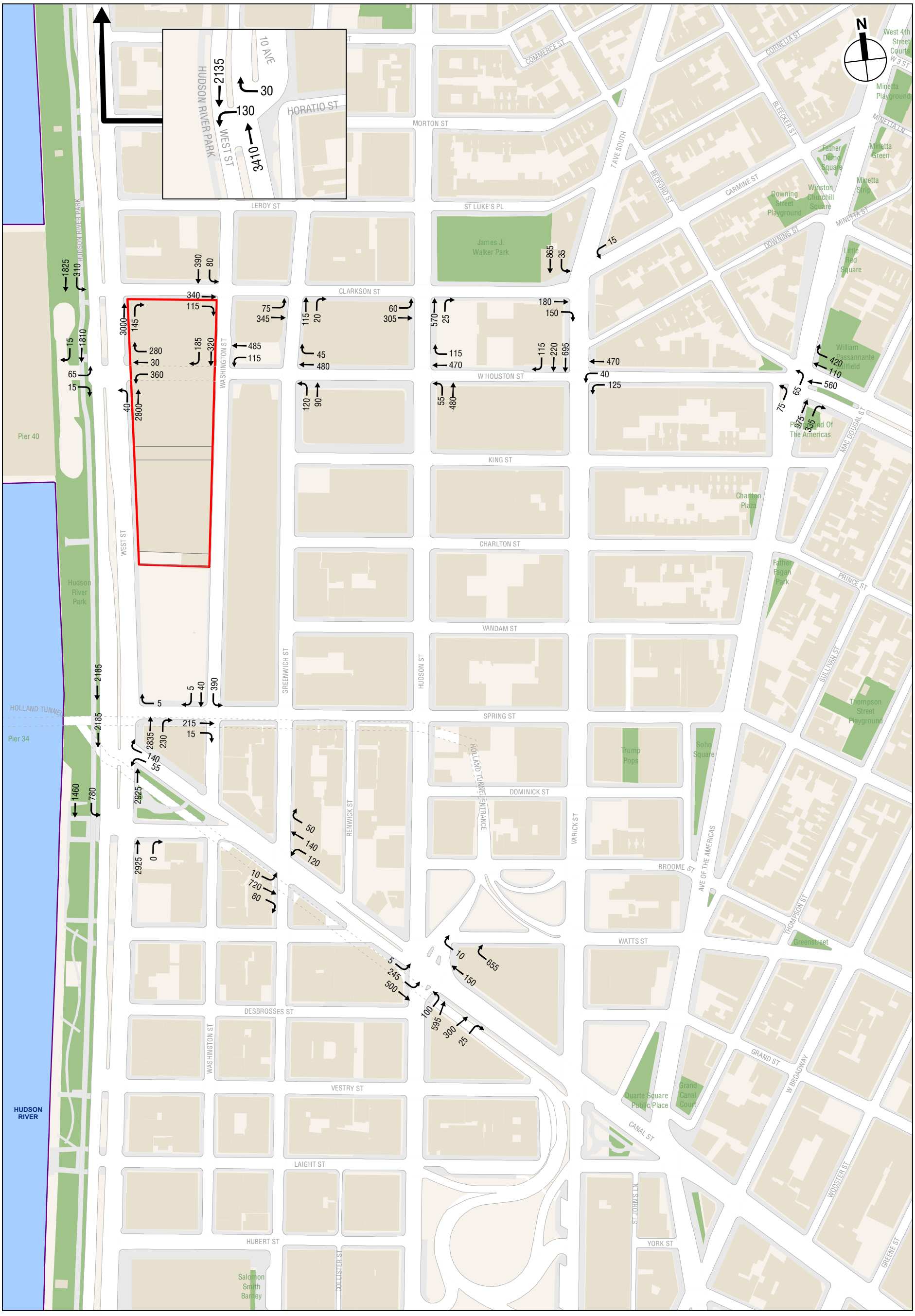


Development Site

0 400 FEET

2015 Existing Traffic Volumes
Weekday Midday Peak Hour
Figure 14-48

5/3/2016

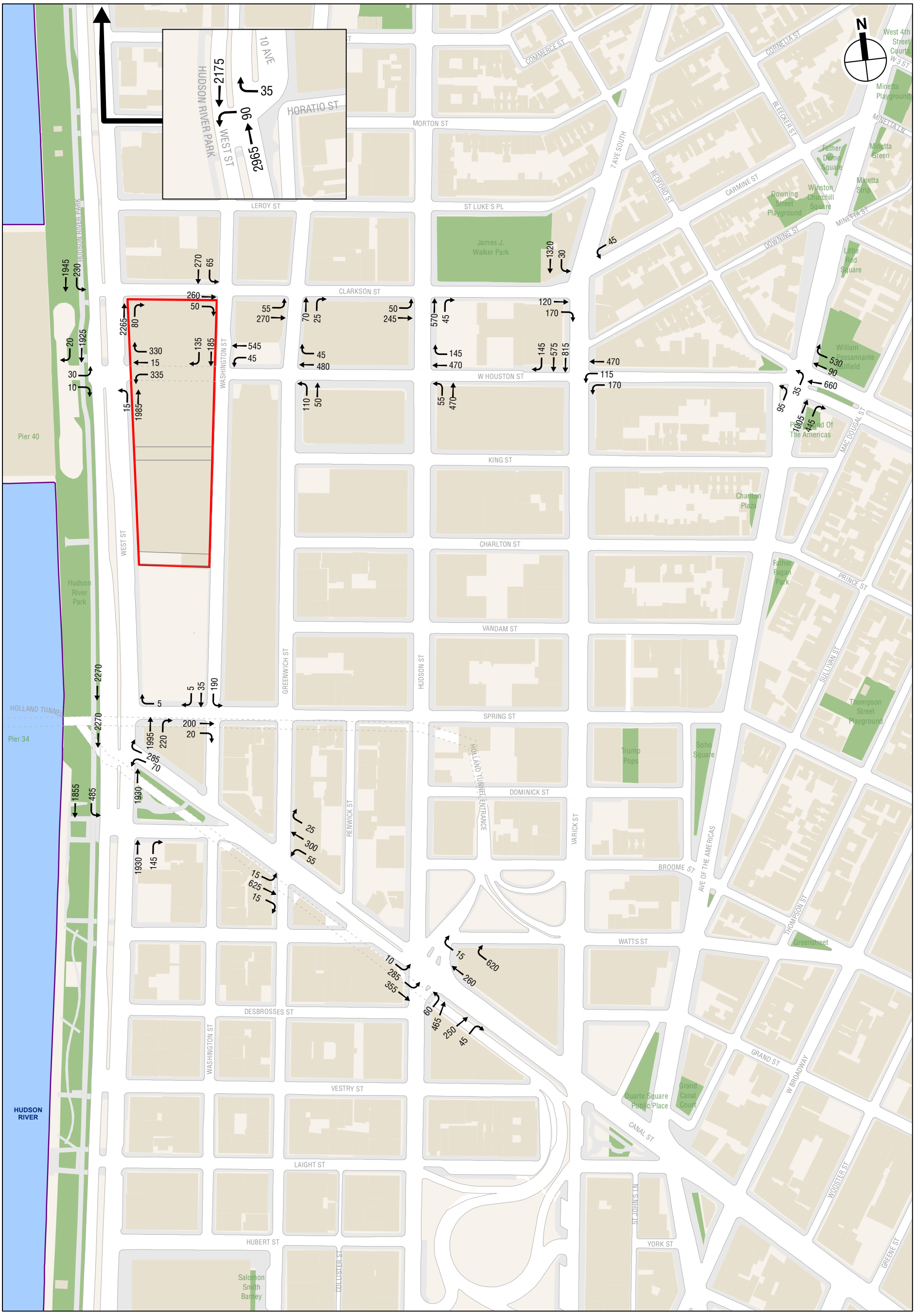


Development Site

2015 Existing Traffic Volumes
Weekday PM Peak Hour

Figure 14-49

5/3/2016



Development Site

0 400 FEET

550 WASHINGTON STREET

2015 Existing Traffic Volumes
Saturday Peak Hour
Figure 14-50

Table 14-24
Summary of 2015 Existing Traffic Analysis Results

Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Signalized Intersections				
Lane Groups at LOS A/B/C	35	39	33	43
Lane Groups at LOS D	10	12	8	12
Lane Groups at LOS E	6	2	7	3
Lane Groups at LOS F	8	6	10	1
Total	59	58	58	59
Lane Groups with v/c ≥ 0.90	14	9	10	4
Unsignalized Intersections				
Lane Groups at LOS A/B/C	6	6	6	6
Lane Groups at LOS D	0	0	0	0
Lane Groups at LOS E	0	0	0	0
Lane Groups at LOS F	0	0	0	0
Total	6	6	6	6
Lane Groups with v/c ≥ 0.90	0	0	0	0
Notes: LOS = Level-of-Service; v/c = volume-to-capacity ratio.				

Clarkson Street

- Southbound approach at the Clarkson Street and Washington Street intersection (LOS D with a v/c ratio of 0.95 and a delay of 51.4 seconds per vehicle [spv] during the weekday AM peak hour; and LOS D with a v/c ratio of 0.91 and a delay of 43.0 spv during the weekday PM peak hour);
- Southbound left-turn at the Clarkson Street and West Street intersection (LOS F with a v/c ratio of 1.05 and a delay of 119.8 spv during the weekday AM peak hour; LOS F with a v/c ratio of 1.05 and a delay of 101.2 spv during the weekday midday peak hour; and LOS F with a v/c ratio of 0.98 and a delay of 101.2 spv during the weekday PM peak hour);
- Eastbound approach at the Clarkson Street and Hudson Street intersection (LOS F with a v/c ratio of 1.05 and a delay of 85.4 spv during the weekday AM peak hour; LOS F with a v/c ratio of 1.05 and a delay of 84.7 spv during the weekday midday peak hour; and LOS D with a v/c ratio of 0.88 and a delay of 52.3 spv during the weekday PM peak hour); and
- Eastbound approach at the Clarkson Street and Varick Street intersection (LOS D with a v/c ratio of 0.94 and a delay of 50.4 spv during the weekday AM peak hour).

Table 14-25
2015 Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM				Saturday			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Clarkson Street and Washington Street																
EB	TR	0.54	20.3	C	TR	0.51	19.7	B	TR	0.43	18.4	B	TR	0.30	16.7	B
SB	LT	0.95	51.4	D	LT	0.61	23.6	C	LT	0.91	43.0	D	LT	0.58	22.6	C
	Intersection		35.2	D	Intersection		21.2	C	Intersection		31.5	C	Intersection		19.7	B
West Houston Street and Washington Street																
WB	LT	0.52	19.6	B	LT	0.45	18.5	B	LT	0.61	25.8	C	LT	0.46	18.5	B
SB	TR	0.92	47.1	D	TR	0.73	28.4	C	TR	0.95	50.0	D	TR	0.58	22.6	C
	Intersection		31.8	C	Intersection		22.8	C	Intersection		37.0	D	Intersection		19.9	B
West Houston Street and Greenwich Street																
WB	TR	0.66	30.0	C	TR	0.69	30.6	C	TR	0.65	29.3	C	TR	0.60	28.0	C
NB	L	0.28	11.7	B	L	0.18	10.5	B	L	0.20	10.6	B	L	0.18	10.4	B

	T	0.35	12.3	B	T	0.23	10.9	B	T	0.13	10.0	A	T	0.08	9.5	A
	Intersection		22.0	C	Intersection		23.6	C	Intersection		23.6	C	Intersection		23.2	C
West Houston Street and Hudson Street																
WB	TR	0.69	30.6	C	TR	0.72	31.5	C	TR	0.66	29.2	C	TR	0.67	29.3	C
NB	LT	0.53	13.9	B	LT	0.60	14.9	B	LT	0.37	11.8	B	LT	0.36	11.8	B
	Intersection		20.8	C	Intersection		21.5	C	Intersection		20.6	C	Intersection		20.8	C
West Houston Street and Varick Street																
WB	L	0.68	35.0	C	L	0.77	41.6	D	L	0.61	31.7	C	L	0.71	33.9	C
	T	0.64	24.1	C	T	0.60	22.8	C	T	0.78	29.9	C	T	0.71	26.2	C
SB (East Lanes)	T	0.71	24.0	C	T	0.68	23.3	C	T	0.64	22.1	C	T	0.70	23.5	C
SB (West Lanes)	TR	0.71	24.4	C	TR	0.75	25.5	C	TR	0.77	99.6	F	TR	0.65	22.3	C
	Intersection		25.4	C	Intersection		26.0	C	Intersection		40.8	D	Intersection		25.0	C
West Houston Street and Sixth Avenue																
WB	T	0.42	14.6	B	T	0.45	17.4	B	T	0.47	19.5	B	T	0.46	15.0	B
	TR	0.72	44.1	D	TR	0.89	68.0	E	TR	0.96	85.8	F	TR	0.95	70.1	E
	R	0.64	40.2	D	R	0.94	70.7	E	R	1.01	85.9	F	R	0.95	70.3	E
NB	L	0.20	19.8	B	L	0.23	20.1	C	L	0.17	19.4	B	L	0.21	19.9	B
	LT	1.01	53.5	D	LT	0.88	33.7	C	LT	0.72	26.8	C	LT	0.69	26.0	C
	R	0.59	12.9	B	R	0.64	14.2	B	R	0.53	11.7	B	R	0.64	14.1	B
	Intersection		42.3	D	Intersection		33.4	C	Intersection		35.3	D	Intersection		31.2	C
Clarkson Street and West Street																
NB	TR	0.83	18.9	B	TR	0.79	19.2	B	TR	0.83	19.0	B	TR	0.69	16.5	B
SB	L	1.05	119.8	F	L	1.05	101.2	F	L	0.98	101.2	F	L	0.57	42.4	D
	T	0.79	18.0	B	T	0.74	18.2	B	T	0.63	13.6	B	T	0.75	18.4	B
	Intersection		24.8	C	Intersection		25.8	C	Intersection		21.9	C	Intersection		18.6	B
West Houston Street and West Street																
EB	L	0.65	80.3	F	L	0.21	35.3	D	L	0.56	67.0	E	L	0.16	34.5	C
	R	0.09	47.1	D	R	0.06	32.3	C	R	0.06	46.5	D	R	0.03	31.9	C
WB	L	0.65	63.3	E	L	0.33	36.8	D	L	0.56	58.7	E	L	0.41	38.5	D
	LT	0.77	71.3	E	LT	0.36	37.5	D	LT	0.64	62.5	E	LT	0.44	39.2	D
	R	1.05	128.4	F	R	1.05	108.5	F	R	1.05	126.2	F	R	1.05	107.4	F
NB	L	0.34	76.2	E	L	0.13	53.3	D	L	0.42	79.3	E	L	0.13	53.0	D
	T	0.87	28.9	C	T	0.85	29.8	C	T	0.87	28.6	C	T	0.74	25.4	C
SB	T	0.92	34.2	C	T	0.97	43.2	D	T	0.74	23.5	C	T	0.96	41.6	D
	R	0.03	12.3	B	R	0.04	15.4	B	R	0.02	12.2	B	R	0.04	15.4	B
	Intersection		39.1	D	Intersection		40.6	D	Intersection		35.0	C	Intersection		38.9	D
Canal Street (North) and West Street																
WB	L	0.70	67.5	E	L	0.33	43.8	D	L	0.21	41.0	D	L	0.25	41.6	D
	LR	1.05	128.3	F	LR	0.92	86.6	F	LR	0.31	43.3	D	LR	0.59	51.5	D
	R	1.05	129.8	F	R	0.92	90.8	F	R	0.31	43.4	D	R	0.66	57.0	E
NB	T	0.66	10.1	B	T	0.54	9.2	A	T	0.76	13.0	B	T	0.50	8.7	A
SB	T	0.53	8.2	A	T	0.45	8.1	A	T	0.45	8.2	A	T	0.45	8.2	A
	Intersection		19.8	B	Intersection		16.1	B	Intersection		12.1	B	Intersection		12.1	B

Table 14-25 (cont'd)
2015 Existing Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM				Weekday Midday				Weekday PM				Saturday			
Intersection	**Lane Group**	**v/c Ratio**	**Delay (sec)**	**LOS**	**Lane Group**	**v/c Ratio**	**Delay (sec)**	**LOS**	**Lane Group**	**v/c Ratio**	**Delay (sec)**	**LOS**	**Lane Group**	**v/c Ratio**	**Delay (sec)**	**LOS**
Canal Street (South) and West Street [1]																
NB	T	0.94	38.3	D	T	0.76	27.6	C	T	1.05	62.7	E	T	0.72	26.2	C
	R	0.47	23.9	C	R	0.51	24.6	C	-	-	-	-	R	0.26	19.3	B
SB	L	0.83	42.8	D	L	0.65	30.1	C	L	0.67	31.1	C	L	0.39	24.7	C
	T	0.68	14.6	B	T	0.52	10.9	B	T	0.52	10.4	B	T	0.64	12.8	B
	Intersection		30.4	C	Intersection		22.5	C	Intersection		43.2	D	Intersection		20.3	C
Canal Street and Greenwich Street																
EB	LTR	0.70	24.4	C	LTR	0.70	26.1	C	LTR	0.89	85.2	F	LTR	0.41	20.1	C
WB	L	0.59	22.5	C	L	0.63	25.4	C	L	0.50	16.9	B	L	0.18	9.8	A
	TR	0.75	19.6	B	TR	0.62	16.3	B	TR	0.27	10.1	B	TR	0.41	11.8	B
	Intersection		22.8	C	Intersection		23.4	C	Intersection		62.9	E	Intersection		16.9	B

Canal Street and Hudson Street																
EB	L	0.76	40.5	D	L	0.78	41.4	D	L	0.69	89.8	F	L	0.52	33.0	C
	T	0.78	22.4	C	T	0.62	16.5	B	T	0.66	17.4	B	T	0.49	13.6	B
WB	T	1.05	216.4	F	T	1.05	84.7	F	T	0.40	61.2	E	T	0.72	39.3	D
	R	0.47	12.8	B	R	0.51	13.4	B	R	1.05	84.7	F	R	0.53	13.6	B
NB (East Lanes)	T	0.17	24.4	C	T	0.15	24.2	C	T	0.69	86.3	F	T	0.32	26.0	C
	R	0.20	25.4	C	R	0.17	25.0	C	R	0.07	23.6	C	R	0.14	24.5	C
NB (West Lanes)	LT	1.05	74.0	E	LT	0.95	53.6	D	LT	0.93	50.4	D	LT	0.71	33.8	D
	Intersection		70.2	E	Intersection		40.8	D	Intersection		61.1	E	Intersection		25.0	C
Clarkson Street and Hudson Street																
EB	LT	1.05	85.4	F	LT	1.05	84.7	F	LT	0.90	52.3	D	LT	0.75	36.6	D
NB	TR	0.71	18.4	B	TR	0.70	18.1	B	TR	0.46	13.5	B	TR	0.44	13.2	B
	Intersection		40.4	D	Intersection		39.6	D	Intersection		28.2	C	Intersection		21.5	C
Clarkson Street and Varick Street																
EB	TR	0.94	50.4	D	TR	0.89	42.7	D	TR	0.62	23.7	C	TR	0.57	22.4	C
WB	L	0.16	17.1	B	L	0.22	18.2	B	L	0.12	16.1	B	L	0.22	17.3	B
SB	LT	0.63	20.7	C	LT	0.60	20.1	C	LT	0.43	17.8	B	LT	0.58	19.8	B
	Intersection		28.5	C	Intersection		26.0	C	Intersection		19.4	B	Intersection		20.2	C
Tenth Avenue and West Street																
WB	L	0.77	90.2	F	L	0.38	47.1	D	L	0.80	93.9	F	L	0.44	49.9	D
	R	0.23	59.8	E	R	0.14	42.1	D	R	0.14	57.9	E	R	0.13	41.8	D
NB	T	0.88	22.2	C	T	0.82	21.7	C	T	0.90	23.3	C	T	0.90	25.4	C
SB	T	0.90	24.6	C	T	0.89	26.4	C	T	0.75	17.4	B	T	0.88	25.3	C
	Intersection		24.9	C	Intersection		24.4	C	Intersection		22.9	C	Intersection		25.9	C

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.
(1) Northbound right-turns not permitted by Traffic Enforcement Agent (TEA) during the weekday PM peak hour.

Table 14-26
2015 Existing Conditions Level of Service Analysis
Unsignalized Intersections

	Weekday AM				Weekday Midday				Weekday PM				Saturday			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Spring Street and West Street																
WB	R	0.02	15.2	C	R	0.01	13.4	B	R	0.02	16.0	C	R	0.01	13.9	B
Spring Street and Washington Street																
EB	TR	0.41	11.4	B	TR	0.24	9.4	A	TR	0.39	11.5	B	TR	0.34	9.8	A
SB	LTR	0.54	14.0	B	LTR	0.50	12.1	B	LTR	0.70	18.3	C	LTR	0.31	9.9	A
Clarkson Street and Greenwich Street																
EB	L	0.19	9.4	A	L	0.15	8.9	A	L	0.11	8.3	A	L	0.08	7.8	A
	T	0.63	16.4	C	T	0.59	14.5	B	T	0.49	11.7	B	T	0.38	9.8	A
NB	TR	0.49	13.4	B	TR	0.36	11.1	B	TR	0.21	9.3	A	TR	0.13	8.4	A

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound.

West Houston Street

- Southbound approach at the West Houston Street and Washington Street intersection (LOS D with a v/c ratio of 0.92 and a delay of 47.1 spv during the weekday AM peak hour; and LOS D with a v/c ratio of 0.95 and a delay of 50.0 spv during the weekday PM peak hour);
- Southbound (West Lanes) approach at the intersection of West Houston Street and Varick Street (LOS F with a v/c ratio of 0.77 and a delay of 99.6 spv during the weekday PM peak hour);
- Westbound through/right-turn at the intersection of West Houston Street and Sixth Avenue (LOS E with a v/c ratio of 0.89 and a delay of 68.0 spv during the weekday midday peak

hour; LOS F with a v/c ratio of 0.96 and a delay of 85.8 spv during the weekday PM peak hour; and LOS E with a v/c ratio of 0.95 and a delay of 70.1 spv during the Saturday peak hour);

- Westbound right-turn at the intersection of West Houston Street and Sixth Avenue (LOS E with a v/c ratio of 0.94 and a delay of 70.7 spv during the weekday midday peak hour; LOS F with a v/c ratio of 1.01 and a delay of 85.9 spv during the weekday PM peak hour; and LOS E with a v/c ratio of 0.95 and a delay of 70.3 spv during the Saturday peak hour);
- Northbound left-turn/through at the intersection of West Houston Street and Sixth Avenue (LOS D with a v/c ratio of 1.01 and a delay of 53.5 spv during the weekday AM peak hour);
- Eastbound left-turn at the intersection of West Houston Street and West Street (LOS F with a v/c ratio of 0.65 and a delay of 80.3 spv during the weekday AM peak hour; and LOS E with a v/c ratio of 0.56 and a delay of 67.0 spv during the weekday PM peak hour);
- Eastbound right-turn at the intersection of West Houston Street and West Street (LOS D with a v/c ratio of 0.09 and a delay of 47.1 spv during the weekday AM peak hour; and LOS D with a v/c ratio of 0.06 and a delay of 46.5 spv during the weekday PM peak hour);
- Westbound left-turn at the intersection of West Houston Street and West Street (LOS E with a v/c ratio of 0.65 and a delay of 63.3 spv during the weekday AM peak hour; and LOS E with a v/c ratio of 0.56 and a delay of 58.7 spv during the weekday PM peak hour);
- Westbound left-turn/through at the intersection of West Houston Street and West Street (LOS E with a v/c ratio of 0.77 and a delay of 71.3 spv during the weekday AM peak hour; and LOS E with a v/c ratio of 0.64 and a delay of 62.5 spv during the weekday PM peak hour);
- Westbound right-turn at the intersection of West Houston Street and West Street (LOS F with a v/c ratio of 1.05 and a delay of 128.4 spv during the weekday AM peak hour; LOS F with a v/c ratio of 1.05 and a delay of 108.5 spv during the weekday midday peak hour; LOS F with a v/c ratio of 1.05 and a delay of 126.2 spv during the weekday PM peak hour; and LOS F with a v/c ratio of 1.05 and a delay of 107.4 spv during the Saturday peak hour);
- Northbound left-turn at the intersection of West Houston Street and West Street (LOS E with a v/c ratio of 0.34 and a delay of 76.2 spv during the weekday AM peak hour; LOS D with a v/c ratio of 0.13 and a delay of 53.3 spv during the weekday midday peak hour; LOS E with a v/c ratio of 0.42 and a delay of 79.3 spv during the weekday PM peak hour; and LOS D with a v/c ratio of 0.13 and a delay of 53.0 spv during the Saturday peak hour); and
- Southbound through at the intersection of West Houston Street and West Street (LOS C with a v/c ratio of 0.92 and a delay of 34.2 spv during the weekday AM peak hour; LOS D with a v/c ratio of 0.97 and a delay of 43.2 spv during the weekday midday peak hour; and LOS D with a v/c ratio of 0.96 and a delay of 41.6 spv during the Saturday peak hour).

Canal Street

- Westbound left-turn at the intersection of Canal Street (North) and West Street (LOS E with a v/c ratio of 0.70 and a delay of 67.5 spv during the weekday AM peak hour);
- Westbound left-turn/right-turn at the intersection of Canal Street (North) and West Street (LOS F with a v/c ratio of 1.05 and a delay of 128.3 spv during the weekday AM peak hour; LOS F with a v/c ratio of 0.92 and a delay of 86.6 spv during the weekday midday peak hour; and LOS D with a v/c ratio of 0.59 and a delay of 51.5 spv during the Saturday peak hour);

- Westbound right-turn at the intersection of Canal Street (North) and West Street (LOS F with a v/c ratio of 1.05 and a delay of 129.8 spv during the weekday AM peak hour; LOS F with a v/c ratio of 0.92 and a delay of 90.8 spv during the weekday midday peak hour; and LOS D with a v/c ratio of 0.66 and a delay of 57.0 spv during the Saturday peak hour);
- Northbound through at the intersection of Canal Street (South) and West Street (LOS D with a v/c ratio of 0.94 and a delay of 38.3 spv during the weekday AM peak hour; and LOS E with a v/c ratio of 1.05 and a delay of 62.7 spv during the weekday PM peak hour);
- Eastbound approach at the intersection of Canal Street and Greenwich Street (LOS F with a v/c ratio of 0.89 and a delay of 85.2 spv during the weekday PM peak hour);
- Eastbound left-turn at the intersection of Canal Street and Hudson Street (LOS F with a v/c ratio of 0.69 and a delay of 89.8 spv during the weekday PM peak hour);
- Westbound through at the intersection of Canal Street and Hudson Street (LOS F with a v/c ratio of 1.05 and a delay of 216.4 spv during the weekday AM peak hour; LOS F with a v/c ratio of 1.05 and a delay of 84.7 spv during the weekday midday peak hour; and LOS E with a v/c ratio of 0.40 and a delay of 61.2 spv during the weekday PM peak hour);
- Westbound right-turn at the intersection of Canal Street and Hudson Street (LOS F with a v/c ratio of 1.05 and a delay of 84.7 spv during the weekday PM peak hour);
- Northbound (East Lanes) through at the intersection of Canal Street and Hudson Street (LOS F with a v/c ratio of 0.69 and a delay of 86.3 spv during the weekday PM peak hour); and
- Northbound (West Lanes) left-turn/through at the intersection of Canal Street and Hudson Street (LOS E with a v/c ratio of 1.05 and a delay of 74.0 spv during the weekday AM peak hour; LOS D with a v/c ratio of 0.95 and a delay of 53.6 spv during the weekday midday peak hour; and LOS D with a v/c ratio of 0.93 and a delay of 50.4 spv during the weekday PM peak hour).

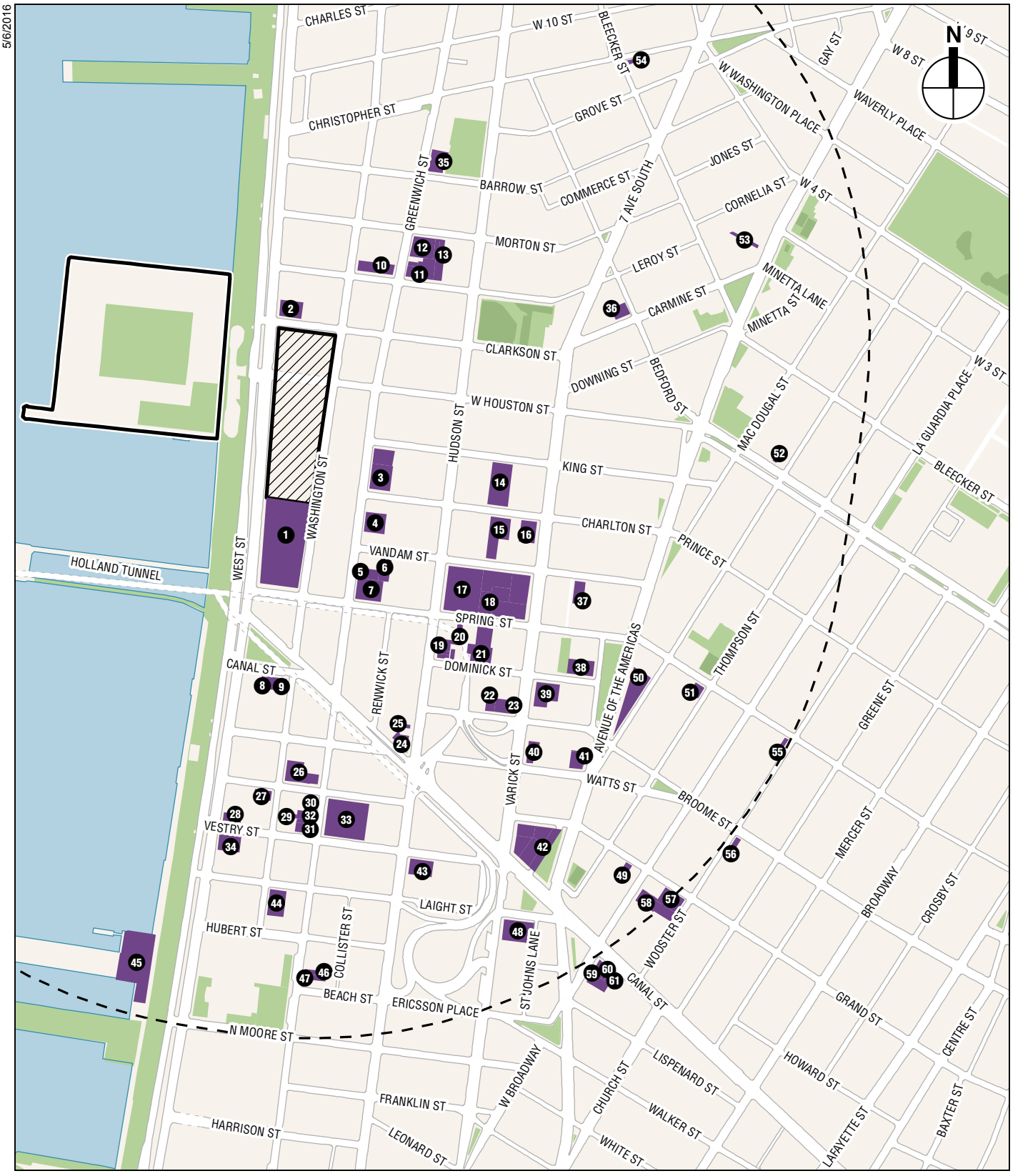
Tenth Avenue

- Westbound left-turn at the intersection of Tenth Avenue and West Street (LOS F with a v/c ratio of 0.77 and a delay of 90.2 spv during the weekday AM peak hour; LOS D with a v/c ratio of 0.38 and a delay of 47.1 spv during the weekday midday peak hour; LOS F with a v/c ratio of 0.80 and a delay of 93.9 spv during the weekday PM peak hour; and LOS D with a v/c ratio of 0.42 and a delay of 49.3 spv during the Saturday peak hour);
- Westbound right-turn at the intersection of Tenth Avenue and West Street (LOS E with a v/c ratio of 0.23 and a delay of 59.8 spv during the weekday AM peak hour; and LOS E with a v/c ratio of 0.14 and a delay of 57.9 spv during the weekday PM peak hour);
- Northbound through at the intersection of Tenth Avenue and West Street (LOS C with a v/c ratio of 0.90 and a delay of 23.3 spv during the weekday PM peak hour); and
- Southbound through at the intersection of Tenth Avenue and West Street (LOS C with a v/c ratio of 0.90 and a delay of 24.6 spv during the weekday AM peak hour).

THE FUTURE WITHOUT THE PROPOSED ACTIONS

The No Action condition was developed by increasing existing (2015) traffic levels by the expected growth in overall travel through and within the study area. As per *CEQR Technical Manual* guidelines, an annual background growth rate of 0.25 percent was assumed for the first five years (year 2015 to year 2020) and then 0.125 percent for the remaining years (year 2020 to

year 2024). A total of 61 development projects expected to occur in the No Action condition (No Build projects) were identified as being planned for the ½-mile study area (see **Figure 14-51**). However, some of these planned projects are modest in size and would be very modest traffic generators. After reviewing the development programs for each of the planned projects, it was determined that background growth will address the increase in traffic and pedestrian levels for 16 of the small- to moderate-sized projects in the study area. More than half of the No Build projects in the study area are also part of larger rezoning area projects where previous environmental studies have been completed. Specifically, they are the North Tribeca Rezoning and Hudson Square Rezoning projects. Person and vehicle trips from these two projects were determined from the 2010 *North Tribeca Rezoning EAS* and the 2013 *Hudson Square Rezoning FEIS* and incorporated into the No Action analyses. In addition, trips associated with the 2008 *DSNY MN 1/2/5 Garage FEIS* were determined and incorporated into the No Action analyses. **Table 14-27** and **Figure 14-51** summarize the projects that were accounted for in this future 2024 baseline, including those that were considered as part of the study area background growth. And as discussed above in the "Level 1 Screening Assessment" section of Section B, "Preliminary Analysis Methodology and Screening Assessment," absent the proposed project, the No Action development would be redeveloped with a mix of office, hotel, event space, and retail uses. The No Action building project-generated vehicle trips are shown in **Figures 14-4 through 14-7**.



Development Site

Granting Site

Study Area (Half-Mile boundary)

1 *No Build Project*

0 1,000 FEET

550 WASHINGTON STREET

2024 No Build Projects

Figure 14-51

Table 14-27
No Build Projects Expected to be Complete by 2024

Map Ref. No.[1]	Project Name/ Address	Development Program	Transportation Assumptions	Status/ Build Year[2]
Development Projects Within ½-Mile				
1	353 Spring Street (DSNY Garage)	397,893 gsf commercial space (new garage facility for NYC Department of Sanitation)	Transportation assumptions from *DSNY MN 1/2/5 Garage FEIS* (2008)	2015
2	354-361 West Street	Mixed commercial/residential: 834 gsf retail, 49 units	Included in background growth	2024
3	551 Greenwich Street	Mixed commercial/residential: 18,644 gsf retail, 273 units	Transportation assumptions from *Hudson Square Rezoning FEIS* (2013)	2022
4	537-545 Greenwich Street	116 residential units	Included in background growth	2024
5	523 Greenwich Street	Mixed commercial/residential: 4,675 gsf retail, 68 units	See project site 3, above	2022
6	92 Vandam Street	Mixed commercial/residential: 5,344 gsf retail, 78 units	See project site 3, above	2022
7	515 Greenwich Street	Mixed commercial/residential: 12,797 gsf retail, 188 units	See project site 3, above	2022
8	536 Canal Street	Mixed commercial/residential: 538 gsf retail, 3 units	Transportation assumptions from *North Tribeca Rezoning EAS* (2010)	2019
9	526 Canal Street	1 residential unit	Included in background growth	2024
10	601 Washington Street	Mixed commercial/residential: 2,674 gsf retail, 8 units	Transportation assumptions from *CEQR Technical Manual*, *Hudson Square Rezoning FEIS* (2013), and U.S. Census Bureau American Community Survey 2009-2013 Journey to Work estimates	2024
11	617-623 Greenwich Street	94 residential units	See project site 10, above	2024
12	627 Greenwich Street	107 residential units	See project site 10, above	2024
13	78 Morton Street	Mixed commercial/residential: 1,557 gsf retail, 4 units	See project site 10, above	2024
14	82 King Street	Mixed commercial/residential: 19,004 gsf retail, 278 units	See project site 3, above	2022
15	68 Charlton Street	Mixed commercial/residential: 2,828 gsf retail, 122 units	Included in background growth	2024
16	163 Varick Street	Mixed commercial/residential: 7,013 gsf retail, 159 units	See project site 3, above	2022
17	304 Hudson Street	391,871 gsf commercial, including office space	See project site 3, above	2022
18	50 Vandam Street	Mixed commercial/residential: 92,406 gsf commercial, including office space; 598 units	See project site 3, above	2022

Table 14-27 (cont'd)
No Build Projects Expected to be Complete by 2024

Map Ref. No.[1]	Project Name/ Address	Development Program	Transportation Assumptions	Status/ Build Year[2]
Development Projects Within ½-Mile				
19	282 Hudson Street	Mixed commercial/residential: 4,827 gsf retail, 154 units	See project site 3, above	2022
20	290 Hudson Street	Mixed commercial/residential: 3,962 gsf retail, 24 units	See project site 3, above	2022
21	272 Spring Street	Mixed commercial/residential: 15,175 gsf retail, 198 units	See project site 3, above	2022
22	570 Broome Street	Mixed commercial/residential: 919 gsf retail, 33 units	See project site 10, above	2024
23	111 Varick Street	Mixed commercial/residential: 1,072 gsf retail, 49 units	See project site 10, above	2024
24	219 Hudson Street	Commercial: 3,400 gsf retail, 56-room hotel, 612 gsf community facility	Transportation assumptions from *CEQR Technical Manual* and the *Hudson Square Rezoning FEIS* (2013)	2024
25	229 Hudson Street	3,000 sf retail	See project site 24, above	2024
26	456 Greenwich Street	Mixed commercial/residential: 84-room hotel, 13 residential units	See project site 10, above	2024
27	440 Washington Street	Mixed commercial/residential: 7,407 gsf retail, 41 units	See project site 10, above	2024
28	264 West Street	Mixed commercial/residential: 829 gsf retail, 47 units	See project site 10, above	2024
29	431 Washington Street	Mixed commercial/residential: 1,617 gsf retail, 9 units	See project site 8, above	2019
30	444 Greenwich Street	Mixed commercial/residential: 3,360 gsf retail, 18 units	See project site 8, above	2019
31	438 Greenwich Street	Mixed commercial/residential: 3,276 gsf retail, 17 units	See project site 8, above	2019
32	442 Greenwich Street	Mixed commercial/residential: 1,638 gsf retail, 9 units	See project site 8, above	2019
33	443 Greenwich Street	Adding 15-space garage to existing building	Included in background growth	2024
34	67 Vestry Street	42 residential units	See project site 24, above	2024
35	100 Barrow Street	35 residential units	Included in background growth	2024
36	51 Carmine Street	Mixed commercial/residential: 4,460 gsf retail, 20 units	Included in background growth	2024

Table 14-27 (cont'd)
No Build Projects Expected to be Complete by 2024

Map Ref. No.[1]	Project Name/ Address	Development Program	Transportation Assumptions	Status/ Build Year[2]
Development Projects Within ½-Mile				
37	30 Vandam Street	Mixed commercial/residential: 4,675 gsf retail, 68 units	See project site 3, above	2022
38	145 Avenue of the Americas	Mixed commercial/residential: 9,350 gsf retail, 121 units	See project site 3, above	2022
39	114 Varick Street	Mixed commercial/residential: 11,328 gsf retail, 305 units	See project site 3, above	2022
40	100 Varick Street	Mixed commercial/residential: 17,134 gsf retail, 115 units	See project site 10, above	2024
41	119 Avenue of the Americas	Mixed commercial/residential: 5,484 gsf retail, 97 units	See project site 3, above	2022
42	417 Canal Street	Mixed commercial/residential: 7,274 gsf retail, 75,000 gsf community facility, 341 dwelling units	See project site 3, above	2022
43	174 Hudson Street	Mixed commercial/residential: 8,625 gsf retail, 43 units	See project site 8, above	2019
44	401 Washington Street	Mixed commercial/residential: 10,000 gsf retail, 48 units	See project site 8, above	2019
45	Hudson River Park - Pier 26	1.49-acre open space	Included in background growth	2024
46	403 Greenwich Street	4 residential units	Included in background growth	2024
47	401 Greenwich Street	Mixed commercial/residential: 2,500 gsf retail, 13 units	See project site 8, above	2019
48	52 Varick Street	Mixed commercial/residential: 13,867 gsf retail, 66 units	See project site 8, above	2019
49	43 Grand Street	30-room hotel	See project site 24, above	2024
50	124 Avenue of the Americas	1 residential unit	Included in background growth	2024
51	83 Thompson Street	Mixed commercial/residential: 3,000 gsf retail, 4,200 gsf community facility, 4 dwelling units	Included in background growth	2024
52	134 West Houston Street	Mixed commercial/residential: 5,484 gsf retail, 428 gsf community facility, 10 dwelling units	Included in background growth	2024
53	309 Avenue of the Americas	Mixed commercial/residential: 3,700 gsf retail, 8,121 gsf community facility, 17 dwelling units	Included in background growth	2024
54	327 Bleecker Street	Mixed commercial/residential: 1,105 gsf retail, 2 units	Included in background growth	2024
55	144 Spring Street	3,073 gsf retail	Included in background growth	2024
56	52-54 Wooster Street	Mixed commercial/residential: 1,550 gsf retail, 5 units	Included in background growth	2024
57	27 Wooster Street	Mixed commercial/residential: 2,000 gsf retail, 15 units	See project site 10, above	2024
58	325 West Broadway	Mixed commercial/residential: 6,000 gsf retail, 20 units	See project site 10, above	2024
59	380 Canal Street / 285 West Broadway	Mixed commercial/residential: 8,570 gsf retail, 43 units	See project site 8, above	2019
60	378 Canal Street	Mixed commercial/residential: 1,278 gsf retail, 6 units	See project site 8, above	2019

Table 14-27 (cont'd)
No Build Projects Expected to be Complete by 2024

Map Ref. No.[1]	Project Name/ Address	Development Program	Transportation Assumptions	Status/ Build Year[2]
Development Projects Within ½-Mile				
61	374 Canal Street	Mixed commercial/residential: 2,303 gsf retail, 11 units	See project site 8, above	2019

Notes:
1. See **Figure 14-51.**
2. Projects that are currently under construction are assumed to be complete by 2015; projects for which an expected date of completion date is not available are assumed to be complete by the proposed project's Build year of 2024.

Sources: DCP; NYC Dept. of Buildings.

CHANGES TO THE STUDY AREA STREET NETWORK

In addition to the development projects noted above, signal timing mitigation measures from the 2013 *Hudson Square Rezoning FEIS* were incorporated into the No Action analysis for the intersections of Washington Street at West Houston Street and Hudson Street at Canal Street.

NYCDOT is also proposing a bicycle safety improvement project for West Houston Street from Washington Street to West Street to be implemented in Spring 2016. The project would shift the existing bike lane between the westbound shared left-turn/through lane and the westbound exclusive right-turn lane to the north curbside. Therefore, this project has also been accounted for in the No Action analysis for the intersection of West Street and West Houston Street.

TRAFFIC OPERATIONS

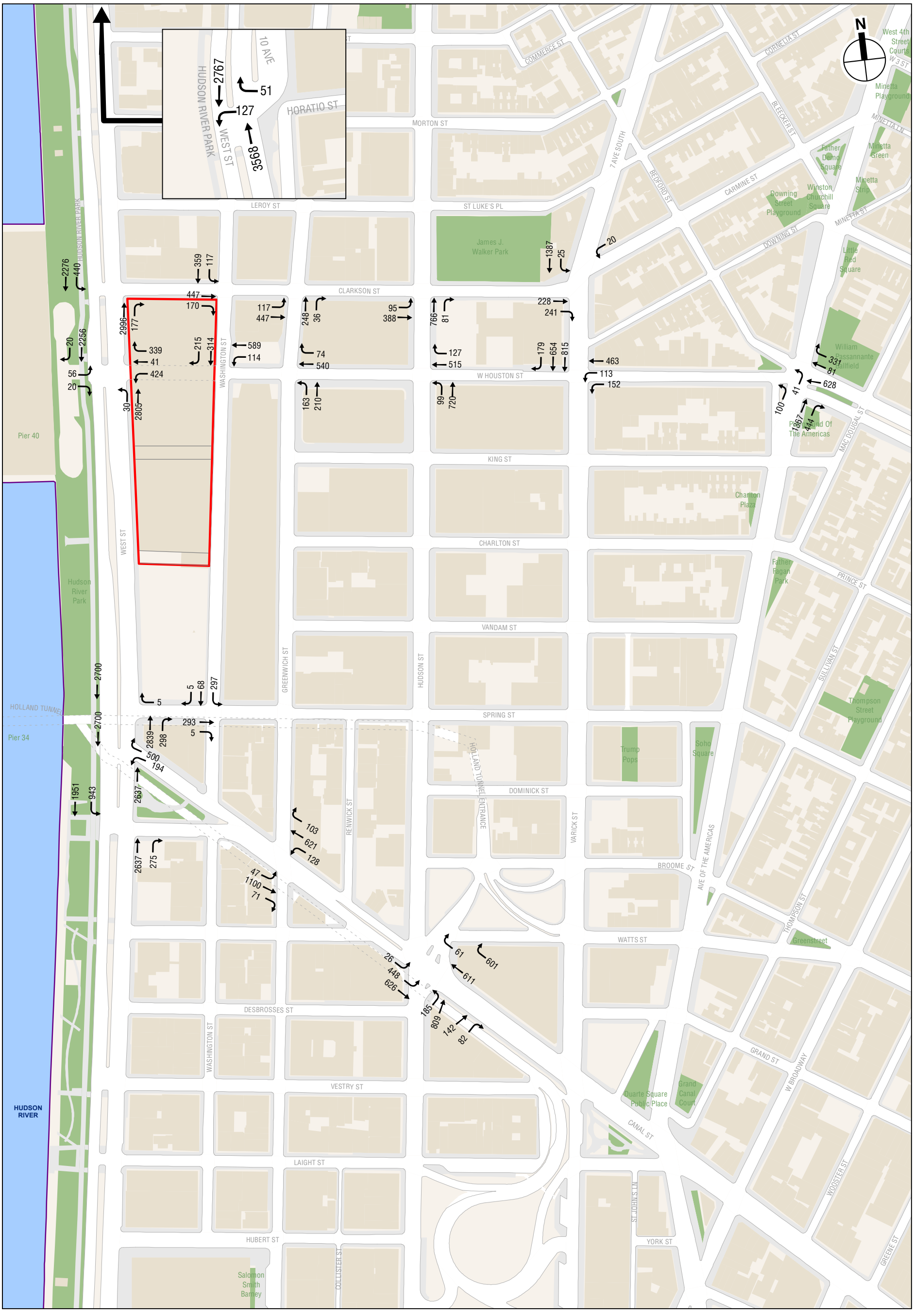
The No Action condition traffic volumes are shown in **Figures 14-52 through Figure 14-55** for the weekday AM, midday, PM, and Saturday peak hours. The No Action condition traffic volumes were projected by layering on top of the existing traffic volumes the following: background growth, trips generated by discrete No Build projects in the area, and incremental trips from the No Action development. A summary of the 2024 No Action condition traffic analysis results is presented in **Table 14-28**. Details on level-of-service, v/c ratios, and average delays are presented in **Tables 14-29 and 14-30**.

Table 14-28
Summary of 2024 No Action Traffic Analysis Results

Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Signalized Intersections				
Lane Groups at LOS A/B/C	32	32	28	40
Lane Groups at LOS D	9	14	8	10
Lane Groups at LOS E	6	4	7	7
Lane Groups at LOS F	12	9	15	2
Total	59	59	58	59
Lane Groups with v/c ≥ 0.90	16	18	17	10
Unsignalized Intersections				
Lane Groups at LOS A/B/C	6	6	5	6
Lane Groups at LOS D	0	0	0	0
Lane Groups at LOS E	0	0	0	0
Lane Groups at LOS F	0	0	1	0
Total	6	6	6	6
Lane Groups with v/c ≥ 0.90	0	0	1	0

Notes: LOS = Level-of-Service; v/c = volume-to-capacity ratio.

5/3/2016

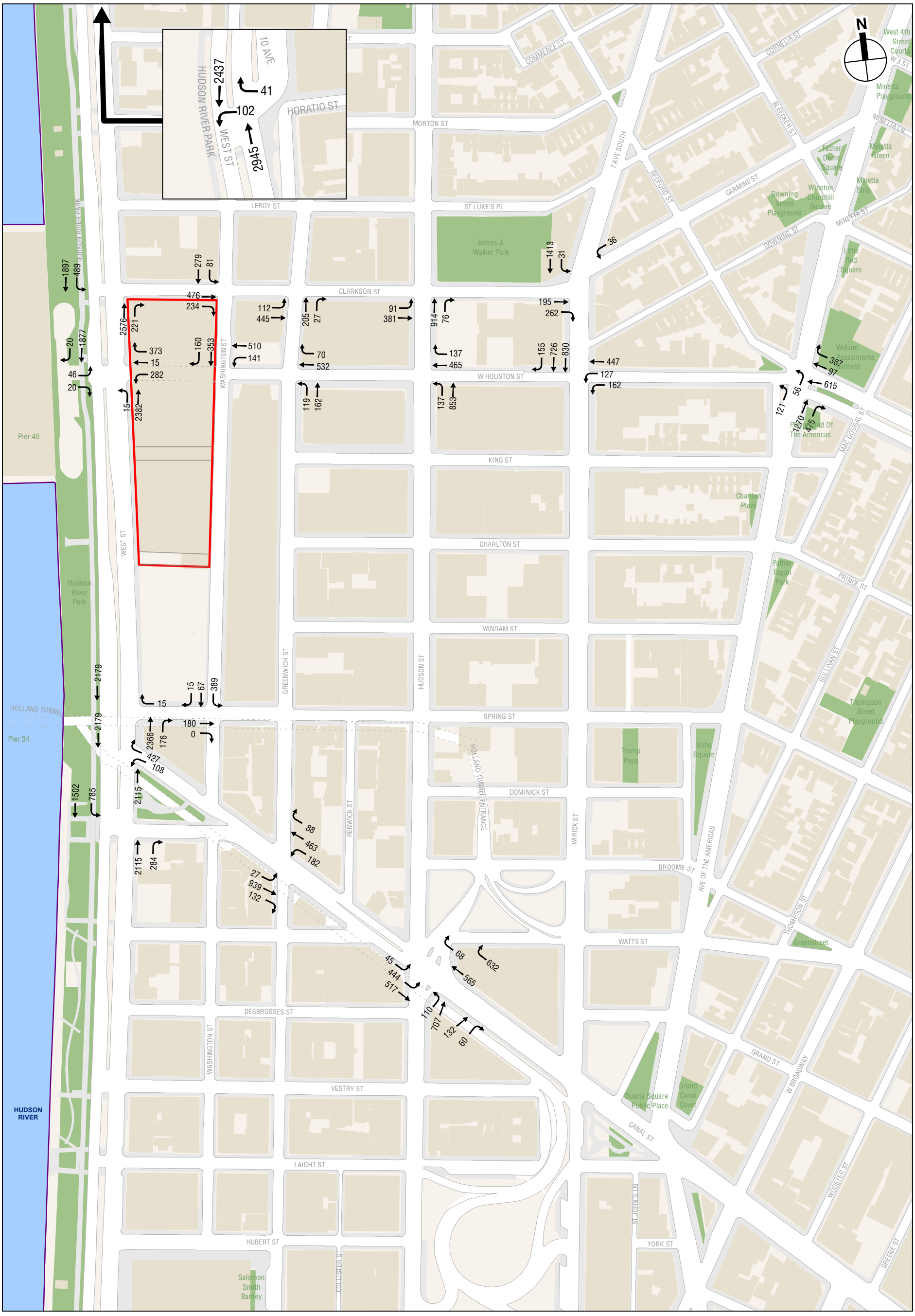


Development Site

2024 No Action Traffic Volumes
Weekday AM Peak Hour

Figure 14-52

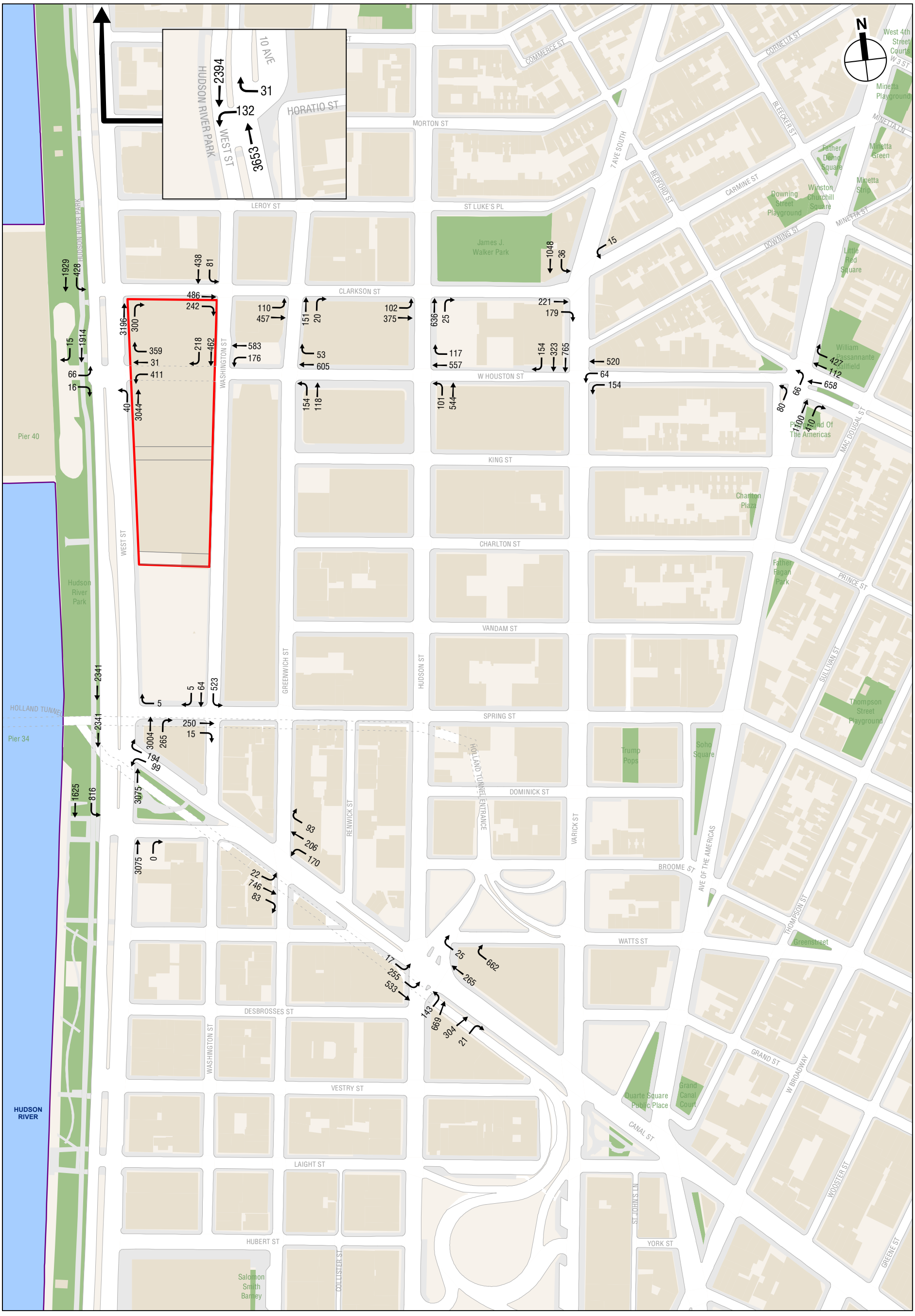
5/3/2016



Development Site

2024 No Action Traffic Volumes
Weekday Midday Peak Hour
Figure 14-53

5/3/2016

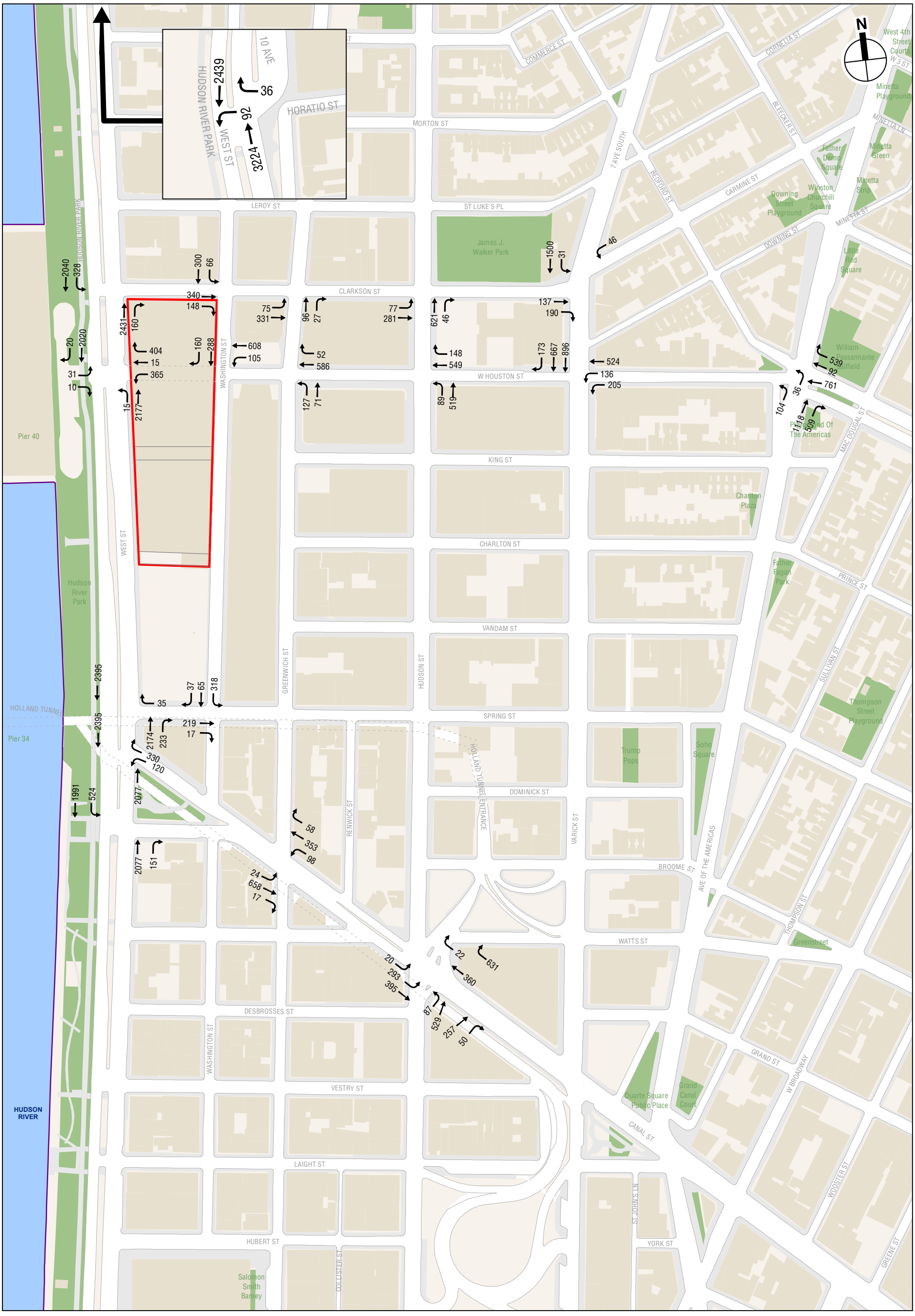


Development Site

0 400 FEET

2024 No Action Traffic Volumes
Weekday PM Peak Hour
Figure 14-54

5/3/2016



Development Site

0 400 FEET

2024 No Action Traffic Volumes
Saturday Peak Hour
Figure 14-55

Based on the analysis results presented in **Tables 14-29 and 14-30**, the majority of the approaches/lane-groups will operate at the same LOS as in the existing conditions. The following approaches/lane-groups are expected to operate at deteriorated LOS when compared to the existing conditions:

Table 14-29

2015 Existing and 2024 No Action Conditions Level of Service Analysis-Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM								Saturday							
	2015 Existing				2024 No Action				2015 Existing				2024 No Action				2015 Existing				2024 No Action				2015 Existing				2024 No Action			
Int.	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Clarkson Street and Washington Street																																
EB	TR	0.54	20.3	C	TR	0.80	28.7	C	TR	0.51	19.7	B	TR	0.86	33.2	C	TR	0.43	18.4	B	TR	0.85	32.0	C	TR	0.30	16.7	B	TR	0.58	21.4	C
SB	LT	0.95	51.4	D	LT	0.99	60.9	E	LT	0.61	23.6	C	LT	0.66	25.4	C	LT	0.91	43.0	D	LT	1.00	61.4	E	LT	0.58	22.6	C	LT	0.63	24.2	C
	Int.		35.2	D	Int.		42.4	D	Int.		21.2	C	Int.		30.5	C	Int.		31.5	C	Int.		45.0	D	Int.		19.7	B	Int.		22.6	C
West Houston Street and Washington Street																																
WB	LT	0.52	19.6	B	LT	0.69	23.3	C	LT	0.45	18.5	B	LT	0.63	21.9	C	LT	0.61	25.8	C	LT	0.91	42.0	D	LT	0.46	18.5	B	LT	0.61	21.1	C
SB	TR	0.92	47.1	D	TR	1.31	177.6	F	TR	0.73	28.4	C	TR	1.14	109.8	F	TR	0.95	50.0	D	TR	1.49	254.9	F	TR	0.58	22.6	C	TR	0.96	56.3	E
	Int.		31.8	C	Int.		91.7	F	Int.		22.8	C	Int.		61.1	E	Int.		37.0	D	Int.		143.8	F	Int.		19.9	B	Int.		34.6	C
West Houston Street and Greenwich Street																																
WB	TR	0.66	30.0	C	TR	0.83	37.9	D	TR	0.69	30.6	C	TR	0.89	43.0	D	TR	0.65	29.3	C	TR	0.85	38.4	D	TR	0.60	28.0	C	TR	0.75	32.5	C
NB	L	0.28	11.7	B	L	0.32	12.1	B	L	0.18	10.5	B	L	0.21	10.7	B	L	0.20	10.6	B	L	0.26	11.3	B	L	0.18	10.4	B	L	0.21	10.7	B
	T	0.35	12.3	B	T	0.37	12.7	B	T	0.23	10.9	B	T	0.26	11.2	B	T	0.13	10.0	A	T	0.18	10.3	B	T	0.08	9.5	A	T	0.11	9.7	A
	Int.		22.0	C	Int.		27.2	C	Int.		23.6	C	Int.		32.4	C	Int.		23.6	C	Int.		29.9	C	Int.		23.2	C	Int.		26.5	C
West Houston Street and Hudson Street																																
WB	TR	0.69	30.6	C	TR	0.79	34.7	C	TR	0.72	31.5	C	TR	0.86	38.8	D	TR	0.66	29.2	C	TR	0.78	33.6	C	TR	0.67	29.3	C	TR	0.79	33.6	C
NB	LT	0.53	13.9	B	LT	0.60	15.0	B	LT	0.60	14.9	B	LT	0.66	16.3	B	LT	0.37	11.8	B	LT	0.45	12.8	B	LT	0.36	11.8	B	LT	0.42	12.4	B
	Int.		20.8	C	Int.		23.3	C	Int.		21.5	C	Int.		25.6	C	Int.		20.6	C	Int.		23.1	C	Int.		20.8	C	Int.		23.3	C
West Houston Street and Varick Street																																
WB	L	0.68	35.0	C	L	0.88	54.7	D	L	0.77	41.6	D	L	1.10	111.0	F	L	0.61	31.7	C	L	0.94	68.9	E	L	0.71	33.9	C	L	1.05	89.5	F
	T	0.64	24.1	C	T	0.72	26.7	C	T	0.60	22.8	C	T	0.68	25.5	C	T	0.78	29.9	C	T	0.87	36.3	D	T	0.71	26.2	C	T	0.80	30.2	C
SB (EL)	T	0.71	24.0	C	T	0.76	25.6	C	T	0.68	23.3	C	T	0.75	25.2	C	T	0.64	22.1	C	T	0.71	23.8	C	T	0.70	23.5	C	T	0.77	25.8	C
SB (WL)	TR	0.71	24.4	C	TR	0.86	31.9	C	TR	0.75	25.5	C	TR	0.88	33.0	C	TR	0.77	99.6	F	TR	1.11	260.7	F	TR	0.65	22.3	C	TR	0.79	27.3	C
	Int.		25.4	C	Int.		31.3	C	Int.		26.0	C	Int.		38.2	C	Int.		40.8	D	Int.		89.1	F	Int.		25.0	C	Int.		35.5	D
West Houston Street and Sixth Avenue																																
WB	T	0.42	14.6	B	T	0.48	15.5	B	T	0.45	17.4	B	T	0.54	18.8	B	T	0.47	19.5	B	T	0.59	20.9	C	T	0.46	15.0	B	T	0.53	16.0	B
	TR	0.63	39.5	D	TR	0.70	42.6	D	TR	0.89	68.0	E	TR	0.91	70.5	E	TR	0.96	85.8	F	TR	0.97	88.6	F	TR	0.95	70.1	E	TR	0.97	73.8	E
	R	0.64	40.2	D	R	0.69	42.7	D	R	0.94	70.7	E	R	0.96	74.7	E	R	1.01	85.9	F	R	1.02	90.0	F	R	0.95	70.3	E	R	0.96	73.4	E
NB	L	0.20	19.8	B	L	0.23	20.1	C	L	0.23	20.1	C	L	0.25	20.3	C	L	0.17	19.4	B	L	0.18	19.6	B	L	0.21	19.9	B	L	0.23	20.2	C
	LT	1.01	53.5	D	LT	1.11	87.1	F	LT	0.88	33.7	C	LT	0.95	41.7	D	LT	0.72	26.8	C	LT	0.80	29.5	C	LT	0.69	26.0	C	LT	0.76	28.1	C
	R	0.59	12.9	B	R	0.70	16.2	B	R	0.64	14.2	B	R	0.74	17.6	B	R	0.53	11.7	B	R	0.65	14.8	B	R	0.64	14.1	B	R	0.74	17.4	B
	Int.		36.9	D	Int.		53.2	D	Int.		33.4	C	Int.		37.5	D	Int.		35.3	D	Int.		36.5	D	Int.		31.2	C	Int.		31.8	C
Clarkson Street and West Street																																
NB	TR	0.83	18.9	B	TR	0.89	22.1	C	TR	0.79	19.2	B	TR	0.88	23.1	C	TR	0.83	19.0	B	TR	0.94	25.8	C	TR	0.69	16.5	B	TR	0.77	18.5	B
SB	L	1.05	119.8	F	L	1.34	228.5	F	L	1.05	101.2	F	L	1.27	182.0	F	L	0.98	101.2	F	L	1.35	234.2	F	L	0.57	42.4	D	L	0.82	56.3	E
	T	0.79	18.0	B	T	0.81	18.8	B	T	0.74	18.2	B	T	0.78	19.3	B	T	0.63	13.6	B	T	0.67	14.4	B	T	0.75	18.4	B	T	0.79	19.6	B
	Int.		24.8	C	Int.		36.3	D	Int.		25.8	C	Int.		36.7	D	Int.		21.9	C	Int.		37.3	D	Int.		18.6	B	Int.		21.4	C
West Houston Street and West Street																																
EB	L	0.65	80.3	F	L	0.71	90.0	F	L	0.21	35.3	D	L	0.24	36.2	D	L	0.56	67.0	E	L	0.64	75.2	E	L	0.16	34.5	C	L	0.17	34.8	C
	R	0.09	47.1	D	R	0.09	47.1	D	R	0.06	32.3	C	R	0.06	32.3	C	R	0.06	46.5	D	R	0.06	46.5	D	R	0.03	31.9	C	R	0.03	31.9	C
WB	L	0.65	63.3	E	L	0.70	66.2	E	L	0.33	36.8	D	L	0.37	37.7	D	L	0.56	58.7	E	L	0.64	62.2	E	L	0.41	38.5	D	L	0.44	39.3	D
	LT	0.77	71.3	E	LT	0.82	76.6	E	LT	0.36	37.5	D	LT	0.40	38.5	D	LT	0.64	62.5	E	LT	0.73	67.3	E	LT	0.44	39.2	D	LT	0.48	40.1	D
	R	1.05	128.4	F	R	1.37	248.5	F	R	1.05	108.5	F	R	1.44	262.6	F	R	1.05	126.2	F	R	1.35	235.5	F	R	1.05	107.4	F	R	1.29	193.5	F
NB	L	0.34	76.2	E	L	0.34	76.2	E	L	0.13	53.3	D	L	0.13	53.3	D	L	0.42	79.3	E	L	0.42	79.3	E	L	0.13	53.0	D	L	0.13	53.0	D
	T	0.87	28.9	C	T	0.92	32.9	C	T	0.85	29.8	C	T	0.93	35.7	D	T	0.87	28.6	C	T	0.95	35.3	D	T	0.74	25.4	C	T	0.81	27.7	C
SB	T	0.92	34.2	C	T	0.95	37.2	D	T	0.97	43.2	D	T	1.02	54.5	D	T	0.74	23.5	C	T	0.78	25.0	C	T	0.96	41.6	D	T	1.01	52.4	D
	R	0.03	12.3	B	R	0.03	12.3	B	R	0.04	15.4	B	R	0.04	15.4	B	R	0.02	12.2	B	R	0.02	12.2	B	R	0.04	15.4	B	R	0.04	15.4	B
	Int.		39.1	D	Int.		50.1	D	Int.		40.6	D	Int.		59.1	E	Int.		35.0	C	Int.		46.8	D	Int.		38.9	D	Int.		51.5	D
Canal Street (North) and West Street																																
WB	L	0.70	67.5	E	L	0.82	79.3	E	L	0.33	43.8	D	L	0.44	46.9	D	L	0.21	41.0	D	L	0.38	44.6	D	L	0.25	41.6	D	L	0.43	45.6	D
	LR	1.05	128.3	F	LR	1.22	187.6	F	LR	0.92	86.6	F	LR	1.08	127.6	F	LR	0.31	43.3	D	LR	0.43	46.5	D	LR	0.59	51.5	D	LR	0.69	56.7	E
	R	1.05	129.8	F	R	1.22	187.7	F	R	0.92	90.8	F	R	1.07	131.1	F	R	0.31	43.4	D	R	0.43	46.7	D	R	0.66	57.0	E	R	0.77	65.4	E
NB	T	0.66	10.1	B	T	0.69	10.8	B	T	0.54	9.2	A	T	0.58	9.7	A	T	0.76	13.0	B	T	0.80	14.1	B	T	0.50	8.7	A	T	0.54	9.1	A
SB	T	0.53	8.2	A	T	0.55	8.4	A	T	0.45	8.1	A	T	0.47	8.4	A	T	0.45	8.2	A	T	0.48	8.5	A	T	0.45	8.2	A	T	0.47	8.4	A
	Int.		19.8	B	Int.		26.4	C	Int.		16.1	B	Int.		21.0	C	Int.		12.1	B	Int.		13.5	B	Int.		12.1	B	Int.		13.5	B
Canal Street (South) and West Street [1]																																
NB	T	0.94	38.3	D	T	0.98	46.2	D	T	0.76	27.6	C	T	0.82	29.5	C	T	1.05	62.7	E	T	1.11	83.7	F	T	0.72	26.2	C	T	0.78	27.8	C
	R	0.47	23.9	C	R	0.48	24.1	C	R	0.51	24.6	C	R	0.52	24.8	C	-	-	-	-	-	-	-	-	R	0.26	19.3	B	R	0.27	19.5	B
SB	L	0.83	42.8	D	L	0.85	43.9	D	L	0.65	30.1	C	L	0.68	31.1	C	L	0.67	31.1	C	L	0.70	32.0	C	L	0.39	24.7	C	L	0.42	25.2	C
	T	0.68	14.6	B	T	0.72	15.5	B	T	0.52	10.9	B	T	0.56	11.5	B	T	0.52	10.4	B	T	0.58	11.3	B	T	0.62	12.8	B	T	0.69	13.7	B
	Int.		30.4	C	Int.		34.4	C	Int.		22.5	C	Int.		23.7	C	Int.		43.2	D	Int.		54.7	D	Int.		20.3	C	Int.		21.4	C
Canal Street and Greenwich Street																																
EB	LTR	0.70	24.4	C	LTR	0.72	25.3	C	LTR	0.70	26.1	C	LTR	0.74	27.2	C	LTR	0.89	85.2	F	LTR	0.96	123.5	F	LTR	0.41	20.1	C	LTR	0.45	20.6	C
WB	L	0.59	22.5	C	L	0.64	25.9	C	L	0.63	25.4	C	L	0.92	64.4	E	L	0.50	16.9	B	L	0.73	28.0	C	L	0.18	9.8	A	L	0.33	11.8	B
	TR	0.75	19.6	B	TR	0.89	31.0	C	TR	0.62	16.3	B	TR	0.74	20.9	C	TR	0.27	10.1	B	TR	0.43	12.2	B	TR	0.41	11.8	B	TR	0.52	13.7	B
	Int.		22.8	C	Int.		27.3	C	Int.		23.4	C	Int.		28.9	C	Int.		62.9	E	Int.		82.3	F	Int.		16.9	B	Int.		17.5	B
Canal Street and Hudson Street																																
EB	L	0.76	40.5	D	L	0.78	41.3	D	L	0.78	41.4	D	L	0.87	49.4	D	L	0.69	89.8	F	L	0.75	103.2	F	L	0.52	33.0	C	L	0.55	33.6	C
	T	0.78	22.4	C	T	0.79	23.1	C	T	0.62	16.5	B	T	0.68	18.1	B	T	0.66	17.4	B	T	0.71	18.8	B	T	0.49	13.6	B	T	0.54	14.6	B
WB	T	1.05	216.4	F	T	1.25	291.4	F	T	1.05	84.7	F	T	1.28	171.9	F	T	0.40	61.2	E	T	0.73	109.8	F	T	0.72	39.3	D	T	1.00	76.7	E
	R	0.47	12.8	B	R	0.48	12.9	B	R	0.51	13.4	B	R	0.52	13.6	B	R	1.05	84.7	F	R	1.07	88.7	F	R	0.53	13.6	B	R	0.54	13.7	B
NB (EL)	T	0.17	24.4	C	T	0.18	24.5	C	T	0.15	24.2	C	T	0.16	24.3	C	T	0.69	86.3	F	T	0.69	87.8	F	T	0.32	26.0	C	T	0.33	26.2	C
	R	0.20	25.4	C	R	0.27	26.6	C	R	0.17	25.0	C	R	0.19	25.2	C	R	0.07	23.6	C	R	0.06	23.5	C	R	0.14	24.5	C	R	0.15	24.7	C
NB (WL)	LT	1.05	74.0	E	LT	1.17	119.1	F	LT	0.95	53.6	D	LT	1.08	88.8	F	LT	0.93	50.4	D	LT	1.11	97.8	F	LT	0.71	33.8	D	LT	0.85	40.5	D
	Int.		70.2	E	Int.		100.7	F	Int.		40.8	D	Int.		69.6	E	Int.		61.1	E	Int.		81.3	F	Int.		25.0	C	Int.		33.0	C
Clarkson Street and Hudson Street																																
EB	LT	1.05	85.4	F	LT	1.19	135.8	F	LT	1.05	84.7	F	LT	1.24	156.0	F	LT	0.90	52.3	D	LT	1.19	136.9	F	LT	0.75	36.6	D	LT	0.92	53.5	D
NB	TR	0.71	18.4	B	TR	0.74	19.5	B	TR	0.70	18.1	B	TR	0.75	19.5	B	TR	0.46	13.5	B	TR	0.51	14.2	B	TR	0.44	13.2	B	TR	0.48	13.7	B
	Int.		40.4	D	Int.		59.6	E	Int.		39.6	D	Int.		66.6	E	Int.		28.2	C	Int.		65.3	E	Int.		21.5	C	Int.		28.9	C

Table 14-29 (cont'd)
2015 Existing and 2024 No Action Conditions Level of Service Analysis-Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM								Saturday							
	2015 Existing				2024 No Action				2015 Existing				2024 No Action				2015 Existing				2024 No Action				2015 Existing				2024 No Action			
Int.	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Clarkson Street and Varick Street																																
EB	TR	0.94	50.4	D	TR	1.06	81.5	F	TR	0.89	42.7	D	TR	1.01	65.5	E	TR	0.62	23.7	C	TR	0.75	28.9	C	TR	0.57	22.4	C	TR	0.64	24.4	C
WB	L	0.16	17.1	B	L	0.18	17.8	B	L	0.22	18.2	B	L	0.25	19.4	B	L	0.12	16.1	B	L	0.14	16.8	B	L	0.22	17.3	B	L	0.24	17.9	B
SB	LT	0.63	20.7	C	LT	0.71	22.3	C	LT	0.60	20.1	C	LT	0.67	21.4	C	LT	0.43	17.8	B	LT	0.52	18.9	B	LT	0.58	19.8	B	LT	0.66	21.1	C
	Int.		28.5	C	Int.		37.7	D	Int.		26.0	C	Int.		33.0	C	Int.		19.4	B	Int.		21.7	C	Int.		20.2	C	Int.		21.6	C
Tenth Avenue and West Street																																
WB	L	0.77	90.2	F	L	0.78	91.6	F	L	0.38	47.1	D	L	0.39	47.2	D	L	0.80	93.9	F	L	0.81	95.5	F	L	0.44	49.9	D	L	0.45	50.2	D
	R	0.23	59.8	E	R	0.24	59.9	E	R	0.14	42.1	D	R	0.15	42.1	D	R	0.14	57.9	E	R	0.15	58.0	E	R	0.13	41.8	D	R	0.13	41.9	D
NB	T	0.88	22.2	C	T	0.94	26.9	C	T	0.82	21.7	C	T	0.89	25.0	C	T	0.90	23.3	C	T	0.96	29.8	C	T	0.90	25.4	C	T	0.97	34.0	C
SB	T	0.90	24.6	C	T	0.97	33.4	C	T	0.89	26.4	C	T	0.98	37.7	D	T	0.75	17.4	B	T	0.84	20.9	C	T	0.88	25.3	C	T	0.98	37.9	D
	Int.		24.9	C	Int.		31.2	C	Int.		24.4	C	Int.		31.2	C	Int.		22.9	C	Int.		27.9	C	Int.		25.9	C	Int.		35.9	D

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection, EL = East Lanes, WL = West Lanes.
(1) Northbound right-turns not permitted by TEA during the weekday PM peak hour.

Table 14-30
2015 Existing and 2024 No Action Conditions Level of Service Analysis
Unsignalized Intersections

	Weekday AM								Weekday Midday								Weekday PM								Saturday							
	2015 Existing				2024 No Action				2015 Existing				2024 No Action				2015 Existing				2024 No Action				2015 Existing				2024 No Action			
Int.	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Spring Street and West Street																																
WB	R	0.02	15.2	C	R	0.02	16.0	C	R	0.01	13.4	B	R	0.04	14.4	B	R	0.02	16.0	C	R	0.02	17.0	C	R	0.01	13.9	B	R	0.11	15.7	C
Spring Street and Washington Street																																
EB	TR	0.41	11.4	B	TR	0.50	13.3	B	TR	0.24	9.4	A	TR	0.30	10.5	B	TR	0.39	11.5	B	TR	0.49	14.3	B	TR	0.34	9.8	A	TR	0.41	11.5	B
SB	LTR	0.54	14.0	B	LTR	0.67	18.3	C	LTR	0.50	12.1	B	LTR	0.69	17.8	C	LTR	0.70	18.3	C	LTR	0.99	53.2	F	LTR	0.31	9.9	A	LTR	0.58	14.3	B
Clarkson Street and Greenwich Street																																
EB	L	0.19	9.4	A	L	0.20	9.7	A	L	0.15	8.9	A	L	0.19	9.3	A	L	0.11	8.3	A	L	0.17	8.8	A	L	0.08	7.8	A	L	0.11	8.1	A
	T	0.63	16.4	C	T	0.74	21.4	C	T	0.59	14.5	B	T	0.71	19.2	C	T	0.49	11.7	B	T	0.67	16.6	C	T	0.38	9.8	A	T	0.48	11.2	B
NB	TR	0.49	13.4	B	TR	0.54	14.9	B	TR	0.36	11.1	B	TR	0.42	12.2	B	TR	0.21	9.3	A	TR	0.29	10.5	B	TR	0.13	8.4	A	TR	0.18	8.9	A

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection.

Clarkson Street

- Southbound approach at the Clarkson Street and Washington Street intersection will deteriorate to LOS E with a v/c ratio of 0.99 and a delay of 60.9 spv during the weekday AM peak hour and will deteriorate to LOS E with a v/c ratio of 1.00 and a delay of 61.4 spv during the weekday PM peak hour;
- Southbound left-turn at the Clarkson Street and West Street intersection will deteriorate to LOS E with a v/c ratio of 0.82 and a delay of 56.3 spv during the Saturday peak hour;
- Eastbound approach at the Clarkson Street and Hudson Street intersection will deteriorate to LOS F with a v/c ratio of 1.19 and a delay of 136.9spv during the weekday PM peak hour and will deteriorate within LOS D with a v/c ratio of 0.92 and a delay of 53.5 spv during the Saturday peak hour; and
- Eastbound approach at the Clarkson Street and Varick Street intersection will deteriorate to LOS F with a v/c ratio of 0.94 and a delay of 81.5 spv during the weekday AM peak hour and will deteriorate to LOS E with a v/c ratio of 1.01 and a delay of 65.5 spv during the weekday midday peak hour.

West Houston Street

- Southbound approach at the West Houston Street and Washington Street intersection will deteriorate to LOS F with a v/c ratio of 1.31 and a delay of 177.6 spv during the weekday AM peak hour, will deteriorate to LOS F with a v/c ratio of 1.14 and a delay of 109.8 spv during the weekday midday peak hour, will deteriorate to LOS F with a v/c ratio of 1.49 and a delay of 254.9 spv during the weekday PM peak hour, and will deteriorate to LOS E with a v/c ratio of 0.96 and a delay of 56.3 spv during the Saturday peak hour;

- Westbound left-turn at the West Houston Street and Varick Street intersection will deteriorate to LOS D with a v/c ratio of 0.88 and a delay of 54.7 spv during the weekday AM peak hour, will deteriorate to LOS F with a v/c ratio of 1.10 and a delay of 111.0 spv during the weekday midday peak hour, will deteriorate to LOS E with a v/c ratio of 0.94 and a delay of 68.9 spv during the weekday PM peak hour, and will deteriorate to LOS F with a v/c ratio of 1.05 and a delay of 89.5 spv during the Saturday peak hour;
- Northbound left-turn/through at the West Houston Street and Sixth Avenue intersection will deteriorate to LOS F with a v/c ratio of 1.11 and a delay of 87.1 spv during the weekday AM peak hour; and
- Southbound through at the West Houston Street and West Street intersection will deteriorate within LOS D with a v/c ratio of 1.02 and a delay of 54.5 spv during the weekday midday peak hour.

Spring Street

- Southbound approach at the Spring Street and Washington Street intersection will deteriorate to LOS F with a v/c ratio of 0.99 and a delay of 53.2 spv during the weekday PM peak hour.

Canal Street

- Westbound left-turn at the Canal Street (North) and West Street intersection will deteriorate within LOS D with a v/c ratio of 0.44 and a delay of 46.9 spv during the weekday midday peak hour and will deteriorate within LOS D with a v/c ratio of 0.43 and a delay of 45.6 spv during the Saturday peak hour;
- Westbound left-turn/right-turn at the Canal Street (North) and West Street intersection will deteriorate within LOS D with a v/c ratio of 0.43 and a delay of 46.5 spv during the weekday PM peak hour and will deteriorate to LOS E with a v/c ratio of 0.69 and a delay of 56.7 spv during the Saturday peak hour;
- Westbound right-turn at the Canal Street (North) and West Street intersection will deteriorate within LOS D with a v/c ratio of 0.43 and a delay of 46.7 spv during the weekday PM peak hour;
- Northbound through at the Canal Street (South) and West Street intersection will deteriorate to LOS F with a v/c ratio of 1.11 and a delay of 83.7 spv during the weekday PM peak hour;
- Westbound left-turn at the Canal Street and Greenwich Street intersection will deteriorate to LOS E with a v/c ratio of 0.92 and a delay of 64.4 spv during the weekday midday peak hour;
- Eastbound left-turn at the Canal Street and Hudson Street intersection will deteriorate within LOS D with a v/c ratio of 0.87 and a delay of 49.4 spv during the weekday midday peak hour;
- Westbound through at the Canal Street and Hudson Street intersection will deteriorate to LOS F with a v/c ratio of 0.73 and a delay of 109.8 spv during the weekday PM peak hour and will deteriorate to LOS E with a v/c ratio of 1.00 and a delay of 76.7 spv during the Saturday peak hour; and
- Northbound (West Lanes) at the Canal Street and Hudson Street intersection will deteriorate to LOS F with a v/c ratio of 1.17 and a delay of 119.1 spv during the weekday AM peak hour, will deteriorate to LOS F with a v/c ratio of 1.08 and a delay of 88.8 spv during the weekday midday peak hour, and will deteriorate to LOS F with a v/c ratio of 1.11 and a delay of 97.8 spv during the weekday PM peak hour.

THE FUTURE WITH THE PROPOSED ACTIONS

PROPOSED PROJECT

In the future with the proposed project, the development site would be redeveloped with approximately 1,586 residential units, 160,000 gsf of retail, a 353-room hotel, a 41,400 gsf event space and 830 accessory parking spaces[1]. This would result in increments of 1,586 residential units, -162,000 gsf of retail, -85 hotel rooms, -8,600 gsf of event space, and 654 accessory parking spaces over the No Action conditions. The proposed project would result in approximately 154, -43, 4, and 110 incremental vehicle trips during the weekday AM, midday, and PM, and Saturday peak hours, respectively. The incremental auto trips were assigned to the development site parking spaces. Taxi trips were assigned to the various block faces along Washington Street, West Houston Street, and West Street. All delivery trips were assigned to the development site via NYCDOT designated truck routes.

Traffic Operations

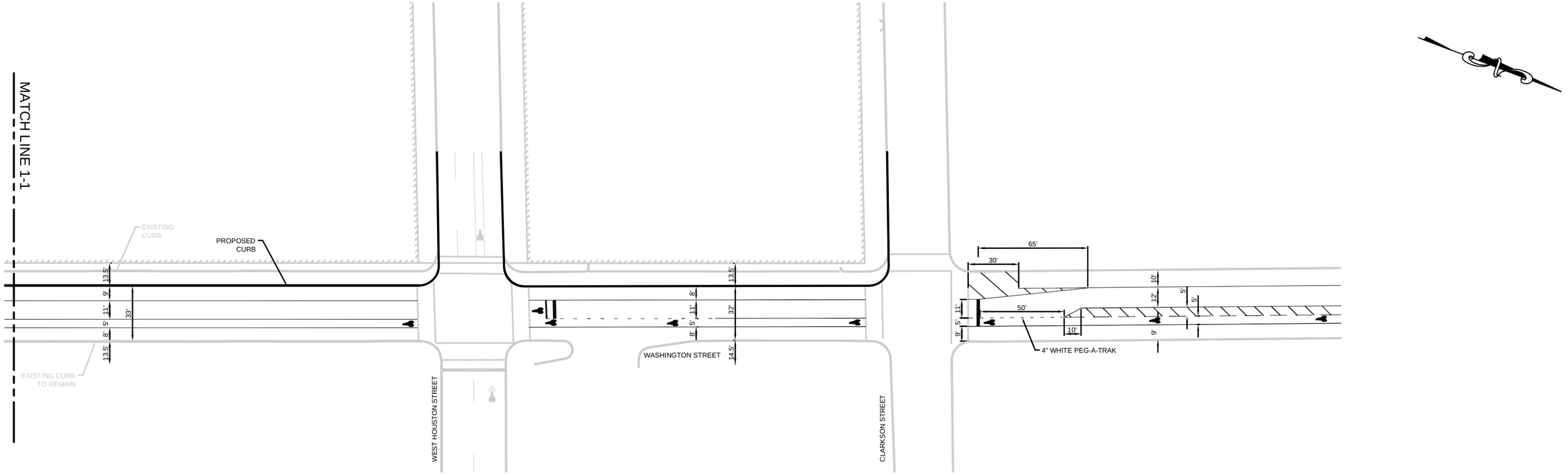
As part of the proposed project, the west sidewalk of Washington Street would be widened from Clarkson Street to the southern border of the development site. As shown in **Figure 14-56**, the proposed sidewalk widenings would result in decreases in southbound approach lane widths at the intersections of Washington Street at Clarkson Street and Washington Street at West Houston Street. Specifically, at the Washington Street and Clarkson Street intersection, the southbound approach would be striped (east to west) as a 9-foot parking lane, 5-foot bicycle lane, 11-foot moving lane, and an approximately 10-foot parking lane. The southbound approach at the Washington Street and West Houston Street intersection would be striped (east to west) as an 8-foot parking lane, 5-foot bicycle lane, 11-foot moving lane, and an 8-foot parking lane. These geometric changes have been incorporated into the With Action condition analysis.

The 2024 With Action (the proposed project) condition traffic volumes are shown in **Figures 14-57 through 14-60** for the weekday AM, midday, PM, and Saturday peak hours. The 2024 With Action traffic volumes were constructed by layering on top of the No Action condition traffic volumes the incremental vehicle trips shown in **Figures 14-12 through 14-15**. A summary of the 2024 With Action condition traffic analysis results is presented in **Table 14-31**.

Significant Adverse Impacts

Details on level-of-service, volume-to-capacity (v/c) ratios, and average delays are presented in **Tables 14-32 and 14-33**. As discussed below, significant adverse traffic impacts were identified at 10 approaches/lane groups (of 9 different intersections). Potential measures that can be implemented to mitigate these significant adverse traffic impacts are discussed in Chapter 22, "Mitigation."

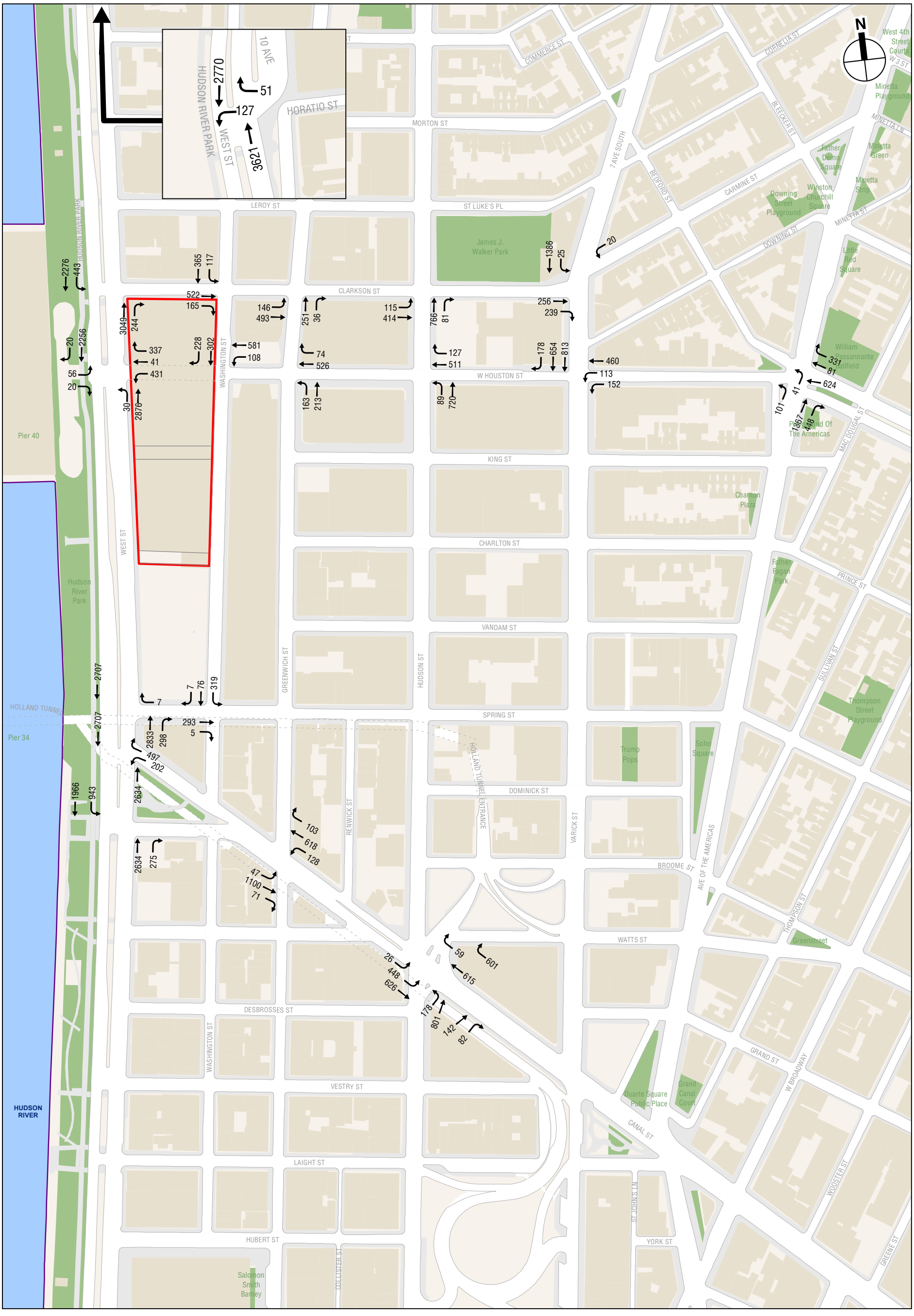
[1] Shortly before completion of the DEIS, the number of proposed parking spaces was reduced from 830 to 772. Because analyses based on the larger number of parking spaces are more "conservative" in terms of disclosing potential impacts, the DEIS analyses have not been updated to reflect the lower number. The FEIS analyses will be revised to reflect the actual, proposed number of parking spaces.



FOR SCHEMATIC PURPOSES ONLY NOT FOR CONSTRUCTION

Proposed Roadway Striping Plan
Washington Street Between Spring Street And Clarkson Street
Figure 14-56

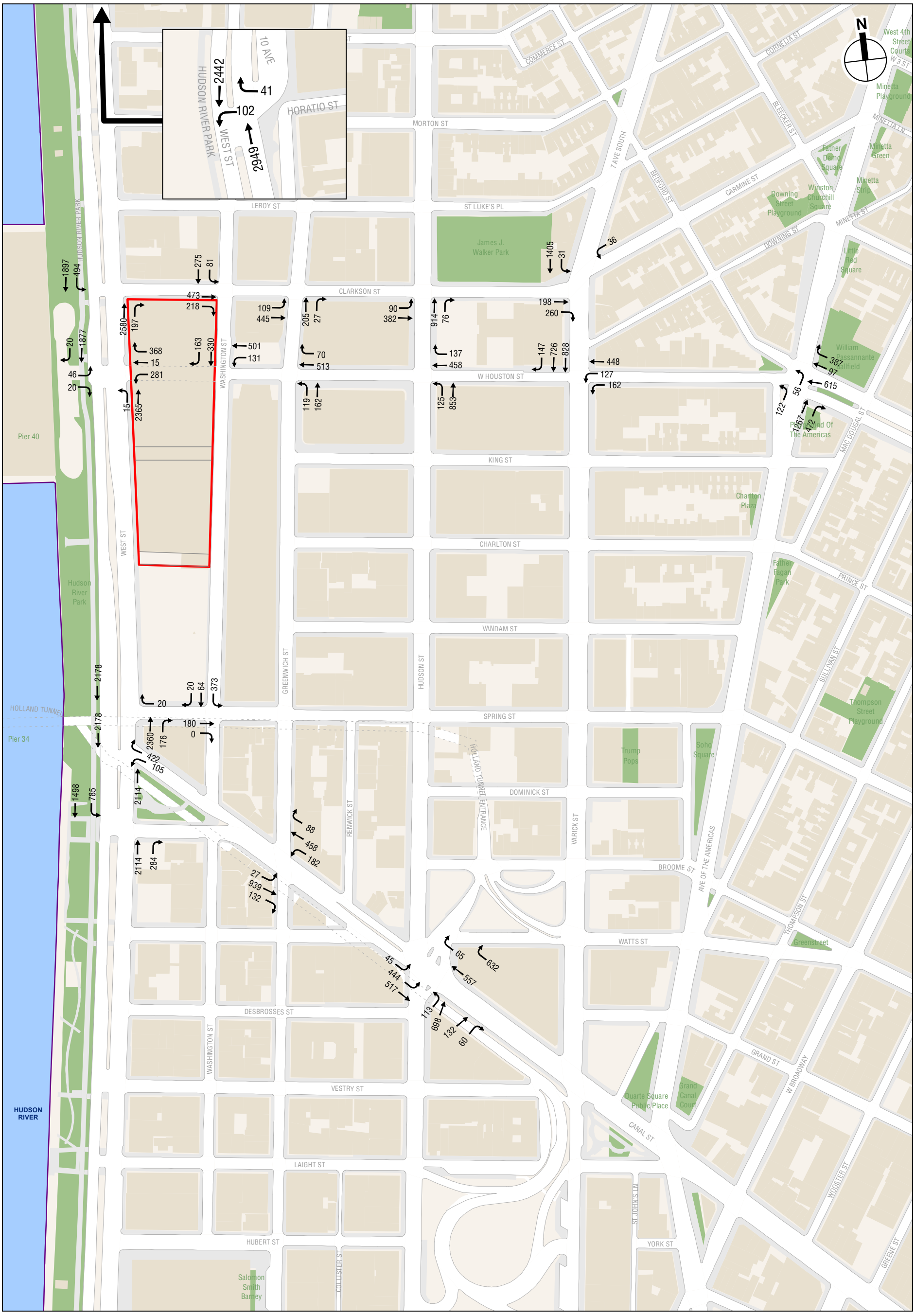
5/3/2016



2024 With Action Traffic Volumes: Without Big Box Retail Scenario
Weekday AM Peak Hour

Figure 14-57

5/3/2016

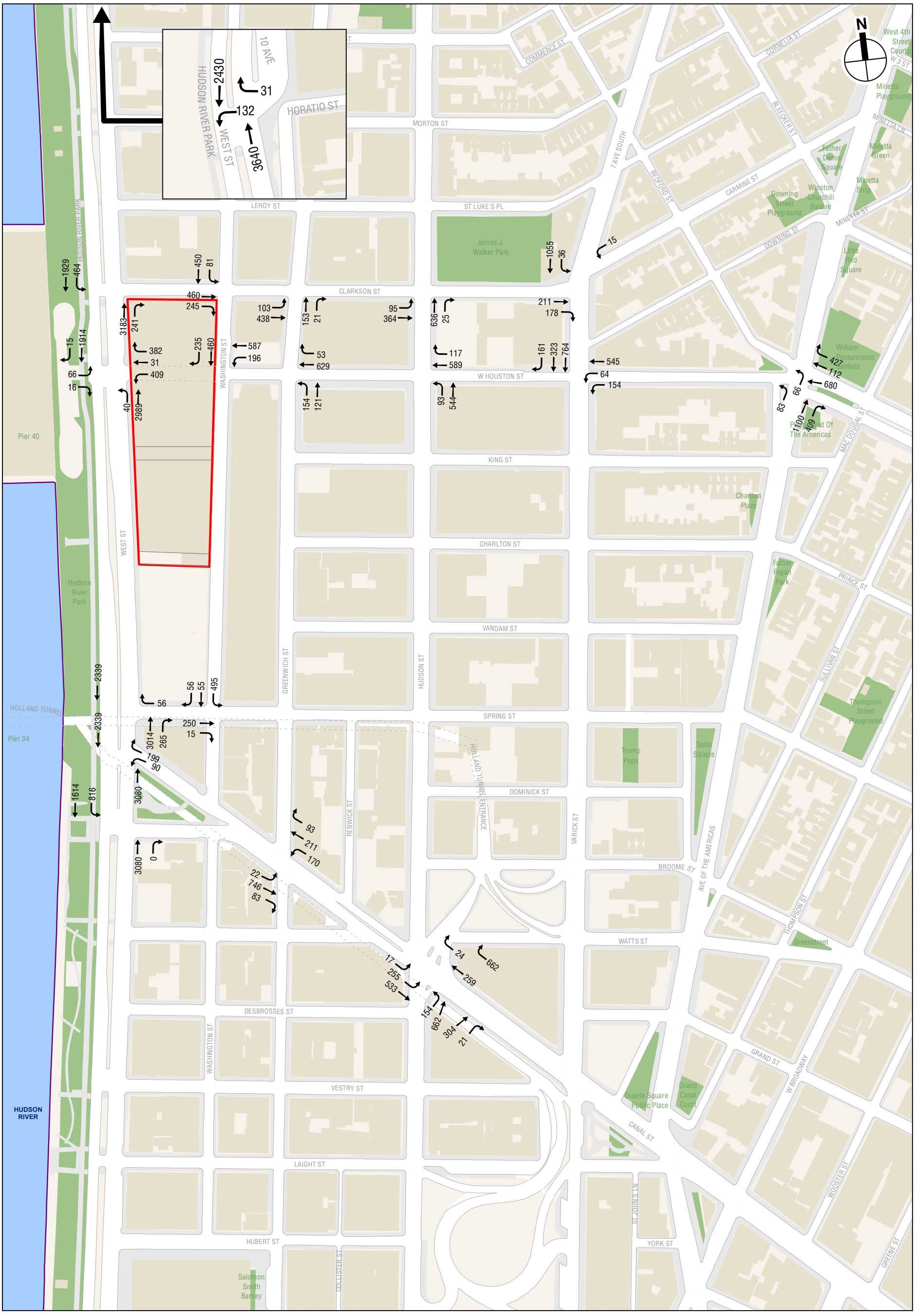


Development Site

2024 With Action Traffic Volumes: Without Big Box Retail Scenario
Weekday Midday Peak Hour

Figure 14-58

5/3/2016



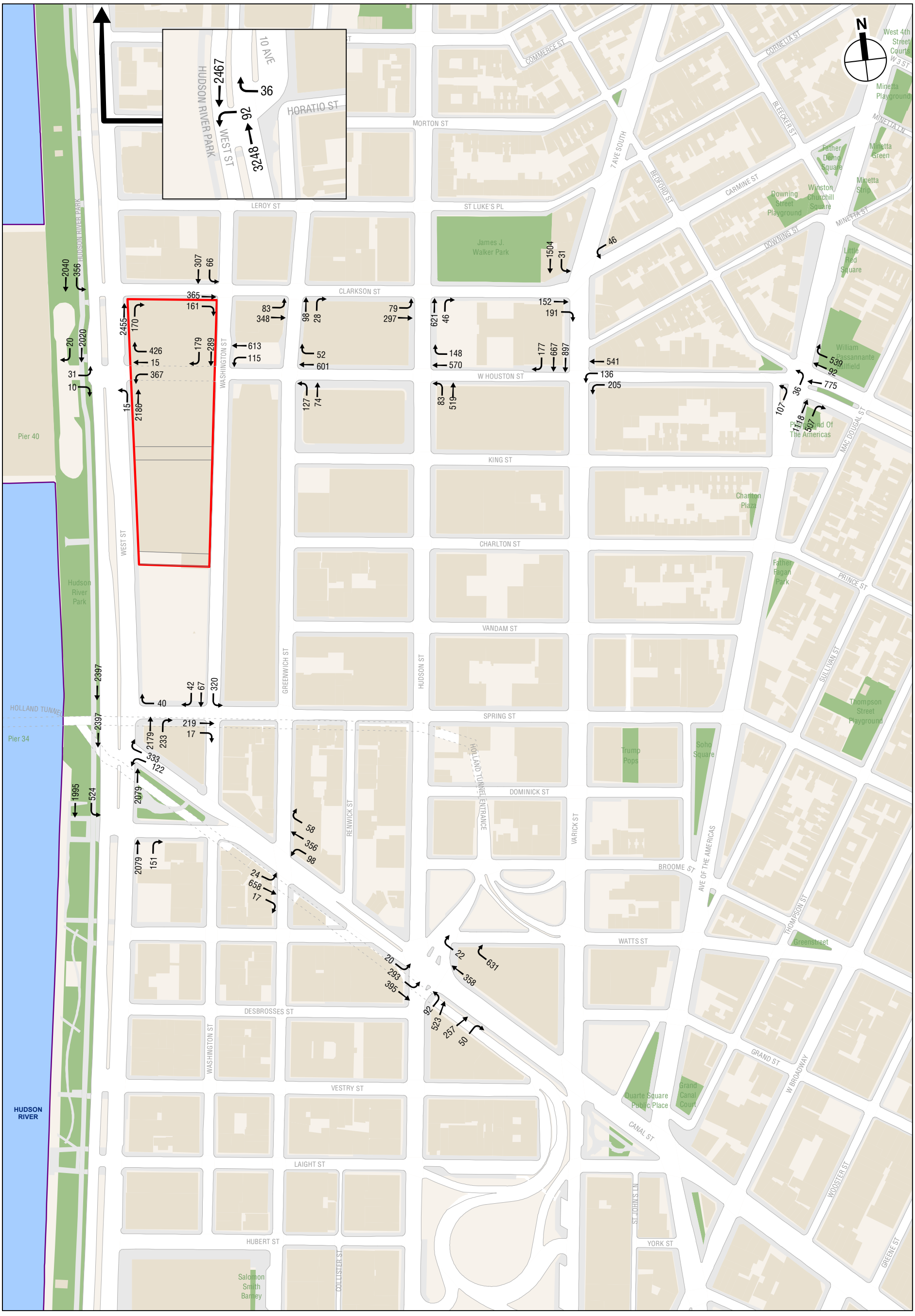
Development Site

0 400 FEET

2024 With Action Traffic Volumes: Without Big Box Retail Scenario
Weekday PM Peak Hour

Figure 14-59

5/3/2016



2024 With Action Traffic Volumes: Without Big Box Retail Scenario
Saturday Peak Hour

Figure 14-60

Table 14-31
Summary of 2024 With Action Traffic Analysis Results
Proposed Project

Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Signalized Intersections				
Lane Groups at LOS A/B/C	31	33	29	39
Lane Groups at LOS D	9	13	7	10
Lane Groups at LOS E	6	4	7	8
Lane Groups at LOS F	13	9	15	2
Total	59	59	58	59
Lane Groups with v/c ≥ 0.90	17	17	17	10
Number of intersections with significant impacts	7	2	6	4
Unsignalized Intersections				
Lane Groups at LOS A/B/C	5	6	5	6
Lane Groups at LOS D	1	0	0	0
Lane Groups at LOS E	0	0	0	0
Lane Groups at LOS F	0	0	1	0
Total	6	6	6	6
Lane Groups with v/c ≥ 0.90	0	0	1	0
Number of intersections with significant impacts	0	0	0	0

Notes: LOS = Level-of-Service; v/c = volume-to-capacity ratio.

Clarkson Street

- Southbound approach at the Clarkson Street and Washington Street intersection would deteriorate within LOS E (from a v/c ratio of 0.99 and 60.9 spv of delay to a v/c ratio of 1.02 and 69.5 spv of delay), and within LOS E (from a v/c ratio of 1.02 and 66.5 spv of delay to a v/c ratio of 1.04 and 72.5 spv of delay), increases in delay of more than four seconds, during the weekday AM and PM peak hours. These projected increases in delay constitutes a significant adverse impacts;
- Southbound left-turn at the Clarkson Street and West Street intersection would deteriorate within LOS F (from a v/c ratio of 1.34 and 228.5 spv of delay to a v/c ratio of 1.35 and 232.2 spv of delay), within LOS F (from a v/c ratio of 1.27 and 182.0 spv of delay to a v/c ratio of 1.28 and 187.1 spv of delay), within LOS F (from a v/c ratio of 1.35 and 234.2 spv of delay to a v/c ratio of 1.46 and 281.3 spv of delay), and within LOS E (from a v/c ratio of 0.82 and 56.3 spv of delay to a v/c ratio of 0.89 and 64.8 spv of delay), increases in delay of more than three seconds, three seconds, three seconds, and four seconds, during the weekday AM, midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts;
- Eastbound approach at the Clarkson Street and Hudson Street intersection would deteriorate within LOS F (from a v/c ratio of 1.19 and 135.8 spv of delay to a v/c ratio of 1.31 and 183.2 spv of delay), from LOS D (v/c ratio of 0.92 and 53.5 spv of delay) to LOS E (v/c ratio of 0.96 and 61.8 spv of delay), increases in delay of more than three seconds and five seconds, during the weekday AM and Saturday peak hours, respectively. These projected increases in delay constitutes a significant adverse impacts; and
- Eastbound approach at the Clarkson Street and Varick Street intersection would deteriorate within LOS F (from a v/c ratio of 1.06 and 81.5 spv of delay to a v/c ratio of 1.10 and 95.2 spv of delay), an increase in delay of more than three seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact.

Table 14-32
2024 No Action and 2024 With Action Conditions Level of Service Analysis
Proposed Project
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM								Saturday							
	2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action			
Int.	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Clarkson Street and Washington Street																																
EB	TR	0.80	28.7	C	TR	0.88	33.8	C	TR	0.86	33.2	C	TR	0.79	28.1	C	TR	0.85	32.0	C	TR	0.82	30.0	C	TR	0.58	21.4	C	TR	0.62	22.2	C
SB	LT	0.99	60.9	E	LT	1.02	69.5	E +	LT	0.66	25.4	C	LT	0.67	25.6	C	LT	1.00	61.4	E	LT	1.04	72.5	E +	LT	0.63	24.2	C	LT	0.66	25.0	C
	Int.		42.4	D	Int.		48.2	D	Int.		30.5	C	Int.		27.2	C	Int.		45.0	D	Int.		49.3	D	Int.		22.6	C	Int.		23.3	C
West Houston Street and Washington Street																																
WB	LT	0.69	23.3	C	LT	0.67	22.9	C	LT	0.63	21.9	C	LT	0.60	21.2	C	LT	0.91	42.0	D	LT	0.94	46.2	D	LT	0.61	21.1	C	LT	0.62	21.4	C
SB	TR	1.31	177.6	F	TR	1.38	208.7	F +	TR	1.14	109.8	F	TR	1.11	98.0	F	TR	1.49	254.9	F	TR	1.58	294.1	F +	TR	0.96	56.3	E	TR	1.04	76.3	E +
	Int.		91.7	F	Int.		106.2	F	Int.		61.1	E	Int.		55.3	E	Int.		143.8	F	Int.		164.2	F	Int.		34.6	C	Int.		42.8	D
West Houston Street and Greenwich Street																																
WB	TR	0.83	37.9	D	TR	0.81	36.6	D	TR	0.89	43.0	D	TR	0.86	39.7	D	TR	0.85	38.4	D	TR	0.87	40.0	D	TR	0.75	32.5	C	TR	0.77	33.1	C
NB	L	0.32	12.1	B	L	0.32	12.1	B	L	0.21	10.7	B	L	0.21	10.7	B	L	0.26	11.3	B	L	0.26	11.3	B	L	0.21	10.7	B	L	0.21	10.7	B
	T	0.37	12.7	B	T	0.38	12.8	B	T	0.26	11.2	B	T	0.26	11.2	B	T	0.18	10.3	B	T	0.18	10.4	B	T	0.11	9.7	A	T	0.11	9.8	A
	Int.		27.2	C	Int.		26.3	C	Int.		32.4	C	Int.		30.0	C	Int.		29.9	C	Int.		31.2	C	Int.		26.5	C	Int.		27.0	C
West Houston Street and Hudson Street																																
WB	TR	0.79	34.7	C	TR	0.79	34.3	C	TR	0.86	38.8	D	TR	0.84	37.4	D	TR	0.78	33.6	C	TR	0.80	34.7	C	TR	0.79	33.6	C	TR	0.81	34.5	C
NB	LT	0.60	15.0	B	LT	0.59	14.8	B	LT	0.66	16.3	B	LT	0.65	16.1	B	LT	0.45	12.8	B	LT	0.44	12.7	B	LT	0.42	12.4	B	LT	0.42	12.4	B
	Int.		23.3	C	Int.		23.0	C	Int.		25.6	C	Int.		24.9	C	Int.		23.1	C	Int.		24.0	C	Int.		23.3	C	Int.		24.0	C
West Houston Street and Varick Street																																
WB	L	0.88	54.7	D	L	0.89	56.3	E	L	1.10	111.0	F	L	1.03	90.8	F	L	0.94	68.9	E	L	0.89	58.3	E	L	1.05	89.5	F	L	1.03	82.5	F
	T	0.72	26.7	C	T	0.71	26.6	C	T	0.68	25.5	C	T	0.69	25.6	C	T	0.87	36.3	D	T	0.91	41.1	D	T	0.80	30.2	C	T	0.82	31.9	C
SB (EL)	T	0.76	25.6	C	T	0.75	25.5	C	T	0.75	25.2	C	T	0.75	25.2	C	T	0.71	23.8	C	T	0.71	23.8	C	T	0.77	25.8	C	T	0.77	25.9	C
SB (WL)	TR	0.86	31.9	C	TR	0.86	31.7	C	TR	0.88	33.0	C	TR	0.86	31.8	C	TR	1.11	260.7	F	TR	1.12	267.9	F +	TR	0.79	27.3	C	TR	0.80	27.4	C
	Int.		31.3	C	Int.		31.3	C	Int.		38.2	C	Int.		35.4	D	Int.		89.1	F	Int.		91.0	F	Int.		35.5	D	Int.		35.0	D
West Houston Street and Sixth Avenue																																
WB	T	0.48	15.5	B	T	0.48	15.4	B	T	0.54	18.8	B	T	0.54	18.8	B	T	0.59	20.9	C	T	0.58	21.2	C	T	0.53	16.0	B	T	0.54	16.2	B
	TR	0.70	42.6	D	TR	0.70	42.6	D	TR	0.91	70.5	E	TR	0.91	70.5	E	TR	0.97	86.8	F	TR	0.97	88.6	F	TR	0.97	73.8	E	TR	0.97	73.8	E
	R	0.69	42.7	D	R	0.69	42.7	D	R	0.96	74.7	E	R	0.96	74.7	E	R	1.02	90.0	F	R	1.02	90.0	F	R	0.96	73.4	E	R	0.96	73.4	E
NB	L	0.23	20.1	C	L	0.23	20.2	C	L	0.25	20.3	C	L	0.25	20.3	C	L	0.18	19.6	B	L	0.19	19.7	B	L	0.23	20.2	C	L	0.24	20.3	C
	LT	1.11	87.1	F	LT	1.11	87.1	F	LT	0.95	41.7	D	LT	0.95	41.3	D	LT	0.80	29.5	C	LT	0.80	29.5	C	LT	0.76	28.1	C	LT	0.76	28.1	C
	R	0.70	16.2	B	R	0.71	16.5	B	R	0.74	17.6	B	R	0.73	17.4	B	R	0.65	14.8	B	R	0.65	14.7	B	R	0.74	17.4	B	R	0.73	17.3	B
	Int.		53.2	D	Int.		53.2	D	Int.		37.5	C	Int.		37.3	D	Int.		36.5	D	Int.		36.4	D	Int.		31.8	C	Int.		32.2	C
Clarkson Street and West Street																																
NB	TR	0.89	22.1	C	TR	0.93	25.6	C	TR	0.88	23.1	C	TR	0.88	22.9	C	TR	0.94	25.8	C	TR	0.92	24.2	C	TR	0.77	18.5	B	TR	0.79	19.0	B
SB	L	1.34	228.5	F	L	1.35	232.2	F +	L	1.27	182.0	F	L	1.28	187.1	F +	L	1.35	234.2	F	L	1.46	281.3	F +	L	0.82	56.3	E	L	0.89	64.8	E +
	T	0.81	18.8	B	T	0.81	18.8	B	T	0.78	19.3	B	T	0.78	19.3	B	T	0.67	14.4	B	T	0.67	14.4	B	T	0.79	19.6	B	T	0.79	19.6	B
	Int.		36.3	D	Int.		38.2	D	Int.		36.7	D	Int.		37.3	D	Int.		37.3	D	Int.		41.4	D	Int.		21.4	C	Int.		22.5	C
West Houston Street and West Street																																
EB	L	0.71	90.0	F	L	0.75	97.3	F +	L	0.24	36.2	D	L	0.25	36.5	D	L	0.64	75.2	E	L	0.66	77.8	E	L	0.17	34.8	C	L	0.18	35.0	C
	R	0.09	47.1	D	R	0.09	47.1	D	R	0.06	32.3	C	R	0.06	32.3	C	R	0.06	46.5	D	R	0.06	46.5	D	R	0.03	31.9	C	R	0.03	31.9	C
WB	L	0.70	66.2	E	L	0.71	66.8	E	L	0.37	37.7	D	L	0.37	37.7	D	L	0.64	62.2	E	L	0.64	62.1	E	L	0.44	39.3	D	L	0.45	39.4	D
	LT	0.82	76.6	E	LT	0.83	78.1	E	LT	0.40	38.5	D	LT	0.40	38.4	D	LT	0.73	67.3	E	LT	0.72	67.1	E	LT	0.48	40.1	D	LT	0.48	40.2	D
	R	1.37	248.5	F	R	1.37	245.2	F	R	1.44	262.6	F	R	1.52	294.9	F +	R	1.35	235.5	F	R	1.43	272.6	F +	R	1.29	193.5	F	R	1.36	223.3	F +
NB	L	0.34	76.2	E	L	0.34	76.2	E	L	0.13	53.3	D	L	0.13	53.3	D	L	0.42	79.3	E	L	0.42	79.3	E	L	0.13	53.0	D	L	0.13	53.0	D
	T	0.92	32.9	C	T	0.95	35.6	D	T	0.93	35.7	D	T	0.93	35.0	C	T	0.95	35.3	D	T	0.93	33.3	C	T	0.81	27.7	C	T	0.81	27.8	C
SB	T	0.95	37.2	D	T	0.95	37.2	D	T	1.02	54.5	D	T	1.02	54.5	D	T	0.78	25.0	C	T	0.78	25.0	C	T	1.01	52.4	D	T	1.01	52.4	D
	R	0.03	12.3	B	R	0.03	12.3	B	R	0.04	15.4	B	R	0.04	15.4	B	R	0.02	12.2	B	R	0.02	12.2	B	R	0.04	15.4	B	R	0.04	15.4	B
	Int.		50.1	D	Int.		51.2	D	Int.		59.1	E	Int.		60.9	E	Int.		46.8	D	Int.		48.9	D	Int.		51.5	D	Int.		54.5	D
Canal Street (North) and West Street																																
WB	L	0.82	79.3	E	L	0.85	84.0	F +	L	0.44	46.9	D	L	0.43	46.4	D	L	0.38	44.6	D	L	0.34	43.8	D	L	0.43	45.6	D	L	0.43	45.8	D
	LR	1.22	187.6	F	LR	1.21	185.9	F	LR	1.08	127.6	F	LR	1.06	123.7	F	LR	0.43	46.5	D	LR	0.44	46.8	D	LR	0.69	56.7	E	LR	0.69	57.2	E
	R	1.22	187.7	F	R	1.21	184.1	F	R	1.07	131.1	F	R	1.06	128.1	F	R	0.43	46.7	D	R	0.44	47.1	D	R	0.77	65.4	E	R	0.77	65.8	E
NB	T	0.69	10.8	B	T	0.69	10.8	B	T	0.58	9.7	A	T	0.58	9.7	A	T	0.80	14.1	B	T	0.80	14.1	B	T	0.54	9.1	A	T	0.54	9.2	A
SB	T	0.55	8.4	A	T	0.55	8.5	A	T	0.47	8.4	A	T	0.47	8.4	A	T	0.48	8.5	A	T	0.48	8.5	A	T	0.47	8.4	A	T	0.47	8.4	A
	Int.		26.4	C	Int.		26.4	C	Int.		21.0	C	Int.		20.6	C	Int.		13.5	B	Int.		13.5	B	Int.		13.5	B	Int.		13.6	B
Canal Street (South) and West Street [1]																																
NB	T	0.98	46.2	D	T	0.98	46.0	D	T	0.82	29.5	C	T	0.82	29.4	C	T	1.11	83.7	F	T	1.11	84.4	F	T	0.78	27.8	C	T	0.78	27.8	C
	R	0.48	24.1	C	R	0.48	24.1	C	R	0.52	24.8	C	R	0.52	24.8	C	-	-	-	-	-	-	-	-	R	0.27	19.5	B	R	0.27	19.5	B
SB	L	0.85	43.9	D	L	0.85	43.9	D	L	0.68	31.1	C	L	0.68	31.1	C	L	0.70	32.0	C	L	0.70	32.0	C	L	0.42	25.2	C	L	0.42	25.2	C
	T	0.72	15.5	B	T	0.72	15.6	B	T	0.56	11.5	B	T	0.56	11.5	B	T	0.58	11.3	B	T	0.58	11.2	B	T	0.69	13.7	B	T	0.69	13.7	B
	Int.		34.4	C	Int.		34.3	C	Int.		23.7	C	Int.		23.7	C	Int.		54.7	D	Int.		55.2	E	Int.		21.4	C	Int.		21.4	C
Canal Street and Greenwich Street																																
EB	LTR	0.72	25.3	C	LTR	0.72	25.3	C	LTR	0.74	27.2	C	LTR	0.74	27.1	C	LTR	0.96	123.5	F	LTR	0.96	123.5	F	LTR	0.45	20.6	C	LTR	0.45	20.6	C
WB	L	0.64	25.9	C	L	0.64	25.9	C	L	0.92	64.4	E	L	0.92	64.4	E	L	0.73	28.0	C	L	0.73	28.0	C	L	0.33	11.8	B	L	0.33	11.8	B
	TR	0.89	31.0	C	TR	0.89	30.6	C	TR	0.74	20.9	C	TR	0.74	20.6	C	TR	0.43	12.2	B	TR	0.44	12.3	B	TR	0.52	13.7	B	TR	0.53	13.8	B
	Int.		27.3	C	Int.		27.2	C	Int.		28.9	C	Int.		28.8	C	Int.		82.3	F	Int.		82.1	F	Int.		17.5	B	Int.		17.5	B

Table 14-32 (cont'd)
2024 No Action and 2024 With Action Conditions Level of Service Analysis
Proposed Project
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM								Saturday							
	2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action			
Int.	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Canal Street and Hudson Street																																
EB	L	0.78	41.3	D	L	0.78	41.3	D	L	0.87	49.4	D	L	0.87	49.4	D	L	0.75	103.2	F	L	0.75	103.2	F	L	0.55	33.6	C	L	0.55	33.6	C
	T	0.79	23.1	C	T	0.79	23.1	C	T	0.68	18.1	B	T	0.68	18.1	B	T	0.71	18.8	B	T	0.71	18.8	B	T	0.54	14.6	B	T	0.54	14.6	B
WB	T	1.25	291.4	F	T	1.26	292.9	F	T	1.28	171.9	F	T	1.26	162.8	F	T	0.73	109.8	F	T	0.72	104.7	F	T	1.00	76.7	E	T	1.00	75.6	E
	R	0.48	12.9	B	R	0.48	12.9	B	R	0.52	13.6	B	R	0.52	13.6	B	R	1.07	88.7	F	R	1.07	88.7	F	R	0.54	13.7	B	R	0.54	13.7	B
NB (EL)	T	0.18	24.5	C	T	0.18	24.5	C	T	0.16	24.3	C	T	0.16	24.3	C	T	0.69	87.8	F	T	0.69	87.8	F	T	0.33	26.2	C	T	0.33	26.2	C
	R	0.27	26.6	C	R	0.27	26.6	C	R	0.19	25.2	C	R	0.19	25.2	C	R	0.06	23.5	C	R	0.06	23.5	C	R	0.15	24.7	C	R	0.15	24.7	C
NB (WL)	LT	1.17	119.1	F	LT	1.15	110.6	F	LT	1.08	88.8	F	LT	1.08	87.2	F	LT	1.11	97.8	F	LT	1.12	102.9	F +	LT	0.85	40.5	D	LT	0.85	40.7	D
	Int.		100.7	F	Int.		98.7	F	Int.		69.6	E	Int.		67.1	E	Int.		81.3	F	Int.		82.2	F	Int.		33.0	C	Int.		32.8	C
Clarkson Street and Hudson Street																																
EB	LT	1.19	135.8	F	LT	1.31	183.2	F +	LT	1.24	156.0	F	LT	1.24	156.0	F	LT	1.19	136.9	F	LT	1.15	118.6	F	LT	0.92	53.5	D	LT	0.96	61.8	E +
NB	TR	0.74	19.5	B	TR	0.74	19.5	B	TR	0.75	19.5	B	TR	0.75	19.5	B	TR	0.51	14.2	B	TR	0.51	14.2	B	TR	0.48	13.7	B	TR	0.48	13.7	B
	Int.		59.6	E	Int.		79.4	E	Int.		66.6	E	Int.		66.6	E	Int.		65.3	E	Int.		56.7	D	Int.		28.9	C	Int.		32.6	C
Clarkson Street and Varick Street																																
EB	TR	1.06	81.5	F	TR	1.10	95.2	F +	TR	1.01	65.5	E	TR	1.01	64.5	E	TR	0.75	28.9	C	TR	0.75	28.6	C	TR	0.64	24.4	C	TR	0.67	25.3	C
WB	L	0.18	17.8	B	L	0.19	18.1	B	L	0.25	19.4	B	L	0.25	19.4	B	L	0.14	16.8	B	L	0.14	16.8	B	L	0.24	17.9	B	L	0.25	18.2	B
SB	LT	0.71	22.3	C	LT	0.71	22.3	C	LT	0.67	21.4	C	LT	0.67	21.3	C	LT	0.52	18.9	B	LT	0.53	19.0	B	LT	0.66	21.1	C	LT	0.66	21.1	C
	Int.		37.7	D	Int.		42.1	D	Int.		33.0	C	Int.		32.7	C	Int.		21.7	C	Int.		21.6	C	Int.		21.6	C	Int.		21.9	C
Tenth Avenue and West Street																																
WB	L	0.78	91.6	F	L	0.78	91.6	F	L	0.39	47.2	D	L	0.39	47.2	D	L	0.81	95.5	F	L	0.81	95.5	F	L	0.45	50.2	D	L	0.45	50.2	D
	R	0.24	59.9	E	R	0.24	59.9	E	R	0.15	42.1	D	R	0.15	42.1	D	R	0.15	58.0	E	R	0.15	58.0	E	R	0.13	41.9	D	R	0.13	41.9	D
NB	T	0.94	26.9	C	T	0.95	28.6	C	T	0.89	25.0	C	T	0.89	25.1	C	T	0.96	29.8	C	T	0.96	29.3	C	T	0.97	34.0	C	T	0.98	35.4	D
SB	T	0.97	33.4	C	T	0.97	33.6	C	T	0.98	37.7	D	T	0.98	38.2	D	T	0.84	20.9	C	T	0.85	21.6	C	T	0.98	37.9	D	T	0.99	40.6	D
	Int.		31.2	C	Int.		32.2	C	Int.		31.2	C	Int.		31.4	C	Int.		27.9	C	Int.		27.9	C	Int.		35.9	D	Int.		37.9	D

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection, EL = East Lanes, WL = West Lanes.
(1) Northbound right-turns not permitted by TEA during the weekday PM peak hour.
+ Denotes a significant adverse traffic impact.

Table 14-33
2024 No Action and 2024 With Action Conditions Level of Service Analysis
Proposed Project
Unsignalized Intersections

	Weekday AM								Weekday Midday								Weekday PM								Saturday							
	2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action			
Int.	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Spring Street and West Street																																
WB	R	0.02	16.0	C	R	0.02	16.1	C	R	0.04	14.4	B	R	0.06	14.5	B	R	0.02	17.0	C	R	0.23	20.2	C	R	0.11	15.7	C	R	0.13	15.9	C
Spring Street and Washington Street																																
EB	TR	0.50	13.3	B	TR	0.51	13.7	B	TR	0.30	10.5	B	TR	0.30	10.4	B	TR	0.49	14.3	B	TR	0.49	14.4	B	TR	0.41	11.5	B	TR	0.41	11.5	B
SB	LTR	0.67	18.3	C	LTR	0.73	21.2	C	LTR	0.69	17.8	C	LTR	0.67	16.8	C	LTR	0.99	53.2	F	LTR	1.00	55.4	F	LTR	0.58	14.3	B	LTR	0.59	14.6	B
Clarkson Street and Greenwich Street																																
EB	L	0.20	9.7	A	L	0.25	10.2	B	L	0.19	9.3	A	L	0.18	9.3	A	L	0.17	8.8	A	L	0.16	8.7	A	L	0.11	8.1	A	L	0.13	8.2	A
	T	0.74	21.4	C	T	0.83	27.8	D	T	0.71	19.2	C	T	0.71	19.2	C	T	0.67	16.6	C	T	0.65	15.7	C	T	0.48	11.2	B	T	0.51	11.6	B
NB	TR	0.54	14.9	B	TR	0.56	15.7	C	TR	0.42	12.2	B	TR	0.42	12.2	B	TR	0.29	10.5	B	TR	0.29	10.4	B	TR	0.18	8.9	A	TR	0.19	9.1	A

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection.

West Houston Street

- Southbound approach at the West Houston Street and Washington Street intersection would deteriorate within LOS F (from a v/c ratio of 1.35 and 197.3 spv of delay to a v/c ratio of 1.38 and 208.7 spv of delay), within LOS F (from a v/c ratio of 1.54 and 276.2 spv of delay to a v/c ratio of 1.58 and 294.1 spv of delay), within LOS E (from a v/c ratio of 1.00 and 65.0 spv of delay to a v/c ratio of 1.04 and 76.3 spv of delay), increases in delay of more than three seconds, three seconds, and four seconds, during the weekday AM, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts;
- Southbound (West Lanes) approach at the West Houston Street and Varick Street intersection would deteriorate within LOS F (from a v/c ratio of 1.11 and 260.7 spv of delay to a v/c ratio of 1.12 and 267.9 spv of delay), an increase in delay of more than three

seconds, during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;

- Eastbound left-turn at the West Houston Street and West Street intersection would deteriorate within LOS F (from a v/c ratio of 0.71 and 90.0 spv of delay to a v/c ratio of 0.75 and 97.3 spv of delay), an increase in delay of more than three seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact; and
- Westbound right-turn at the West Houston Street and West Street intersection would deteriorate within LOS F (from a v/c ratio of 1.44 and 262.6 spv of delay to a v/c ratio of 1.52 and 294.9 spv of delay), within LOS F (from a v/c ratio of 1.35 and 235.5 spv of delay to a v/c ratio of 1.43 and 272.6 spv of delay), and within LOS F (from a v/c ratio of 1.29 and 193.5 spv of delay to a v/c ratio of 1.36 and 223.3 spv of delay), increases in delay of more than three seconds, during the weekday midday, PM, and Saturday peak hours. These projected increases in delay constitute significant adverse impacts.

Canal Street

- Westbound left-turn at the Canal Street (North) and West Street intersection would deteriorate from LOS E (v/c ratio of 0.82 and 79.3 spv of delay) to LOS F (v/c ratio of 0.85 and 84.0 spv of delay), an increase in delay of more than four seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact; and
- Northbound (West Lanes) approach at the Canal Street and Hudson Street intersection would deteriorate within LOS F (from a v/c ratio of 1.11 and 97.8 spv of delay to a v/c ratio of 1.12 and 102.9 spv of delay), an increase in delay of more than three seconds, during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.

PROPOSED PROJECT WITH BIG BOX RETAIL

In the future with the proposed project with big box retail, the development site would be redeveloped with approximately 1,586 residential units, 255,000 gsf of retail, a 353-room hotel, a 41,400 gsf event space and 412 accessory parking spaces. This would result in increments of 1,586 residential units, -67,000 gsf of retail, -85 hotel rooms, -8,600 gsf of event space, and 236 accessory parking spaces over the No Action conditions. The proposed project with big box retail would result in approximately 134, 143, 149, and 351 incremental vehicle trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. The incremental auto trips were assigned to the development site parking spaces. Taxi trips were assigned to the various block faces along Washington Street, West Houston Street, and West Street. All delivery trips were assigned to the development site via NYCDOT designated truck routes.

Traffic Operations

As with the proposed project, the west sidewalk of Washington Street under the proposed project with big box retail would also be widened from Clarkson Street to the southern border of the development site. As described above and shown in **Figure 14-56** for the proposed project, the proposed sidewalk widenings would also result in the same decreases in southbound approach lane widths at the intersections of Washington Street at Clarkson Street and Washington Street at West Houston Street for the proposed project with big box retail. The geometric changes described above have been incorporated into the With Action condition analysis under the proposed project with big box retail.

The 2024 With Action (the proposed project with big box retail) condition traffic volumes are shown in **Figures 14-61 through 14-64** for the weekday AM, midday, and PM peak hours. The 2024 With Action traffic volumes were constructed by layering on top of the No Action condition traffic volumes the incremental vehicle trips shown in **Figures 14-20 through 14-23**. A summary of the 2024 With Action condition traffic analysis results is presented in **Table 14-34**.

Table 14-34
Summary of 2024 With Action Traffic Analysis Results
Proposed Project with Big Box Retail

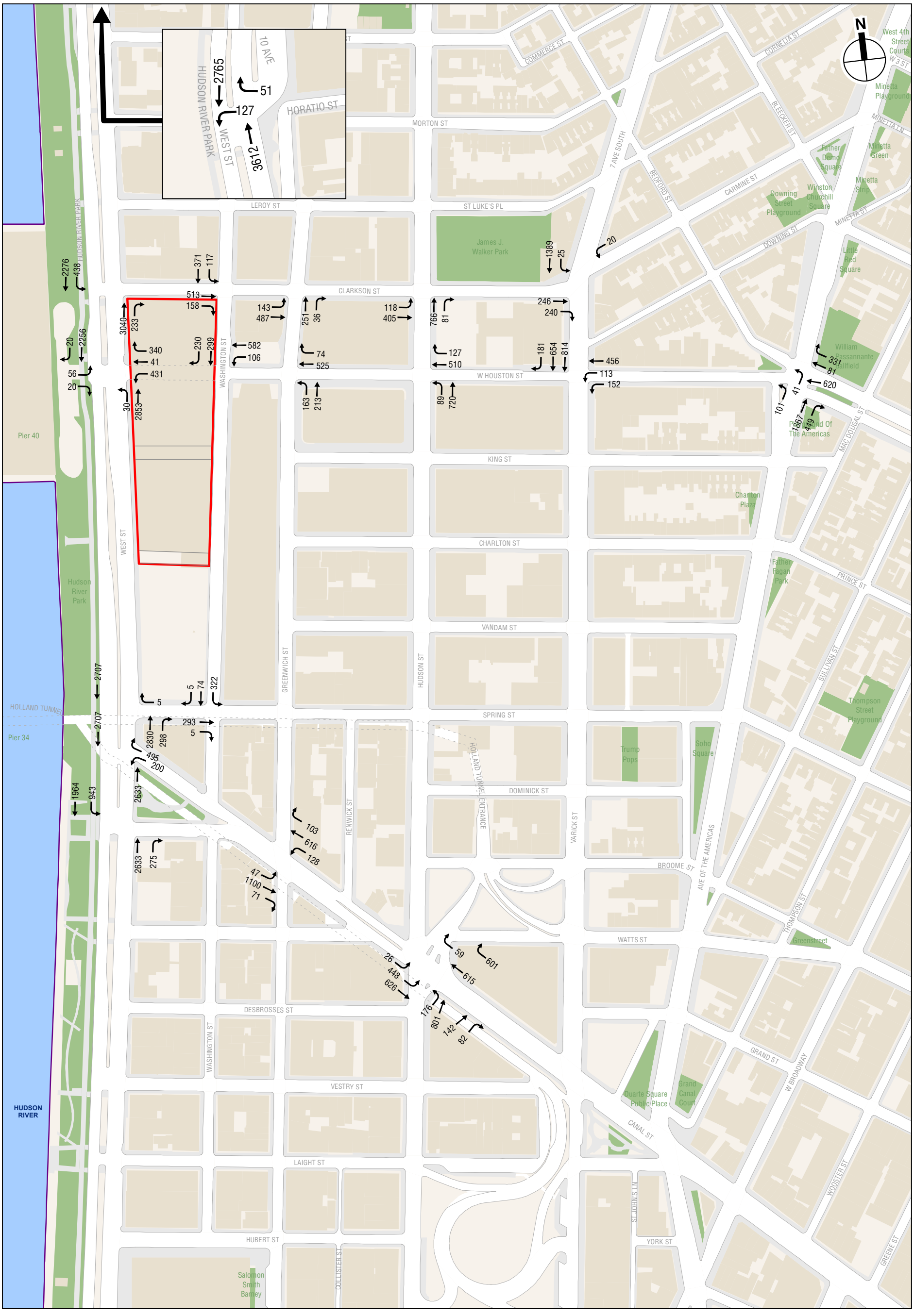
Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Signalized Intersections				
Lane Groups at LOS A/B/C	32	31	27	36
Lane Groups at LOS D	8	15	9	13
Lane Groups at LOS E	6	4	6	5
Lane Groups at LOS F	13	9	16	5
Total	59	59	58	59
Lane Groups with v/c ≥ 0.90	17	21	17	11
Number of intersections with significant impacts	5	6	7	5
Unsignalized Intersections				
Lane Groups at LOS A/B/C	5	6	4	5
Lane Groups at LOS D	1	0	0	1
Lane Groups at LOS E	0	0	1	0
Lane Groups at LOS F	0	0	1	0
Total	6	6	6	6
Lane Groups with v/c ≥ 0.90	0	0	1	0
Number of intersections with significant impacts	0	0	2	0

Notes: LOS = Level-of-Service; v/c = volume-to-capacity ratio.

Significant Adverse Impacts

Details on level-of-service, volume-to-capacity (v/c) ratios, and average delays are presented in **Tables 14-35 and 14-36**. As discussed below, significant adverse traffic impacts were identified at 14 approaches/lane groups (of 11 different intersections). Potential measures that can be implemented to mitigate these significant adverse traffic impacts are discussed in Chapter 22, "Mitigation."

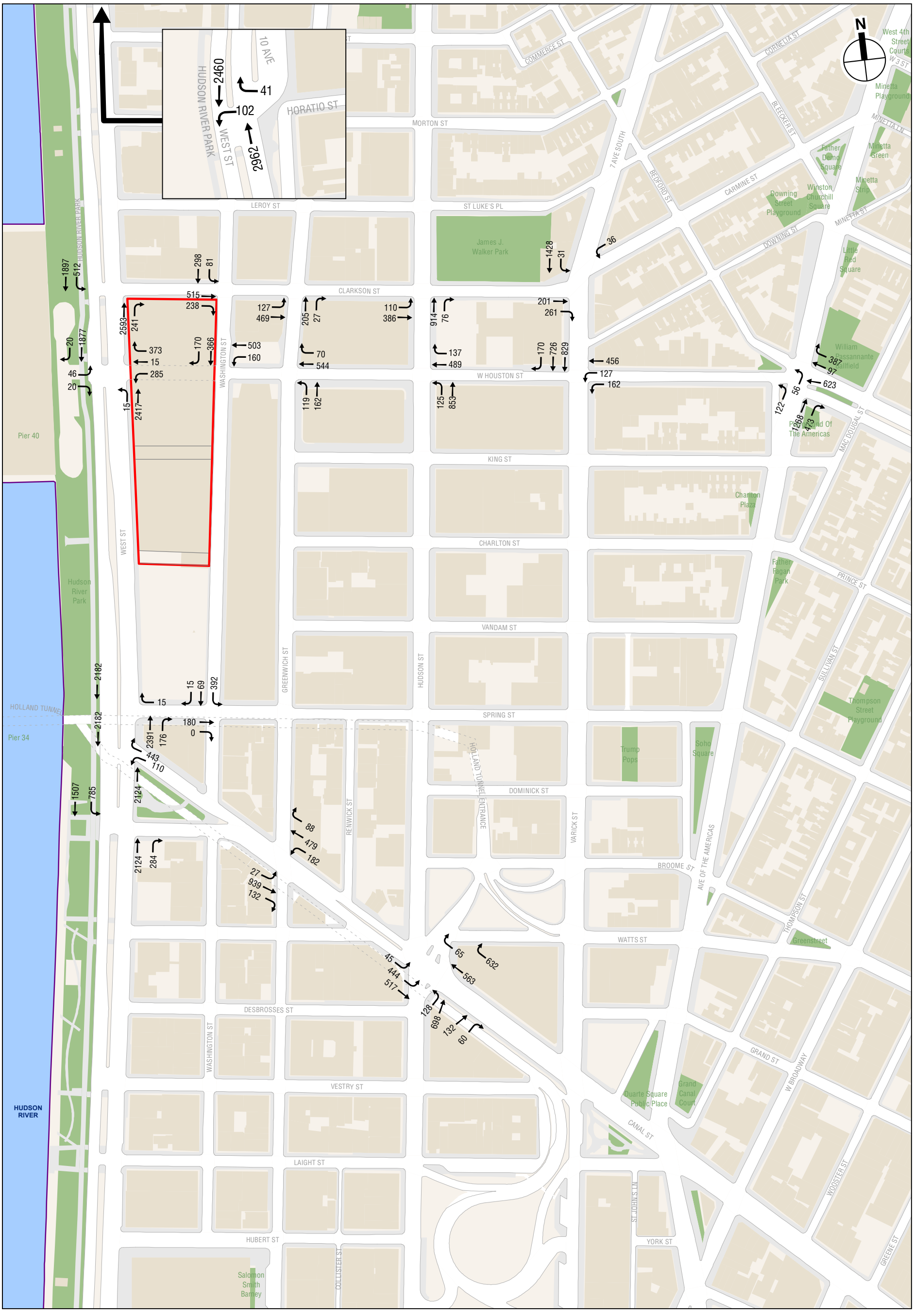
5/3/2016



2024 With Action Traffic Volumes: With Big Box Retail Scenario
Weekday AM Peak Hour

Figure 14-61

5/3/2016

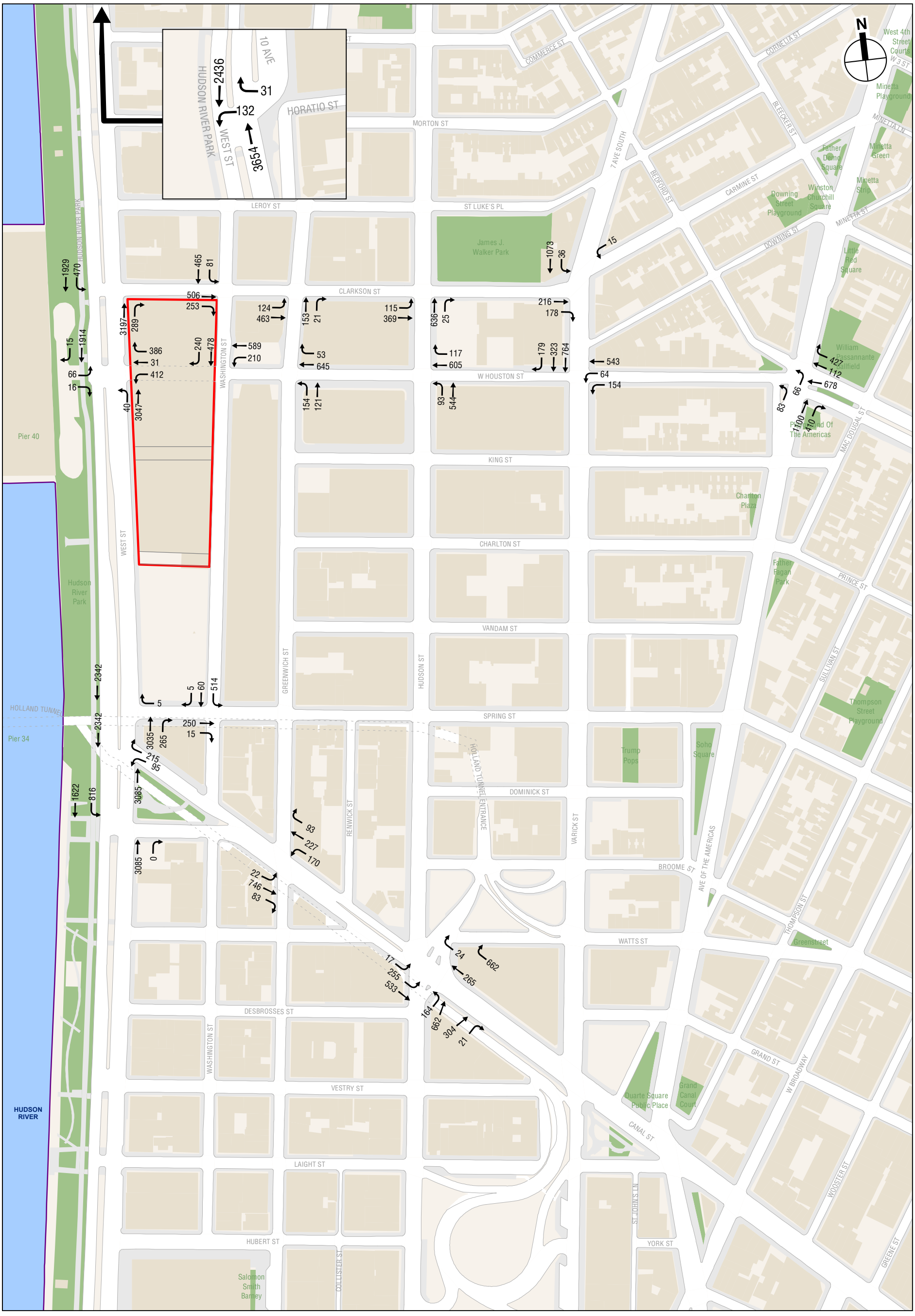


Development Site

2024 With Action Traffic Volumes: With Big Box Retail Scenario
Weekday Midday Peak Hour

Figure 14-62

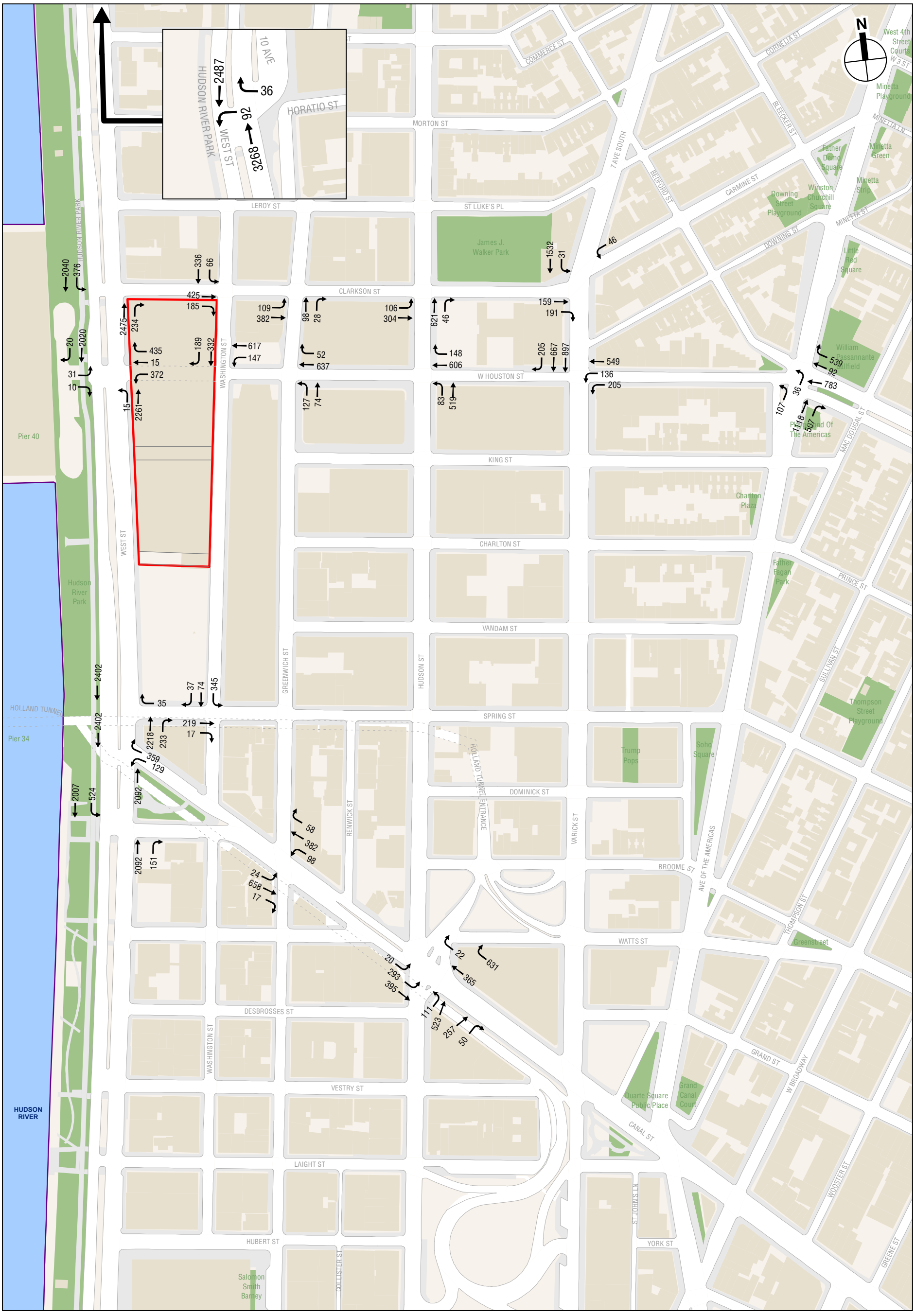
5/3/2016



2024 With Action Traffic Volumes: With Big Box Retail Scenario
Weekday PM Peak Hour

Figure 14-63

5/3/2016



Development Site

0 400 FEET

2024 With Action Traffic Volumes: With Big Box Retail Scenario
Saturday Peak Hour

Figure 14-64

Table 14-35
2024 No Action and 2024 With Action Conditions Level of Service Analysis
Proposed Project with Big Box Retail
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM								Saturday							
	2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action			
Int.	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Clarkson Street and Washington Street																																
EB	TR	0.80	28.7	C	TR	0.86	32.2	C	TR	0.86	33.2	C	TR	0.86	33.1	C	TR	0.85	32.0	C	TR	0.88	34.2	C	TR	0.58	21.4	C	TR	0.72	25.2	C
SB	LT	0.99	60.9	E	LT	1.04	73.1	E +	LT	0.66	25.4	C	LT	0.71	27.4	C	LT	1.00	61.4	E	LT	1.07	81.9	F +	LT	0.63	24.2	C	LT	0.71	27.0	C
	Int.		42.4	D	Int.		49.1	D	Int.		30.5	C	Int.		31.1	C	Int.		45.0	D	Int.		55.3	E	Int.		22.6	C	Int.		25.9	C
West Houston Street and Washington Street																																
WB	LT	0.69	23.3	C	LT	0.67	22.9	C	LT	0.63	21.9	C	LT	0.65	22.4	C	LT	0.91	42.0	D	LT	0.97	53.0	D +	LT	0.61	21.1	C	LT	0.67	22.6	C
SB	TR	1.31	177.6	F	TR	1.39	212.7	F +	TR	1.14	109.8	F	TR	1.20	133.8	F +	TR	1.49	254.9	F	TR	1.64	321.7	F +	TR	0.96	56.3	E	TR	1.16	115.7	F +
	Int.		91.7	F	Int.		108.1	F	Int.		61.1	E	Int.		72.8	E	Int.		143.8	F	Int.		181.7	F	Int.		34.6	C	Int.		60.1	E
West Houston Street and Greenwich Street																																
WB	TR	0.83	37.9	D	TR	0.81	36.6	D	TR	0.89	43.0	D	TR	0.90	44.0	D	TR	0.85	38.4	D	TR	0.89	42.0	D	TR	0.75	32.5	C	TR	0.81	35.2	D
NB	L	0.32	12.1	B	L	0.32	12.1	B	L	0.21	10.7	B	L	0.21	10.7	B	L	0.26	11.3	B	L	0.26	11.3	B	L	0.21	10.7	B	L	0.21	10.7	B
	T	0.37	12.7	B	T	0.38	12.8	B	T	0.26	11.2	B	T	0.26	11.2	B	T	0.18	10.3	B	T	0.18	10.4	B	T	0.11	9.7	A	T	0.11	9.8	A
	Int.		27.2	C	Int.		26.3	C	Int.		32.4	C	Int.		33.2	C	Int.		29.9	C	Int.		32.7	C	Int.		26.5	C	Int.		28.7	C
West Houston Street and Hudson Street																																
WB	TR	0.79	34.7	C	TR	0.79	34.3	C	TR	0.86	38.8	D	TR	0.88	40.6	D	TR	0.78	33.6	C	TR	0.82	35.7	D	TR	0.79	33.6	C	TR	0.84	36.9	D
NB	LT	0.60	15.0	B	LT	0.59	14.8	B	LT	0.66	16.3	B	LT	0.65	16.1	B	LT	0.45	12.8	B	LT	0.44	12.7	B	LT	0.42	12.4	B	LT	0.42	12.4	B
	Int.		23.3	C	Int.		23.0	C	Int.		25.6	C	Int.		26.4	C	Int.		23.1	C	Int.		24.6	C	Int.		23.3	C	Int.		25.5	C
West Houston Street and Varick Street																																
WB	L	0.88	54.7	D	L	0.89	56.8	E	L	1.10	111.0	F	L	1.05	94.2	F	L	0.94	68.9	E	L	0.90	60.1	E	L	1.05	89.5	F	L	1.04	85.9	F
	T	0.72	26.7	C	T	0.71	26.3	C	T	0.68	25.5	C	T	0.70	26.1	C	T	0.87	36.3	D	T	0.91	40.7	D	T	0.80	30.2	C	T	0.83	32.8	C
SB (EL)	T	0.76	25.6	C	T	0.75	25.6	C	T	0.75	25.2	C	T	0.75	25.2	C	T	0.71	23.8	C	T	0.71	23.8	C	T	0.77	25.8	C	T	0.77	25.9	C
SB (WL)	TR	0.86	31.9	C	TR	0.86	32.2	C	TR	0.88	33.0	C	TR	0.90	35.1	D	TR	1.11	260.7	F	TR	1.18	293.0	F +	TR	0.79	27.3	C	TR	0.83	29.6	C
	Int.		31.3	C	Int.		31.5	C	Int.		38.2	C	Int.		37.0	D	Int.		89.1	F	Int.		98.9	F	Int.		35.5	D	Int.		36.3	D
West Houston Street and Sixth Avenue																																
WB	T	0.48	15.5	B	T	0.48	15.4	B	T	0.54	18.8	B	T	0.55	18.9	B	T	0.59	20.9	C	T	0.58	21.2	C	T	0.53	16.0	B	T	0.54	16.3	B
	TR	0.70	42.6	D	TR	0.70	42.6	D	TR	0.91	70.5	E	TR	0.91	70.5	E	TR	0.97	88.6	F	TR	0.97	88.6	F	TR	0.97	73.8	E	TR	0.97	73.8	E
	R	0.69	42.7	D	R	0.69	42.7	D	R	0.69	74.7	E	R	0.96	74.7	E	R	1.02	90.0	F	R	1.02	90.0	F	R	0.96	73.4	E	R	0.96	73.4	E
NB	L	0.23	20.1	C	L	0.23	20.2	C	L	0.25	20.3	C	L	0.25	20.3	C	L	0.18	19.6	B	L	0.19	19.7	B	L	0.23	20.2	C	L	0.24	20.3	C
	LT	1.11	87.1	F	LT	1.11	87.1	F	LT	0.95	41.7	D	LT	0.95	41.4	D	LT	0.80	29.5	C	LT	0.80	29.5	C	LT	0.76	28.1	C	LT	0.76	28.1	C
	R	0.70	16.2	B	R	0.71	16.5	B	R	0.74	17.6	B	R	0.73	17.5	B	R	0.65	14.8	B	R	0.65	14.7	B	R	0.74	17.5	B	R	0.73	17.3	B
	Int.		53.2	D	Int.		53.3	D	Int.		37.5	D	Int.		37.4	D	Int.		36.5	D	Int.		36.4	D	Int.		31.8	C	Int.		32.2	C
Clarkson Street and West Street																																
NB	TR	0.89	22.1	C	TR	0.93	24.9	C	TR	0.88	23.1	C	TR	0.90	24.3	C	TR	0.94	25.8	C	TR	0.94	26.2	C	TR	0.77	18.5	B	TR	0.82	20.0	C
SB	L	1.34	228.5	F	L	1.33	226.1	F	L	1.27	182.0	F	L	1.33	206.6	F +	L	1.35	234.2	F	L	1.48	290.4	F +	L	0.82	56.3	E	L	0.94	73.2	E +
	T	0.81	18.8	B	T	0.81	18.8	B	T	0.78	19.3	B	T	0.78	19.3	B	T	0.67	14.4	B	T	0.67	14.4	B	T	0.79	19.6	B	T	0.79	19.6	B
	Int.		36.3	D	Int.		37.3	D	Int.		36.7	D	Int.		40.3	D	Int.		37.3	D	Int.		43.4	D	Int.		21.4	C	Int.		23.7	C
West Houston Street and West Street																																
EB	L	0.71	90.0	F	L	0.75	97.3	F +	L	0.24	36.2	D	L	0.25	36.6	D	L	0.64	75.2	E	L	0.67	78.5	E	L	0.17	34.8	C	L	0.18	35.0	D
	R	0.09	47.1	D	R	0.09	47.1	D	R	0.06	32.3	C	R	0.06	32.3	C	R	0.06	46.5	D	R	0.06	46.5	D	R	0.03	31.9	C	R	0.03	31.9	C
WB	L	0.70	66.2	E	L	0.71	66.8	E	L	0.37	37.7	D	L	0.37	37.8	D	L	0.64	62.2	E	L	0.64	62.2	E	L	0.44	39.3	D	L	0.45	39.5	D
	LT	0.82	76.6	E	LT	0.83	78.1	E	LT	0.40	38.5	D	LT	0.41	38.6	D	LT	0.73	67.3	E	LT	0.73	67.5	E	LT	0.48	40.1	D	LT	0.49	40.4	D
	R	1.37	248.5	F	R	1.38	250.1	F	R	1.44	262.6	F	R	1.54	303.6	F +	R	1.35	235.5	F	R	1.45	278.8	F +	R	1.29	193.5	F	R	1.39	235.1	F +
NB	L	0.34	76.2	E	L	0.34	76.2	E	L	0.13	53.3	D	L	0.13	53.3	D	L	0.42	79.3	E	L	0.42	79.3	E	L	0.13	53.0	D	L	0.13	53.0	D
	T	0.92	32.9	C	T	0.94	34.6	C	T	0.93	35.7	D	T	0.95	37.3	D	T	0.95	35.3	D	T	0.95	35.4	D	T	0.81	27.7	C	T	0.84	28.9	C
SB	T	0.95	37.2	D	T	0.95	37.2	D	T	1.02	54.5	D	T	1.02	54.5	D	T	0.78	25.0	C	T	0.78	25.0	C	T	1.01	52.4	D	T	1.01	52.4	D
	R	0.03	12.3	B	R	0.03	12.3	B	R	0.04	15.4	B	R	0.04	15.4	B	R	0.02	12.2	B	R	0.02	12.2	B	R	0.04	15.4	B	R	0.04	15.4	B
	Int.		50.1	D	Int.		51.1	D	Int.		59.1	E	Int.		62.6	E	Int.		46.8	D	Int.		50.5	D	Int.		51.5	D	Int.		55.8	E
Canal Street (North) and West Street																																
WB	L	0.82	79.3	E	L	0.84	82.8	F	L	0.44	46.9	D	L	0.45	47.2	D	L	0.38	44.6	D	L	0.36	44.2	D	L	0.43	45.6	D	L	0.46	46.5	D
	LR	1.22	187.6	F	LR	1.21	184.2	F	LR	1.08	127.6	F	LR	1.11	139.9	F +	LR	0.43	46.5	D	LR	0.48	47.9	D	LR	0.69	56.7	E	LR	0.74	60.8	E +
	R	1.22	187.7	F	R	1.20	182.4	F	R	1.07	131.1	F	R	1.12	145.3	F +	R	0.43	46.7	D	R	0.48	48.2	D	R	0.77	65.4	E	R	0.83	73.0	E +
NB	T	0.69	10.8	B	T	0.69	10.8	B	T	0.58	9.7	A	T	0.58	9.7	A	T	0.80	14.1	B	T	0.80	14.1	B	T	0.54	9.1	A	T	0.54	9.2	A
SB	T	0.55	8.4	A	T	0.55	8.5	A	T	0.47	8.4	A	T	0.47	8.4	A	T	0.48	8.5	A	T	0.48	8.5	A	T	0.47	8.4	A	T	0.48	8.4	A
	Int.		26.4	C	Int.		26.1	C	Int.		21.0	C	Int.		22.7	C	Int.		13.5	B	Int.		13.7	B	Int.		13.5	B	Int.		14.4	B
Canal Street (South) and West Street [1]																																
NB	T	0.98	46.2	D	T	0.98	46.0	D	T	0.82	29.5	C	T	0.82	29.6	C	T	1.11	83.7	F	T	1.11	85.1	F	T	0.78	27.8	C	T	0.78	28.0	C
	R	0.48	24.1	C	R	0.48	24.1	C	R	0.52	24.8	C	R	0.52	24.8	C	-	-	-	-	-	-	-	-	R	0.27	19.5	B	R	0.27	19.5	B
SB	L	0.85	43.9	D	L	0.85	43.9	D	L	0.68	31.1	C	L	0.68	31.1	C	L	0.70	32.0	C	L	0.70	32.0	C	L	0.42	25.2	C	L	0.42	25.2	C
	T	0.72	15.5	B	T	0.72	15.6	B	T	0.56	11.5	B	T	0.56	11.5	B	T	0.58	11.3	B	T	0.58	11.2	B	T	0.69	13.7	B	T	0.70	13.8	B
	Int.		34.4	C	Int.		34.3	C	Int.		23.7	C	Int.		23.7	C	Int.		54.7	D	Int.		55.6	E	Int.		21.4	C	Int.		21.5	C
Canal Street and Greenwich Street																																
EB	LTR	0.72	25.3	C	LTR	0.72	25.3	C	LTR	0.74	27.2	C	LTR	0.74	27.2	C	LTR	0.96	123.5	F	LTR	0.96	125.0	F	LTR	0.45	20.6	C	LTR	0.45	20.7	C
WB	L	0.64	25.9	C	L	0.64	25.9	C	L	0.92	64.4	E	L	0.92	64.4	E	L	0.73	28.0	C	L	0.73	28.0	C	L	0.33	11.8	B	L	0.33	11.8	B
	TR	0.89	31.0	C	TR	0.89	30.3	C	TR	0.74	20.9	C	TR	0.76	21.9	C	TR	0.43	12.2	B	TR	0.46	12.7	B	TR	0.52	13.7	B	TR	0.56	14.4	B
	Int.		27.3	C	Int.		27.1	C	Int.		28.9	C	Int.		29.1	C	Int.		82.3	F	Int.		82.1	F	Int.		17.5	B	Int.		17.7	B

Table 14-35 (cont'd)
2024 No Action and 2024 With Action Conditions Level of Service Analysis
Proposed Project with Big Box Retail
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM								Saturday							
	2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action			
Int.	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Canal Street and Hudson Street																																
EB	L	0.78	41.3	D	L	0.78	41.3	D	L	0.87	49.4	D	L	0.87	49.4	D	L	0.75	103.2	F	L	0.75	103.2	F	L	0.55	33.6	C	L	0.55	33.6	C
	T	0.79	23.1	C	T	0.79	23.1	C	T	0.68	18.1	B	T	0.68	18.1	B	T	0.71	18.8	B	T	0.71	18.8	B	T	0.54	14.6	B	T	0.54	14.6	B
WB	T	1.25	291.4	F	T	1.26	292.9	F	T	1.28	171.9	F	T	1.27	167.7	F	T	0.73	109.8	F	T	0.73	109.0	F	T	1.00	76.7	E	T	1.02	80.3	F
	R	0.48	12.9	B	R	0.48	12.9	B	R	0.52	13.6	B	R	0.52	13.6	B	R	1.07	88.7	F	R	1.07	88.7	F	R	0.54	13.7	B	R	0.54	13.7	B
NB (EL)	T	0.18	24.5	C	T	0.18	24.5	C	T	0.16	24.3	C	T	0.16	24.3	C	T	0.69	87.8	F	T	0.69	87.8	F	T	0.33	26.2	C	T	0.33	26.2	C
	R	0.27	26.6	C	R	0.27	26.6	C	R	0.19	25.2	C	R	0.19	25.2	C	R	0.06	23.5	C	R	0.06	23.5	C	R	0.15	24.7	C	R	0.15	24.7	C
NB (WL)	LT	1.17	119.1	F	LT	1.15	109.7	F	LT	1.08	88.8	F	LT	1.11	97.6	F +	LT	1.11	97.8	F	LT	1.14	110.1	F +	LT	0.85	40.5	D	LT	0.88	43.5	D
	Int.		100.7	F	Int.		98.4	F	Int.		69.6	E	Int.		70.9	E	Int.		81.3	F	Int.		84.8	F	Int.		33.0	C	Int.		34.3	C
Clarkson Street and Hudson Street																																
EB	LT	1.19	135.8	F	LT	1.29	177.8	F +	LT	1.24	156.0	F	LT	1.31	184.4	F +	LT	1.19	136.9	F	LT	1.22	146.3	F +	LT	0.92	53.5	D	LT	1.06	86.8	F +
NB	TR	0.74	19.5	B	TR	0.74	19.5	B	TR	0.75	19.5	B	TR	0.75	19.5	B	TR	0.51	14.2	B	TR	0.51	14.2	B	TR	0.48	13.7	B	TR	0.48	13.7	B
	Int.		59.6	E	Int.		77.0	E	Int.		66.6	E	Int.		78.3	E	Int.		65.3	E	Int.		69.7	E	Int.		28.9	C	Int.		43.9	D
Clarkson Street and Varick Street																																
EB	TR	1.06	81.5	F	TR	1.09	90.4	F +	TR	1.01	65.5	E	TR	1.01	66.3	E	TR	0.75	28.9	C	TR	0.74	28.2	C	TR	0.64	24.4	C	TR	0.68	25.8	C
WB	L	0.18	17.8	B	L	0.18	18.0	B	L	0.25	19.4	B	L	0.26	19.5	B	L	0.14	16.8	B	L	0.13	16.7	B	L	0.24	17.9	B	L	0.25	18.3	B
SB	LT	0.71	22.3	C	LT	0.71	22.3	C	LT	0.67	21.4	C	LT	0.68	21.5	C	LT	0.52	18.9	B	LT	0.53	19.1	B	LT	0.66	21.1	C	LT	0.67	21.3	C
	Int.		37.7	D	Int.		40.5	D	Int.		33.0	C	Int.		33.3	C	Int.		21.7	C	Int.		21.5	C	Int.		21.6	C	Int.		22.1	C
Tenth Avenue and West Street																																
WB	L	0.78	91.6	F	L	0.78	91.6	F	L	0.39	47.2	D	L	0.39	47.2	D	L	0.81	95.5	F	L	0.81	95.5	F	L	0.45	50.2	D	L	0.45	50.2	D
	R	0.24	59.9	E	R	0.24	59.9	E	R	0.15	42.1	D	R	0.15	42.1	D	R	0.15	58.0	E	R	0.15	58.0	E	R	0.13	41.9	D	R	0.13	41.9	D
NB	T	0.94	26.9	C	T	0.95	28.3	C	T	0.89	25.0	C	T	0.90	25.3	C	T	0.96	29.8	C	T	0.96	29.9	C	T	0.97	34.0	C	T	0.99	36.7	D
SB	T	0.97	33.4	C	T	0.97	33.3	C	T	0.98	37.7	D	T	0.99	39.9	D	T	0.84	20.9	C	T	0.85	21.7	C	T	0.98	37.9	D	T	1.00	42.7	D
	Int.		31.2	C	Int.		31.9	C	Int.		31.2	C	Int.		32.3	C	Int.		27.9	C	Int.		28.2	C	Int.		35.9	D	Int.		39.5	D

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection, EL = East Lanes, WL = West Lanes.
(1) Northbound right-turns not permitted by TEA during the weekday PM peak hour.
+ Denotes a significant adverse traffic impact.

Table 14-36
2024 No Action and 2024 With Action Conditions Level of Service Analysis
Proposed Project with Big Box Retail
Unsignalized Intersections

	Weekday AM								Weekday Midday								Weekday PM								Saturday							
	2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action				2024 No Action				2024 With Action			
Int.	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Spring Street and West Street																																
WB	R	0.02	16.0	C	R	0.14	17.6	C	R	0.04	14.4	B	R	0.35	18.8	C	R	0.02	17.0	C	R	0.65	36.5	E +	R	0.11	15.7	C	R	0.55	25.6	D
Spring Street and Washington Street																																
EB	TR	0.50	13.3	B	TR	0.52	14.1	B	TR	0.30	10.5	B	TR	0.31	11.1	B	TR	0.49	14.3	B	TR	0.49	14.2	B	TR	0.41	11.5	B	TR	0.44	12.7	B
SB	LTR	0.67	18.3	C	LTR	0.78	24.5	C	LTR	0.69	17.8	C	LTR	0.83	25.7	C	LTR	0.99	53.2	F	LTR	1.19	116.1	F +	LTR	0.58	14.3	B	LTR	0.79	23.4	C
Clarkson Street and Greenwich Street																																
EB	L	0.20	9.7	A	L	0.25	10.2	B	L	0.19	9.3	A	L	0.21	9.5	A	L	0.17	8.8	A	L	0.19	9.0	A	L	0.11	8.1	A	L	0.17	8.4	A
	T	0.74	21.4	C	T	0.81	26.8	D	T	0.71	19.2	C	T	0.75	21.4	C	T	0.67	16.6	C	T	0.68	17.1	C	T	0.48	11.2	B	T	0.56	12.6	B
NB	TR	0.54	14.9	B	TR	0.56	15.6	C	TR	0.42	12.2	B	TR	0.42	12.4	B	TR	0.29	10.5	B	TR	0.30	10.6	B	TR	0.18	8.9	A	TR	0.19	9.2	A

Notes: L = Left Turn, T = Through, R = Right Turn, LOS = Level of Service, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, Int. = Intersection.
+ Denotes a significant adverse traffic impact.

Clarkson Street

- Southbound approach at the Clarkson Street and Washington Street intersection would deteriorate within LOS E (from a v/c ratio of 0.99 and 60.9 spv of delay to a v/c ratio of 1.04 and 73.1 spv of delay) and from LOS E (v/c ratio of 1.00 and 61.4 spv of delay) to LOS 1.07 (v/c ratio of 1.07 and 81.9 spv of delay), increases in delay of more than four seconds, during the weekday AM and PM peak hours. These projected increases in delay constitute significant adverse impacts;
- Southbound left-turn at the Clarkson Street and West Street intersection would deteriorate within LOS F (from a v/c ratio of 1.27 and 182.0 spv of delay to a v/c ratio of 1.33 and 206.6 spv of delay), within LOS F (from a v/c ratio of 1.35 and 234.2 spv of delay to a v/c ratio of 1.48 and 290.4 spv of delay), and within LOS E (from a v/c ratio of 0.82 and 56.3 spv of delay to a v/c ratio of 0.94 and 73.2 spv of delay), increases in delay of more than three

seconds, three seconds, and four seconds, during the weekday midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts;

- Eastbound approach at the Clarkson Street and Hudson Street intersection would deteriorate within LOS F (from a v/c ratio of 1.19 and 135.8 spv of delay to a v/c ratio of 1.29 and 177.8 spv of delay), within LOS F (from a v/c ratio of 1.24 and 156.0 spv of delay to a v/c ratio of 1.31 and 184.4 spv of delay), within LOS F (from a v/c ratio of 1.19 and 136.9 spv of delay to a v/c ratio of 1.22 and 146.3 spv of delay), and from LOS D (v/c ratio of 0.92 and 53.5 spv of delay) to LOS F (v/c ratio of 1.06 and 86.8 spv of delay), increases in delay of more than three seconds, three seconds, three seconds, and five seconds, during the weekday AM, midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts; and
- Eastbound approach at the Clarkson Street and Varick Street intersection would deteriorate within LOS F (from a v/c ratio of 1.06 and 81.5 spv of delay to a v/c ratio of 1.09 and 90.4 spv of delay), an increase in delay of more than three seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact.

West Houston Street

- Westbound approach at the West Houston Street and Washington Street intersection would deteriorate within LOS D (from a v/c ratio of 0.91 and 42.0 spv of delay to a v/c ratio of 0.97 and 53.0 spv of delay), an increase in delay of more than five seconds, during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Southbound approach at the West Houston Street and Washington Street intersection would deteriorate within LOS F (from a v/c ratio of 1.31 and 177.6 spv of delay to a v/c ratio of 1.39 and 212.7 spv of delay), within LOS F (from a v/c ratio of 1.14 and 109.8 spv of delay to a v/c ratio of 1.20 and 133.8 spv of delay), within LOS F (from a v/c ratio of 1.49 and 254.9 spv of delay to a v/c ratio of 1.64 and 321.7 spv of delay), and from LOS E (v/c ratio of 0.96 and 56.3 spv of delay) to LOS F (v/c ratio of 1.16 and 115.7 spv of delay), increases in delay of more than three seconds, three seconds, three seconds, and four seconds, during the weekday AM, midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts;
- Southbound (West Lanes) approach at the West Houston Street and Varick Street intersection would deteriorate within LOS F (from a v/c ratio of 1.11 and 260.7 spv of delay to a v/c ratio of 1.18 and 293.0 spv of delay), an increase in delay of more than three seconds, during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Eastbound left-turn at the West Houston Street and West Street intersection would deteriorate within LOS F (from a v/c ratio of 0.71 and 90.0 spv of delay to a v/c ratio of 0.75 and 97.3 spv of delay), an increase in delay of more than three seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact; and
- Westbound right-turn at the West Houston Street and West Street intersection would deteriorate within LOS F (from a v/c ratio of 1.44 and 262.6 spv of delay to a v/c ratio of 1.54 and 303.6 spv of delay), within LOS F (from a v/c ratio of 1.35 and 235.5 spv of delay to a v/c ratio of 1.45 and 278.8 spv of delay), and within LOS F (from a v/c ratio of 1.29 and 193.5 spv of delay to a v/c ratio of 1.39 and 235.1 spv of delay), increases in delay of more

than three seconds, during the weekday midday, PM, and Saturday peak hours. These projected increases in delay constitute significant adverse impacts.

Canal Street

- Westbound left-turn/right-turn at the Canal Street (North) and West Street intersection would deteriorate within LOS F (from a v/c ratio of 1.08 and 127.6 spv of delay to a v/c ratio of 1.11 and 139.9 spv of delay) and within LOS E (from a v/c ratio of 0.69 and 56.7 spv of delay to a v/c ratio of 0.74 and 60.8 spv of delay), increases in delay of more than three seconds and four seconds, during the weekday midday and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts;
- Westbound right-turn at the Canal Street (North) and West Street intersection would deteriorate within LOS F (from a v/c ratio of 1.07 and 131.1 spv of delay to a v/c ratio of 1.12 and 145.3 spv of delay) and within LOS E (from a v/c ratio of 0.77 and 65.4 spv of delay to a v/c ratio of 0.83 and 73.0 spv of delay), increases in delay of more than three seconds and four seconds, during the weekday midday and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts; and
- Northbound (West Lanes) approach at the Canal Street and Hudson Street intersection would deteriorate within LOS F (from a v/c ratio of 1.08 and 88.8 spv of delay to a v/c ratio of 1.11 and 97.6 spv of delay) and within LOS F (from a v/c ratio of 1.11 and 97.8 spv of delay to a v/c ratio of 1.14 and 110.1 spv of delay), increases in delay of more than three seconds, during the weekday midday and PM peak hours. These projected increases in delay constitute significant adverse impacts.

Spring Street

- Westbound right-turn at the Spring Street and West Street intersection would deteriorate from LOS C (with a v/c ratio of 0.02 and 17.0 spv of delay) to LOS E (with a v/c ratio of 0.65 and 36.5 spv of delay), an increase in delay of more than five seconds, during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact; and
- Southbound approach at the Spring Street and Washington Street intersection would deteriorate within LOS F (from a v/c ratio of 0.99 and 53.2 spv of delay to a v/c ratio of 1.19 and 116.1 spv of delay), an increase in delay of more than three seconds, during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.

E. DETAILED PEDESTRIAN ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology and Screening Assessment," Level 1 and Level 2 screening analyses were prepared to identify the pedestrian elements warranting a detailed analysis. Based on the assignment of pedestrian trips and in consultation with NYCDOT, 2 sidewalks and one crosswalk were selected for analysis for all peak hours.

2015 EXISTING CONDITIONS

Pedestrian data were collected in June 2015 in accordance with procedures outlined in the *CEQR Technical Manual* during the weekday hours of 7:00 AM to 9:30 AM, 12:00 PM to 2:00 PM, and 4:00 PM to 6:30 PM during the weekday, and from 12:00 PM to 5:00 PM on Saturday.

STREET-LEVEL PEDESTRIAN OPERATIONS

Peak hours were determined by comparing rolling hourly averages and the highest 15-minute volumes within the selected peak hours were selected for analysis. The existing peak hour pedestrian volumes are shown in **Figures 14-65 through 14-68**. A summary of the 2015 existing conditions pedestrian analysis results is presented in **Table 14-37**. As shown in **Tables 14-38 and 14-39**, all sidewalk and crosswalk analysis locations currently operate at favorable LOS A and B.

Table 14-37
Summary of 2015 Existing Pedestrian Analysis Results

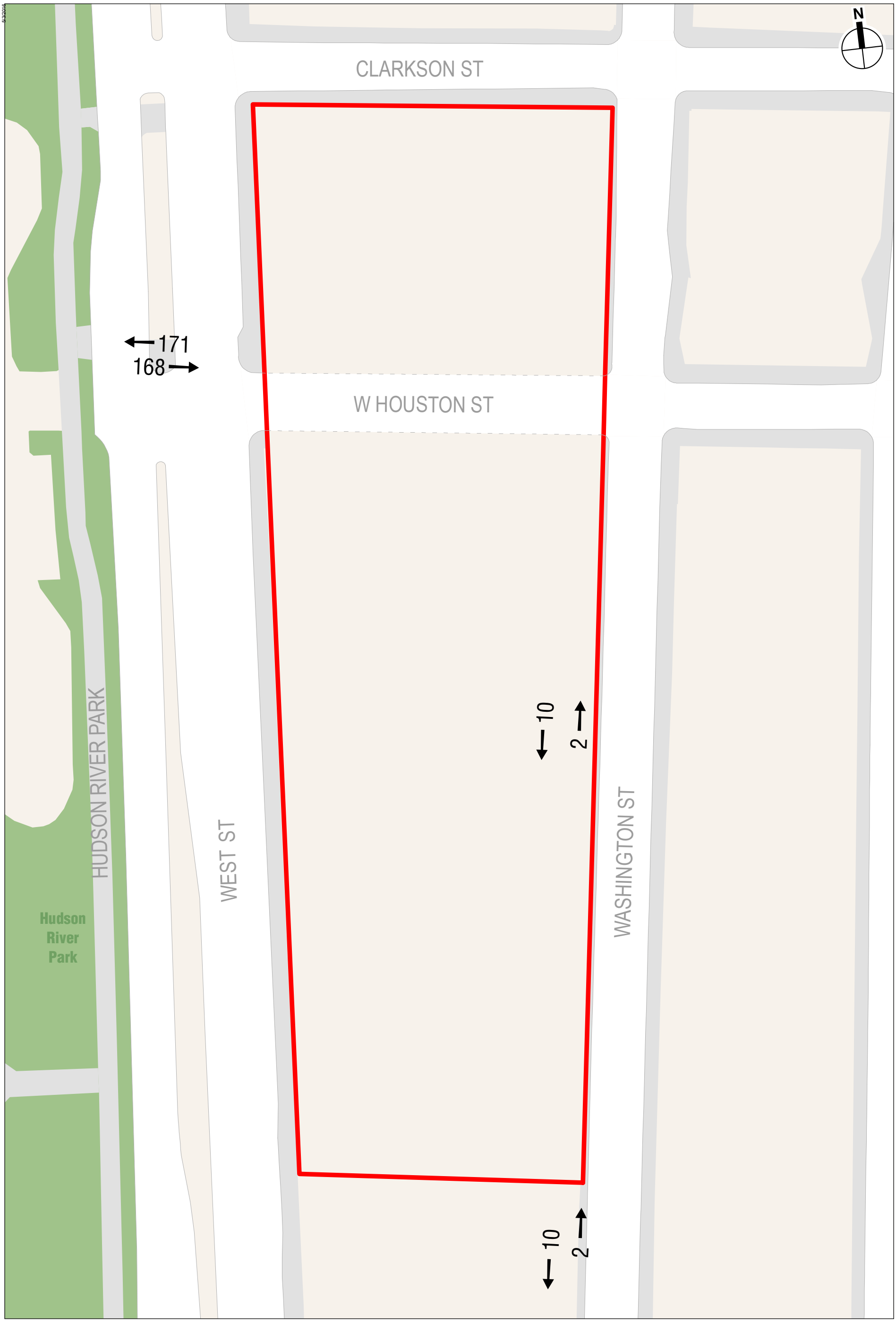
Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Sidewalks				
Sidewalks at LOS A/B/C	2	2	2	2
Sidewalks at LOS D	0	0	0	0
Sidewalks at LOS E	0	0	0	0
Sidewalks at LOS F	0	0	0	0
Total	2	2	2	2
Crosswalks				
Crosswalks at LOS A/B/C	1	1	1	1
Crosswalks at LOS D	0	0	0	0
Crosswalks at LOS E	0	0	0	0
Crosswalks at LOS F	0	0	0	0
Total	1	1	1	1

Note: LOS = Level-of-Service.

Table 14-38
2015 Existing Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	12	0.80	2,112.0	A
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	12	0.80	2,640.0	A
Weekday Midday Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	12	1.00	3,640.0	A
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	12	1.00	3,300.0	A
Weekday PM Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	8	1.00	3,960.0	A
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	8	1.00	4,950.0	A
Saturday Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	3	0.80	8,448.0	A
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	3	0.80	10,560.0	A

Note: SFP = square feet per pedestrian.



Development Site

0 100 FEET

2015 Existing Pedestrian Volumes
Weekday AM Peak Hour

Figure 14-65

CLARKSON ST

W HOUSTON ST

HUDSON RIVER PARK

Hudson River Park

WEST ST

WASHINGTON ST

100
107

3
9

3
9

N

0 100 FEET

Development Site

2015 Existing Pedestrian Volumes
Weekday Midday Peak Hour

Figure 14-66

CLARKSON ST

W HOUSTON ST

HUDSON RIVER PARK

WEST ST

WASHINGTON ST

Hudson River Park

133
90

4
4

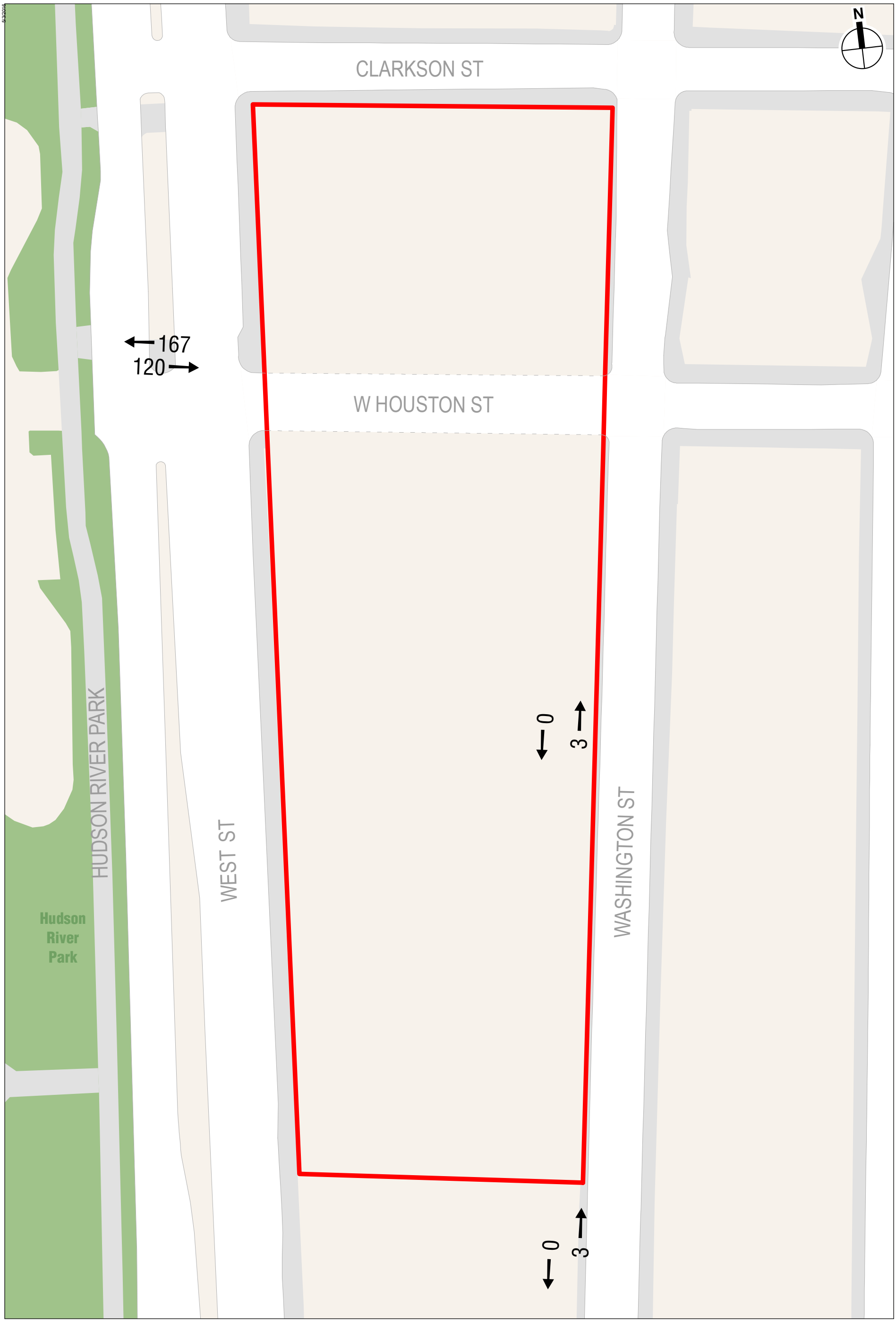
4
4

N

Development Site

0 100 FEET

2015 Existing Pedestrian Volumes
Weekday PM Peak Hour
Figure 14-67



Development Site

2015 Existing Pedestrian Volumes
Saturday Peak Hour
Figure 14-68

Table 14-39
2015 Existing Conditions: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	339	54.1	B
Weekday Midday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	207	88.5	A
Weekday PM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	223	81.6	A
Saturday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	287	69.4	A

Note: SFP = square feet per pedestrian.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

2024 No Action pedestrian volumes were estimated by increasing existing pedestrian levels to reflect expected growth in overall travel through and within the study area. As per *CEQR* guidelines, an annual background growth rate of 0.25 percent was assumed for the years 2015 to 2020, and an annual background growth rate of 0.125 percent was assumed for the years 2020 to 2024. Pedestrian volumes from projects that are anticipated to be completed in the study area (including the No Action development) were added to determine the No Action condition pedestrian volumes. The 2024 No Action pedestrian volumes for the weekday AM, midday, PM, and Saturday peak hours are presented in **Figures 14-69 through 14-72**.

STREET-LEVEL PEDESTRIAN OPERATIONS

A summary of the 2024 No Action condition pedestrian analysis results is presented in **Table 14-40**. As shown in **Tables 14-41 and 14-42**, the crosswalk analysis location will continue to operate at the same favorable LOS as in the existing conditions during all peak hours. However, both sidewalks will deteriorate to unacceptable LOS D (31.5 SFP platoon flows for sidewalks), as follows:

- The west sidewalk of Washington Street between West Houston Street and Spring Street (North Section) will deteriorate to LOS D with 30.7 SFP during the weekday AM peak hour, and to LOS E with 12.2 SFP, 13.8 SFP, and 13.1 SFP in the weekday midday and PM, and Saturday peak hours, respectively; and
- The west sidewalk of Washington Street between West Houston Street and Spring Street (South Section) will deteriorate to LOS E with 17.1 SFP, 21.5 SFP, and 18.0 SFP in the weekday midday and PM, and Saturday peak hours, respectively.

CLARKSON ST

W HOUSTON ST

HUDSON RIVER PARK

Hudson River Park

WEST ST

WASHINGTON ST

179
177

337
446

228
434

N

0 100 FEET

Development Site

2024 No Action Pedestrian Volumes
Weekday AM Peak Hour

Figure 14-69

CLARKSON ST

W HOUSTON ST

135
142

881
939

864
930

HUDSON RIVER PARK

Hudson River Park

WEST ST

WASHINGTON ST

N

Development Site

0 100 FEET

2024 No Action Pedestrian Volumes
Weekday Midday Peak Hour

Figure 14-70

CLARKSON ST

W HOUSTON ST

WEST ST

HUDSON RIVER PARK

Hudson River Park

WASHINGTON ST

143
100

914
761

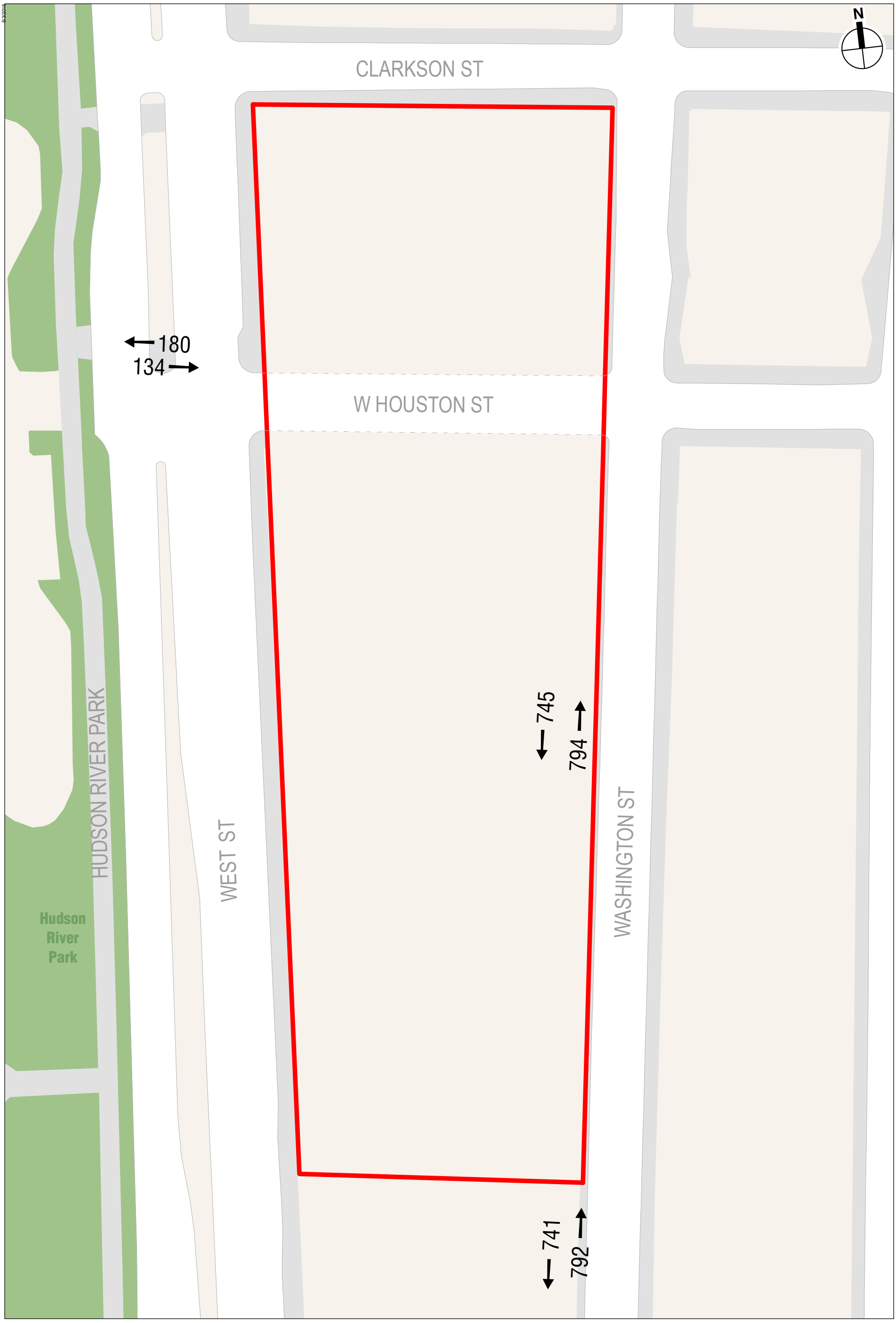
866
628

N

0 100 FEET

Development Site

2024 No Action Pedestrian Volumes
Weekday PM Peak Hour
Figure 14-71



2024 No Action Pedestrian Volumes
Saturday Peak Hour

550 WASHINGTON STREET

Figure 14-72

Table 14-40
Summary of 2024 No Action Pedestrian Analysis Results

Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Sidewalks				
Sidewalks at LOS A/B/C	1	0	0	0
Sidewalks at LOS D	1	0	0	0
Sidewalks at LOS E	0	2	2	2
Sidewalks at LOS F	0	0	0	0
Total	2	2	2	2
Crosswalks				
Crosswalks at LOS A/B/C	1	1	1	1
Crosswalks at LOS D	0	0	0	0
Crosswalks at LOS E	0	0	0	0
Crosswalks at LOS F	0	0	0	0
Total	1	1	1	1

Note: LOS = Level-of-Service.

Table 14-41
2024 No Action Condition: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	783	0.80	30.7	D
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	662	0.80	46.7	C
Weekday Midday Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	1,820	0.90	12.2	E
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1,794	0.90	17.1	E
Weekday PM Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	1,675	0.90	13.8	E
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1,494	0.90	21.6	E
Saturday Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	1,539	0.80	13.2	E
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1,533	0.80	18.0	E

Note: SFP = square feet per pedestrian.

Table 14-42
2024 No Action Condition: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	356	49.1	B
Weekday Midday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	277	63.2	A
Weekday PM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	243	71.2	A
Saturday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	314	60.4	A

Note: SFP = square feet per pedestrian.

THE FUTURE WITH THE PROPOSED ACTIONS

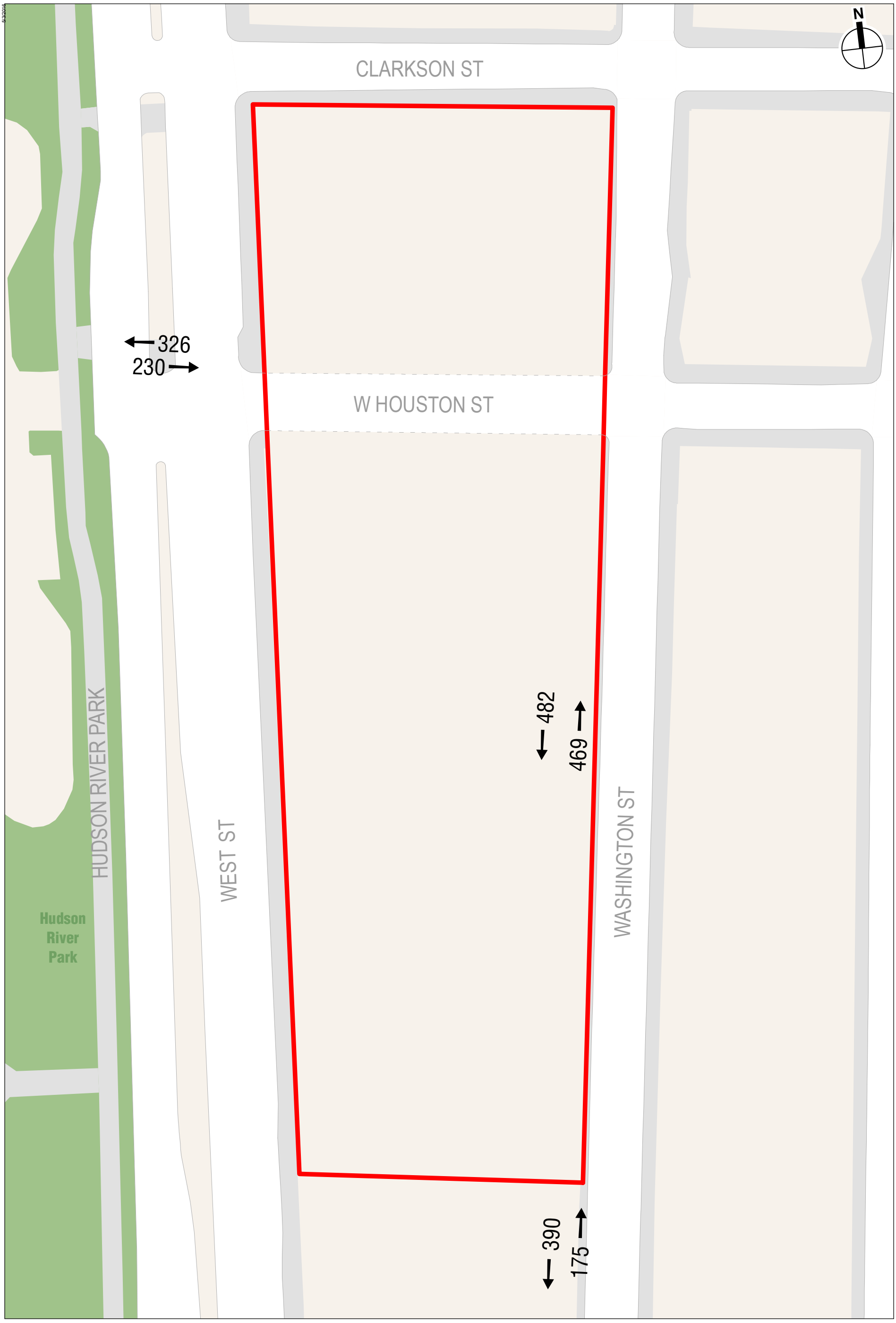
PROPOSED PROJECT

Project-generated pedestrian volumes were assigned to the pedestrian network considering current land uses in the area, population distribution, nearby parking locations, available transit services, and surrounding pedestrian facilities. The hourly incremental pedestrian volumes presented above in "Level 2 Screening Assessment" were added to the projected 2024 No Action volumes to generate the 2024 With Action pedestrian volumes for analysis (see **Figures 14-73 through 14-76**).

STREET-LEVEL PEDESTRIAN OPERATIONS AND SIGNIFICANT ADVERSE IMPACTS

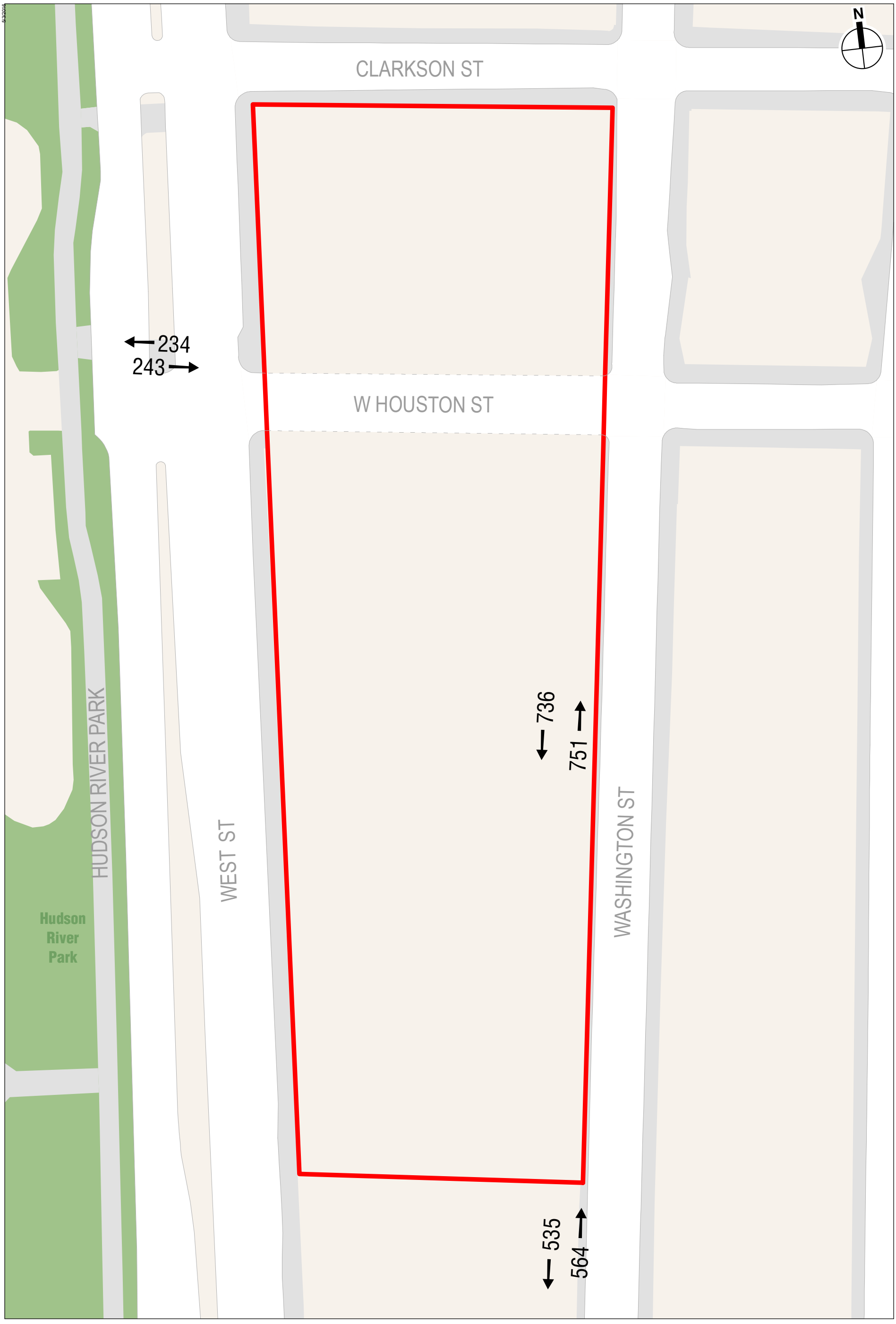
As part of the proposed project, the northern segment of the sidewalk along Washington Street between Spring Street and West Houston Street would be widened to 13.5 feet (from an existing width of 5 feet). This sidewalk widening has been incorporated into the With Action condition analysis. The narrowest effective sidewalk widths used for analysis accounts for obstructions that currently exist or are expected to be in place with the proposed project.

A summary of the 2024 With Action (the proposed project) condition pedestrian analysis results is presented in **Table 14-43**. As shown in **Tables 14-44 and 14-45**, with primarily negative pedestrian traffic increments surrounding the project block between the No Action and the With Action conditions, and with a widened sidewalk along the north segment of Washington Street between Spring Street and West Houston Street, the study area sidewalks would improve in levels of service over the No Action conditions under the proposed project. The study area crosswalk would deteriorate to LOS C from LOS B during the weekday AM peak hour and from LOS A during the weekday midday and PM and Saturday peak hours under the With Action condition for the proposed project. This service level is more favorable than the mid-LOS D threshold between acceptable and unacceptable operations. Therefore, in accordance with the *CEQR Technical Manual*, the proposed project would not result in the potential for any significant adverse pedestrian impacts.



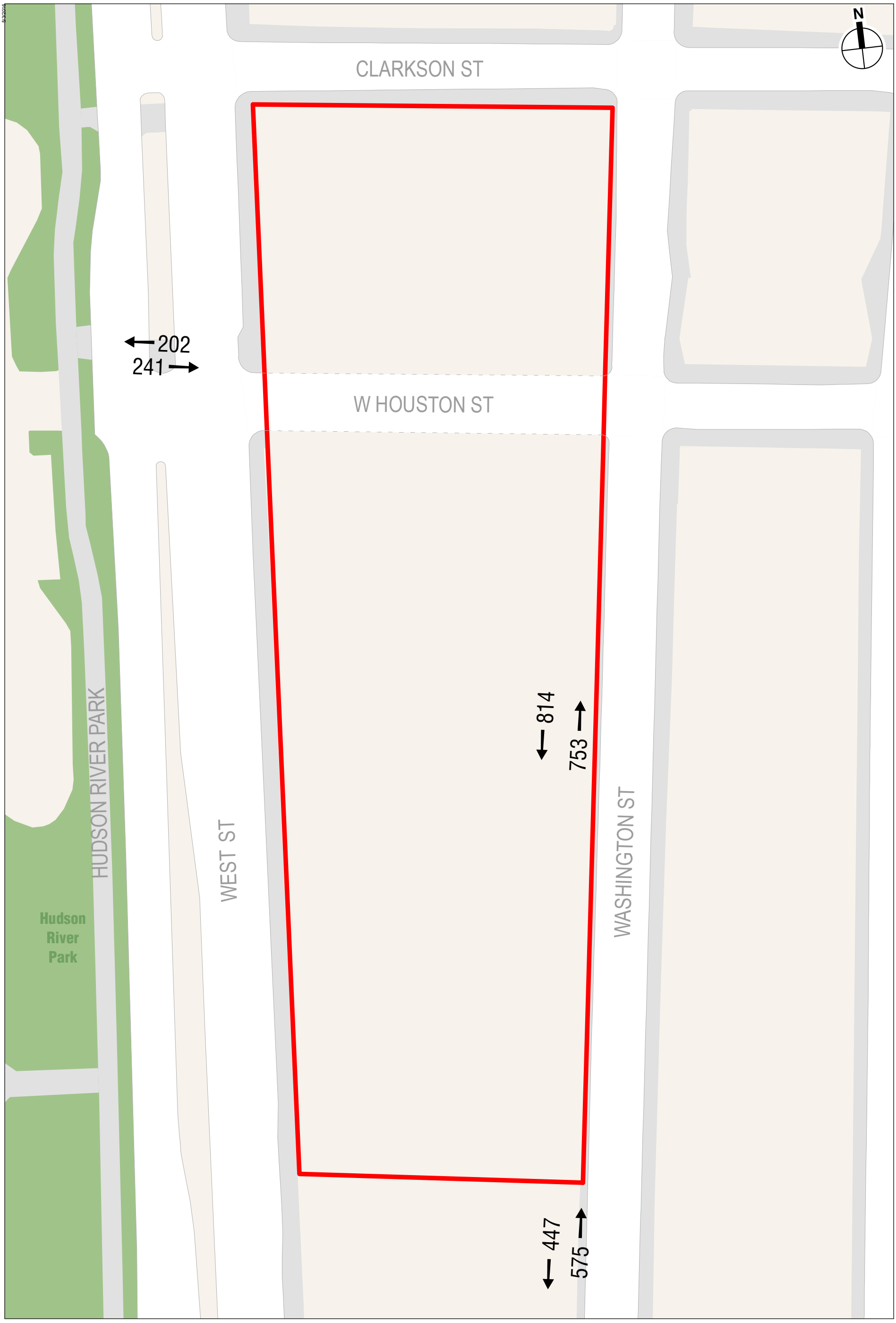
2024 With Action Pedestrian Volumes: Without Big Box Retail Scenario
Weekday AM Peak Hour

Figure 14-73



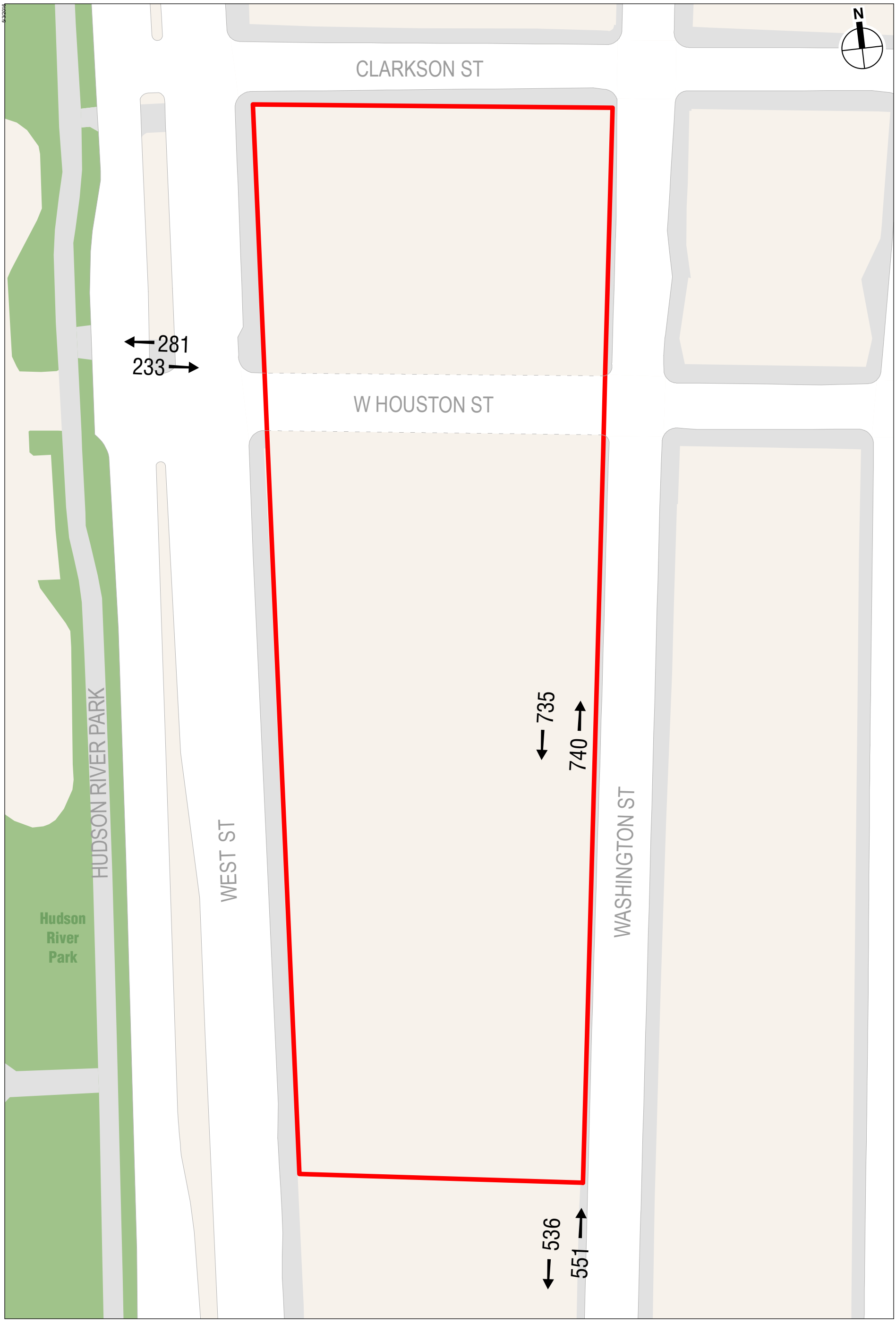
2024 With Action Pedestrian Volumes: Without Big Box Retail Scenario
Weekday Midday Peak Hour

Figure 14-74



2024 With Action Pedestrian Volumes: Without Big Box Retail Scenario
Weekday PM Peak Hour

Figure 14-75



2024 With Action Pedestrian Volumes: Without Big Box Retail Scenario
Saturday Peak Hour

Table 14-43
Summary of 2024 With Action Pedestrian Analysis Results
Proposed Project

Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Sidewalks				
Sidewalks at LOS A/B/C	2	1	1	1
Sidewalks at LOS D	0	1	1	1
Sidewalks at LOS E	0	0	0	0
Sidewalks at LOS F	0	0	0	0
Total	2	2	2	2
Crosswalks				
Crosswalks at LOS A/B/C	1	1	1	1
Crosswalks at LOS D	0	0	0	0
Crosswalks at LOS E	0	0	0	0
Crosswalks at LOS F	0	0	0	0
Total	1	1	1	1

Note: LOS = Level-of-Service.

Table 14-44
2024 With Action Condition: Sidewalk Analysis
Proposed Project

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	951	0.80	139.5	B
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	565	0.80	55.1	C
Weekday Midday Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	1,487	0.90	100.1	B
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1,099	0.90	30.8	D
Weekday PM Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	1,567	0.90	95.0	B
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1,022	0.90	33.3	D
Saturday Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	1,475	0.80	89.6	C
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1,087	0.80	27.3	D

Note: SFP = square feet per pedestrian.

Table 14-45
2024 With Action Condition: Crosswalk Analysis
Proposed Project

Location [(1)]	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	556	30.9	C
Weekday Midday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	477	36.2	C
Weekday PM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	443	37.8	C
Saturday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	514	35.8	C

Notes: SFP = square feet per pedestrian.
(1) Based on the Level 2 pedestrian trip assignments, the north crosswalk would incur fewer than 200 incremental pedestrian trips during all analysis peak hours. However, for a conservative analysis, 200 incremental pedestrian trips were assumed for each of the analysis peak hours.

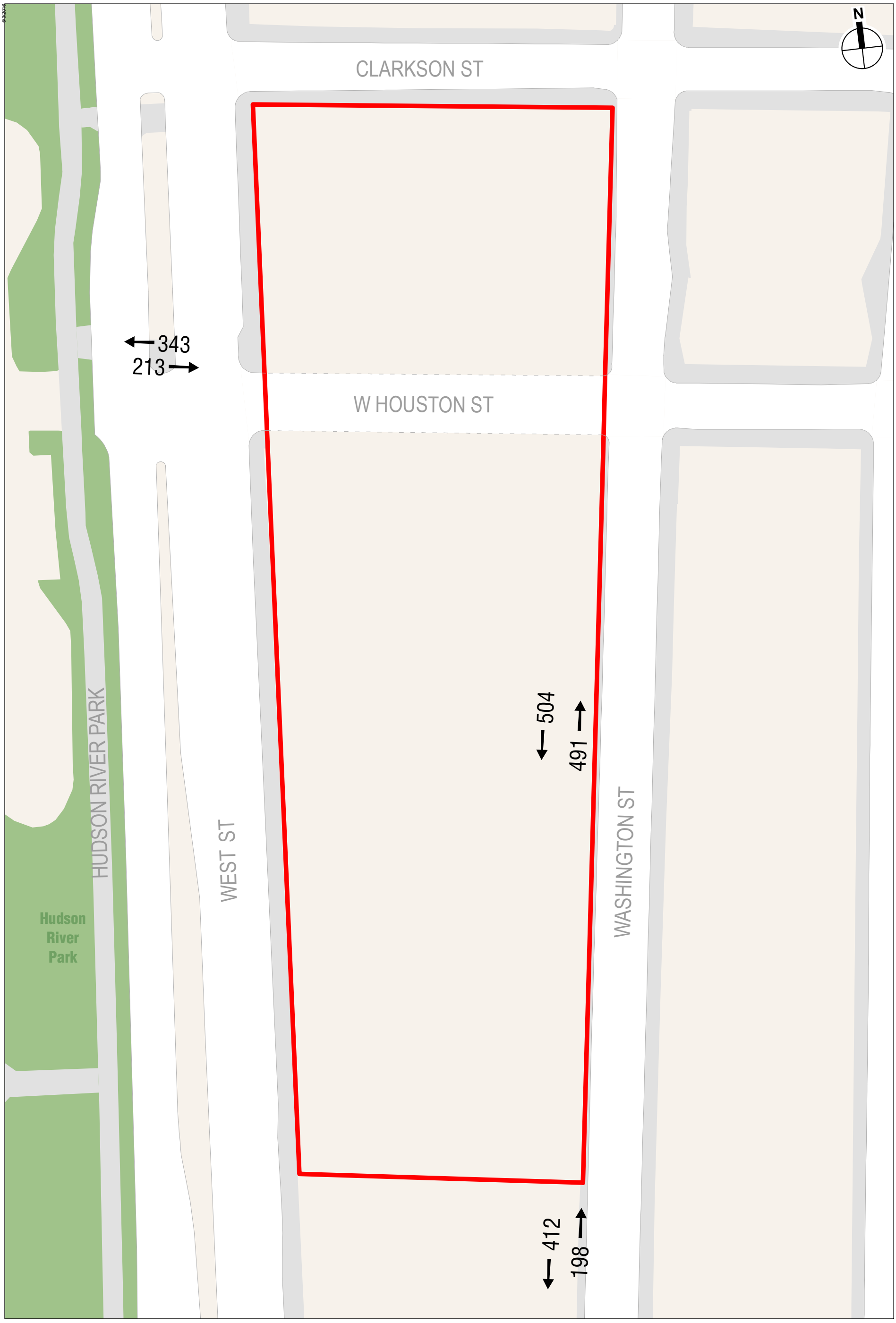
PROPOSED PROJECT WITH BIG BOX RETAIL

Project-generated pedestrian volumes were assigned to the pedestrian network considering current land uses in the area, population distribution, nearby parking locations, available transit services, and surrounding pedestrian facilities. The hourly incremental pedestrian volumes presented above in "Level 2 Screening Assessment" were added to the projected 2024 No Action volumes to generate the 2024 With Action pedestrian volumes for analysis (see **Figures 14-77 through 14-80**).

STREET-LEVEL PEDESTRIAN OPERATIONS AND SIGNIFICANT ADVERSE IMPACTS

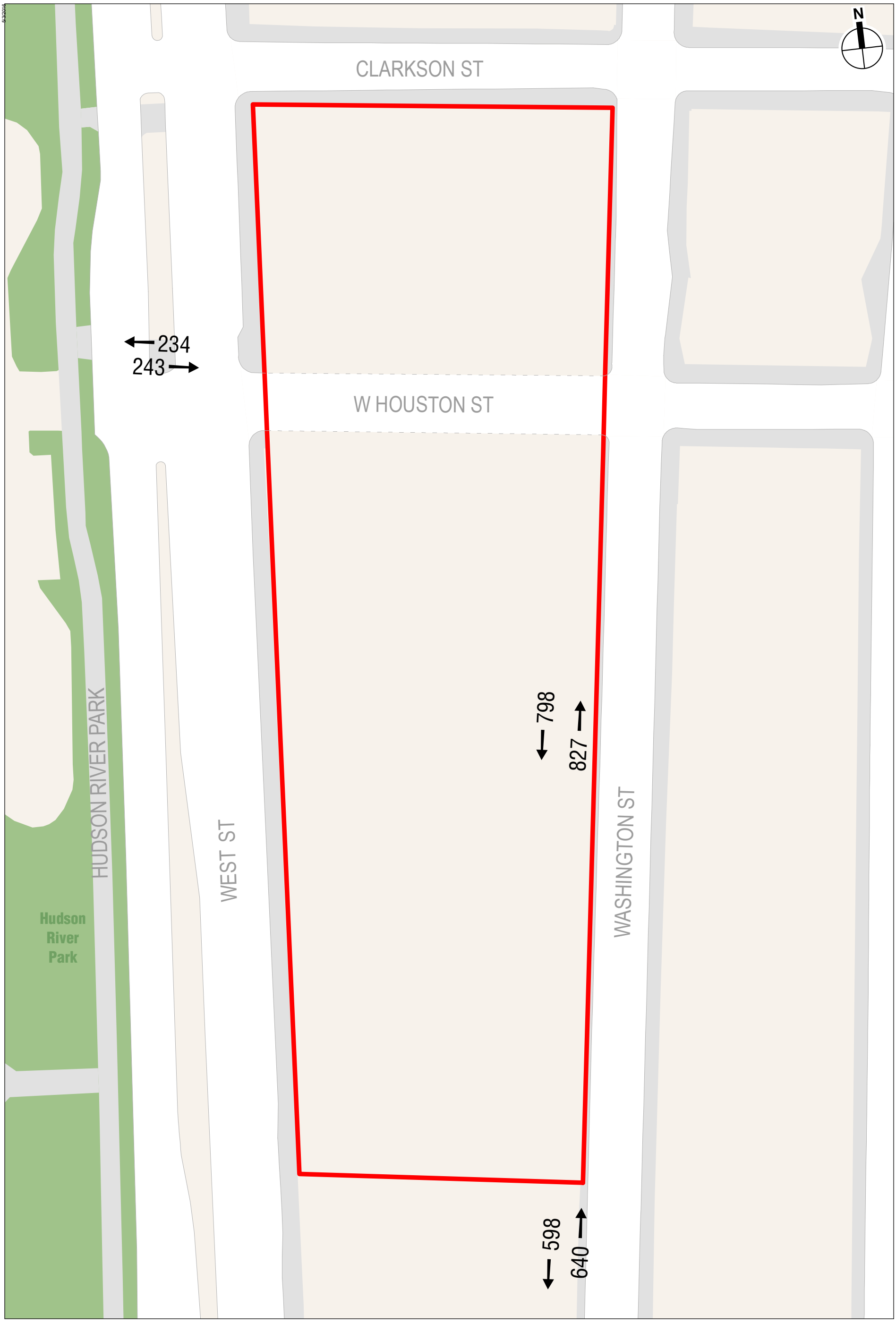
As part of the proposed project, the northern segment of the sidewalk along Washington Street between Spring Street and West Houston Street would be widened to 13.5 feet (from an existing width of 5 feet). This sidewalk widening has been incorporated into the With Action condition analysis. The narrowest effective sidewalk widths used for analysis accounts for obstructions that currently exist or are expected to be in place with the proposed project.

A summary of the 2024 With Action (the proposed project with big box retail) condition pedestrian analysis results is presented in **Table 14-46**. As shown in **Tables 14-47 and 14-48**, with primarily negative pedestrian traffic increments surrounding the project block between the No Action and the With Action conditions, and with a widened sidewalk along the north segment of Washington Street between Spring Street and West Houston Street, the study area sidewalks would improve in levels of service over the No Action conditions under the proposed project with big box retail. The study area crosswalk would deteriorate to LOS C from LOS B during the weekday AM peak hour and from LOS A during the weekday midday and PM and Saturday peak hours under the With Action condition for the proposed project with big box retail. This service level is more favorable than the mid-LOS D threshold between acceptable and unacceptable operations. Therefore, in accordance with the *CEQR Technical Manual*, the proposed project with big box retail would not result in the potential for any significant adverse pedestrian impacts.



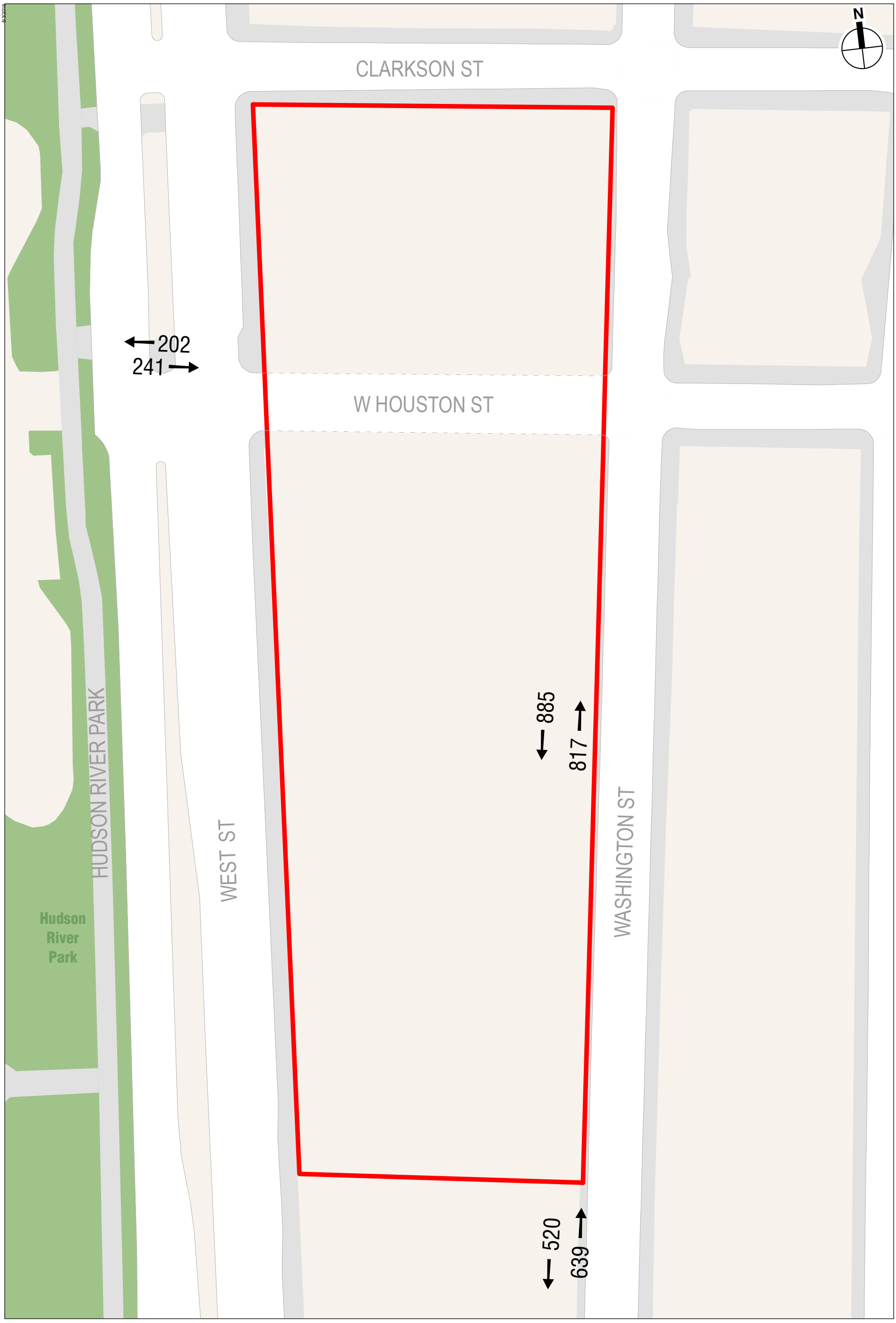
2024 With Action Pedestrian Volumes: With Big Box Retail Scenario
Weekday AM Peak Hour

Figure 14-77



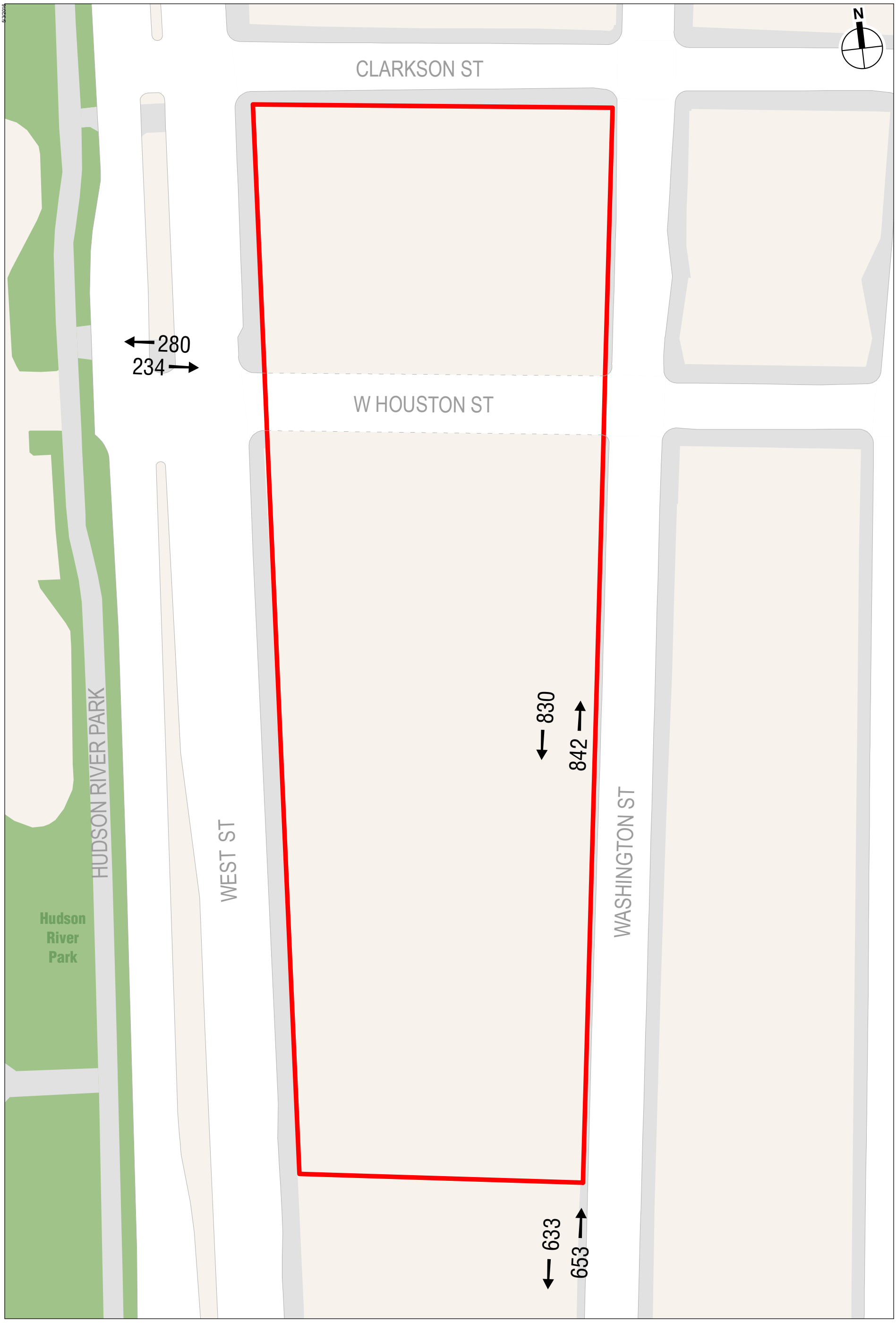
2024 With Action Pedestrian Volumes: With Big Box Retail Scenario
Weekday Midday Peak Hour

Figure 14-78



2024 With Action Pedestrian Volumes: With Big Box Retail Scenario
Weekday PM Peak Hour

Figure 14-79



2024 With Action Pedestrian Volumes: With Big Box Retail Scenario
Saturday Peak Hour

Figure 14-80

Table 14-46
Summary of 2024 With Action Pedestrian Analysis Results
Proposed Project with Big Box Retail

Level of Service	Analysis Peak Hours			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Sidewalks				
Sidewalks at LOS A/B/C	2	1	1	1
Sidewalks at LOS D	0	1	1	0
Sidewalks at LOS E	0	0	0	1
Sidewalks at LOS F	0	0	0	0
Total	2	2	2	2
Crosswalks				
Crosswalks at LOS A/B/C	1	1	1	1
Crosswalks at LOS D	0	0	0	0
Crosswalks at LOS E	0	0	0	0
Crosswalks at LOS F	0	0	0	0
Total	1	1	1	1

Note: LOS = Level-of-Service.

Table 14-47
2024 With Action Condition: Sidewalk Analysis
Proposed Project with Big Box Retail

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	995	0.80	133.3	B
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	610	0.80	50.9	C
Weekday Midday Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	1,625	0.90	91.5	B
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1,238	0.90	26.9	D
Weekday PM Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	1,702	0.90	87.3	C
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1,159	0.90	29.0	D
Saturday Peak Hour						
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	1,672	0.80	78.9	C
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1,286	0.80	22.4	E

Note: SFP = square feet per pedestrian.

Table 14-48
2024 With Action Condition: Crosswalk Analysis
Proposed Project with Big Box Retail

Location [(1)]	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	556	30.8	C
Weekday Midday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	477	36.1	C
Weekday PM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	443	37.7	C
Weekday Saturday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	514	35.6	C

Note: SFP = square feet per pedestrian.
(1) Based on the Level 2 pedestrian trip assignments, the north crosswalk would incur fewer than 200 incremental pedestrian trips during all analysis peak hours. However, for a conservative analysis, 200 incremental pedestrian trips were assumed for each of the analysis peak hours.

F. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Crash data for the study area intersections were obtained from NYSDOT for the time period between October 1, 2011 and September 30, 2014. The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of vehicular crashes with pedestrians and bicycles at each location.

During the October 1, 2011 and September 30, 2014 three-year period, a total of 151 reportable and non-reportable accidents, zero fatalities, 131 injuries, and 36 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies one high accident location in the 2011 to 2014 period at the intersection of Seventh Avenue/Varick Street at West Houston Street. **Table 14-49** depicts total accident characteristics by intersection during the study period, as well as a breakdown of pedestrian and bicycle accidents by year and location. **Table 14-50** shows a detailed description of each pedestrian/bicyclist-related accident at the high accident location listed above during the three year period.

Table 14-49
Accident Summary

Intersection		Study Period						Accidents by Year							
North-South Roadway	East-West Roadway	All Accidents by Year				Total Fatalities	Total Injuries	Pedestrian				Bicycle			
		2011	2012	2013	2014			2011	2012	2013	2014	2011	2012	2013	2014
Washington Street	Clarkson Street	0	1	2	1	0	2	0	0	1	0	0	0	0	0
Greenwich Street	Clarkson Street	1	1	0	2	0	3	0	0	0	0	0	0	0	1
Hudson Street	Clarkson Street	0	3	1	0	0	6	0	0	0	0	0	1	0	0
Varick Street	Clarkson Street	1	3	1	1	0	0	0	0	0	0	0	0	0	0
West Street	Clarkson Street	0	0	0	1	0	0	0	0	0	0	0	0	0	0
West Street	W. Houston Street	0	0	5	2	0	7	0	0	1	0	0	0	0	0
West Street	Spring Street	0	0	1	1	0	1	0	0	0	0	0	0	0	0
West Street	Canal Street (North)	0	0	5	4	0	6	0	0	0	0	0	0	0	0
West Street	Canal Street (South)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington Street	Spring Street	0	1	1	1	0	2	0	0	0	0	0	0	0	1
Greenwich Street	Canal Street	1	10	2	6	0	20	0	0	0	0	0	1	0	0
Hudson Street	Canal Street	5	22	13	4	0	43	0	0	1	1	0	2	0	0
Avenue of the Americas	W. Houston Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Seventh Ave/ Varick St	**W. Houston Street**	5	8	12	6	0	25	2	4	7	6	0	1	0	0
Hudson Street	W. Houston Street	2	3	3	1	0	10	0	1	1	0	0	0	0	1
Greenwich Street	W. Houston Street	0	1	0	2	0	4	0	1	0	1	0	0	0	0
Washington Street	W. Houston Street	0	1	2	1	0	2	0	0	0	0	0	0	0	1
West Street	Tenth Avenue	0	0	0	1	0	0	0	0	0	0	0	0	0	0

Notes: **Bold** intersections are high accident locations.
Sources: NYSDOT October 1, 2011 through September 30, 2014 accident data. Crash data for the intersection of West Street and Tenth Avenue provided by NYCDOT.

VARICK STREET AND WEST HOUSTON STREET

The intersection of Varick Street and West Houston Street is signalized and provides four high visibility crosswalks. In addition, countdown timers are posted on all crosswalks. Based on the review of the accident history at this intersection, 15 of 20 crashes involved left-turning movements; many of the vehicles involved were cited as failing to yield right of way. There was a direct conflict between pedestrians in the south crosswalk and left-turning vehicles during the westbound signal phase. To address this conflict, NYCDOT had recently added a leading pedestrian interval (LPI) whereby pedestrians at the south crosswalk now have a protected pedestrian phase to initiate crossing before westbound left-turning vehicles from West Houston Street are allowed to turn. Since the crash data reviewed were from 2011 to 2014, the effectiveness of this safety measure is not depicted in the reported data.

In terms of project-generated activity, under the proposed project, this intersection would experience fewer than 50 incremental vehicle trips and fewer than 200 incremental pedestrian trips at any crosswalk during each of the four analysis peak hours. Under the proposed project with big box retail, this intersection would experience approximately 60 or fewer incremental vehicle trips and fewer than 200 incremental pedestrian trips at any crosswalk during each of the four analysis peak hours. Additional safety measures, such as restriping the intersection's faded crosswalks, can be implemented to further improve pedestrian safety at this intersection.

Table 14-50
Vehicle and Pedestrian Accident Details

Intersection	Year	Date	Time	Accident Class		Action of Vehicle	Action of Pedestrian	Cause of Accident			
				Injured	Killed			Left / Right Turns	Pedestrian Error/ Confusion	Driver Inattention	Other
Varick Street and W. Houston Street	2011	10/13	8:15 AM	X		Making left turn – Southwest	Crossing with signal	X			
		12/15	19:00 PM	X		Making left turn – West	Crossing with signal	X			
	2012	1/22	7:00 AM	X		Making left turn – South	Unknown			X	
		7/15	22:20 PM	X		Making left turn – South	Crossing with signal	X			Failure to yield R.o.W.
		7/27	20:15 PM	X		Making left turn – Southwest	Crossing with signal	X			Failure to yield R.o.W.
		9/12	13:10 PM	X		Making left turn – South	Crossing with signal	X		X	
		10/3	21:30 PM	X		Stopped in traffic – South	Going straight – South				Passing or lane usage improperly
	2013	1/25	2:30 AM	X		Making left turn – Southwest	Crossing with signal	X			
		6/20	1:40 AM	X		Making left turn – South	Crossing with signal	X		X	
		8/14	9:05 AM	X		Making left turn – West	Crossing with signal	X	X	X	Failure to yield R.o.W., Cell phone
		8/20	18:15 PM	X		Making left turn – South	Crossing with signal	X	X		
		8/28	12:10 PM	X		Going straight – South	Crossing with signal		X		
		10/25	18:40 PM	X		Making left turn – Southwest	Crossing with signal	X			Traffic control devices disregarded
		12/18	6:05 AM	X		Making left turn – West	Crossing with signal	X			Failure to yield R.o.W.
	2014	1/9	14:26 PM	X		Going straight – West	Crossing against signal				Failure to yield R.o.W.
		1/11	11:05 AM	X		Going straight ahead – South	Crossing with signal				
		3/20	00:01 AM	X		Making left turn – South	Crossing with signal	X			Failure to yield R.o.W.
		3/29	6:05 AM	X		Making left turn – South	Crossing/No signal or crosswalk	X			Passing too closely
		4/15	6:14 AM	X		Making left turn – South	Crossing with signal	X			
		4/16	23:10 PM	X		Making left turn – West	Unknown	X			Failure to yield R.o.W.

G. PARKING ASSESSMENT

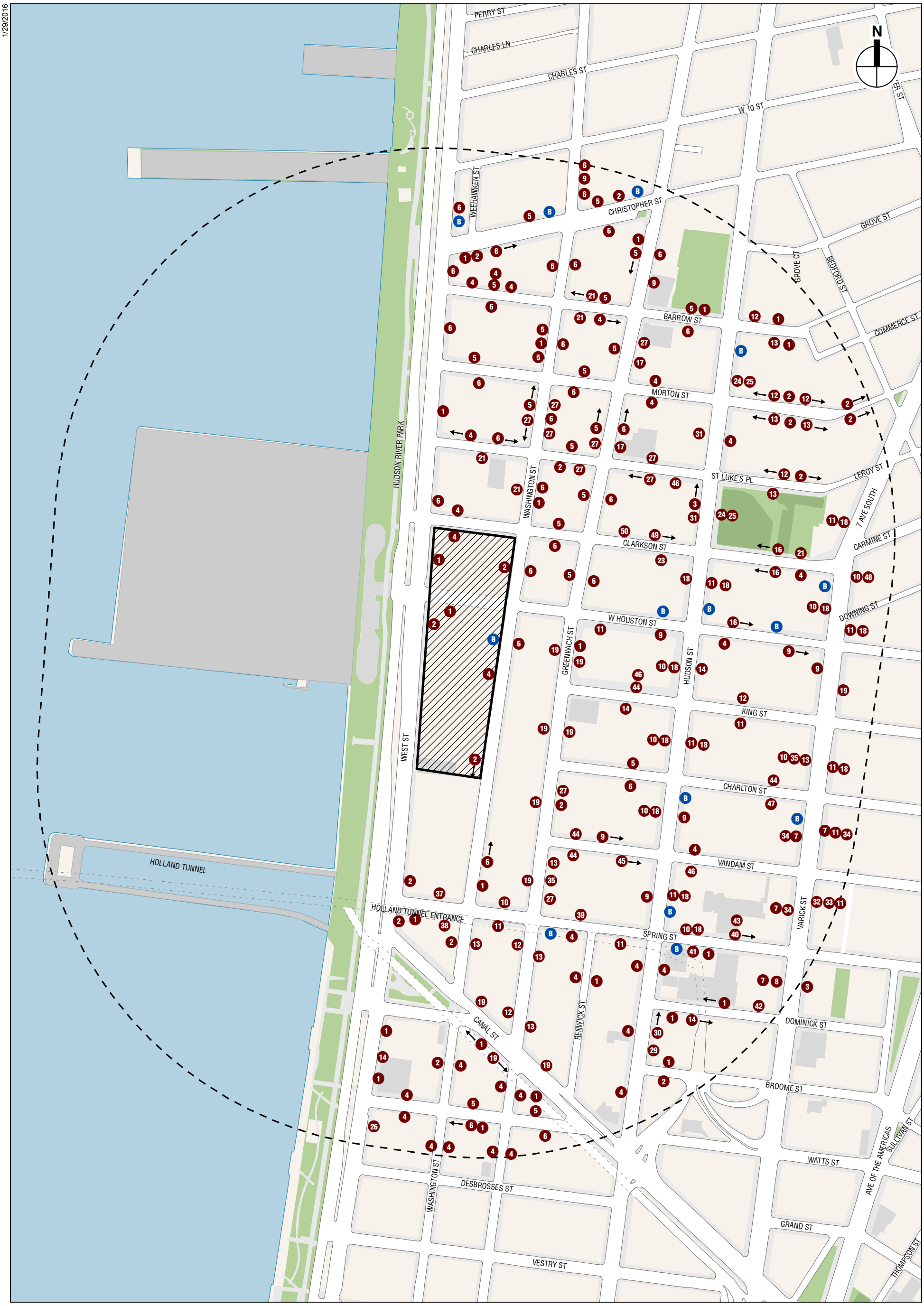
2015 EXISTING CONDITIONS

An inventory of on- and off-street parking within a ¼-mile of the development site was conducted in June 2015. The on-street survey involved recording curbside regulations and performing general observations of daytime utilization. The off-street survey provided an inventory of the area's public parking facilities and their legal capacities and daytime utilization.

ON-STREET PARKING

Curbside parking regulations within a ¼-mile of the development site are illustrated in **Figure 14-81** and summarized in **Table 14-51**. The curbside regulations in the area generally include limited one-hour metered parking, no standing or no parking anytime except authorized vehicles, and alternate-side parking to accommodate street-cleaning. Based on field observations, on-street parking in the area is generally at or near full utilization during weekday daytime hours.

1/29/2016



0 500 FEET

Development Site

Study Area Boundary (1/4-Mile Perimeter)

On-Street Parking Regulations

Bus Stop

On Street Parking Regulations

Figure 14-81

Table 14-51
Summary of On-Street Parking Regulations

No.	Regulation	No.	Regulation
1	NS anytime	27	NS except trucks loading/unloading 8AM-6PM Mon-Fri
2	NP anytime	28	NS hotel loading zone
3	No stopping anytime	29	NP 7AM-6PM Mon-Fri
4	NP 8AM-6PM Mon-Fri	30	NS except trucks loading/unloading 7AM-6PM Mon-Fri
5	NP 11-12:30PM Mon & Thurs	31	2 hr metered parking 8:30AM-7PM except Sun
6	NP 11-12:30PM Tues & Fri	32	NS 4-7PM except Sun
7	NS 7-10AM 4-7PM except Sun	33	1 hr metered parking 9AM-4PM except Sun
8	NS except trucks loading/unloading 10AM-4PM except Sun	34	1 hr metered parking 10AM-4PM except Sun
9	NS except authorized vehicles	35	NS hotel loading zone
10	NP Night regulations 4-6AM Mon, Wed, Fri	36	NS except authorized vehicles 7AM-7PM Mon-Fri
11	NP Night regulations 4-6AM Tues, Thurs, Sat	37	AVO Department of Sanitation
12	NP 9-10:30AM Mon & Thurs	38	NP 8AM-6PM except Sun
13	NP 9-10:30AM Tues & Fri	39	NP 10AM-6PM Mon-Fri
14	NS except trucks loading/unloading 7AM-7PM except Sun	40	NS 4PM-8PM Mon-Fri
15	NS 8AM-8PM except Sun	41	NS fire zone
16	NS 7AM-4PM school days	42	NS except trucks loading/unloading 7AM-7PM including Sun
17	NS except authorized vehicles 8AM-8PM Mon-Fri	43	NP 8AM-4PM Mon-Fri
18	1 hr metered parking 9AM-7PM except Sun	44	NP 8AM-5PM Mon-Fri
19	NS except trucks loading/unloading 7AM-7PM Except Sun	45	NP passenger loading zone 7AM-6PM Mon-Fri
20	NS 7AM-7PM Mon-Fri except authorized vehicles	46	NS anytime except vehicles with NYP License Plates
21	NS except trucks loading/unloading 8AM-6PM except Sun	47	NS except trucks loading/unloading
22	NS except authorized vehicles 8AM-8PM Except Sun	48	1 hr metered parking 9AM-10PM except Sun
23	Truck loading only 8AM-4PM Mon-Fri	49	NS anytime temporary construction regulation
24	NP 7:30-8AM except Sun	50	NS except trucks loading/unloading 8AM-10PM Mon-Fri
25	2 hr parking 8AM-7PM except Sun	51	NS 6AM-6PM Mon-Fri
26	NP 7AM-7PM Mon-Fri		

Notes: NP = No Parking; NS = No Standing; Mon = Monday; Tue = Tuesday; Wed = Wednesday; Thu = Thursday; Fri = Friday.
Source: Surveys conducted by AKRF, Inc. in June 2015.

OFF-STREET PARKING

Off-street publicly accessible parking lots and garages (see **Figure 14-82**) within ¼-mile of the development site were surveyed in June 2015. Each facility's operating license and legal capacity were noted. Based on responses given by parking attendants and visual inspections, where possible, estimates were made on the parking occupancy or utilization at each facility for the weekday morning, midday, evening, overnight, and Saturday time periods. A summary of the recorded information and the area's overall off-street public parking supply and utilization is presented in **Table 14-52**.

Within the ¼-mile parking study area, 11 public parking facilities were inventoried. The combined capacity of these facilities totals 3,244 parking spaces. Overall, they were 61, 73, 60, 46 and 32-percent utilized, with 1,270, 867, 1,309, 1,717 and 2,185 parking spaces available during the weekday morning, midday, evening, overnight, and Saturday time periods, respectively.

5/3/2016



Development Site

Study Area Boundary (1/4-Mile Perimeter)

❶ *Off-Street Parking Facility*

0 500 FEET

Off-Street Parking Facilities

Figure 14-82

Table 14-52
2015 Existing Off-Street Parking Utilization - 1/4 Mile Study Area

Map #	Name/Address	License Number	Licensed Capacity	Utilization Rate					Utilized Spaces					Available Spaces				
				AM	MD	PM	ON	SAT	AM	MD	PM	ON	SAT	AM	MD	PM	ON	SAT
1	Quik Park Tribeca LLC – 32 Desbrosses Street	1387701	166	40%	65%	60%	25%	30%	66	108	100	42	50	100	58	66	124	116
2	Central Parking System of NYC – 272-276 Spring Street	N/A	63	75%	90%	50%	30%	30%	47	57	32	19	19	16	6	31	44	44
3	Central Parking System of NYC – 293 Hudson Street	1243909	43	20%	100%	30%	CLD	CLD	9	43	13	CLD	CLD	34	0	30	CLD	CLD
4	Central Parking System of NYC Pier 40 – 353 West Street	1341459	1,909	71%	73%	69%	61%	32%	1,355	1,394	1,317	1,164	611	554	515	592	745	1,298
5	Elba Operations – 575 Washington Street	1148944	400	50%	60%	50%	30%	40%	200	240	200	120	160	200	160	200	280	240
6	Greenwich Street Parking LLC – 561-565 Greenwich Street	1076703	142	40%	80%	60%	30%	20%	57	114	85	43	28	85	28	57	99	114
7	Caliente Car Park – 115 Leroy Street	1096607	98	75%	100%	50%	10%	30%	74	98	49	10	29	24	0	49	88	69
8	Quik Park LLC – 100 Morton Street	2006828	140	5%	60%	5%	5%	5%	7	84	7	7	7	133	56	133	133	133
9	Archive Garage – 666-668 Greenwich Street	921582	97	50%	75%	20%	15%	50%	49	73	19	15	49	48	24	78	82	48
10	Icon Varick Street Parking, LLC – 114-122 Varick Street	1076689	86	70%	100%	50%	40%	50%	60	86	43	34	43	26	0	43	52	43
11	One Parking Hudson Inc. – 375 Hudson Street	2010071	100	50%	80%	70%	30%	20%	50	80	70	30	20	50	20	30	70	80
			3,244	**61%**	**73%**	**60%**	**46%**	**32%**	**1,974**	**2,377**	**1,965**	**1,484**	**1,016**	**1,270**	**867**	**1,309**	**1,717**	**2,185**

Notes: MD = Midday; ON = Overnight; SAT = Saturday; CLD = Closed.
Sources: Survey conducted by AKRF Inc. June 2015 and Pier 40 parking garage capacity and utilization data provided by Hudson River Park Trust.

THE FUTURE WITHOUT THE PROPOSED ACTIONS

Overall off-street public parking utilization is expected to experience the same growth as projected for traffic. In the No Action condition, No Build projects are expected to displace 4 public parking facilities, for a total displacement of approximately 389 parking spaces. However, the No Build projects are expected to include a total of up to 457 off-street parking spaces. As presented in **Table 14-53**, accounting for the displacement of the public parking spaces, the addition of the off-street parking spaces, and the parking demand generated from background growth and discrete projects that would advance absent the proposed project, the No Action condition public parking utilization is expected to increase to 83, 96, 81, 70, and 50-percent utilized during the weekday morning, midday, evening, overnight, and Saturday time periods, respectively.

THE FUTURE WITH THE PROPOSED ACTIONS

As described above, in the future with the proposed actions, the development site is assumed to be redeveloped with one of the two development programs: the proposed project and the proposed project with big box retail. The parking supply and demand assessment was conducted for both development programs.

PROPOSED PROJECT

The proposed project would include 830 parking spaces[1] on the development site. The weekday and Saturday incremental parking demand generated by the proposed project are presented in **Tables 14-54 and 14-55**, respectively.

[1] Shortly before completion of the DEIS, the number of proposed parking spaces was reduced from 830 to 772. Because analyses based on the larger number of parking spaces are more "conservative" in terms of

Table 14-53
2015 Existing and 2024 No Action Parking Supply and Utilization

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight	Saturday Midday
2015 Existing Public Parking Supply	3,244	3,244	3,244	3,201	3,201
2015 Existing Public Parking Demand	1,974	2,377	1,935	1,484	1,016
2015 Existing Public Parking Utilization	61%	73%	60%	46%	32%
2015 Existing Public Parking Supply	3,244	3,244	3,244	3,201	3,201
Displaced Public Parking Supply Total	-389	-389	-389	-389	-389
2024 No Action Background Incremental Parking Demand	35	42	34	26	18
Discrete No Build Projects Parking Supply (1)	457	457	457	457	457
Discrete No Build Projects Parking Demand (1)	772	700	695	865	568
No Action As-of-Right Parking Supply	176	176	176	176	176
No Action As-of-Right Parking Demand	131	228	169	29	134
2024 No Action Parking Supply Total	3,488	3,488	3,488	3,445	3,445
2024 No Action Parking Demand Total	2,912	3,347	2,833	2,404	1,736
2024 No Action Parking Utilization	83%	96%	81%	70%	50%
2024 No Action Available Spaces (Shortfall)	576	141	655	1,041	1,709

Notes:
(1) *DSNY MN 1/2/5 Garage FEIS* (2008) states that nearly all its parking demand would be accommodated on-site. Therefore, its parking supply and demand were not included in the discrete No Build projects parking demand and supply calculations.
Sample Calculation:
2024 No Action Parking Demand Total = 2015 Existing Public Parking Demand + 2024 No Action Background Incremental Parking Demand + Discrete No Build Projects Parking Demand + No Action As-of-Right Parking Demand
2024 No Action Weekday AM Public Parking Demand Total = 1,974 + 35 + 772 + 131 = 2,912.

Table 14-54
Proposed Project Incremental Parking Demand—Weekday

Hour	Residential	Destination Retail	Local Retail	Hotel	Event Space	Total
12 AM - 01 AM	529	0	0	23	0	552
01 AM - 02 AM	529	0	0	24	0	553
02 AM - 03 AM	529	0	0	24	0	553
03 AM - 04 AM	529	0	0	24	0	553
04 AM - 05 AM	529	0	0	24	0	553
05 AM - 06 AM	529	0	0	24	0	553
06 AM - 07 AM	529	0	0	24	0	553
07 AM - 08 AM	500	0	0	24	0	524
08 AM - 09 AM	437	0	0	19	0	456
09 AM - 10 AM	400	5	0	16	0	421
10 AM - 11 AM	377	10	0	15	0	402
11 AM - 12 PM	369	13	1	13	0	396
12 PM - 01 PM	369	17	1	15	0	402
01 PM - 02 PM	369	17	1	13	0	400
02 PM - 03 PM	369	15	1	11	0	396
03 PM - 04 PM	369	18	1	8	0	396
04 PM - 05 PM	382	17	1	6	38	444
05 PM - 06 PM	421	15	1	14	80	531
06 PM - 07 PM	455	12	0	11	61	539
07 PM - 08 PM	486	12	0	16	45	559
08 PM - 09 PM	498	9	0	18	0	525
09 PM - 10 PM	508	0	0	19	0	527
10 PM - 11 PM	519	0	0	21	0	540
11 PM - 12 AM	529	0	0	22	0	551

disclosing potential impacts, the DEIS analyses have not been updated to reflect the lower number. The FEIS analyses will be revised to reflect the actual, proposed number of parking spaces.

Table 14-55
Proposed Project Incremental Parking Demand—Saturday

Hour	Residential	Destination Retail	Local Retail	Hotel	Event Space	Total
12 AM - 01 AM	529	0	0	23	0	552
01 AM - 02 AM	529	0	0	24	0	553
02 AM - 03 AM	529	0	0	24	0	553
03 AM - 04 AM	529	0	0	24	0	553
04 AM - 05 AM	529	0	0	24	0	553
05 AM - 06 AM	529	0	0	24	0	553
06 AM - 07 AM	524	0	0	24	0	548
07 AM - 08 AM	506	2	0	23	0	531
08 AM - 09 AM	485	7	0	21	0	513
09 AM - 10 AM	458	12	1	19	0	490
10 AM - 11 AM	426	18	4	20	0	468
11 AM - 12 PM	391	37	4	21	0	453
12 PM - 01 PM	354	41	4	22	0	421
01 PM - 02 PM	354	44	4	24	0	426
02 PM - 03 PM	367	46	4	20	0	437
03 PM - 04 PM	381	47	4	13	0	445
04 PM - 05 PM	395	45	4	13	0	457
05 PM - 06 PM	410	45	4	13	8	480
06 PM - 07 PM	432	40	3	13	38	526
07 PM - 08 PM	469	26	2	15	80	592
08 PM - 09 PM	501	14	1	17	61	594
09 PM - 10 PM	528	0	0	18	45	591
10 PM - 11 PM	529	0	0	20	0	549
11 PM - 12 AM	529	0	0	22	0	551

As presented in **Table 14-56**, accounting for the No Action parking supply and demand utilization, and the incremental parking supply and demand generated by the proposed project, the With Action public parking utilization is expected to increase to 78, 85, 77, 71, and 49-percent utilized during the weekday morning, midday, evening, overnight, and Saturday time periods, respectively.

PROPOSED PROJECT WITH BIG BOX RETAIL

The proposed project with big box retail would include 412 parking spaces on the development site. The weekday and Saturday incremental parking demand generated by the proposed project with big box retail are presented in **Tables 14-57 and 14-58**, respectively.

Table 14-56
2015 Existing and 2024 With Action Parking Supply and Utilization
Proposed Project

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight	Saturday Midday
2015 Existing Public Parking Supply	3,244	3,244	3,244	3,201	3,201
2015 Existing Public Parking Demand	1,974	2,377	1,935	1,484	1,016
2015 Existing Public Parking Utilization	61%	73%	60%	46%	32%
2015 Existing Public Parking Supply	3,244	3,244	3,244	3,201	3,201
Displaced Public Parking Supply Total	-389	-389	-389	-389	-389
2024 No Action Background Incremental Parking Demand	35	42	34	26	18
Discrete No Build Projects Parking Supply (1)	457	457	457	457	457
Discrete No Build Projects Parking Demand (1)	772	700	695	865	568
Proposed Project Parking Supply	830	830	830	830	830
Proposed Project Parking Demand	456	402	531	553	426
2024 With Action Parking Supply Total	4,142	4,142	4,142	4,099	4,099
2024 With Action Parking Demand Total	3,237	3,521	3,195	2,928	2,028
2024 With Action Parking Utilization	78%	85%	77%	71%	49%
2024 With Action Available Spaces (Shortfall)	905	621	947	1,171	2,071

Notes:
(1) *DSNY MN 1/2/5 Garage FEIS* (2008) states that nearly all its parking demand would be accommodated on-site. Therefore, its parking supply and demand were not included in the discrete No Build projects parking demand and supply calculations.
Sample Calculation:
2024 With Action Parking Demand Total = 2015 Existing Public Parking Demand + 2024 No Action Background Incremental Parking Demand + Discrete No Build Projects Parking Demand + Proposed Project Parking Demand
2024 With Action Weekday AM Public Parking Demand Total = 1,974 + 35 + 772 + 456 = 3,237.

Table 14-57
Proposed Project with Big Box Retail Incremental Parking Demand—Weekday

Hour	Residential	Destination Retail	Big Box Retail	Local Retail	Hotel	Event Space	Total
12 AM - 01 AM	529	0	0	0	23	0	552
01 AM - 02 AM	529	0	0	0	24	0	553
02 AM - 03 AM	529	0	0	0	24	0	553
03 AM - 04 AM	529	0	0	0	24	0	553
04 AM - 05 AM	529	0	0	0	24	0	553
05 AM - 06 AM	529	0	0	0	24	0	553
06 AM - 07 AM	529	0	0	0	24	0	553
07 AM - 08 AM	500	0	0	0	24	0	524
08 AM - 09 AM	437	0	0	0	19	0	456
09 AM - 10 AM	400	4	20	0	16	0	440
10 AM - 11 AM	377	9	44	0	15	0	445
11 AM - 12 PM	369	12	62	1	13	0	457
12 PM - 01 PM	369	16	82	1	15	0	483
01 PM - 02 PM	369	17	89	1	13	0	489
02 PM - 03 PM	369	15	80	1	11	0	476
03 PM - 04 PM	369	18	95	1	8	0	491
04 PM - 05 PM	382	16	87	1	6	38	530
05 PM - 06 PM	421	14	75	1	14	80	605
06 PM - 07 PM	455	11	60	0	11	61	598
07 PM - 08 PM	486	11	60	0	16	45	618
08 PM - 09 PM	498	9	49	0	18	0	574
09 PM - 10 PM	508	0	0	0	19	0	527
10 PM - 11 PM	519	0	0	0	21	0	540
11 PM - 12 AM	529	0	0	0	22	0	551

Table 14-58
Proposed Project with Big Box Retail Incremental Parking Demand—Saturday

Hour	Residential	Destination Retail	Big Box Retail	Local Retail	Hotel	Event Space	Total
12 AM - 01 AM	529	0	0	0	23	0	552
01 AM - 02 AM	529	0	0	0	24	0	553
02 AM - 03 AM	529	0	0	0	24	0	553
03 AM - 04 AM	529	0	0	0	24	0	553
04 AM - 05 AM	529	0	0	0	24	0	553
05 AM - 06 AM	529	0	0	0	24	0	553
06 AM - 07 AM	524	0	0	0	24	0	548
07 AM - 08 AM	506	2	12	0	23	0	543
08 AM - 09 AM	485	7	34	0	21	0	547
09 AM - 10 AM	458	12	54	1	19	0	544
10 AM - 11 AM	426	18	83	4	20	0	551
11 AM - 12 PM	391	35	171	4	21	0	622
12 PM - 01 PM	354	38	186	4	22	0	604
01 PM - 02 PM	354	40	197	4	24	0	619
02 PM - 03 PM	367	41	207	4	20	0	639
03 PM - 04 PM	381	42	213	4	13	0	653
04 PM - 05 PM	395	40	206	4	13	0	658
05 PM - 06 PM	410	40	206	4	13	8	681
06 PM - 07 PM	432	35	184	3	13	38	705
07 PM - 08 PM	469	23	118	2	15	80	707
08 PM - 09 PM	501	12	59	1	17	61	651
09 PM - 10 PM	528	0	0	0	18	45	591
10 PM - 11 PM	529	0	0	0	20	0	549
11 PM - 12 AM	529	0	0	0	22	0	551

As presented in **Table 14-59**, accounting for the No Action parking supply and demand utilization, and the incremental parking supply and demand generated by the proposed project with big box retail, the With Action public parking utilization is expected to increase to 87, 97, 88, 80, and 60-percent utilized during the weekday morning, midday, evening, overnight, and Saturday time periods, respectively.

SUMMARY

As shown above, the parking utilization levels for both the proposed project and the proposed project with big box retail are within the area's parking capacity. Therefore, both development programs are not expected to result in the potential for parking shortfalls or significant adverse parking impacts.

Table 14-59
2015 Existing and 2024 With Action Parking Supply and Utilization
Proposed Project with Big Box Retail

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight	Saturday Midday
2015 Existing Public Parking Supply	3,244	3,244	3,244	3,201	3,201
2015 Existing Public Parking Demand	1,974	2,377	1,935	1,484	1,016
2015 Existing Public Parking Utilization	61%	73%	60%	46%	32%
2015 Existing Public Parking Supply	3,244	3,244	3,244	3,201	3,201
Displaced Public Parking Supply Total	-389	-389	-389	-389	-389
2024 No Action Background Incremental Parking Demand	35	42	34	26	18
Discrete No Build Projects Parking Supply (1)	457	457	457	457	457
Discrete No Build Projects Parking Demand (1)	772	700	695	865	568
Proposed Project with Big Box Retail Parking Supply	412	412	412	412	412
Proposed Project with Big Box Retail Parking Demand	456	483	605	553	619
2024 With Action Parking Supply Total	3,724	3,724	3,724	3,681	3,681
2024 With Action Parking Demand Total	3,237	3,602	3,269	2,928	2,221
2024 With Action Parking Utilization	87%	97%	88%	80%	60%
2024 With Action Available Spaces (Shortfall)	487	122	455	753	1,460

Notes:
(1) *DSNY MN 1/2/5 Garage FEIS* (2008) states that nearly all its parking demand would be accommodated on-site. Therefore, its parking supply and demand were not included in the discrete No Build projects parking demand and supply calculations.
Sample Calculation:
2024 With Action Parking Demand Total = 2015 Existing Public Parking Demand + 2024 No Action Background Incremental Parking Demand + Discrete No Build Projects Parking Demand + Proposed Project Parking Demand
2024 With Action Weekday AM Public Parking Demand Total = 1,974 + 35 + 772 + 456 = 3,237.

H. SOUTH SITE OFFICE USE

As noted in Chapter 1, "Project Description," the South Site could be developed with either hotel or office use. The EIS analyses are generally based on hotel use as a more conservative assumption. The transportation analyses presented above assumed a 229,700 gsf hotel (353 rooms). Based on the travel demand assumptions presented in **Table 14-5**, trip estimates were also developed assuming the 229,700 gsf would be entirely office use. **Table 14-60** presents a summary of the hotel use trip estimates, the office use trip estimates, and the net difference between the two.

Compared to the hotel use, the office use would result in approximately 13 more vehicle trips than the hotel use during the weekday AM peak hour, but 48, 5, and 57 fewer vehicle trips than the hotel use during the weekday midday, PM, and Saturday peak hours, respectively. Although these differences in projected vehicle trips confirm that analyzing the hotel use (as opposed to the office use) would generally be more conservative, because of different travel patterns between the two uses, developing the South Site with office instead of a hotel has the potential to result in additional significant adverse impacts. Between the DEIS and FEIS, additional quantitative analyses will be prepared to determine any additional significant adverse transportation impacts, and if so, where feasible, to identify mitigation measures, in coordination with NYCDOT.

Table 14-60
Hotel vs. Office Trip Estimates Comparison

Program	Peak Hour	In/Out	Person Trip						Vehicle Trip			
			Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
Hotel 353 Rooms	AM	In	9	19	25	3	48	104	6	23	1	30
		Out	15	29	39	5	74	162	11	23	1	35
		Total	24	48	64	8	122	266	17	46	2	65
	Midday	In	20	38	33	8	153	252	14	29	1	44
		Out	17	32	28	6	130	213	12	29	1	42
		Total	37	70	61	14	283	465	26	58	2	86
	PM	In	25	50	67	8	129	279	18	29	0	47
		Out	14	27	36	5	69	151	10	29	0	39
		Total	39	77	103	13	198	430	28	58	0	86
	Saturday	In	15	30	40	5	77	167	11	22	0	33
		Out	12	24	32	4	60	132	9	22	0	31
		Total	27	54	72	9	137	299	20	44	0	64
Office 229,700 GSF	AM	In	62	10	324	48	33	477	55	6	4	65
		Out	3	0	13	2	1	19	3	6	4	13
		Total	65	10	337	50	34	496	58	12	8	78
	Midday	In	6	9	18	18	247	298	5	10	4	19
		Out	6	10	19	19	268	322	5	10	4	19
		Total	12	19	37	37	515	620	10	20	8	38
	PM	In	4	1	20	3	2	30	4	6	1	11
		Out	71	11	374	55	38	549	63	6	1	70
		Total	75	12	394	58	40	579	67	12	2	81
	Saturday	In	2	3	5	5	72	87	2	2	0	4
		Out	1	2	4	4	54	65	1	2	0	3
		Total	3	5	9	9	126	152	3	4	0	7
Net Difference	AM	In	53	-9	299	45	-15	373	49	-17	3	35
		Out	-12	-29	-26	-3	-73	-143	-8	-17	3	-22
		Total	41	-38	273	42	-88	230	41	-34	6	13
	Midday	In	-14	-29	-15	10	94	46	-9	-19	3	-25
		Out	-11	-22	-9	13	138	109	-7	-19	3	-23
		Total	-25	-51	-24	23	232	155	-16	-38	6	-48
	PM	In	-21	-49	-47	-5	-127	-249	-14	-23	1	-36
		Out	57	-16	338	50	-31	398	53	-23	1	31
		Total	36	-65	291	45	-158	149	39	-46	2	-5
	Saturday	In	-13	-27	-35	0	-5	-80	-9	-20	0	-29
		Out	-11	-22	-28	0	-6	-67	-8	-20	0	-28
		Total	-24	-49	-63	0	-11	-147	-17	-40	0	-57

For subway trips, the office use would result in approximately 273 and 291 more trips during the weekday AM and PM peak hours, respectively, but 24 and 63 fewer trips during the weekday midday and Saturday peak hours. As presented above in **Tables 14-15 and 14-16**, when the incremental subway trips of the proposed project and proposed project with big box retail are distributed to the three nearby subway stations, no station would experience incremental subway trips (ranging from approximately 10 to -140 incremental subway trips at a particular station) requiring further analysis during the weekday AM and PM peak hours. When the greater numbers of peak hour incremental office subway trips are dispersed to these three subway stations, they would similarly not result in incremental subway trips requiring further analysis. Therefore, assuming office use instead of the hotel use on the South Site would similarly not result in the potential for any significant adverse subway impacts.

With regard to bus trips, the office use would result in approximately 42, 23, and 45 additional trips during the weekday AM, midday, and PM peak hours, and no additional trips during the

Saturday peak hour. As presented above in **Tables 14-11 and 14-12**, the incremental bus trips of the proposed project and proposed project with big box retail would be negative during the weekday AM and PM peak hours. The additional bus trips resulting from developing the South Site with office instead of hotel would still yield overall negative incremental bus trips during the weekday AM and PM peak hours. Therefore, assuming office use instead of hotel use on the South Site would similarly not result in the potential for any significant adverse bus impacts.

Lastly, the office use would result in approximately 230, 155, and 149 additional pedestrian trips during the weekday AM, midday, and PM peak hours, but 147 fewer pedestrian trips during the Saturday peak hour. When these higher incremental trips are dispersed among the various study area pedestrian elements, and given the improved sidewalk circulation space on the west sidewalk of Washington Street between Clarkson Street and the southern end of the development site, the development of office use on the South Site for both the proposed project and the proposed project with big box retail would similarly not result in the potential for any significant adverse pedestrian impacts. ✷