Chapter 14: Transportation

A. INTRODUCTION

As described in detail in Chapter 1, "Project Description," New York University (NYU) is proposing the development of four new buildings (including academic uses, residential units for NYU faculty and students, a new athletic facility, a University-affiliated hotel and conference space, and retail uses); below-grade academic uses; approximately four acres of publicly-accessible open spaces; and the replacement of the below-grade Washington Square Village (WSV) public parking garage with a new accessory parking garage on the same block (the "Proposed Actions"). NYU also anticipates making space available to the New York City School Construction Authority (SCA) for the provision of an approximately 100,000-square-foot public school. By 2031, the Proposed Actions would result in the development of approximately 2.5 million gross square feet (gsf) of new uses in the Proposed Development Area, comprising two superblocks, with the "North Block" bounded by West 3rd Street to the north, Bleecker Street to the south, Mercer Street to the east, and LaGuardia Place to the west, and the "South Block" bounded by Bleecker Street to the north, West Houston Street to the south, Mercer Street to the east, and LaGuardia Place to the west. It is also anticipated that NYU would develop up to approximately 24,000 gsf of neighborhood retail uses in the ground floors of six NYU buildings within the Commercial Overlay Area northeast of the Proposed Development Area.

Although an Illustrative Program reflecting what is currently contemplated by NYU has been developed, the desired programming and timing of development of certain buildings may change over time. Given these potential variations with respect to the overall programming, three "reasonable worst-case development scenarios" (RWCDS) were formulated (see **Table 1-8**). As detailed below in this chapter, RWCDS 3 ("Max Hotel" Scenario) was determined to be the overall worst-case development scenario for the evaluation of potential transportation-related impacts. However, because RWCDS 1 ("Max Academic" Scenario) would yield notably more subway trips but lower or comparable trip-making for other modes of transportation to RWCDS 3, conditions pertained to traffic, pedestrians, and parking were evaluated using projections developed for RWCDS 3, whereas conditions pertained to subway were analyzed for both RWCDS 1 and RWCDS 3.

Since the proposed development would be built out over an approximately 19-year period, some buildings would be completed and occupied before the anticipated final build-out year of 2031 and new trips generated by these buildings could result in significant adverse transportation impacts prior to completion of the full development program. Specifically, development components on the South Block, as well as the additional neighborhood retail uses in the Commercial Overlay Area, are anticipated to be completed by 2021. Uses on the North Block would follow and are planned for completion in 2031. Therefore, the transportation analyses considered both the interim 2021 analysis year and the final build-out year of 2031 to identify potential impacts and determine feasible mitigation measures that would be appropriate for these two future analysis years.

B. PRINCIPAL CONCLUSIONS

TRAFFIC

Weekday peak hour traffic conditions were evaluated at 17 intersections for the Phase 1–2021 Completion and Phase 2–2031 Full Build-Out scenarios. The traffic impact analysis indicates that under the Phase 1–2021 Completion scenario, there would be the potential for significant adverse impacts at two intersections during the weekday AM peak hour, three intersections during the weekday midday peak hour, and three intersections during the weekday PM peak hour, as follows.

Weekday AM Peak Hour

- West Houston Street and Sixth Avenue – northbound approach; and
- Bleecker Street and Mercer Street – eastbound approach.

Weekday Midday Peak Hour

- West Houston Street and LaGuardia Place/West Broadway – northbound right-turn;
- Bleecker Street and Mercer Street – eastbound approach; and
- East Houston Street and Lafayette Street – eastbound left-turn.

Weekday PM Peak Hour

- West Houston Street and Sixth Avenue – westbound right-turn;
- Bleecker Street and Mercer Street – eastbound approach; and
- West Houston Street and Mercer Street – southbound approach.

Under the Phase 2–2031 Full Build-Out scenario, significant adverse impacts were identified for three intersections during the weekday AM peak hour, six intersections during the weekday midday peak hour, and seven intersections during the weekday PM peak hour, as follows.

Weekday AM Peak Hour

- West Houston Street and Sixth Avenue – northbound approach;
- Bleecker Street and LaGuardia Place – eastbound approach; and
- Bleecker Street and Mercer Street – eastbound approach.

Weekday Midday Peak Hour

- West Houston Street and Sixth Avenue – westbound right-turn;
- Bleecker Street and LaGuardia Place – eastbound approach;
- West 3rd Street and LaGuardia Place – northbound approach;
- West Houston Street and LaGuardia Place/West Broadway – northbound right-turn and southbound left-turn/through;
- Bleecker Street and Mercer Street – eastbound approach; and
- West 4th Street and Broadway – southbound approach.

Weekday PM Peak Hour

- West Houston Street and Sixth Avenue – westbound right-turn;
- West 4th Street and LaGuardia Place – northbound approach;

- West Houston Street and LaGuardia Place/West Broadway – northbound left-turn/through and southbound left-turn/through.
- Bleecker Street and Mercer Street – eastbound approach;
- West Houston Street and Mercer Street – southbound approach;
- West 4th Street and Broadway – southbound approach; and
- West 3rd Street and Broadway – westbound through.

TRANSIT

The preliminary screening assessment summarized below concluded that a detailed examination of subway and bus line-haul conditions is not warranted. However, a detailed analysis of station elements at three area subway stations was prepared. With Phase 1–2021 Completion, the proposed project under RWCDS 3 would not result in any significant adverse transit impacts. Upon Phase 2–2031 Full Build-Out, significant adverse impacts are anticipated to occur under this development scenario at two subway station stairways, as follows.

- Broadway/Lafayette Street Station – northeast stairway (S9) during the weekday AM and PM peak periods; and
- West 4th Street Station – northeast stairway (S2A/B) during the weekday PM Peak period.

For RWCDS 1, the above subway impacts would occur under both Phase 1–2021 Completion and Phase 2–2031 Full Build-Out scenarios. At the direction of the Metropolitan Transportation Authority (MTA) New York City Transit (NYCT), additional station elements at the above two stations and at the Prince Street Station will be analyzed for the Final EIS and any significant adverse impacts that may be identified for these other station elements will be disclosed.

PEDESTRIANS

Weekday peak period pedestrian conditions were evaluated at key sidewalk, corner reservoir, and crosswalk elements at 17 intersections. Under the Phase 1–2021 Completion scenario, there would be one significant adverse pedestrian impact, as follows.

- University Place and Waverly Place – southeast corner during the weekday midday peak period.

Under the Phase 2–2031 Full Build-Out scenario, significant adverse impacts are anticipated for two pedestrian elements, as follows.

- University Place and Waverly Place – southeast corner during the weekday midday peak period; and
- Washington Square East and West 4th Street – west crosswalk during the weekday midday and PM peak periods.

VEHICULAR AND PEDESTRIAN SAFETY

Accident data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the time period between December 31, 2007 and December 31, 2010. During this period, a total of 378 reportable and non-reportable accidents, no fatalities, 320 injuries, and 115 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies three study area intersections as high pedestrian accident locations in the 2007 to 2010 period. These intersections are West Houston

Street at Sixth Avenue, West 4th Street at Sixth Avenue, and West Houston Street at LaGuardia Place/West Broadway.

Under the full build-out of the proposed project in 2031, the intersections of West Houston Street at Sixth Avenue and West 4th Street at Sixth Avenue would experience moderate increases in vehicular and pedestrian traffic. The net incremental vehicular levels at these two intersections would be slightly above the CEQR analysis threshold of 50 peak hour vehicle trips while the net incremental pedestrian levels would be below the CEQR analysis threshold of 200 peak hour pedestrian trips. The intersection of West Houston Street at Sixth Avenue would incur significant adverse traffic impacts during all three weekday peak hours. These impacts would be fully mitigated with the implementation of standard traffic engineering measures. The intersection of West 4th Street at Sixth Avenue would continue to operate acceptably during all three analysis peak hours. With the moderate increases in vehicular and pedestrian activities at these two intersections and with the proposed traffic mitigation measures in place, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents.

At the intersection of West Houston Street and LaGuardia Place/West Broadway, noticeable increases in vehicular and pedestrian traffic are anticipated from trips generated by the proposed project. The 2031 Build condition pedestrian analysis did not reveal the potential for any significant adverse pedestrian impacts. However, traffic operations at this intersection would be significantly impacted during the weekday PM peak hour. The projected impact would be fully mitigated with the implementation of standard traffic engineering measures. With the proposed traffic mitigation measures in place, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents.

Nevertheless, pedestrian safety at the intersection of West Houston Street at Sixth Avenue could be improved by installing pedestrian safety signs such as School Advance Warning assemblies on the northbound approach, and re-striping the western crosswalk as a high-visibility crosswalk. At the intersection of West 4th Street at Sixth Avenue, pedestrian safety could be improved by restriping the four regular crosswalks as high-visibility crosswalks, and by installing pedestrian safety signs such as “Turning Vehicles Yield to Pedestrians” and crosswalk countdown timers on all the approaches. And at the intersection of West Houston Street at LaGuardia Place/West Broadway, pedestrian safety could be improved by installing pedestrian safety signs such as “Turning Vehicles Yield to Pedestrians” on the northbound and southbound approaches, and countdown timers for both the north and south crosswalks.

PARKING

Under the Phase 1–2021 Completion scenario, the existing 670-space public parking garage in WSV would remain in operation. Accounting for the parking demand generated by the proposed project, the 2021 Build condition parking supply and utilization analysis shows that there would be adequate parking supply in and near the project area to accommodate the projected incremental parking demand.

Under the Phase 2–2031 Full Build-Out scenario, the existing 670-space public parking garage on the North Block would be replaced with a 389-space accessory parking garage. Access and egress to this new 389-space accessory parking garage would be provided on West 3rd Street only, whereas the existing 670-space public parking garage has access and egress along both West 3rd and Bleecker Streets. Accounting for the parking demand generated by the proposed project, the 2031 Build condition parking supply and utilization analysis shows that there would be a parking shortfall during the weekday midday hours. However, as stated in the 2010 *CEQR*

Technical Manual, for proposed projects located in Manhattan, this parking shortfall would not be considered significant due to the magnitude of available alternative modes of transportation.

Measures that would be feasible to mitigate the significant adverse impacts summarized above are discussed in Chapter 21, "Mitigation." These measures would be subject to the review and approval by the New York City Department of Transportation (NYCDOT) and/or the MTA NYCT.

WEEKEND CONDITION ASSESSMENT

The development program planned for the NYU Core project contains primarily university-oriented uses that would generate most of their trip-making during weekday peak periods. However, some of the project's supporting uses, such as the local retail, hotel, and conference space, albeit expected to primarily serve the university population and its visitors, would together with the university academic and housing uses generate a measurable amount of vehicular and pedestrian trips during weekend peak periods. To determine the potential for transportation-related impacts during non-weekday peak hours, a semi-quantitative/qualitative assessment of a representative weekend peak period (Saturday afternoon) for the Phase 2–2031 Full Build-Out scenario was prepared. This assessment, which included estimates of project-generated Saturday peak hour trips and comparisons of weekday and Saturday background conditions, including an evaluation of roadway operational characteristics, concluded that the potential transportation-related impacts during the Saturday afternoon peak hour would be within the envelope of impacts identified for the weekday peak hours. The likely measures that would be required to mitigate these weekend impacts are also discussed in Chapter 21, "Mitigation."

C. PRELIMINARY ANALYSIS METHODOLOGY

The *CEQR Technical Manual* describes a two-tier screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation analysis (Level 1) to estimate the volumes of person and vehicle trips attributable to the proposed project. According to the *CEQR Technical Manual*, 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) would be performed to estimate the incremental trips that could be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the proposed project would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a pedestrian element, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

D. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the proposed project during the weekday morning, midday, and evening peak hours for the Illustrative Program, RWCDS 1 (Max Academic), RWCDS 2 (Max Dormitory), and RWCDS 3 (Max Hotel). These estimates were then compared to the CEQR analysis thresholds to determine if a Level 2 screening and/or quantified

operational analyses may be warranted. As described above, this trip generation assessment concluded that RWCDS 3 would be the overall worst-case development scenario for the evaluation of potential transportation-related impacts. Hence, the detailed discussions below on the specific travel demand assumptions and trip projection results are focused on those associated with RWCDS 3. A summary comparison of the 2031 trip projections for all potential development scenarios is also presented at the end of these discussions.

BACKGROUND

It is anticipated that the development program would be completed in two stages, with Phase 1 completion in 2021 and Phase 2 full build-out in 2031. Based on development envelopes identified by NYU, the selected reasonable worst-case transportation scenario (RWCDS 3), reflecting the highest potential in trip generation, would in total account for 1,021,895 gsf of academic space, 395,000 gsf (1,316 beds) of student housing, 180,000 gsf (300 rooms) of hotel space, 85,000 gsf of conference center, 94,000 gsf of local retail, and a 100,000-gsf (800 seats SCA PS/IS) school. In addition, existing below-grade accessory parking on Block 533 would be relocated and the number of spaces would be reduced from 670 to 389. The existing 146,000-gsf athletic center would be rebuilt to serve the same functions as it currently provides and therefore is not considered for travel demand analysis purposes as incremental use attributed to the proposed project. The local retail space programmed as part of the proposed project would replace similar retail uses currently operating on the development blocks, totaling approximately 29,000 gsf on the south block and 34,000 gsf on the north block. For travel demand projection purposes, these retail square footages were netted out from the total programmed retail space. The additional 24,000 gsf of induced local retail northeast of the NYU development blocks, on the other hand, would replace less active existing uses and therefore were considered incremental space for travel demand projection purposes. A summary of the above breakdown separated into Phase 1 and Phase 2 is shown in **Table 14-1**. Travel demand projections for these development components were developed to determine analysis needs for the assessment of potential transportation-related impacts. The transportation planning assumptions and projected person and vehicle trips are described below.

Table 14-1
Reasonable Worst-Case Transportation Scenario Development Program

Use	Phase 1 – 2021		Phase 2 Increment		Phase 2 – 2031	
Academic Space	148,000 (SF)		873,895 (SF)		1,021,895 (SF)	
Student Housing	1,316 (beds)	395,000 (SF)	--	--	1,316 (beds)	395,000 (SF)
Hotel	300 (rooms)	180,000 (SF)	--	--	300 (rooms)	180,000 (SF)
Conference Center	85,000 (SF)		--		85,000 (SF)	
Local Retail						
Programmed	*60,000 (SF)*		*34,000 (SF)*		*94,000 (SF)*	
Existing	*29,000 (SF)*		*34,000 (SF)*		*63,000 (SF)*	
Net	31,000 (SF)		0 (SF)		31,000 (SF)	
School (SCA PS/IS)	800 (seats)	100,000 (SF)	--	--	800 (seats)	100,000 (SF)
	73 (staff)		--		73 (staff)	
Additional Local Retail NE of Development	24,000 (SF)		--		24,000 (SF)	

TRANSPORTATION PLANNING ASSUMPTIONS

ACADEMIC USE

Trip generation estimates for the academic component were developed using NYU's 2031 student enrollment and faculty and staff population projections for the Washington Square Campus (WSC), the anticipated changes in available WSC academic space, and results from the 2009 NYU on-line transportation survey. NYU's WSC in Greenwich Village currently has approximately 5.5 million square feet of academic space, including classrooms, laboratories, and offices for faculty and administrators, accommodating 21,895 undergraduate students, 19,287 graduate and professional students, and 11,209 faculty and staff. There are also 11,054 non-credit students.

By 2021, NYU would add five more academic buildings within WSC to increase the available academic space by an additional 336,000 gsf, including the 148,000 gsf planned for the south superblock and 188,000 gsf of new academic space added as-of-right. By 2031 with the completion of NYU Core, the total increase in academic space would be 1,357,895 gsf, resulting in a total of 6,857,895 gsf of academic space in the WSC.

NYU has experienced rapid population growth at the WSC in recent years. However, this growth is expected to taper off and some decreases in the WSC population may even occur in the near future. Nonetheless, NYU has for planning purposes projected an annual growth in the WSC academic population of 0.5-percent per year. This growth would result in 2031 populations of 24,313 undergraduate students, 21,417 graduate/professional students, 12,275 non-credit students, and 12,447 faculty/staff. The combined effect of the additional academic space and population growth would be a decompression of population density in the WSC. In 2031, each group's population density (person/1000 gsf) would be as follows: 3.55 for undergraduate students, 3.12 for graduate/professional students, 1.79 for non-credit students, and 1.81 for faculty and staff.

The 2009 NYU online transportation survey results show that on average, undergraduate students make 3.62 trips per day, graduate/professional students make 2.83 trips per day, and faculty and staff make 3.15 trips a day. The WSC-affiliated non-credit students, for the most part, do not frequent the WSC but instead attend continuing education classes in Midtown and Lower Manhattan. Starting in the fall of 2011, spaces from a new building in the Union Square area would also be available for some of these classes. Although most existing as well as future trip-making by the non-credit students would be made to locations outside of the WSC, a nominal trip rate of 0.25 trips per day has been conservatively assumed for this population group. **Table 14-2** below summarizes the NYU Core academic trip rates for each population group.

Table 14-2
NYU Core Academic Space Daily Trip Generation Factors

Population Group	Population Density (Person/1,000 gsf)	Avg. Trips/Day	Daily Person Trips/1,000 gsf	
Undergraduate Students	3.55	3.62	12.9	12.9
Graduate/Professional Students	3.12	2.83	8.8	9.2
Non-Credit Students	1.79	0.25	0.4	
Faculty/Staff	1.81	3.15	5.7	5.7
Total			27.8	27.8

To estimate peak hour trip-making by these population groups, results from the 2009 NYU online transportation survey on modal split, vehicle occupancy, and temporal and directional distributions were applied to the above daily trip rates. Delivery trip generation for the academic use was developed using travel characteristics presented in the *Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development Project FEIS* (2007).

With regard to the NYU shuttle bus service, there are currently two regularly scheduled shuttle bus routes serving the WSC, Route B (NOHO–West Houston–SOHO–Chinatown–Washington Square Park) and Route E (NYU Medical Center–23rd Street–Third Ave/First Avenue–Washington Square Park), connecting the WSC throughout the day with residence halls, faculty housing, and other dwellings that are located beyond a reasonable walking distance from the campus. Route C (Avenue A/C–First Avenue–14th/16th/18th Street–Washington Square Park), which is operational for only 4 hours in the morning, supplements the regularly run Route B and Route E and service generally the East Village area, south of 20th Street. **Figure 14-1** depicts a map of these routes and their stops. During peak hours, these shuttle bus routes operate at 12 to 20-minute headways. On weekends, these routes operate on average 30 to 40-minute headways each. NYU operates several different types of buses, all ranging in capacity between 50 and 55 riders each. According to NYU, these buses currently operate at or close to capacity during peak travel hours. Currently, the three NYU shuttle bus routes described above all terminate at the shuttle bus stop in front of 715 Broadway, which also serves as a short-term layover location. When the buses are not in service, they are parked at an off-site bus depot. NYU's Department of Public Safety, which manages University transportation, operates its bus schedule to most efficiently serve the NYU population while minimizing the need for more than one bus laying over at 715 Broadway at any one time. It is expected that NYU would continue to monitor the ridership on these shuttle bus routes and adjust their service frequencies and make necessary adjustments to the layover arrangement to accommodate the needs of the NYU population. Accordingly, increased shuttle bus service may not be directly dependent on the amount of academic space planned for the NYU Core. Nonetheless, the EIS analysis will conservatively incorporate incremental shuttle bus trips corresponding to the numbers of incremental person trips projected for the various analysis peak hours using this mode of transportation.

STUDENT HOUSING

Trip estimates for non-academic related or "external dorm" trips for the student housing component were developed using person and delivery trip generation, taxi occupancy, and temporal and directional distribution factors from the *DASNY New School FEAF* (2010).

The modal split and auto occupancy factors were based on the 2005-2009 ACS (American Community Survey, U.S Department of Commerce: Bureau of the Census) journey-to-work data from Manhattan census tracts 43, 49, 55.01, 55.02, 57, 59, and 65, as illustrated below. The modal splits derived from the census data were adjusted to account for NYU shuttle bus shares and low auto shares based on results of the 2009 NYU online transportation survey (most auto trips were added to bus and taxi trips and some subway trips were added to NYU shuttle bus trips).

HOTEL

Travel demand factors from the 2010 *CEQR Technical Manual* and *Western Rail Yard FEIS* (2009) for a typical New York City hotel were used to estimate trips generated by the proposed hotel component's daily person and delivery trip generation rate, modal split, vehicle occupancy, and person temporal and directional distributions, recognizing that the generic hotel trip

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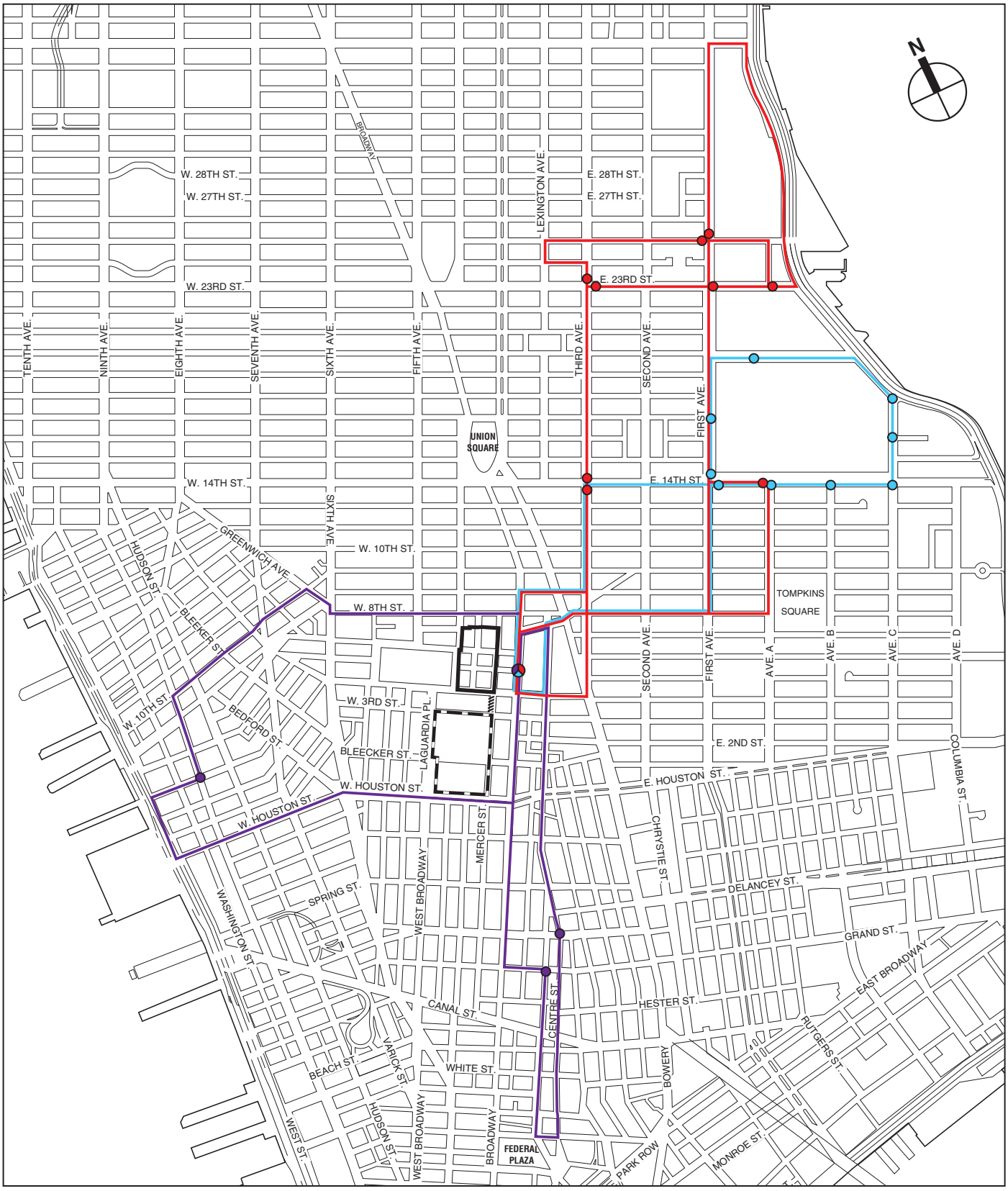


Proposed Development Area Boundary

Commercial Overlay Area Boundary

Mercer Plaza Area

Shuttle Stops

Shuttle Terminus: 715 Broadway

Shuttle Route A

Shuttle Route C

Shuttle Route E

0 2000 FEET

SCALE

NYU Core

NYU Shuttle Bus Route

Figure 14-1

generation assumptions made would be conservative for what is anticipated to be an university-oriented hotel.

CONFERENCE CENTER

Travel demand factors from the *Battery Maritime Building EAS* (2008) were applied for the daily person and delivery trip generation rate, modal split, vehicle occupancy, and person temporal and directional distributions for the conference center use. The modal splits were adjusted to account for the Washington Square area local travel patterns. Ferry trips [5%] were added to the bus mode and PATH train trips [5%] were added to the subway mode.

RETAIL

Travel demand factors from the *DASNY New School* (2010) and 2010 *CEQR Technical Manual* were applied for the daily person and delivery trip generation rate, modal split, vehicle occupancy, and person temporal and directional distributions for the retail use. A 25-percent linked trip credit was applied to the standard rate of 205 trips per 1,000 gsf resulting in 153.75 trips per 1,000 gsf.

SCHOOL

The trip generation analysis for the school component was developed using the person trip generation rate, modal split for student population, delivery trip generation rate, and person temporal and directional distributions from the *Riverside Center FSEIS* (2010) *and West 44th Street and Eleventh Avenue Rezoning FEIS* (2010). The modal split factors and auto occupancy for staff trips are based on the Census 2000 (U.S Department of Commerce: Bureau of the Census, 2000) reverse journey-to-work data from Manhattan census tracts 43, 49, 55.01, 55.02, 57, 59, and 65.

The above travel demand assumptions are summarized in **Table 14-3**. Not presented in this table are the travel demand assumptions for faculty housing. This project component, while contemplated for the Illustrative Program, is not considered for RWCDS 1, 2, or 3. With only 105,000 square feet (or approximately 123 faculty apartments) allocated to this use, this component of the Illustrative Program constitutes a very small percentage of the overall development program (approximately 2.5 million square feet). Information from the 2005-2009 ACS journey-to-work data and metrics developed for the *Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development Project FEIS* (2007) were used to develop the trip estimates for this faculty housing use.

Table 14-3
Travel Demand Assumptions

Use	Academic Space									Hotel			Local Retail		
Program Size	148,000 SF (Phase 1) 873,895 SF (Phase 2 Incremental)									300 Rooms			31,000 SF (Proposed Development Area) 24,000 SF (Commercial Overlay Area)		
User Group	**Undergraduates**			**Graduates/Professionals**			**Faculty/Staff**								
Person Trips															
Daily Trip Rate	12.9 per 1,000 SF[1]			9.2 per 1,000 SF[1]			5.7 per 1,000 SF[1]			9.42 per Room[4]			205.0 per 1,000 SF[4]		
Link Trip Credit	N/A			N/A			N/A			N/A			25%		
Net Daily Trip Rate	12.9 per 1,000 SF			9.2 per 1,000 SF			5.7 per 1,000 SF			9.42 per Room			153.75 per 1,000 SF		
			In/Out[7]			In/Out[7]			In/Out[7]			In/Out[5]			In/Out[6]
Temporal Distribution	AM[7]	16.4%	99%/1%	AM[7]	7.5%	99%/1%	AM[7]	17.6%	100%/0%	AM[4]	8%	39%/61%	AM[4]	3%	50%/50%
	MD[7]	8.0%	49%/51%	MD[7]	5.7%	82%/18%	MD[7]	1.4%	70%/30%	MD[4]	14%	54%/46%	MD[4]	19%	50%/50%
	PM[7]	7.1%	13%/87%	PM[7]	12.2%	60%/40%	PM[7]	20.7%	2%/98%	PM[4]	13%	65%/35%	PM[4]	10%	50%/50%
Modal Split	AM/MD/PM[7]			AM/MD/PM[7]			AM/MD/PM[7]			AM/PM[5]		MD[5]	AM/MD/PM[6]		
Auto	0.2%			1.3%			3.7%			9.0%		8.0%	2.0%		
Taxi	0.3%			0.5%			0.7%			18.0%		15.0%	3.0%		
Subway	21.5%			67.8%			68.0%			24.0%		13.0%	6.0%		
Bus	0.6%			1.6%			3.9%			3.0%		3.0%	6.0%		
Shuttle Bus	21.6%			7.1%			3.3%			0.0%		0.0%	0.0%		
School Bus	0.0%			0.0%			0.0%			0.0%		0.0%	0.0%		
Walk Only	55.8%			21.7%			20.4%			46.0%		61.0%	83.0%		
Total	100.0%			100.0%			100.0%			100.0%		100.0%	100.0%		
Vehicle Occupancy	AM/MD/PM[7]			AM/MD/PM[7]			AM/MD/PM[7]			AM/MD/PM[5]			AM/MD/PM[6]		
	Auto	Taxi	Bus	Auto	Taxi	Bus	Auto	Taxi	Bus	Auto	Taxi		Auto	Taxi	
	1.11	1.16	50-55	1.11	1.16	50-55	1.19	1.16	50-55	1.40	1.80		1.65	1.40	
Delivery Trips															
Daily Trip Rate	0.06 per 1,000 SF[3]									0.06 per room[5]			0.35 per 1,000 SF[4]		
Temporal Distribution	AM[3]			MD[3]			PM[3]			AM[5]	MD[5]	PM[5]	AM[4]	MD[4]	PM[4]
	9.7%			9.1%			5.1%			12.2%	8.7%	1.0%	8%	11%	2%
In/Out	50%/50%			50%/50%			50%/50%			50%/50%	50%/50%	50%/50%	50%/50%	50%/50%	50%/50%

Table 14-3 (cont'd)
Travel Demand Assumptions

Use	Conference Center						Student Housing(External Dorm Trip)			SCA PS/IS					
Program Size	85,000 SF						1,316 Beds			800 Seats			73 Staff		
User Group	**Patrons**			**Employees**						**Students**			**Staff**		
Person Trips															
Daily Trip Rate	27.2 per 1000 SF[10]			10.0 per 1000 SF[10]			4.75 per Bed[6]			2.0 per Seat			2.0 per Staff		
Link Trip Credit	N/A			N/A			N/A			N/A			N/A		
Net Daily Trip Rate	27.2 per 1000 SF			10.0 per 1000 SF			4.75 per Bed			2.0 per Seat			2.0 per Staff		
			In/Out[10]			In/Out[10]			In/Out[6]			In/Out[8]			In/Out[8]
Temporal Distribution	AM[10]	10.5%	91%/9%	AM[10]	14.7%	96%/4%	AM[6]	4.0%	35.5%/64.5%	AM[8]	50.0%	100%/0%	AM[8]	5.0%	100%/0%
	MD[10]	9.5%	53%/47%	MD[10]	20.0%	55%/45%	MD[6]	6.0%	50.5%/49.5%	MD[8]	0.0%	0%/0%	MD[8]	0.0%	0%/0%
	PM[10]	10.5%	15%/85%	PM[10]	12.9%	5%/95%	PM[6]	11.0%	52.5%/47.5%	PM[8]	2.5%	0%/100%	PM[8]	2.5%	0%/100%
Modal Split	AM/MD/PM[10,12]			AM/MD/PM[2]			AM/MD/PM[11]			AM/MD/PM[8]			AM/MD/PM[2]		
Auto	7.0%			16.2%			1.0%			6.2%			16.2%		
Taxi	6.0%			2.5%			4.1%			1.7%			2.5%		
Subway	25.0%			54.4%			46.0%			0.0%			54.4%		
Bus	10.0%			6.4%			9.5%			0.0%			6.4%		
Shuttle Bus	0.0%			0.0%			5.0%			0.0%			0.0%		
School Bus	0.0%			0.0%			0.0%			3.9%			0.0%		
Walk Only	52.0%			20.5%			34.4%			88.2%			20.5%		
Total	100.0%			100.0%			100.0%			100.0%			100.0%		
Vehicle Occupancy	AM/MD/PM[10]			AM/MD/PM			AM/MD/PM			AM/MD/PM			AM/MD/PM		
	Auto	Taxi		Auto	Taxi		Auto	Taxi	Bus	Auto	Taxi	Bus	Auto	Taxi	
	2.30	1.80		1.15[2]	1.40[10]		1.05[11]	1.30[6]	50-55[7]	1.70[8]	1.22[9]	19.0[8]	1.15[2]	1.40[9]	
Delivery Trips															
Daily Trip Rate	0.35 per 1,000 SF[10]						0.03 per 1,000 SF[6]			0.07 per 1,000 SF[9]					
Temporal Distribution	AM[10]		MD[10]		PM[10]		AM[6]	MD[6]	PM[6]	AM[5]		MD[5]		PM[5]	
	7.9%		14.7%		1.1%		10.0%	8.0%	5.0%	9.6%		11.0%		1.0%	
In/Out	50%/50%		50%/50%		50%/50%		50%/50%	50%/50%	50%/50%	50%/50%		50%/50%		50%/50%	

Note:
N/A = Not Applicable

Sources:
(1) Based on 2009 NYU On-Line Transportation Survey, anticipated academic space in the WSC, and NYU's 2031 future enrollment projection.
(2) 2000 U.S. Census Data.
(3) *Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development project FEIS* (2007).
(4) 2010 *CEQR Technical Manual.*
(5) *Western Rail Yard FEIS* (2009).
(6) *DASNY New School FEAF* (2010).
(7) NYU On-line Transportation Survey and discussion with NYU staff.
(8) *Riverside Center FSEIS* (2010).
(9) *West 44th Street and Eleventh Avenue Rezoning FEIS* (2010).
(10) *Battery Maritime Building Redevelopment EAS* (2008).
(11) 2005-2009 U.S. Census ACS; JTW data were adjusted to account for low auto ownership, and shuttle bus usage by students residing in NYU housing.
(12) Modal split factors adjusted to account for the WSC local travel patterns; ferry trips were added to the bus mode and all PATH trips were added to the subway mode.

TRIP GENERATION ESTIMATES

PHASE 1–2021 COMPLETION SCENARIO

Person-trip and vehicle-trip generation estimates for the proposed uses considering the above assumptions for the Phase 1–2021 Completion scenario are presented in **Tables 14-4 and 14-5**, respectively. As shown, there would be 2,470, 3,013, and 2,778 person trips and 223, 235, and 221 vehicle (auto, taxi, delivery, shuttle bus, and school bus) trips during the weekday AM, midday, and PM peak hours, respectively.

Table 14-4
Phase 1: 2021 Completion Person Trips by Mode

Program	Auto		Taxi		Subway		Bus		Shuttle Bus		School Bus		Walk Only		Total		Total
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour																	
Academic Space	7	0	3	0	236	2	10	0	79	1	0	0	224	1	559	4	**563**
Student Housing	1	2	4	7	41	74	8	15	4	8	0	0	31	55	89	161	**250**
Hotel	8	12	16	25	21	33	3	4	0	0	0	0	40	64	88	138	**226**
Conference Center-Patron	15	2	13	1	55	6	22	2	0	0	0	0	116	11	221	22	**243**
Conference Center-Employee	19	1	3	0	65	3	8	0	0	0	0	0	25	1	120	5	**125**
Local Retail	1	1	2	2	4	4	4	4	0	0	0	0	61	61	72	72	**144**
SCA PS/IS Student	50	0	14	0	0	0	0	0	0	0	31	0	705	0	800	0	**800**
SCA PS/IS Staff	1	0	0	0	4	0	0	0	0	0	0	0	2	0	7	0	**7**
Local Retail NE	1	1	2	2	3	3	3	3	0	0	0	0	47	47	56	56	**112**
Total	**103**	**19**	**57**	**37**	**429**	**125**	**58**	**28**	**83**	**9**	**31**	**0**	**1251**	**240**	**2012**	**458**	**2470**
Midday Peak Hour																	
Academic Space	1	0	0	0	64	28	1	0	21	18	0	0	60	50	147	96	**243**
Student Housing	2	2	8	8	87	86	18	18	9	9	0	0	65	63	189	186	**375**
Hotel	17	15	32	27	28	24	6	5	0	0	0	0	131	111	214	182	**396**
Conference Center-Patron	8	7	7	6	29	26	12	10	0	0	0	0	61	54	117	103	**220**
Conference Center-Employee	15	12	2	2	51	42	6	5	0	0	0	0	20	16	94	77	**171**
Local Retail	9	9	14	14	27	27	27	27	0	0	0	0	376	376	453	453	**906**
SCA PS/IS Student	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
SCA PS/IS Staff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Local Retail NE	7	7	11	11	21	21	21	21	0	0	0	0	291	291	351	351	**702**
Total	**59**	**52**	**74**	**68**	**307**	**254**	**91**	**86**	**30**	**27**	**0**	**0**	**1004**	**961**	**1565**	**1448**	**3013**
PM Peak Hour																	
Academic Space	1	7	1	1	74	188	2	9	11	37	0	0	31	115	120	357	**477**
Student Housing	4	3	15	13	166	150	34	31	18	16	0	0	124	114	361	327	**688**
Hotel	22	12	43	23	57	31	7	4	0	0	0	0	110	58	239	128	**367**
Conference Center-Patron	3	14	2	12	9	52	4	21	0	0	0	0	18	108	36	207	**243**
Conference Center-Employee	1	17	0	3	3	57	0	7	0	0	0	0	2	21	6	105	**111**
Local Retail	5	5	7	7	14	14	14	14	0	0	0	0	199	199	239	239	**478**
SCA PS/IS Student	0	2	0	1	0	0	0	0	0	0	0	2	0	35	0	40	**40**
SCA PS/IS Staff	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0	4	**4**
Local Retail NE	4	4	6	6	11	11	11	11	0	0	0	0	153	153	185	185	**370**
Total	**40**	**65**	**74**	**66**	**334**	**505**	**72**	**97**	**29**	**53**	**0**	**2**	**637**	**804**	**1186**	**1592**	**2778**

Table 14-5
Phase 1: 2021 Completion Vehicle Trips by Mode

Program	Auto		Taxi		Delivery		Shuttle Bus		School Bus		Total
	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour											
Academic Space	6	0	2	2	1	1	4	4	0	0	**20**
Student Housing	1	2	5	5	2	2	1	1	0	0	**19**
Hotel	6	9	16	16	1	1	0	0	0	0	**49**
Conference Center-Patron	7	1	5	5	1	1	0	0	0	0	**20**
Conference Center-Employee	17	1	2	2	0	0	0	0	0	0	**22**
Local Retail	1	1	1	1	1	1	0	0	0	0	**6**
SCA PS/IS Student	29	29	8	8	1	1	0	0	2	2	**80**
SCA PS/IS Staff	1	0	0	0	0	0	0	0	0	0	**1**
Local Retail NE	1	1	1	1	1	1	0	0	0	0	**6**
Total	**69**	**44**	**40**	**40**	**8**	**8**	**5**	**5**	**2**	**2**	**223**
Midday Peak Hour											
Academic Space	1	0	0	0	1	1	2	2	0	0	**7**
Student Housing	2	2	9	9	2	2	1	1	0	0	**28**
Hotel	12	11	24	24	1	1	0	0	0	0	**73**
Conference Center-Patron	3	3	5	5	2	2	0	0	0	0	**20**
Conference Center-Employee	13	10	3	3	0	0	0	0	0	0	**29**
Local Retail	5	5	15	15	1	1	0	0	0	0	**42**
SCA PS/IS Student	0	0	0	0	1	1	0	0	0	0	**2**
SCA PS/IS Staff	0	0	0	0	0	0	0	0	0	0	**0**
Local Retail NE	4	4	12	12	1	1	0	0	0	0	**34**
Total	**40**	**35**	**68**	**68**	**9**	**9**	**3**	**3**	**0**	**0**	**235**
PM Peak Hour											
Academic Space	1	6	1	1	1	1	3	3	0	0	**17**
Student Housing	4	3	16	16	1	1	1	1	0	0	**43**
Hotel	16	9	27	27	0	0	0	0	0	0	**79**
Conference Center-Patron	1	6	6	6	0	0	0	0	0	0	**19**
Conference Center-Employee	1	15	2	2	0	0	0	0	0	0	**20**
Local Retail	3	3	7	7	0	0	0	0	0	0	**20**
SCA PS/IS Student	1	1	1	1	0	0	0	0	1	1	**6**
SCA PS/IS Staff	0	1	0	0	0	0	0	0	0	0	**1**
Local Retail NE	2	2	6	6	0	0	0	0	0	0	**16**
Total	**29**	**46**	**66**	**66**	**2**	**2**	**4**	**4**	**1**	**1**	**221**

PHASE 2–2031 FULL BUILD-OUT SCENARIO

Person-trip and vehicle-trip generation estimates for the proposed uses considering the above assumptions for the Phase 2–2031 Full Build-Out scenario are presented in **Tables 14-6** and **14-7**, respectively. As shown, there would be 5,800, 4,446, and 5,591 person trips and 311, 266, and 302 vehicle (auto, taxi, delivery, shuttle bus, and school bus) trips during the weekday AM, midday, and PM peak hours, respectively.

In addition to the travel demand projections presented above for RWCDS 3, trip estimates for the Phase 2–2031 Full Build-Out scenario were also developed for the Illustrative Program, RWCDS 1, and RWCDS 2. As illustrated in **Table 14-8**, RWCDS 3 would generally yield more trip-making than other development scenarios and therefore was determined to be the overall worst-case development scenario for the evaluation of potential transportation-related impacts. However, because RWCDS 1 ("Max Academic" Scenario) would yield notably more subway trips but lower or comparable trip-making for other modes of transportation to RWCDS 3, conditions pertained to traffic, pedestrians, and parking were evaluated using projections developed for RWCDS 3, whereas conditions pertained to subway were analyzed for both RWCDS 1 and RWCDS 3.

Table 14-6
Phase 2: 2031 Full Build-Out Person Trips by Mode

Program	Auto		Taxi		Subway		Bus		Shuttle Bus		School Bus		Walk Only		Total		Total
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour																	
Academic Space	51	0	17	0	1631	10	65	0	546	5	0	0	1554	14	3864	29	**3893**
Student Housing	1	2	4	7	41	74	8	15	4	8	0	0	31	55	89	161	**250**
Hotel	8	12	16	25	21	33	3	4	0	0	0	0	40	64	88	138	**226**
Conference Center-Patron	15	2	13	1	55	6	22	2	0	0	0	0	116	11	221	22	**243**
Conference Center- Employee	19	1	3	0	65	3	8	0	0	0	0	0	25	1	120	5	**125**
Local Retail	1	1	2	2	4	4	4	4	0	0	0	0	61	61	72	72	**144**
SCA PS/IS Student	50	0	14	0	0	0	0	0	0	0	31	0	705	0	800	0	**800**
SCA PS/IS Staff	1	0	0	0	4	0	0	0	0	0	0	0	2	0	7	0	**7**
Local Retail NE	1	1	2	2	3	3	3	3	0	0	0	0	47	47	56	56	**112**
Total	**147**	**19**	**71**	**37**	**1824**	**133**	**113**	**28**	**550**	**13**	**31**	**0**	**2581**	**253**	**5317**	**483**	**5800**
Midday Peak Hour																	
Academic Space	9	3	3	1	445	199	12	5	146	125	0	0	397	331	1012	664	**1676**
Student Housing	2	2	8	8	87	86	18	18	9	9	0	0	65	63	189	186	**375**
Hotel	17	15	32	27	28	24	6	5	0	0	0	0	131	111	214	182	**396**
Conference Center-Patron	8	7	7	6	29	26	12	10	0	0	0	0	61	54	117	103	**220**
Conference Center- Employee	15	12	2	2	51	42	6	5	0	0	0	0	20	16	94	77	**171**
Local Retail	9	9	14	14	27	27	27	27	0	0	0	0	376	376	453	453	**906**
SCA PS/IS Student	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
SCA PS/IS Staff	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Local Retail NE	7	7	11	11	21	21	21	21	0	0	0	0	291	291	351	351	**702**
Total	**67**	**55**	**77**	**69**	**688**	**425**	**102**	**91**	**155**	**134**	**0**	**0**	**1341**	**1242**	**2430**	**2016**	**4446**
PM Peak Hour																	
Academic Space	10	50	4	12	508	1291	13	58	76	250	0	0	217	801	828	2462	**3290**
Student Housing	4	3	15	13	166	150	34	31	18	16	0	0	124	114	361	327	**688**
Hotel	22	12	43	23	57	31	7	4	0	0	0	0	110	58	239	128	**367**
Conference Center-Patron	3	14	2	12	9	52	4	21	0	0	0	0	18	108	36	207	**243**
Conference Center- Employee	1	17	0	3	3	57	0	7	0	0	0	0	2	21	6	105	**111**
Local Retail	5	5	7	7	14	14	14	14	0	0	0	0	199	199	239	239	**478**
SCA PS/IS Student	0	2	0	1	0	0	0	0	0	0	0	2	0	35	0	40	**40**
SCA PS/IS Staff	0	1	0	0	0	2	0	0	0	0	0	0	0	1	0	4	**4**
Local Retail NE	4	4	6	6	11	11	11	11	0	0	0	0	153	153	185	185	**370**
Total	**49**	**108**	**77**	**77**	**768**	**1608**	**83**	**146**	**94**	**266**	**0**	**2**	**823**	**1490**	**1894**	**3697**	**5591**

Table 14-7
Phase 2: 2031 Full Build-Out Vehicle Trips by Mode

Program	Auto		Taxi		Delivery		Shuttle Bus		School Bus		Total
	In	Out	In	Out	In	Out	In	Out	In	Out	In+Out
AM Peak Hour											
Academic Space	44	0	14	14	4	4	14	14	0	0	**108**
Student Housing	1	2	5	5	2	2	1	1	0	0	**19**
Hotel	6	9	16	16	1	1	0	0	0	0	**49**
Conference Center	7	1	5	5	1	1	0	0	0	0	**20**
Conference Center-Employee	17	1	2	2	0	0	0	0	0	0	**22**
Local Retail	1	1	1	1	1	1	0	0	0	0	**6**
SCA PS/IS Student	29	29	8	8	1	1	0	0	2	2	**80**
SCA PS/IS Staff	1	0	0	0	0	0	0	0	0	0	**1**
Local Retail NE	1	1	1	1	1	1	0	0	0	0	**6**
Total	**107**	**44**	**52**	**52**	**11**	**11**	**15**	**15**	**2**	**2**	**311**
Midday Peak Hour											
Academic Space	9	3	3	3	4	4	6	6	0	0	**38**
Student Housing	2	2	9	9	2	2	1	1	0	0	**28**
Hotel	12	11	24	24	1	1	0	0	0	0	**73**
Conference Center	3	3	5	5	2	2	0	0	0	0	**20**
Conference Center-Employee	13	10	3	3	0	0	0	0	0	0	**29**
Local Retail	5	5	15	15	1	1	0	0	0	0	**42**
SCA PS/IS Student	0	0	0	0	1	1	0	0	0	0	**2**
SCA PS/IS Staff	0	0	0	0	0	0	0	0	0	0	**0**
Local Retail NE	4	4	12	12	1	1	0	0	0	0	**34**
Total	**48**	**38**	**71**	**71**	**12**	**12**	**7**	**7**	**0**	**0**	**266**
PM Peak Hour											
Academic Space	9	43	12	12	3	3	8	8	0	0	**98**
Student Housing	4	3	16	16	1	1	1	1	0	0	**43**
Hotel	16	9	27	27	0	0	0	0	0	0	**79**
Conference Center	1	6	6	6	0	0	0	0	0	0	**19**
Conference Center-Employee	1	15	2	2	0	0	0	0	0	0	**20**
Local Retail	3	3	7	7	0	0	0	0	0	0	**20**
SCA PS/IS Student	1	1	1	1	0	0	0	0	1	1	**6**
SCA PS/IS Staff	0	1	0	0	0	0	0	0	0	0	**1**
Local Retail NE	2	2	6	6	0	0	0	0	0	0	**16**
Total	**37**	**83**	**77**	**77**	**4**	**4**	**9**	**9**	**1**	**1**	**302**

Table 14-8
Phase 2: 2031 Full Build-Out—Comparison of Total Person and Vehicle Trips for Different Development Scenarios

Peak Hour Person Trips by Mode																	
	Auto		Taxi		Subway		Bus		Shuttle Bus		School Bus		Walk Only		Total		Total
Program	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In + Out
AM Peak Hour																	
Illustrative Program	134	15	57	27	1838	131	99	24	569	13	31	0	2503	174	5231	384	**5615**
RWCDS 1 (Max Academic)	76	2	28	4	2429	53	99	9	804	11	0	0	2321	66	5757	145	**5902**
RWCDS 2 (Max Dormitory)	111	4	42	13	1877	117	89	27	610	16	31	0	2581	200	5341	377	**5718**
RWCDS 3 (Max Hotel)	147	19	71	37	1824	133	113	28	550	13	31	0	2581	253	5317	483	**5800**
Midday Peak Hour																	
Illustrative Program	45	34	47	41	640	370	68	57	159	139	0	0	911	826	1870	1467	**3337**
RWCDS 1 (Max Academic)	17	10	14	10	709	341	35	26	217	187	0	0	735	636	1727	1210	**2937**
RWCDS 2 (Max Dormitory)	30	21	39	36	661	384	87	77	173	151	0	0	1190	1119	2180	1788	**3968**
RWCDS 3 (Max Hotel)	67	55	77	69	688	425	102	91	155	134	0	0	1341	1242	2430	2016	**4446**
PM Peak Hour																	
Illustrative Program	36	89	53	57	761	1599	66	121	95	273	0	2	601	1225	1612	3396	**5008**
RWCDS 1 (Max Academic)	18	78	15	28	830	1989	40	106	119	374	0	0	446	1295	1468	3870	**5338**
RWCDS 2 (Max Dormitory)	25	73	37	47	812	1664	85	131	107	298	0	2	763	1422	1829	3637	**5466**
RWCDS 3 (Max Hotel)	49	108	77	77	768	1608	83	146	94	266	0	2	823	1490	1894	3697	**5591**

Peak Hour Vehicle Trips by Mode											
	Auto		Taxi		Delivery		Shuttle Bus		School Bus		Total
Program	In	Out	In	Out	In	Out	In	Out	In	Out	In + Out
AM Peak Hour											
Illustrative Program	98	41	44	44	11	11	15	15	2	2	**283**
RWCDS 1 (Max Academic)	66	2	25	25	8	8	19	19	0	0	**172**
RWCDS 2 (Max Dormitory)	82	33	34	34	10	10	16	16	2	2	**239**
RWCDS 3 (Max Hotel)	107	44	52	52	11	11	15	15	2	2	**311**
Midday Peak Hour											
Illustrative Program	35	25	46	46	9	9	7	7	0	0	**184**
RWCDS 1 (Max Academic)	16	9	19	19	7	7	10	10	0	0	**97**
RWCDS 2 (Max Dormitory)	23	14	43	43	9	9	7	7	0	0	**155**
RWCDS 3 (Max Hotel)	48	38	71	71	12	12	7	7	0	0	**266**
PM Peak Hour											
Illustrative Program	29	71	58	58	4	4	9	9	1	1	**244**
RWCDS 1 (Max Academic)	16	67	30	30	3	3	11	11	0	0	**171**
RWCDS 2 (Max Dormitory)	21	60	52	52	4	4	9	9	1	1	**213**
RWCDS 3 (Max Hotel)	37	83	77	77	4	4	9	9	1	1	**302**

Since the above projected trips would exceed the CEQR analysis thresholds for vehicular traffic, transit, and pedestrians, a Level 2 screening assessment, as detailed below, was undertaken to identify specific locations where additional detailed analyses may be warranted.

E. 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 incur incremental trips exceeding the above CEQR thresholds. For the NYU Core project, trips projected for the Phase 2 – 2031 Total Build-Out, representing the maximum amount of project-generated trips, were allocated to the area's roadways, transit facilities, and pedestrian elements to identify the various study areas for which detailed analyses of potential impacts would be prepared.

TRAFFIC

Vehicle trip assignments for the weekday AM, midday, and PM peak hours were prepared considering the 2009 NYU Transportation Survey origin-destination (travel from residence to primary campus) statistics, existing NYU shuttle bus routes, and the nearby major roadways and local streets. For NYU-related uses (including academic space, student housing, and university affiliated hotel and conference center), vehicle trip assignments were based on the origin-destination statistics obtained from the 2009 NYU Transportation Survey. These vehicle trip assignments were distributed in the following manner: approximately 31 percent from the north, 25 percent from the south, 27 percent from the east, and 17 from the west. The vehicle trip assignments for the remaining uses (including the SCA PS/IS and local retail uses) were based on travel characteristics of the nearby major roadways and local streets and were assumed to have approximately equal percentage distributions from all four directions. All auto trips were assigned to public parking facilities in the area, accounting for, under Phase 2 full build-out, the displacement of the existing 670-space public parking garage in WSV, the replacement of this facility with a 389-space accessory parking garage, and the reconfiguration of garage access and egress on the North Block. Taxi trips were assigned to various project block fronts in the Proposed Development Area and in the Commercial Overlay area. NYU shuttle bus trips were assigned to existing routes along Broadway and the surrounding roadways. Delivery trips were assigned to NYCDOT designated truck routes and assumed to conduct loading and unloading along the project block frontages and at the off-street loading bays along West 3rd Street on the North Block and along Mercer Street on the South Block.

Figures 14-2, **14-3**, and **14-4** depict the projected 2021 vehicle-trip increments. The projected 2031 vehicle-trip increments are presented in **Figures 14-5**, **14-6**, and **14-7**. In coordination with NYCDOT, 17 area intersections were identified for study (see **Figure 14-8**). These intersections are:

1. West 4th Street and Sixth Avenue (signalized)
2. West Houston Street and Sixth Avenue (signalized)
3. West Houston Street and Sullivan Street (signalized)
4. West Houston Street and Thompson Street (signalized)
5. West 4th Street and LaGuardia Place (signalized)
6. West 3rd Street and LaGuardia Place (signalized)
7. Bleecker Street and LaGuardia Place (signalized)
8. West Houston Street and LaGuardia Place/West Broadway (signalized)
9. West Houston Street and Greene Street (signalized)
10. West 4th Street and Mercer Street (unsignalized)
11. West 3rd Street and Mercer Street (signalized)
12. Bleecker Street and Mercer Street (signalized)
13. West Houston Street and Mercer Street (signalized)
14. West 4th Street and Broadway (signalized)
15. West 3rd Street and Broadway (signalized)
16. West Houston Street and Broadway (signalized)
17. East Houston Street and Lafayette Avenue (signalized)

12.14.11

W. 8TH ST.
E. 8TH ST.
WASHINGTON SQ. W.
WASHINGTON SQ. N.
WASHINGTON SQ. E.
WASHINGTON PL.
WASHINGTON SQ. S.
ASTOR PL.
WAVERLY PL.
W. 4TH ST.
E. 4TH ST.
LAFAYETTE ST.
W. 3RD ST.
GREAT JONES ST.
BRAOADWAY
BOND ST.
SIXTH AVE.
SULLIVAN ST.
BLEECKER ST.
E. HOUSTON ST.
MACDOUGAL ST.
CROSBY ST.
PRINCE ST.
THOMPSON ST.
WEST BROADWAY
WOOSTER ST.
GREENE ST.
MERCER ST.
SPRING ST.

NOT TO SCALE

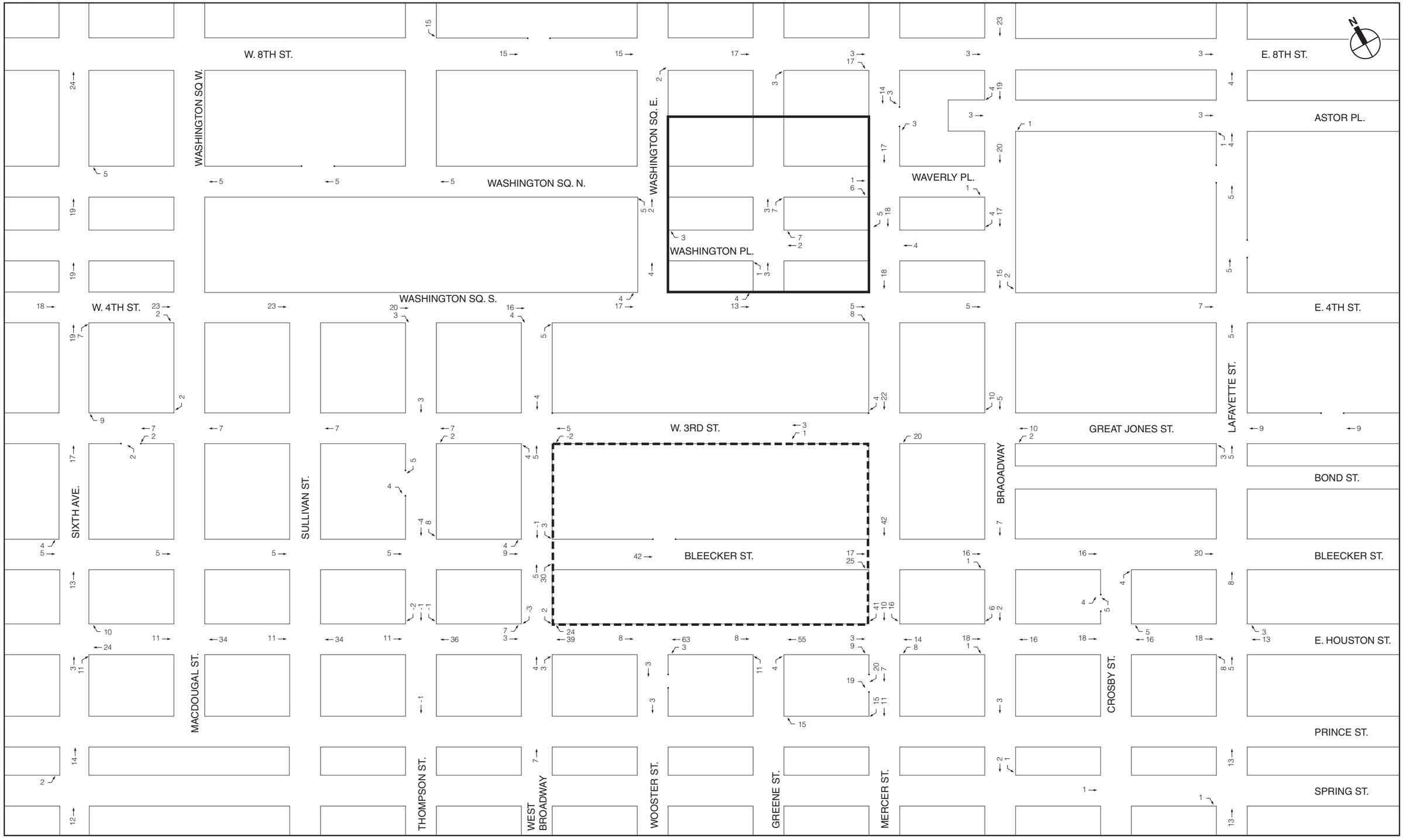
Proposed Development Area Boundary

Commercial Overlay Area Boundary

2021 Proposed Project Net Incremental Vehicle Trips
Weekday AM Peak Hour
Figure 14-2

NYU Core

12.14.11



NOT TO SCALE

Proposed Development Area Boundary

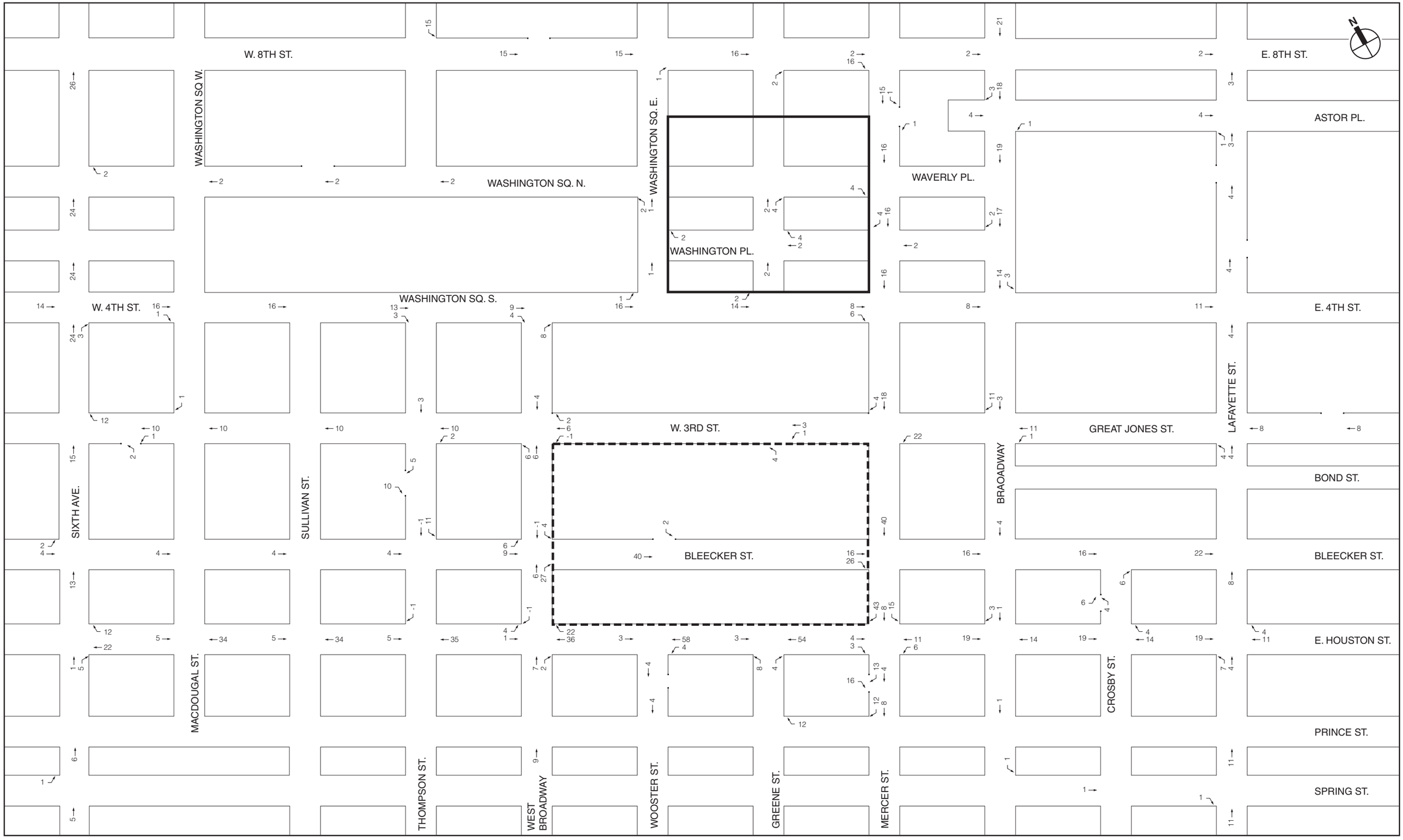
Commercial Overlay Area Boundary

2021 Proposed Project Net Incremental Vehicle Trips
Weekday Midday Peak Hour

Figure 14-3

NYU Core

12.14.11



NOT TO SCALE

Proposed Development Area Boundary

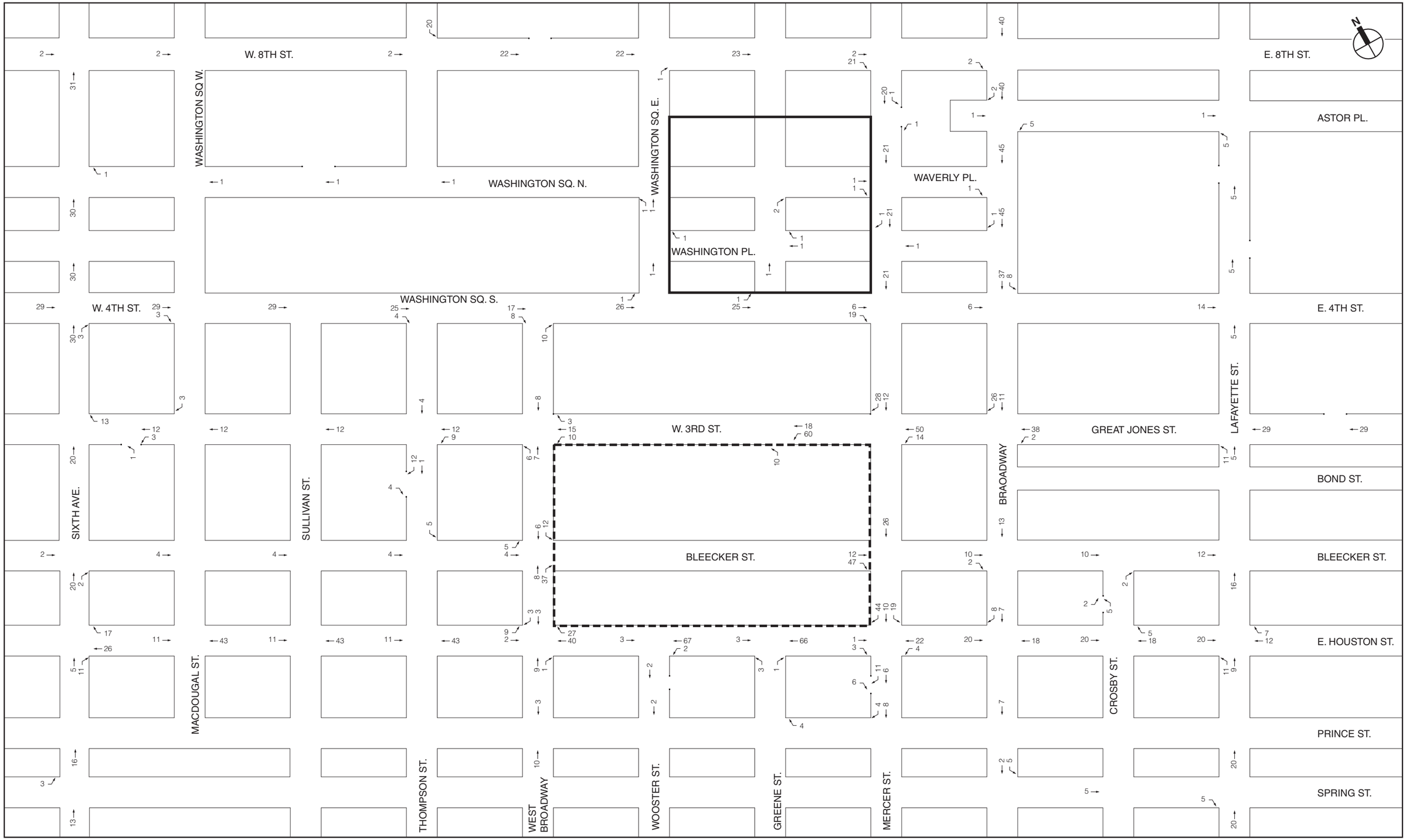
Commercial Overlay Area Boundary

2021 Proposed Project Net Incremental Vehicle Trips
Weekday PM Peak Hour

Figure 14-4

NYU Core

12.14.11



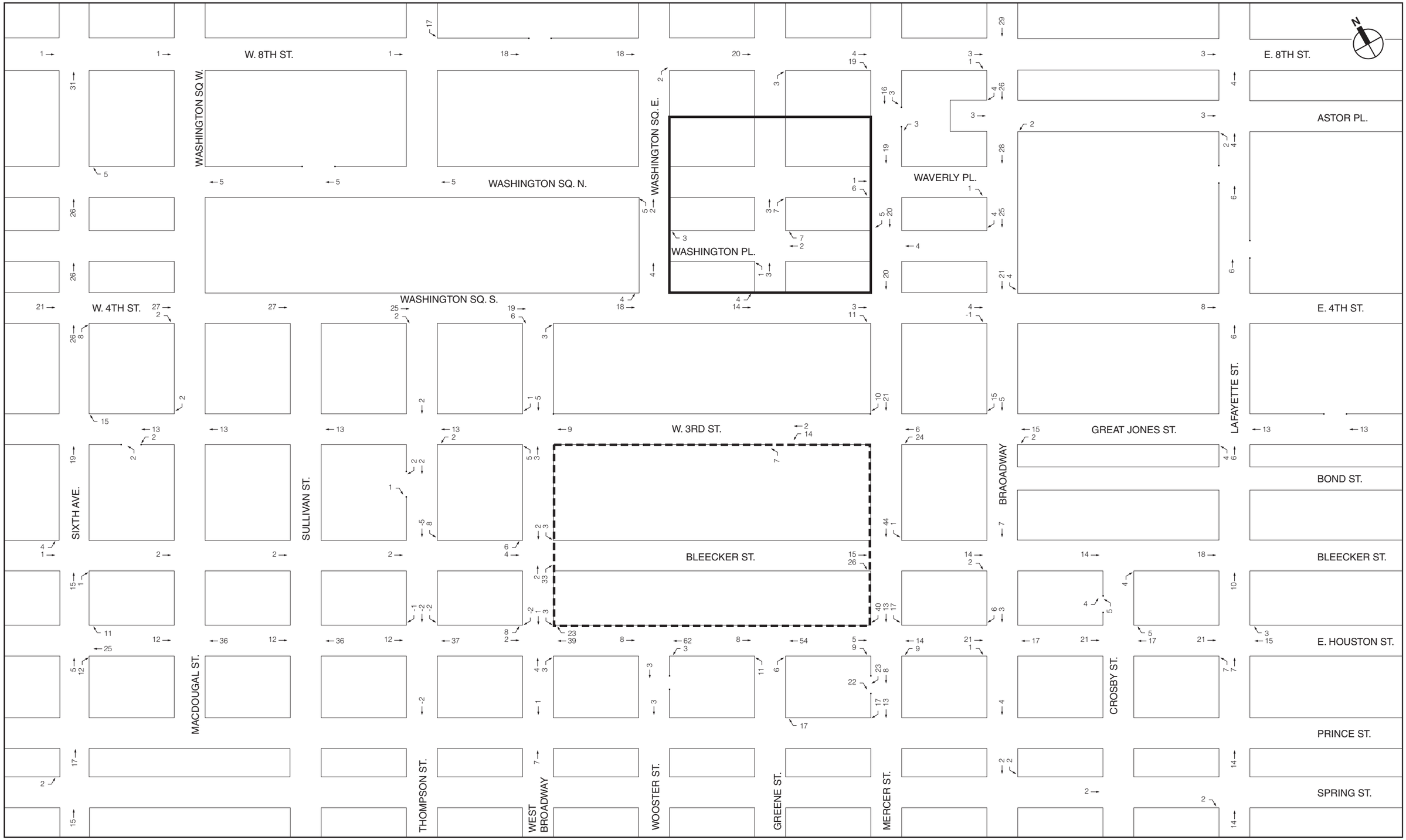
NOT TO SCALE

Proposed Development Area Boundary

Commercial Overlay Area Boundary

2031 Proposed Project Net Incremental Vehicle Trips
Weekday AM Peak Hour
Figure 14-5

12.14.11



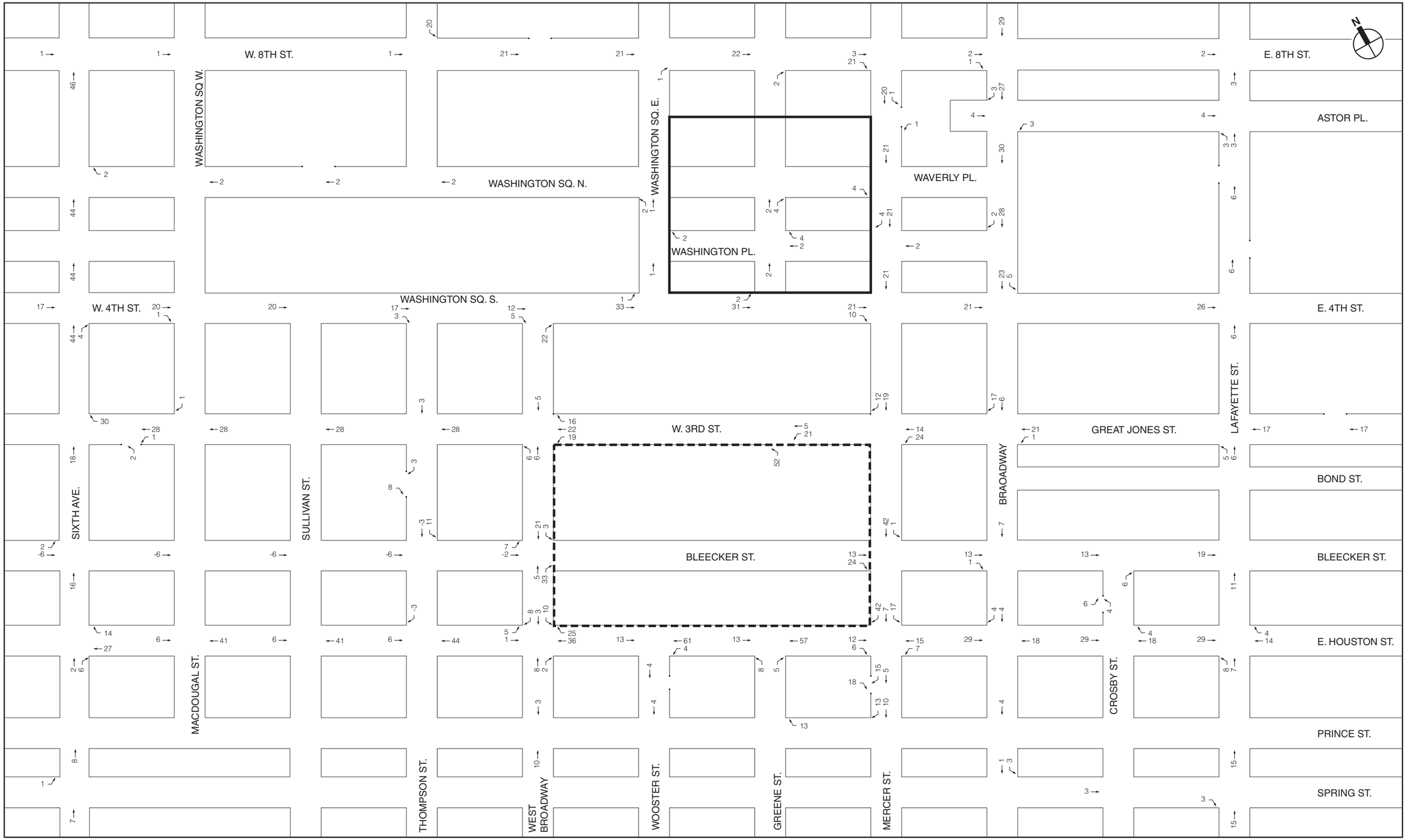
NOT TO SCALE

Proposed Development Area Boundary

Commercial Overlay Area Boundary

2031 Proposed Project Net Incremental Vehicle Trips
Weekday Midday Peak Hour
Figure 14-6

12.14.11



NOT TO SCALE

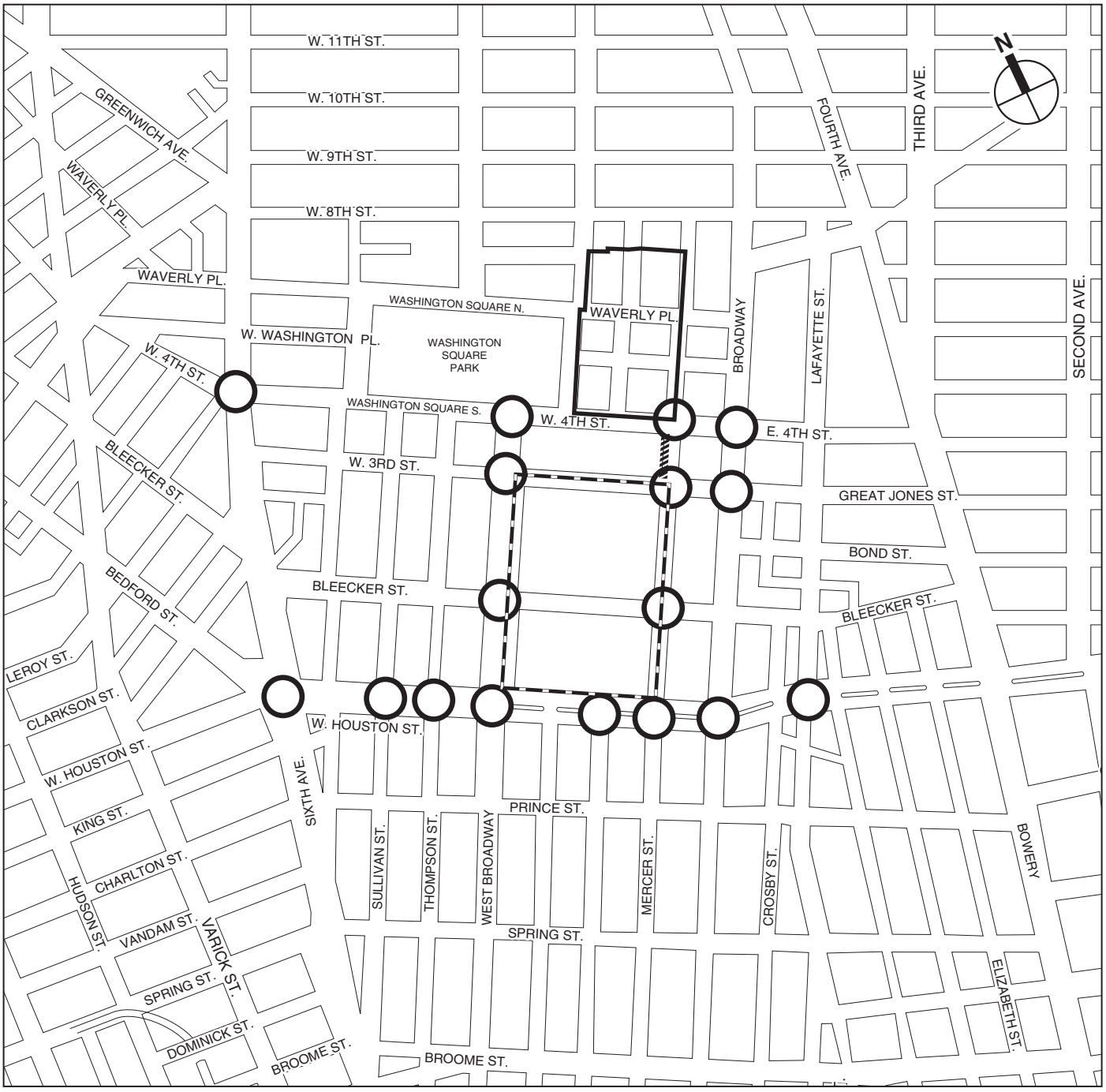
Proposed Development Area Boundary

Commercial Overlay Area Boundary

2031 Proposed Project Net Incremental Vehicle Trips
Weekday PM Peak Hour

Figure 14-7

12.14.11



Proposed Development Area Boundary

Commercial Overlay Area Boundary

Mercer Plaza Area

Traffic Analysis Locations

NYU Core

Traffic Study Area

Figure 14-8

TRANSIT

SUBWAY

As presented in **Table 14-8**, the full build-out of the NYU Core in 2031 is expected to result in 2,482, 1,050, and 2,819 projected-generated subway trips during the weekday AM, midday, and PM peak hours, respectively, under RWCDS 1 and 1,957, 1,113, and 2,376 project-generated subway trips during the weekday AM, midday, and PM peak hours, respectively, under RWCDS 3. These trips were distributed to the nearby subway stations (see **Figure 14-9**) serving the Core, using primarily travel patterns identified from the NYU survey of students, faculty, and staff. The survey data provide a representative distribution of trip-making by subway to the area. The allocation of project-generated subway trips also considered different train origins, transfer opportunities, and varying train loads at different points along their routes. Based on this assessment, nearly 90 percent of the total project-generated subway trips are expected to be served by the four nearest subway stations—West 4th Street Station (A/C/E/B/D/F/M), Bleecker Street Station (No. 6), Broadway-Lafayette Station (B/D/F/M/No. 6), and Prince Street Station (N/R). The remaining 10 to 15 percent were distributed to other stations in the area, including the 8th Street Station (N/R), the Astor Place Station (No. 6), and the Spring Street Station (C/E). Among the stations examined, the four nearest stations identified above would incur more than 200 subway riders during AM and PM peak hours, as follows.

- West 4th Street Station – 498 (RWCDS 1)/383 (RWCDS 3) AM peak hour and 566/465 PM peak hour riders;
- Broadway/Lafayette Station – 670/544 AM peak hour and 763/669 PM peak hour riders;
- Bleecker Street Station (Downtown) – 493/375 AM peak hour and 552/444 PM peak hour riders;
- Bleecker Street Station (Uptown) – 251/211 AM peak hour and 286/264 PM peak hour riders; and
- Prince Street Station – 254/227 AM peak hour and 294/290 PM peak hour riders.

Although more than 200 peak hour subway trips (up to 294 during the PM peak hour for RWCDS 1) were assigned to the Prince Street Station, the uptown and downtown entrances, control areas, and platforms at this station are separated and each control area or platform is connected to street-level via two stairways (north and south sides of Prince Street). As such, none of the elements at this station are expected to experience 200 or more subway riders during any of the analysis peak hours, because the Prince Street Station serves the N and R subway lines, which run from south Brooklyn through Manhattan to Queens, with many stops both south and north of the Station. Therefore, a detailed analysis of this station's stairways and control areas was not prepared for this Draft EIS. However, at the direction of MTA NYCT, an analysis of this station's stairways and control areas will be undertaken for the Final EIS and any significant adverse impacts that may be identified for these station elements will be disclosed. The following station elements were identified to exceed the CEQR analysis threshold of 200 peak hour trips and therefore were included for the weekday AM and PM peak period analyses.

- Bleecker Street Station stairways and control areas, including the uptown R217 control area connecting to three street-level stairways (P2, S4, and B6) and the downtown control area (unmarked) connecting to two street-level stairways (S3 and one unmarked);
- Broadway-Lafayette Station stairways and control area, including the N-519 control area connecting to one street-level stairway (S9); and

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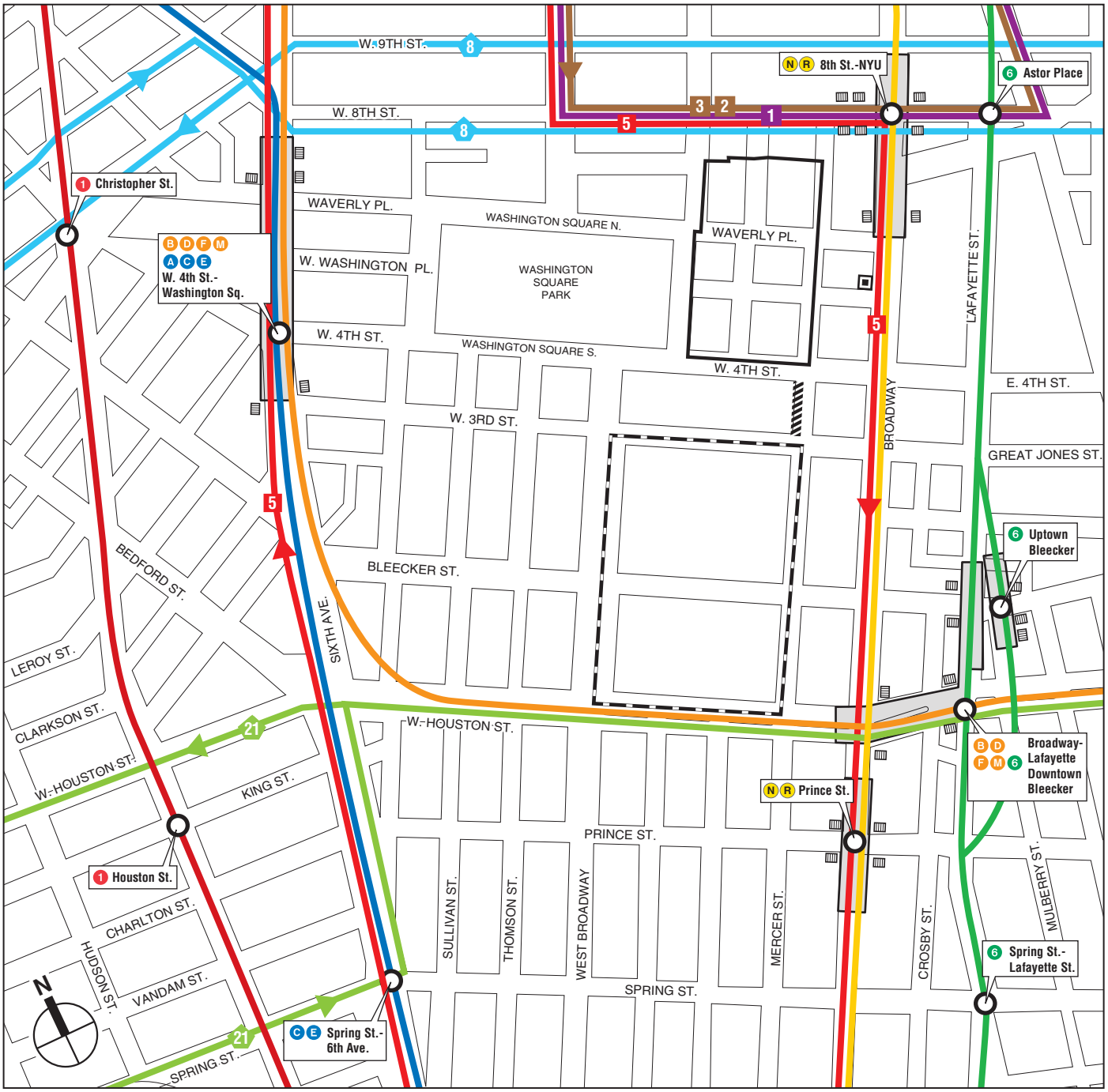

Proposed Development Area Boundary

Commercial Overlay Area Boundary

Mercer Plaza Area

Subway Stop

Subway Stairs

Underground Walkway

Bus Line

NYU Shuttle Stop

NYU Core

Public Transit Options

Figure 14-9

- West 4th Street Station stairways and control area, including the N-83 control area connecting to one street-level stairway (S2A/B).

As shown in the impact analyses presented later in this chapter, the proposed project is expected to result in significant adverse impacts at two of the analyzed stairways. At the direction of MTA NYCT, additional station elements, including the platform stairways connecting the S9 stairway and N-519 control area to the platforms at the Broadway-Lafayette Station and the pedestrian ramps connecting the S2A/B stairway and N-83 control area to the upper-level platforms at the West 4th Street Station, will be analyzed for the Final EIS and any significant adverse impacts that may be identified for these station elements will be disclosed.

To determine whether a subway line-haul analysis is warranted, a detailed examination of assigned trips to the broader subway network was undertaken, accounting for transfer opportunities the area subway lines have with other subway lines in the system, such as the L, J/Z, Q, and No. 1/2/3/4/5/7 trains. The projected incremental ridership for each line by direction was then compared to each line's peak period service frequency to determine the incremental increase in subway riders per subway car. According to the *2010 CEQR Technical Manual*, an incremental ridership of fewer than 5 riders per subway car is unlikely to result in the potential for a significant subway line-haul impact. The detailed subway trip assignments showed that all subway lines would incur fewer than 3 additional riders per car along all subway lines under both RWCDS 1 and RWCDS 3. Since the projected peak ridership increment would be below this threshold, a detailed subway line-haul analysis is not warranted.

NYCT BUS

NYCT bus trips were distributed to local bus routes serving the WSC area (see **Figure 14-9**). However, no individual bus route would experience 50 or more peak hour bus trips in one direction—the CEQR recommended threshold for undertaking a quantified bus analysis. Therefore, a detailed bus line-haul analysis would not be required to address potential transit impacts on the bus system associated with Phase 1 and Phase 2 of the NYU Core project.

PEDESTRIANS

As shown in **Tables 14-4** and **14-6**, the projected peak hour pedestrian increments would be more than 200 during the weekday AM, midday, and PM peak hours for both the Phase 1 (2021) and Phase 2 (2031) build-out of the NYU Core project. The Level 2 pedestrian trip assignments were developed for Phase 2 for all the uses presented in **Table 14-3** (i.e. academic space, student housing, retail, hotel, conference center, and the PS/IS) to account for the highest project-generated pedestrian volumes. For each use, pedestrian trips would follow similar assignment procedures, as described below:

- Auto Trips – Motorists would park at the nearest available public parking facilities and walk to and from the Core.
- Taxi Trips – Taxi riders would get dropped off and picked up near their destination for each use.
- NYCT Bus Trips – Bus riders would use one of the six bus lines serving the WSC area (M1, M2, M3, M5, M8, M15, and M21) and would get on and off at the bus stops nearest to the Core and walk to and from the Core.
- Subway Trips – Subway riders were assigned to the nearest stations and would walk to and from the Core. The distribution of the subway riders to nearby subway stations was based on the proximity of the stations and number of subway lines available at each station.

- NYU Shuttle Bus Trips – All NYU shuttle bus riders were assigned to the NYU shuttle bus stop at Washington Place and Broadway. Shuttle bus riders would get on and off at this stop and walk to and from the Core.
- School Bus Trips (SCA PS/IS) – All school bus riders would be picked up and dropped off in front of the school entrance.
- Walk-Only Trips – Pedestrians who walk to and from the Core were distributed based on the neighborhood land-use characteristics and available pedestrian facilities (i.e. crosswalks, sidewalks, and corners).

For the NYU Core academic space, walk-only and subway trip assignments were determined based on the 2009 NYU on-line transportation survey results of travel origins and destinations as summarized below.

ACADEMIC SPACE

- Walk-Only Trips – NYU survey results show that most of the walk-only trips originate from north of the Core. A large portion of the walk-only trips are attributed to students living in the nearby NYU dorms, most of which are located north of Houston Street. Therefore, approximately 90 percent of academic space related walk-only trips were assigned to pedestrian routes north of Houston Street and the remaining 10 percent were assigned to those south of Houston Street.
- Subway Trips – Subway trips were distributed to six nearest subway stations: 20 percent to the West 4th Street Station (A/C/E/B/D/F/M), 8 percent to the 8th Street-NYU Station (N/R), 30 percent to the Bleecker Street Station (No. 6), 27 percent to the Broadway-Lafayette Station (B/D/F/M/No. 6), 10 percent to the Prince Street Station (N/R), and 5 percent to the Houston Street Station (No.1).

Peak hour incremental pedestrian volume maps were prepared following the pedestrian distribution patterns described above (see **Figures 14-10A** through **14-12B** and **Figures 14-13A** through **14-15B** for the 2021 and 2031 projected peak hour pedestrian increments, respectively). Based on this Level 2 assessment and coordination with NYCDOT, numerous sidewalks, corner reservoirs, and crosswalks at 17 area intersections were selected for detailed analysis. These analysis locations are depicted in **Figure 14-16** and summarized below in **Tables 14-9**, **14-10**, and **14-11**.

F. TRANSPORTATION ANALYSES METHODOLOGY

TRAFFIC OPERATIONS

The operation of all of the signalized intersections and unsignalized intersections 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 14-12**.

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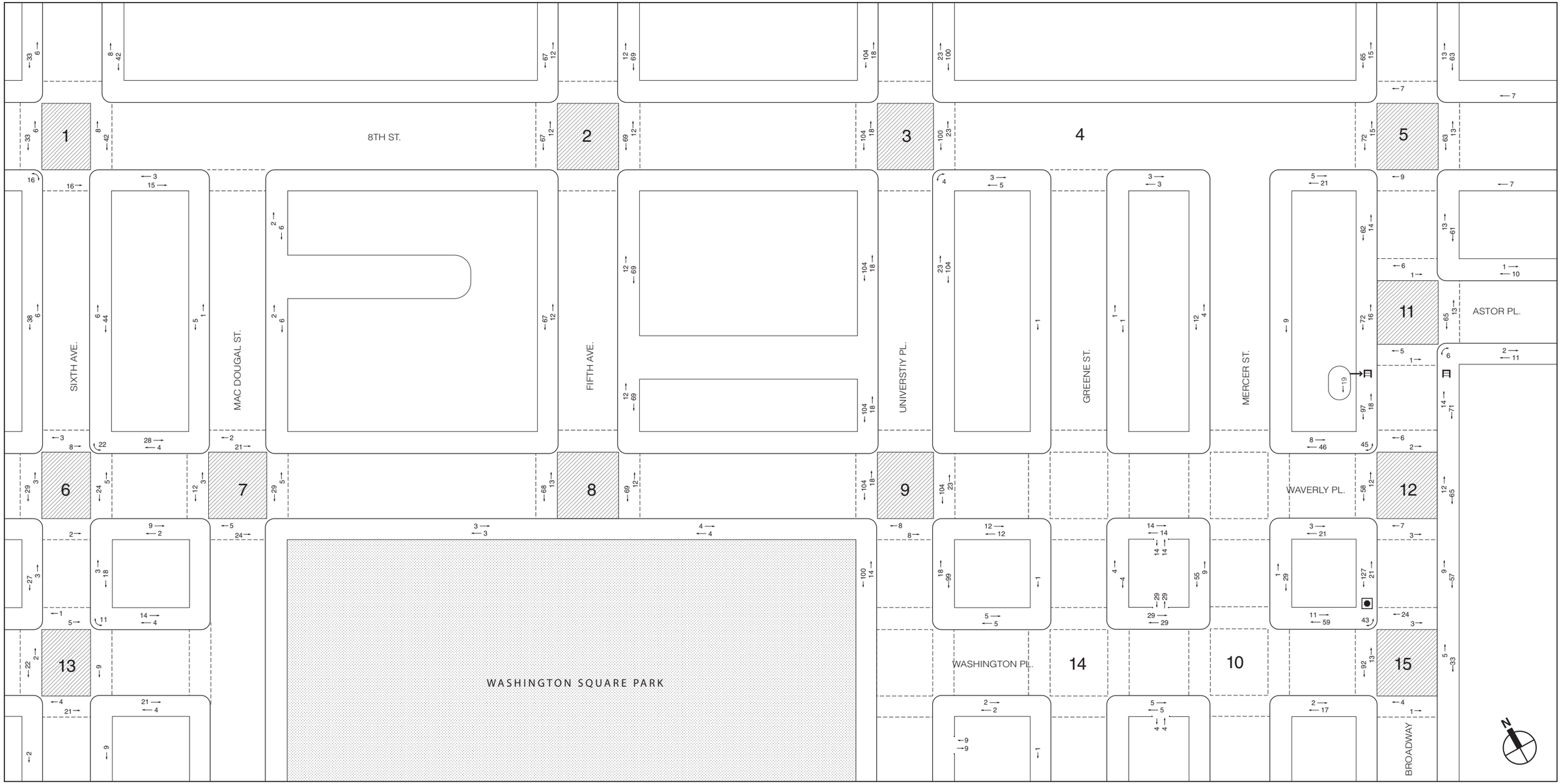

Subway Stairs

Existing NYU Shuttle Stop

Signalized Intersection

NOT TO SCALE

2021 Proposed Project Net Incremental Pedestrian Volumes
Weekday AM Peak Hour
Figure 14-10A

NYU Core

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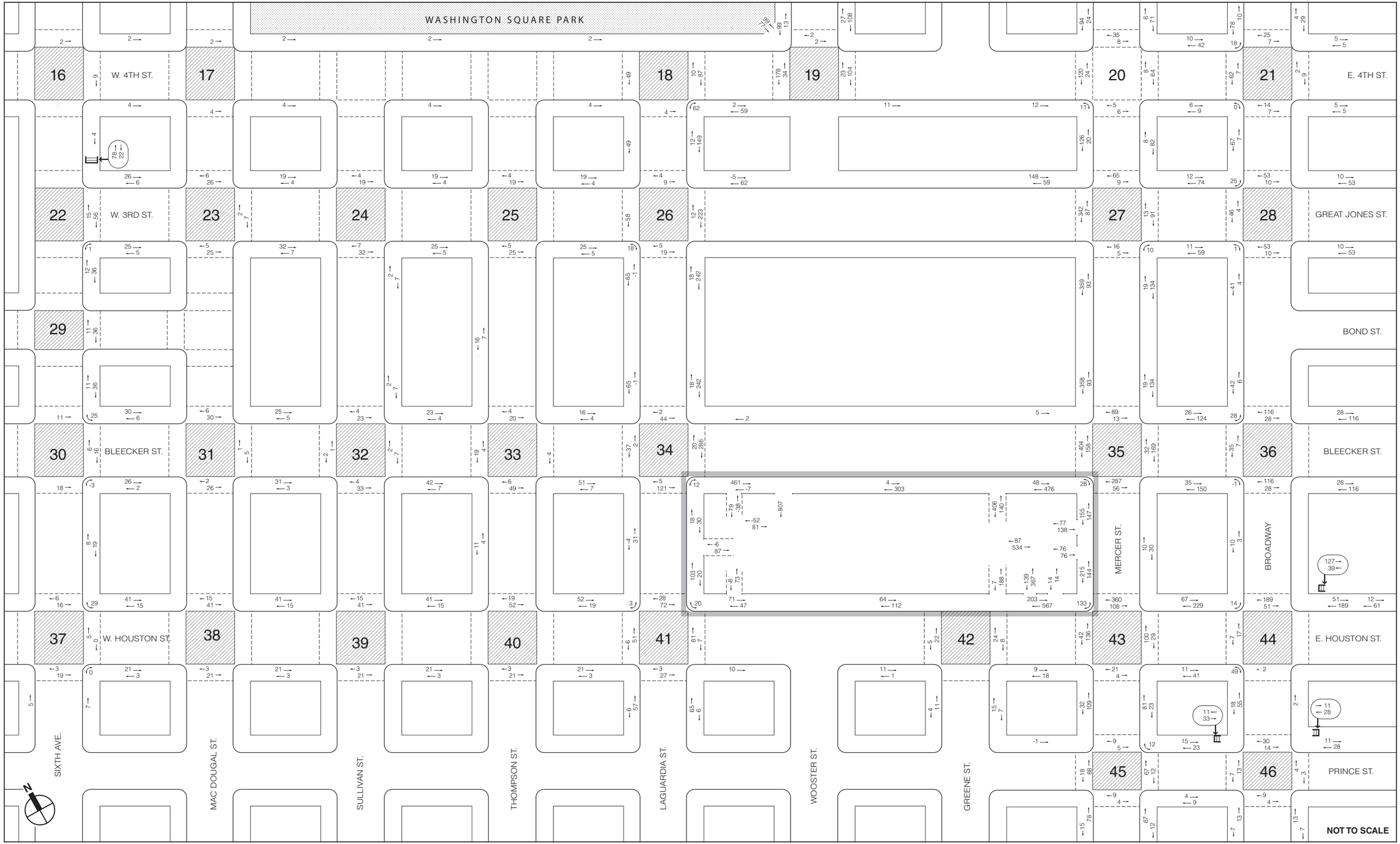

NYU Core

2021 Proposed Project Net Incremental Pedestrian Volumes
Weekday AM Peak Hour
Figure 14-10B

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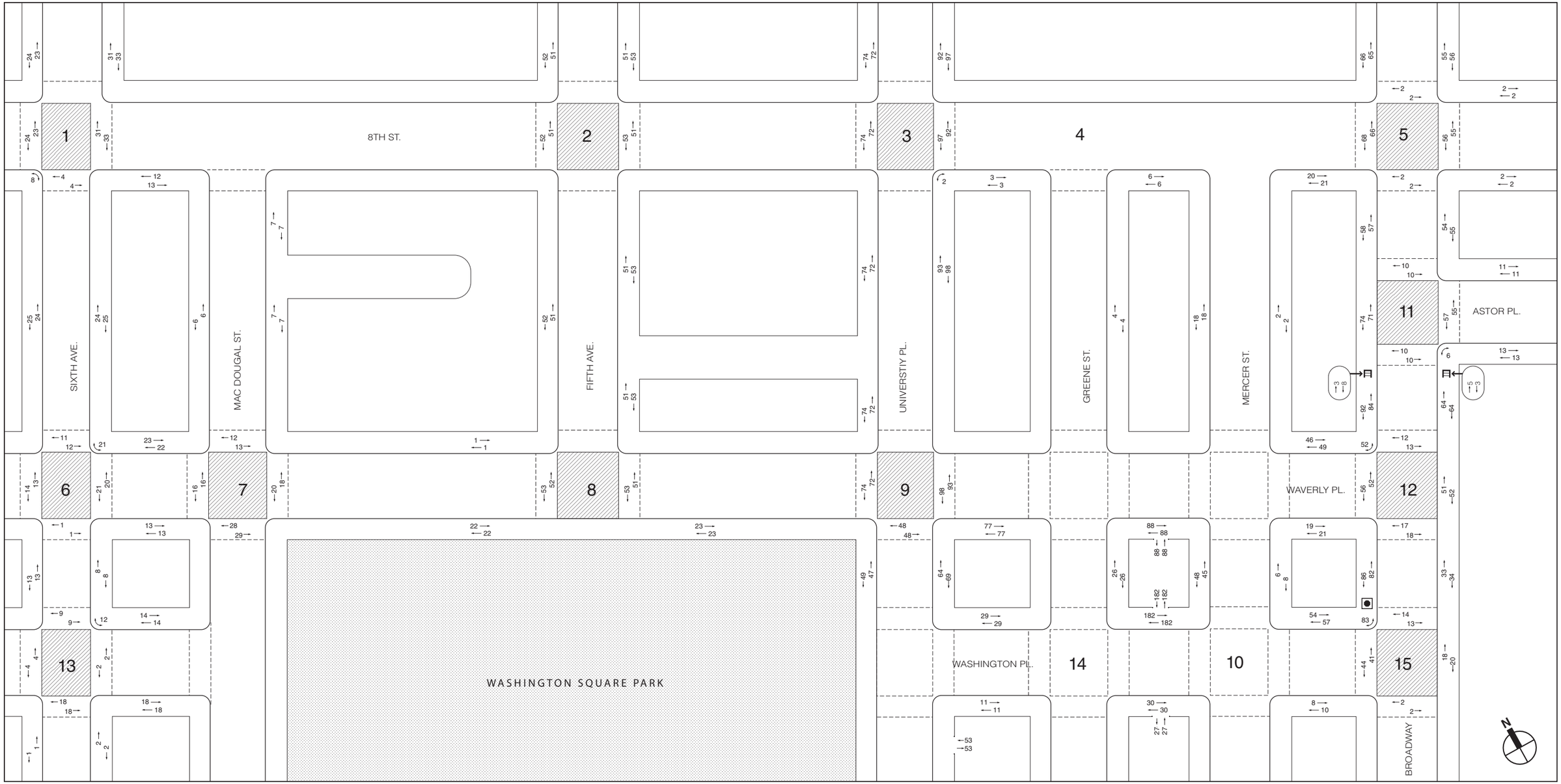


Subway Stairs

Existing NYU Shuttle Stop

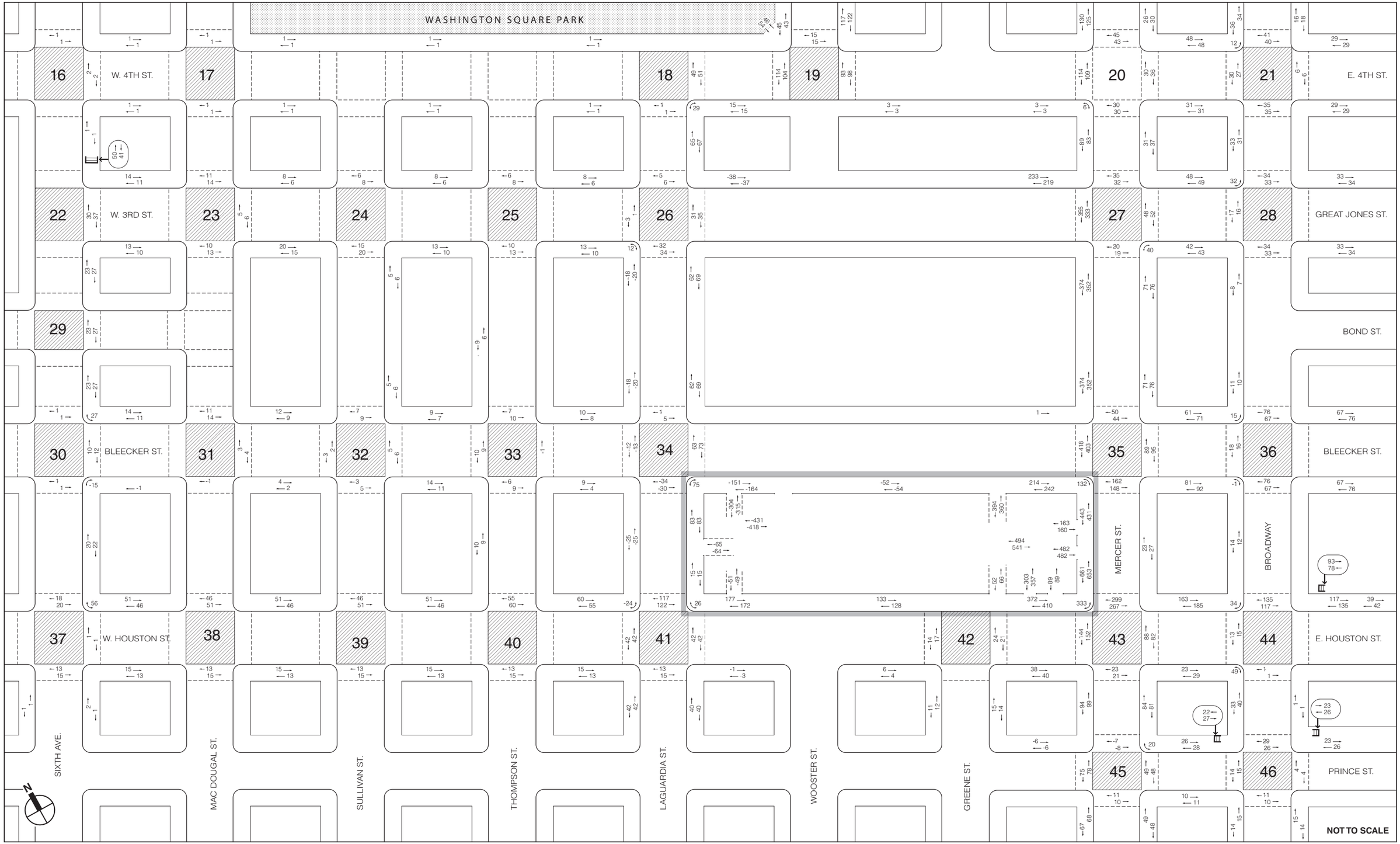
Signalized Intersection

NOT TO SCALE

NYU Core

2021 Proposed Project Net Incremental Pedestrian Volumes
Weekday MD Peak Hour
Figure 14-11A

12.16.11



Project Area Boundary Subway Stairs Signalized Intersection

NYU Core

2021 Proposed Project Net Incremental Pedestrian Volumes
Weekday MD Peak Hour
Figure 14-11B

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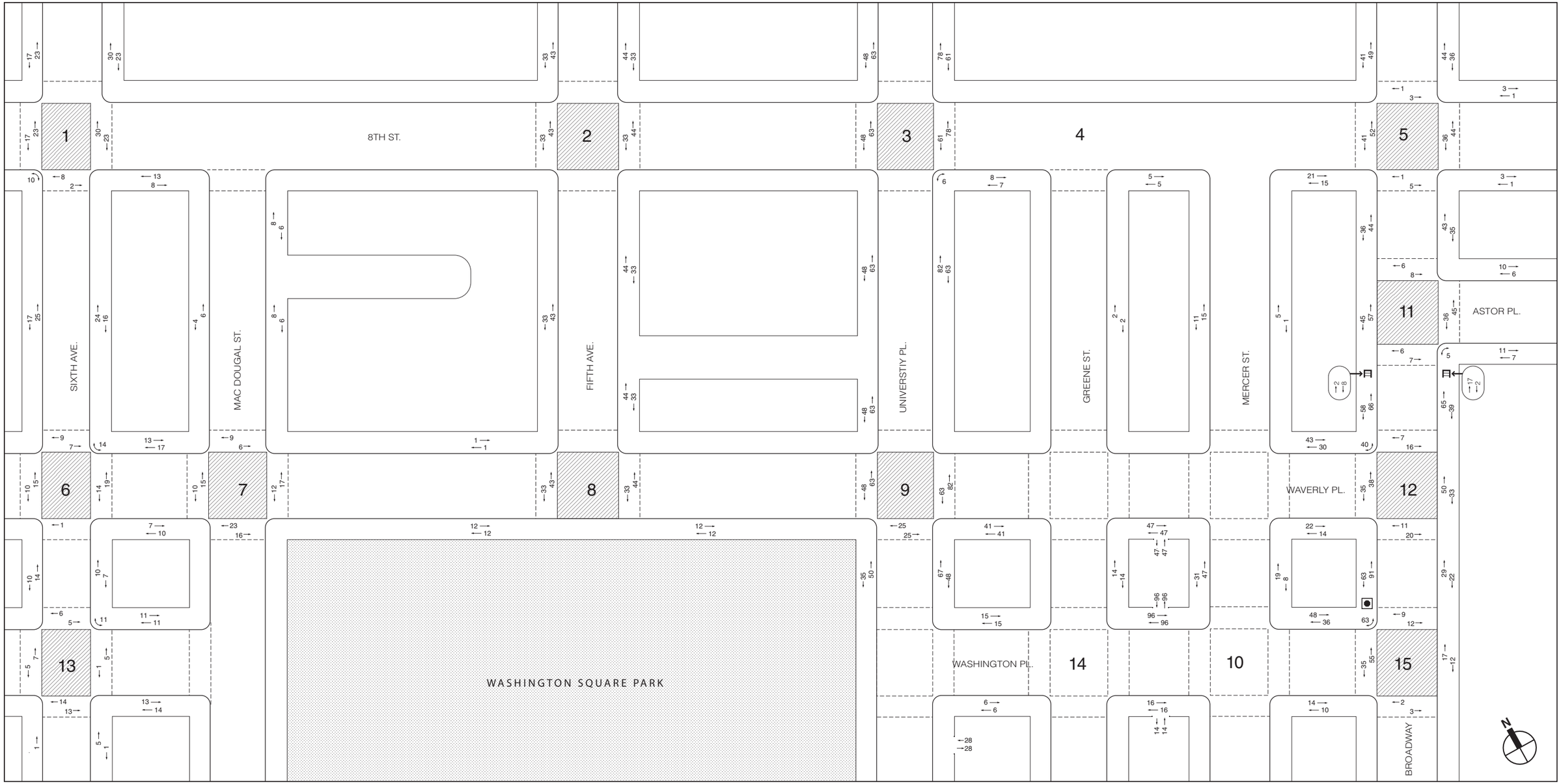


Subway Stairs

Existing NYU Shuttle Stop

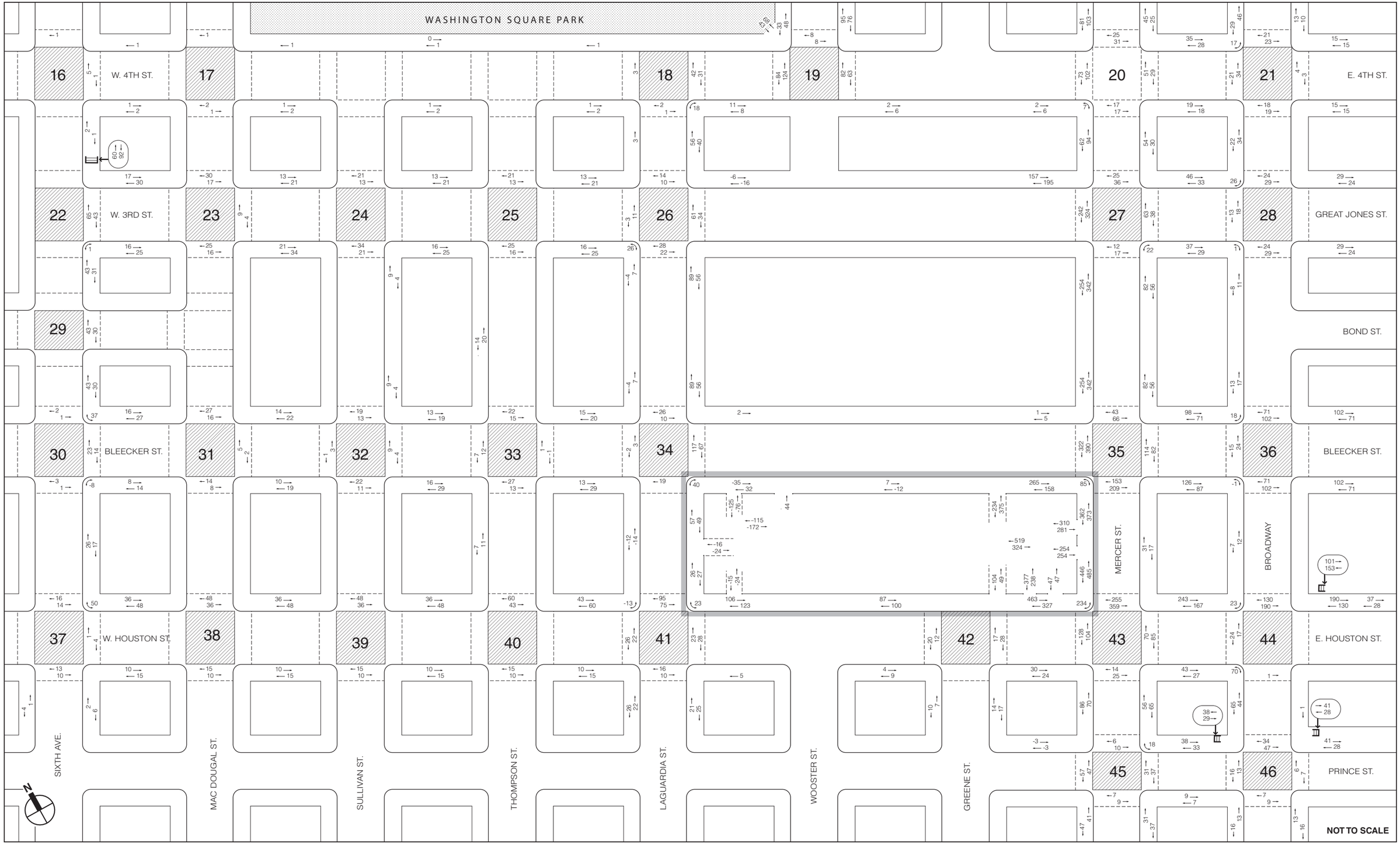
Signalized Intersection

NOT TO SCALE

NYU Core

2021 Proposed Project Net Incremental Pedestrian Volumes
Weekday PM Peak Hour
Figure 14-12A

12.16.11

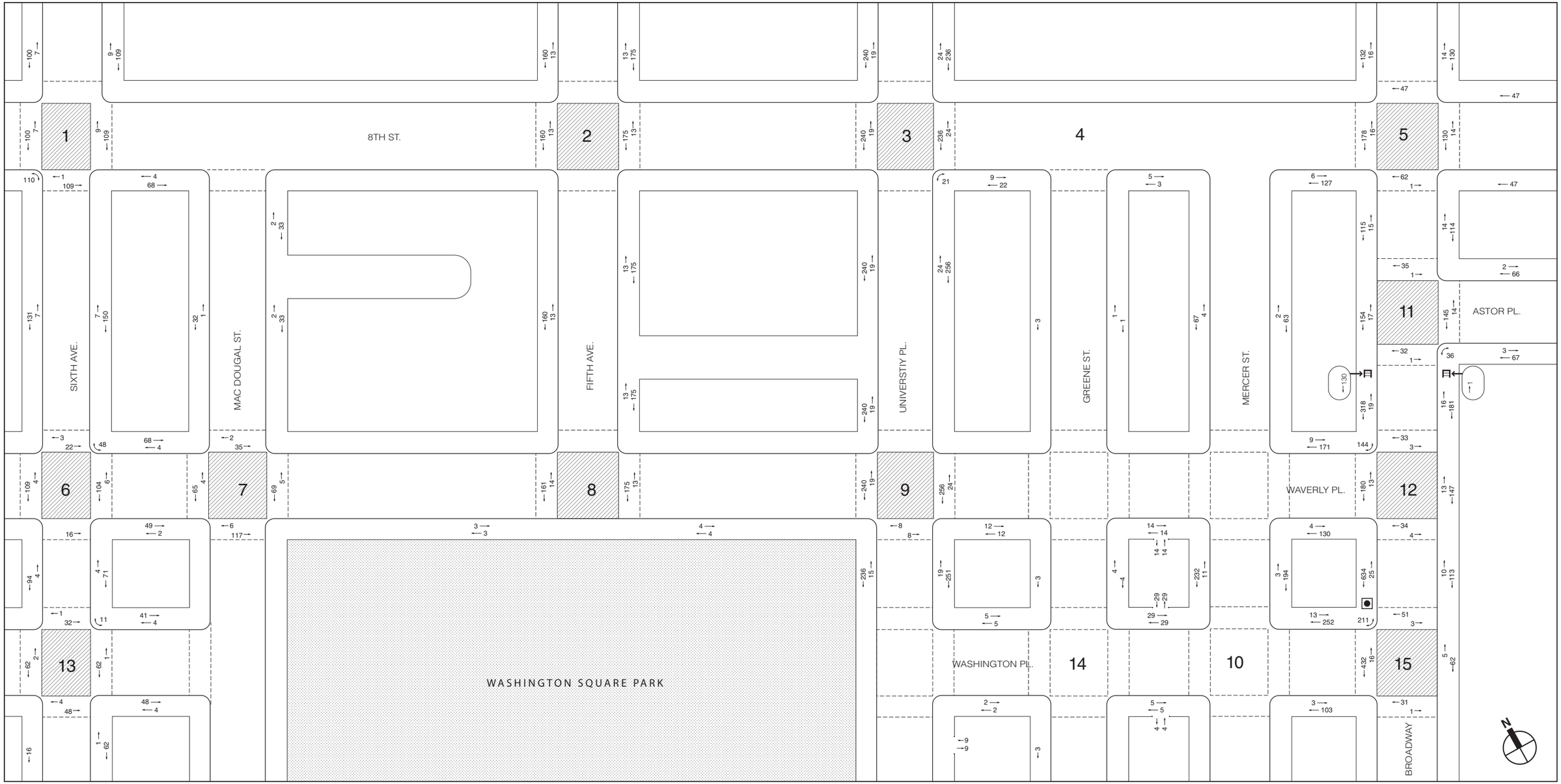


Project Area Boundary Subway Stairs Signalized Intersection

NYU Core

2021 Proposed Project Net Incremental Pedestrian Volumes
Weekday PM Peak Hour
Figure 14-12B

12.14.11



Subway Stairs

Existing NYU Shuttle Stop

Signalized Intersection

NOT TO SCALE

NYU Core

2031 Proposed Project Net Incremental Pedestrian Volumes
Weekday AM Peak Hour
Figure 14-13A

12.16.11

WASHINGTON SQUARE PARK

W. 4TH ST.

E. 4TH ST.

GREAT JONES ST.

W. 3RD ST.

BOND ST.

BLEECKER ST.

W. HOUSTON ST.

E. HOUSTON ST.

PRINCE ST.

SIXTH AVE.

MAC DOUGAL ST.

SULLIVAN ST.

THOMPSON ST.

LAGUARDIA ST.

WOOSTER ST.

GREENE ST.

MERCER ST.

BROADWAY

N

Project Area Boundary

Subway Stairs

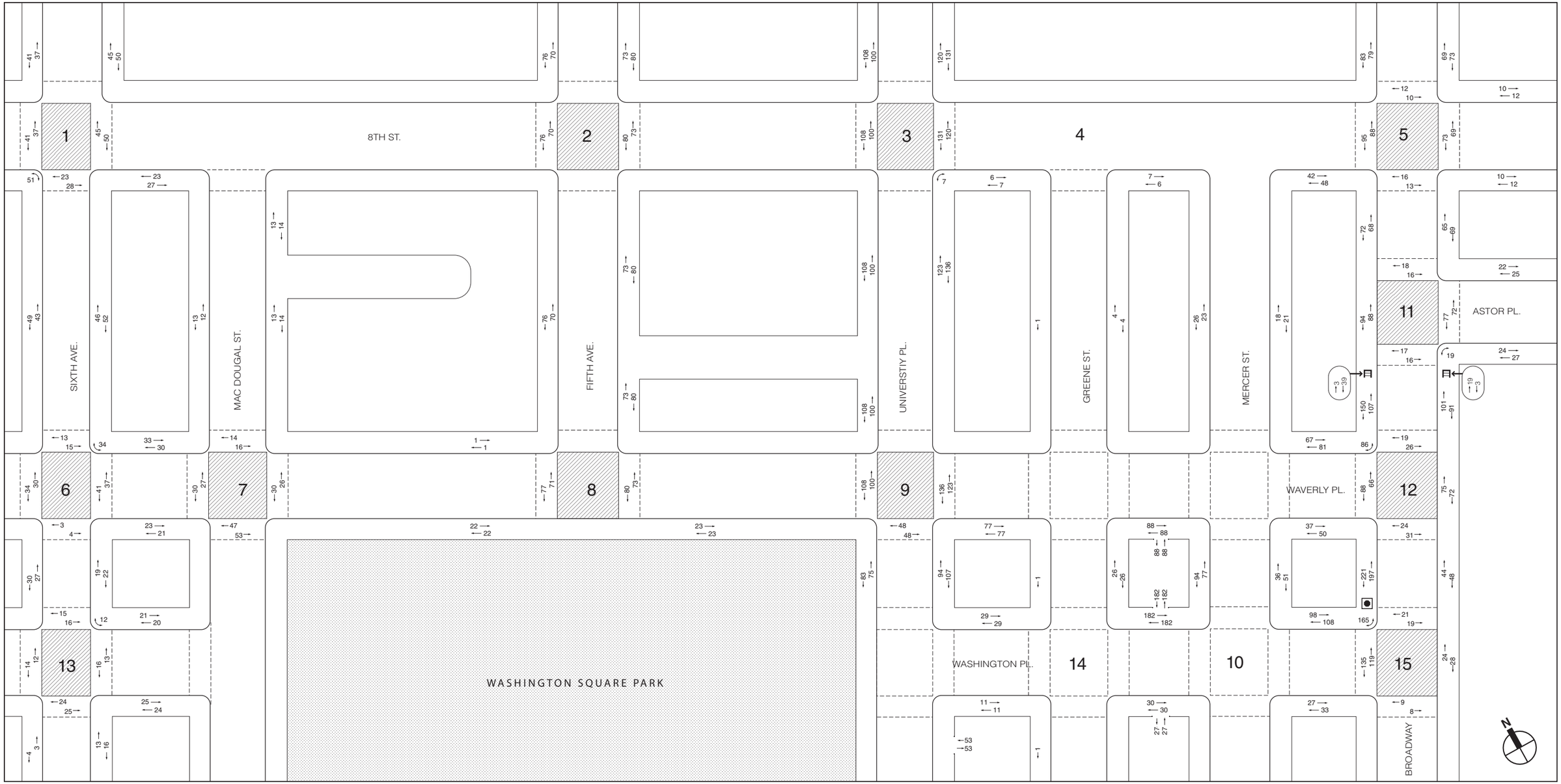
Signalized Intersection

NOT TO SCALE

NYU Core

2031 Proposed Project Net Incremental Pedestrian Volumes
Weekday AM Peak Hour
Figure 14-13B

12.14.11



Subway Stairs

Existing NYU Shuttle Stop

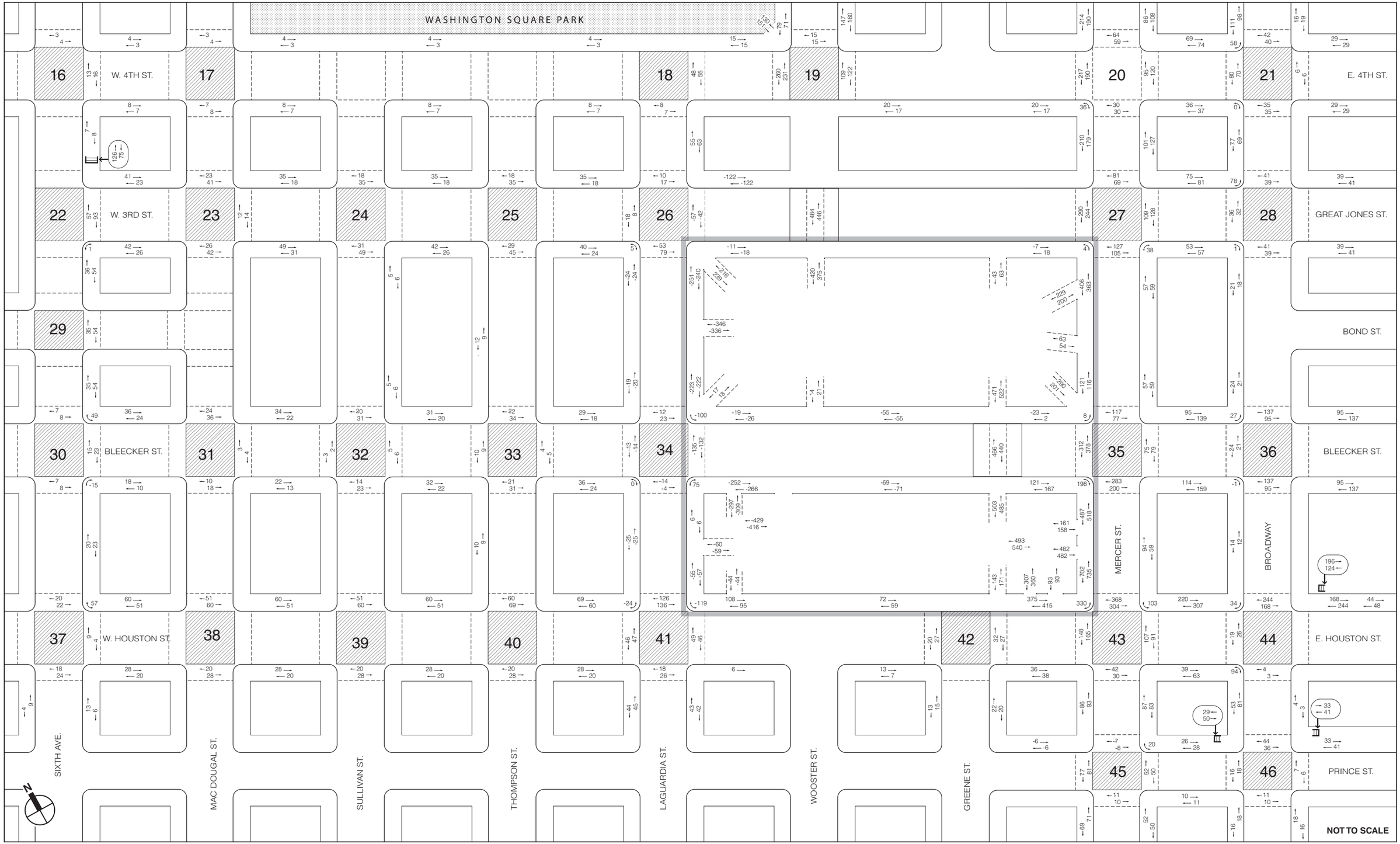
Signalized Intersection

NOT TO SCALE

NYU Core

2031 Proposed Project Net Incremental Pedestrian Volumes
Weekday MD Peak Hour
Figure 14-14A

12.16.11

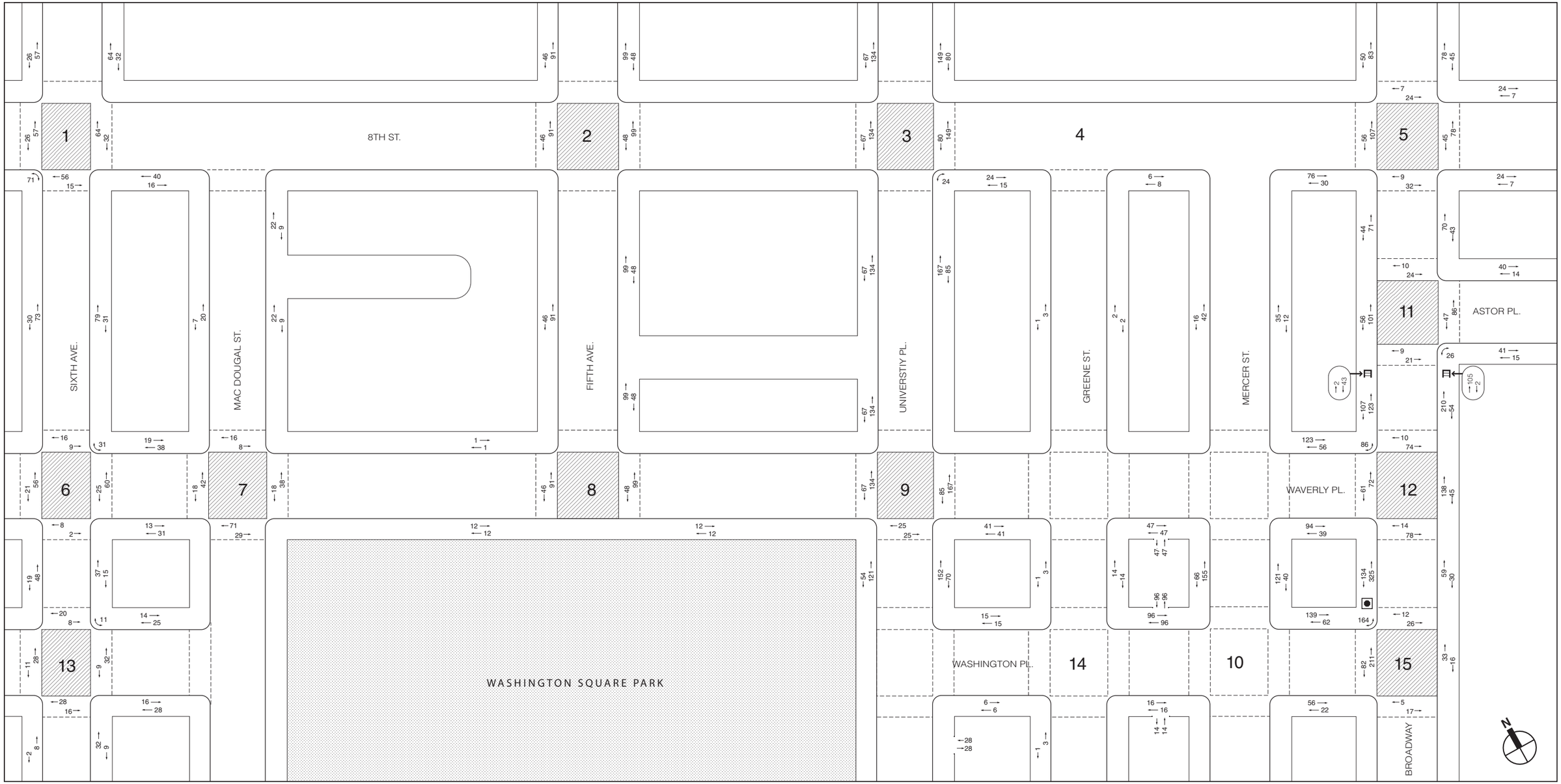


Project Area Boundary Subway Stairs Signalized Intersection

2031 Proposed Project Net Incremental Pedestrian Volumes
Weekday MD Peak Hour
Figure 14-14B

NYU Core

12.14.11



Subway Stairs

Existing NYU Shuttle Stop

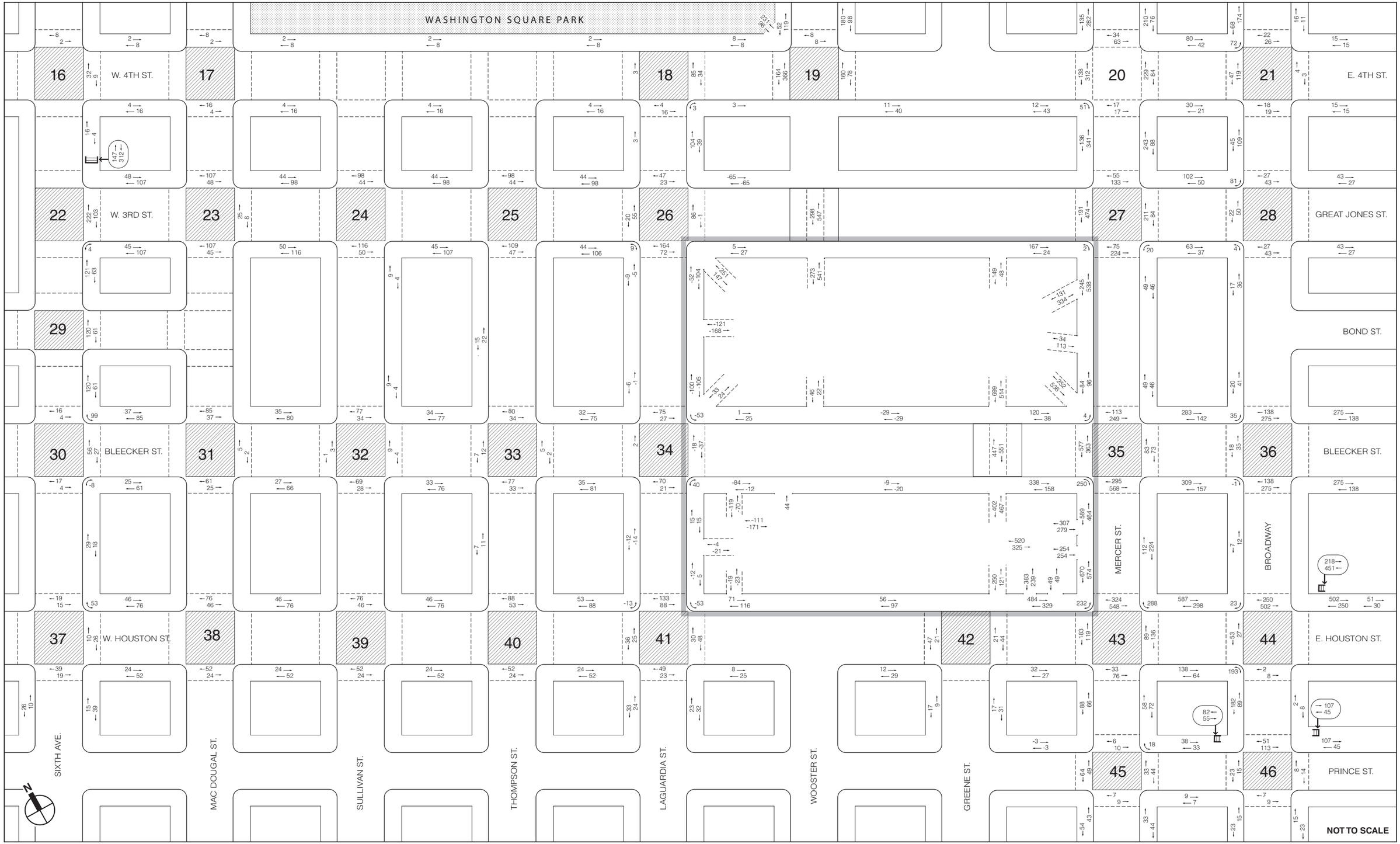
Signalized Intersection

NOT TO SCALE

NYU Core

2031 Proposed Project Net Incremental Pedestrian Volumes
Weekday PM Peak Hour
Figure 14-15A

12.16.11

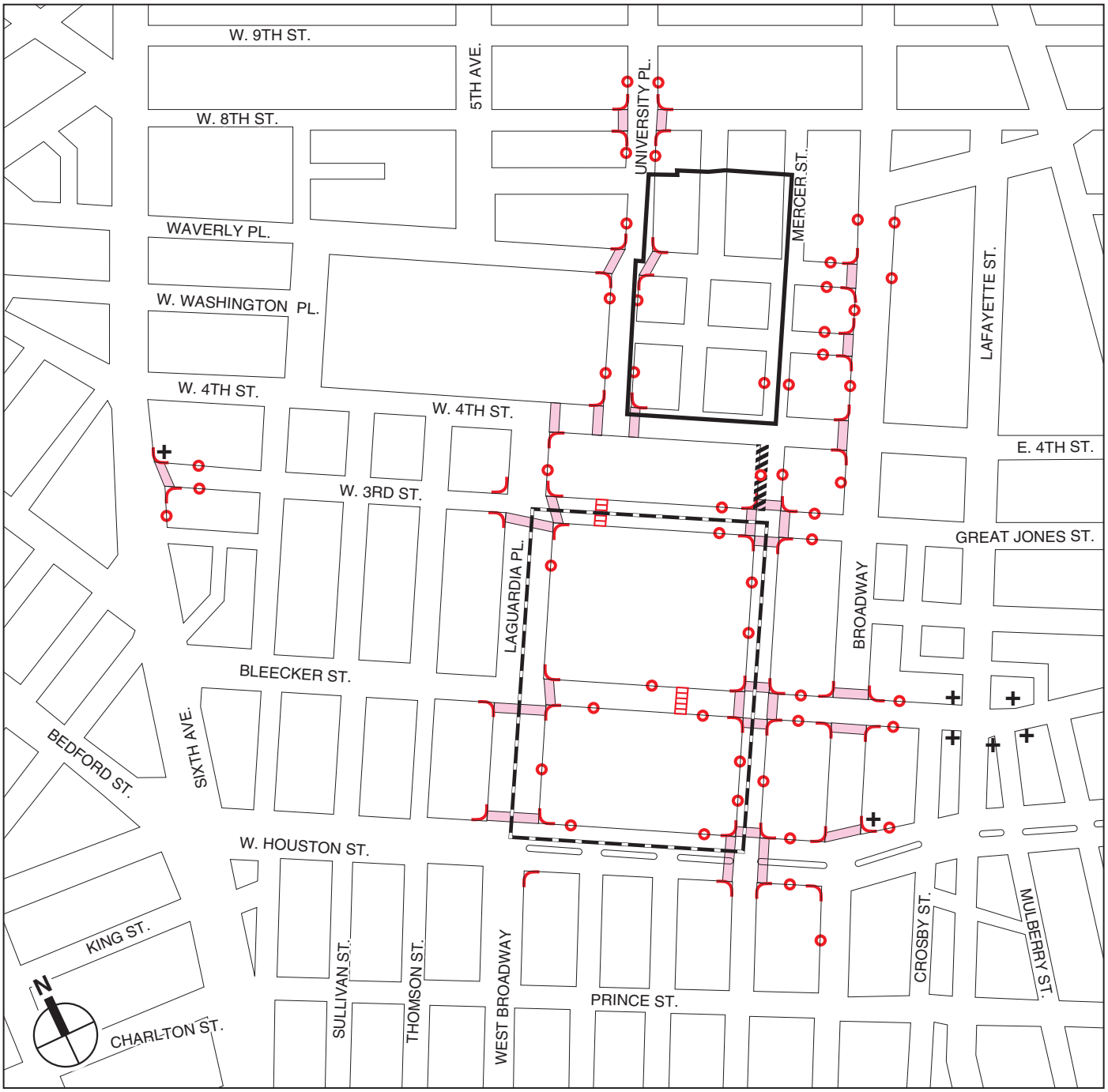


Project Area Boundary Subway Stairs Signalized Intersection

2031 Proposed Project Net Incremental Pedestrian Volumes
Weekday PM Peak Hour
Figure 14-15B

NYU Core

12.14.11



Proposed Development Area Boundary

Commercial Overlay Area Boundary

Mercer Plaza Area

Subway Station Access

Sidewalk

Crosswalk

Proposed Crosswalk

Corner

Transit and Pedestrian Analysis Locations

Figure 14-16

NYU Core

Table 14-9
Sidewalk Locations

Intersection No.	Location	Sidewalk
1	Waverly Place between Broadway and Mercer St.	North
		South
	Broadway at Waverly Place	East
	Broadway between Waverly Place and Washington Place	West
	Broadway between Astor Place and Waverly Place	East
		West
2	Washington Place between Broadway and Mercer St.	North
		South
3	Broadway between West 4th St. and Washington Place	West
	Broadway between West 4th St. and West 3rd St.	West
4	Bleecker St. between Broadway and Lafayette St.	North
		South
5	East Houston St. between Broadway and Lafayette St.	North
	Broadway between West Houston St. and Prince St.	West
6	Mercer St. between West 4th St. and Washington Place	East
		West
	Mercer St. between West 4th St. and West 3rd St.	East
		West
7	West 3rd St. between Mercer St. and Broadway	North
		South
	West 3rd St. between Mercer St. and Greene St.	North
		South
	Mercer St. between West 3rd St. and Bleecker St.	West
8	Bleecker St. between Mercer St. and Broadway	North
		South
	Bleecker St. between Mercer St. and Greene St.	North
		South
	Mercer St. between Bleecker St. and West 3rd St.	West
	Mercer St. between Bleecker St. and West Houston St. (North)	East
		West
9	West Houston St. between Mercer St. and Broadway	North
		South
	West Houston between Greene St. and Mercer St.	North
	Mercer St. between Bleecker St. and West Houston St. (South)	West
10	University Place between East 8th St. and East 9th St.	East
		West
	University Place between East 8th St. and Waverly Place	East
		West
11	University Place between East 8th St. and Waverly Place	West
	University Place between Waverly Place and Washington Place	East
		West
12	Washington Square East between Washington Place and West 4th St.	East
		West
13	LaGuardia Place between West 4th St. and West 3rd St.	East
14	LaGuardia Place between West 3rd St. and Bleecker St.	East
15	Bleecker St. between LaGuardia Place and Greene St.	South
	LaGuardia Place between Bleecker St. and West Houston St.	East
16	West Houston St. between LaGuardia Place and Wooster St.	North
17	West 3rd St. between Sixth Avenue and MacDougal St.	North
		South
	Sixth Avenue between West 3rd St. and Minetta Lane	East

Table 14-10
Corner Reservoir Locations

Intersection No.	Location	Corner
1	Broadway and Waverly Place	Southwest
		Northwest
2	Broadway and Washington Place	Southwest
		Northwest
3	Broadway and West 4th Street	Southwest
		Northwest
4	Broadway and Bleecker Street	Northeast
		Southeast
		Southwest
		Northwest
5	Broadway and West Houston Street	Northeast
		Southwest
		Northwest
7	Mercer Street and West 3rd Street	Northeast
		Southeast
		Southwest
		Northwest
8	Mercer Street and Bleecker Street	Northeast
		Southeast
		Southwest
		Northwest
9	Mercer Street and West Houston Street	Northeast
		Southeast
		Southwest
		Northwest
10	University Place and East 8th Street	Northeast
		Southeast
		Southwest
		Northwest
11	University Place and Waverly Place	Northeast
		Southeast
		Southwest
		Northwest
12	Washington Square East and West 4th Street	Northeast
		Northwest
13	LaGuardia Place and West 4th Street	Southeast
14	LaGuardia Place and West 3rd Street	Northeast
		Southeast
		Southwest
		Northwest
15	LaGuardia Place and Bleecker Street	Northeast
		Southeast
		Southwest
16	LaGuardia Place/West Broadway and West Houston Street	Northeast
		Southeast
		Southwest
		Northwest
17	Sixth Avenue and West 3rd Street	Northeast
		Southeast

Table 14-11
Crosswalk Locations

Intersection No.	Location	Crosswalk
1	Broadway and Waverly Place	West
2	Broadway and Washington Place	West
3	Broadway and West 4th Street	West
4	Broadway and Bleecker Street	North
		South
5	Broadway and West Houston Street	North
7	Mercer Street and West 3rd Street	North
		East
		South
		West
8	Mercer Street and Bleecker Street	North
		East
		South
		West
9	Mercer Street and West Houston Street	North
		East
		West
10	University Place and East 8th Street	East
		West
11	University Place and Waverly Place	North
		East
		South
		West
12	Washington Square East and West 4th Street	East
		West
13	LaGuardia Place and West 4th Street	East
14	LaGuardia Place and West 3rd Street	East
		South
15	LaGuardia Place and Bleecker Street	East
		South
16	LaGuardia Place and Houston Street	North
17	Sixth Avenue and West 3rd Street	East
New Proposed Crosswalk - W.3rd Street between LaGuardia Place and Mercer Street		
New Proposed Crosswalk- Bleecker Street between LaGuardia Place and Mercer Street		

Table 14-12
LOS 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 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 future 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 14-13**.

Table 14-13
LOS 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 future Action condition in any peak hour.

TRANSIT OPERATIONS

SUBWAY STATION ELEMENTS

The methodology for assessing station circulation (stairs, escalators, and passageways) and fare control (regular turnstiles, high entry/exit turnstiles, and high exit turnstiles) elements compares the user volume with the analyzed element's design capacity, resulting in a volume-to-capacity (v/c) ratio.

For stairs, the design capacity considers the effective width of a tread, which accounts for railings or other obstructions, the friction or counter-flow between upward and downward pedestrians (up to 10-percent capacity reduction applied to account for counter-flow friction), surging of exiting pedestrians (up to 25-percent capacity reduction applied to account for detraining surges near platforms), and the average area required for circulation. For passageways, similar considerations are made. For escalators and turnstiles, capacities are measured by the number and width of an element and the NYCT optimum capacity per element, also account for the potential for surging of exiting pedestrians. In the analysis for each of these elements, volumes and capacities are presented for 15-minute intervals.

The estimated v/c ratio is compared with NYCT criteria to determine a level-of-service (LOS) for the operation of an element, as summarized in **Table 14-14**.

Table 14-14
LOS Criteria for Subway Station Elements

LOS	V/C Ratio
A	0.00 to 0.45
B	0.45 to 0.70
C	0.70 to 1.00
D	1.00 to 1.33
E	1.33 to 1.67
F	Above 1.67

Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

At LOS A ("free flow") and B ("fluid flow"), there is sufficient area to allow pedestrians to freely select their walking speed and bypass slower pedestrians. When cross and reverse flow movement exists, only minor conflicts may occur. At LOS C ("fluid, somewhat restricted"), movement is fluid although somewhat restricted. While there is sufficient room for standing

without personal contact, circulation through queuing areas may require adjustments to walking speed. At LOS D ("crowded, walking speed restricted"), walking speed is restricted and reduced. Reverse and cross flow movement is severely restricted because of congestion and the difficult passage of slower moving pedestrians. At LOS E ("congested, some shuffling and queuing") and F ("severely congested, queued"), walking speed is restricted. There is also insufficient area to bypass others, and opposing movement is difficult. Often, forward progress is achievable only through shuffling, with queues forming.

Significant Impact Criteria

The determination of significant impacts for station elements varies based on their type and use. For stairs and passageways, significant impacts are defined in term of width increment threshold (WIT) based on the minimum amount of additional capacity that would be required either to mitigate the location to its service conditions (LOS) under the future No Action levels, or to bring it to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Significant impacts are typically considered to occur once the WITs in **Table 14-15** are reached or exceeded.

Table 14-15
Significant Impact Guidance for Stairs and Passageways

No Action V/C Ratio	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00 to 1.09	8.0	13.0
1.10 to 1.19	7.0	11.5
1.20 to 1.29	6.0	10.0
1.30 to 1.39	5.0	8.5
1.40 to 1.49	4.0	6.0
1.50 to 1.59	3.0	4.5
1.60 and up	2.0	3.0

Notes: WIT = Width Increment Threshold
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

For escalators and control area elements, impacts are significant if the proposed action causes a v/c ratio to increase from below 1.00 to 1.00 or greater. Where a facility is already at or above its capacity (a v/c of 1.00 or greater) in the No Action condition, a 0.01 increase in v/c ratio is also significant.

SUBWAY AND BUS LINE HAUL CAPACITIES

Per the *CEQR Technical Manual*, line-haul capacities are evaluated when a proposed action is anticipated to generate a perceptible number of passengers on particular subway and bus routes. For subways, if, on average, a subway car for a particular route is expected to incur five or more riders from a proposed action, a review of ridership level at its maximum load point and/or other project-specific load points would be required to determine if the route's guideline (or practical) capacity would be exceeded. NYCT operates six different types of subway cars with different seating and guideline capacities. The peak period guideline capacity of a subway car, which ranges from 110 to 175 passengers, is compared with ridership levels to determine the acceptability of conditions.

Bus line-haul capacities are evaluated when a proposed action is anticipated to generate 50 or more bus passengers to a single bus line in one direction. The assessment of bus line-haul conditions involves analyzing bus routes at their peak load points and, if necessary, also their bus stops closest to the project site to identify the potential for the analyzed routes to exceed

their guideline (or practical) capacities. NYCT, the MTA Bus Company, and Long Island Buses operate three types of buses: standard and articulated buses, and over-the-road coaches. During peak hours, standard buses operate with up to 54 passengers per bus, articulated buses operate with up to 85 passengers per bus, and over-the-road coaches operate with up to 55 passengers per bus.

Significant Impact Criteria

For subways, projected increases from the future No Action condition within guideline capacity to a future Action condition that exceeds guideline capacity may be a significant impact. Since there are constraints on what service improvements are available to NYCT, significant line-haul capacity impacts on subway routes are generally disclosed but would usually remain unmitigated. For buses, an increase in bus load levels greater than the maximum capacity at any load point is defined as a significant adverse impact. While subject to operational and fiscal constraints, bus impacts can typically be mitigated by increasing service frequency. Therefore, mitigation of bus line-haul capacity impacts, where appropriate, would be recommended for NYCT's approval.

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalks, crosswalks, and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2000 *Highway Capacity Manual* (HCM), pursuant to procedures detailed in the *CEQR Technical Manual*.

Sidewalks are analyzed in terms of pedestrian flow. The calculation of the average pedestrians per minute per foot (PMF) of effective walkway width is the basis for a sidewalk level-of-service (LOS) analysis. The determination of walkway 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 and street corners are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The HCM methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians.

The total "time-space" available for these activities, expressed in square feet-second, is calculated by multiplying the net area of the corner (in square feet) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of square feet per pedestrian (SFP).

Crosswalk LOS is also a function of time and space. Similar to the street corner analysis, 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 14-16**. The *CEQR Technical Manual* specifies acceptable LOS in Central Business District (CBD) areas is mid-LOS D or better.

Table 14-16
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	≤ 5 PMF	≤ 0.5 PMF	> 60 SFP
B	> 5 and ≤ 7 PMF	> 0.5 and ≤ 3 PMF	> 40 and ≤ 60 SFP
C	> 7 and ≤ 10 PMF	> 3 and ≤ 6 PMF	> 24 and ≤ 40 SFP
D	> 10 and ≤ 15 PMF	> 6 and ≤ 11 PMF	> 15 and ≤ 24 SFP
E	> 15 and ≤ 23 PMF	> 11 and ≤ 18 PMF	> 8 and ≤ 15 SFP
F	> 23 PMF	> 18 PMF	≤ 8 SFP

Notes: PMF = pedestrians per minute per foot; SFP = square feet per pedestrian.
Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

SIGNIFICANT IMPACT CRITERIA

The determination of significant pedestrian impacts considers the level of predicted deterioration in pedestrian flow or decrease in pedestrian space between the No Action and 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 increase in average pedestrian flow rate (Y) in PMF needs to be greater or equal to 3.5 minus X divided by 8.0 (where X is the No Action pedestrian flow rate in PMF [$Y \geq 3.5 - X/8.0$]) for it to be a significant impact. For platoon flow, the sliding-scale formula is $Y \geq 3.0 - X/8.0$. Since deterioration in pedestrian flow within acceptable levels would not constitute a significant impact, these formulas would apply only if the Action pedestrian flow exceeds LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 14-17** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

Corner Reservoirs and Crosswalks

The determination of significant corner and crosswalk impacts is also based on a sliding scale using the following formula: $Y \geq X/9.0 - 0.3$, 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 Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 14-18** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant corner reservoir and crosswalk impacts.

Table 14-17
Significant Impact Guidance for Sidewalks

Non-Platoon Flow				Platoon Flow			
Sliding Scale Formula: *Y ≥ 3.5 – X/8.0*				**Sliding Scale Formula:** *Y ≥ 3.0 – X/8.0*			
Non-CBD Areas		**CBD Areas**		**Non-CBD Areas**		**CBD Areas**	
No Action Ped. Flow (X, PMF)	**Action Ped. Flow Incr. (Y, PMF)**	**No Action Ped. Flow (X, PMF)**	**Action Ped. Flow Incr. (Y, PMF)**	**No Action Ped. Flow (X, PMF)**	**Action Ped. Flow Incr. (Y, PMF)**	**No Action Ped. Flow (X, PMF)**	**Action Ped. Flow Incr. (Y, PMF)**
7.4 to 7.8	≥ 2.6	–	–	3.4 to 3.8	≥ 2.6	–	–
7.9 to 8.6	≥ 2.5	–	–	3.9 to 4.6	≥ 2.5	–	–
8.7 to 9.4	≥ 2.4	–	–	4.7 to 5.4	≥ 2.4	–	–
9.5 to 10.2	≥ 2.3	–	–	5.5 to 6.2	≥ 2.3	–	–
10.3 to 11.0	≥ 2.2	10.3 to 11.0	≥ 2.2	6.3 to 7.0	≥ 2.2	6.3 to 7.0	≥ 2.2
11.1 to 11.8	≥ 2.1	11.1 to 11.8	≥ 2.1	7.1 to 7.8	≥ 2.1	7.1 to 7.8	≥ 2.1
11.9 to 12.6	≥ 2.0	11.9 to 12.6	≥ 2.0	7.9 to 8.6	≥ 2.0	7.9 to 8.6	≥ 2.0
12.7 to 13.4	≥ 1.9	12.7 to 13.4	≥ 1.9	8.7 to 9.4	≥ 1.9	8.7 to 9.4	≥ 1.9
13.5 to 14.2	≥ 1.8	13.5 to 14.2	≥ 1.8	9.5 to 10.2	≥ 1.8	9.5 to 10.2	≥ 1.8
14.3 to 15.0	≥ 1.7	14.3 to 15.0	≥ 1.7	10. to 11.0	≥ 1.7	10. to 11.0	≥ 1.7
15.1 to 15.8	≥ 1.6	15.1 to 15.8	≥ 1.6	11.1 to 11.8	≥ 1.6	11.1 to 11.8	≥ 1.6
15.9 to 16.6	≥ 1.5	15.9 to 16.6	≥ 1.5	11.9 to 12.6	≥ 1.5	11.9 to 12.6	≥ 1.5
16.7 to 17.4	≥ 1.4	16.7 to 17.4	≥ 1.4	12.7 to 13.4	≥ 1.4	12.7 to 13.4	≥ 1.4
17.5 to 18.2	≥ 1.3	17.5 to 18.2	≥ 1.3	13.5 to 14.2	≥ 1.3	13.5 to 14.2	≥ 1.3
18.3 to 19.0	≥ 1.2	18.3 to 19.0	≥ 1.2	14.3 to 15.0	≥ 1.2	14.3 to 15.0	≥ 1.2
19.1 to 19.8	≥ 1.1	19.1 to 19.8	≥ 1.1	15.1 to 15.8	≥ 1.1	15.1 to 15.8	≥ 1.1
19.9 to 20.6	≥ 1.0	19.9 to 20.6	≥ 1.0	15.9 to 16.6	≥ 1.0	15.9 to 16.6	≥ 1.0
20.7 to 21.4	≥ 0.9	20.7 to 21.4	≥ 0.9	16.7 to 17.4	≥ 0.9	16.7 to 17.4	≥ 0.9
21.5 to 22.2	≥ 0.8	21.5 to 22.2	≥ 0.8	17.5 to 18.2	≥ 0.8	17.5 to 18.2	≥ 0.8
22.3 to 23.0	≥ 0.7	22.3 to 23.0	≥ 0.7	18.3 to 19.0	≥ 0.7	18.3 to 19.0	≥ 0.7
> 23.0	≥ 0.6	> 23.0	≥ 0.6	> 19.0	≥ 0.6	> 19.0	≥ 0.6

Notes: PMF = pedestrians per minute per foot; Y = increase in average pedestrian flow rate in PMF; X = No Action pedestrian flow rate in PMF.

Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (May 2010).

Table 14-18
Significant Impact Guidance for Corners and Crosswalks

Sliding Scale Formula: *Y ≥ X/9.0 – 0.3*			
Non-CBD Areas		**CBD Areas**	
No Action Pedestrian Space (X, SFP)	**Action Pedestrian Space Reduction (Y, SFP)**	**No Action Pedestrian Space (X, SFP)**	**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 21.6	≥ 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* (May 2010).

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 three-year period for which data are available. For these locations, accident trends would be identified to determine whether projected vehicular and pedestrian traffic would further impact safety at these locations or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety should be identified and coordinated with NYCDOT.

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 action. Typically, this analysis encompasses a study area within 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 ½-mile (reasonable for certain uses, such as amusement parks, arenas, beaches, and other recreational facilities) to identify additional parking supply.

For proposed projects located in Manhattan or other CBD areas, such as the South Bronx, Flushing, Jamaica, Long Island City/Astoria, Downtown Brooklyn, and Greenpoint/Williamsburg, 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 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 significance of the identified parking shortfall. In some cases, if there is adequate parking supply within ½-mile of the project site, the projected parking shortfall may also not necessarily be considered significant.

G. TRAFFIC

2011 EXISTING CONDITIONS

ROADWAY NETWORK

As detailed above in Section E, "Level 2 Screening Assessment," 17 key intersections near the project site were identified that would most likely be affected by the project-generated traffic.

Major roadways in the study area are discussed as follows:

- 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 Sixth Avenue, the roadway is separated by a pedestrian refuge island and contains three eastbound traffic lanes and four westbound traffic lanes. West of Sixth Avenue, Houston Street runs one-way westbound, with two traffic lanes. There is curbside parking or bus storage along certain segments of the street.
- Broadway is a north-south roadway operating one-way southbound south of West 59th Street, and two-ways northbound-southbound north of West 59th Street. It spans the length of Manhattan, and continues north of Manhattan, through the Bronx and into Westchester County. In the study area, it generally contains four traffic lanes, with the westernmost lane reserved for bus use. There is curbside parking or bus storage along certain segments of the street.

- Sixth Avenue is a one-way northbound roadway extending from Franklin Street to West 59th Street. It generally contains four traffic lanes. There is curbside parking or bus storage along certain segments of the street.
- 4th Street is an east-west roadway operating between Avenue D and West 13th Street, with East 4th Street extending from Avenue D to Broadway, and West 4th Street extending from Broadway to West 13th Street. It runs one-way eastbound east of Christopher Street and one-way westbound west of Christopher Street. It generally contains one wide traffic lane with adjacent parking.
- Bleecker Street is a one-way eastbound roadway operating between Hudson Street and The Bowery. It contains one traffic lane and a bicycle lane on its north side. There is curbside parking along certain segments of the street.
- LaGuardia Place is a two-way northbound-southbound roadway operating between West 4th Street and West Houston Street (where it becomes West Broadway). It contains one traffic lane with adjacent parking in each direction.
- Mercer Street is a one-way southbound roadway extending from East 8th Street to Canal Street. It contains one traffic lane with adjacent parking on one or both sides.

TRAFFIC CONDITIONS

Existing traffic volumes for the study area intersections were primarily established based on field counts (including manual turning movement counts and Automatic Traffic Recorder [ATR] counts) conducted from September 29 to October 5, 2009 and from May 5 to May 15, 2011. For certain time periods during the May 2011 data collection, West 4th Street was closed to traffic on the east side of its intersection with Broadway, restricting turning movement volumes and the effective lane widths at the intersection. In addition, effective lane widths at the intersection of East Houston Street and Lafayette Street were restricted due to ongoing construction activities of the Bleecker Street Subway Station. The existing conditions analyses account for these actual field conditions. The anticipated permanent configurations and operations at these locations are reflected in the analysis of future conditions. Overall, intersection traffic volumes collected in 2009 were increased by approximately 6 percent to 2011 baseline levels based on a comparison of the 2009 and 2011 ATR data. The adjusted 2009 intersection traffic volumes were then incorporated into the study area traffic network with the 2011 collected traffic volumes to develop the existing baseline traffic volume networks for each of the analysis peak hours. To supplement the field data, inventories of roadway geometry, traffic controls, bus stops, and parking regulations/activities were also recorded to provide appropriate inputs for the operational analyses. In addition, official signal timings obtained from NYCDOT were used in the analysis for all the signalized intersections. **Figures 14-17** to **14-19** show the 2011 existing traffic volumes for the weekday AM, midday, and PM peak hours, respectively.

LEVELS OF SERVICE

Tables 14-19 and **14-20** present the service conditions for the study area's signalized and unsignalized intersections. The capacity analysis indicates that most of the study area's intersection approaches/lane groups operate acceptably—at mid-LOS D (delays of 45 seconds per vehicle [spv] or less for signalized intersections and 30 spv or less for unsignalized intersections) or better for the peak hours. Approaches/lane groups operating at worse than mid-LOS D and those with v/c ratios of 0.90 or greater are listed below.

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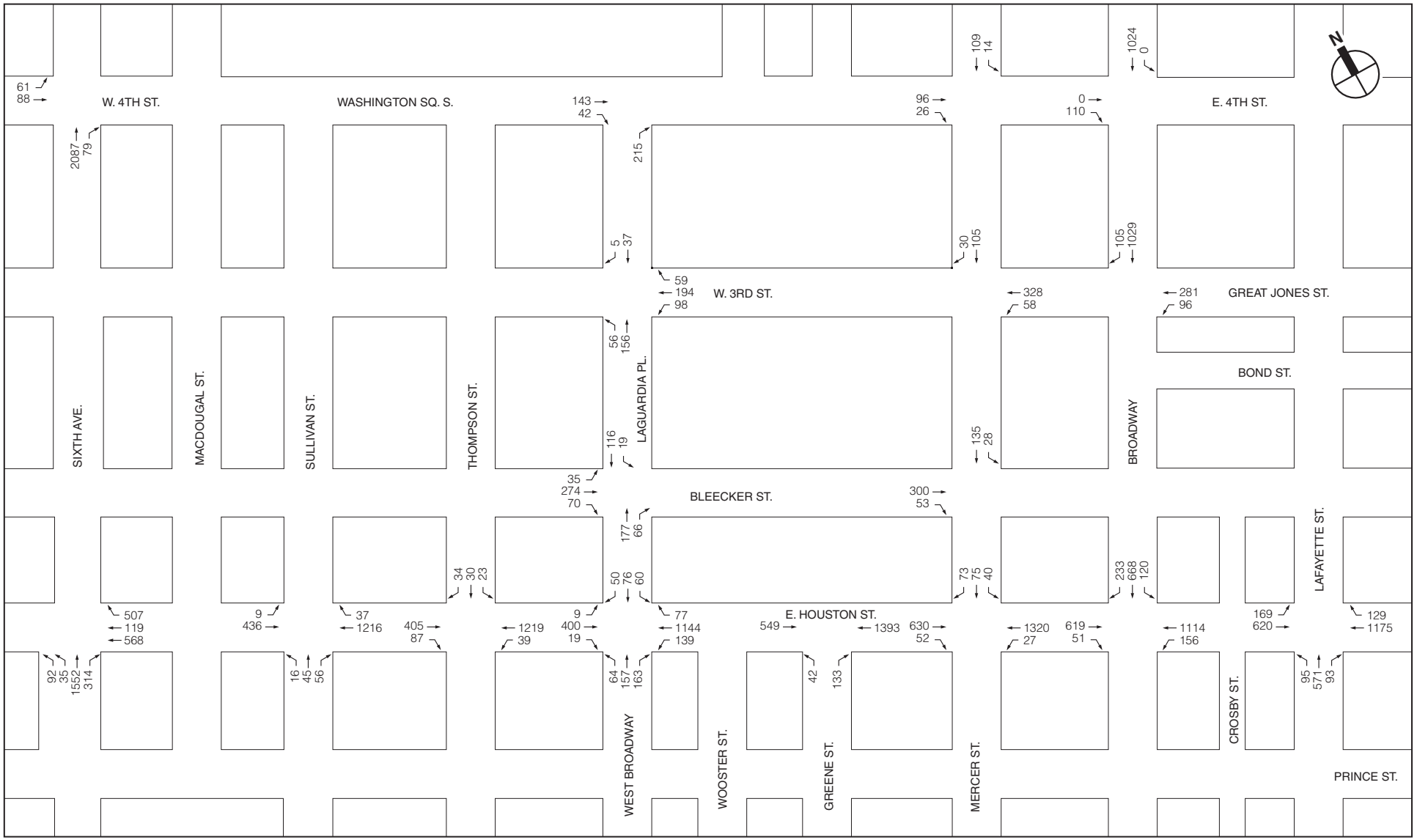

NOT TO SCALE

2011 Existing Traffic Volumes
Weekday AM Peak Hour
Figure 14-17

NYU Core

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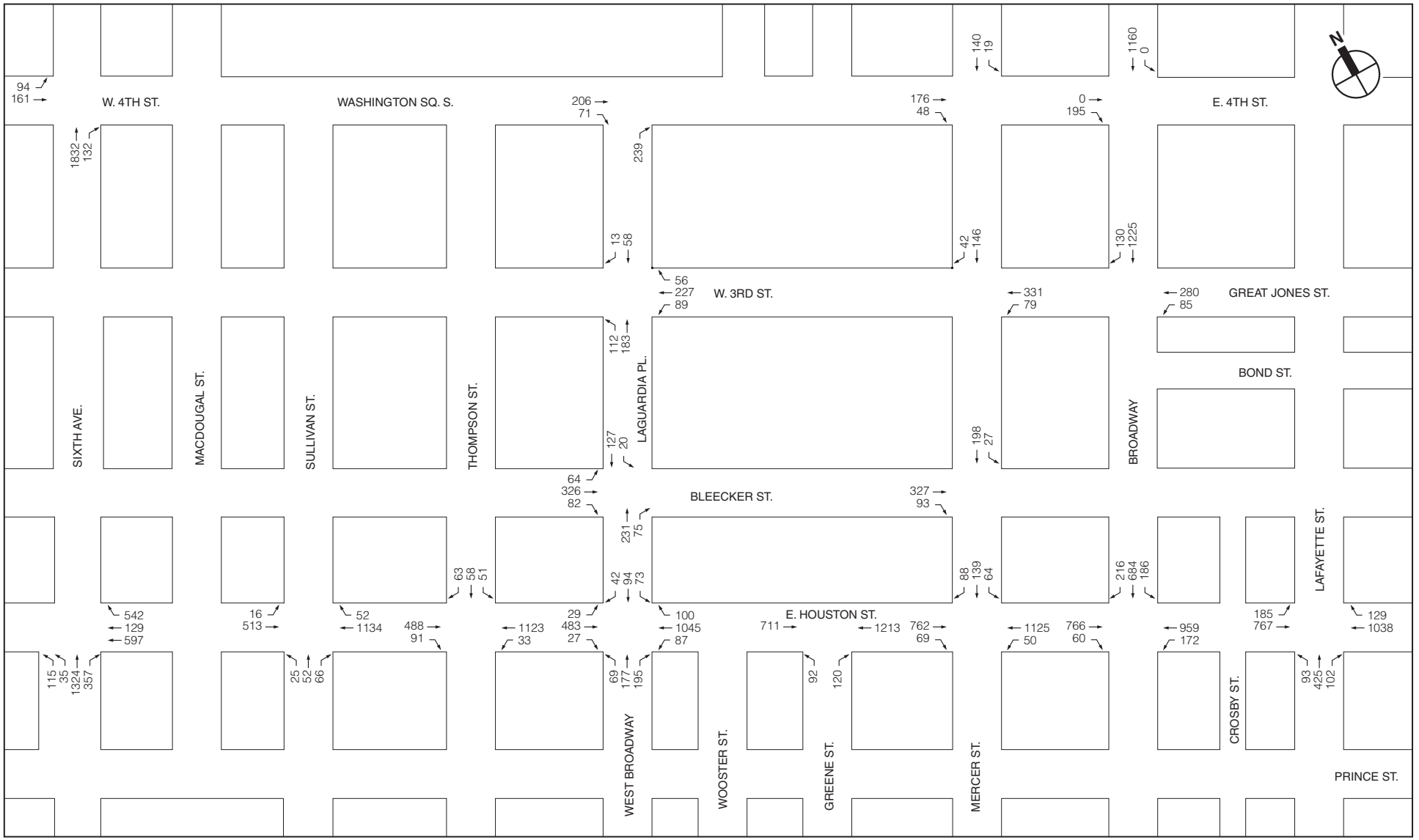

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2011 Existing Traffic Volumes
Weekday Midday Peak Hour
Figure 14-18

NYU Core

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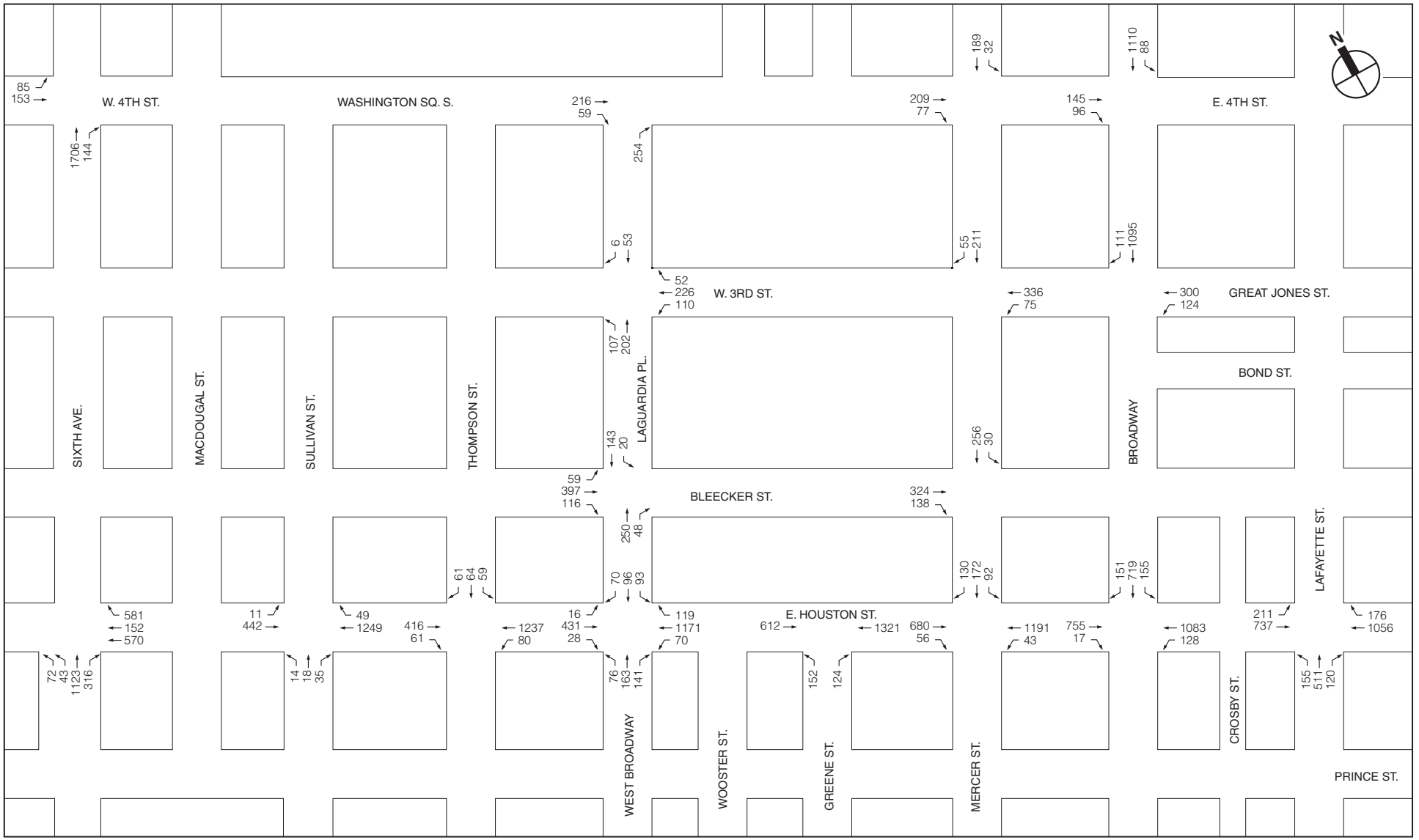

NOT TO SCALE

2011 Existing Traffic Volumes
Weekday PM Peak Hour
Figure 14-19

NYU Core

Table 14-19
2011 Existing Conditions Level of Service Analysis
Signalized Intersections

	AM				Midday				PM			
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
West 4th Street and Sixth Avenue												
Eastbound	LT	0.34	23.5	C	LT	0.58	28.8	C	LT	0.48	26.2	C
Northbound	TR	0.86	16.2	B	TR	0.77	13.4	B	TR	0.75	12.9	B
	Intersection		16.8	B	Intersection		15.3	B	Intersection		14.4	B
West Houston Street and Sixth Avenue												
Westbound	T	0.63	24.1	C	T	0.64	24.4	C	T	0.61	23.6	C
	R	0.70	27.3	C	R	0.90	42.8	D	R	0.94	48.4	D
Northbound	LTR	1.00	43.3	D	LTR	0.89	27.8	C	LTR	0.80	23.8	C
	Intersection		36.2	D	Intersection		29.7	C	Intersection		28.8	C
West Houston Street and Sullivan Street												
Eastbound	LT	0.41	15.1	B	LT	0.45	15.6	B	LT	0.37	14.6	B
Westbound	TR	0.65	18.3	B	TR	0.65	18.4	B	TR	0.65	18.3	B
Northbound	LTR	0.36	22.0	C	LTR	0.40	23.1	C	LTR	0.22	19.7	B
	Intersection		17.7	B	Intersection		18.0	B	Intersection		17.4	B
West Houston Street and Thompson Street												
Eastbound	TR	0.39	14.8	B	TR	0.45	15.6	B	TR	0.38	14.7	B
Westbound	LT	0.72	20.0-	B	LT	0.65	18.4	B	LT	0.78	22.0	C
Southbound	LTR	0.28	20.6	C	LTR	0.57	28.2	C	LTR	0.52	26.2	C
	Intersection		18.6	B	Intersection		18.5	B	Intersection		20.5	C

- Westbound right-turn at the West Houston Street and Sixth Avenue intersection (LOS D with a v/c ratio of 0.90 and a delay of 42.8 spv during the midday peak hour and LOS D with a v/c ratio of 0.94 and a delay of 48.4 spv during the PM peak hour);
- Northbound approach at the West Houston Street and Sixth Avenue intersection (LOS D with a v/c ratio of 1.00 and a delay of 43.3 spv during the AM peak hour);
- Eastbound approach at the Bleecker Street and LaGuardia Place intersection (LOS D with a v/c ratio of 0.94 and a delay of 50.2 spv during the midday peak hour);
- Westbound left-turn at the West Houston Street and LaGuardia Place/West Broadway intersection (LOS E with a v/c ratio of 0.85 and a delay of 74.7 spv during the AM peak hour and LOS D with a v/c ratio of 0.51 and a delay of 45.9 spv during the midday peak hour);
- Northbound right-turn at the West Houston Street and LaGuardia Place/West Broadway intersection (LOS D with a v/c ratio of 0.79 and a delay of 45.4 spv during the midday peak hour);
- Southbound left-turn/through at the West Houston Street and LaGuardia Place/West Broadway intersection (LOS D with a v/c ratio of 0.79 and a delay of 49.0 spv during the PM peak hour);
- Eastbound approach at the Bleecker Street and Mercer Street intersection (LOS E with a v/c ratio of 0.97 and a delay of 58.7 spv during the midday peak hour and LOS E with a v/c ratio of 1.05 and a delay of 78.8 spv during the PM peak hour);

Table 14-19 (cont'd)
2011 Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	AM				Midday				PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West 4th Street and LaGuardia Place												
Eastbound	TR	0.42	23.0	C	TR	0.68	30.6	C	TR	0.53	25.4	C
Northbound	R	0.48	21.8	C	R	0.64	27.1	C	R	0.63	26.3	C
	Intersection		22.4	C	Intersection		29.0	C	Intersection		25.8	C
West 3rd Street and LaGuardia Place												
Westbound	LTR	0.36	17.4	B	LTR	0.34	17.2	B	LTR	0.37	17.5	B
Northbound	LT	0.56	23.2	C	LT	0.83	38.2	D	LT	0.69	28.0	C
Southbound	TR	0.07	14.5	B	TR	0.13	15.1	B	TR	0.08	14.6	B
	Intersection		19.4	B	Intersection		26.1	C	Intersection		21.6	C
Bleecker Street and LaGuardia Place												
Eastbound	LTR	0.81	33.3	C	LTR	0.94	50.2	D	LTR	0.89	39.4	D
Northbound	TR	0.52	22.1	C	TR	0.65	25.8	C	TR	0.63	24.9	C
Southbound	LT	0.29	17.2	B	LT	0.33	17.8	B	LT	0.28	16.9	B
	Intersection		26.9	C	Intersection		36.3	D	Intersection		31.5	C
West Houston Street and LaGuardia Place/West Broadway												
Eastbound	LTR	0.57	25.2	C	LTR	0.71	29.6	C	LTR	0.54	24.7	C
Westbound	L	0.85	74.7	E	L	0.51	45.9	D	L	0.37	41.0	D
	TR	0.62	14.9	B	TR	0.57	14.0	B	TR	0.60	14.5	B
Northbound	LT	0.67	34.6	C	LT	0.76	39.5	D	LT	0.80	43.8	D
	R	0.59	32.6	C	R	0.79	45.4	D	R	0.62	35.1	D
Southbound	LT	0.51	29.7	C	LT	0.66	37.6	D	LT	0.79	49.0	D
	R	0.18	22.6	C	R	0.18	22.8	C	R	0.27	24.3	C
	Intersection		24.5	C	Intersection		26.0	C	Intersection		24.8	C
West Houston Street and Greene Street												
Eastbound	T	0.29	13.5	B	T	0.37	14.3	B	T	0.35	14.1	B
Westbound	T	0.69	19.1	B	T	0.63	17.8	B	T	0.66	18.5	B
Northbound	LR	0.42	22.8	C	LR	0.48	24.0	C	LR	0.70	31.4	C
	Intersection		17.9	B	Intersection		17.3	B	Intersection		18.8	B
West 3rd Street and Mercer Street												
Westbound	LT	0.60	23.0	C	LT	0.68	25.3	C	LT	0.71	26.4	C
Southbound	TR	0.28	17.1	B	TR	0.38	18.6	B	TR	0.53	21.5	C
	Intersection		21.2	C	Intersection		23.1	C	Intersection		24.4	C
Bleecker Street and Mercer Street												
Eastbound	TR	0.75	30.4	C	TR	0.97	58.7	E	TR	1.05	78.8	E
Southbound	LT	0.29	17.2	B	LT	0.39	18.6	B	LT	0.53	21.1	C
	Intersection		26.2	C	Intersection		44.9	D	Intersection		55.8	E
West Houston Street and Mercer Street												
Eastbound	TR	0.39	14.5	B	TR	0.46	15.5	B	TR	0.41	14.8	B
Westbound	L	0.16	14.0	B	L	0.34	19.0	B	L	0.29	17.2	B
	T	0.73	20.0+	C	T	0.61	17.6	B	T	0.71	19.5	B
Southbound	LTR	0.39	21.7	C	LTR	0.60	26.2	C	LTR	0.71	29.9	C
	Intersection		18.4	B	Intersection		18.1	B	Intersection		19.7	B
West 4th Street and Broadway												
Eastbound	R [1]	0.35	25.7	C	R [1]	0.69	38.4	D	TR	0.55	29.4	C
Southbound	T [1]	0.83	21.7	C	T [1]	0.90	26.9	C	LT	0.91	27.6	C
	Intersection		22.1	C	Intersection		28.5	C	Intersection		27.9	C
West 3rd Street and Broadway												
Westbound	L	0.33	25.9	C	L	0.38	27.5	C	L	0.48	29.9	C
	T	0.65	32.9	C	T	0.66	33.1	C	T	0.77	39.0	D
Southbound	T	0.72	17.4	B	T	0.90	26.4	C	T	0.80	20.0-	B
	R	0.32	12.7	B	R	0.52	19.0	B	R	0.46	17.2	B
	Intersection		20.8	C	Intersection		27.1	C	Intersection		24.2	C

Table 14-19 (cont'd)
2011 Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	AM				Midday				PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West Houston Street and Broadway												
Eastbound	TR	0.69	31.6	C	TR	0.80	35.2	D	TR	0.76	33.4	C
Westbound	L	0.71	34.6	C	L	0.84	48.8	D	L	0.61	29.7	C
	T	0.61	20.6	C	T	0.53	19.3	B	T	0.58	20.0+	C
Southbound	LT	0.83	29.7	C	LT	0.88	33.3	C	LT	0.87	32.0	C
	R	0.62	25.6	C	R	0.67	29.7	C	R	0.49	23.0	C
	Intersection		26.9	C	Intersection		30.2	C	Intersection		27.8	C
East Houston Street and Lafayette Street (1)												
Eastbound	L	0.93	68.2	E	L	0.98	77.0	E	L	1.05	97.2	F
	T	0.87	30.3	C	T	1.02	57.9	E	T	0.92	36.7	D
Westbound	TR	0.91	36.1	D	TR	0.80	29.4	C	TR	0.84	31.5	C
Northbound	LTR	0.87	36.8	D	LTR	0.76	30.9	C	LTR	0.92	42.6	D
	Intersection		37.0	D	Intersection		41.2	D	Intersection		40.5	D

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service
(1) Effective lane widths and/or turning movements affected due to ongoing construction activities.

Table 14-20
2011 Existing Conditions Level of Service Analysis
Unsignalized Intersections

Intersection	AM				Midday				PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West 4th Street and Mercer Street												
Eastbound	TR	0.16	8.1	A	TR	0.34	9.7	A	TR	0.44	11.0	B
Southbound	LT	0.17	8.3	A	LT	0.23	9.1	A	LT	0.35	10.4	B
	Intersection		8.2	A	Intersection		9.4	A	Intersection		10.7	B

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

- Southbound through at the West 3rd Street and Broadway intersection (LOS C with a v/c ratio of 0.90 and a delay of 26.4 spv);
- Westbound left-turn at the West Houston and Broadway intersection (LOS D with a v/c ratio of 0.84 and a delay of 48.8 spv during the midday peak hour);
- Eastbound exclusive left-turn at the East Houston and Lafayette Street intersection (LOS E with a v/c ratio of 0.93 and a delay of 68.2 spv during the AM peak hour, LOS E with a v/c ratio of 0.98 and a delay of 77.0 spv during the midday peak hours, and LOS F with a v/c ratio of 1.05 and a delay of 97.2 during the PM peak hour);
- Eastbound through at the East Houston and Lafayette Street intersection (LOS E with a v/c ratio of 1.02 and a delay of 57.9 spv during the midday peak hour and LOS D with a v/c ratio of 0.92 and a delay of 36.7 spv during the PM peak hour);
- Westbound approach at the East Houston and Lafayette Street intersection (LOS D with a v/c ratio of 0.91 and a delay of 36.1 spv during the AM peak hour); and
- Northbound approach at the East Houston and Lafayette Street intersection (LOS D with a v/c ratio of 0.92 and a delay of 42.6 spv during the PM peak hour).

2021 NO BUILD CONDITION

The 2021 No Build condition was developed by increasing existing (2011) traffic levels by the 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 first five years (year 2011 to year 2016) and then 0.125 percent for the remaining years (year 2016 to year 2021). In addition to the background growth, travel demand estimates for projects anticipated to be complete by 2021 were added to establish the future baseline traffic volumes. These estimates also account for anticipated developments from the area-wide rezoning currently planned for Hudson Square. Although the full build-out of this rezoning is not anticipated until 2022, its entire travel demand was conservatively assumed for the 2021 baseline. **Table 14-21** and **Figure 14-20** summarize the projects that were accounted for in this future 2021 baseline, including those that were considered as part of the study area background growth.

TRAFFIC OPERATIONS

The 2021 No Build traffic volumes are shown in **Figures 14-21** to **14-23** for the AM, midday, and PM peak hours. **Tables 14-22** and **14-23** present a comparison of the existing and 2021 No Build traffic conditions for the study area intersections. Under existing conditions, the circulation of traffic in the study area was affected by temporary traffic lane closures associated with Consolidated Edison work at Broadway and West 4th Street and by NYCT work at East Houston Street and Lafayette Street. These construction projects will be completed by 2021, and therefore, in the No Build condition, traffic circulation patterns and intersection geometries at these locations will have reverted back to normal.

Based on the analysis results, the majority of the approaches/lane-groups will operate at the same LOS as in existing conditions with the following notable exceptions:

- Northbound approach at the West Houston Street/Sixth Avenue intersection will deteriorate to LOS F with a v/c ratio of 1.11 and a delay of 80.4 spv during the AM peak hour;
- Westbound right-turn at the West Houston Street/Sixth Avenue intersection will deteriorate within LOS D with a v/c ratio of 0.92 and a delay of 45.8 spv during the midday peak hour;
- Eastbound approach at the Bleecker Street/LaGuardia Place intersection will deteriorate to LOS E with a v/c ratio of 0.97 and a delay of 56.3 spvduring the midday peak hour;
- Northbound left-through at the West Houston Street/LaGuardia Place/West Broadway intersection will deteriorate within LOS D with a v/c ratio of 0.83 and a delay of 46.4 spv during the PM peak hour;
- Eastbound approach at the Bleecker Street/Mercer Street intersection will deteriorate to LOS F with a v/c ratio of 1.08 and a delay of 89.5 spv during the PM peak hour; and
- Eastbound exclusive left-turn at the East Houston Street/Lafayette Street intersection will deteriorate to LOS F during the AM (v/c ratio of 1.00 and 87.0 spv of delay) and midday (v/c ratio of 1.05 and 85.1 spv of delay) peak hours, respectively.

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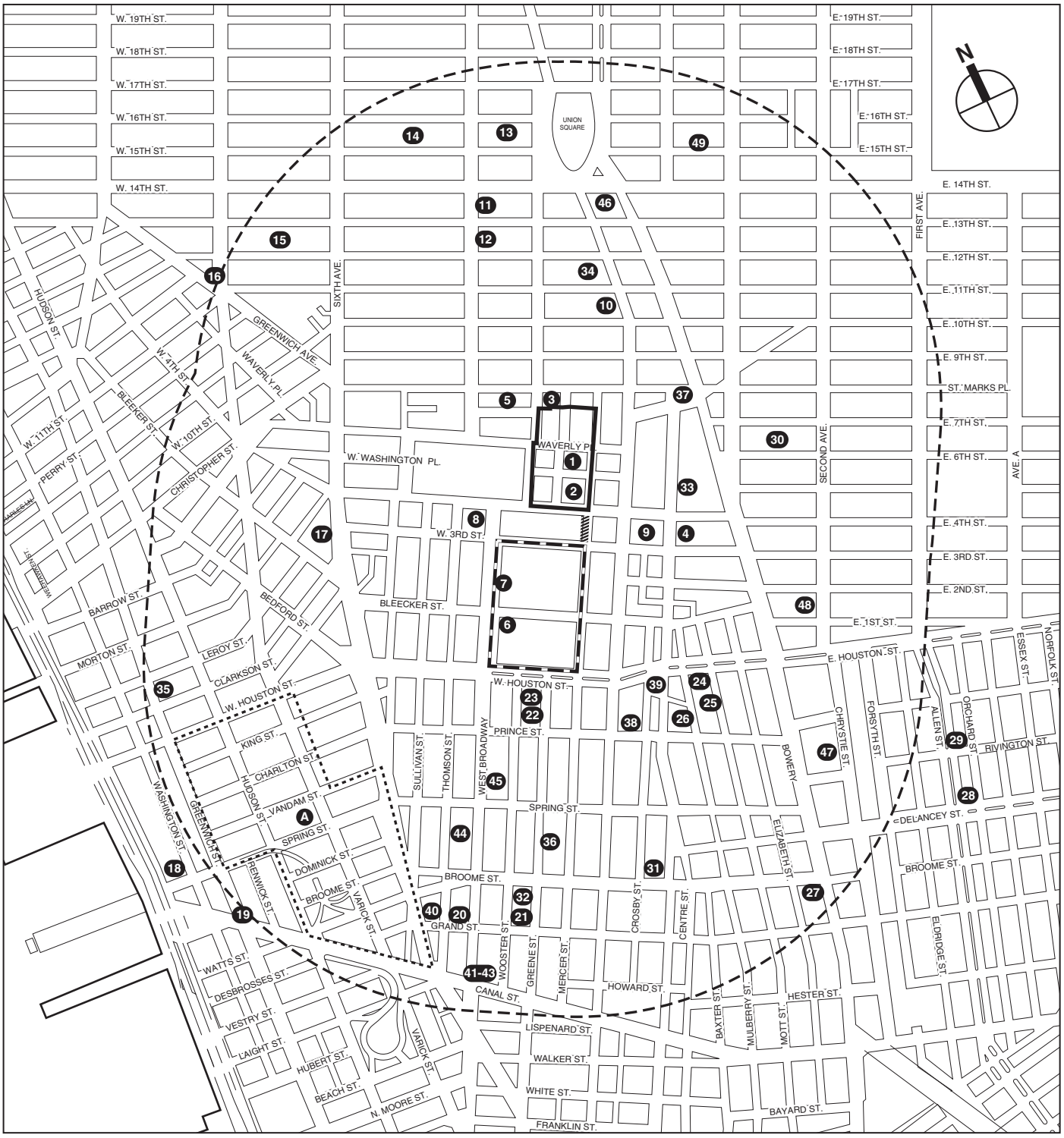

Proposed Development Area Boundary

Commercial Overlay Area Boundary

Mercer Plaza Area

Study Area Boundary (1/2-Mile Perimeter)

❶ No Build Project

No Build Projects within 1/2-Mile Study Area

Figure 14-20

NYU Core

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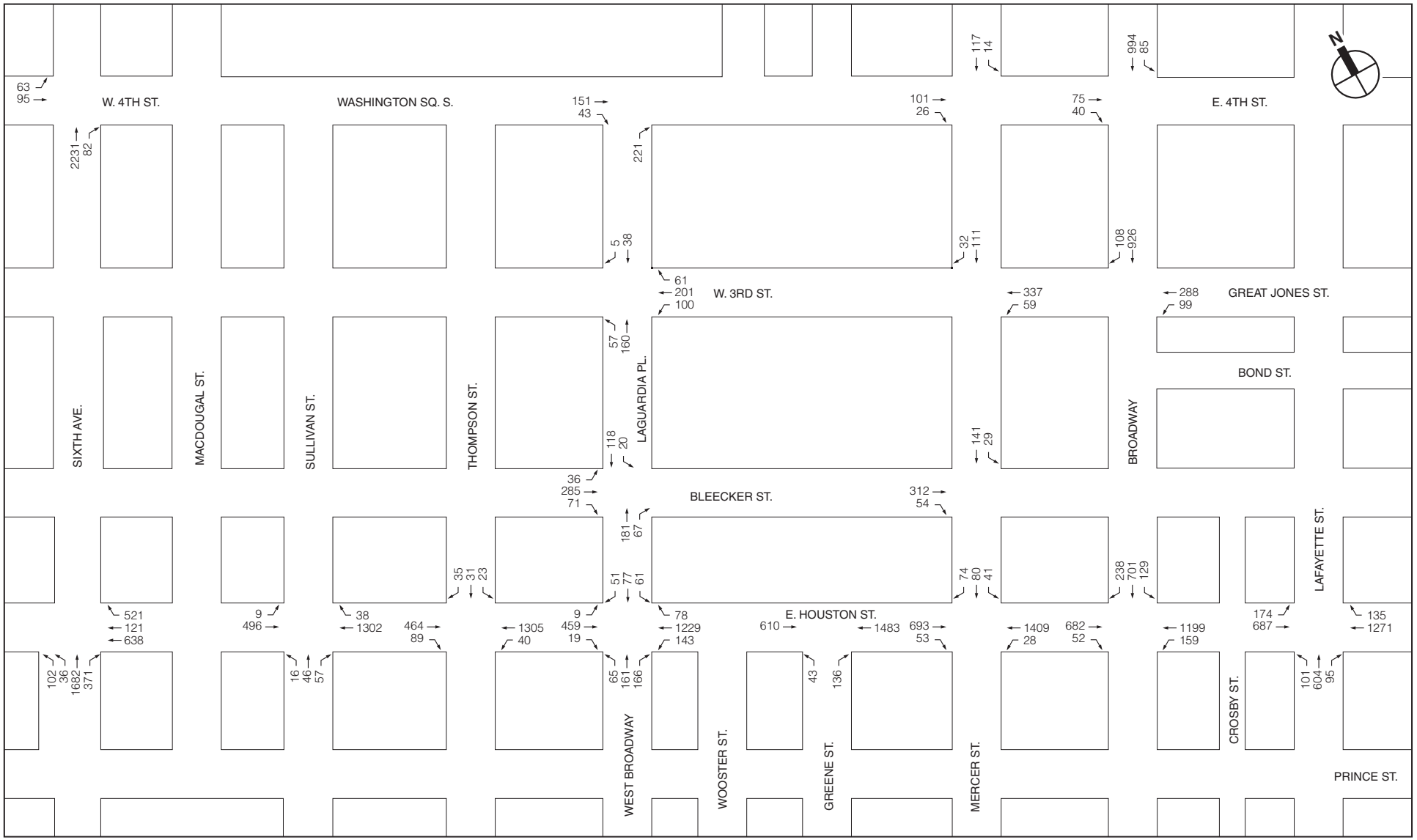
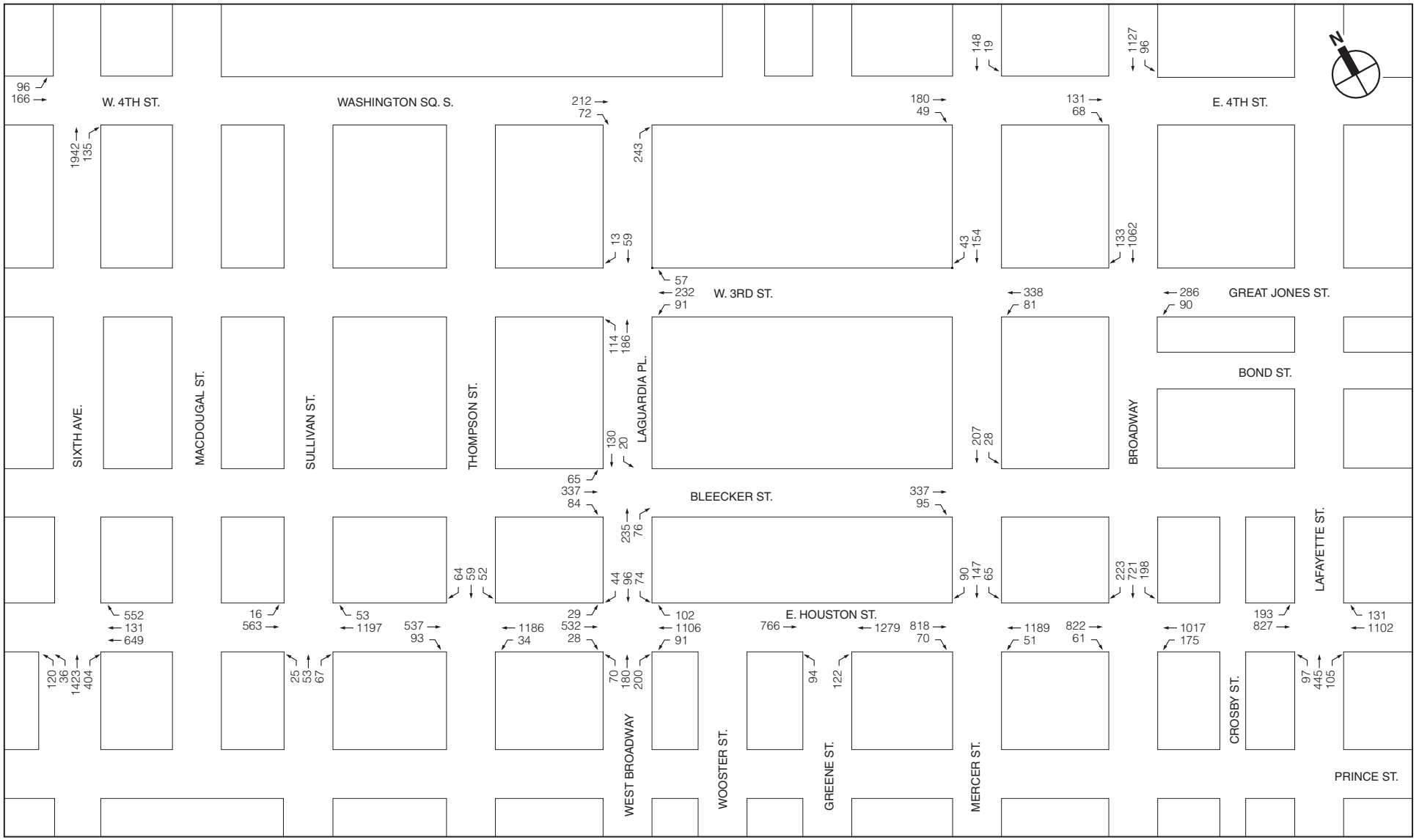


NOT TO SCALE

2021 No Build Traffic Volumes
Weekday AM Peak Hour
Figure 14-21

NYU Core

12.14.11

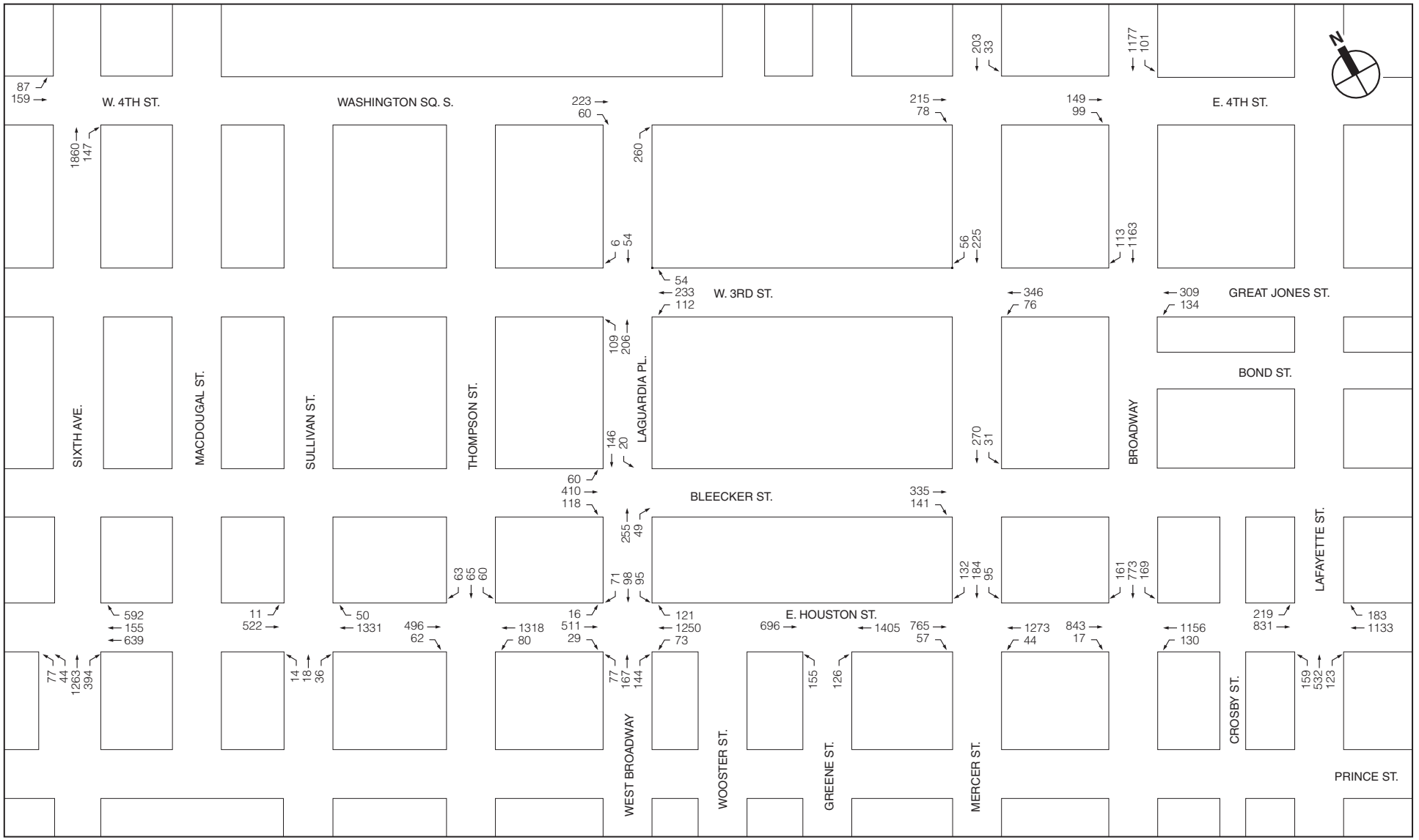


NOT TO SCALE

2021 No Build Traffic Volumes
Weekday Midday Peak Hour
Figure 14-22

NYU Core

12.14.11



NOT TO SCALE

2021 No Build Traffic Volumes
Weekday PM Peak Hour
Figure 14-23

NYU Core

Table 14-21
No Build Projects

Map No.	Project/Location	Description	Transportation Assumptions	Build Year
1	15 Washington Place	NYU: New 129,000 sf academic building	Trip rates from the 2010 *CEQR Technical Manual*; Temporal distribution, modal split, and vehicle occupancy based on NYU transportation survey; Delivery trip rates based on *Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development project FEIS* (2007)	2021
2	25 West 4th Street	NYU: Addition of 20,000 sf to existing building. New total: 94,000 sf.	See above (15 Washington Place)	2021
3	36 East 8th Street	NYU: new building, 105,000 sf academic	See above (15 Washington Place)	2021
4	383 Lafayette Street	NYU: 77,000 sf academic through addition and new building.	See above (15 Washington Place)	2021
5	7, 8, 14A Washington Mews	NYU: conversion from residential to academic. 7: 12,000 sf; 8: 12,000 sf; 14A: 12,000 sf	See above (15 Washington Place)	2012
6	130 Bleecker Street (Morton Williams Site)	NYU: new building 175,000 sf academic and commercial	Part of the proposed project	2031
7	Adrienne's Garden	4,500-sf playground	Included in background growth	2012
8	58 Washington Square South	NYU: new 91,000-sf Center for Academic and Spiritual Life	See above (15 Washington Place)	2012
9	688 Broadway	New building:18 residential units; 5,000 sf retail	Included in background growth	2021
10	791 Broadway	New building: 8 residential units; 1,640 sf retail	Included in background growth	2021
11	65 Fifth Avenue	New School: new building; 608 dorm units; 9,000 sf retail; 206,000 sf academic	Project trips from *The New School DASNY FEAF* (2010)	2021
12	61 Fifth Avenue	New building: 4 residential units; 1,230 sf retail	Included in background growth	2021
13	10 East 15th Street	New 124,000 sf I.S./H.S. (866 students, 72 staff)	Project trips from *I.S./H.S. at 10 East 15th Street EAF* (2010)	2016
14	35 West 15th Street	Enlargement: 57 residential units; 32,000 sf addition to Xavier High School (759 students, 55 staff)	Trip rates, student modal split, and student vehicle occupancy from *Riverside Center FSEIS* (2010); Staff modal split and vehicle occupancy from U.S. Bureau of the Census, 2000 reverse journey to work data	2021
15	122 West 12th Street	Conversion to 43 UG-2 residential units	Included in background growth	2021
16	St. Vincents Hospital	O'Toole Building: 152,556 sf hospital; East Side Site: 450 residential units, 11,200 sf commercial, 25,094 sf medical offices; 152 accessory parking spots	Included in background growth	2015
17	309 Sixth Avenue	New building: 17 residential units; 3,700 sf retail; 8,100 sf community facility	Included in background growth	2021
18	353 Spring Street	New building: 398,000 sf commercial	Trip rates and temporal distribution from the 2010 *CEQR Technical Manual* and *First Avenue Properties Rezoning Final SEIS* (2008); Modal split and vehicle occupancy from U.S. Bureau of the Census, 2000 reverse journey to work data	2021
19	482 Greenwich Street	New building: 10 residential units; 730 sf commercial; 410 sf community facility	Included in background growth	2021
20	43 Grand Street	New building: 16,500 sf hotel (28 rooms); 3,300 sf retail	Transportation assumptions from *Western Rail Yard FEIS* (2009)	2021
21	27 Wooster Street	New building: 16 residential units; 2,000 sf retail; 10 parking spaces	Included in background growth	2021
22	138 Wooster Street	Addition of 9,000 sf residential; 2,000 sf commercial	Included in background growth	2021
23	150 Wooster Street	New building: 15 residential units; 5,000 sf retail	Included in background growth	2014
24	41 East Houston Street	New building: 9 residential units	Included in background growth	2021

Table 14-21 (cont'd)
No Build Projects

Map No.	Project/Location	Description	Transportation Assumptions	Build Year
25	277 Mott Street	New building: 3 residential units	Included in background growth	2021
26	47 Prince Street	New building: 2,000 sf retail	Included in background growth	2021
27	142 Bowery	New building: 28 residential units; 4,400 sf retail	Included in background growth	2021
28	119 Orchard Street (AKA 120 Allen)	New building; 3 residential units; 8,000 sf retail and hotel (rooms unknown)	Included in background growth	2021
29	145 Ludlow Street	New building; 10 residential units; 3,000 sf commercial	Included in background growth	2021
30	331 East 6th Street	Convert to one 7,645-sf residential unit	Included in background growth	2021
31	200 Lafayette Street	40 residential units (JLWQA); Conversion and enlargement of existing building	Included in background growth	2021
32	35-39 Greene Street	Add 5 residential units; Conversion and enlargement of existing building	Included in background growth	2021
33	403 Lafayette Street	40 residential units	Included in background growth	2021
34	813 Broadway	40 residential units	Included in background growth	2021
35	603 Greenwich Street	1 residential unit; Addition to existing building with 6 units	Included in background growth	2021
36	70 Greene Street	3 residential units; 2400 sf commercial	Included in background growth	2012
37	51 Astor Place	215,000 sf commercial/office; 15,000 sf retail; 40,000 sf academic	Transportation assumptions from *First Avenue Properties Rezoning Final SEIS* (2008)	2015
38	577 Broadway	Addition of 1 residential unit (JLWQA)	Included in background growth	2012
39	302 Lafayette Street	36,000 sf office; 36,000 sf retail	Trip rates and temporal distribution from the 2010 *CEQR Technical Manual* and *First Avenue Properties Rezoning Final SEIS* (2008); Modal split and vehicle occupancy from U.S. Bureau of the Census, 2000 reverse journey to work data	2021
40	31 Grand (AKA 74 6th Ave)	60,000 sf hotel (100 rooms)	Transportation assumptions from *Western Rail Yard FEIS* (2009)	2011
41	357 Canal Street	Conversion to 4 residential units	Included in background growth	2011
42	359 Canal Street	Conversion to 4 residential units	Included in background growth	2011
43	361 Canal Street	Conversion to 4 residential units	Included in background growth	2011
44	396 West Broadway	5-story addition; 2 residential units	Included in background growth	2011
45	419 West Broadway	Conversion to 8 residential units	Included in background growth	2011
46	76 East 13th Street (AKA 132 4th Avenue)	Conversion to 175 room Hyatt Hotel	Transportation assumptions from *Western Rail Yard FEIS* (2009)	2011
47	191 Chrystie Street	Conversion and enlargement of existing building. Retail to remain on first two floors. Add 11 residential units	Included in background growth	2012
48	29 2nd Avenue	Add one residential unit	Included in background growth	2012
49	135 East 15th Street	Enlargement and conversion to 1 residential unit	Included in background growth	2011
A	Hudson Square Rezoning	1,028,834 sf commercial/ office; 233,730 sf retail; 75,000 sf PS/IS; 773 dormitory beds; 67 hotel rooms; 2,887 residential units	Preliminary travel demand estimates for this project were used to determine the traffic "surcharge" applied onto the Houston Street and Sixth Avenue corridors; while full build-out is not anticipated until 2022, its entire travel demand was conservatively assumed for the 2021 No Build	2022

Table 14-22
2011 Existing and 2021 No Build Conditions Level of Service Analysis
Signalized Intersections

	AM								Midday								PM							
	2011 Existing				2021 No Build				2011 Existing				2021 No Build				2011 Existing				2021 No Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West 4th Street and Sixth Avenue																								
Eastbound	LT	0.34	23.5	C	LT	0.36	23.9	C	LT	0.58	28.8	C	LT	0.60	29.3	C	LT	0.48	26.2	C	LT	0.50	26.6	C
Northbound	TR	0.86	16.2	B	TR	0.92	19.6	B	TR	0.77	13.4	B	TR	0.81	14.5	B	TR	0.75	12.9	B	TR	0.81	14.3	B
	Intersection		16.8	B	Intersection		20.0	B	Intersection		15.3	B	Intersection		16.3	B	Intersection		14.4	B	Intersection		15.7	B
West Houston Street and Sixth Avenue																								
Westbound	T	0.63	24.1	C	T	0.69	25.7	C	T	0.64	24.4	C	T	0.69	25.6	C	T	0.61	23.6	C	T	0.67	25.0	C
	R	0.70	27.3	C	R	0.73	28.6	C	R	0.90	42.8	D	R	0.92	45.8	D	R	0.94	48.4	D	R	0.96	52.7	D
Northbound	LTR	1.00	43.3	D	LTR	1.11	80.4	F	LTR	0.89	27.8	C	LTR	0.97	37.0	D	LTR	0.80	23.8	C	LTR	0.93	31.7	C
	Intersection		36.2	D	Intersection		59.5	E	Intersection		29.7	C	Intersection		35.7	D	Intersection		28.8	C	Intersection		34.0	C
West Houston Street and Sullivan Street																								
Eastbound	LT	0.41	15.1	B	LT	0.47	15.8	B	LT	0.45	15.6	B	LT	0.49	16.2	B	LT	0.37	14.6	B	LT	0.43	15.4	B
Westbound	TR	0.65	18.3	B	TR	0.70	19.3	B	TR	0.65	18.4	B	TR	0.69	19.1	B	TR	0.65	18.3	B	TR	0.69	19.2	B
Northbound	LTR	0.36	22.0	C	LTR	0.37	22.2	C	LTR	0.40	23.1	C	LTR	0.41	23.2	C	LTR	0.22	19.7	B	LTR	0.22	19.8	B
	Intersection		17.7	B	Intersection		18.5	B	Intersection		18.0	B	Intersection		18.6	B	Intersection		17.4	B	Intersection		18.1	B
West Houston Street and Thompson Street																								
Eastbound	TR	0.39	14.8	B	TR	0.44	15.4	B	TR	0.45	15.6	B	TR	0.49	16.1	B	TR	0.38	14.7	B	TR	0.44	15.5	B
Westbound	LT	0.72	20.0	B	LT	0.77	21.5	C	LT	0.65	18.4	B	LT	0.68	19.1	B	LT	0.78	22.0	C	LT	0.84	24.3	C
Southbound	LTR	0.28	20.6	C	LTR	0.29	20.7	C	LTR	0.57	28.2	C	LTR	0.58	28.5	C	LTR	0.52	26.2	C	LTR	0.54	26.6	C
	Intersection		18.6	B	Intersection		19.7	B	Intersection		18.5	B	Intersection		19.1	B	Intersection		20.5	C	Intersection		22.1	C
West 4th Street and LaGuardia Place																								
Eastbound	TR	0.42	23.0	C	TR	0.44	23.4	C	TR	0.68	30.6	C	TR	0.69	31.3	C	TR	0.53	25.4	C	TR	0.55	25.7	C
Northbound	R	0.48	21.8	C	R	0.51	22.6	C	R	0.64	27.1	C	R	0.67	28.3	C	R	0.63	26.3	C	R	0.66	27.7	C
	Intersection		22.4	C	Intersection		23.0	C	Intersection		29.0	C	Intersection		29.9	C	Intersection		25.8	C	Intersection		26.7	C
West 3rd Street and LaGuardia Place																								
Westbound	LTR	0.36	17.4	B	LTR	0.38	17.8	B	LTR	0.34	17.2	B	LTR	0.36	17.4	B	LTR	0.37	17.5	B	LTR	0.38	17.7	B
Northbound	LT	0.56	23.2	C	LT	0.58	24.0	C	LT	0.83	38.2	D	LT	0.85	41.1	D	LT	0.69	28.0	C	LT	0.72	29.7	C
Southbound	TR	0.07	14.5	B	TR	0.07	14.5	B	TR	0.13	15.1	B	TR	0.13	15.1	B	TR	0.08	14.6	B	TR	0.09	14.6	B
	Intersection		19.4	B	Intersection		19.9	B	Intersection		26.1	C	Intersection		27.4	C	Intersection		21.6	C	Intersection		22.3	C
Bleecker Street and LaGuardia Place																								
Eastbound	LTR	0.81	33.3	C	LTR	0.84	36.2	D	LTR	0.94	50.2	D	LTR	0.97	56.3	E	LTR	0.89	39.4	D	LTR	0.92	43.1	D
Northbound	TR	0.52	22.1	C	TR	0.54	22.5	C	TR	0.65	25.8	C	TR	0.66	26.4	C	TR	0.63	24.9	C	TR	0.64	25.4	C
Southbound	LT	0.29	17.2	B	LT	0.30	17.3	B	LT	0.33	17.8	B	LT	0.33	17.9	B	LT	0.28	16.9	B	LT	0.28	17.0	B
	Intersection		26.9	C	Intersection		28.7	C	Intersection		36.3	D	Intersection		39.7	D	Intersection		31.5	C	Intersection		33.7	C
West Houston Street and LaGuardia Place/West Broadway																								
Eastbound	LTR	0.57	25.2	C	LTR	0.64	27.0	C	LTR	0.71	29.6	C	LTR	0.78	32.2	C	LTR	0.54	24.7	C	LTR	0.62	26.5	C
Westbound	L	0.85	74.7	E	L	0.88	79.2	E	L	0.51	45.9	D	L	0.53	46.8	D	L	0.37	41.0	D	L	0.39	41.5	D
	TR	0.62	14.9	B	TR	0.67	15.7	B	TR	0.57	14.0	B	TR	0.60	14.5	B	TR	0.60	14.5	B	TR	0.63	15.1	B
Northbound	LT	0.67	34.6	C	LT	0.69	35.5	D	LT	0.76	39.5	D	LT	0.78	41.0	D	LT	0.80	43.8	D	LT	0.83	46.4	D
	R	0.59	32.6	C	R	0.62	33.9	C	R	0.79	45.4	D	R	0.82	49.1	D	R	0.62	35.1	D	R	0.64	36.1	D
Southbound	LT	0.51	29.7	C	LT	0.53	30.4	C	LT	0.66	37.6	D	LT	0.69	39.8	D	LT	0.79	49.0	D	LT	0.83	53.6	D
	R	0.18	22.6	C	R	0.19	22.6	C	R	0.18	22.8	C	R	0.19	22.9	C	R	0.27	24.3	C	R	0.28	24.4	C
	Intersection		24.5	C	Intersection		25.5	C	Intersection		26.0	C	Intersection		27.4	C	Intersection		24.8	C	Intersection		26.0	C
West Houston Street and Greene Street																								
Eastbound	T	0.29	13.5	B	T	0.32	13.8	B	T	0.37	14.3	B	T	0.40	14.6	B	T	0.35	14.1	B	T	0.40	14.6	B
Westbound	T	0.69	19.1	B	T	0.74	20.2	C	T	0.63	17.8	B	T	0.66	18.5	B	T	0.66	18.5	B	T	0.71	19.4	B
Northbound	LR	0.42	22.8	C	LR	0.43	23.0	C	LR	0.48	24.0	C	LR	0.49	24.2	C	LR	0.70	31.4	C	LR	0.71	32.2	C
	Intersection		17.9	B	Intersection		18.7	B	Intersection		17.3	B	Intersection		17.7	B	Intersection		18.8	B	Intersection		19.4	B
West 3rd Street and Mercer Street																								
Westbound	LT	0.60	23.0	C	LT	0.62	23.4	C	LT	0.68	25.3	C	LT	0.69	25.9	C	LT	0.71	26.4	C	LT	0.73	27.3	C
Southbound	TR	0.28	17.1	B	TR	0.30	17.3	B	TR	0.38	18.6	B	TR	0.40	18.9	B	TR	0.53	21.5	C	TR	0.56	22.1	C
	Intersection		21.2	C	Intersection		21.6	C	Intersection		23.1	C	Intersection		23.6	C	Intersection		24.4	C	Intersection		25.2	C
Bleecker Street and Mercer Street																								
Eastbound	TR	0.75	30.4	C	TR	0.78	32.2	C	TR	0.97	58.7	E	TR	1.00	66.4	E	TR	1.05	78.8	E	TR	1.08	89.5	F
Southbound	LT	0.29	17.2	B	LT	0.31	17.4	B	LT	0.39	18.6	B	LT	0.41	18.9	B	LT	0.53	21.1	C	LT	0.56	21.7	C
	Intersection		26.2	C	Intersection		27.4	C	Intersection		44.9	D	Intersection		49.9	D	Intersection		55.8	E	Intersection		62.1	E
West Houston Street and Mercer Street																								
Eastbound	TR	0.39	14.5	B	TR	0.42	14.9	B	TR	0.46	15.5	B	TR	0.50	15.8	B	TR	0.41	14.8	B	TR	0.46	15.3	B
Westbound	L	0.16	14.0	B	L	0.18	14.5	B	L	0.34	19.0	B	L	0.37	20.5	C	L	0.29	17.2	B	L	0.33	19.0	B
	T	0.73	20.0	C	T	0.78	21.4	C	T	0.61	17.6	B	T	0.65	18.2	B	T	0.71	19.5	B	T	0.76	20.8	C
Southbound	LTR	0.39	21.7	C	LTR	0.40	21.9	C	LTR	0.60	26.2	C	LTR	0.62	26.8	C	LTR	0.71	29.9	C	LTR	0.73	31.2	C
	Intersection		18.4	B	Intersection		19.4	B	Intersection		18.1	B	Intersection		18.6	B	Intersection		19.7	B	Intersection		20.6	C
West 4th Street and Broadway																								
Eastbound	R [1]	0.35	25.7	C	TR	0.29	24.2	C	R [1]	0.69	38.4	D	TR	0.47	27.7	C	TR	0.55	29.4	C	TR	0.57	29.9	C
Southbound	T [1]	0.83	21.7	C	LT	0.90	26.5	C	T [1]	0.90	26.9	C	LT	1.00	44.4	D	LT	0.91	27.6	C	LT	0.97	36.9	D
	Intersection		22.1	C	Intersection		26.3	C	Intersection		28.5	C	Intersection		42.1	D	Intersection		27.9	C	Intersection		35.7	D
West 3rd Street and Broadway																								
Westbound	L	0.33	25.9	C	L	0.34	26.1	C	L	0.38	27.5	C	L	0.40	28.1	C	L	0.48	29.9	C	L	0.52	31.2	C
	T	0.65	32.9	C	T	0.67	33.5	C	T	0.66	33.1	C	T	0.68	33.6	C	T	0.77	39.0	D	T	0.79	40.6	D
Southbound	T	0.72	17.4	B	T	0.65	15.6	B	T	0.90	26.4	C	T	0.78	19.3	B	T	0.80	20.0	B	T	0.85	22.4	C
	R	0.32	12.7	B	R	0.33	13.0	B	R	0.52	19.0	B	R	0.54	19.9	B	R	0.46	17.2	B	R	0.48	17.9	B
	Intersection		20.8	C	Intersection		20.1	C	Intersection		27.1	C	Intersection		22.7	C	Intersection		24.2	C	Intersection		26.2	C

Table 14-22 (cont'd)
2011 Existing and 2021 No Build Conditions Level of Service Analysis
Signalized Intersections

	AM								Midday								PM							
	2011 Existing				2021 No Build				2011 Existing				2021 No Build				2011 Existing				2021 No Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West Houston Street and Broadway																								
Eastbound	TR	0.69	31.6	C	TR	0.75	33.4	C	TR	0.80	35.2	D	TR	0.85	38.0	D	TR	0.76	33.4	C	TR	0.84	37.0	D
Westbound	L	0.71	34.6	C	L	0.76	40.0	D	L	0.84	48.8	D	L	0.85	50.6	D	L	0.61	29.7	C	L	0.62	30.3	C
	T	0.61	20.6	C	T	0.66	21.4	C	T	0.53	19.3	B	T	0.56	19.8	B	T	0.58	20.0	C	T	0.62	20.7	C
Southbound	LT	0.83	29.7	C	LT	0.88	33.2	C	LT	0.88	33.3	C	LT	0.93	38.9	D	LT	0.87	32.0	C	LT	0.93	39.4	D
	R	0.62	25.6	C	R	0.64	26.7	C	R	0.67	29.7	C	R	0.70	31.6	C	R	0.49	23.0	C	R	0.53	24.3	C
	Intersection		26.9	C	Intersection		28.9	C	Intersection		30.2	C	Intersection		32.9	C	Intersection		27.8	C	Intersection		31.3	C
East Houston Street and Lafayette Street [1]																								
Eastbound	L	0.93	68.2	E	L	1.00	87.0	F	L	0.98	77.0	E	L	1.05	95.1	F	L	1.05	97.2	F	L	1.16	132.9	F
	T	0.87	30.3	C	T	0.36	13.1	B	T	1.02	57.9	E	T	0.42	13.7	B	T	0.92	36.7	D	T	0.40	13.5	B
Westbound	TR	0.91	36.1	D	TR	0.77	27.6	C	TR	0.80	29.4	C	TR	0.66	25.0	C	TR	0.84	31.5	C	TR	0.71	26.0	C
Northbound	LTR	0.87	36.8	D	LT	0.83	34.4	C	LTR	0.76	30.9	C	LT	0.66	27.6	C	LTR	0.92	42.6	D	LT	0.81	33.3	C
					R	0.28	22.1	C					R	0.38	24.4	C					R	0.43	25.8	C
	Intersection		37.0	D	Intersection		29.1	C	Intersection		41.2	D	Intersection		27.0	C	Intersection		40.5	D	Intersection		31.8	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service
(1) 2011 Existing Conditions effective lane widths and/or turning movements affected due to ongoing construction activities.

Table 14-23
2011 Existing and 2021 No Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM								Midday								PM							
	2011 Existing				2021 No Build				2011 Existing				2021 No Build				2011 Existing				2021 No Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West 4th Street and Mercer Street																								
Eastbound	TR	0.16	8.1	A	TR	0.17	8.2	A	TR	0.34	9.7	A	TR	0.35	9.8	A	TR	0.44	11.0	B	TR	0.46	11.3	B
Southbound	LT	0.17	8.3	A	LT	0.18	8.4	A	LT	0.23	9.1	A	LT	0.24	9.2	A	LT	0.35	10.4	B	LT	0.38	10.8	B
	Intersection		8.2	A	Intersection		8.3	A	Intersection		9.4	A	Intersection		9.6	A	Intersection		10.7	B	Intersection		11.1	B

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

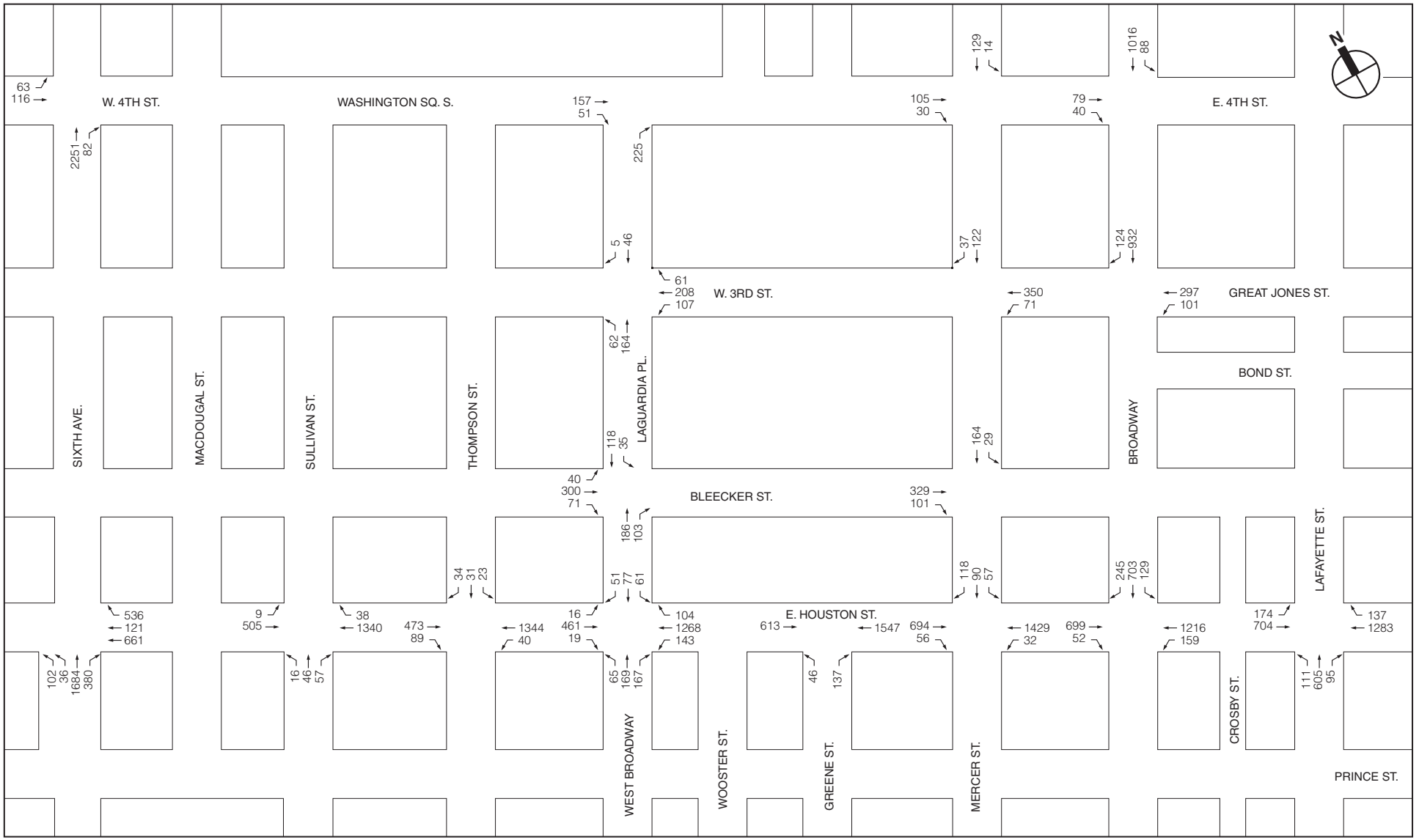
2021 BUILD CONDITION

As discussed above, Phase 1 completion of the proposed project (development components on the South Block) would be completed by 2021 and the neighborhood retail uses in the Commercial Overlay Area northeast of the Proposed Development Area would be in place as well. The existing 670-space public parking garage on the North Block would remain in use with the same access and egress locations along West 3rd and Bleecker Streets. As discussed above in Section E, "Level 2 Screening Assessment," the project-generated vehicle trips were assigned to the study area off-street parking garages and the various block fronts surrounding the project sites. Overall, the 2021 Phase 1 completion of the proposed project would result in approximately 223, 235, and 221 incremental vehicle trips during the weekday AM, midday, and PM peak hours, respectively. The related peak hour traffic assignments, accounting for the changes in parking on the North Block, are discussed above in Section E, "Level 2 Screening Assessment and shown in **Figures 14-2** to **14-4**.

TRAFFIC OPERATIONS

The 2021 Build traffic volumes are shown in **Figures 14-24** to **14-26** for the AM, midday, and PM peak hours. **Tables 14-24** and **14-25** present a comparison of 2021 No Build and Build conditions. Based on the criteria presented in the *CEQR Technical Manual* and discussed previously in Section F, "Transportation Analyses Methodology," significant adverse impacts are identified by the "+" symbol in the analysis summary tables.

12.14.11

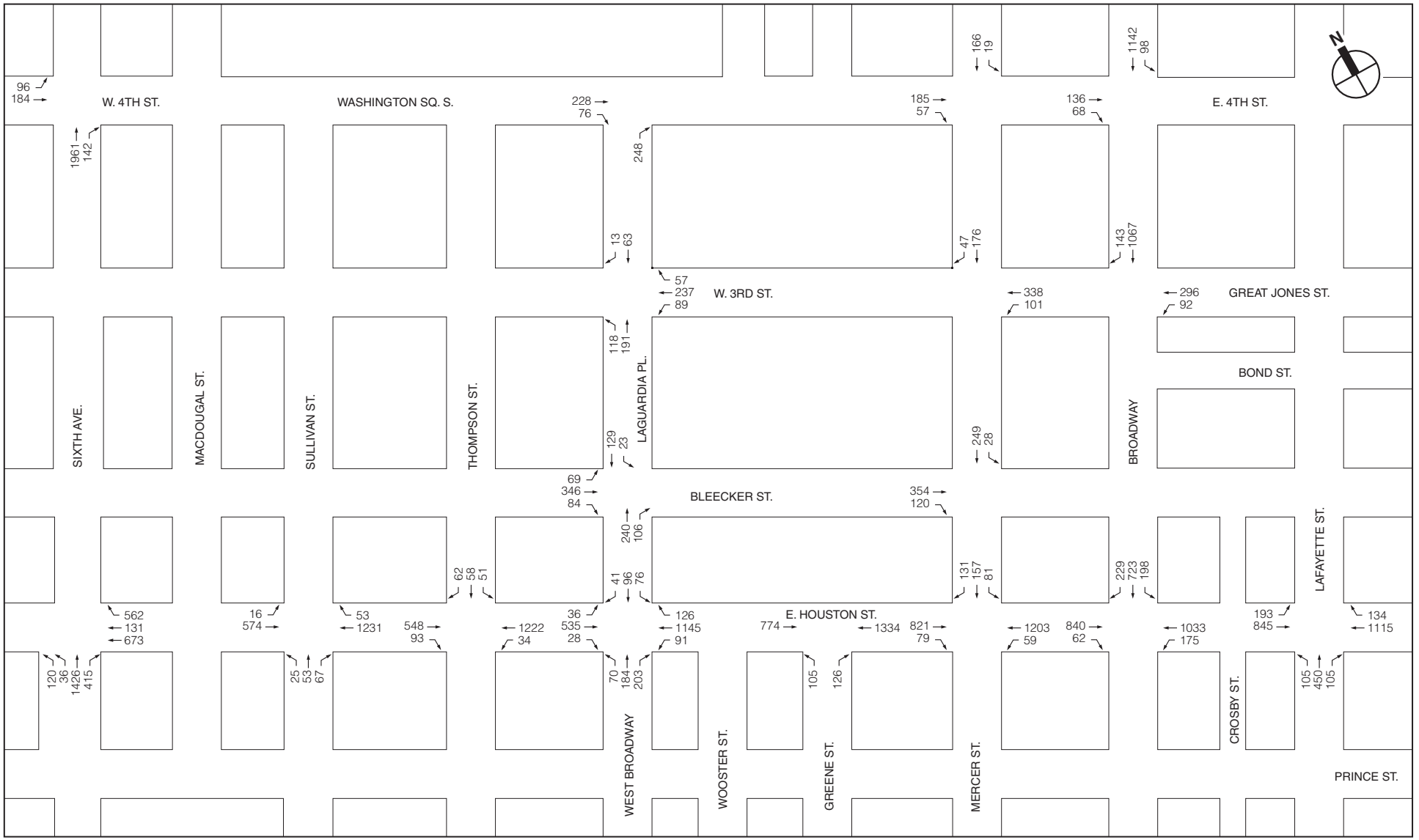


NOT TO SCALE

2021 Build Traffic Volumes
Weekday AM Peak Hour
Figure 14-24

NYU Core

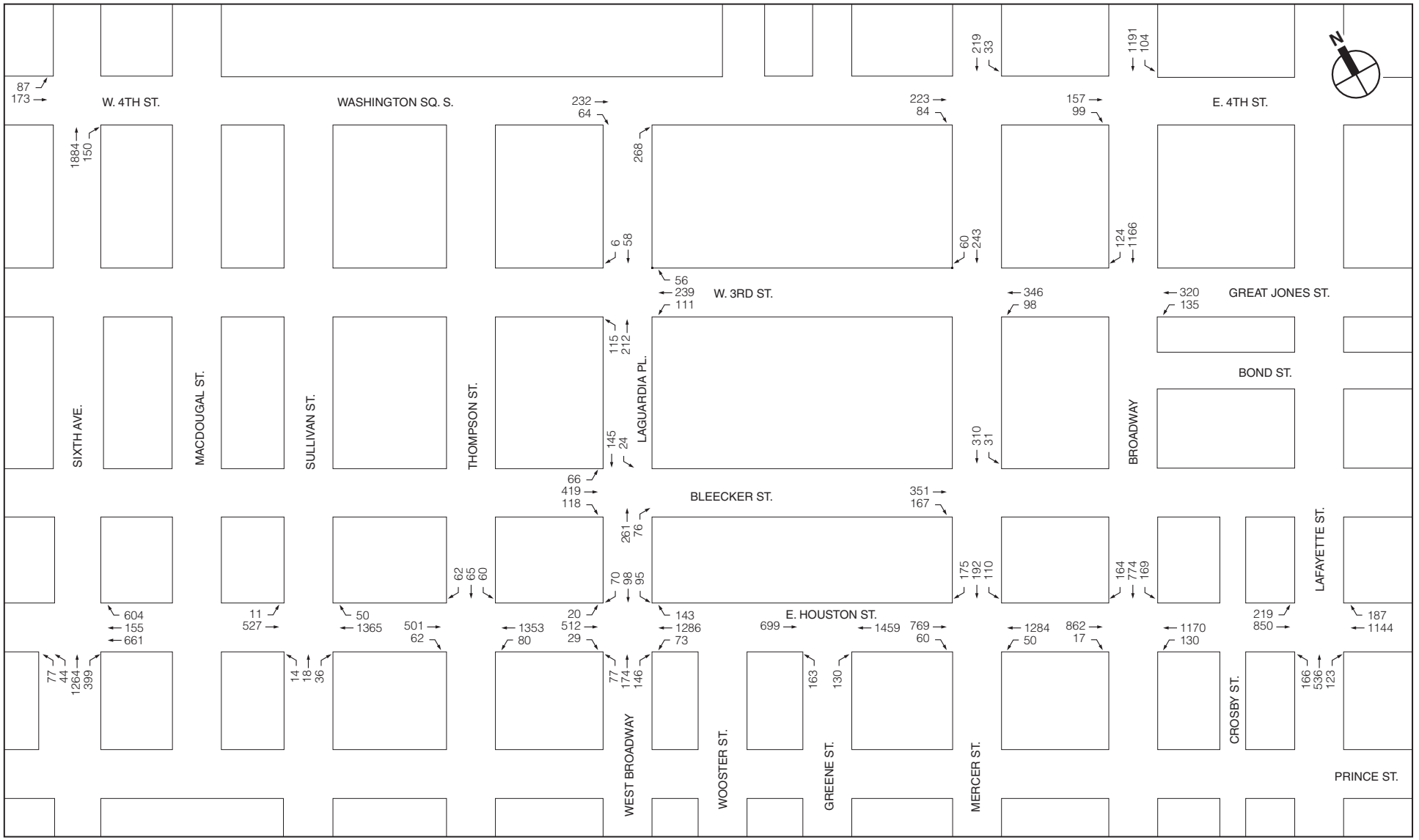
12.14.11



2021 Build Traffic Volumes
Weekday Midday Peak Hour
Figure 14-25

NYU Core

12.14.11



2021 Build Traffic Volumes
Weekday PM Peak Hour
Figure 14-26

NYU Core

SIGNIFICANT IMPACTS

Significant adverse traffic impacts were identified at six approaches/lane groups (of five intersections). Potential measures that can be implemented to mitigate these significant adverse traffic impacts are discussed in Chapter 21, "Mitigation."

- The westbound right-turn at the signalized intersection of West Houston Street/Sixth Avenue would deteriorate from LOS D (v/c ratio of 0.96 and 52.7 spv of delay) to LOS E (v/c ratio of 0.98 and 58.2 spv of delay), an increase in delay of more than five seconds, during the PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The northbound approach at the signalized intersection of West Houston Street/Sixth Avenue would deteriorate from LOS F (v/c ratio of 1.11 and 80.4 spv of delay) to LOS F (v/c ratio of 1.12 and 83.8 spv of delay), an increase in delay of more than three seconds, during the AM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The northbound right-turn at the signalized intersection of West Houston Street/LaGuardia Place/West Broadway would deteriorate from LOS D (v/c ratio of 0.82 and 49.1 spv of delay) to LOS E (v/c ratio of 0.91 and 63.9 spv of delay), an increase in delay of more than five seconds, during the midday peak hour. This projected increase in delay constitutes a significant adverse impact.
- The eastbound approach at the signalized intersection of Bleecker Street/Mercer Street would deteriorate from LOS C (v/c ratio of 0.78 and 32.2 spv of delay) to LOS E (v/c ratio of 1.00 and 66.0 spv of delay), from LOS E (v/c ratio of 1.00 and 66.4 spv of delay) to LOS F (v/c ratio of 1.15 and 114.4 spv of delay), and within LOS F (from a v/c ratio of 1.08 and 89.5 spv of delay to a v/c ratio of 1.24 and 150.1 spv of delay), increases in delay of more than five, four, and three seconds, during the AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

Table 14-24
2021 No Build and Build Conditions Level of Service Analysis
Signalized Intersections

	AM									Midday									PM								
	2021 No Build				2021 Build					2021 No Build				2021 Build					2021 No Build				2021 Build				
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		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
West 4th Street and Sixth Avenue																											
Eastbound	LT	0.36	23.9	C	LT	0.40	24.6	C		LT	0.60	29.3	C	LT	0.63	30.3	C		LT	0.50	26.6	C	LT	0.52	27.1	C	
Northbound	TR	0.92	19.6	B	TR	0.93	20.3	C		TR	0.81	14.5	B	TR	0.83	14.8	B		TR	0.81	14.3	B	TR	0.82	14.7	B	
	Intersection		20.0	B	Intersection		20.7	C		Intersection		16.3	B	Intersection		16.8	B		Intersection		15.7	B	Intersection		16.1	B	
West Houston Street and Sixth Avenue																											
Westbound	T	0.69	25.7	C	T	0.72	26.3	C		T	0.69	25.6	C	T	0.71	26.2	C		T	0.67	25.0	C	T	0.69	25.5	C	
	R	0.73	28.6	C	R	0.76	30.2	C		R	0.92	45.8	D	R	0.94	49.6	D		R	0.96	52.7	D	R	0.98	58.2	E	+
Northbound	LTR	1.11	80.4	F	LTR	1.12	83.8	F	+	LTR	0.97	37.0	D	LTR	0.98	38.9	D		LTR	0.93	31.7	C	LTR	0.94	32.3	C	
	Intersection		59.5	E	Intersection		61.7	E		Intersection		35.7	D	Intersection		37.6	D		Intersection		34.0	C	Intersection		35.5	D	
West Houston Street and Sullivan Street																											
Eastbound	LT	0.47	15.8	B	LT	0.47	16.0	B		LT	0.49	16.2	B	LT	0.50	16.4	B		LT	0.43	15.4	B	LT	0.44	15.4	B	
Westbound	TR	0.70	19.3	B	TR	0.72	19.8	B		TR	0.69	19.1	B	TR	0.70	19.6	B		TR	0.69	19.2	B	TR	0.71	19.6	B	
Northbound	LTR	0.37	22.2	C	LTR	0.37	22.2	C		LTR	0.41	23.2	C	LTR	0.56	23.2	C		LTR	0.22	19.8	B	LTR	0.22	19.8	B	
	Intersection		18.5	B	Intersection		18.8	B		Intersection		18.6	B	Intersection		18.9	B		Intersection		18.1	B	Intersection		18.4	B	
West Houston Street and Thompson Street																											
Eastbound	TR	0.44	15.4	B	TR	0.45	15.5	B		TR	0.49	16.1	B	TR	0.50	16.3	B		TR	0.44	15.5	B	TR	0.45	15.5	B	
Westbound	LT	0.77	21.5	C	LT	0.79	22.3	C		LT	0.68	19.1	B	LT	0.70	19.6	B		LT	0.84	24.3	C	LT	0.86	25.3	C	
Southbound	LTR	0.29	20.7	C	LTR	0.28	20.6	C		LTR	0.58	28.5	C	LTR	0.56	28.0	C		LTR	0.54	26.6	C	LTR	0.53	26.5	C	
	Intersection		19.7	B	Intersection		20.3	C		Intersection		19.1	B	Intersection		19.3	B		Intersection		22.1	C	Intersection		22.8	C	

Table 14-24 (Cont'd)
2021 No Build and Build Conditions Level of Service Analysis
Signalized Intersections

	AM									Midday									PM								
	2021 No Build				2021 Build					2021 No Build				2021 Build					2021 No Build				2021 Build				
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		Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	
West 4th Street and LaGuardia Place																											
Eastbound	TR	0.44	23.4	C	TR	0.48	24.4	C		TR	0.69	31.3	C	TR	0.74	33.6	C		TR	0.55	25.7	C	TR	0.58	26.6	C	
Northbound	R	0.51	22.6	C	R	0.60	26.1	C		R	0.67	28.3	C	R	0.81	39.3	D		R	0.66	27.7	C	R	0.77	35.1	D	
	Intersection		23.0	C	Intersection		25.2	C		Intersection		29.9	C	Intersection		36.1	D		Intersection		26.7	C	Intersection		30.7	C	
West 3rd Street and LaGuardia Place																											
Westbound	LTR	0.38	17.8	B	LTR	0.40	18.1	B		LTR	0.36	17.4	B	LTR	0.36	17.4	B		LTR	0.38	17.7	B	LTR	0.39	17.8	B	
Northbound	LT	0.58	24.0	C	LT	0.62	25.3	C		LT	0.85	41.1	D	LT	0.88	45.2	D		LT	0.72	29.7	C	LT	0.75	31.8	C	
Southbound	TR	0.07	14.5	B	TR	0.08	14.7	B		TR	0.13	15.1	B	TR	0.14	15.2	B		TR	0.09	14.6	B	TR	0.09	14.7	B	
	Intersection		19.9	B	Intersection		20.5	C		Intersection		27.4	C	Intersection		29.3	C		Intersection		22.3	C	Intersection		23.3	C	
Bleecker Street and LaGuardia Place																											
Eastbound	LTR	0.84	36.2	D	LTR	0.91	44.5	D		LTR	0.97	56.3	E	LTR	0.98	59.2	E		LTR	0.92	43.1	D	LTR	0.94	47.0	D	
Northbound	TR	0.54	22.5	C	TR	0.74	32.0	C		TR	0.66	26.4	C	TR	0.80	35.2	D		TR	0.64	25.4	C	TR	0.75	30.8	C	
Southbound	LT	0.30	17.3	B	LT	0.37	18.7	B		LT	0.33	17.9	B	LT	0.35	18.2	B		LT	0.28	17.0	B	LT	0.30	17.2	B	
	Intersection		28.7	C	Intersection		35.7	D		Intersection		39.7	D	Intersection		43.8	D		Intersection		33.7	C	Intersection		37.3	D	
West Houston Street and LaGuardia Place/West Broadway																											
Eastbound	LTR	0.64	27.0	C	LTR	0.70	28.7	C		LTR	0.78	32.2	C	LTR	0.83	36.0	C		LTR	0.62	26.5	C	LTR	0.65	27.3	C	
Westbound	L	0.88	79.2	E	L	0.88	79.2	E		L	0.53	46.8	D	L	0.53	46.8	D		L	0.39	41.5	D	L	0.39	41.5	D	
	TR	0.67	15.7	B	TR	0.71	16.6	B		TR	0.60	14.5	B	TR	0.64	15.3	B		TR	0.63	15.1	B	TR	0.67	15.7	B	
Northbound	LT	0.69	35.5	D	LT	0.71	37.0	D		LT	0.78	41.0	D	LT	0.79	42.2	D		LT	0.83	46.4	D	LT	0.84	48.1	D	
	R	0.62	33.9	C	R	0.68	38.2	D		R	0.82	49.1	D	R	0.91	63.9	E	+	R	0.64	36.1	D	R	0.65	37.0	D	
Southbound	LT	0.53	30.4	C	LT	0.55	31.5	C		LT	0.69	39.8	D	LT	0.73	43.1	D		LT	0.83	53.6	D	LT	0.85	56.8	E	
	R	0.19	22.6	C	R	0.20	22.9	C		R	0.19	22.9	C	R	0.18	22.8	C		R	0.28	24.4	C	R	0.27	24.5	C	
	Intersection		25.5	C	Intersection		26.6	C		Intersection		27.4	C	Intersection		30.0	C		Intersection		26.0	C	Intersection		26.8	C	
West Houston Street and Greene Street																											
Eastbound	T	0.32	13.8	B	T	0.32	13.8	B		T	0.40	14.6	B	T	0.40	14.7	B		T	0.40	14.6	B	T	0.40	14.7	B	
Westbound	T	0.74	20.2	C	T	0.76	21.0	C		T	0.66	18.5	B	T	0.69	19.0	B		T	0.71	19.4	B	T	0.73	20.0-	B	
Northbound	LR	0.43	23.0	C	LR	0.45	23.5	C		LR	0.49	24.2	C	LR	0.54	25.7	C		LR	0.71	32.2	C	LR	0.77	35.9	D	
	Intersection		18.7	B	Intersection		19.2	B		Intersection		17.7	B	Intersection		18.2	B		Intersection		19.4	B	Intersection		20.3	C	
West 3rd Street and Mercer Street																											
Westbound	LT	0.62	23.4	C	LT	0.67	24.9	C		LT	0.69	25.9	C	LT	0.75	28.4	C		LT	0.73	27.3	C	LT	0.79	30.6	C	
Southbound	TR	0.30	17.3	B	TR	0.36	18.3	B		TR	0.40	18.9	B	TR	0.47	20.2	C		TR	0.56	22.1	C	TR	0.62	23.9	C	
	Intersection		21.6	C	Intersection		22.9	C		Intersection		23.6	C	Intersection		25.5	C		Intersection		25.2	C	Intersection		27.8	C	
Bleecker Street and Mercer Street																											
Eastbound	TR	0.78	32.2	C	TR	1.00	66.0	E	+	TR	1.00	66.4	E	TR	1.15	114.4	F	+	TR	1.08	89.5	F	TR	1.24	150.1	F	+
Southbound	LT	0.31	17.4	B	LT	0.35	18.1	B		LT	0.41	18.9	B	LT	0.48	20.1	C		LT	0.56	21.7	C	LT	0.63	23.6	C	
	Intersection		27.4	C	Intersection		51.1	D		Intersection		49.9	D	Intersection		80.1	F		Intersection		62.1	E	Intersection		97.7	F	
West Houston Street and Mercer Street																											
Eastbound	TR	0.42	14.9	B	TR	0.43	15.0	B		TR	0.50	15.8	B	TR	0.51	16.0	B		TR	0.46	15.3	B	TR	0.46	15.4	B	
Westbound	L	0.18	14.5	B	L	0.20	15.1	B		L	0.37	20.5	C	L	0.43	23.2	C		L	0.33	19.0	B	L	0.38	20.5	C	
	T	0.78	21.4	C	T	0.79	21.8	C		T	0.65	18.2	B	T	0.66	18.4	B		T	0.76	20.8	C	T	0.76	21.0	C	
Southbound	LTR	0.40	21.9	C	LTR	0.61	27.0	C		LTR	0.62	26.8	C	LTR	0.84	39.4	D		LTR	0.73	31.2	C	LTR	0.92	47.9	D	+
	Intersection		19.4	B	Intersection		20.3	C		Intersection		18.6	B	Intersection		21.1	C		Intersection		20.6	C	Intersection		23.8	C	
West 4th Street and Broadway																											
Eastbound	TR	0.29	24.2	C	TR	0.30	24.4	C		TR	0.47	27.7	C	TR	0.48	28.0	C		TR	0.57	29.9	C	TR	0.58	30.4	C	
Southbound	LT	0.90	26.5	C	LT	0.92	28.7	C		LT	1.00	44.4	D	LT	1.02	48.5	D		LT	0.97	36.9	D	LT	0.99	40.2	D	
	Intersection		26.3	C	Intersection		28.3	C		Intersection		42.1	D	Intersection		45.7	D		Intersection		35.7	D	Intersection		38.5	D	
West 3rd Street and Broadway																											
Westbound	L	0.34	26.1	C	L	0.38	27.1	C		L	0.40	28.1	C	L	0.42	28.7	C		L	0.52	31.2	C	L	0.53	31.7	C	
	T	0.67	33.5	C	T	0.69	34.4	C		T	0.68	33.6	C	T	0.70	34.7	C		T	0.79	40.6	D	T	0.82	42.9	D	
Southbound	T	0.65	15.6	B	T	0.65	15.7	B		T	0.78	19.3	B	T	0.79	19.5	B		T	0.85	22.4	C	T	0.85	22.5	C	
	R	0.33	13.0	B	R	0.38	14.2	B		R	0.54	19.9	B	R	0.59	22.1	C		R	0.48	17.9	B	R	0.54	20.0+	C	
	Intersection		20.1	C	Intersection		20.5	C		Intersection		22.7	C	Intersection		23.2	C		Intersection		26.2	C	Intersection		27.0	C	
West Houston Street and Broadway																											
Eastbound	TR	0.75	33.4	C	TR	0.77	33.9	C		TR	0.85	38.0	D	TR	0.87	39.3	D		TR	0.84	37.0	D	TR	0.86	38.0	D	
Westbound	L	0.76	40.0	D	L	0.76	40.1	D		L	0.85	50.6	D	L	0.84	50.0	D		L	0.62	30.3	C	L	0.61	30.2	C	
	T	0.66	21.4	C	T	0.67	21.6	C		T	0.56	19.8	B	T	0.57	19.9	B		T	0.62	20.7	C	T	0.63	20.9	C	
Southbound	LT	0.88	33.2	C	LT	0.88	33.4	C		LT	0.93	38.9	D	LT	0.93	39.1	D		LT	0.93	39.4	D	LT	0.94	39.6	D	
	R	0.64	26.7	C	R	0.67	28.4	C		R	0.70	31.6	C	R	0.72	33.1	C		R	0.53	24.3	C	R	0.54	24.8	C	
	Intersection		28.9	C	Intersection		29.3	C		Intersection		32.9	C	Intersection		33.4	C		Intersection		31.3	C	Intersection		31.8	C	
East Houston Street and Lafayette Street																											
Eastbound	L	1.00	87.0	F	L	1.00	87.0	F		L	1.05	95.1	F	L	1.06	99.0	F	+	L	1.16	132.9	F	L	1.16	131.5	F	
	T	0.36	13.1	B	T	0.37	13.2	B		T	0.42	13.7	B	T	0.43	13.8	B		T	0.40	13.5	B	T	0.40	13.6	B	
Westbound	TR	0.77	27.6	C	TR	0.78	27.8	C		TR	0.66	25.0	C	TR	0.67	25.2	C		TR	0.71	26.0	C	TR	0.72	26.2	C	
Northbound	LT	0.83	34.4	C	LT	0.84	35.4	D		LT	0.66	27.6	C	LT	0.68	28.2	C		LT	0.81	33.3	C	LT	0.82	34.1	C	
	R	0.28	22.1	C	R	0.28	22.1	C		R	0.38	24.4	C	R	0.38	24.4	C		R	0.43	25.8	C	R	0.43	25.8	C	
	Intersection		29.1	C	Intersection		29.4	C		Intersection		27.0	C	Intersection		27.4	C		Intersection		31.8	C	Intersection		31.8	C	

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service
+ Denotes a significant adverse traffic impact

Table 14-25
2021 No Build and Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM								Midday								PM							
	2021 No Build				2021 Build				2021 No Build				2021 Build				2021 No Build				2021 Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West 4th Street and Mercer Street																								
Eastbound	TR	0.17	8.2	A	TR	0.18	8.3	A	TR	0.35	9.8	A	TR	0.37	10.1	B	TR	0.46	11.3	B	TR	0.48	11.8	B
Southbound	LT	0.18	8.4	A	LT	0.19	8.6	A	LT	0.24	9.2	A	LT	0.27	9.5	A	LT	0.38	10.8	B	LT	0.41	11.2	B
	Intersection		8.3	A	Intersection		8.4	A	Intersection		9.6	A	Intersection		9.9	A	Intersection		11.1	B	Intersection		11.6	B

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

- The southbound approach at the signalized intersection of West Houston Street/Mercer Street would deteriorate from LOS C (v/c ratio of 0.73 and 31.2 spv of delay) to LOS D (v/c ratio of 0.92 and 47.9 spv of delay), an increase in delay of more than 5 seconds, during the PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The exclusive eastbound left-turn at the signalized intersection of East Houston Street/Lafayette Street would deteriorate within LOS F (from a v/c ratio of 1.05 and 95.1 spv of delay to a v/c ratio of 1.06 and 99.0 spv of delay), an increase in delay of more than three seconds, during the midday peak hour. This projected increase in delay constitutes a significant adverse impact.

2031 NO BUILD CONDITION

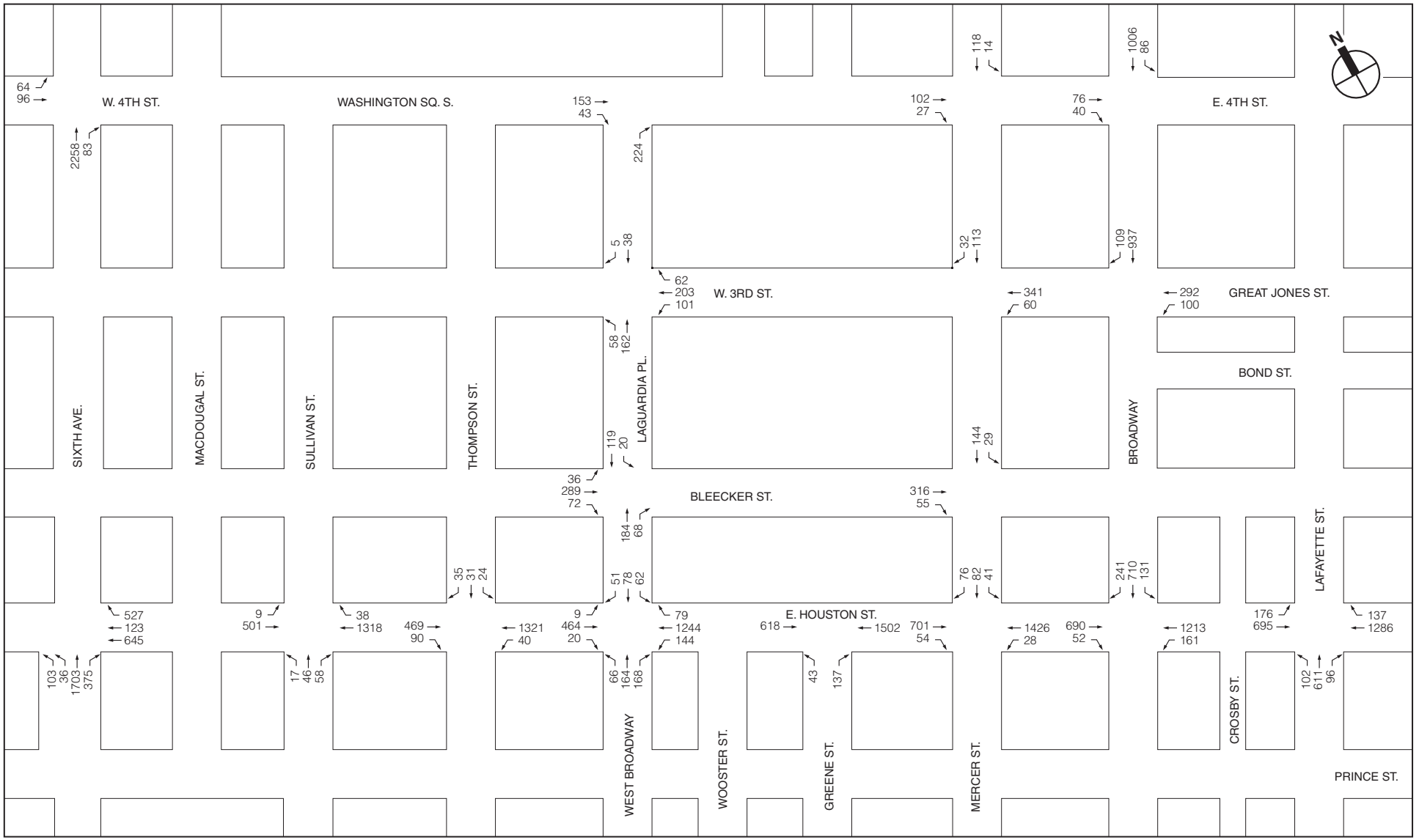
The 2031 No Build condition was developed by increasing existing (2011) traffic and pedestrian levels by the expected growth in overall travel through and within the study area. As per *CEQR* guidelines, an annual background growth rate of 0.25 percent was assumed for the first five years (year 2011 to year 2016) and then 0.125 percent for the remaining years (year 2016 to year 2031). In addition to the background growth, travel demand estimates for projects anticipated to be complete by 2031 were added to establish the future baseline traffic and pedestrian volumes. As discussed above, **Table 14-21 and Figure 14-20** summarize the projects that are anticipated to be completed by 2021 (including Hudson Square Rezoning, which currently has a build year of 2022; there are no other additional known No Build projects anticipated to be completed between 2021 and 2031 at this time) and were accounted for in the future 2031 baseline.

TRAFFIC OPERATIONS

The 2031 No Build traffic volumes are shown in **Figures 14-27** to **14-29** for the AM, midday, and PM peak hours. **Tables 14-26** and **14-27** present a comparison of the existing and 2031 No Build traffic conditions for the study area intersections. Similar to the 2021 No Build condition, the temporary traffic lane closures at the intersections of West 4th Street and Broadway and East Houston Street and Lafayette Street are expected to have reverted back to normal in the 2031 No Build condition. Based on the analysis results, the majority of the approaches/lane-groups will operate at the same LOS as under existing conditions with the following notable exceptions:

- Northbound approach at the West Houston Street/Sixth Avenue intersection will deteriorate to LOS F with a v/c ratio of 1.12 and a delay of 85.9 spv during the AM peak hour;
- Westbound right-turn at the West Houston Street/Sixth Avenue intersection will deteriorate within LOS D with a v/c ratio of 0.93 and a delay of 47.7 spv and to LOS E with a v/c ratio of 0.97 and a delay of 55.6 spv during the midday and PM peak hours, respectively;

12.14.11

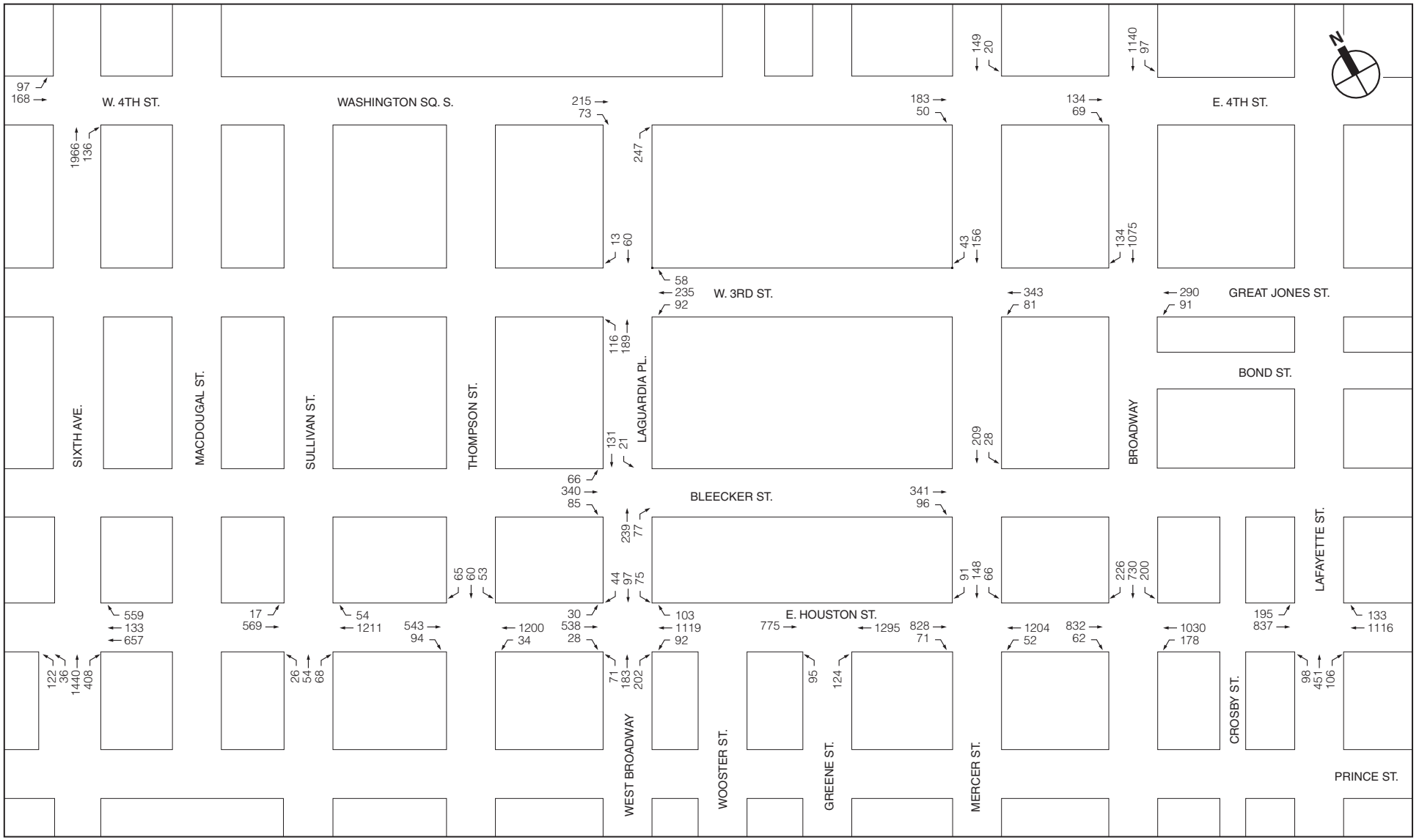


NOT TO SCALE

2031 No Build Traffic Volumes
Weekday AM Peak Hour
Figure 14-27

NYU Core

12.14.11

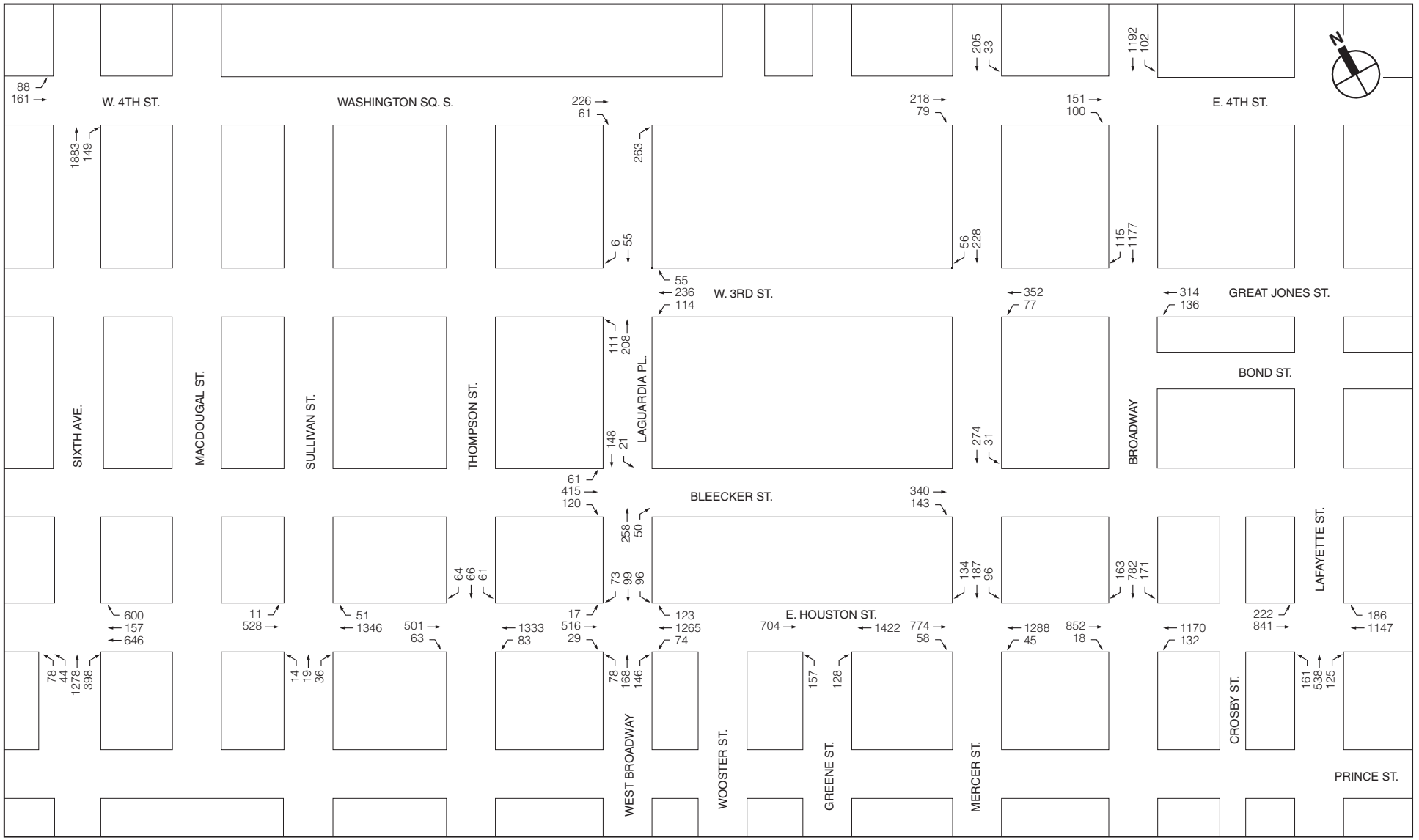


NOT TO SCALE

2031 No Build Traffic Volumes
Weekday Midday Peak Hour
Figure 14-28

NYU Core

12.14.11



NOT TO SCALE

2031 No Build Traffic Volumes
Weekday PM Peak Hour
Figure 14-29

NYU Core

Table 14-26
2011 Existing and 2031 No Build Conditions Level of Service Analysis
Signalized Intersections

	AM								Midday								PM							
	2011 Existing				2031 No Build				2011 Existing				2031 No Build				2011 Existing				2031 No Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West 4th Street and Sixth Avenue																								
Eastbound	LT	0.34	23.5	C	LT	0.36	24.0	C	LT	0.58	28.8	C	LT	0.60	29.5	C	LT	0.48	26.2	C	LT	0.51	26.7	C
Northbound	TR	0.86	16.2	B	TR	0.93	20.6	C	TR	0.77	13.4	B	TR	0.82	14.7	B	TR	0.75	12.9	B	TR	0.82	14.6	B
	Intersection		16.8	B	Intersection		20.9	C	Intersection		15.3	B	Intersection		16.6	B	Intersection		14.4	B	Intersection		16.0	B
West Houston Street and Sixth Avenue																								
Westbound	T	0.63	24.1	C	T	0.70	25.9	C	T	0.64	24.4	C	T	0.70	25.8	C	T	0.61	23.6	C	T	0.68	25.2	C
	R	0.70	27.3	C	R	0.74	29.0	C	R	0.90	42.8	D	R	0.93	47.7	D	R	0.94	48.4	D	R	0.97	55.6	E
Northbound	LTR	1.00	43.3	D	LTR	1.12	85.9	F	LTR	0.89	27.8	C	LTR	0.98	39.1	D	LTR	0.80	23.8	C	LTR	0.94	32.9	C
	Intersection		36.2	D	Intersection		63.0	E	Intersection		29.7	C	Intersection		37.3	D	Intersection		28.8	C	Intersection		35.3	D
West Houston Street and Sullivan Street																								
Eastbound	LT	0.41	15.1	B	LT	0.47	15.9	B	LT	0.45	15.6	B	LT	0.50	16.3	B	LT	0.37	14.6	B	LT	0.44	15.4	B
Westbound	TR	0.65	18.3	B	TR	0.71	19.5	B	TR	0.65	18.4	B	TR	0.70	19.3	B	TR	0.65	18.3	B	TR	0.70	19.4	B
Northbound	LTR	0.36	22.0	C	LTR	0.37	22.3	C	LTR	0.40	23.1	C	LTR	0.42	23.4	C	LTR	0.22	19.7	B	LTR	0.23	19.8	B
	Intersection		17.7	B	Intersection		18.6	B	Intersection		18.0	B	Intersection		18.8	B	Intersection		17.4	B	Intersection		18.3	B
West Houston Street and Thompson Street																								
Eastbound	TR	0.39	14.8	B	TR	0.44	15.5	B	TR	0.45	15.6	B	TR	0.49	16.2	B	TR	0.38	14.7	B	TR	0.45	15.5	B
Westbound	LT	0.72	20.0	B	LT	0.78	21.8	C	LT	0.65	18.4	B	LT	0.69	19.3	B	LT	0.78	22.0	C	LT	0.86	25.2	C
Southbound	LTR	0.28	20.6	C	LTR	0.29	20.8	C	LTR	0.57	28.2	C	LTR	0.59	28.9	C	LTR	0.52	26.2	C	LTR	0.55	27.0	C
	Intersection		18.6	B	Intersection		20.0-	B	Intersection		18.5	B	Intersection		19.3	B	Intersection		20.5	C	Intersection		22.8	C
West 4th Street and LaGuardia Place																								
Eastbound	TR	0.42	23.0	C	TR	0.44	23.5	C	TR	0.68	30.6	C	TR	0.70	31.7	C	TR	0.53	25.4	C	TR	0.56	26.0	C
Northbound	R	0.48	21.8	C	R	0.52	22.8	C	R	0.64	27.1	C	R	0.68	29.0	C	R	0.63	26.3	C	R	0.67	28.1	C
	Intersection		22.4	C	Intersection		23.1	C	Intersection		29.0	C	Intersection		30.5	C	Intersection		25.8	C	Intersection		27.0	C
West 3rd Street and LaGuardia Place																								
Westbound	LTR	0.36	17.4	B	LTR	0.39	17.8	B	LTR	0.34	17.2	B	LTR	0.36	17.4	B	LTR	0.37	17.5	B	LTR	0.39	17.8	B
Northbound	LT	0.56	23.2	C	LT	0.59	24.2	C	LT	0.83	38.2	D	LT	0.87	42.7	D	LT	0.69	28.0	C	LT	0.73	30.3	C
Southbound	TR	0.07	14.5	B	TR	0.07	14.5	B	TR	0.13	15.1	B	TR	0.13	15.1	B	TR	0.08	14.6	B	TR	0.09	14.7	B
	Intersection		19.4	B	Intersection		20.0	B	Intersection		26.1	C	Intersection		28.2	C	Intersection		21.6	C	Intersection		22.6	C
Bleecker Street and LaGuardia Place																								
Eastbound	LTR	0.81	33.3	C	LTR	0.85	37.2	D	LTR	0.94	50.2	D	LTR	0.98	59.0	E	LTR	0.89	39.4	D	LTR	0.93	45.0	D
Northbound	TR	0.52	22.1	C	TR	0.55	22.8	C	TR	0.65	25.8	C	TR	0.67	26.8	C	TR	0.63	24.9	C	TR	0.65	25.7	C
Southbound	LT	0.29	17.2	B	LT	0.30	17.3	B	LT	0.33	17.8	B	LT	0.34	18.0	B	LT	0.28	16.9	B	LT	0.29	17.1	B
	Intersection		26.9	C	Intersection		29.3	C	Intersection		36.3	D	Intersection		41.1	D	Intersection		31.5	C	Intersection		34.8	C
West Houston Street and LaGuardia Place/West Broadway																								
Eastbound	LTR	0.57	25.2	C	LTR	0.65	27.2	C	LTR	0.71	29.6	C	LTR	0.79	33.0	C	LTR	0.54	24.7	C	LTR	0.63	26.8	C
Westbound	L	0.85	74.7	E	L	0.89	80.1	F	L	0.51	45.9	D	L	0.54	47.1	D	L	0.37	41.0	D	L	0.40	41.8	D
	TR	0.62	14.9	B	TR	0.67	15.8	B	TR	0.57	14.0	B	TR	0.60	14.6	B	TR	0.60	14.5	B	TR	0.64	15.2	B
Northbound	LT	0.67	34.6	C	LT	0.70	36.4	D	LT	0.76	39.5	D	LT	0.80	43.0	D	LT	0.80	43.8	D	LT	0.84	47.5	D
	R	0.59	32.6	C	R	0.63	34.2	C	R	0.79	45.4	D	R	0.83	50.3	D	R	0.62	35.1	D	R	0.65	36.5	D
Southbound	LT	0.51	29.7	C	LT	0.55	31.3	C	LT	0.66	37.6	D	LT	0.71	41.5	D	LT	0.79	49.0	D	LT	0.85	56.3	E
	R	0.18	22.6	C	R	0.19	22.6	C	R	0.18	22.8	C	R	0.19	22.9	C	R	0.27	24.3	C	R	0.28	24.6	C
	Intersection		24.5	C	Intersection		25.8	C	Intersection		26.0	C	Intersection		28.0	C	Intersection		24.8	C	Intersection		26.4	C
West Houston Street and Greene Street																								
Eastbound	T	0.29	13.5	B	T	0.32	13.8	B	T	0.37	14.3	B	T	0.40	14.7	B	T	0.35	14.1	B	T	0.41	14.7	B
Westbound	T	0.69	19.1	B	T	0.75	20.5	C	T	0.63	17.8	B	T	0.67	18.6	B	T	0.66	18.5	B	T	0.72	19.6	B
Northbound	LR	0.42	22.8	C	LR	0.44	23.1	C	LR	0.48	24.0	C	LR	0.49	24.4	C	LR	0.70	31.4	C	LR	0.73	33.1	C
	Intersection		17.9	B	Intersection		18.8	B	Intersection		17.3	B	Intersection		17.8	B	Intersection		18.8	B	Intersection		19.7	B
West 3rd Street and Mercer Street																								
Westbound	LT	0.60	23.0	C	LT	0.63	23.7	C	LT	0.68	25.3	C	LT	0.70	26.2	C	LT	0.71	26.4	C	LT	0.75	27.9	C
Southbound	TR	0.28	17.1	B	TR	0.30	17.4	B	TR	0.38	18.6	B	TR	0.40	18.9	B	TR	0.53	21.5	C	TR	0.57	22.2	C
	Intersection		21.2	C	Intersection		21.8	C	Intersection		23.1	C	Intersection		23.8	C	Intersection		24.4	C	Intersection		25.6	C
Bleecker Street and Mercer Street																								
Eastbound	TR	0.75	30.4	C	TR	0.79	33.0	C	TR	0.97	58.7	E	TR	1.01	69.0	E	TR	1.05	78.8	E	TR	1.10	94.2	F
Southbound	LT	0.29	17.2	B	LT	0.31	17.5	B	LT	0.39	18.6	B	LT	0.41	18.9	B	LT	0.53	21.1	C	LT	0.56	21.9	C
	Intersection		26.2	C	Intersection		28.0	C	Intersection		44.9	D	Intersection		51.6	D	Intersection		55.8	E	Intersection		64.9	E
West Houston Street and Mercer Street																								
Eastbound	TR	0.39	14.5	B	TR	0.43	15.0	B	TR	0.46	15.5	B	TR	0.50	15.9	B	TR	0.41	14.8	B	TR	0.46	15.4	B
Westbound	L	0.16	14.0	B	L	0.18	14.6	B	L	0.34	19.0	B	L	0.38	21.0	C	L	0.29	17.2	B	L	0.34	19.4	B
	T	0.73	20.0	C	T	0.79	21.7	C	T	0.61	17.6	B	T	0.66	18.4	B	T	0.71	19.5	B	T	0.77	21.1	C
Southbound	LTR	0.39	21.7	C	LTR	0.41	22.1	C	LTR	0.60	26.2	C	LTR	0.63	27.1	C	LTR	0.71	29.9	C	LTR	0.75	31.9	C
	Intersection		18.4	B	Intersection		19.6	B	Intersection		18.1	B	Intersection		18.8	B	Intersection		19.7	B	Intersection		20.9	C
West 4th Street and Broadway																								
Eastbound	R [(1)]	0.35	25.7	C	TR	0.29	24.3	C	R [(1)]	0.69	38.4	D	TR	0.48	27.9	C	TR	0.55	29.4	C	TR	0.57	30.1	C
Southbound	T [(1)]	0.83	21.7	C	LT	0.91	27.6	C	T [(1)]	0.90	26.9	C	LT	1.01	47.3	D	LT	0.91	27.6	C	LT	0.57	39.7	D
	Intersection		22.1	C	Intersection		27.2	C	Intersection		28.5	C	Intersection		44.7	D	Intersection		27.9	C	Intersection		38.1	D
West 3rd Street and Broadway																								
Westbound	L	0.33	25.9	C	L	0.35	26.3	C	L	0.38	27.5	C	L	0.40	28.2	C	L	0.48	29.9	C	L	0.53	31.5	C
	T	0.65	32.9	C	T	0.68	33.9	C	T	0.66	33.1	C	T	0.69	34.0	C	T	0.77	39.0	D	T	0.80	41.6	D
Southbound	T	0.72	17.4	B	T	0.66	15.8	B	T	0.90	26.4	C	T	0.79	19.7	B	T	0.80	20.0	B	T	0.86	23.0	C
	R	0.32	12.7	B	R	0.33	13.0	B	R	0.52	19.0	B	R	0.55	20.2	C	R	0.46	17.2	B	R	0.49	18.3	B
	Intersection		20.8	C	Intersection		20.3	C	Intersection		27.1	C	Intersection		23.0	C	Intersection		24.2	C	Intersection		26.9	C

Table 14-26 (Cont'd)
2011 Existing and 2031 No Build Conditions Level of Service Analysis
Signalized Intersections

	AM								Midday								PM							
	2011 Existing				2031 No Build				2011 Existing				2031 No Build				2011 Existing				2031 No Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West Houston Street and Broadway																								
Eastbound	TR	0.69	31.6	C	TR	0.76	33.6	C	TR	0.80	35.2	D	TR	0.86	38.8	D	TR	0.76	33.4	C	TR	0.85	37.5	D
Westbound	L	0.71	34.6	C	L	0.77	40.9	D	L	0.84	48.8	D	L	0.86	52.8	D	L	0.61	29.7	C	L	0.63	30.8	C
	T	0.61	20.6	C	T	0.67	21.6	C	T	0.53	19.3	B	T	0.57	19.9	B	T	0.58	20.0	C	T	0.63	20.9	C
Southbound	LT	0.83	29.7	C	LT	0.89	34.3	C	LT	0.88	33.3	C	LT	0.94	40.7	D	LT	0.87	32.0	C	LT	0.95	41.2	D
	R	0.62	25.6	C	R	0.65	27.3	C	R	0.67	29.7	C	R	0.71	32.2	C	R	0.49	23.0	C	R	0.54	24.5	C
	Intersection		26.9	C	Intersection		29.4	C	Intersection		30.2	C	Intersection		33.8	C	Intersection		27.8	C	Intersection		32.1	C
East Houston Street and Lafayette Street [1]																								
Eastbound	L	0.93	68.2	E	L	1.01	89.6	F	L	0.98	77.0	E	L	1.08	103.6	F	L	1.05	97.2	F	L	1.17	136.7	F
	T	0.87	30.3	C	T	0.37	13.2	B	T	1.02	57.9	E	T	0.42	13.8	B	T	0.92	36.7	D	T	0.40	13.5	B
Westbound	TR	0.91	36.1	D	TR	0.78	27.9	C	TR	0.80	29.4	C	TR	0.67	25.2	C	TR	0.84	31.5	C	TR	0.72	26.2	C
Northbound	LTR	0.87	36.8	D	LT	0.84	35.0-	C	LTR	0.76	30.9	C	LT	0.67	27.9	C	LTR	0.92	42.6	D	LT	0.82	33.8	C
					R	0.29	22.1	C					R	0.38	24.4	C					R	0.44	26.0	C
	Intersection		37.0	D	Intersection		29.6	C	Intersection		41.2	D	Intersection		27.7	C	Intersection		40.5	D	Intersection		32.2	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service
(1) 2011 Existing Conditions effective lane widths and/or turning movements affected due to ongoing construction activities.

Table 14-27
2011 Existing and 2031 No Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM								Midday								PM							
	2011 Existing				2031 No Build				2011 Existing				2031 No Build				2011 Existing				2031 No Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West 4th Street and Mercer Street																								
Eastbound	TR	0.16	8.1	A	TR	0.17	8.2	A	TR	0.34	9.7	A	TR	0.36	9.9	A	TR	0.44	11.0	B	TR	0.46	11.4	B
Southbound	LT	0.17	8.3	A	LT	0.18	8.4	A	LT	0.23	9.1	A	LT	0.24	9.3	A	LT	0.35	10.4	B	LT	0.38	10.8	B
	Intersection		8.2	A	Intersection		8.3	A	Intersection		9.4	A	Intersection		9.6	A	Intersection		10.7	B	Intersection		11.2	B

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

- Eastbound approach at the Bleecker Street/LaGuardia Place intersection will deteriorate to LOS E with a v/c ratio of 0.98 and a delay of 59.0 spv during the midday peak hour and within LOS D with a v/c ratio of 0.93 and a delay of 45.0 spv during the PM peak hour;
- Westbound left-turn at the West Houston Street/LaGuardia Place/West Broadway intersection will deteriorate to LOS F with a v/c ratio of 0.89 and a delay of 80.1 spv during the AM peak hour;
- Northbound left-turn/through at the West Houston Street/LaGuardia Place/West Broadway intersection will deteriorate within LOS D with a v/c ratio of 0.84 and a delay of 47.5 spv during the PM peak hour;
- Southbound left-turn/through at the West Houston Street/LaGuardia Place/West Broadway intersection will deteriorate to LOS E with a v/c ratio of 0.85 and a delay of 56.3 spv during the PM peak hour;
- Eastbound approach at the Bleecker Street/Mercer Street intersection will deteriorate to LOS F with a v/c ratio of 1.10 and a delay of 94.2 spv during the PM peak hour;
- Southbound approach at the West 4th Street/Broadway intersection will deteriorate to LOS D with a v/c ratio of 1.01 and a delay of 47.3 spv during the midday peak hour; and
- Eastbound exclusive left-turn at the East Houston Street/Lafayette Street intersection will deteriorate to LOS F during the AM (v/c ratio of 1.01 and 89.6 spv of delay) and midday (v/c ratio of 1.08 and 103.6 spv of delay) peak hours.

2031 BUILD CONDITION

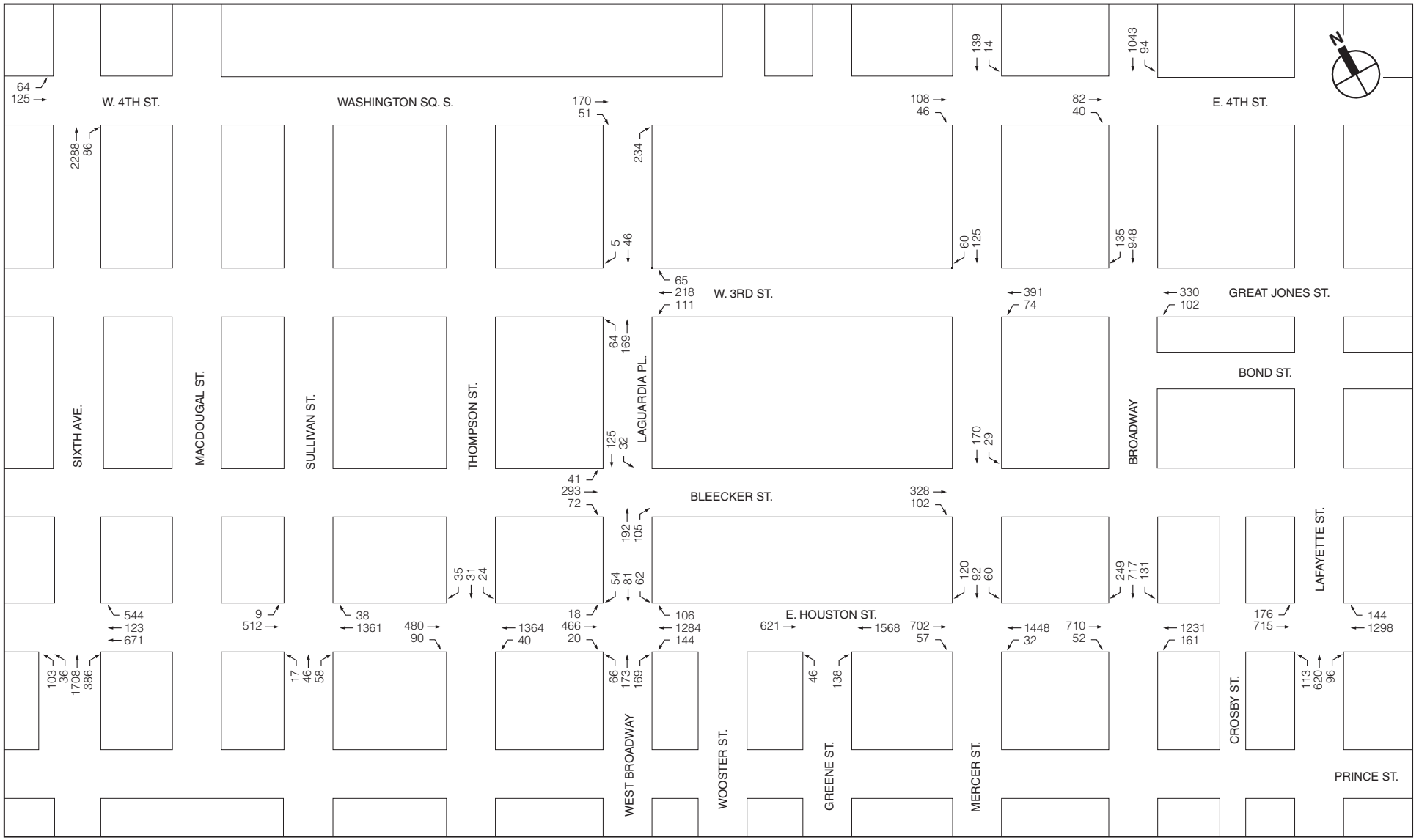
As discussed above, Phase 2 build-out of the proposed project (all development components on both the North and South Blocks) would be completed by 2031 and the additional neighborhood retail uses in the Commercial Overlay Area northeast of the Proposed Development Area would be in place as well. By 2031, the existing 670-space public parking garage on the North Block would be replaced with a 389-space accessory parking garage. Access and egress to this new 389-space accessory parking garage would be provided on West 3rd Street only, whereas the existing 670-space public parking garage has access and egress along both West 3rd and Bleecker Streets. Vehicle trips associated with the parking demand that would no longer be accommodated on the North Block within the new accessory parking garage were reassigned to other area public parking garages for the parking analysis. As discussed further in Section K, "Parking," detailed information on the existing 670-space public parking garage, including hour-by-hour entering and exiting traffic by monthly and daily customers and the type of existing monthly parkers, were obtained to determine retention priority assumptions and to derive the future parking demand profile for the future 389-space accessory parking garage. But for the purposes of a conservative traffic analysis, the trips associated with this displaced parking demand were maintained on the surrounding blocks and reassigned to reflect the changes in garage access/egress. Overall, the 2031 Phase 2 full build-out of the proposed project would result in approximately 311, 266, and 302 incremental vehicle trips during the weekday AM, midday, and PM peak hours, respectively. The related peak hour traffic assignments, accounting for the changes in parking on the North Block, are discussed above in Section E, "Level 2 Screening Assessment and shown in **Figures 14-5** to **14-7**.

The proposed project is also incorporating roadway changes on West 3rd and Bleecker Streets between LaGuardia Place and Mercer Street. As shown in **Figure 1-8** (2031 Site Plan for Proposed Development Area), sidewalk extensions from the North Block are proposed for West 3rd Street to create corner bulb-outs at LaGuardia Place and Mercer Street, effectively narrowing portions of the West 3rd Street cross-section from approximately 50 feet to approximately 30 feet. Since this segment of West 3rd Street is substantially wider than its adjacent roadway segments (east of Mercer Street and west of LaGuardia Place), traffic movements and lane utilizations are not expected to be affected by this reconfiguration. In addition, signalized mid-block crossings, coupled with neck-downs, would be provided on both West 3rd and Bleecker Streets between LaGuardia Place and Mercer Street, which together with the completion of the North Block would create a pedestrian corridor connecting the Zipper Building on the South Block with the new uses of the North Block and the existing campus to the north. For analysis purposes, the signal timings at these new mid-block crossings were assumed to be the same or comparable to their respective downstream intersection signal timings. These roadway and operational changes have been incorporated into the 2031 Build condition.

TRAFFIC OPERATIONS

The 2031 Build traffic volumes are shown in **Figures 14-30** to **14-32** for the AM, midday, and PM peak hours. **Tables 14-28** and **14-29** present a comparison of 2031 No Build and Build conditions. Based on the criteria presented in the *CEQR Technical Manual* and discussed previously in Section F, "Transportation Analyses Methodology," significant adverse impacts are identified by the "+" symbol in the analysis summary tables.

12.14.11

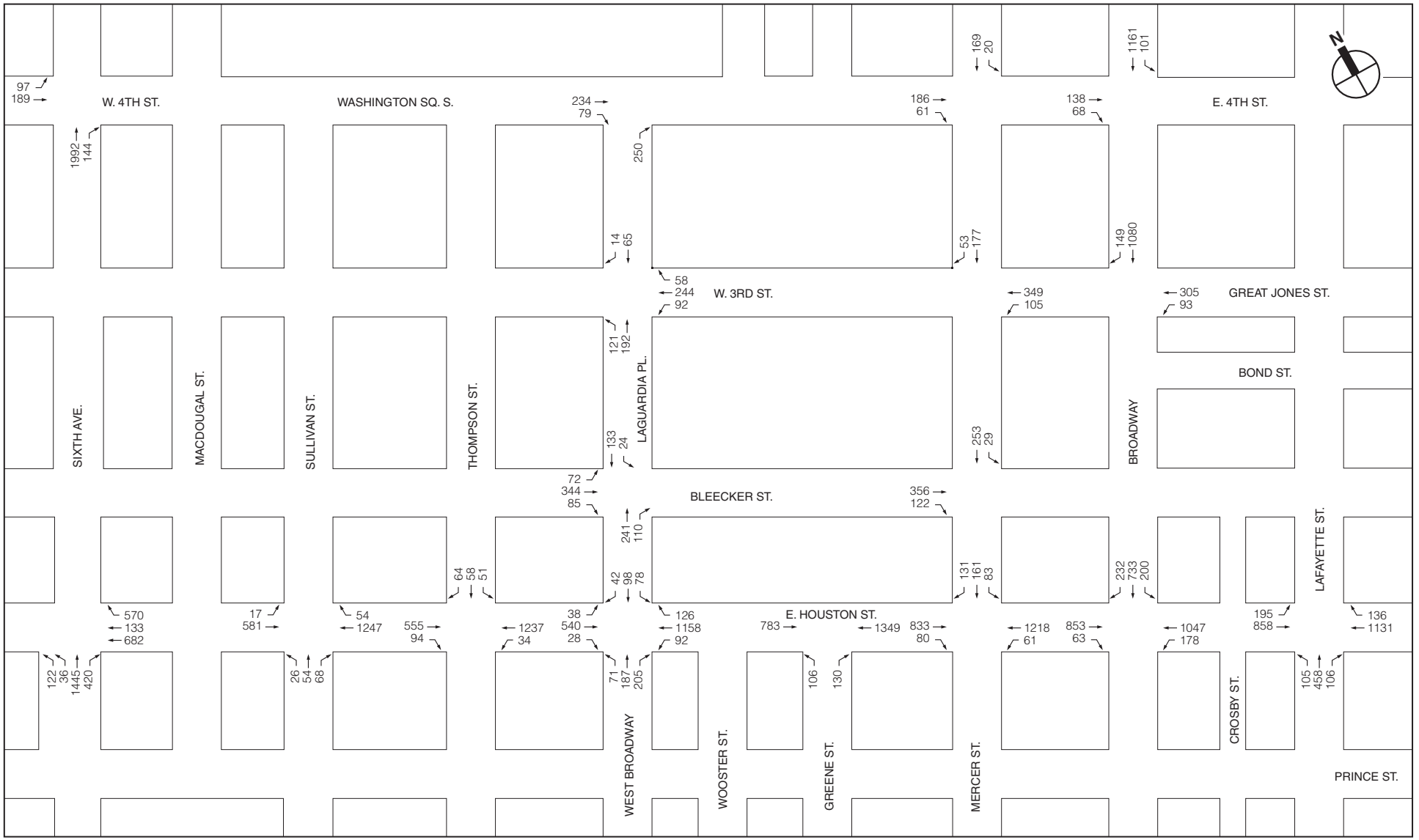


NOT TO SCALE

2031 Build Traffic Volumes
Weekday AM Peak Hour
Figure 14-30

NYU Core

12.14.11

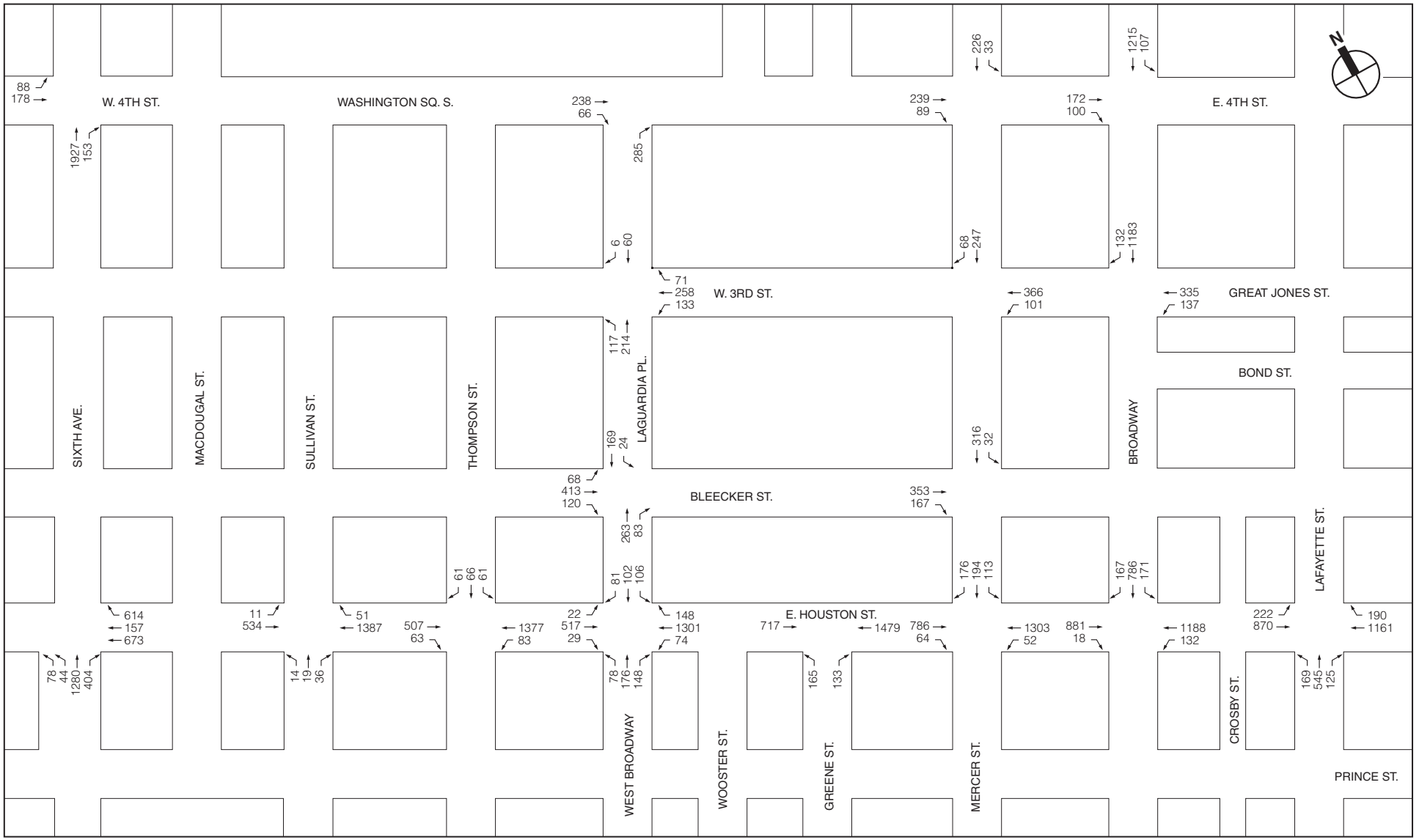


NOT TO SCALE

2031 Build Traffic Volumes
Weekday Midday Peak Hour
Figure 14-31

NYU Core

12.14.11



2031 Build Traffic Volumes
Weekday PM Peak Hour
Figure 14-32

NYU Core

Table 14-28
2031 No Build and Build Conditions Level of Service Analysis
Signalized Intersections

	AM								Midday								PM							
	2031 No Build				2031 Build				2031 No Build				2031 Build				2031 No Build				2031 Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West 4th Street and Sixth Avenue																								
Eastbound	LT	0.36	24.0	C	LT	0.43	25.0	C	LT	0.60	29.5	C	LT	0.64	30.8	C	LT	0.51	26.7	C	LT	0.54	27.4	C
Northbound	TR	0.93	20.6	C	TR	0.95	22.2	C	TR	0.82	14.7	B	TR	0.84	15.3	B	TR	0.82	14.6	B	TR	0.84	15.3	B
	Intersection		20.9	C	Intersection		22.5	C	Intersection		16.6	B	Intersection		17.3	B	Intersection		16.0	B	Intersection		16.7	B
West Houston Street and Sixth Avenue																								
Westbound	T	0.70	25.9	C	T	0.73	26.6	C	T	0.70	25.8	C	T	0.72	26.5	C	T	0.68	25.2	C	T	0.70	25.8	C
	R	0.74	29.0	C	R	0.78	31.2	C	R	0.93	47.7	D	R	0.96	52.9	D +	R	0.97	55.6	E	R	1.00	62.8	E +
Northbound	LTR	1.12	85.9	F	LTR	1.14	91.5	F +	LTR	0.98	39.1	D	LTR	0.99	42.1	D	LTR	0.94	32.9	C	LTR	0.95	34.1	C
	Intersection		63.0	E	Intersection		66.6	E	Intersection		37.3	D	Intersection		40.0	D	Intersection		35.3	D	Intersection		37.5	D
West Houston Street and Sullivan Street																								
Eastbound	LT	0.47	15.9	B	LT	0.48	16.1	B	LT	0.50	16.3	B	LT	0.49	16.5	B	LT	0.44	15.4	B	LT	0.44	15.5	B
Westbound	TR	0.71	19.5	B	TR	0.73	20.0	C	TR	0.70	19.3	B	TR	0.71	19.8	B	TR	0.70	19.4	B	TR	0.72	19.8	B
Northbound	LTR	0.37	22.3	C	LTR	0.37	22.3	C	LTR	0.42	23.4	C	LTR	0.42	23.4	C	LTR	0.23	19.8	B	LTR	0.23	19.8	B
	Intersection		18.6	B	Intersection		19.1	B	Intersection		18.8	B	Intersection		19.1	B	Intersection		18.3	B	Intersection		18.6	B
West Houston Street and Thompson Street																								
Eastbound	TR	0.44	15.5	B	TR	0.46	15.7	B	TR	0.49	16.2	B	TR	0.49	16.4	B	TR	0.45	15.5	B	TR	0.45	15.6	B
Westbound	LT	0.78	21.8	C	LT	0.81	22.7	C	LT	0.69	19.3	B	LT	0.70	19.8	B	LT	0.86	25.2	C	LT	0.88	26.9	C
Southbound	LTR	0.29	20.8	C	LTR	0.29	20.8	C	LTR	0.59	28.9	C	LTR	0.57	28.4	C	LTR	0.55	27.0	C	LTR	0.54	26.6	C
	Intersection		20.0-	B	Intersection		20.6	C	Intersection		19.3	B	Intersection		19.5	B	Intersection		22.8	C	Intersection		23.8	C
West 4th Street and LaGuardia Place																								
Eastbound	TR	0.44	23.5	C	TR	0.51	24.9	C	TR	0.70	31.7	C	TR	0.76	34.8	C	TR	0.56	26.0	C	TR	0.59	27.1	C
Northbound	R	0.52	22.8	C	R	0.74	35.5	D	R	0.68	29.0	C	R	0.83	41.5	D	R	0.67	28.1	C	R	0.89	50.6	D +
	Intersection		23.1	C	Intersection		29.9	C	Intersection		30.5	C	Intersection		37.8	D	Intersection		27.0	C	Intersection		38.6	D
West 3rd Street and LaGuardia Place																								
Westbound	LTR	0.39	17.8	B	LTR	0.50	19.9	B	LTR	0.36	17.4	B	LTR	0.43	18.6	B	LTR	0.39	17.8	B	LTR	0.53	20.4	C
Northbound	LT	0.59	24.2	C	LT	0.65	26.4	C	LT	0.87	42.7	D	LT	0.90	47.9	D +	LT	0.73	30.3	C	LT	0.77	32.7	C
Southbound	TR	0.07	14.5	B	TR	0.09	14.7	B	TR	0.13	15.1	B	TR	0.14	15.2	B	TR	0.09	14.7	B	TR	0.09	14.7	B
	Intersection		20.0	B	Intersection		21.9	C	Intersection		28.2	C	Intersection		30.9	C	Intersection		22.6	C	Intersection		24.6	C
Bleecker Street and LaGuardia Place																								
Eastbound	LTR	0.85	37.2	D	LTR	0.92	46.3	D +	LTR	0.98	59.0	E	LTR	1.00	64.7	E +	LTR	0.93	45.0	D	LTR	0.95	48.7	D
Northbound	TR	0.55	22.8	C	TR	0.73	31.2	C	TR	0.67	26.8	C	TR	0.70	27.5	C	TR	0.65	25.7	C	TR	0.77	31.6	C
Southbound	LT	0.30	17.3	B	LT	0.37	18.5	B	LT	0.34	18.0	B	LT	0.35	18.1	B	LT	0.29	17.1	B	LT	0.33	17.7	B
	Intersection		29.3	C	Intersection		36.1	D	Intersection		41.1	D	Intersection		43.7	D	Intersection		34.8	C	Intersection		38.0	D
West Houston Street and LaGuardia Place/West Broadway																								
Eastbound	LTR	0.65	27.2	C	LTR	0.72	29.5	C	LTR	0.79	33.0	C	LTR	0.86	37.8	D	LTR	0.63	26.8	C	LTR	0.67	27.8	C
Westbound	L	0.89	80.1	F	L	0.89	80.1	F	L	0.54	47.1	D	L	0.54	47.1	D	L	0.40	41.8	D	L	0.40	41.8	D
	TR	0.67	15.8	B	TR	0.72	16.9	B	TR	0.60	14.6	B	TR	0.65	15.4	B	TR	0.64	15.2	B	TR	0.68	16.0	B
Northbound	LT	0.70	36.4	D	LT	0.74	38.5	D	LT	0.80	43.0	D	LT	0.82	44.9	D	LT	0.84	47.5	D	LT	0.88	53.8	D +
	R	0.63	34.2	C	R	0.72	41.0	D	R	0.83	50.3	D	R	0.92	65.9	E +	R	0.65	36.5	D	R	0.67	38.2	D
Southbound	LT	0.55	31.3	C	LT	0.59	33.3	C	LT	0.71	41.5	D	LT	0.77	46.8	D +	LT	0.85	56.3	E	LT	0.96	78.0	E +
	R	0.19	22.6	C	R	0.22	23.3	C	R	0.19	22.9	C	R	0.18	22.9	C	R	0.28	24.6	C	R	0.32	25.4	C
	Intersection		25.8	C	Intersection		27.4	C	Intersection		28.0	C	Intersection		31.2	C	Intersection		26.4	C	Intersection		29.4	C
West Houston Street and Greene Street																								
Eastbound	T	0.32	13.8	B	T	0.32	13.8	B	T	0.40	14.7	B	T	0.41	14.7	B	T	0.41	14.7	B	T	0.41	14.8	B
Westbound	T	0.75	20.5	C	T	0.77	21.3	C	T	0.67	18.6	B	T	0.69	19.2	B	T	0.72	19.6	B	T	0.74	20.2	C
Northbound	LR	0.44	23.1	C	LR	0.47	23.9	C	LR	0.49	24.4	C	LR	0.56	26.3	C	LR	0.73	33.1	C	LR	0.80	38.9	D
	Intersection		18.8	B	Intersection		19.5	B	Intersection		17.8	B	Intersection		18.4	B	Intersection		19.7	B	Intersection		20.8	C
West 3rd Street and Mercer Street																								
Westbound	LT	0.63	23.7	C	LT	0.77	29.9	C	LT	0.70	26.2	C	LT	0.80	31.7	C	LT	0.75	27.9	C	LT	0.86	36.4	D
Southbound	TR	0.30	17.4	B	TR	0.47	20.7	C	TR	0.40	18.9	B	TR	0.48	20.7	C	TR	0.57	22.2	C	TR	0.66	25.3	C
	Intersection		21.8	C	Intersection		27.0	C	Intersection		23.8	C	Intersection		27.8	C	Intersection		25.6	C	Intersection		31.9	C
Bleecker Street and Mercer Street																								
Eastbound	TR	0.79	33.0	C	TR	1.03	74.7	E +	TR	1.01	69.0	E	TR	1.17	123.6	F +	TR	1.10	94.2	F	TR	1.30	177.1	F +
Southbound	LT	0.31	17.5	B	LT	0.36	18.3	B	LT	0.41	18.9	B	LT	0.48	20.3	C	LT	0.56	21.9	C	LT	0.64	24.0	C
	Intersection		28.0	C	Intersection		56.7	E	Intersection		51.6	D	Intersection		85.8	F	Intersection		64.9	E	Intersection		113.0	F
West Houston Street and Mercer Street																								
Eastbound	TR	0.43	15.0	B	TR	0.43	15.0	B	TR	0.50	15.9	B	TR	0.51	16.1	B	TR	0.46	15.4	B	TR	0.48	15.6	B
Westbound	L	0.18	14.6	B	L	0.21	15.2	B	L	0.38	21.0	C	L	0.46	24.6	C	L	0.34	19.4	B	L	0.40	21.7	C
	T	0.79	21.7	C	T	0.80	22.1	C	T	0.66	18.4	B	T	0.66	18.6	B	T	0.77	21.1	C	T	0.78	21.3	C
Southbound	LTR	0.41	22.1	C	LTR	0.66	28.9	C	LTR	0.63	27.1	C	LTR	0.86	40.9	D	LTR	0.75	31.9	C	LTR	0.93	50.8	D +
	Intersection		19.6	B	Intersection		20.7	C	Intersection		18.8	B	Intersection		21.5	C	Intersection		20.9	C	Intersection		24.5	C
West 4th Street and Broadway																								
Eastbound	TR	0.29	24.3	C	TR	0.30	24.5	C	TR	0.48	27.9	C	TR	0.49	28.1	C	TR	0.57	30.1	C	TR	0.61	31.3	C
Southbound	LT	0.91	27.6	C	LT	0.95	32.6	C	LT	1.01	47.3	D	LT	1.04	54.5	D +	LT	0.57	39.7	D	LT	1.01	45.5	D +
	Intersection		27.2	C	Intersection		31.8	C	Intersection		44.7	D	Intersection		50.9	D	Intersection		38.1	D	Intersection		43.0	D
West 3rd Street and Broadway																								
Westbound	L	0.35	26.3	C	L	0.40	27.8	C	L	0.40	28.2	C	L	0.43	29.0	C	L	0.53	31.5	C	L	0.54	32.1	C
	T	0.68	33.9	C	T	0.77	38.5	D	T	0.69	34.0	C	T	0.72	35.7	D	T	0.80	41.6	D	T	0.86	46.8	D +
Southbound	T	0.66	15.8	B	T	0.67	16.0	B	T	0.79	19.7	B	T	0.80	19.8	B	T	0.86	23.0	C	T	0.86	23.3	C
	R	0.33	13.0	B	R	0.43	15.4	B	R	0.55	20.2	C	R	0.64	24.6	C	R	0.49	18.3	B	R	0.59	22.5	C
	Intersection		20.3	C	Intersection		22.0	C	Intersection		23.0	C	Intersection		24.0	C	Intersection		26.9	C	Intersection		28.6	C

Table 14-28 (Cont'd)
2031 No Build and Build Conditions Level of Service Analysis
Signalized Intersections

	AM								Midday								PM							
	2031 No Build				2031 Build				2031 No Build				2031 Build				2031 No Build				2031 Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West Houston Street and Broadway																								
Eastbound	TR	0.76	33.6	C	TR	0.78	34.3	C	TR	0.86	38.8	D	TR	0.88	40.3	D	TR	0.85	37.5	D	TR	0.88	39.4	D
Westbound	L	0.77	40.9	D	L	0.77	40.7	D	L	0.86	52.8	D	L	0.86	52.1	D	L	0.63	30.8	C	L	0.63	31.0	C
	T	0.67	21.6	C	T	0.68	21.8	C	T	0.57	19.9	B	T	0.58	20.0+	C	T	0.63	20.9	C	T	0.64	21.1	C
Southbound	LT	0.89	34.3	C	LT	0.90	35.0	D	LT	0.94	40.7	D	LT	0.94	41.1	D	LT	0.95	41.2	D	LT	0.95	41.6	D
	R	0.65	27.3	C	R	0.71	30.9	C	R	0.71	32.2	C	R	0.73	34.1	C	R	0.54	24.5	C	R	0.56	25.6	C
	Intersection		29.4	C	Intersection		30.1	C	Intersection		33.8	C	Intersection		34.5	C	Intersection		32.1	C	Intersection		32.9	C
East Houston Street and Lafayette Street																								
Eastbound	L	1.01	89.6	F	L	1.01	89.6	F	L	1.08	103.6	F	L	1.08	104.4	F	L	1.17	136.7	F	L	1.17	137.4	F
	T	0.37	13.2	B	T	0.38	13.3	B	T	0.42	13.8	B	T	0.43	13.9	B	T	0.40	13.5	B	T	0.41	13.7	B
Westbound	TR	0.78	27.9	C	TR	0.79	28.3	C	TR	0.67	25.2	C	TR	0.68	25.4	C	TR	0.72	26.2	C	TR	0.73	26.5	C
Northbound	LT	0.84	35.0-	C	LT	0.87	37.0	D	LT	0.67	27.9	C	LT	0.69	28.4	C	LT	0.82	33.8	C	LT	0.84	35.1	D
	R	0.29	22.1	C	R	0.29	22.1	C	R	0.38	24.4	C	R	0.38	24.4	C	R	0.44	26.0	C	R	0.44	26.0	C
	Intersection		29.6	C	Intersection		30.1	C	Intersection		27.7	C	Intersection		27.9	C	Intersection		32.2	C	Intersection		32.5	C
West 3rd Street Midblock Crosswalk between LaGuardia Place and Mercer Street																								
Westbound	--				T	0.37	17.6	B	--				T	0.34	17.1	B	--				T	0.39	17.8	B
					Intersection		17.6	B					Intersection		17.1	B					Intersection		17.8	B
Bleecker Street Midblock Crosswalk between LaGuardia Place and Mercer Street																								
Eastbound	--				T	0.78	29.1	C	--				T	0.89	38.8	D	--				T	0.93	43.5	D
					Intersection		29.1	C					Intersection		38.8	D					Intersection		43.5	D

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn; LOS = Level of Service
+ Denotes a significant adverse traffic impact

Table 14-29
2031 No Build and Build Conditions Level of Service Analysis
Unsignalized Intersections

	AM								Midday								PM							
	2031 No Build				2031 Build				2031 No Build				2031 Build				2031 No Build				2031 Build			
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	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
West 4th Street and Mercer Street																								
Eastbound	TR	0.17	8.2	A	TR	0.21	8.4	A	TR	0.36	9.9	A	TR	0.38	10.2	B	TR	0.46	11.4	B	TR	0.52	12.5	B
Southbound	LT	0.18	8.4	A	LT	0.21	8.7	A	LT	0.24	9.3	A	LT	0.27	9.6	A	LT	0.38	10.8	B	LT	0.43	11.6	B
	Intersection		8.3	A	Intersection		8.6	A	Intersection		9.6	A	Intersection		10.0	A	Intersection		11.2	B	Intersection		12.1	B

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

SIGNIFICANT IMPACTS

Significant adverse traffic impacts were identified at twelve approaches/lane groups (of nine intersections). Potential measures that can be implemented to mitigate these significant adverse traffic impacts are discussed in Chapter 21, "Mitigation."

- The northbound approach at the signalized intersection of West Houston Street/Sixth Avenue would deteriorate within LOS F (from a v/c ratio of 1.12 and 85.9 spv of delay to a v/c ratio of 1.14 and 91.5 spv of delay), an increase in delay of more than three seconds, during the AM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The westbound right-turn at the signalized intersection of West Houston Street/Sixth Avenue would deteriorate within LOS D (from a v/c ratio of 0.93 and 47.7 spv of delay to a v/c ratio of 0.96 and 52.9 spv of delay) and within LOS E (from a v/c ratio of 0.97 and 55.6 spv of delay to a v/c ratio of 1.00 and 62.8 spv of delay), increases in delay of more than five and four seconds, during the midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

- The northbound approach at the signalized intersection of West 4th Street/LaGuardia Place would deteriorate from LOS C (v/c ratio of 0.67 and 28.1 spv of delay) to LOS D (v/c ratio of 0.89 and 50.6 spv of delay), an increase in delay of more than five seconds, during the PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The northbound approach at the signalized intersection of West 3rd Street/LaGuardia Place would deteriorate within LOS D (from a v/c ratio of 0.87 and 42.7 spv of delay to a v/c ratio of 0.90 and 47.9 spv of delay), an increase of more than five seconds, during the midday peak hour. This project increase in delay constitutes a significant adverse impact.
- The eastbound approach at the signalized intersection of Bleecker Street/LaGuardia Place would deteriorate within LOS D (from a v/c ratio of 0.85 and 37.2 spv of delay to a v/c ratio of 0.92 and 46.3 spv of delay) and within LOS E (from a v/c ratio of 0.98 and 59.0 spv of delay to a v/c ratio of 1.00 and 64.7 spv of delay), increases in delay of more than five and four seconds, during the AM and midday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The northbound left-turn/through at the signalized intersection of West Houston Street/LaGuardia Place/West Broadway would deteriorate within LOS D (from a v/c ratio of 0.84 and 47.5 spv of delay to a v/c ratio of 0.88 and 53.8 spv of delay), an increase in delay of more than five seconds, during the PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The northbound right at the signalized intersection of West Houston Street/LaGuardia Place/West Broadway would deteriorate from LOS D (v/c ratio of 0.83 and 50.3 spv of delay) to LOS E (v/c ratio of 0.92 and 65.9 spv of delay), an increase in delay of more than five seconds, during the midday peak hour. This projected increase in delay constitutes a significant adverse impact.
- The southbound left-turn/through at the signalized intersection of West Houston Street/LaGuardia Place/West Broadway would deteriorate within LOS D (from a v/c ratio of 0.71 and 41.5 spv of delay to a v/c ratio of 0.77 and 46.8 spv of delay) and within LOS E (from a v/c ratio of 0.85 and 56.3 spv of delay to a v/c ratio of 0.96 and 78.0 spv of delay), increases in delay of more than five and four seconds, during the midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The eastbound approach at the signalized intersection of Bleecker Street/Mercer Street would deteriorate from LOS C (v/c ratio of 0.79 and 33.0 spv of delay) to LOS E (v/c ratio of 1.03 and 74.7 spv of delay), from LOS E (v/c ratio of 1.01 and 69.0 spv of delay) to LOS F (v/c ratio of 1.17 and 123.6 spv of delay), and within LOS F (from a v/c ratio of 1.10 and 94.2 spv of delay to a v/c ratio of 1.30 and 177.1 spv of delay), increases in delay of more than five, four, and three seconds, during the AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The southbound approach at the signalized intersection of West Houston Street/Mercer Street would deteriorate from LOS C (v/c ratio of 0.75 and 31.9 spv of delay) to LOS D (v/c ratio of 0.93 and 50.8 spv of delay), an increase in delay of more than five seconds, during the PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The southbound approach at the signalized intersection of West 4th Street/Broadway would deteriorate within LOS D (from a v/c ratio of 1.01 and 47.3 spv of delay to a v/c ratio of 1.04 and 54.5 spv of delay) during the midday peak hour and within LOS D (from a v/c ratio of 0.57 and 39.7 spv of delay to a v/c ratio of 1.01 and 45.5 spv of delay) during the PM peak

hour, increases in delay of more than five seconds. These projected increases in delay constitute significant adverse impacts.

- The westbound through at the signalized intersection of West 3rd Street/Broadway would deteriorate within LOS D (from a v/c ratio of 0.80 and 41.6 spv of delay to a v/c ratio of 0.86 and 46.8 spv of delay), an increase in delay of more than five seconds during the PM peak hour. This projected increase in delay constitutes a significant adverse impact.

H. TRANSIT

Mass transit options serving the study area are provided by the NYCT and include the B/D/F/M lines at the Broadway-Lafayette Station; the No. 6 line at the Bleecker Street Station and Astor Place Station; the A/B/C/D/E/F/M lines at the West 4th Street Station; the C/E lines at the Spring Street Station; the N/R lines at the Prince Street and 8th Street-NYU Stations; and the M1, M2, M3, M5, M8, and M21 bus routes. A detailed analysis of transit operations during the critical weekday AM and PM peak periods is presented below. During other time periods, background transit ridership and station utilization, as well as project trip generation, are comparatively lower. Hence, potential transit impacts were evaluated only for the weekday AM and PM peak periods.

TRANSIT STUDY AREAS

SUBWAY SERVICE

Below is the summary of subway lines that would most likely serve the project site. Subway lines serving stations further away are shown in the transit map (see **Figure 14-9**) but are not included in the description below.

- The No. 6 subway line (Lexington Avenue Local) operates between Brooklyn Bridge-City Hall, Manhattan and Pelham Bay Park, The Bronx. The No. 6 line runs local primarily along Lexington Avenue in Manhattan and Westchester Avenue in the Bronx.
- The A subway line (Eighth Avenue Express) operates between Far Rockaway-Mott Avenue, Queens and Inwood-207th Street, Manhattan, at all times.
- The B subway line (Sixth Avenue Express) operates between Brighton Beach, Brooklyn and 145th Street, Manhattan on weekdays only, and extends to Bedford Park Boulevard, The Bronx during rush hours.
- The C subway line (Eighth Avenue Local) operates between Euclid Avenue, Brooklyn and 168th Street, Manhattan.
- The D subway line (Sixth Avenue Express) operates between Coney Island-Stillwell Avenue, Brooklyn and 205th Street, The Bronx.
- The E subway line (Eighth Avenue Local) operates between the World Trade Center-Church Street, Manhattan and Jamaica Center, Queens at all times.
- The F subway line (Queens Boulevard Express/ 6th Avenue Local) operates between Stillwell Avenue, Brooklyn and Jamaica, Queens via the 63rd Street connector. The F line runs express along Queens Boulevard.
- The M subway line (Queens Boulevard Local/Sixth Avenue Local/Myrtle Avenue Local) operates between Middle Village-Metropolitan Avenue, Queens and Myrtle Avenue, Brooklyn at all times, and between Flushing Avenue, Brooklyn, and Forest Hills-71st Avenue, Queens part time.

- The N subway line (Broadway Local) operates between Coney Island-Stillwell Avenue, Brooklyn and Astoria-Ditmars Boulevard, Queens at all times.
- The R subway line (Broadway Local) operates between 95th Street-4th Avenue, Brooklyn and Forest Hills-71st Avenue, Queens.

BUS SERVICE

Based on the travel demand estimates and the availability and service frequencies of the bus routes in the study area, it was determined that no individual bus route would experience 50 or more peak hour bus trips in one direction—the CEQR recommended threshold for undertaking a quantified bus analysis. Consequently, the Proposed Actions would not result in any significant adverse bus impacts and a quantitative bus line-haul analysis is not warranted. **Table 14-30** provides a summary of the NYCT local bus routes that provide regular service to the study area and their weekday frequencies of operation. All of these routes use standard buses with a guideline capacity of 54 to 55 passengers per bus. There are also numerous express bus routes making stops along Broadway, West Houston Street, and Sixth Avenue near the NYU Proposed Development and Commercial Overlay Areas.

Table 14-30
NYCT Local Bus Routes Serving The Study Area

Bus Route	Start Point	End Point	Routing in Study Area	Freq. of Bus Service (Headway in Minutes)		
				AM	Afternoon	PM
M1	West 146th Street / Malcolm X Boulevard	East 8th Street / Fourth Avenue	East 8th Street	12	10	12
M2	Audubon Avenue / West 168th Street	Fourth Avenue / East 9th Street	East 8th Street	10-12	12	8-12
M3	St. Nicholas Avenue / West 193rd Street	Fourth Avenue / East 9th Street	East 8th Street	12	8-10	6-15
M5	Washington Heights	Staten Island Ferry	East 8th Street, Broadway, Sixth Avenue	5-6	12	10-12
M8	Christopher Street / West Street	East 10th Street / Avenue D	East 8th Street, West 8th Street	12-18	20	20
M21	Grand Street / FDR Drive	Spring Street / Greenwich Street	East Houston, West Houston, Sixth Avenue	20	30	20

Source: MTA NYCT Bus Timetables (2011).

2011 EXISTING CONDITIONS—SUBWAY STATION OPERATIONS

As presented in Section D, "Level 1 Screening Assessment," the full build-out of the proposed project in 2031 is expected to result in approximately 1,957 and 2,376 project-generated subway trips during the AM and PM peak hours, respectively. These trips were distributed to the several nearby stations discussed above and the corresponding station elements. As detailed in Section E, "Level 2 Screening Assessment," station elements at three area subway stations were identified for analysis, as follows.

BLEECKER STREET STATION (NO. 6 LINE)

The Bleecker Street Station is located beneath Mulberry Street between East Houston Street and Bleecker Street. The control areas and stairways located west of the Lafayette Street and

Bleecker Street intersection and those on the north and south sides of the Bleecker Street and Mulberry Street intersection were included for analysis. The control area on the uptown side (R217) includes four two-way turnstiles while that on the downtown side (unmarked) contains two High Entry/Exit Turnstiles (HEETs).

BROADWAY-LAFAYETTE STATION (B/D/F/M LINES)

The Broadway-Lafayette Station is located beneath East Houston Street between Lafayette Street and Broadway and beneath Lafayette Street between East Houston Street and Bleecker Street. The control area (N-519) and stairway located just east of the Broadway and East Houston Street intersection were included for analysis. A total of 8 two-way turnstiles serve this control area.

WEST 4TH STREET STATION (A/B/C/D/E/F/M LINES)

The West 4th Street Station is located beneath Sixth Avenue between West 3rd Street and Waverly Place. The control area (N-83) and stairway located north and east of the West 3rd Street and Sixth Avenue intersection were included for analysis. A total of ten turnstiles serve this control area.

Field surveys conducted on May 11, 2011 during the hours of 7:00 to 9:30 AM and 4:00 to 6:30 PM provided the baseline volumes for the analysis of the above subway station elements. As shown in **Tables 14-31** and **14-32**, all analyzed stairways and control areas currently operate at acceptable levels during the weekday AM and PM peak periods, with the exception of the northeast stairway (S9) at the Broadway-Lafayette Station during the PM peak period (LOS D, v/c= 1.04).

2021 NO BUILD CONDITION

Estimates of peak hour transit volumes in the 2021 No Build condition were developed by applying the 2010 *CEQR Technical Manual* recommended annual background growth rates. An annual compounded background growth rate of 0.25 percent was applied to the transit volumes from 2011 to 2016, and an annual compounded background growth rate of 0.125 percent was applied to the transit volumes from 2016 to 2021. In addition, trips associated with No Build projects were incorporated into the future No Build transit volumes.

The No Build peak period volume projections were allocated to the transit analysis elements described above. It should be noted that MTA NYCT is currently constructing a connection between the uptown No. 6 Bleecker Street Station and the Broadway-Lafayette (B/D/F/M) Station and improved control areas at these stations. When completed, this connection will allow subway riders to transfer between lines without having to exit the stations. This new transfer connection is expected to result in a reduction in pedestrian flow between station entrances and at the connecting stairways and control areas within these stations. Also, the control area elements at the No 6 train Bleecker Street Stations (uptown and downtown) will be reconfigured as follows.

- Uptown No. 6 Train Control Area: Three HEETs and one High Exit Turnstile (HXT) will replace four two-way turnstiles.
- Downtown No. 6 Train Control Area: Two HXTs will be added to the two existing HEETs.

As shown in **Tables 14-33** and **14-34**, all station stairways, control area elements, and escalators would continue to operate at acceptable levels, except for the northeast stairway (S9) at the Broadway and Houston Street entrance (Broadway-Lafayette Station), which would operate at LOS D with a v/c ratio of 1.10 during the PM peak period.

Table 14-31
2011 Existing Conditions Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Weekday AM Peak 15 Minutes								
Bleecker Street Station (Uptown No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	79	34	0.80	0.90	0.32	A
SE (S4)	3.8	2.8	49	21	0.80	0.90	0.20	A
SW (P2)	4.0	3.0	215	12	0.80	0.90	0.57	B
Bleecker Street Station (Downtown No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	23	143	0.80	0.90	0.43	A
SW (unmarked)	4.4	3.4	15	68	0.80	0.90	0.22	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	28	291	0.95	0.90	0.65	B
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	177	251	0.95	0.90	0.50	B
Weekday PM Peak 15 Minutes								
Bleecker Street Station (Uptown No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	94	44	0.80	0.90	0.39	A
SE (S4)	3.8	2.8	59	32	0.80	0.90	0.26	A
SW (P2)	4.0	3.0	196	16	0.80	0.90	0.53	B
Bleecker Street Station (Downtown No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	52	115	0.80	0.90	0.41	A
SW (unmarked)	4.4	3.4	22	68	0.80	0.90	0.23	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	286	235	0.95	0.90	1.04	D
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	351	392	0.95	0.90	0.86	C

Notes:
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

Table 14-32
2011 Existing Conditions Subway Control Area Analysis

Station Control Elements	Quantity	15-Minute Pedestrian Volumes In	15-Minute Pedestrian Volumes Out	Surging Factor	Friction Factor	V/C Ratio	LOS
Weekday AM Peak 15 Minutes							
Bleecker Street Station (Uptown No. 6 Line) Control Area (R217)							
Two-way Turnstiles	4	356	48	0.80	0.90	0.26	A
Bleecker Street Station (Downtown No. 6 Line) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	34	211	0.80	0.90	0.35	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	54	788	0.95	0.90	0.20	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	433	1,056	0.95	0.90	0.31	A
Weekday PM Peak 15 Minutes							
Bleecker Street Station (Uptown No. 6 Line) Control Area (R217)							
Two-way Turnstiles	4	321	86	0.80	0.90	0.26	A
Bleecker Street Station (Downtown No. 6 Line) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	52	178	0.80	0.90	0.34	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	666	415	0.95	0.90	0.31	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	901	1,017	0.95	0.90	0.42	A

Notes:
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin/ Cin* Ff] + [Vx/ Cx* Sf*Ff]
Where
Vin = Peak 15-minute entering passenger volume
Cin = Total 15-minute capacity of all turnstiles for entering passengers
Vx = Peak 15-minute exiting passenger
Cx = Total 15-minute capacity of all turnstile for exiting passengers
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

Table 14-33
2021 No Build Condition Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Weekday AM Peak 15 Minutes								
Bleecker Street Station (No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	81	37	0.80	0.90	0.34	A
SE (S4)	3.8	2.8	50	22	0.80	0.90	0.21	A
SW (P2)	4.0	3.0	219	14	0.80	0.90	0.58	B
Bleecker Street Station (No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	23	148	0.80	0.90	0.44	A
SW (unmarked)	4.4	3.4	15	71	0.80	0.90	0.23	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	29	314	0.95	0.90	0.70	C
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	177	316	0.95	0.90	0.57	B
Weekday PM Peak 15 Minutes								
Bleecker Street Station (Uptown No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	98	45	0.80	0.90	0.41	A
SE (S4)	3.8	2.8	61	33	0.80	0.90	0.27	A
SW (P2)	4.0	3.0	202	16	0.80	0.90	0.55	B
Bleecker Street Station (Downtown No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	55	118	0.80	0.90	0.43	A
SW (unmarked)	4.4	3.4	24	70	0.80	0.90	0.24	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	305	245	0.95	0.90	1.10	D
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	404	416	0.95	0.90	0.94	C

Notes:
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

Table 14-34
2021 No Build Condition Subway Control Area Analysis

Station Control Elements	Quantity	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		In	Out				
Weekday AM Peak 15 Minutes							
Bleecker Street Station (Direct access to Uptown 6 – transfer available for Downtown 6) Control Area (R217)							
High Entry/Exit Turnstile (HEET)	3	363	31	0.80	0.90	0.55	B
High Exit Turnstile (HXT)	1	0	22	0.80	1.00	0.05	A
Bleecker Street Station (Direct access to Downtown 6 – transfer available for Uptown 6) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	35	88	0.80	0.90	0.19	A
High Exit Turnstile (HXT)	2	0	140	0.80	1.00	0.16	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	55	820	0.95	0.90	0.20	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	438	1,136	0.95	0.90	0.31	A
Weekday PM Peak 15 Minutes							
Bleecker Street Station (Direct access to Uptown 6 – transfer available for Downtown 6) Control Area (R217)							
High Entry/Exit Turnstile (HEET)	3	331	54	0.80	0.90	0.53	B
High Exit Turnstile (HXT)	1	0	35	0.80	1.00	0.08	A
Bleecker Street Station (Direct access to Downtown 6 – transfer available for Uptown 6) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	57	73	0.80	0.90	0.22	A
High Exit Turnstile (HXT)	2	0	117	0.80	1.00	0.13	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	693	429	0.95	0.90	0.33	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	964	1,053	0.95	0.90	0.45	A

Notes:
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin/ Cin* Ff] + [Vx/ Cx* Sf*Ff]
Where
Vin = Peak 15-minute entering passenger volume
Cin = Total 15-minute capacity of all turnstiles for entering passengers
Vx = Peak 15-minute exiting passenger
Cx = Total 15-minute capacity of all turnstile for exiting passengers
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

2021 BUILD CONDITION

The 554 (429 in and 125 out) AM peak hour and 839 (334 in and 505 out) PM peak hour project-generated subway trips under RWCDS 3 (see **Table 14-4**) were distributed to the area's subway stations based on their proximity to the Proposed Development Area and Commercial Overlay Area. As discussed in Section E, "Level 2 Screening Assessment," the assignment of project-generated subway trips also relied on travel patterns identified from the NYU survey of students, faculty, and staff and consideration of different train origins, transfer opportunities, and varying train loads at different points along their routes. Based on this assessment, approximately 30 percent of these trips were assigned to the Bleecker Street Station, 30 percent to the Broadway-Lafayette Station, 20 percent to the West 4th Street Station, and the remaining

20 percent to other stations in the area, including the Prince Street, 8th Street-NYU, Astor Place, and Spring Street stations. These trips were added to the projected 2021 No Build volumes to generate the 2021 Build volumes for analysis.

As shown in **Tables 14-35** and **14-36**, all station stairways and control area elements would continue to operate at acceptable levels, except for the northeast stairway (S9) at Broadway and Houston Street to the Broadway-Lafayette Station during the PM peak period, which would operate at LOS D with a v/c ratio of 1.24. Compared to the No Build service levels (LOS D, v/c ratio of 1.10), the WIT for this stairway was calculated to be 5.97 inches, which is less than the 2010 *CEQR Technical Manual* WIT impact threshold of 6.0 inches (for stairway v/c ratios between 1.20 and 1.29 in the Build condition; see **Table 14-15**). Therefore, the proposed project would not result in any significant adverse subway impacts.

Table 14-35
2021 RWCDS 3 Build Condition Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Weekday AM Peak 15 Minutes								
Bleecker Street Station (Uptown No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	83	43	0.80	0.90	0.36	A
SE (S4)	3.8	2.8	51	25	0.80	0.90	0.22	A
SW (P2)	4.0	3.0	221	20	0.80	0.90	0.61	B
Bleecker Street Station (Downtown No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	25	159	0.80	0.90	0.47	A
SW (unmarked)	4.4	3.4	17	82	0.80	0.90	0.26	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	39	348	0.95	0.90	0.79	C
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	182	337	0.95	0.90	0.60	B
Weekday PM Peak 15 Minutes								
Bleecker Street Station (Uptown No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	105	50	0.80	0.90	0.44	A
SE (S4)	3.8	2.8	65	36	0.80	0.90	0.29	A
SW (P2)	4.0	3.0	209	21	0.80	0.90	0.58	B
Bleecker Street Station (Downtown No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	67	126	0.80	0.90	0.48	B
SW (unmarked)	4.4	3.4	36	78	0.80	0.90	0.29	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	348	274	0.95	0.90	1.24	D
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	431	434	0.95	0.90	1.00-	C

Notes:
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

Table 14-36
2021 RWCDS 3 Build Condition Subway Control Area Analysis

Station Control Elements	Quantity	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		In	Out				
Weekday AM Peak 15 Minutes							
Bleecker Street Station (Direct access to Uptown 6 – transfer available for Downtown 6) Control Area (R217)							
High Entry/Exit Turnstile (HEET)	3	367	40	0.80	0.90	0.57	B
High Exit Turnstile (HXT)	1	0	28	0.80	1.00	0.06	A
Bleecker Street Station (Direct access to Downtown 6 – transfer available for Uptown 6) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	39	96	0.80	0.90	0.21	A
High Exit Turnstile (HXT)	2	0	153	0.80	1.00	0.17	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	65	854	0.95	0.90	0.20	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	443	1,157	0.95	0.90	0.31	A
Weekday PM Peak 15 Minutes							
Bleecker Street Station (Direct access to Uptown 6 – transfer available for Downtown 6) Control Area (R217)							
High Entry/Exit Turnstile (HEET)	3	349	62	0.80	0.90	0.56	B
High Exit Turnstile (HXT)	1	0	40	0.80	1.00	0.09	A
Bleecker Street Station (Direct access to Downtown 6 – transfer available for Uptown 6) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	81	79	0.80	0.90	0.28	A
High Exit Turnstile (HXT)	2	0	126	0.80	1.00	0.14	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	736	458	0.95	0.90	0.35	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	991	1,071	0.95	0.90	0.46	B

Notes:
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin/ Cin* Ff] + [Vx/ Cx* Sf*Ff]
Where
Vin = Peak 15-minute entering passenger volume
Cin = Total 15-minute capacity of all turnstiles for entering passengers
Vx = Peak 15-minute exiting passenger
Cx = Total 15-minute capacity of all turnstile for exiting passengers
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

For RWCDS 1, the corresponding project-generated subway trips would be 1,008 (962 in and 46 out) during the AM peak hour and 1,215 (384 in and 831 out) during the PM peak hour. These trips were assigned to the same station elements described above. Since service levels at all the analyzed station control areas and stairways at the Bleecker Street Station are expected to be at favorable levels (LOS B or better) under RWCDS 3, with ample capacities to accommodate substantially more subway riders, an analysis of these station elements with the higher subway trip increments projected for RWCDS 1 was not prepared. For the analyzed stairways at the Broadway-Lafayette and West 4th Street stations, the higher subway trip increments pertained to RWCDS 1 are expected to result in worse service levels than determined for RWCDS 3. As shown in **Table 14-37**, the northeast stairway (S9) at Broadway and Houston Street to the Broadway-Lafayette Station would operate at LOS D with a v/c ratio of 1.28 during the PM peak

period. Compared to the No Build service level (LOS D, v/c ratio of 1.10), the WIT for this stairway was calculated to be 7.8 inches, which is greater than the 2010 *CEQR Technical Manual* WIT impact threshold of 6.0 inches (for stairway v/c ratios between 1.20 and 1.29 in the Build condition; see **Table 14-15**). For the northeast stairway (S2A/B) at Sixth Avenue and West 3rd Street to the West 4th Street Station, the projected subway increments would result in a deterioration in the stairway's PM peak period service levels from LOS C with a v/c ratio of 0.94 in the 2021 No Build condition to LOS D with a v/c ratio of 1.02 in the 2021 Build condition. Therefore, significant adverse subway impacts would occur at both of these stairways under RWCDS 1. Measures that can be implemented to mitigate these projected impacts are discussed in Chapter 21, "Mitigation."

Table 14-37
2021 RWCDS 1 Build Condition Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Weekday AM Peak 15 Minutes								
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	33	386	0.95	0.90	0.86	C
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	179	369	0.95	0.90	0.64	B
Weekday PM Peak 15 Minutes								
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	369	275	0.95	0.90	1.28	D+
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	450	437	0.95	0.90	1.02	D+

Notes:
+ Denotes a significant stairway impact
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

2031 NO BUILD CONDITION

Estimates of peak hour transit volumes in the 2031 No Build condition were developed by applying the 2010 *CEQR Technical Manual* recommended annual background growth rates. An annual compounded background growth rate of 0.25 percent was applied to the transit volumes from 2011 to 2016, and an annual compounded background growth rate of 0.125 percent was applied to the transit volumes from 2016 to 2031. In addition, trips associated with No Build projects were incorporated into the future No Build transit volumes.

The No Build peak period volume projections were allocated to the transit analysis elements described above. As described for the 2021 No Build condition, completion of the Bleecker Street and Broadway/Lafayette station connection would allow full free transfers between subway lines serving the two stations and opportunities to reconfigure existing control areas.

As shown in **Tables 14-38** and **14-39**, all station stairways, control elements, and escalators would continue to operate at acceptable levels, except for the northeast stairway (S9) at the Broadway-Lafayette Station during the PM peak period, which would continue to operate at LOS D with a v/c ratio of 1.11 during the PM peak period.

Table 14-38
2031 No Build Condition Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Weekday AM Peak 15 Minutes								
Bleecker Street Station (Uptown No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	82	37	0.80	0.90	0.34	A
SE (S4)	3.8	2.8	51	23	0.80	0.90	0.21	A
SW (P2)	4.0	3.0	222	14	0.80	0.90	0.59	B
Bleecker Street Station (Downtown No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	24	150	0.80	0.90	0.45	A
SW (unmarked)	4.4	3.4	15	72	0.80	0.90	0.23	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	29	317	0.95	0.90	0.71	C
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	180	319	0.95	0.90	0.58	B
Weekday PM Peak 15 Minutes								
Bleecker Street Station (Uptown No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	99	45	0.80	0.90	0.41	A
SE (S4)	3.8	2.8	62	33	0.80	0.90	0.27	A
SW (P2)	4.0	3.0	204	17	0.80	0.90	0.56	B
Bleecker Street Station (Downtown No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	56	120	0.80	0.90	0.44	A
SW (unmarked)	4.4	3.4	25	71	0.80	0.90	0.25	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	309	249	0.95	0.90	1.11	D
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	408	422	0.95	0.90	0.96	C

Notes:
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

Table 14-39
2031 No Build Condition Subway Control Area Analysis

Station Control Elements	Quantity	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		In	Out				
Weekday AM Peak 15 Minutes							
Bleecker Street Station (Direct access to Uptown 6 – transfer available for Downtown 6) Control Area (R217)							
High Entry/Exit Turnstile (HEET)	3	367	32	0.80	0.90	0.56	B
High Exit Turnstile (HXT)	1	0	22	0.80	1.00	0.05	A
Bleecker Street Station (Direct access to Downtown 6 – transfer available for Uptown 6) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	35	89	0.80	0.90	0.19	A
High Exit Turnstile (HXT)	2	0	141	0.80	1.00	0.16	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	56	830	0.95	0.90	0.20	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	444	1,150	0.95	0.90	0.31	A
Weekday PM Peak 15 Minutes							
Bleecker Street Station (Direct access to Uptown 6 – transfer available for Downtown 6) Control Area (R217)							
High Entry/Exit Turnstile (HEET)	3	335	54	0.80	0.90	0.53	B
High Exit Turnstile (HXT)	1	0	36	0.80	1.00	0.08	A
Bleecker Street Station (Direct access to Downtown 6 – transfer available for Uptown 6) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	58	73	0.80	0.90	0.22	A
High Exit Turnstile (HXT)	2	0	119	0.80	1.00	0.13	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	701	434	0.95	0.90	0.33	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	976	1,067	0.95	0.90	0.45	B

Notes:
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin/ Cin* Ff] + [Vx/ Cx* Sf*Ff]
Where
Vin = Peak 15-minute entering passenger volume
Cin = Total 15-minute capacity of all turnstiles for entering passengers
Vx = Peak 15-minute exiting passenger
Cx = Total 15-minute capacity of all turnstile for exiting passengers
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

2031 BUILD CONDITION

The 1,957 (1,824 in and 133 out) AM peak hour and 2,376 (768 in and 1,608 out) PM peak hour project-generated subway trips under RWCDS 3 (see **Table 14-6**) were distributed to the area's subway stations based on their proximity to the Proposed Development Area and Commercial Overlay Area. These trips were distributed to the nearby subway stations in the same manner as described for the 2021 Build condition to yield the 2031 Build volumes for analysis.

As shown in **Tables 14-40** and **14-41**, all station stairways and control elements would continue to operate at acceptable levels, except for the northeast stairway (S9) at Broadway and Houston Street to the Broadway-Lafayette Station, which would operate at LOS D with a v/c ratio of 1.01 during the AM peak period and at LOS E with a v/c ratio of 1.48 during the PM peak period, and the northeast stairway (S2A/B) at Sixth Avenue and West 3rd Street to the West 4th Street Station, which would operate at LOS D with a v/c ratio of 1.11 during the PM peak period. Compared to the No Build service levels, Build operations at both of these stairways would exceed the 2010 *CEQR Technical Manual* WIT impact thresholds. Therefore, significant adverse subway impacts were identified for both of these stairways. Measures that can be implemented to mitigate these projected impacts are discussed in Chapter 21, "Mitigation."

Table 14-40
2031 RWCDS 3 Build Condition Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Weekday AM Peak 15 Minutes								
Bleecker Street Station (Uptown No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	84	58	0.80	0.90	0.41	A
SE (S4)	3.8	2.8	52	34	0.80	0.90	0.25	A
SW (P2)	4.0	3.0	224	35	0.80	0.90	0.66	B
Bleecker Street Station (Downtown No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	27	200	0.80	0.90	0.59	B
SW (unmarked)	4.4	3.4	18	122	0.80	0.90	0.37	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	40	455	0.95	0.90	1.01	D+
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	186	418	0.95	0.90	0.70	C
Weekday PM Peak 15 Minutes								
Bleecker Street Station (Uptown No. 6 line) – Mulberry Street and Bleecker Street								
North (B6)	3.8	2.8	119	55	0.80	0.90	0.50	B
SE (S4)	3.8	2.8	72	38	0.80	0.90	0.32	A
SW (P2)	4.0	3.0	224	27	0.80	0.90	0.64	B
Bleecker Street Station (Downtown No. 6 Line) – Lafayette Street and Bleecker Street								
NW (S3)	4.5	3.5	99	140	0.80	0.90	0.58	B
SW (unmarked)	4.4	3.4	68	91	0.80	0.90	0.40	A
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	435	310	0.95	0.90	1.48	E+
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	496	464	0.95	0.90	1.11	D+

Notes:
+ Denotes a significant stairway impact
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

Table 14-41
2031 RWCDS 3 Build Condition Subway Control Area Analysis

Station Control Elements	Quantity	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		In	Out				
Weekday AM Peak 15 Minutes							
Bleecker Street Station (Direct access to Uptown 6 – transfer available for Downtown 6) Control Area (R217)							
High Entry/Exit Turnstile (HEET)	3	371	64	0.80	0.90	0.59	B
High Exit Turnstile (HXT)	1	0	43	0.80	1.00	0.10	A
Bleecker Street Station (Direct access to Downtown 6 – transfer available for Uptown 6) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	40	129	0.80	0.90	0.25	A
High Exit Turnstile (HXT)	2	0	200	0.80	1.00	0.23	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	67	968	0.95	0.90	0.20	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	450	1,249	0.95	0.90	0.31	A
Weekday PM Peak 15 Minutes							
Bleecker Street Station (Direct access to Uptown 6 – transfer available for Downtown 6) Control Area (R217)							
High Entry/Exit Turnstile (HEET)	3	384	69	0.80	0.90	0.62	B
High Exit Turnstile (HXT)	1	0	46	0.80	1.00	0.10	A
Bleecker Street Station (Direct access to Downtown 6 – transfer available for Uptown 6) Control Area (unmarked)							
High Entry/Exit Turnstile (HEET)	2	143	89	0.80	0.90	0.43	A
High Exit Turnstile (HXT)	2	0	142	0.80	1.00	0.16	A
Broadway-Lafayette Station (B,D,F,M Lines) Control Area (N-519)							
Two-way Turnstiles	8	827	495	0.95	0.90	0.39	A
West 4th Street Station (A,B,C,D,E,F,M Lines) Control Area (N-83)							
Two-way Turnstiles	10	1,064	1,109	0.95	0.90	0.48	B

Notes:
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin/ Cin* Ff] + [Vx/ Cx* Sf*Ff]
Where
Vin = Peak 15-minute entering passenger volume
Cin = Total 15-minute capacity of all turnstiles for entering passengers
Vx = Peak 15-minute exiting passenger
Cx = Total 15-minute capacity of all turnstile for exiting passengers
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

For RWCDS 1, the corresponding project-generated subway trips would be 2,482 (2,429 in and 53 out) during the AM peak hour and 2,819 (830 in and 1,989 out) during the PM peak hour. These trips were assigned to the same station elements described above. Since service levels at all the analyzed station control areas and stairways at the Bleecker Street Station are expected to be at favorable levels (LOS B or better) under RWCDS 3, with ample capacities to accommodate substantially more subway riders, an analysis of these station elements with the higher subway trip increments projected for RWCDS 1 was not prepared. For the analyzed stairways at the Broadway-Lafayette and West 4th Street stations, the higher subway trip

increments pertained to RWCDS 1 are expected to result in worse service levels than determined for RWCDS 3. As shown in **Table 14-42**, the northeast stairway (S9) at Broadway and Houston Street to the Broadway-Lafayette Station would operate at LOS D with a v/c ratio of 1.09 during the AM peak period and at LOS E with a v/c ratio of 1.53 during the PM peak period, and the northeast stairway (S2A/B) at Sixth Avenue and West 3rd Street to the West 4th Street Station would operate at LOS D with a v/c ratio of 1.14 during the PM peak period. Compared to the No Build service levels, Build operations at both of these stairways would exceed the 2010 *CEQR Technical Manual* WIT impact. Therefore, significant adverse subway impacts would occur at both of these stairways under RWCDS 1. Measures that can be implemented to mitigate these projected impacts are discussed in Chapter 21, "Mitigation."

Table 14-42
2031 RWCDS 1 Build Condition Subway Stairway Analysis

Stairway	Width (ft.)	Effective Width (ft.)	15-Minute Pedestrian Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
			Down	Up				
Weekday AM Peak 15 Minutes								
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	33	499	0.95	0.90	1.09	D+
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	183	454	0.95	0.90	0.74	C
Weekday PM Peak 15 Minutes								
Broadway – Lafayette Station (B,D,F,M Lines) – Broadway and Houston Street								
NE (S9)	4.8	3.8	459	311	0.95	0.90	1.53	E+
West 4th Street Station (A,B,C,D,E,F,M Lines) – Sixth Avenue and West 3rd Street								
NE (S2A/B)	7.8	6.6	519	469	0.95	0.90	1.14	D+

Notes:
+ Denotes a significant stairway impact
Capacities were calculated based on rates presented in the 2010 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2010 *CEQR Technical Manual*).
V/C = [Vin / (150 * We * Sf * Ff)]+ [Vx/ (150 * We * Sf * Ff)]
Where
Vin = Peak 15-minute entering passenger volume
Vx = Peak 15-minute exiting passenger volume
We = Effective width of stairs
Sf = Surging factor (if applicable)
Ff = Friction factor (if applicable)

I. PEDESTRIANS

2011 EXISTING CONDITIONS

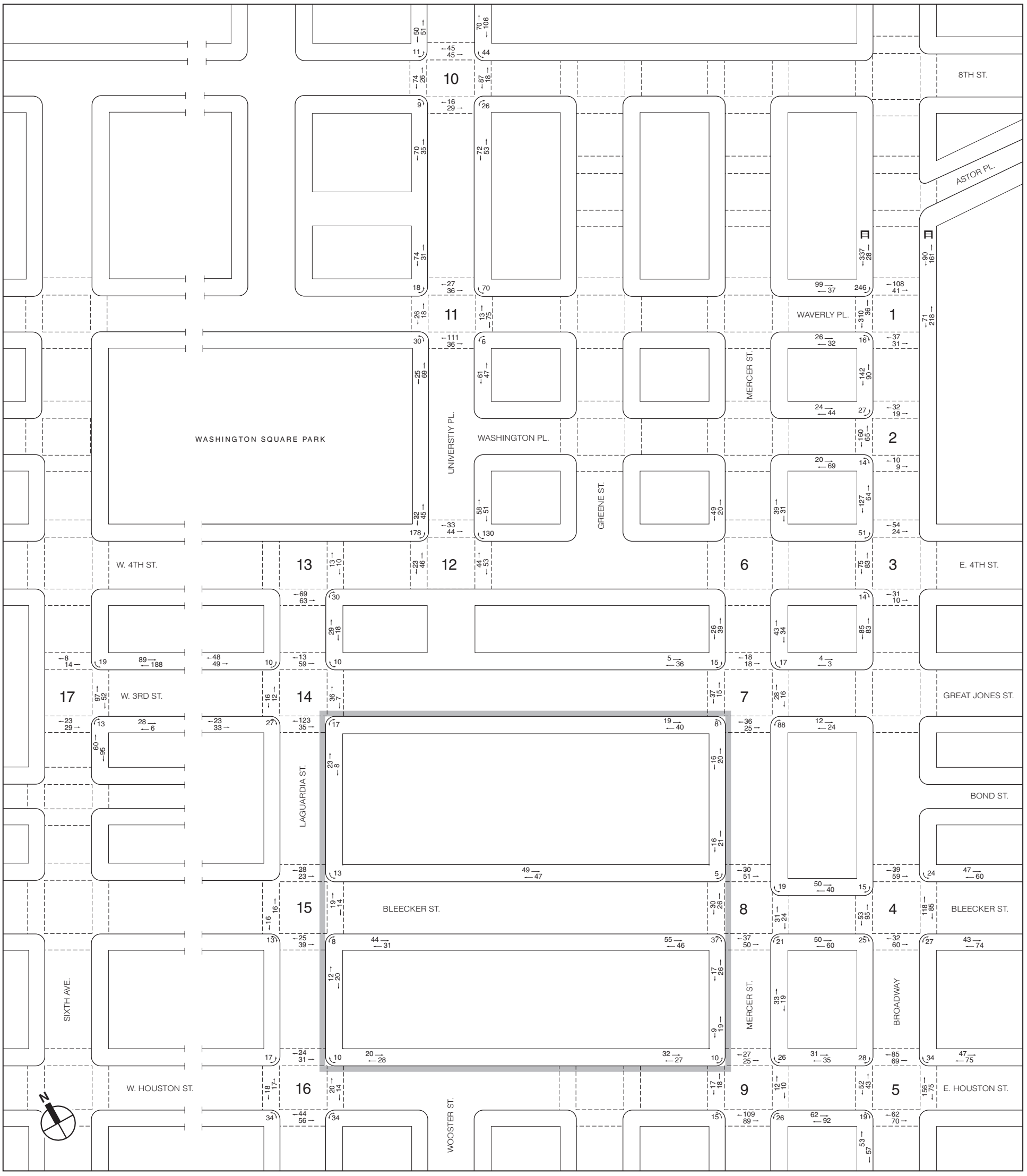
Pedestrian data were collected in September and October 2009 at key locations near the project site during the hours of 8:00 AM to 9:30 AM, 12:00 PM to 2:00 PM, and 4:00 PM to 6:30 PM. Additional data were collected in May 2011 during the same time periods to supplement the 2009 data for locations subsequently added for analysis and to establish a data set sufficient for analysis in accordance with procedures outlined in the 2010 *CEQR Technical Manual*. The 2009 pedestrian volume data were adjusted to 2011 levels, accounting for growth and changes in the area's pedestrian travel patterns in the following manner:

- At key locations where crosswalk volumes were collected in 2009 and 2011, an overall volume difference of nine percent was determined by comparing the total 2011 crosswalk volumes to the 2009 total crosswalk volumes at locations where data were gathered in both years.
- After increasing the 2009 baseline pedestrian volumes by nine percent throughout, pedestrian volumes for the adjusted 2009 and newly gathered 2011 data sets were compared, and the higher volumes were selected for use in the 2011 existing conditions pedestrian analysis.
- For the crosswalk analysis locations where two days of data were gathered in 2011, the higher counts from the two days of data collection were selected for the analysis.

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 15-minute AM, midday, and PM pedestrian analysis networks are presented in **Figures 14-33** to **14-35**. As shown in **Tables 14-43** to **14-45**, all sidewalk, corner reservoir, and crosswalk analysis locations operate at acceptable mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks), except at the following locations:

- The southeast corner of University Place and Waverly place, which operates at LOS E (13.4 SFP during the midday peak 15-minute period;
- The west crosswalk of Broadway and Waverly Place, which operates at LOS D with 19.3 and 18.2 SFP during the midday and PM peak 15-minute periods, respectively; and
- The south crosswalk of University Place and Waverly Place, which operates at LOS E (8.7 SFP) during the midday peak 15-minute period.

12.14.11

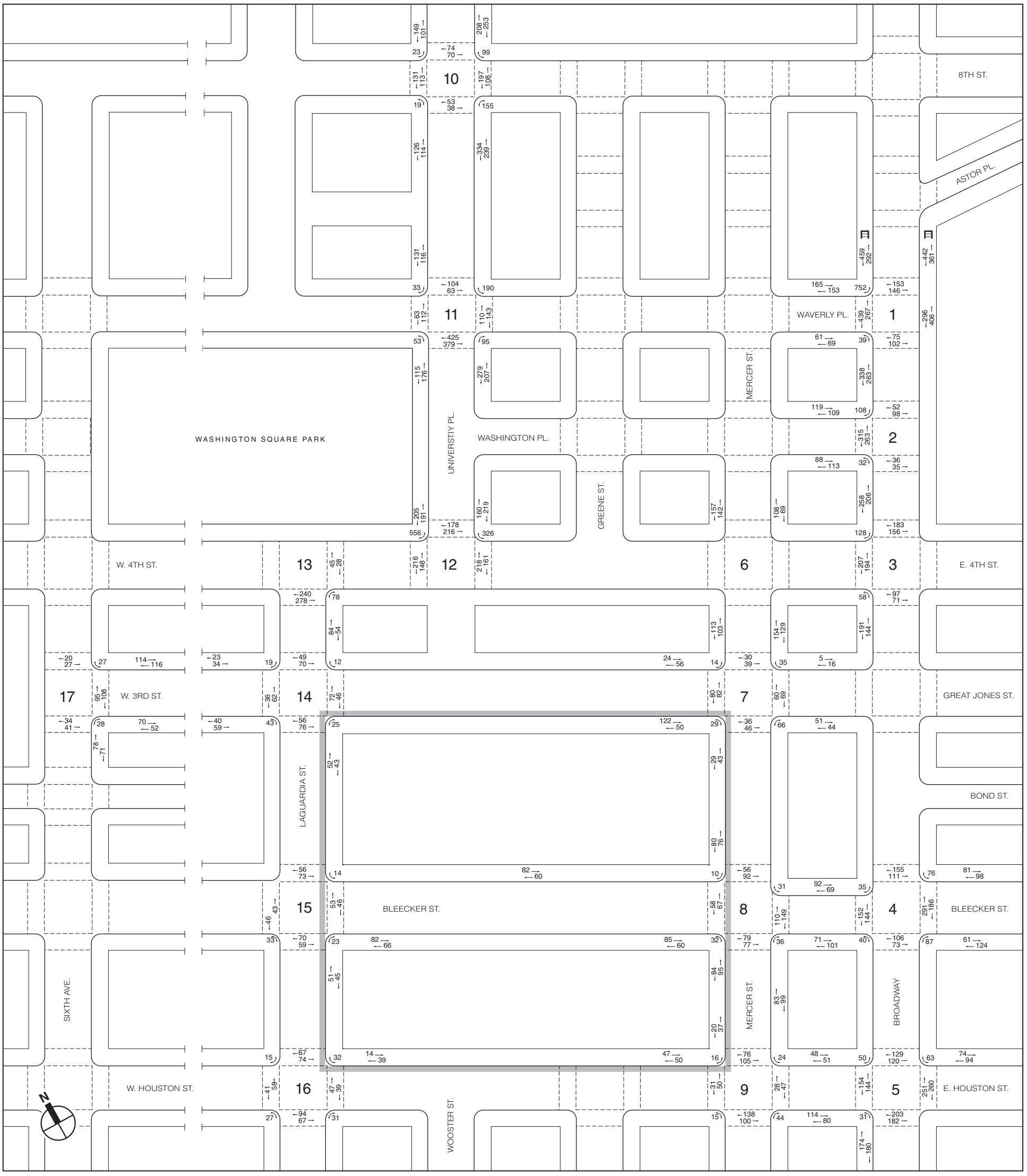


NOT TO SCALE

Subway Stairs

NYU Core

2011 Existing Pedestrian Volume
Weekday AM Peak 15 Minutes
Figure 14-33



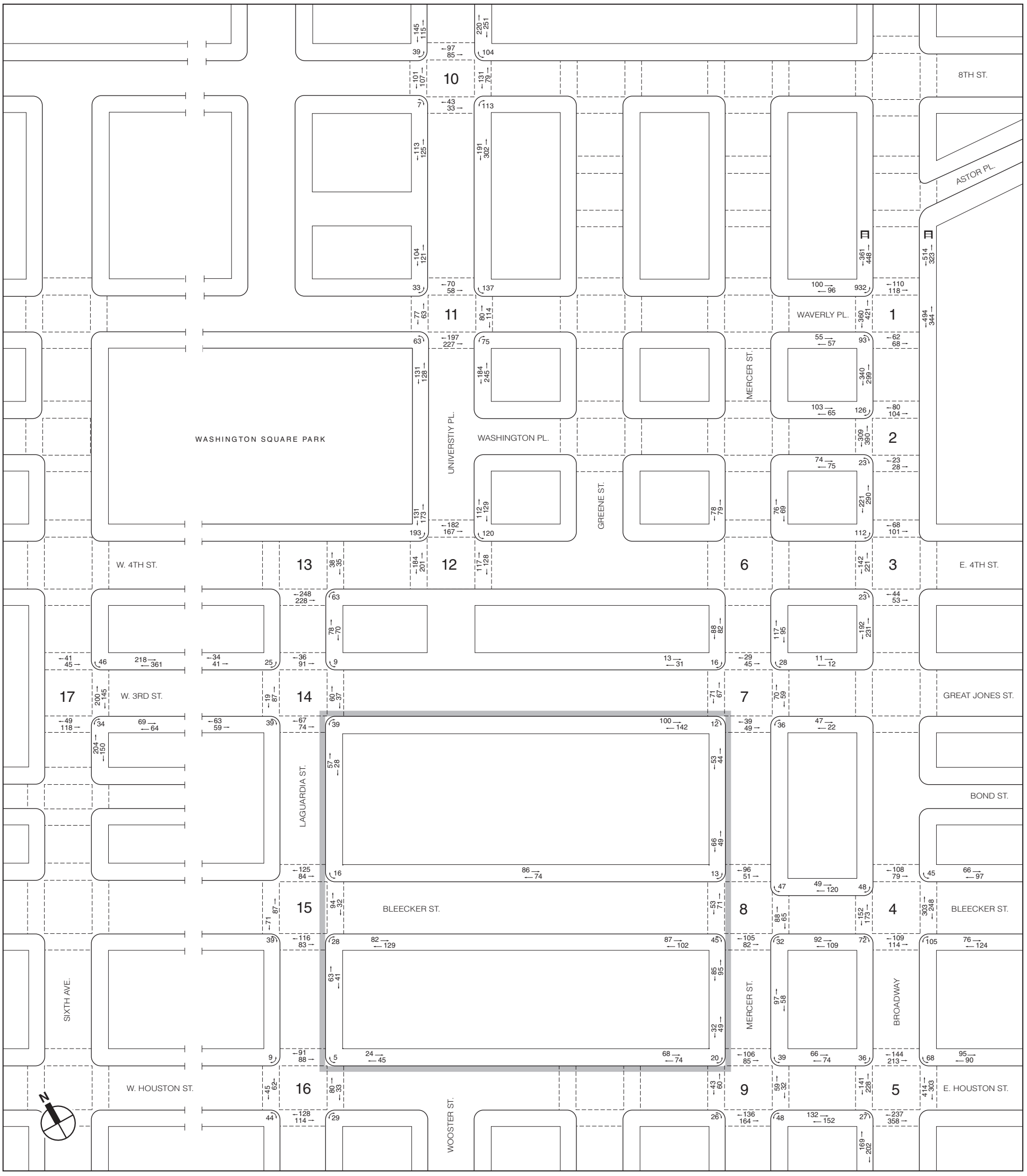
NOT TO SCALE

Subway Stairs

NYU Core

2011 Existing Pedestrian Volume
Weekday midday Peak 15 Minutes
Figure 14-34

12.14.11



Subway Stairs

NOT TO SCALE

NYU Core

2011 Existing Pedestrian Volume
Weekday PM Peak 15 Minutes
Figure 14-35

Table 14-43
2011 Existing Conditions Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	136	1.39	B
		South	6.0	58	0.64	B
	Broadway at Waverly Place	East	13.8	289	1.40	B
	Broadway between Waverly Place and Washington Place	West	14.0	232	1.10	B
	Broadway between Astor Place and Waverly Place	East	15.0	251	1.12	B
		West	14.7	365	1.66	B
2	Washington Place between Broadway and Mercer St.	North	10.0	68	0.45	A
		South	8.8	89	0.67	B
3	Broadway between West 4th St. and Washington Place	West	13.0	191	0.98	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	168	1.12	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	107	0.63	B
		South	11.0	117	0.71	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	122	0.75	B
	Broadway between West Houston St. and Prince St.	West	10.5	110	0.70	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	70	0.62	B
		West	8.5	69	0.54	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	77	0.93	B
		West	7.2	65	0.60	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	7	0.06	A
		South	10.3	36	0.23	A
	West 3rd St. between Mercer St. and Greene St.	North	6.2	41	0.44	A
		South	5.5	59	0.72	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	36	0.38	A
8	Bleecker St. between Mercer St. and Broadway	North	8.2	90	0.73	B
		South	9.0	110	0.81	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	96	0.73	B
		South	7.5	101	0.90	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	37	0.39	A
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	52	0.42	A
		West	10.2	43	0.28	A
9	West Houston St. between Mercer St. and Broadway	North	7.0	66	0.63	B
		South	8.3	154	1.24	B
	West Houston between Greene St. and Mercer St.	North	5.5	59	0.72	B
	Mercer St. between Bleecker St. and West Houston St. (South)	West	3.8	28	0.49	A
10	University Place between East 8th St. and East 9th St.	East	13.5	176	0.87	B
		West	13.0	101	0.52	B
	University Place between East 8th St. and Waverly Place	East	11.5	125	0.72	B
		West	11.8	105	0.59	B
11	University Place between East 8th St. and Waverly Place	West	9.7	105	0.72	B
	University Place between Waverly Place and Washington Place	East	8.8	108	0.82	B
		West	5.0	94	1.25	B
12	Washington Square East between Washington Place and West 4th St.	East	9.2	109	0.79	B
		West	5.3	77	0.97	B
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	47	0.33	A
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	31	0.26	A
15	Bleecker St. between LaGuardia Place and Greene St.	South	7.5	75	0.67	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	32	0.38	A
16	West Houston St. between LaGuardia Place and Wooster St.	North	6.8	48	0.47	A
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	277	3.08	C
		South	4.8	34	0.47	A
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	155	1.42	B

Note: PMF = pedestrians per minute per foot
* Effective width narrowed by construction activity (fenced wall)

Table 14-43 (cont'd)
2011 Existing Conditions Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
Midday Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	318	3.26	C
		South	6.0	130	1.44	B
	Broadway at Waverly Place	East	13.8	702	3.39	C
	Broadway between Waverly Place and Washington Place	West	14.0	601	2.86	B
	Broadway between Astor Place and Waverly Place	East	15.0	803	3.57	C
		West	14.7	751	3.41	C
2	Washington Place between Broadway and Mercer St.	North	10.0	228	1.52	B
		South	8.8	201	1.52	B
3	Broadway between West 4th St. and Washington Place	West	13.0	464	2.38	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	335	2.23	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	179	1.06	B
		South	11.0	185	1.12	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	168	1.04	B
	Broadway between West Houston St. and Prince St.	West	10.5	354	2.25	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	177	1.57	B
		West	8.5	299	2.35	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	283	3.43	C
		West	7.2	216	2.00	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	21	0.19	A
		South	10.3	95	0.61	B
	West 3rd St. between Mercer St. and Greene St.	North	6.2	80	0.86	B
		South	5.5	172	2.08	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	72	0.76	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	161	1.31	B
		South	9.0	172	1.27	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	142	1.08	B
		South	7.5	145	1.29	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	156	1.65	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	182	1.48	B
		West	10.2	179	1.17	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	99	0.94	B
		South	8.3	194	1.56	B
	West Houston between Greene St. and Mercer St.	North	5.5	97	1.18	B
	Mercer St. between Bleecker St. and West Houston St. (South)	West	3.8	57	1.00	B
10	University Place between East 8th St. and East 9th St.	East	13.5	461	2.28	B
		West	13.0	250	1.28	B
	University Place between East 8th St. and Waverly Place	East	11.5	573	3.32	C
		West	11.8	240	1.36	B
11	University Place between East 8th St. and Waverly Place	West	9.7	247	1.70	B
	University Place between Waverly Place and Washington Place	East	8.8	486	3.68	C
		West	5.0	291	3.88	C
12	Washington Square East between Washington Place and West 4th St.	East	9.2	379	2.75	B
		West	5.3	396	4.98	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	138	0.96	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	95	0.79	B
15	Bleecker St. between LaGuardia Place and Greene St.	South	7.5	148	1.32	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	96	1.14	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	53	0.52	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	230	2.56	B
		South	4.8	122	1.69	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	149	1.36	B

Note: PMF = pedestrians per minute per foot
* Effective width narrowed by construction activity (fenced wall)

Table 14-43 (cont'd)
2011 Existing Conditions Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
PM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	196	2.01	B
		South	6.0	112	1.24	B
	Broadway at Waverly Place	East	13.8	838	4.05	C
	Broadway between Waverly Place and Washington Place	West	14.0	639	3.04	C
	Broadway between Astor Place and Waverly Place	East	15.0	837	3.72	C
		West	14.7	809	3.67	C
2	Washington Place between Broadway and Mercer St.	North	10.0	168	1.12	B
		South	8.8	149	1.13	B
3	Broadway between West 4th St. and Washington Place	West	13.0	511	2.62	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	423	2.82	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	163	0.96	B
		South	11.0	200	1.21	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	185	1.14	B
	Broadway between West Houston St. and Prince St.	West	10.5	371	2.36	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	145	1.29	B
		West	8.5	157	1.23	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	212	2.57	B
		West	7.2	170	1.57	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	23	0.21	A
		South	10.3	69	0.45	A
	West 3rd St. between Mercer St. and Greene St.	North	6.2	44	0.47	A
		South	5.5	242	2.93	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	97	1.03	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	169	1.37	B
		South	9.0	201	1.49	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	160	1.21	B
		South	7.5	189	1.68	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	115	1.22	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	155	1.26	B
		West	10.2	180	1.18	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	140	1.33	B
		South	8.3	284	2.28	B
	West Houston St. between Greene St. and Mercer St.	North	5.5	142	1.72	B
	Mercer St. between Bleecker St. and West Houston St. (South)	West	3.8	81	1.42	B
10	University Place between East 8th St. and East 9th St.	East	13.5	471	2.33	B
		West	13.0	260	1.33	B
	University Place between East 8th St. and Waverly Place	East	11.5	493	2.86	B
		West	11.8	238	1.34	B
11	University Place between East 8th St. and Waverly Place	West	9.7	225	1.55	B
	University Place between Waverly Place and Washington Place	East	8.8	429	3.25	C
		West	5.0	259	3.45	C
12	Washington Square East between Washington Place and West 4th St.	East	9.2	241	1.75	B
		West	5.3	304	3.82	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	148	1.03	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	85	0.71	B
15	Bleecker St. between LaGuardia Place and Greene St.	South	7.5	211	1.88	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	104	1.24	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	69	0.68	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	579	6.43	D
		South	4.8	133	1.85	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	354	3.23	C

Note: PMF = pedestrians per minute per foot
* Effective width narrowed by construction activity (fenced wall)

Table 14-44
2011 Existing Conditions Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	Broadway and Waverly Place	Southwest	99.9	A	41.8	B	37.4	C
		Northwest	73.0	A	28.5	C	26.6	C
2	Broadway and Washington Place	Southwest	199.5	A	74.7	A	66.0	A
		Northwest	173.1	A	60.6	A	50.1	B
3	Broadway and West 4th Street	Southwest	172.1	A	54.1	B	70.6	A
		Northwest	158.2	A	46.8	B	66.3	A
4	Broadway and Bleecker Street	Northeast	120.6	A	42.9	B	45.6	B
		Southeast	131.5	A	52.0	B	43.7	B
		Southwest	187.4	A	94.8	A	76.5	A
		Northwest	168.9	A	69.8	A	75.9	A
5	Broadway and West Houston Street	Northeast	131.9	A	62.3	A	44.0	B
		Southwest	155.2	A	46.5	B	27.0	C
		Northwest	342.2	A	154.3	A	119.1	A
7	Mercer Street and West 3rd Street	Northeast	192.0	A	75.1	A	76.6	A
		Southeast	134.2	A	91.5	A	99.3	A
		Southwest	137.8	A	55.5	B	64.5	A
		Northwest	177.7	A	70.2	A	75.6	A
8	Mercer Street and Bleecker Street	Northeast	191.1	A	61.7	A	80.0	A
		Southeast	195.3	A	65.9	A	79.7	A
		Southwest	92.9	A	49.7	B	43.2	B
		Northwest	120.8	A	56.4	B	59.0	B
9	Mercer Street and West Houston Street	Northeast	390.2	A	134.1	A	116.7	A
		Southeast	123.6	A	83.1	A	66.1	A
		Southwest	114.5	A	82.6	A	61.7	A
		Northwest	184.8	A	59.4	B	52.6	B
10	University Place and East 8th Street	Northeast	161.6	A	66.9	A	74.3	A
		Southeast	159.0	A	47.3	B	66.7	A
		Southwest	255.1	A	107.5	A	131.4	A
		Northwest	206.4	A	97.8	A	93.7	A
11	University Place and Waverly Place	Northeast	203.4	A	69.3	A	94.7	A
		Southeast	100.3	A	13.4	E	30.7	C
		Southwest	215.6	A	37.1	C	67.8	A
		Northwest	171.1	A	54.1	B	67.3	A
12	Washington Square East and West 4th Street	Northeast	108.2	A	27.9	C	43.9	B
		Northwest	220.9	A	51.5	B	73.7	A
13	LaGuardia Place and West 4th Street	Southeast	165.5	A	40.9	B	44.6	B
14	LaGuardia Place and West 3rd Street	Northeast	179.7	A	85.0	A	92.4	A
		Southeast	93.9	A	76.4	A	75.9	A
		Southwest	195.7	A	146.9	A	138.8	A
		Northwest	262.9	A	120.3	A	109.8	A
15	LaGuardia Place and Bleecker Street	Northeast	245.4	A	94.1	A	62.1	A
		Southeast	132.3	A	49.9	B	31.2	C
		Southwest	428.0	A	182.6	A	112.8	A
16	LaGuardia Place/West Broadway and West Houston Street	Northeast	442.8	A	164.5	A	142.8	A
		Southeast	383.6	A	225.3	A	159.0	A
		Southwest	489.3	A	283.7	A	204.2	A
		Northwest	426.9	A	174.5	A	149.8	A
17	Sixth Avenue and West 3rd Street	Northeast	237.1	A	159.2	A	90.5	A
		Southeast	132.0	A	91.5	A	48.4	B

Note: SFP = square feet per pedestrian

Table 14-45
2011 Existing Conditions Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Broadway and Waverly Place	West	34.0	15.0	346	42.1	B	706	19.3	D	781	18.2	D
2	Broadway and Washington Place	West	37.0	17.3	225	159.3	A	578	62.0	A	699	50.3	B
3	Broadway and West 4th Street	West	32.0	19.0	158	139.5	A	401	51.7	B	363	58.8	B
4	Broadway and Bleecker Street	North	44.0	14.0	98	86.3	A	266	30.5	C	187	44.5	B
		South	44.0	15.0	92	91.6	A	179	46.3	B	223	36.6	C
5	Broadway and West Houston Street	North	44.0	18.0	154	106.1	A	249	63.9	A	357	42.6	B
7	Mercer Street and West 3rd Street	North	37.3	12.0	36	306.1	A	69	156.8	A	74	145.4	A
		East	29.0	12.0	44	239.6	A	129	79.1	A	129	78.3	A
		South	38.3	12.0	72	178.3	A	82	132.6	A	88	123.3	A
		West	50.0	15.0	30	260.6	A	162	81.1	A	138	94.9	A
8	Mercer Street and Bleecker Street	North	34.0	11.0	81	119.2	A	148	62.7	A	147	65.7	A
		East	31.0	12.0	55	193.3	A	259	38.0	C	153	65.7	A
		South	33.0	13.0	74	127.2	A	156	65.9	A	187	51.6	B
		West	36.0	13.0	52	210.6	A	125	92.2	A	124	93.3	A
9	Mercer Street and West Houston Street	North	34.0	14.0	52	279.3	A	181	75.8	A	191	72.8	A
		East	98.0	14.0	22	417.9	A	75	121.8	A	91	99.3	A
		West	98.0	14.0	36	252.9	A	81	107.9	A	103	82.7	A
10	University Place and East 8th Street	East	38.5	15.0	105	164.6	A	305	54.5	B	210	80.5	A
		West	36.0	14.3	52	159.9	A	244	63.3	A	208	75.6	A
11	University Place and Waverly Place	North	38.3	14.3	63	152.1	A	167	56.1	B	128	73.5	A
		East	34.5	15.5	88	198.7	A	253	66.2	A	194	87.4	A
		South	23.8	15.8	222	62.8	A	804	8.7	E	424	20.1	D
		West	31.0	16.8	36	430.8	A	175	106.0	A	140	131.4	A
12	Washington Square East and West 4th Street	East	30.0	14.7	97	117.6	A	379	26.0	C	245	43.7	B
		West	34.0	13.5	92	157.1	A	364	25.3	C	385	24.6	C
13	LaGuardia Place and West 4th Street	East	31.5	16.0	23	617.4	A	73	186.2	A	73	184.5	A
14	LaGuardia Place and West 3rd Street	East	50.0	13.0	43	277.5	A	118	98.8	A	97	121.1	A
		South	37.0	11.0	246	57.9	B	132	73.6	A	141	68.2	A
15	LaGuardia Place and Bleecker Street	East	36.0	12.0	33	315.0	A	99	101.1	A	126	78.4	A
		South	37.0	14.0	50	189.2	A	129	89.9	A	199	54.7	B
16	LaGuardia Place and Houston Street	North	37.0	14.0	55	152.1	A	141	56.1	B	179	73.5	A
17	Sixth Avenue and West 3rd Street	East	27.5	22.8	149	163.8	A	203	120.3	A	345	67.5	A

Note: SFP = square feet per pedestrian

2021 NO BUILD CONDITION

No Build 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 first five years (year 2011 to year 2016) and then 0.125 percent for the remaining years (year 2016 to year 2021). Pedestrian volumes from anticipated projects in the study area were also added to arrive at the 2021 No Build pedestrian volumes. The total No build peak 15-minute pedestrian volumes for the weekday AM, midday, and PM peak periods are presented in **Figures 14-36** to **14-38**.

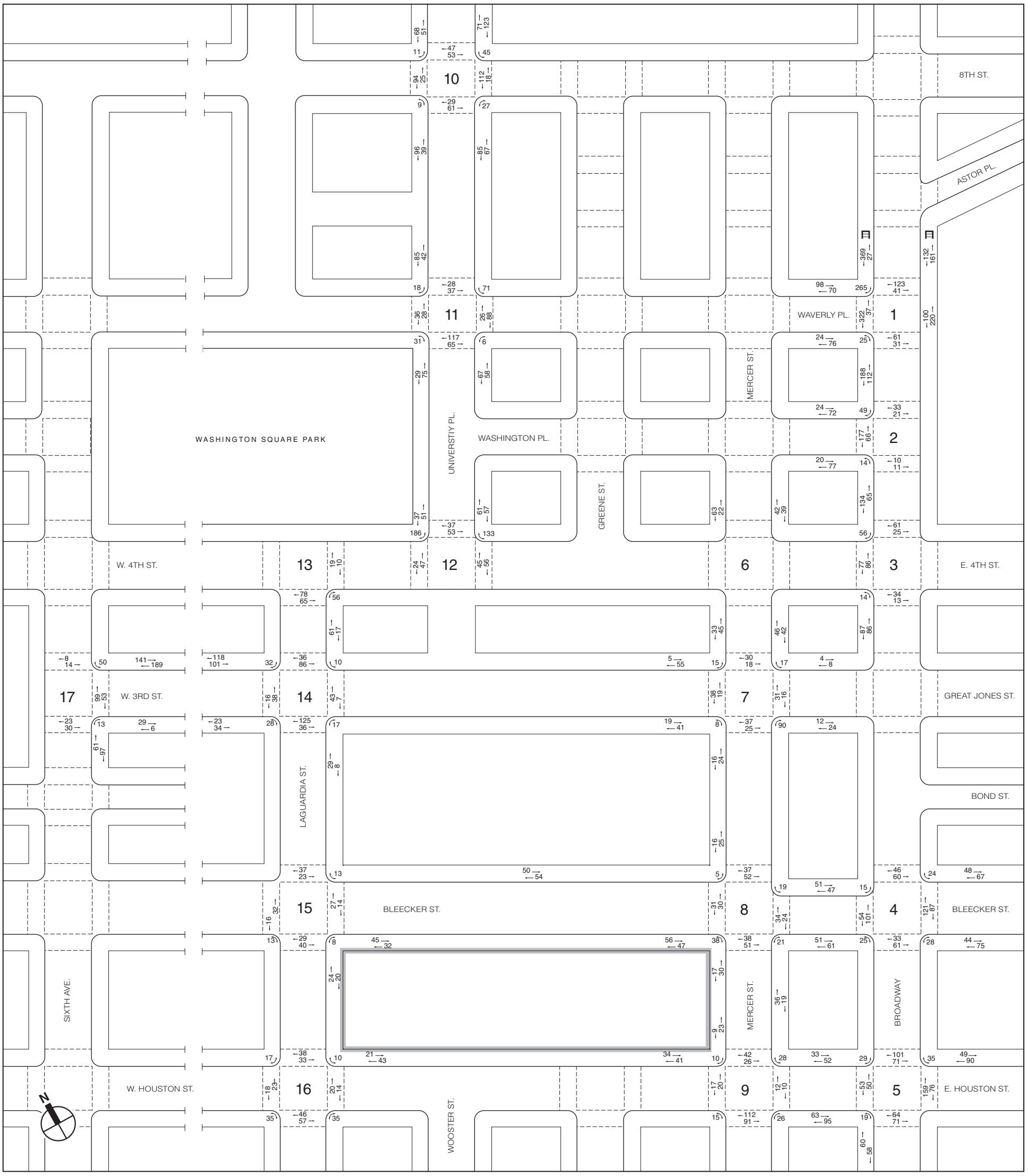
As described in Section H "Transit," MTA NYCT is currently constructing a connection between the uptown Bleecker Street (No. 6) Station and the Broadway-Lafayette (B/D/F/M) Station. When constructed, this connection will allow subway riders to transfer between lines without having to exit the stations. This new transfer connection is expected to result in a reduction in the number of pedestrians on-street making connections between the two stations.

As summarized in **Tables 14-46** to **14-48**, all sidewalk, corner reservoir, and crosswalk analysis locations will continue to operate at acceptable mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks), except at the following locations:

- The southeast corner of University Place and Waverly place, which will operates at LOS E (12.5 SFP) during the midday peak 15-minute period;
- The west crosswalk of Broadway and Waverly Place, which will operate at LOS D with 18.8 SFP and 17.6 during the midday and PM peak 15-minute periods, respectively; and

The south crosswalk of University Place and Waverly Place, which will operate at LOS E (8.3 SFP) during the midday peak 15-minute period and at LOS D (18.5 SFP) during the PM peak 15-minute period.

12.14.11



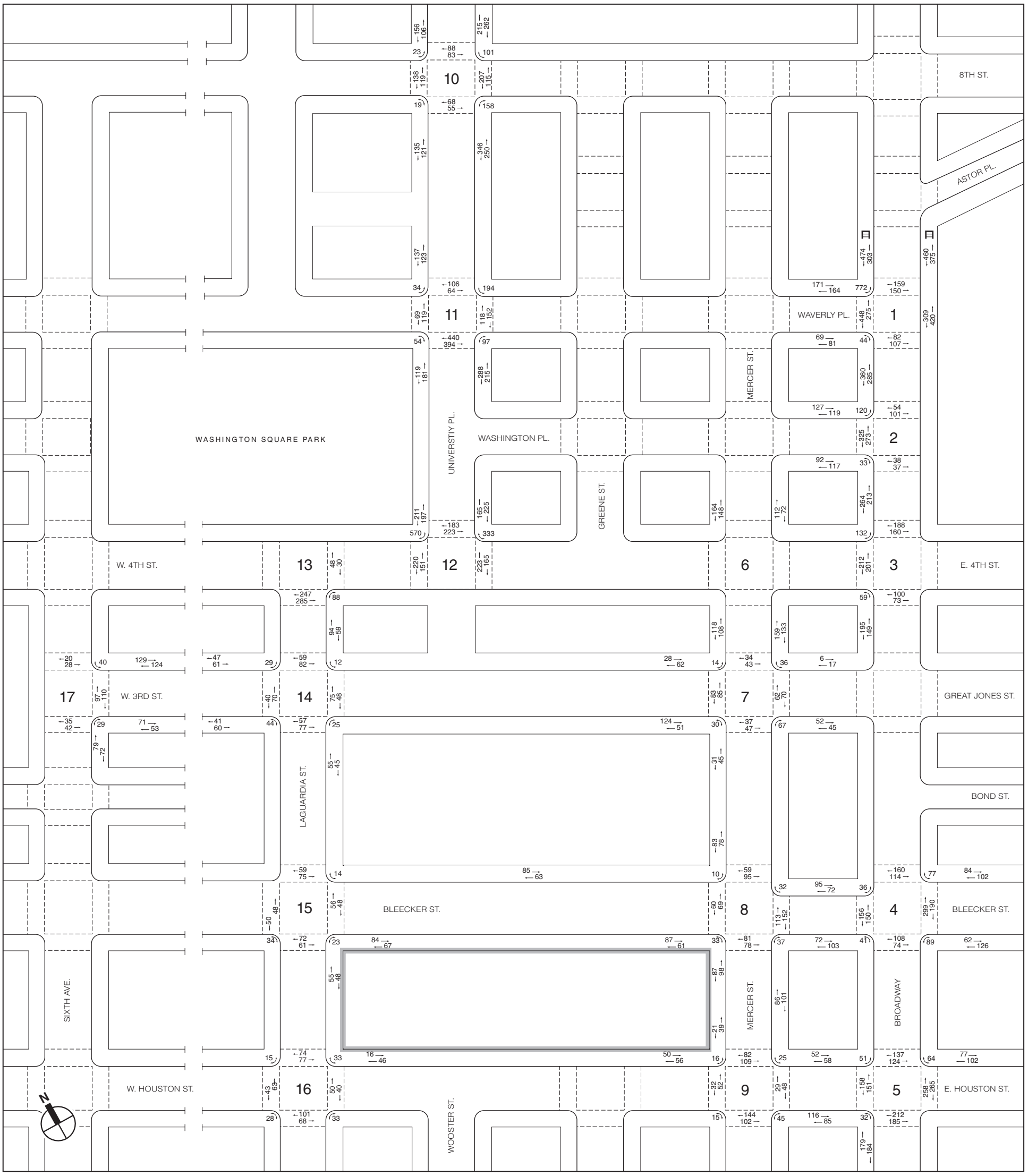
NOT TO SCALE

Subway Stairs

NYU Core

2021 No Build Pedestrian Volume
Weekday AM Peak 15 Minutes
Figure 14-36

12.14.11



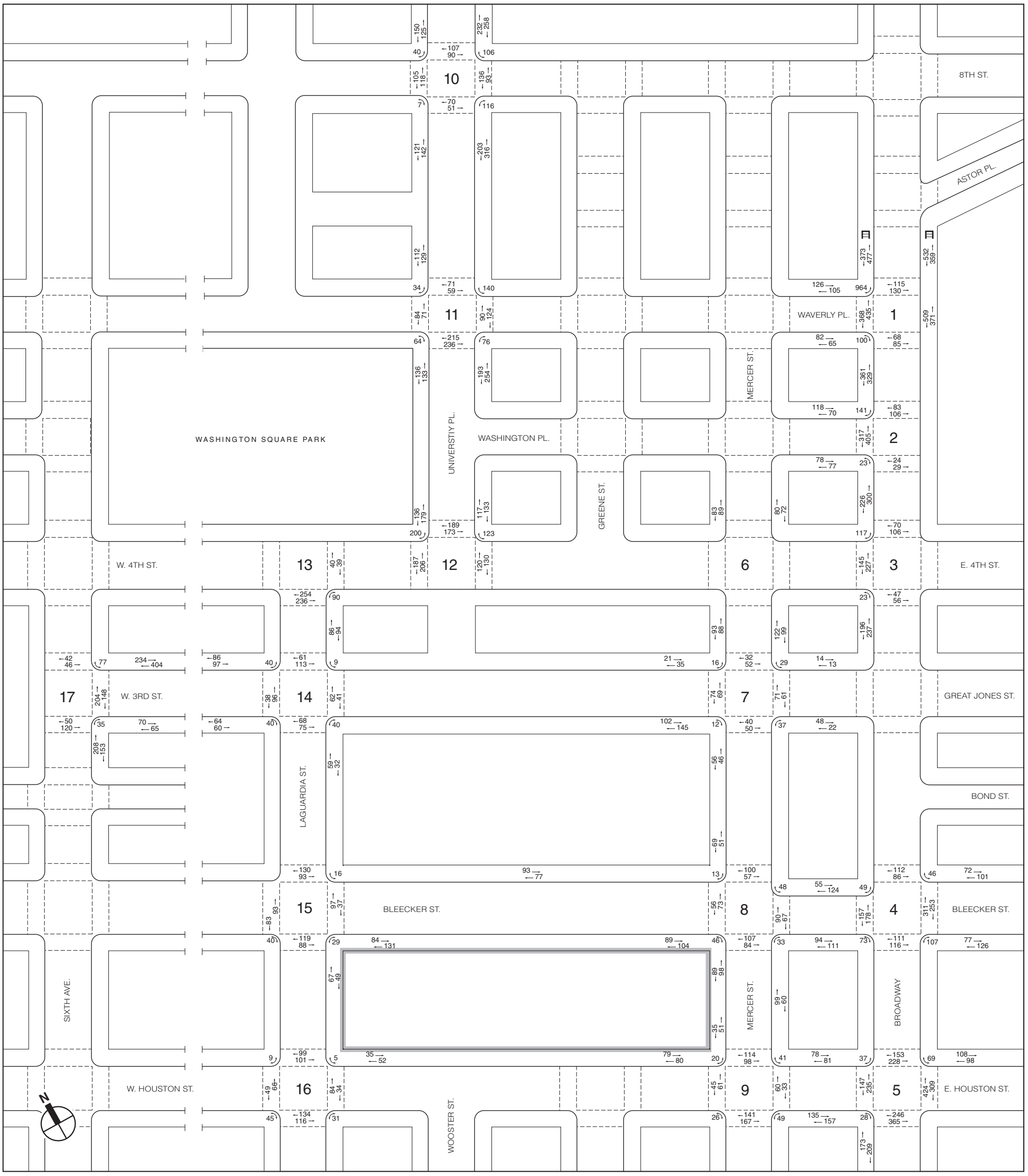
NOT TO SCALE

Subway Stairs

NYU Core

2021 No Build Pedestrian Volume
Weekday midday Peak 15 Minutes
Figure 14-37

12.14.11



Subway Stairs

NOT TO SCALE

NYU Core

2021 No Build Pedestrian Volume
Weekday PM Peak 15 Minutes
Figure 14-38

Table 14-46
2021 No Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	168	1.72	B
		South	6.0	100	1.11	B
	Broadway at Waverly Place	East	13.8	320	1.55	B
	Broadway between Waverly Place and Washington Place	West	14.0	300	1.43	B
	Broadway between Astor Place and Waverly Place	East	15.0	293	1.30	B
		West	14.7	396	1.80	B
2	Washington Place between Broadway and Mercer St.	North	10.0	96	0.64	B
		South	8.8	97	0.73	B
3	Broadway between West 4th St. and Washington Place	West	13.0	199	1.02	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	173	1.15	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	115	0.68	B
		South	11.0	119	0.72	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	139	0.86	B
	Broadway between West Houston St. and Prince St.	West	10.5	118	0.75	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	81	0.72	B
		West	8.5	85	0.67	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	88	1.07	B
		West	7.2	78	0.72	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	12	0.11	A
		South	10.3	36	0.23	A
	West 3rd St. between Mercer St. and Greene St.	North	6.2	60	0.65	B
		South	5.5	60	0.73	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	40	0.42	A
8	Bleecker St. between Mercer St. and Broadway	North	8.2	98	0.80	B
		South	9.0	112	0.83	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	104	0.79	B
		South	7.5	103	0.92	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	41	0.43	A
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	55	0.45	A
		West	10.2	47	0.31	A
9	West Houston St. between Mercer St. and Broadway	North	7.0	85	0.81	B
		South	8.3	158	1.27	B
	West Houston between Greene St. and Mercer St.	North	5.5	75	0.91	B
	Mercer St. between Bleecker St. and West Houston St. (South)	West	3.8	32	0.56	B
10	University Place between East 8th St. and East 9th St.	East	13.5	194	0.96	B
		West	13.0	119	0.61	B
	University Place between East 8th St. and Waverly Place	East	11.5	152	0.88	B
		West	11.8	135	0.76	B
11	University Place between East 8th St. and Waverly Place	West	9.7	127	0.87	B
	University Place between Waverly Place and Washington Place	East	8.8	125	0.95	B
		West	6.0	104	1.16	B
12	Washington Square East between Washington Place and West 4th St.	East	9.2	118	0.86	B
		West	6.3	88	0.93	B
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	78	0.54	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	37	0.31	A
15	Bleecker St. between LaGuardia Place and Greene St.	South	7.5	77	0.68	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	44	0.52	B
16	West Houston St. between LaGuardia Place and Wooster St.	North	6.8	64	0.63	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	330	3.67	C
		South	5.8	35	0.40	A
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	158	1.44	B

Note: PMF = pedestrians per minute per foot

Table 14-46 (cont'd)
2021 No Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
Midday Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	335	3.44	C
		South	6.0	150	1.67	B
	Broadway at Waverly Place	East	13.8	729	3.52	C
	Broadway between Waverly Place and Washington Place	West	14.0	645	3.07	C
	Broadway between Astor Place and Waverly Place	East	15.0	835	3.71	C
		West	14.7	777	3.52	C
2	Washington Place between Broadway and Mercer St.	North	10.0	246	1.64	B
		South	8.8	209	1.58	B
3	Broadway between West 4th St. and Washington Place	West	13.0	477	2.45	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	344	2.29	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	186	1.10	B
		South	11.0	188	1.14	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	179	1.10	B
	Broadway between West Houston St. and Prince St.	West	10.5	363	2.30	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	184	1.64	B
		West	8.5	312	2.45	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	292	3.54	C
		West	7.2	226	2.09	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	23	0.21	A
		South	10.3	97	0.63	B
	West 3rd St. between Mercer St. and Greene St.	North	6.2	90	0.97	B
		South	5.5	175	2.12	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	76	0.80	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	167	1.36	B
		South	9.0	175	1.30	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	148	1.12	B
		South	7.5	148	1.32	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	161	1.70	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	187	1.52	B
		West	10.2	185	1.21	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	110	1.05	B
		South	8.3	201	1.61	B
	West Houston between Greene St. and Mercer St.	North	5.5	106	1.28	B
	Mercer St. between Bleecker St. and West Houston St. (South)	West	3.8	60	1.05	B
10	University Place between East 8th St. and East 9th St.	East	13.5	477	2.36	B
		West	13.0	262	1.34	B
	University Place between East 8th St. and Waverly Place	East	11.5	596	3.46	C
		West	11.8	256	1.45	B
11	University Place between East 8th St. and Waverly Place	West	9.7	260	1.79	B
	University Place between Waverly Place and Washington Place	East	8.8	503	3.81	C
		West	6.0	300	3.33	C
12	Washington Square East between Washington Place and West 4th St.	East	9.2	390	2.83	B
		West	6.3	408	4.32	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	153	1.06	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	100	0.83	B
15	Bleecker St. between LaGuardia Place and Greene St.	South	7.5	151	1.34	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	103	1.23	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	62	0.61	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	253	2.81	B
		South	5.8	124	1.43	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	151	1.38	B

Note: PMF = pedestrians per minute per foot

Table 14-46 (cont'd)
2021 No Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
PM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	231	2.37	B
		South	6.0	147	1.63	B
	Broadway at Waverly Place	East	13.8	880	4.25	C
	Broadway between Waverly Place and Washington Place	West	14.0	690	3.29	C
	Broadway between Astor Place and Waverly Place	East	15.0	891	3.96	C
		West	14.7	850	3.85	C
2	Washington Place between Broadway and Mercer St.	North	10.0	188	1.25	B
		South	8.8	155	1.17	B
3	Broadway between West 4th St. and Washington Place	West	13.0	526	2.70	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	433	2.89	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	173	1.02	B
		South	11.0	203	1.23	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	206	1.27	B
	Broadway between West Houston St. and Prince St.	West	10.5	382	2.43	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	152	1.35	B
		West	8.5	172	1.35	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	221	2.68	B
		West	7.2	181	1.68	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	27	0.25	A
		South	10.3	70	0.45	A
	West 3rd St. between Mercer St. and Greene St.	North	6.2	56	0.60	B
		South	5.5	247	2.99	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	102	1.08	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	179	1.46	B
		South	9.0	205	1.52	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	170	1.29	B
		South	7.5	193	1.72	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	120	1.27	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	159	1.29	B
		West	10.2	187	1.22	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	159	1.51	B
		South	8.3	292	2.35	B
	West Houston St. between Greene St. and Mercer St.	North	5.5	159	1.93	B
	Mercer St. between Bleecker St. and West Houston St. (South)	West	3.8	86	1.51	B
10	University Place between East 8th St. and East 9th St.	East	13.5	490	2.42	B
		West	13.0	275	1.41	B
	University Place between East 8th St. and Waverly Place	East	11.5	519	3.01	C
		West	11.8	263	1.49	B
11	University Place between East 8th St. and Waverly Place	West	9.7	241	1.66	B
	University Place between Waverly Place and Washington Place	East	8.8	447	3.39	C
		West	6.0	269	2.99	B
12	Washington Square East between Washington Place and West 4th St.	East	9.2	250	1.81	B
		West	6.3	315	3.33	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	180	1.25	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	91	0.76	B
15	Bleecker St. between LaGuardia Place and Greene St.	South	7.5	215	1.91	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	116	1.38	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	87	0.85	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	638	7.09	D
		South	5.8	135	1.55	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	361	3.30	C

Note: PMF = pedestrians per minute per foot

Table 14-47
2021 No Build Condition Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	Broadway and Waverly Place	Southwest	90.2	A	40.1	B	35.0	C
		Northwest	68.5	A	27.6	C	25.5	C
2	Broadway and Washington Place	Southwest	185.0	A	72.0	A	63.9	A
		Northwest	151.4	A	58.0	B	48.0	B
3	Broadway and West 4th Street	Southwest	163.2	A	52.4	B	68.2	A
		Northwest	148.7	A	45.3	B	64.0	A
4	Broadway and Bleecker Street	Northeast	115.4	A	41.6	B	44.0	B
		Southeast	128.2	A	50.6	B	42.6	B
		Southwest	180.9	A	92.1	A	74.5	A
		Northwest	159.6	A	67.5	A	72.6	A
5	Broadway and West Houston Street	Northeast	124.4	A	60.2	A	42.3	B
		Southwest	148.0	A	44.8	B	25.9	C
		Northwest	311.6	A	148.1	A	113.0	A
7	Mercer Street and West 3rd Street	Northeast	164.4	A	71.1	A	71.8	A
		Southeast	129.8	A	89.3	A	96.8	A
		Southwest	130.7	A	53.5	B	62.5	A
		Northwest	152.4	A	65.9	A	70.2	A
8	Mercer Street and Bleecker Street	Northeast	177.7	A	59.6	B	76.4	A
		Southeast	189.0	A	64.3	A	77.7	A
		Southwest	88.5	A	48.3	B	41.9	B
		Northwest	110.4	A	54.1	B	55.5	B
9	Mercer Street and West Houston Street	Northeast	328.9	A	127.8	A	107.8	A
		Southeast	120.9	A	80.3	A	64.3	A
		Southwest	111.1	A	79.7	A	60.0	B
		Northwest	155.7	A	56.4	B	48.2	B
10	University Place and East 8th Street	Northeast	139.2	A	60.9	A	68.7	A
		Southeast	112.0	A	42.5	B	55.4	B
		Southwest	176.7	A	94.1	A	107.3	A
		Northwest	178.5	A	88.3	A	87.0	A
11	University Place and Waverly Place	Northeast	179.1	A	66.5	A	89.5	A
		Southeast	79.0	A	12.5	E	28.0	C
		Southwest	181.2	A	38.3	C	68.0	A
		Northwest	144.5	A	51.6	B	63.2	A
12	Washington Square East and West 4th Street	Northeast	101.3	A	27.1	C	42.6	B
		Northwest	231.3	A	56.6	B	80.6	A
13	LaGuardia Place and West 4th Street	Southeast	133.2	A	38.9	C	41.2	B
14	LaGuardia Place and West 3rd Street	Northeast	121.2	A	75.9	A	73.5	A
		Southeast	89.1	A	74.3	A	73.4	A
		Southwest	169.6	A	138.7	A	124.7	A
		Northwest	136.8	A	100.4	A	79.3	A
15	LaGuardia Place and Bleecker Street	Northeast	207.4	A	90.0	A	58.0	B
		Southeast	116.0	A	47.8	B	29.5	C
		Southwest	356.6	A	172.5	A	105.1	A
16	LaGuardia Place/West Broadway and West Houston Street	Northeast	379.5	A	155.1	A	130.9	A
		Southeast	374.4	A	213.7	A	152.4	A
		Southwest	461.0	A	268.2	A	195.4	A
		Northwest	353.9	A	163.2	A	135.5	A
17	Sixth Avenue and West 3rd Street	Northeast	201.1	A	149.4	A	83.4	A
		Southeast	157.8	A	109.1	A	58.4	B

Note: SFP = square feet per pedestrian

Table 14-48
2021 No Build Condition Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Broadway and Waverly Place	West	34.0	15.0	359	40.3	B	723	18.8	D	803	17.6	D
2	Broadway and Washington Place	West	37.0	17.3	243	147.3	A	598	59.9	B	722	48.6	B
3	Broadway and West 4th Street	West	32.0	19.0	163	135.1	A	413	50.1	B	372	57.3	B
4	Broadway and Bleecker Street	North	44.0	14.0	106	79.7	A	274	29.6	C	198	41.8	B
		South	44.0	15.0	94	89.3	A	182	45.3	B	227	35.7	C
5	Broadway and West Houston Street	North	44.0	18.0	172	94.9	A	261	60.9	A	381	39.7	C
7	Mercer Street and West 3rd Street	North	37.3	12.0	48	229.6	A	77	140.0	A	84	127.4	A
		East	29.0	12.0	47	223.6	A	132	77.1	A	132	76.4	A
		South	38.3	12.0	62	175.2	A	84	129.4	A	90	120.4	A
		West	50.0	15.0	57	237.3	A	168	78.0	A	143	91.3	A
8	Mercer Street and Bleecker Street	North	34.0	11.0	89	108.4	A	154	60.1	A	157	61.1	A
		East	31.0	12.0	58	182.8	A	265	37.1	C	157	63.9	A
		South	33.0	13.0	89	124.1	A	159	64.5	A	191	50.2	B
		West	36.0	13.0	61	193.2	A	129	89.2	A	129	89.5	A
9	Mercer Street and West Houston Street	North	34.0	14.0	68	213.4	A	191	71.6	A	212	65.0	A
		East	98.0	14.0	22	417.9	A	77	118.6	A	93	97.1	A
		West	98.0	14.0	37	239.1	A	84	103.9	A	106	80.2	A
10	University Place and East 8th Street	East	37.0	15.0	130	132.9	A	322	51.4	B	229	73.2	A
		West	36.0	14.3	119	132.7	A	257	59.9	B	223	70.4	A
11	University Place and Waverly Place	North	38.3	14.3	65	147.3	A	170	55.1	B	130	72.3	A
		East	34.5	15.5	114	152.1	A	270	61.7	A	214	78.8	A
		South	23.8	15.8	182	50.4	B	834	8.3	E	451	18.5	D
		West	31.0	16.8	64	294.4	A	188	98.3	A	155	118.2	A
12	Washington Square East and West 4th Street	East	30.0	14.7	101	112.9	A	388	25.3	C	250	42.7	B
		West	34.0	13.5	71	152.5	A	371	24.8	C	393	24.0	D
13	LaGuardia Place and West 4th Street	East	31.5	16.0	29	485.0	A	78	173.3	A	79	169.3	A
14	LaGuardia Place and West 3rd Street	East	50.0	13.0	50	237.5	A	123	94.6	A	103	113.9	A
		South	37.0	11.0	161	56.7	B	134	72.5	A	143	67.2	A
15	LaGuardia Place and Bleecker Street	East	36.0	12.0	41	251.5	A	104	95.9	A	134	73.5	A
		South	37.0	14.0	69	174.8	A	133	86.9	A	207	52.4	B
16	LaGuardia Place and Houston Street	North	37.0	14.0	71	147.3	A	151	55.1	B	200	72.3	A
17	Sixth Avenue and West 3rd Street	East	27.5	22.8	152	160.4	A	207	117.9	A	352	66.0	A

Note: SFP = square feet per pedestrian

2021 BUILD CONDITION

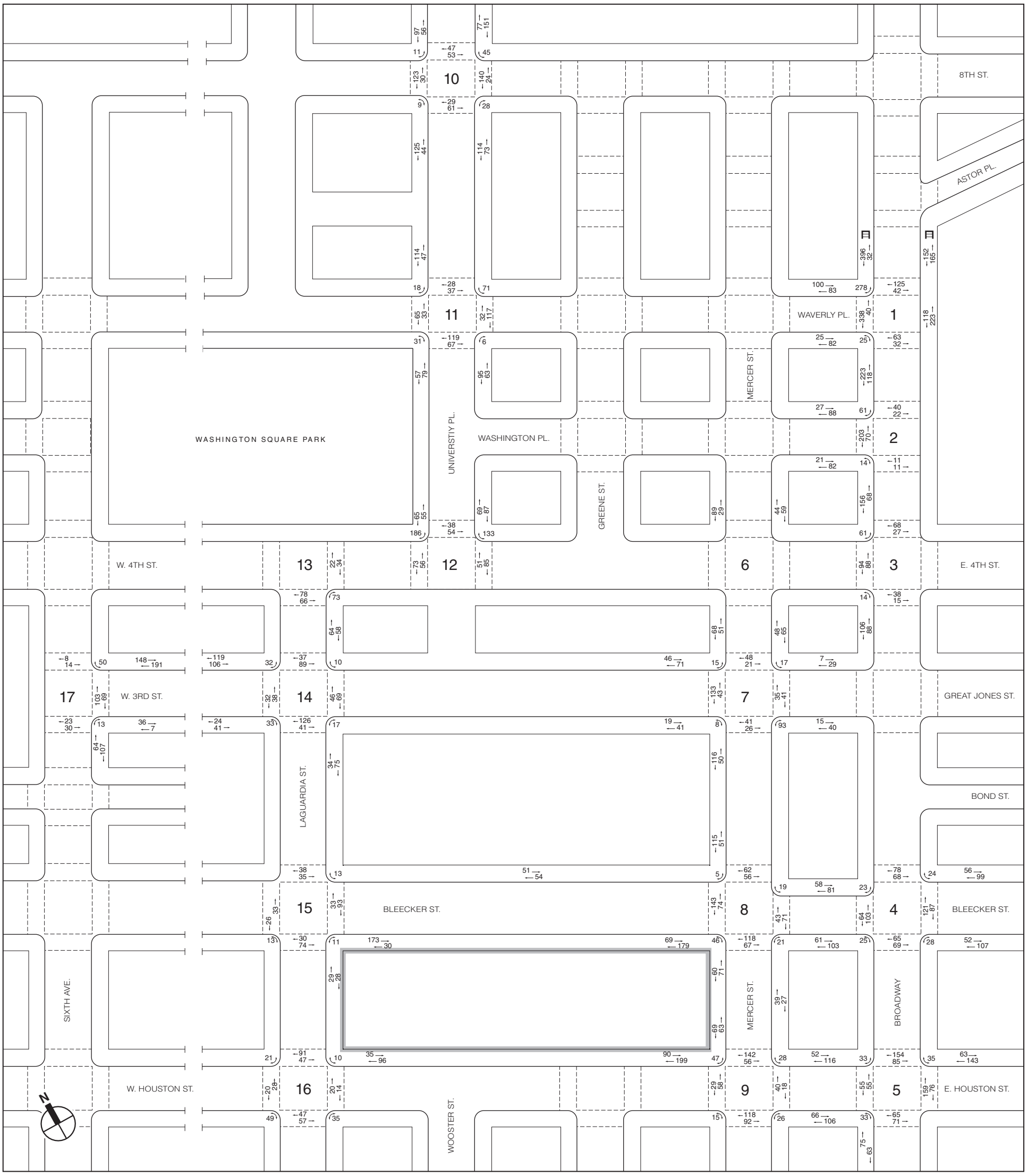
For the 2021 Build condition, the Proposed Development Area would incorporate improved sidewalk space surrounding the South Block. Although the existing plaza area in front of the Coles gymnasium would be eliminated, the adjacent sidewalk on Mercer Street between Bleecker Street and West Houston Street would be wider (by approximately 4 to 7 feet) as a result of the proposed project. The Bleecker Street south sidewalk between LaGuardia Place and Mercer Street would also be widened (by approximately 2 to 8 feet).

The project-generated pedestrian volumes were assigned to the pedestrian network considering current land uses in the area, nearby parking locations, available transit services, and pedestrian pathways connecting to/from the Proposed Development Area and the Commercial Overlay Area. Based on the peak hour project-generated pedestrian trips presented on **Figures 14-10A** to **14-12B** in Section E, "Level 2 Screening Assessment," peak 15-minute incremental pedestrian volumes were developed by dividing the hourly incremental volumes by four and accounting for peaking characteristics within the peak hours. These pedestrian volumes were added to the projected 2021 No Build volumes to generate the 2021 Build pedestrian volumes for analysis. The total 2021 Build peak 15-minute pedestrian volumes are presented in **Figures 14-39** to **14-41**.

The pedestrian analyses conducted for the 2021 Build condition accounted for the project-generated pedestrian volumes and physical changes to the pedestrian environment described above. As presented in **Tables 14-49** to **14-51**, all sidewalk, corner reservoir, and crosswalk locations would continue to operate at acceptable levels (within mid-LOS D, with a maximum of 8.5 PMF in sidewalk platoon flows or a minimum of 19.5 SFP for corners and crosswalks) or incur degradations that, when compared to the No Build condition, do not exceed the 2010 *CEQR Technical Manual* sliding scale impact thresholds (see **Tables 14-17** and **14-18**), except for the one analysis location listed below, where a significant adverse pedestrian impact has been identified. Measures that can be implemented to mitigate this significant adverse pedestrian impact are discussed in Chapter 21, "Mitigation."

- The southeast corner of University Place and Waverly Place, which would deteriorate to LOS E (11.2 SFP) from a No Build LOS E (12.5 SFP) during the midday peak 15-minute period.

12.14.11



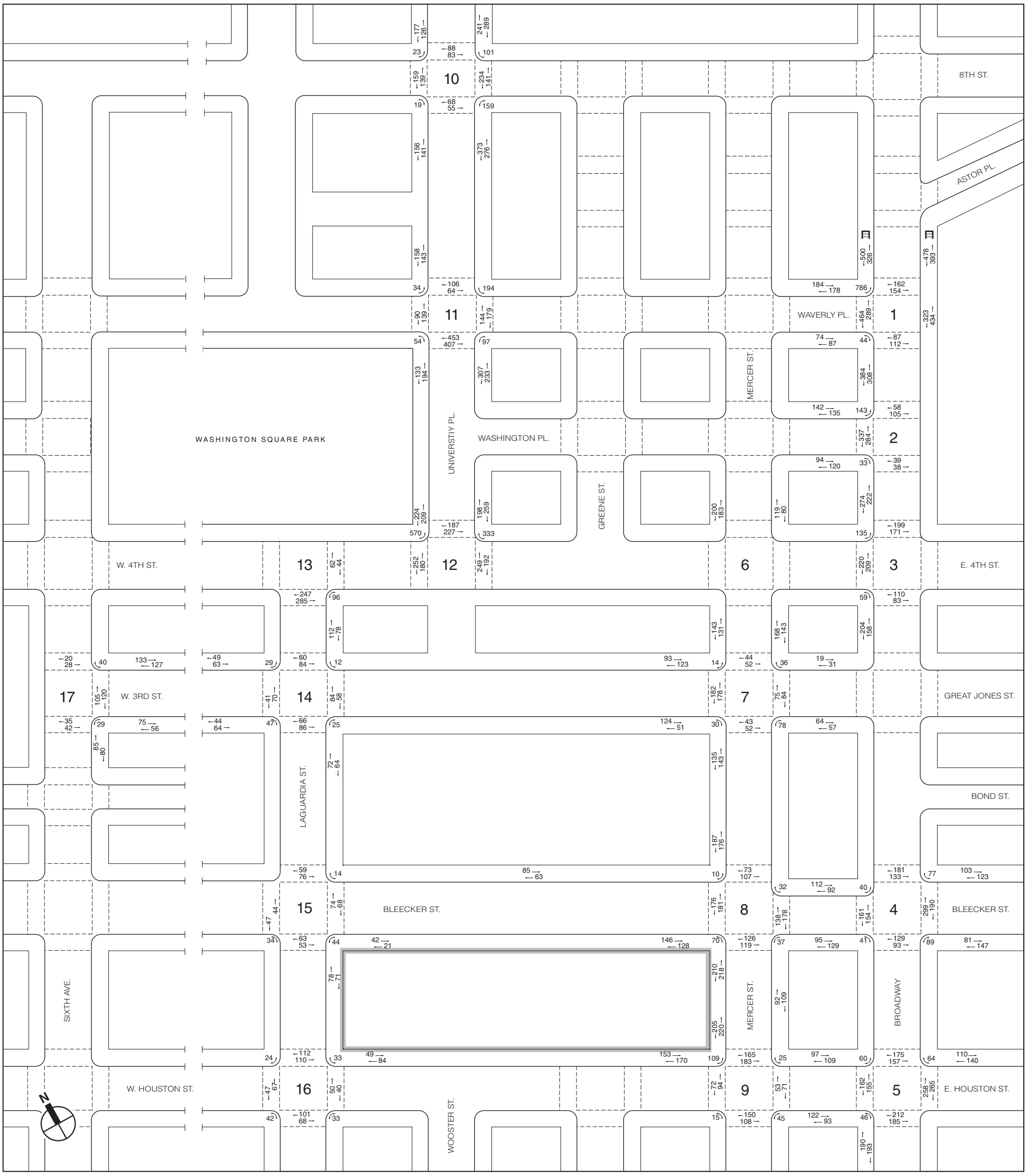
NOT TO SCALE

Subway Stairs

NYU Core

2021 Build Pedestrian Volume
Weekday AM Peak 15 Minutes
Figure 14-39

12.14.11



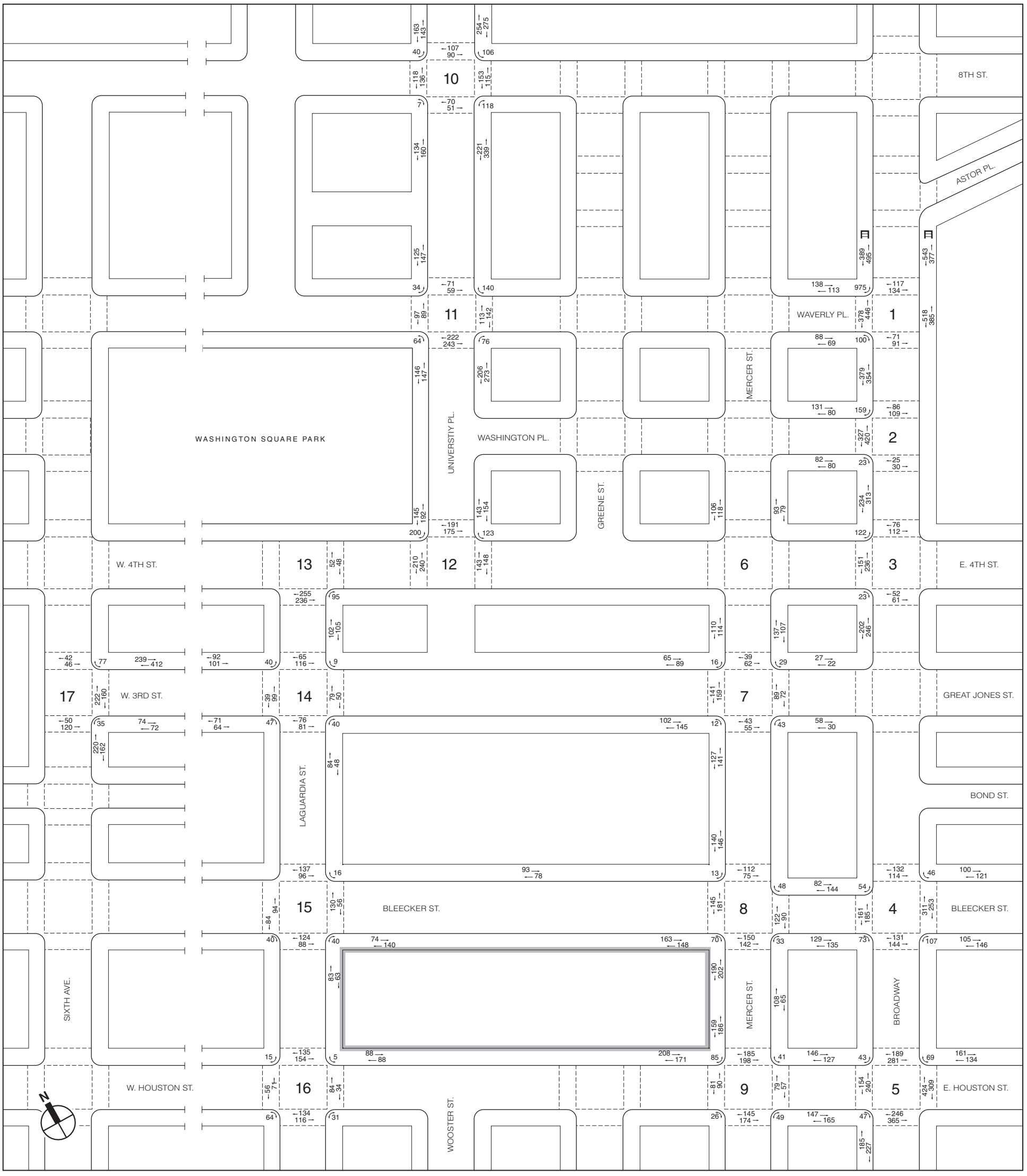
NOT TO SCALE

Subway Stairs

NYU Core

2021 Build Pedestrian Volume
Weekday midday Peak 15 Minutes
Figure 14-40

12.14.11



NOT TO SCALE

Subway Stairs

NYU Core

2021 Build Pedestrian Volume
Weekday PM Peak 15 Minutes
Figure 14-41

Table 14-49
2021 Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	183	1.88	B
		South	6.0	107	1.19	B
	Broadway at Waverly Place	East	13.8	341	1.65	B
	Broadway between Waverly Place and Washington Place	West	14.0	341	1.62	B
	Broadway between Astor Place and Waverly Place	East	15.0	317	1.41	B
		West	14.7	428	1.94	B
2	Washington Place between Broadway and Mercer St.	North	10.0	115	0.77	B
		South	8.8	103	0.78	B
3	Broadway between West 4th St. and Washington Place	West	13.0	224	1.15	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	194	1.29	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	155	0.91	B
		South	11.0	159	0.96	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	206	1.27	B
	Broadway between West Houston St. and Prince St.	West	10.5	138	0.88	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	103	0.92	B
		West	8.5	118	0.93	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	113	1.37	B
		West	7.2	119	1.10	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	36	0.33	A
		South	10.3	55	0.36	A
	West 3rd St. between Mercer St. and Greene St.	North	6.2	117	1.26	B
		South	5.5	60	0.73	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	166	1.76	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	139	1.13	B
		South	9.0	164	1.21	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	105	0.80	B
		South	9.3	248	1.78	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	166	1.76	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	66	0.54	B
		West	14.2	131	0.62	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	168	1.60	B
		South	8.3	172	1.38	B
	West Houston between Greene St. and Mercer St.	North	5.5	289	3.50	C
	Mercer St. between Bleecker St. and West Houston St. (South)	West	11.0	132	0.80	B
10	University Place between East 8th St. and East 9th St.	East	13.5	228	1.13	B
		West	13.0	153	0.78	B
	University Place between East 8th St. and Waverly Place	East	11.5	187	1.08	B
		West	11.8	169	0.95	B
11	University Place between East 8th St. and Waverly Place	West	9.7	161	1.11	B
	University Place between Waverly Place and Washington Place	East	8.8	158	1.20	B
		West	6.0	136	1.51	B
12	Washington Square East between Washington Place and West 4th St.	East	9.2	156	1.13	B
		West	6.3	120	1.27	B
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	122	0.85	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	109	0.91	B
15	Bleecker St. between LaGuardia Place and Greene St.	South	15.3	203	0.88	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	57	0.68	B
16	West Houston St. between LaGuardia Place and Wooster St.	North	6.8	131	1.28	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	339	3.77	C
		South	5.8	43	0.49	A
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	171	1.56	B

Note: PMF = pedestrians per minute per foot

Table 14-49 (cont'd)
2021 Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
Midday Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	362	3.71	C
		South	6.0	161	1.79	B
	Broadway at Waverly Place	East	13.8	757	3.66	C
	Broadway between Waverly Place and Washington Place	West	14.0	692	3.30	C
	Broadway between Astor Place and Waverly Place	East	15.0	871	3.87	C
		West	14.7	826	3.75	C
2	Washington Place between Broadway and Mercer St.	North	10.0	277	1.85	B
		South	8.8	214	1.62	B
3	Broadway between West 4th St. and Washington Place	West	13.0	496	2.54	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	362	2.41	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	226	1.33	B
		South	11.0	228	1.38	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	250	1.54	B
	Broadway between West Houston St. and Prince St.	West	10.5	383	2.43	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	199	1.77	B
		West	8.5	383	3.00	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	311	3.77	C
		West	7.2	274	2.54	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	50	0.46	A
		South	10.3	121	0.78	B
	West 3rd St. between Mercer St. and Greene St.	North	6.2	216	2.32	B
		South	5.5	175	2.12	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	278	2.94	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	204	1.66	B
		South	9.0	224	1.66	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	148	1.12	B
		South	9.3	274	1.96	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	363	3.84	C
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	201	1.63	B
		West	14.2	428	2.01	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	206	1.96	B
		South	8.3	215	1.73	B
	West Houston between Greene St. and Mercer St.	North	5.5	323	3.92	C
	Mercer St. between Bleecker St. and West Houston St. (South)	West	11.0	425	2.58	B
10	University Place between East 8th St. and East 9th St.	East	13.5	530	2.62	B
		West	13.0	303	1.55	B
	University Place between East 8th St. and Waverly Place	East	11.5	649	3.76	C
		West	11.8	297	1.68	B
11	University Place between East 8th St. and Waverly Place	West	9.7	301	2.07	B
	University Place between Waverly Place and Washington Place	East	8.8	540	4.09	C
		West	6.0	327	3.63	C
12	Washington Square East between Washington Place and West 4th St.	East	9.2	457	3.31	C
		West	6.3	433	4.58	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	190	1.32	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	136	1.13	B
15	Bleecker St. between LaGuardia Place and Greene St.	South	15.3	63	0.27	A
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	149	1.77	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	133	1.30	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	260	2.89	B
		South	5.8	131	1.51	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	165	1.51	B

Note: PMF = pedestrians per minute per foot

Table 14-49 (cont'd)
2021 Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
PM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	251	2.57	B
		South	6.0	157	1.74	B
	Broadway at Waverly Place	East	13.8	903	4.36	C
	Broadway between Waverly Place and Washington Place	West	14.0	733	3.49	C
	Broadway between Astor Place and Waverly Place	East	15.0	920	4.09	C
		West	14.7	884	4.01	C
2	Washington Place between Broadway and Mercer St.	North	10.0	211	1.41	B
		South	8.8	162	1.23	B
3	Broadway between West 4th St. and Washington Place	West	13.0	547	2.81	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	448	2.99	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	221	1.30	B
		South	11.0	251	1.52	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	295	1.82	B
	Broadway between West Houston St. and Prince St.	West	10.5	412	2.62	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	172	1.53	B
		West	8.5	224	1.76	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	244	2.96	B
		West	7.2	224	2.07	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	49	0.45	A
		South	10.3	88	0.57	B
	West 3rd St. between Mercer St. and Greene St.	North	6.2	154	1.66	B
		South	5.5	247	2.99	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	268	2.84	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	226	1.84	B
		South	9.0	264	1.96	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	171	1.30	B
		South	9.3	311	2.23	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	286	3.03	C
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	173	1.41	B
		West	14.2	392	1.84	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	273	2.60	B
		South	8.3	312	2.51	B
	West Houston St. between Greene St. and Mercer St.	North	5.5	379	4.59	C
	Mercer St. between Bleecker St. and West Houston St. (South)	West	11.0	345	2.09	B
10	University Place between East 8th St. and East 9th St.	East	13.5	529	2.61	B
		West	13.0	306	1.57	B
	University Place between East 8th St. and Waverly Place	East	11.5	560	3.25	C
		West	11.8	294	1.66	B
11	University Place between East 8th St. and Waverly Place	West	9.7	272	1.87	B
	University Place between Waverly Place and Washington Place	East	8.8	479	3.63	C
		West	6.0	293	3.26	C
12	Washington Square East between Washington Place and West 4th St.	East	9.2	297	2.15	B
		West	6.3	337	3.57	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	207	1.44	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	132	1.10	B
15	Bleecker St. between LaGuardia Place and Greene St.	South	15.3	214	0.93	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	146	1.74	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	176	1.73	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	651	7.23	D
		South	5.8	146	1.68	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	382	3.49	C

Note: PMF = pedestrians per minute per foot

Table 14-50
2021 Build Condition Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	Broadway and Waverly Place	Southwest	86.1	A	38.2	C	33.8	C
		Northwest	65.3	A	26.7	C	24.9	C
2	Broadway and Washington Place	Southwest	166.4	A	69.5	A	61.7	A
		Northwest	132.2	A	54.5	B	45.8	B
3	Broadway and West 4th Street	Southwest	146.5	A	49.1	B	64.5	A
		Northwest	133.5	A	42.9	B	60.7	A
4	Broadway and Bleecker Street	Northeast	101.0	A	39.1	C	40.9	B
		Southeast	112.1	A	47.4	B	39.9	C
		Southwest	151.3	A	83.4	A	67.1	A
		Northwest	130.1	A	61.3	A	64.3	A
5	Broadway and West Houston Street	Northeast	106.2	A	54.9	B	38.8	C
		Southwest	136.0	A	43.4	B	25.1	C
		Northwest	247.3	A	128.8	A	98.5	A
7	Mercer Street and West 3rd Street	Northeast	109.1	A	58.4	B	59.4	B
		Southeast	108.8	A	75.2	A	81.8	A
		Southwest	64.4	A	27.6	C	33.3	C
		Northwest	63.8	A	32.3	C	37.7	C
8	Mercer Street and Bleecker Street	Northeast	112.6	A	49.6	B	60.5	A
		Southeast	94.4	A	47.5	B	52.7	B
		Southwest	63.8	A	38.5	C	37.0	C
		Northwest	44.4	B	24.9	C	28.0	C
9	Mercer Street and West Houston Street	Northeast	131.1	A	72.0	A	63.9	A
		Southeast	101.0	A	67.8	A	56.5	B
		Southwest	88.2	A	60.5	A	49.8	B
		Northwest	132.6	A	66.4	A	64.1	A
10	University Place and East 8th Street	Northeast	122.9	A	55.4	B	63.7	A
		Southeast	97.9	A	38.5	C	50.4	B
		Southwest	152.6	A	84.8	A	98.1	A
		Northwest	154.2	A	80.4	A	81.2	A
11	University Place and Waverly Place	Northeast	155.9	A	60.9	A	82.1	A
		Southeast	69.7	A	11.2	E+	25.5	C
		Southwest	159.0	A	35.6	C	63.2	A
		Northwest	115.5	A	46.1	B	57.2	B
12	Washington Square East and West 4th Street	Northeast	89.3	A	25.3	C	39.7	C
		Northwest	194.7	A	53.4	B	75.3	A
13	LaGuardia Place and West 4th Street	Southeast	111.1	A	36.8	C	39.3	C
14	LaGuardia Place and West 3rd Street	Northeast	83.5	A	69.6	A	65.2	A
		Southeast	414.1	A	389.3	A	380.7	A
		Southwest	152.3	A	128.4	A	115.1	A
		Northwest	123.4	A	98.8	A	76.7	A
15	LaGuardia Place and Bleecker Street	Northeast	105.0	A	76.7	A	48.7	B
		Southeast	56.3	B	40.7	B	23.4	D
		Southwest	260.0	A	190.6	A	103.4	A
16	LaGuardia Place/West Broadway and West Houston Street	Northeast	240.1	A	121.6	A	101.4	A
		Southeast	375.6	A	213.7	A	152.4	A
		Southwest	413.7	A	249.8	A	181.4	A
		Northwest	221.9	A	121.8	A	99.8	A
17	Sixth Avenue and West 3rd Street	Northeast	183.8	A	140.5	A	78.6	A
		Southeast	144.4	A	102.9	A	55.1	B

Note: SFP = square feet per pedestrian
+ Denotes a significant adverse pedestrian impact

Table 14-51
2021 Build Condition Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Broadway and Waverly Place	West	34.0	15.0	378	38.0	C	753	17.9	D	824	17.1	D
2	Broadway and Washington Place	West	37.0	17.3	273	130.9	A	621	57.7	B	747	47.0	B
3	Broadway and West 4th Street	West	32.0	19.0	182	120.0	A	429	48.0	B	387	55.0	B
4	Broadway and Bleecker Street	North	44.0	14.0	146	57.5	B	314	25.4	C	246	33.0	C
		South	44.0	15.0	134	61.1	A	222	36.6	C	275	29.1	C
5	Broadway and West Houston Street	North	44.0	18.0	239	67.8	A	332	47.1	B	470	31.4	C
7	Mercer Street and West 3rd Street	North	37.3	12.0	69	159.3	A	96	111.4	A	101	105.0	A
		East	29.0	12.0	76	137.7	A	159	63.2	A	161	61.5	A
		South	38.3	12.0	82	161.6	A	95	113.8	A	98	110.3	A
		West	50.0	15.0	86	72.7	A	360	34.4	C	300	41.9	B
8	Mercer Street and Bleecker Street	North	34.0	11.0	118	81.4	A	180	50.8	B	187	50.4	B
		East	31.0	12.0	114	92.2	A	316	30.4	C	212	46.0	B
		South	33.0	13.0	236	53.4	B	245	39.4	C	292	30.9	C
		West	36.0	13.0	148	49.7	B	357	29.4	C	326	33.0	C
9	Mercer Street and West Houston Street	North	34.0	14.0	198	71.7	A	348	37.4	C	383	33.7	C
		East	98.0	14.0	58	156.8	A	124	73.0	A	136	65.9	A
		West	98.0	14.0	116	99.0	A	166	50.7	B	171	47.9	B
10	University Place and East 8th Street	East	38.5	15.0	164	105.0	A	375	43.5	B	268	61.8	A
		West	36.0	14.3	60	101.5	A	298	51.0	B	254	61.3	A
11	University Place and Waverly Place	North	38.3	14.3	65	147.3	A	170	55.1	B	130	72.3	A
		East	34.5	15.5	149	115.9	A	323	50.8	B	255	65.3	A
		South	23.8	15.8	238	49.2	B	860	8.0	F	465	17.9	D
		West	31.0	16.8	66	189.0	A	229	79.7	A	186	97.7	A
12	Washington Square East and West 4th Street	East	30.0	14.7	136	83.4	A	441	21.8	D	291	36.0	C
		West	34.0	13.5	112	80.4	A	432	20.8	D	450	20.6	D
13	LaGuardia Place and West 4th Street	East	31.5	16.0	56	249.7	A	106	125.8	A	100	131.7	A
14	LaGuardia Place and West 3rd Street	East	31.5	13.0	115	99.3	A	142	77.7	A	129	85.9	A
		South	37.0	11.0	252	54.6	B	152	63.4	A	157	60.8	A
15	LaGuardia Place and Bleecker Street	East	36.0	12.0	126	78.9	A	142	67.4	A	186	50.3	B
		South	37.0	14.0	60	115.9	A	116	100.3	A	212	51.0	B
16	LaGuardia Place and Houston Street	North	37.0	14.0	138	147.3	A	222	55.1	B	130	72.3	A
17	Sixth Avenue and West 3rd Street	East	27.5	22.8	172	141.5	A	225	108.1	A	382	60.4	A

Note: SFP = square feet per pedestrian

2031 NO BUILD CONDITION

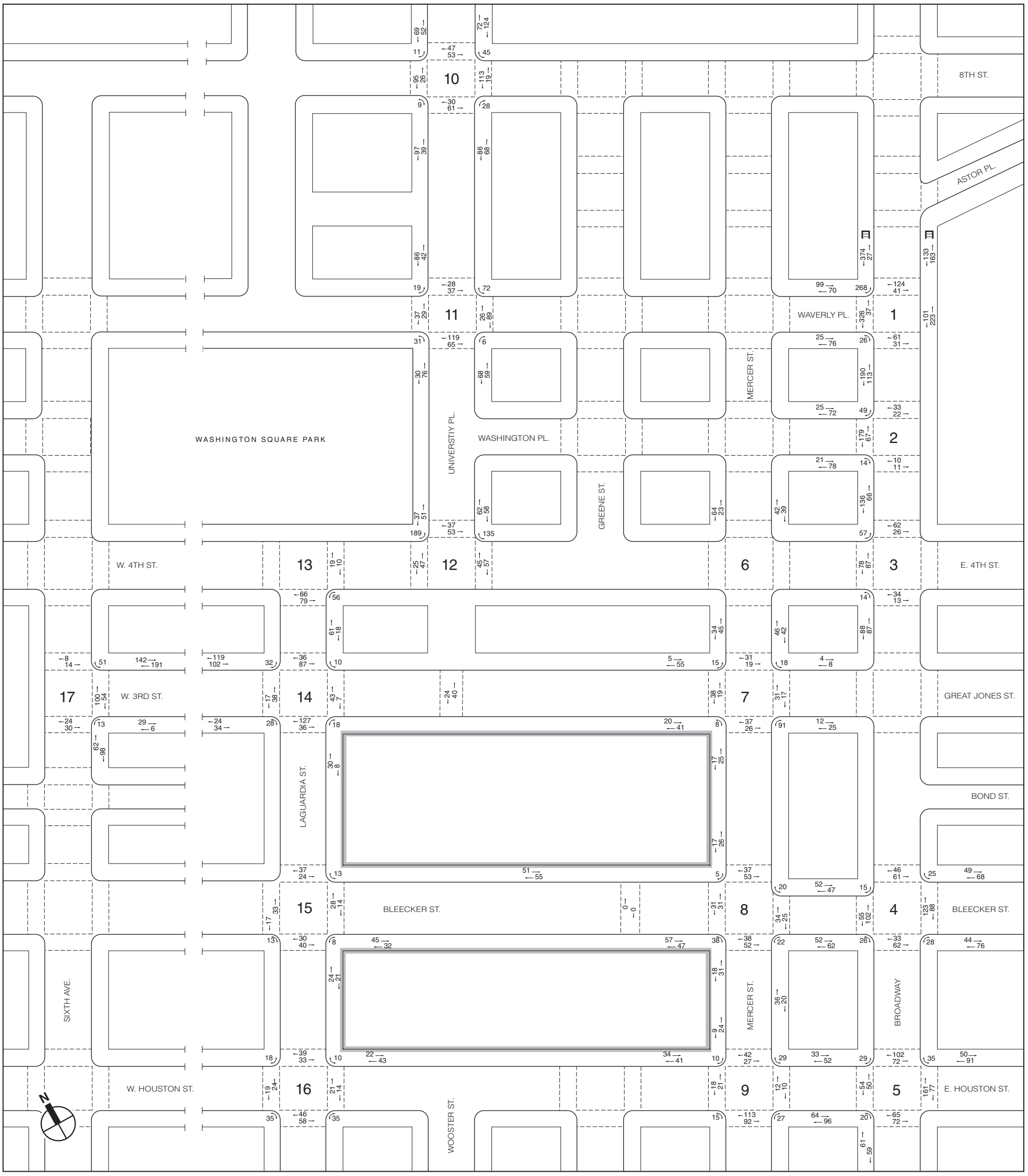
No Build pedestrian volumes were estimated by increasing existing pedestrian levels to reflect expected growth in overall travel through and within the study area. As per CEQR guidelines, an annual background growth rate of 0.25 percent was assumed for the first five years (year 2011 to year 2016) and then 0.125 percent for the remaining years (year 2016 to year 2031). Pedestrian volumes from anticipated projects in the study area were also added to arrive at the 2031 No Build pedestrian volumes. The total No build peak 15-minute pedestrian volumes for the weekday AM, midday, and PM peak periods are presented in **Figures 14-42** to **14-44**.

As described in Section H "Transit," MTA NYCT is currently constructing a connection between the uptown Bleecker Street (No. 6) Station and the Broadway-Lafayette (B/D/F/M) Station. When constructed, this connection will allow subway riders to transfer between lines without having to exit the stations. This new transfer connection is expected to result in a reduction in the number of pedestrians on-street making connections between the two stations.

As summarized in **Tables 14-52** to **14-54**, all sidewalk, corner reservoir, and crosswalk analysis locations would continue to operate at acceptable mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks), except for the following locations:

- The Southeast corner of University Place and Waverly Place, which will operate at LOS E (12.2 SFP) during the midday peak 15-minute period;
- The west crosswalk of Broadway and Waverly Place, which will operate at LOS D with 18.5 and 17.3 SFP during the midday and PM 15-minute periods, respectively; and
- The south crosswalk of University Place and Waverly Place, which will operate at LOS E (8.2 SFP) during the midday peak 15-minute period and at LOS D (18.3 SFP) during the PM peak 15-minute period.

12.14.11



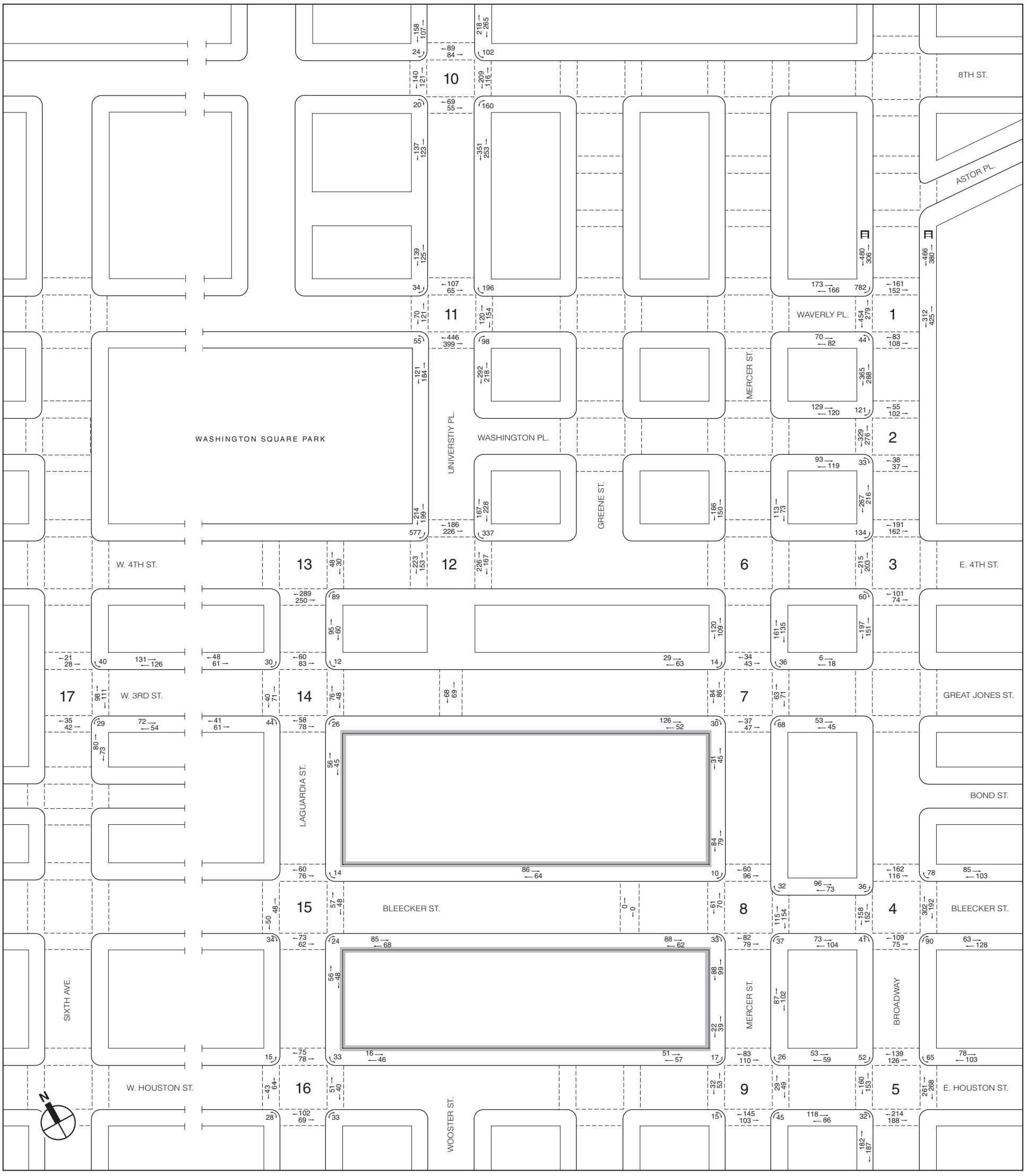
Subway Stairs

NOT TO SCALE

NYU Core

2031 No Build Pedestrian Volume
Weekday AM Peak 15 Minutes
Figure 14-42

12.14.11



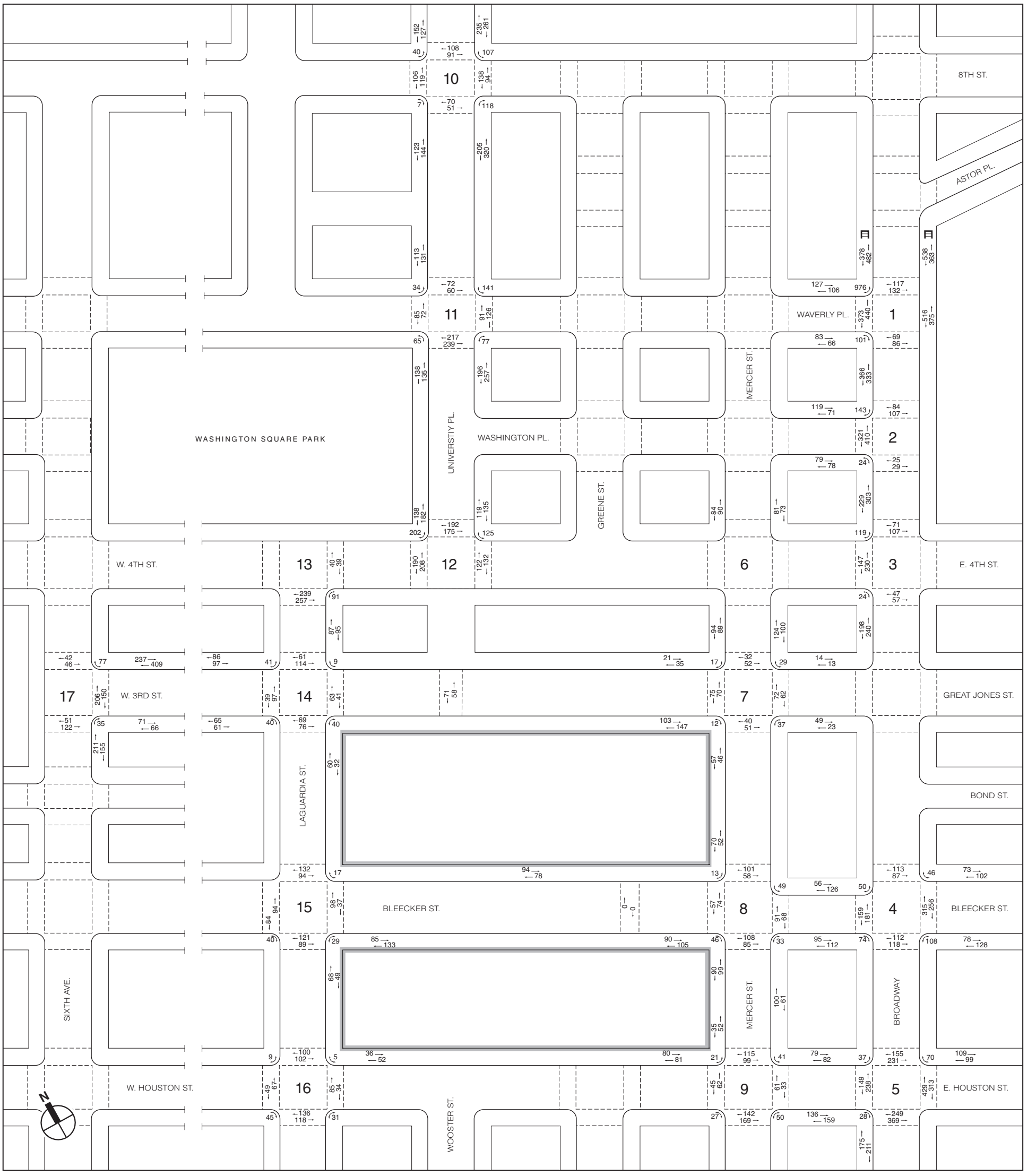
NOT TO SCALE

Subway Stairs

NYU Core

2031 No Build Pedestrian Volume
Weekday midday Peak 15 Minutes
Figure 14-43

12.14.11



NOT TO SCALE

Subway Stairs

NYU Core

2031 No Build Pedestrian Volume
Weekday PM Peak 15 Minutes
Figure 14-44

Table 14-52
2031 No Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	169	1.73	B
		South	6.0	101	1.12	B
	Broadway at Waverly Place	East	13.8	324	1.57	B
	Broadway between Waverly Place and Washington Place	West	14.0	303	1.44	B
	Broadway between Astor Place and Waverly Place	East	15.0	296	1.32	B
		West	14.7	401	1.82	B
2	Washington Place between Broadway and Mercer St.	North	10.0	97	0.65	B
		South	8.8	99	0.75	B
3	Broadway between West 4th St. and Washington Place	West	13.0	202	1.04	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	175	1.17	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	117	0.69	B
		South	11.0	120	0.73	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	141	0.87	B
	Broadway between West Houston St. and Prince St.	West	10.5	120	0.76	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	81	0.72	B
		West	8.5	87	0.68	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	88	1.07	B
		West	7.2	79	0.73	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	12	0.11	A
		South	10.3	37	0.24	A
	West 3rd St. between Mercer St. and Greene St.	North	6.2	60	0.65	B
		South	5.5	61	0.74	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	42	0.44	A
8	Bleecker St. between Mercer St. and Broadway	North	8.2	99	0.80	B
		South	9.0	114	0.84	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	106	0.80	B
		South	7.5	104	0.92	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	43	0.46	A
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	56	0.46	A
		West	10.2	49	0.32	A
9	West Houston St. between Mercer St. and Broadway	North	7.0	85	0.81	B
		South	8.3	160	1.29	B
	West Houston between Greene St. and Mercer St.	North	5.5	75	0.91	B
	Mercer St. between Bleecker St. and West Houston St. (South)	West	3.8	33	0.58	B
10	University Place between East 8th St. and East 9th St.	East	13.5	196	0.97	B
		West	13.0	121	0.62	B
	University Place between East 8th St. and Waverly Place	East	11.5	154	0.89	B
		West	11.8	136	0.77	B
11	University Place between East 8th St. and Waverly Place	West	9.7	128	0.88	B
	University Place between Waverly Place and Washington Place	East	8.8	127	0.96	B
		West	6.0	106	1.18	B
12	Washington Square East between Washington Place and West 4th St.	East	9.2	120	0.87	B
		West	6.3	88	0.93	B
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	79	0.55	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	38	0.32	A
15	Bleecker St. between LaGuardia Place and Greene St.	South	7.5	77	0.68	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	45	0.54	B
16	West Houston St. between LaGuardia Place and Wooster St.	North	6.8	65	0.64	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	333	3.70	C
		South	5.8	35	0.40	A
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	160	1.46	B

Note: PMF = pedestrians per minute per foot

Table 14-52 (cont'd)
2031 No Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
Midday Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	339	3.48	C
		South	6.0	152	1.69	B
	Broadway at Waverly Place	East	13.8	737	3.56	C
	Broadway between Waverly Place and Washington Place	West	14.0	653	3.11	C
	Broadway between Astor Place and Waverly Place	East	15.0	846	3.76	C
		West	14.7	786	3.56	C
2	Washington Place between Broadway and Mercer St.	North	10.0	249	1.66	B
		South	8.8	212	1.61	B
3	Broadway between West 4th St. and Washington Place	West	13.0	483	2.48	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	348	2.32	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	188	1.11	B
		South	11.0	191	1.16	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	181	1.12	B
	Broadway between West Houston St. and Prince St.	West	10.5	369	2.34	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	186	1.65	B
		West	8.5	316	2.48	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	296	3.59	C
		West	7.2	229	2.12	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	24	0.22	A
		South	10.3	98	0.63	B
	West 3rd St. between Mercer St. and Greene St.	North	6.2	92	0.99	B
		South	5.5	178	2.16	B
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	76	0.80	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	169	1.37	B
		South	9.0	177	1.31	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	150	1.14	B
		South	7.5	150	1.33	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	163	1.72	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	189	1.54	B
		West	10.2	187	1.22	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	112	1.07	B
		South	8.3	204	1.64	B
	West Houston between Greene St. and Mercer St.	North	5.5	108	1.31	B
	Mercer St. between Bleecker St. and West Houston St. (South)	West	3.8	61	1.07	B
10	University Place between East 8th St. and East 9th St.	East	13.5	483	2.39	B
		West	13.0	265	1.36	B
	University Place between East 8th St. and Waverly Place	East	11.5	604	3.50	C
		West	11.8	260	1.47	B
11	University Place between East 8th St. and Waverly Place	West	9.7	264	1.81	B
	University Place between Waverly Place and Washington Place	East	8.8	510	3.86	C
		West	6.0	305	3.39	C
12	Washington Square East between Washington Place and West 4th St.	East	9.2	395	2.86	B
		West	6.3	413	4.37	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	155	1.08	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	101	0.84	B
15	Bleecker St. between LaGuardia Place and Greene St.	South	7.5	153	1.36	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	104	1.24	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	62	0.61	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	257	2.86	B
		South	5.8	126	1.45	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	153	1.40	B

Note: PMF = pedestrians per minute per foot

Table 14-52 (cont'd)
2031 No Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
PM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	233	2.39	B
		South	6.0	149	1.66	B
	Broadway at Waverly Place	East	13.8	891	4.30	C
	Broadway between Waverly Place and Washington Place	West	14.0	699	3.33	C
	Broadway between Astor Place and Waverly Place	East	15.0	901	4.00	C
		West	14.7	860	3.90	C
2	Washington Place between Broadway and Mercer St.	North	10.0	190	1.27	B
		South	8.8	157	1.19	B
3	Broadway between West 4th St. and Washington Place	West	13.0	532	2.73	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	438	2.92	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	175	1.03	B
		South	11.0	206	1.25	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	208	1.28	B
	Broadway between West Houston St. and Prince St.	West	10.5	386	2.45	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	154	1.37	B
		West	8.5	174	1.36	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	224	2.72	B
		West	7.2	183	1.69	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	27	0.25	A
		South	10.3	72	0.47	A
	West 3rd St. between Mercer St. and Greene St.	North	6.2	56	0.60	B
		South	5.5	250	3.03	C
	Mercer St. between West 3rd St. and Bleecker St.	West	6.3	103	1.09	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	182	1.48	B
		South	9.0	207	1.53	B
	Bleecker St. between Mercer St. and Greene St.	North	8.8	172	1.30	B
		South	7.5	195	1.73	B
	Mercer St. between Bleecker St. and West 3rd St.	West	6.3	122	1.29	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	161	1.31	B
		West	10.2	189	1.24	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	161	1.53	B
		South	8.3	295	2.37	B
	West Houston St. between Greene St. and Mercer St.	North	5.5	161	1.95	B
	Mercer St. between Bleecker St. and West Houston St. (South)	West	3.8	87	1.53	B
10	University Place between East 8th St. and East 9th St.	East	13.5	496	2.45	B
		West	13.0	279	1.43	B
	University Place between East 8th St. and Waverly Place	East	11.5	525	3.04	C
		West	11.8	267	1.51	B
11	University Place between East 8th St. and Waverly Place	West	9.7	244	1.68	B
	University Place between Waverly Place and Washington Place	East	8.8	453	3.43	C
		West	6.0	273	3.03	C
12	Washington Square East between Washington Place and West 4th St.	East	9.2	254	1.84	B
		West	6.3	320	3.39	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	182	1.26	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	8.0	92	0.77	B
15	Bleecker St. between LaGuardia Place and Greene St.	South	7.5	218	1.94	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	117	1.39	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	88	0.86	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	646	7.18	D
		South	5.8	137	1.57	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	366	3.34	C

Note: PMF = pedestrians per minute per foot

Table 14-53
2031 No Build Condition Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	Broadway and Waverly Place	Southwest	89.2	A	39.5	C	34.5	C
		Northwest	67.8	A	27.2	C	25.1	C
2	Broadway and Washington Place	Southwest	183.0	A	71.3	A	63.0	A
		Northwest	149.6	A	57.3	B	47.4	B
3	Broadway and West 4th Street	Southwest	161.7	A	51.7	B	67.1	A
		Northwest	146.2	A	44.6	B	63.0	A
4	Broadway and Bleecker Street	Northeast	113.7	A	41.0	B	43.4	B
		Southeast	126.6	A	50.0	B	42.0	B
		Southwest	178.2	A	91.0	A	73.4	A
		Northwest	157.7	A	66.5	A	71.6	A
5	Broadway and West Houston Street	Northeast	122.9	A	59.4	B	41.7	B
		Southwest	145.6	A	44.1	B	25.4	C
		Northwest	308.5	A	145.9	A	111.5	A
7	Mercer Street and West 3rd Street	Northeast	158.5	A	70.4	A	71.2	A
		Southeast	127.8	A	88.4	A	95.6	A
		Southwest	129.6	A	53.0	B	61.6	A
		Northwest	149.7	A	65.3	A	69.3	A
8	Mercer Street and Bleecker Street	Northeast	174.5	A	58.7	B	75.3	A
		Southeast	185.7	A	63.4	A	76.8	A
		Southwest	87.4	A	47.6	B	41.3	B
		Northwest	108.9	A	53.3	B	54.6	B
9	Mercer Street and West Houston Street	Northeast	323.4	A	126.0	A	106.9	A
		Southeast	119.5	A	79.6	A	63.5	A
		Southwest	109.3	A	79.0	A	59.2	B
		Northwest	151.5	A	55.6	B	47.6	B
10	University Place and East 8th Street	Northeast	138.2	A	60.2	A	67.9	A
		Southeast	110.1	A	42.0	B	54.8	B
		Southwest	174.2	A	92.7	A	106.7	A
		Northwest	176.9	A	86.8	A	86.2	A
11	University Place and Waverly Place	Northeast	177.6	A	65.6	A	88.3	A
		Southeast	78.1	A	12.2	E	27.6	C
		Southwest	178.6	A	37.6	C	67.1	A
		Northwest	141.6	A	50.8	B	62.3	A
12	Washington Square East and West 4th Street	Northeast	100.3	A	26.7	C	41.9	B
		Northwest	228.6	A	55.8	B	79.5	A
13	LaGuardia Place and West 4th Street	Southeast	132.0	A	38.4	C	40.7	B
14	LaGuardia Place and West 3rd Street	Northeast	120.5	A	75.0	A	73.0	A
		Southeast	87.8	A	73.1	A	72.5	A
		Southwest	167.6	A	137.2	A	123.0	A
		Northwest	135.3	A	98.9	A	78.3	A
15	LaGuardia Place and Bleecker Street	Northeast	203.9	A	88.9	A	57.1	B
		Southeast	113.7	A	47.0	B	29.0	C
		Southwest	348.4	A	171.2	A	103.8	A
16	LaGuardia Place/West Broadway and West Houston Street	Northeast	372.9	A	153.3	A	129.7	A
		Southeast	373.4	A	211.4	A	150.3	A
		Southwest	457.2	A	265.4	A	192.9	A
		Northwest	346.2	A	161.4	A	134.3	A
17	Sixth Avenue and West 3rd Street	Northeast	198.4	A	147.8	A	82.7	A
		Southeast	155.5	A	108.4	A	57.6	B

Note: SFP = square feet per pedestrian

Table 14-54
2031 No Build Condition Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Broadway and Waverly Place	West	34.0	15.0	363	39.8	C	733	18.5	D	813	17.3	D
2	Broadway and Washington Place	West	37.0	17.3	246	145.4	A	605	59.2	B	731	48.0	B
3	Broadway and West 4th Street	West	32.0	19.0	165	133.4	A	418	49.4	B	377	56.5	B
4	Broadway and Bleecker Street	North	44.0	14.0	107	78.9	A	278	29.1	C	200	41.4	B
		South	44.0	15.0	95	88.3	A	184	44.7	B	230	35.3	C
5	Broadway and West Houston Street	North	44.0	18.0	174	93.7	A	265	59.9	B	386	39.1	C
7	Mercer Street and West 3rd Street	North	37.3	12.0	50	220.2	A	77	140.0	A	84	127.4	A
		East	29.0	12.0	48	219.0	A	134	75.9	A	134	75.2	A
		South	38.3	12.0	74	172.5	A	84	129.4	A	91	119.1	A
		West	50.0	15.0	38	237.3	A	170	77.0	A	145	90.0	A
8	Mercer Street and Bleecker Street	North	34.0	11.0	90	107.1	A	156	59.2	B	159	60.3	A
		East	31.0	12.0	59	179.7	A	269	36.5	C	159	63.1	A
		South	33.0	13.0	76	122.6	A	161	63.6	A	193	49.6	B
		West	36.0	13.0	62	190.1	A	131	87.8	A	131	88.0	A
9	Mercer Street and West Houston Street	North	34.0	14.0	69	210.2	A	193	70.8	A	214	64.4	A
		East	98.0	14.0	22	417.9	A	78	117.1	A	94	96.0	A
		West	98.0	14.0	42	226.5	A	85	102.6	A	107	79.3	A
10	University Place and East 8th Street	East	38.5	15.0	132	130.7	A	325	50.9	B	232	72.2	A
		West	36.0	14.3	52	130.5	A	261	58.9	B	225	69.7	A
11	University Place and Waverly Place	North	38.3	14.3	65	147.3	A	172	54.4	B	132	71.2	A
		East	34.5	15.5	115	150.7	A	274	60.7	A	217	77.6	A
		South	23.8	15.8	238	49.8	B	845	8.2	E	456	18.3	D
		West	31.0	16.8	58	285.3	A	191	96.7	A	157	116.6	A
12	Washington Square East and West 4th Street	East	30.0	14.7	102	111.8	A	393	25.0	C	254	42.0	B
		West	34.0	13.5	94	150.2	A	376	24.4	C	398	23.6	D
13	LaGuardia Place and West 4th Street	East	31.5	16.0	29	483.7	A	78	172.7	A	79	168.8	A
14	LaGuardia Place and West 3rd Street	East	50.0	13.0	50	237.5	A	124	93.8	A	104	112.8	A
		South	37.0	11.0	254	55.9	B	136	71.3	A	145	66.2	A
15	LaGuardia Place and Bleecker Street	East	36.0	12.0	42	245.1	A	105	94.8	A	135	72.8	A
		South	37.0	14.0	60	172.1	A	135	85.5	A	210	51.5	B
16	LaGuardia Place and Houston Street	North	37.0	14.0	72	147.3	A	153	54.4	B	202	71.2	A
17	Sixth Avenue and West 3rd Street	East	27.5	22.8	154	158.2	A	209	116.7	A	356	65.2	A

Note: SFP = square feet per pedestrian

2031 BUILD CONDITION

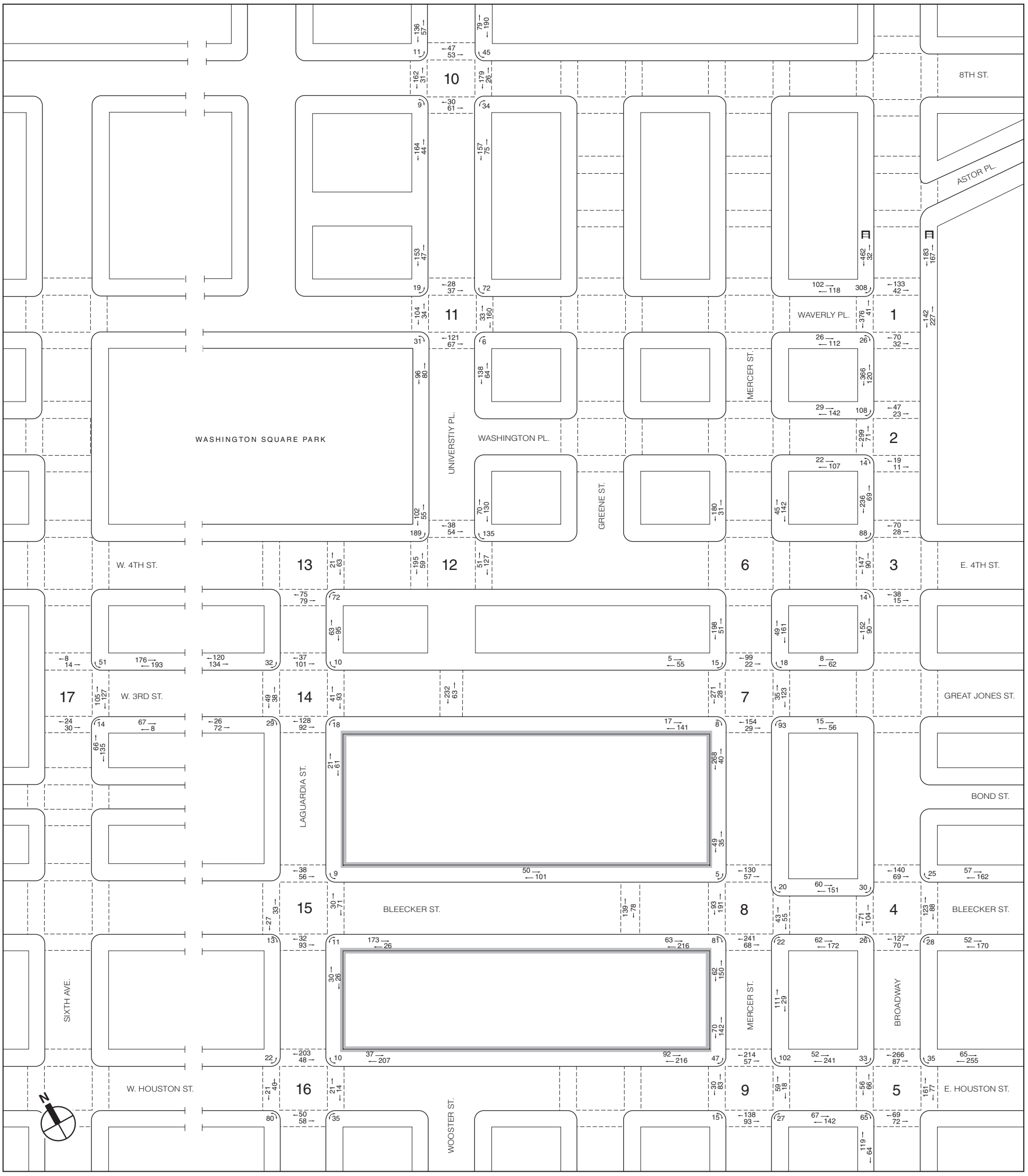
With the completion of Phase 2 build-out of the proposed project, new signalized midblock crosswalks that are coupled with neck-downs would be installed on West 3rd and Bleecker Streets between LaGuardia Place and Mercer Streets. Campus trips would be able to use these mid-block crosswalks, together with the pedestrian corridor created from the completion of the North Block, to travel between the existing campus to the north, new uses on the North Block, and the Zipper Building on the South block without traversing sidewalks on LaGuardia Place or Mercer Street. In addition, there would be sidewalk widening within and surrounding the Proposed Development Area and corner bulb-outs on the northern edge of the North Block at the West 3rd Street intersections with LaGuardia Place and with Mercer Street. These bulb-outs would provide increased corner queuing and circulation spaces and shorter crossing distances at the two corners. Anticipated sidewalk widenings on the North Block would be approximately 2 feet along the Bleecker Street north sidewalk, approximately 4 feet along Mercer Street, and approximately 3 feet along LaGuardia Place.

The project-generated pedestrian volumes were assigned to the pedestrian network considering current land uses in the area, nearby parking locations, available transit services, future pedestrian pathways connecting to/from the Proposed Development Area and the Commercial Overlay Area, and the above physical and operational changes. Based on the peak hour project-generated pedestrian trips presented on **Figures 14-13A** to **14-15B** in Section E, "Level 2 Screening Assessment," peak 15-minute incremental pedestrian volumes were developed by dividing the hourly incremental volumes by four and accounting for peaking characteristics within the peak hours. These pedestrian volumes were added to the projected 2031 No Build volumes to generate the 2031 Build pedestrian volumes for analysis. The total 2031 Build peak 15-minute pedestrian volumes are presented in **Figures 14-45** to **14-47**.

The pedestrian analyses conducted for the 2031 Build condition accounted for the project-generated pedestrian volumes, the new pedestrian corridor created by the completion of the North Block, and physical changes to the pedestrian environment described above. As presented in **Tables 14-55** to **14-57**, all sidewalk, corner reservoir, and crosswalk locations would continue to operate at acceptable levels (within mid-LOS D, with a maximum of 8.5 PMF in sidewalk platoon flows or a minimum of 19.5 SFP for corners and crosswalks) or incur degradations that, when compared to the No Build condition, do not exceed the 2010 *CEQR Technical Manual* sliding scale impact thresholds (see **Tables 14-17** and **14-18**), except for the two analysis locations listed below, where significant adverse pedestrian impacts have been identified. Measures that can be implemented to mitigate these significant adverse pedestrian impacts are discussed in Chapter 21, "Mitigation."

- The southeast corner of University Place and Waverly Place, which would deteriorate to LOS E (10.7 SFP) from a No Build LOS E (12.2 SFP) during the midday peak 15-minute period; and
- The west crosswalk of Washington Square East and West 4th Street, which would deteriorate to LOS D (17.0 SFP) from a No Build LOS C (24.4 SFP) and to LOS D (16.6 SFP) from a No Build LOS C (23.6 SFP) during the midday and PM peak 15-minute periods, respectively.

12.14.11



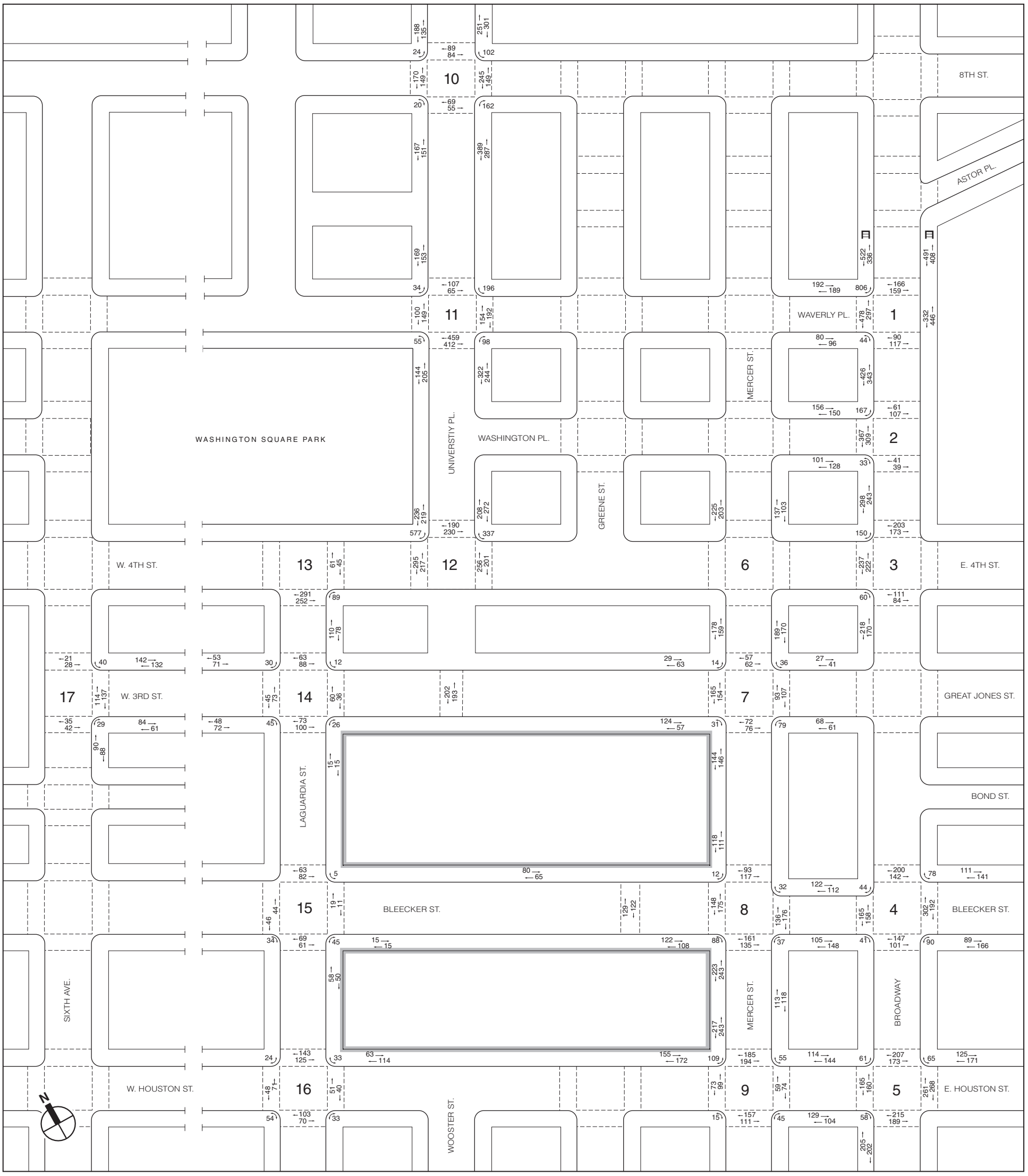
NOT TO SCALE

Subway Stairs

NYU Core

2031 Build Pedestrian Volume
Weekday AM Peak 15 Minutes
Figure 14-45

12.14.11



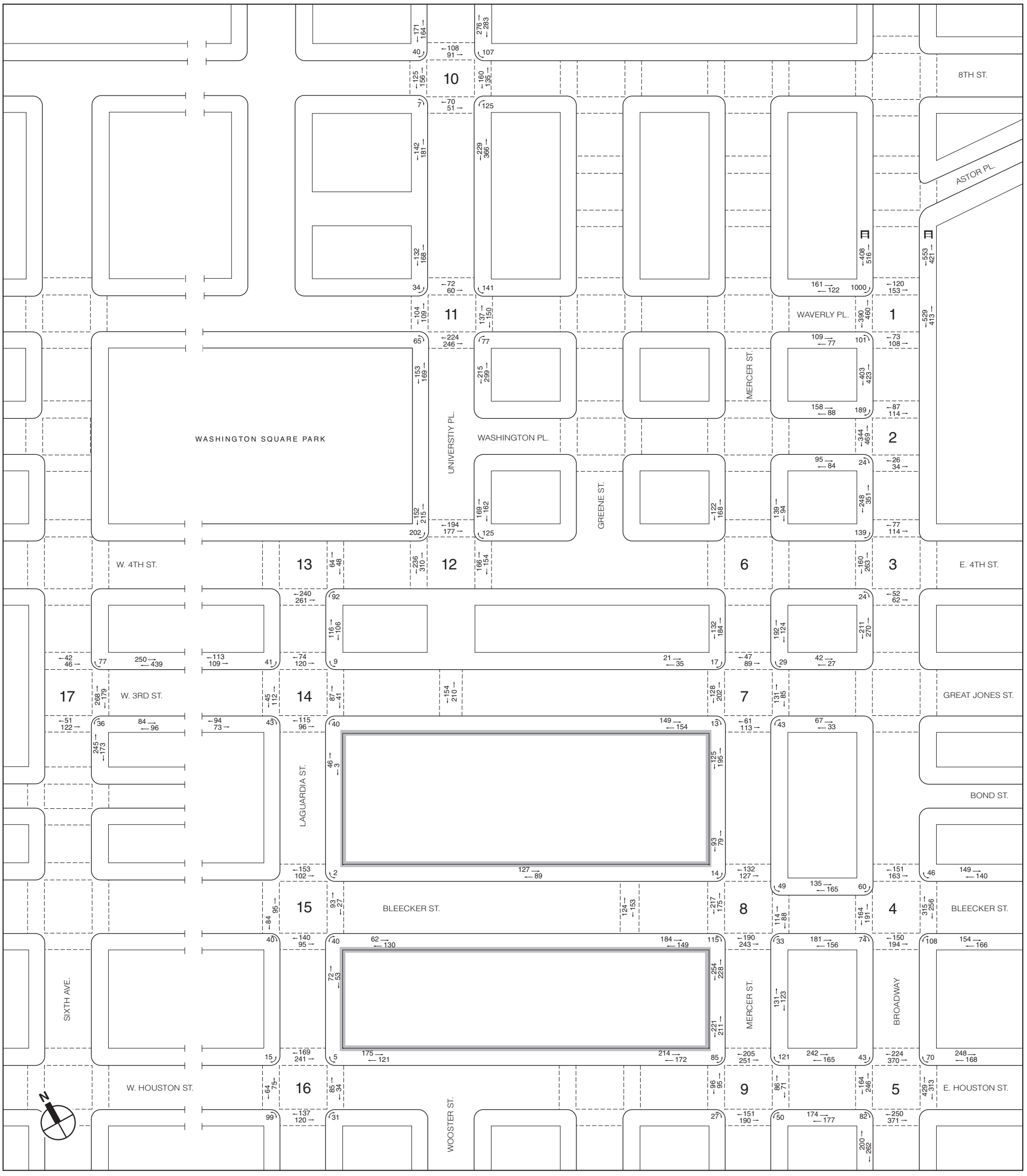
NOT TO SCALE

Subway Stairs

NYU Core

2031 Build Pedestrian Volume
Weekday midday Peak 15 Minutes
Figure 14-46

12.14.11



Subway Stairs

NOT TO SCALE

NYU Core

2031 Build Pedestrian Volume
Weekday PM Peak 15 Minutes
Figure 14-47

Table 14-55
2031 Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
AM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	220	2.26	B
		South	6.0	138	1.53	B
	Broadway at Waverly Place	East	13.8	369	1.78	B
	Broadway between Waverly Place and Washington Place	West	14.0	486	2.31	B
	Broadway between Astor Place and Waverly Place	East	15.0	350	1.56	B
		West	14.7	494	2.24	B
2	Washington Place between Broadway and Mercer St.	North	10.0	171	1.14	B
		South	8.8	129	0.98	B
3	Broadway between West 4th St. and Washington Place	West	13.0	305	1.56	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	242	1.61	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	219	1.29	B
		South	11.0	222	1.35	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	320	1.98	B
	Broadway between West Houston St. and Prince St.	West	10.5	183	1.16	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	187	1.66	B
		West	8.5	211	1.65	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	210	2.55	B
		West	7.2	249	2.31	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	70	0.65	B
		South	10.3	71	0.46	A
	West 3rd St. between Mercer St. and Greene St.	North	6.2	60	0.65	B
		South	5.5	158	1.92	B
	Mercer St. between West 3rd St. and Bleecker St.	West	10.3	308	1.99	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	211	1.72	B
		South	9.0	234	1.73	B
	Bleecker St. between Mercer St. and Greene St.	North	10.3	151	0.98	B
		South	9.3	279	2.00	B
	Mercer St. between Bleecker St. and West 3rd St.	West	10.3	84	0.54	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	140	1.14	B
		West	14.2	212	1.00	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	293	2.79	B
		South	8.3	209	1.68	B
	West Houston between Greene St. and Mercer St.	North	5.5	308	3.73	C
	Mercer St. between Bleecker St. and West Houston St. (South)	West	11.0	212	1.28	B
10	University Place between East 8th St. and East 9th St.	East	13.5	269	1.33	B
		West	13.0	193	0.99	B
	University Place between East 8th St. and Waverly Place	East	11.5	232	1.34	B
		West	11.8	208	1.18	B
11	University Place between East 8th St. and Waverly Place	West	9.7	200	1.37	B
	University Place between Waverly Place and Washington Place	East	8.8	202	1.53	B
		West	6.0	176	1.96	B
12	Washington Square East between Washington Place and West 4th St.	East	9.2	200	1.45	B
		West	6.3	157	1.66	B
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	158	1.10	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	11.0	82	0.50	A
15	Bleecker St. between LaGuardia Place and Greene St.	South	15.3	199	0.87	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	56	0.67	B
16	West Houston St. between LaGuardia Place and Wooster St.	North	6.8	244	2.39	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	369	4.10	C
		South	5.8	75	0.86	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	201	1.84	B

Note: PMF = pedestrians per minute per foot

Table 14-55 (cont'd)
2031 Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
Midday Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	381	3.91	C
		South	6.0	176	1.96	B
	Broadway at Waverly Place	East	13.8	778	3.76	C
	Broadway between Waverly Place and Washington Place	West	14.0	769	3.66	C
	Broadway between Astor Place and Waverly Place	East	15.0	899	4.00	C
		West	14.7	858	3.89	C
2	Washington Place between Broadway and Mercer St.	North	10.0	306	2.04	B
		South	8.8	229	1.73	B
3	Broadway between West 4th St. and Washington Place	West	13.0	541	2.77	B
	Broadway between West 4th St. and West 3rd St.	West	10.0	388	2.59	B
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	252	1.49	B
		South	11.0	255	1.55	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	296	1.83	B
	Broadway between West Houston St. and Prince St.	West	10.5	407	2.58	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	240	2.13	B
		West	8.5	428	3.36	C
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	359	4.35	C
		West	7.2	337	3.12	C
7	West 3rd St. between Mercer St. and Broadway	North	7.2	68	0.63	B
		South	10.3	129	0.83	B
	West 3rd St. between Mercer St. and Greene St.	North	6.2	92	0.99	B
		South	5.5	181	2.19	B
	Mercer St. between West 3rd St. and Bleecker St.	West	10.3	290	1.88	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	234	1.90	B
		South	9.0	253	1.87	B
	Bleecker St. between Mercer St. and Greene St.	North	10.3	145	0.94	B
		South	9.3	230	1.65	B
	Mercer St. between Bleecker St. and West 3rd St.	West	10.3	229	1.48	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	231	1.88	B
		West	14.2	466	2.19	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	258	2.46	B
		South	8.3	233	1.87	B
	West Houston between Greene St. and Mercer St.	North	5.5	327	3.96	C
	Mercer St. between Bleecker St. and West Houston St. (South)	West	11.0	460	2.79	B
10	University Place between East 8th St. and East 9th St.	East	13.5	552	2.73	B
		West	13.0	323	1.66	B
	University Place between East 8th St. and Waverly Place	East	11.5	676	3.92	C
		West	11.8	318	1.80	B
11	University Place between East 8th St. and Waverly Place	West	9.7	322	2.21	B
	University Place between Waverly Place and Washington Place	East	8.8	566	4.29	C
		West	6.0	349	3.88	C
12	Washington Square East between Washington Place and West 4th St.	East	9.2	480	3.48	C
		West	6.3	455	4.81	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	188	1.31	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	11.0	30	0.18	A
15	Bleecker St. between LaGuardia Place and Greene St.	South	15.3	30	0.13	A
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	108	1.29	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	177	1.74	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	274	3.04	C
		South	5.8	145	1.67	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	178	1.63	B

Note: PMF = pedestrians per minute per foot

Table 14-55 (cont'd)
2031 Build Condition Sidewalk Analysis

Intersection No.	Location	Sidewalk	Effective Width (ft)	15 Minute Two-Way Volume	Platoon Flow	
					PMF	LOS
PM Peak Period						
1	Waverly Place between Broadway and Mercer St.	North	6.5	283	2.90	B
		South	6.0	186	2.07	B
	Broadway at Waverly Place	East	13.8	942	4.55	C
	Broadway between Waverly Place and Washington Place	West	14.0	826	3.93	C
	Broadway between Astor Place and Waverly Place	East	15.0	974	4.33	C
		West	14.7	924	4.19	C
2	Washington Place between Broadway and Mercer St.	North	10.0	246	1.64	B
		South	8.8	179	1.36	B
3	Broadway between West 4th St. and Washington Place	West	13.0	599	3.07	C
	Broadway between West 4th St. and West 3rd St.	West	10.0	481	3.21	C
4	Bleecker St. between Broadway and Lafayette St.	North	11.3	289	1.71	B
		South	11.0	320	1.94	B
5	East Houston St. between Broadway and Lafayette St.	North	10.8	416	2.57	B
	Broadway between West Houston St. and Prince St.	West	10.5	462	2.93	B
6	Mercer St. between West 4th St. and Washington Place	East	7.5	233	2.07	B
		West	8.5	290	2.27	B
	Mercer St. between West 4th St. and West 3rd St.	East	5.5	316	3.83	C
		West	7.2	316	2.93	B
7	West 3rd St. between Mercer St. and Broadway	North	7.2	69	0.64	B
		South	10.3	100	0.65	B
	West 3rd St. between Mercer St. and Greene St.	North	6.2	56	0.60	B
		South	5.5	303	3.67	C
	Mercer St. between West 3rd St. and Bleecker St.	West	10.3	320	2.07	B
8	Bleecker St. between Mercer St. and Broadway	North	8.2	300	2.44	B
		South	9.0	337	2.50	B
	Bleecker St. between Mercer St. and Greene St.	North	10.3	216	1.40	B
		South	9.3	333	2.39	B
	Mercer St. between Bleecker St. and West 3rd St.	West	10.3	172	1.11	B
	Mercer St. between Bleecker St. and West Houston St. (North)	East	8.2	254	2.07	B
		West	14.2	482	2.26	B
9	West Houston St. between Mercer St. and Broadway	North	7.0	407	3.88	C
		South	8.3	351	2.82	B
	West Houston St. between Greene St. and Mercer St.	North	5.5	386	4.68	C
	Mercer St. between Bleecker St. and West Houston St. (South)	West	11.0	432	2.62	B
10	University Place between East 8th St. and East 9th St.	East	13.5	559	2.76	B
		West	13.0	335	1.72	B
	University Place between East 8th St. and Waverly Place	East	11.5	595	3.45	C
		West	11.8	323	1.82	B
11	University Place between East 8th St. and Waverly Place	West	9.7	300	2.06	B
	University Place between Waverly Place and Washington Place	East	8.8	514	3.89	C
		West	6.0	322	3.58	C
12	Washington Square East between Washington Place and West 4th St.	East	9.2	331	2.40	B
		West	6.3	367	3.88	C
13	LaGuardia Place between West 4th St. and West 3rd St.	East	9.6	222	1.54	B
14	LaGuardia Place between West 3rd St. and Bleecker St.	East	11.0	49	0.30	A
15	Bleecker St. between LaGuardia Place and Greene St.	South	15.3	192	0.84	B
	LaGuardia Place between Bleecker St. and West Houston St.	East	5.6	125	1.49	B
16	West Houston St. between LaGuardia Place/West Broadway and Wooster St.	North	6.8	296	2.90	B
17	West 3rd St. between Sixth Avenue and MacDougal St.	North	6.0	689	7.66	D
		South	5.8	180	2.07	B
	Sixth Avenue between West 3rd St. and Minetta Lane	East	7.3	418	3.82	C

Note: PMF = pedestrians per minute per foot

Table 14-56
2031 Build Condition Corner Analysis

Intersection No.	Location	Corner	AM Peak Period		Midday Peak Period		PM Peak Period	
			SFP	LOS	SFP	LOS	SFP	LOS
1	Broadway and Waverly Place	Southwest	78.6	A	36.9	C	31.9	C
		Northwest	59.3	B	25.9	C	23.8	D
2	Broadway and Washington Place	Southwest	124.2	A	64.3	A	56.7	B
		Northwest	95.5	A	49.9	B	41.8	B
3	Broadway and West 4th Street	Southwest	119.9	A	46.6	B	59.6	B
		Northwest	105.3	A	40.4	B	56.0	B
4	Broadway and Bleecker Street	Northeast	82.1	A	37.1	C	37.1	C
		Southeast	91.4	A	45.0	B	36.4	C
		Southwest	123.9	A	78.3	A	58.4	B
		Northwest	105.4	A	57.5	B	55.2	B
5	Broadway and West Houston Street	Northeast	83.2	A	51.1	B	34.7	C
		Southwest	115.0	A	41.6	B	23.4	D
		Northwest	185.8	A	118.8	A	83.7	A
7	Mercer Street and West 3rd Street	Northeast	51.7	B	46.1	B	44.4	B
		Southeast	54.7	B	56.5	B	54.7	B
		Southwest	554.1	A	539.1	A	516.5	A
		Northwest	32.6	C	33.9	C	32.1	C
8	Mercer Street and Bleecker Street	Northeast	89.7	A	46.7	B	52.4	B
		Southeast	65.4	A	43.2	B	41.5	B
		Southwest	39.4	C	36.3	C	25.3	C
		Northwest	66.6	A	54.5	B	42.6	B
9	Mercer Street and West Houston Street	Northeast	80.5	A	62.5	A	48.0	B
		Southeast	86.6	A	64.4	A	51.6	B
		Southwest	75.2	A	58.0	B	45.4	B
		Northwest	102.1	A	62.4	A	54.5	B
10	University Place and East 8th Street	Northeast	107.2	A	53.4	B	60.3	A
		Southeast	83.5	A	37.0	C	46.8	B
		Southwest	131.2	A	80.4	A	91.0	A
		Northwest	132.4	A	76.4	A	76.5	A
11	University Place and Waverly Place	Northeast	133.1	A	58.3	B	76.7	A
		Southeast	61.2	A	10.7	E+	24.0	D
		Southwest	140.3	A	34.4	C	60.0	B
		Northwest	92.1	A	43.6	B	52.5	B
12	Washington Square East and West 4th Street	Northeast	77.5	A	24.6	C	37.8	C
		Northwest	143.5	A	49.5	B	67.9	A
13	LaGuardia Place and West 4th Street	Southeast	97.9	A	36.5	C	37.9	C
14	LaGuardia Place and West 3rd Street	Northeast	72.9	A	81.4	A	62.9	A
		Southeast	333.0	A	422.0	A	325.3	A
		Southwest	119.8	A	117.6	A	94.6	A
		Northwest	107.5	A	93.4	A	69.8	A
15	LaGuardia Place and Bleecker Street	Northeast	159.0	A	183.5	A	82.7	A
		Southeast	57.3	B	64.0	A	26.9	C
		Southwest	229.4	A	180.3	A	97.6	A
16	LaGuardia Place/West Broadway and West Houston Street	Northeast	145.1	A	105.9	A	80.4	A
		Southeast	364.7	A	209.9	A	149.2	A
		Southwest	333.2	A	234.2	A	161.2	A
		Northwest	137.4	A	106.1	A	73.7	A
17	Sixth Avenue and West 3rd Street	Northeast	144.8	A	128.7	A	69.9	A
		Southeast	114.4	A	95.1	A	48.4	B

Note: SFP = square feet per pedestrian
+ Denotes a significant adverse pedestrian impact

Table 14-57
2031 Build Condition Crosswalk Analysis

Intersection No.	Location	Crosswalk	Street Width (feet)	Crosswalk Width (feet)	Conditions with conflicting vehicles								
					AM			Midday			PM		
					2-way Volume	SFP	LOS	2-way Volume	SFP	LOS	2-way Volume	SFP	LOS
1	Broadway and Waverly Place	West	34.0	15.0	417	33.7	C	775	17.3	D	850	16.4	D
2	Broadway and Washington Place	West	37.0	17.3	370	96.0	A	676	52.9	B	813	43.1	B
3	Broadway and West 4th Street	West	32.0	19.0	237	89.9	A	459	44.6	B	423	50.1	B
4	Broadway and Bleecker Street	North	44.0	14.0	209	40.2	B	342	23.2	D	314	24.9	C
		South	44.0	15.0	197	39.7	C	248	32.2	C	344	23.0	D
5	Broadway and West Houston Street	North	44.0	18.0	353	45.9	B	380	40.8	B	594	23.8	D
7	Mercer Street and West 3rd Street	North	37.3	12.0	121	90.8	A	119	89.1	A	136	76.2	A
		East	29.0	12.0	158	66.2	A	200	49.3	B	216	44.0	B
		South	38.3	12.0	308	54.0	B	148	71.3	A	174	61.2	A
		West	31.5	15.0	56	35.6	C	319	36.2	C	330	35.4	C
8	Mercer Street and Bleecker Street	North	34.0	11.0	187	51.3	B	210	43.1	B	259	34.6	C
		East	31.0	12.0	98	107.2	A	312	30.8	C	202	48.6	B
		South	33.0	13.0	482	29.0	C	296	31.6	C	433	20.2	D
		West	36.0	13.0	382	39.5	C	323	33.2	C	392	26.0	C
9	Mercer Street and West Houston Street	North	34.0	14.0	271	52.4	B	379	34.1	C	456	27.3	C
		East	98.0	14.0	77	117.3	A	133	67.9	A	157	57.0	B
		West	98.0	14.0	166	76.1	A	172	48.9	B	191	42.7	B
10	University Place and East 8th Street	East	38.5	15.0	205	83.9	A	394	41.2	B	295	55.6	B
		West	36.0	14.3	62	78.6	A	319	47.3	B	281	55.2	B
11	University Place and Waverly Place	North	38.3	14.3	65	147.3	A	172	54.4	B	132	71.2	A
		East	34.5	15.5	193	89.4	A	346	47.2	B	287	57.2	B
		South	23.8	15.8	242	48.6	B	871	7.9	F	470	17.7	D
		West	31.0	16.8	68	131.2	A	249	72.9	A	213	85.0	A
12	Washington Square East and West 4th Street	East	30.0	14.7	178	63.7	A	457	21.0	D	320	32.1	C
		West	34.0	13.5	118	36.9	C	512	17.0	D+	546	16.6	D+
13	LaGuardia Place and West 4th Street	East	31.5	16.0	84	165.2	A	106	125.6	A	112	114.7	A
14	LaGuardia Place and West 3rd Street	East	31.5	13.0	134	85.6	A	96	117.5	A	128	86.0	A
		South	37.0	11.0	256	41.4	B	173	55.3	B	211	43.7	B
15	LaGuardia Place and Bleecker Street	East	36.0	12.0	101	98.6	A	30	333.7	A	120	80.0	A
		South	37.0	14.0	64	96.2	A	130	89.0	A	235	45.4	B
16	LaGuardia Place and Houston Street	North	37.0	14.0	251	147.3	A	268	54.4	B	410	28.0	C
17	Sixth Avenue and West 3rd Street	East	27.5	22.8	232	104.8	A	251	96.5	A	447	50.6	B
Proposed	W.3rd New Midblock Crosswalk	Midblock	21.5	12.0	126	26.4	A	386	20.3	B	420	23.2	B
Proposed	Bleecker New Midblock Crosswalk	Midblock	16.0	12.0	278	38.2	A	258	31.0	B	248	27.0	B

Note: SFP = square feet per pedestrian
+ Denotes a significant adverse pedestrian impact

J. VEHICULAR AND PEDESTRIAN SAFETY

Accident data for the study area intersections were obtained from NYSDOT for the time period between December 31, 2007 and December 31, 2010. 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 pedestrian- and bicycle-related accidents at each location. According to the *CEQR Technical Manual*, a high pedestrian accident location is one where there were five or more pedestrian/bicyclist-related accidents or 48 or more reportable and non-reportable accidents in any consecutive 12 months of the most recent three-year period for which data are available.

During this period, a total of 378 reportable and non-reportable accidents, no fatalities, 320 injuries, and 115 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies three study area intersections as high pedestrian accident locations in the 2007 to 2010 period. These intersections are West Houston Street at Sixth Avenue, West 4th Street at Sixth Avenue, and West Houston Street at LaGuardia Place/West Broadway. **Table 14-58** 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 14-59 also shows a detailed description of each accident at the intersections of West Houston Street at Sixth Avenue, West 4th Street at Sixth Avenue, and West Houston Street at LaGuardia Place/West Broadway during the three year period.

WEST HOUSTON STREET AND SIXTH AVENUE

Based on a review of the accident history at the intersection of West Houston Street and Sixth Avenue, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. With regard to geometric deficiencies that could potentially cause safety hazards, the intersection of West Houston Street and Sixth Avenue is signalized and provides two school crosswalks, one high-visibility crosswalk, and one standard crosswalk. In addition, countdown timers are installed for all crosswalks at this intersection and School Advance Warning assembly signs are posted on the eastern leg of West Houston Street. With Phase 2 full build-out of the proposed project in 2031, the intersection of West Houston Street and Sixth Avenue would experience moderate increases in vehicular and pedestrian traffic. In terms of project-generated activity, the intersection would experience net incremental peak-hour volume increases of approximately 60 or fewer vehicle trips and 130 or fewer pedestrian trips during each of the three analysis peak hours. As discussed above in Section G, "Traffic," this intersection would be impacted during all three analysis peak hours under the 2031 Build condition. However, as described in Chapter 21, "Mitigation," the predicted impacts at this intersection could be fully mitigated with standard traffic engineering measures. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents. Nonetheless, additional safety measures, such as the installation of pedestrian safety signs (i.e., School Advance Warning assemblies on the northbound approach) and restriping the west crosswalk into a high-visibility crosswalk, can be implemented to improve pedestrian safety at this intersection.

Table 14-58
Accident Summary

Intersection		Study Period						Accidents by Year							
North-South Roadway	East-West Roadway	All Accidents by Year				Total Fatalities	Total Injuries	Pedestrian				Bicycle			
		2007	2008	2009	2010			2007	2008	2009	2010	2007	2008	2009	2010
6th Avenue	**W. Houston St.**	0	10	5	10	0	16		2	1	3				1
6th Avenue	W. 3rd Street	0	4	3	0	0	5		3	1				1	
6th Avenue	**W. 4th Street**	0	4	6	2	0	10		1	2			2		
6th Avenue	Minetta Lane	0	3	1	0	0	1			2			1		
6th Avenue	Bleecker Street	0	6	5	2	0	9						1		
Sullivan Street	W. Houston Street	0	3	3	4	0	5				1			1	1
Thompson Street	W. Houston Street	0	5	3	8	0	17			1	2		1		1
West Broadway	**W. Houston St.**	0	5	9	11	0	27			5	4		1	1	1
Greene Street	W. Houston Street	0	4	2	3	0	11		1		1		1		
Mercer Street	W. Houston Street	0	3	6	2	0	10		1				1		
Broadway	W. Houston Street	1	5	12	14	0	26	1	1	3	1				
Lafayette Street	W. Houston Street	0	8	14	11	0	40		2		2				1
Wooster Street	W. Houston Street	0	3	2	1	0	5								
Laguardia Place	Washington Sq. S.	0	1	0	1	0	1								
Laguardia Place	W. 3rd Street	0	4	1	1	0	9		1	1			1		
Laguardia Place	Bleecker Street	0	4	3	2	0	7			1	1		1	1	
University Place	8th Street	0	2	1	2	0	4		1		1			1	
University Place	Washington Place	0	0	0	1	0	1				1				
University Place	Waverly Place	0	0	0	0	0	0								
Washington Sq. East	4th Street	0	0	0	1	0	2								
Washington Sq. East	Waverly Place	0	1	0	1	0	3		1						1
Mercer Street	W. 4th Street	0	0	0	1	0	1								
Mercer Street	W. 3rd Street	0	1	4	1	0	1			1					
Mercer Street	Bleecker Street	0	3	3	3	0	6				1		2		1
Mercer Street	8th Street	0	2	1	0	0	2								
Mercer Street	Washington Place	0	0	1	1	0	1				1				
Mercer Street	Waverly Place	0	4	3	1	0	7			1			1		
Broadway	Washington Place	0	1	2	2	0	3		1						1
Broadway	Waverly Place	0	1	0	1	0	1				1				
Broadway	E. 4th Street	0	2	2	2	0	4			1			1		
Broadway	E. 3rd Street	0	1	3	0	0	3		1					1	
Broadway	Bleecker Street	0	4	1	6	0	11				1		2		3
Broadway	E. 8th Street	0	7	7	7	0	24			2	2			1	
Broadway	Astor Place	0	3	0	1	0	3		1				1		
Minetta Lane	Minetta Street	0	0	0	0	0	0								
MacDougal Street	W. Houston Street	0	3	3	4	0	12				2			1	
MacDougal Street	Bleecker Street	0	1	4	0	0	1			1					
MacDougal Street	Minetta Lane	0	0	1	0	0	0								
MacDougal Street	W. 3rd Street	0	1	2	2	0	3								
MacDougal Street	W. 4th Street	0	3	1	2	0	4		1	1					
Sullivan Street	Bleecker Street	0	1	4	1	0	2			1					
Sullivan Street	W. 3rd Street	0	1	3	0	0	1			1					
Sullivan Street	W. 4th Street	0	2	1	1	0	1						1		
Thompson Street	Bleecker Street	0	1	1	1	0	1		1						
Thompson Street	W. 3rd Street	0	2	1	1	0	2				1		1		
Thompson Street	W. 4th Street	0	0	2	1	0	2							1	
Greene Street	8th Street	0	1	0	0	0	0								
Greene Street	Washington Place	0	1	0	0	0	2								
Greene Street	Waverly Place	0	1	0	1	0	2								
Greene Street	W. 4th Street	0	0	2	0	0	1								
Crosby Street	W. Houston Street	0	0	0	3	0	2				2				
Crosby Street	Bleecker Street	0	0	2	0	0	1								
Lafayette Street	Bleecker Street	0	3	2	0	0	7		2						

Note: Bold intersections are high pedestrian accident locations.
Source: NYSDOT December 31, 2007 and December 31, 2010 accident data.

Table 14-59
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
6th Avenue @ W. Houston Street	2008	8/2	4:45 PM	X		Going straight – West	Crossing against signal			X	Unsafe speed
		12/20	3:00 AM	X		Going straight – North	Crossing against signal				
	2009	12/21	4:45 AM	X		Unknown	Unknown				
	2010	1/28	4:55 PM	X		Unknown	Crossing against signal				
		2//23	12:45 PM	X		Unknown	Unknown				
		10/2	7:45 PM	X		Unknown	Crossing with signal				
		12/13	7:30 PM	X		Unknown	Crossing with signal				
6th Avenue @ W. 4th Street	2008	4/25	1:30 AM	X		Going straight – North	Crossing		X		
		9/3	8:24 AM	X		Going straight – North	Along highway with traffic		X		Passing or lane usage improperly
		11/14	7:48 PM	X		Merging – North	Crossing with signal			X	
	2009	3/24	7:20 PM	X		Making left turn – North	Unknown	X			Failure to yield R.O.W.
		4/9	11:55 PM	X		Making left turn – North	Crossing with signal	X			Turning improper
LaGuardia Place/W. Broadway @ W. Houston Street	2008	6/4	9:40 PM	X		Making left turn – North	Going straight – South	X			Failure to yield R.O.W.
	2009	1/5	8:00 PM	X		Going straight – East	Crossing against signal		X		Ped failure to yield R.O.W.
		1/23	11:54 AM	X		Going straight – North	Crossing				
		6/9	5:25 PM	X		Going straight – North	Other actions in roadway				
		8/31	11:00 AM	X		Overtaking – North	Making left turn – West	X	X		
		11/30	6:00 PM	X		Unknown	Crossing				
		12/5	12:55 AM	X		Not entered	Getting on/off vehicle				
	2010	1/25	10:45 PM	X		Unknown	Getting on/off vehicle				
		3/15	7:00 PM	X		Unknown	Crossing against signal				
		4/14	9:20 AM	X		Unknown	Not in roadway				
		5/14	10:00 AM	X		Unknown	Unknown				
		9/22	6:10 PM	X		Unknown	Crossing against signal				

Source: NYSDOT December 31, 2007 to December 31, 2010 accident data.

WEST 4TH STREET AND SIXTH AVENUE

Based on a review of the accident history at the intersection of West 4th Street and Sixth Avenue, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. With regard to geometric deficiencies that could potentially cause safety hazards, the intersection of West 4th Street and Sixth Avenue is signalized and provides four standard crosswalks. With Phase 2 full build-out of the proposed project in 2031, the intersection of West 4th Street and Sixth Avenue would experience moderate increases in vehicular and pedestrian traffic. In terms of project-generated activity, the intersection would experience net incremental peak-hour volume increases of approximately 65 or fewer vehicle trips and 80 or fewer pedestrian trips during each of the three analysis peak hours. As discussed above in Section G, "Traffic," this intersection would continue to operate acceptably (at LOS C or better on all the approaches) during all three analysis peak hours under the 2031 Build condition. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents. Nonetheless, additional safety measures, such as the installation of pedestrian safety signs (i.e., "Turning Vehicles Yield to Pedestrians") and crosswalk countdown timers on all the approaches and restriping the four crosswalks into high-visibility crosswalks, can be implemented to improve pedestrian safety at this intersection.

WEST HOUSTON STREET AND LAGUARDIA PLACE/WEST BROADWAY

Based on a review of the accident history at the intersection of West Houston Street and LaGuardia Place/West Broadway, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. Four of the five accident records that provided travel data showed vehicles traveling north at the time of the accidents. With regard to geometric deficiencies that could potentially cause safety hazards, the intersection of West Houston Street and LaGuardia Place/West Broadway is signalized and provides four high-visibility crosswalks. In addition, countdown timers are installed for the east and west crosswalks at this intersection. With Phase 2 full build-out of the proposed project in 2031, the intersection of West Houston Street and LaGuardia Place/West Broadway would experience noticeable increases in vehicular and pedestrian traffic. In terms of project-generated activity, the intersection would experience net incremental peak-hour volume increases of approximately 100 or fewer vehicle trips and nearly 500 pedestrian trips during each of the three analysis peak hours. As discussed above in Section G, "Traffic," this intersection would be impacted during the PM peak hour under the 2031 Build condition. However, as described in Chapter 21, "Mitigation," the predicted impacts at this intersection could be fully mitigated with standard traffic engineering measures. Therefore, the proposed project is not anticipated to exacerbate any of the current causes of pedestrian-related accidents. Nonetheless, additional safety measures, such as the installation of pedestrian safety signs (i.e., "Turning Vehicles Yield to Pedestrians") on the northbound and southbound approaches and countdown timers for both the north and south crosswalks, can be implemented to improve pedestrian safety at this intersection.

SCHOOL SAFETY

Since the proposed PS/IS contemplated for the South Block has not been planned or designed, it is expected that the SCA would consult with NYCDOT during planning and construction of the new school to incorporate the necessary safety measures. The Department of Education may also be consulted on the likely zones from which the students may travel to identify, where appropriate, "safe routes to school" and the need for additional school crosswalks.

K. PARKING

2011 EXISTING CONDITIONS

An inventory of on- and off-street parking within a ¼-mile of the Proposed Development Area was conducted in September 2009 and updated in April and May 2011. 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 (including the existing 670-space public parking garage located on the North Block containing 389 required accessory parking spaces and 281 additional, non-required spaces) and their legal capacities and daytime utilization.

ON-STREET PARKING

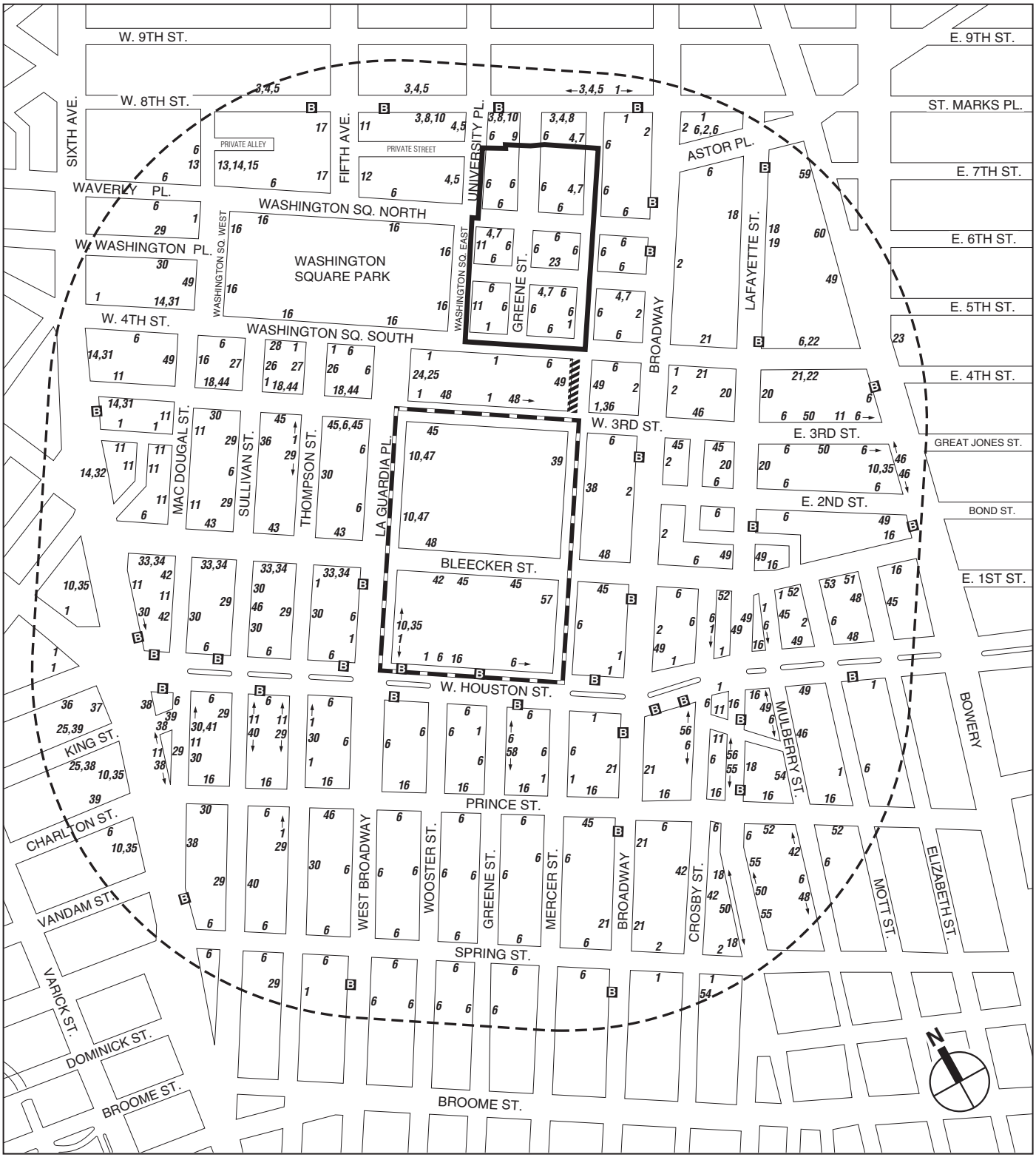
Curbside parking regulations within a ¼-mile of the Proposed Development Area are illustrated in **Figure 14-48** and summarized in **Table 14-60**. The curbside regulations in the area generally include limited one-hour metered parking, no standing or no parking anytime except authorized vehicles, and 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.

OFF-STREET PARKING

Off-street publicly accessible parking lots and garages (see **Figure 14-49**) within ¼-mile of the Proposed Development Area were surveyed on September 2009 and updated in April and May 2011. 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 morning, midday, evening, and overnight time periods. A summary of the recorded information and the area's overall off-street public parking supply and utilization is presented in **Table 14-61**. Within the ¼-mile parking study area, 21 public parking facilities were inventoried. The combined capacity of these facilities totals 2,992 parking spaces. Overall, they were 60, 84, 68, and 56-percent utilized, with 1,182, 488, 970, and 1,276 parking spaces available during the weekday morning, midday, evening, and overnight time periods, respectively.

As discussed in Section G, "Traffic," the existing 670-space public parking garage on the North Block would be replaced with a 389-space accessory parking garage under the 2031 Build condition. Access and egress to this new 389-space accessory parking garage would be provided on West 3rd Street only, whereas the existing 670-space public parking garage has access and egress along both West 3rd and Bleecker Streets. In order to assess the effects of these changes on future parking supply and utilization in the area, a parking survey was conducted at the existing 670-space public parking garage in April 2011 to document its overnight utilization and entering and exiting traffic (from 7 AM to 7 PM) during typical weekday conditions and existing monthly parking information was obtained from the garage operator. The information obtained from the operator provided a breakdown of the monthly accounts into NYU affiliated, Non-NYU affiliated, and outsiders. These three groups were further broken down by their place of residence—whether they live in the WSV housing, other NYU housing, non-NYU housing, or elsewhere. This parking information was analyzed together with the hour-by-hour survey data to identify the amount and population of parkers that would be retained on-site (within the future 389-space accessory parking garage) or reallocated to other public parking garages in the area.

12.14.11



Proposed Development Area Boundary

Commercial Overlay Area Boundary

Mercer Plaza Area

Study Area Boundary
(1/4-Mile Perimeter)

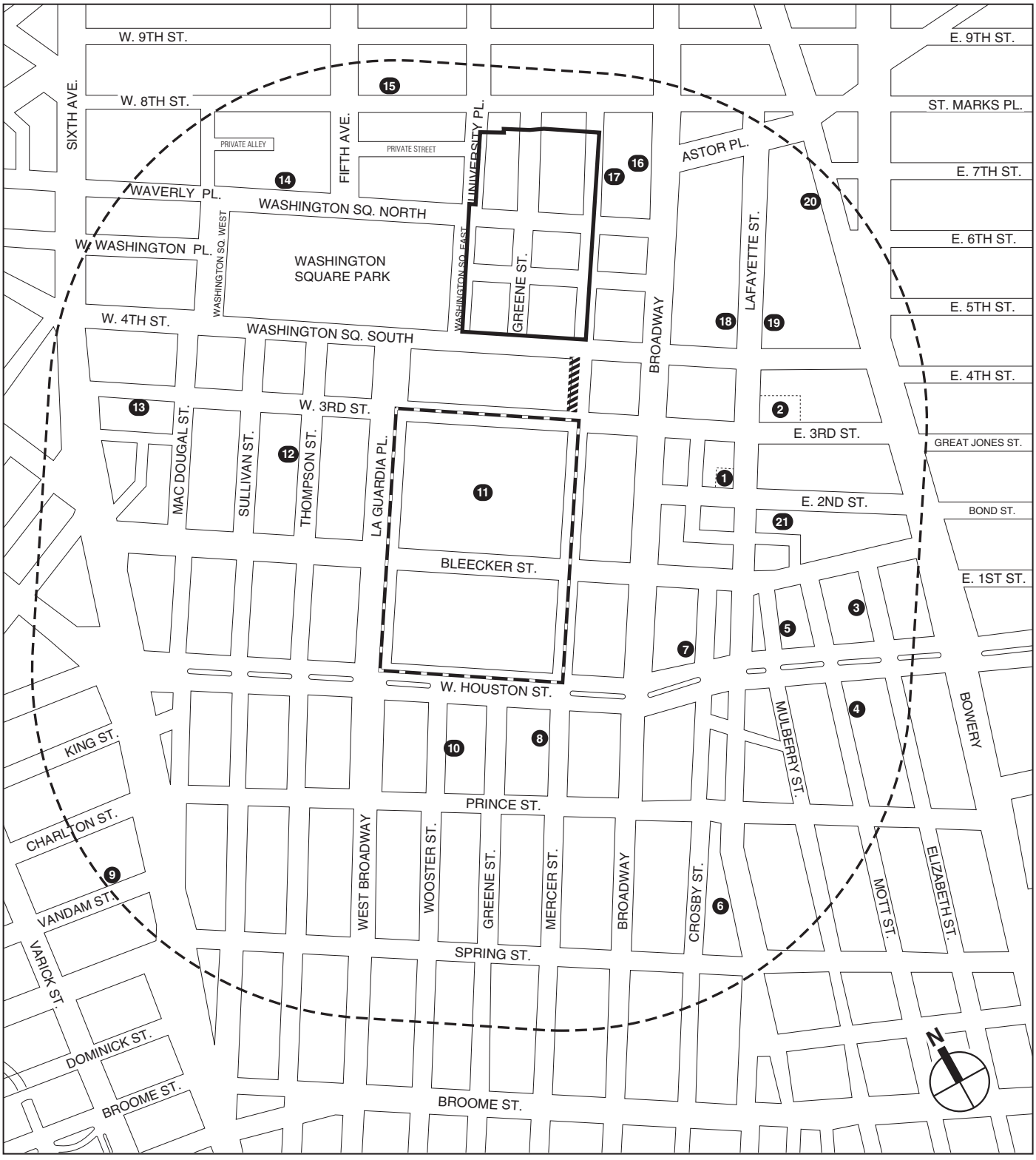
6 Parking Regulation

B Bus Stop

On-Street Parking Regulations

Figure 14-48

NYU Core



Off-Street Parking Facilities

Figure 14-49

NYU Core

Table 14-60
Summary of On-Street Parking Regulations

No.	Regulation	No.	Regulation
1	NS Anytime	32	1-HR Parking 8:30AM-7PM Except Sun.
2	NS Ex. Trucks Loading & Unloading	33	NP 6AM-6PM Including Sun.
3	NS 11PM-6AM Including Sun.	34	NP 11AM-12:30PM Tuesday
4	NP 7:30AM-8AM Except Sun.	35	NP 9AM-10:30PM Wednesday
5	1-Hr Parking 8AM-10PM Except Sun.	36	NP 8AM-6PM Except Sun.
6	NP 8AM-6PM Mon-Fri.	37	NS Anytime Ex. Authorized Veh. (Fire Department)
7	1-Hr Parking 8AM-7PM Except Sun.	38	NP 9AM-10:30PM Tue & Fri.
8	1-Hr Parking 7:30AM-10PM Except Sun.	39	NP 9AM-10:30PM Mon & Thurs.
9	1-Hr Parking 9AM-10PM	40	NP 8AM-5PM Mon-Fri.
10	NP AM-7:30AM Except Sun.	41	NS 7AM-4PM School Days
11	NP Anytime	42	NS Ex. Trucks Loading & Unloading 8AM-6PM Mon-Fri.
12	NP 8:30AM-9AM Tue & Fri.	43	NP 6AM-6PM Mon-Fri.
13	NS 11PM-7AM Including Sun.	44	NS 6PM-7AM
14	NP 8AM-8:30AM Except Sun.	45	NP 9:30AM-11AM Tue & Fri.
15	2-Hr Parking 8:30AM-10PM Except Sun.	46	NP 8AM-6PM Except Sun.
16	No Stopping Anytime	47	2-Hr Parking 7:30AM-7PM Except Sun.
17	NP 8:30AM-9AM Mon & Thurs.	48	NP 9:30AM-11AM Mon & Thurs.
18	NS Ex. Trucks Loading & Unloading 7AM-6PM Mon-Fri.	49	NS Anytime Temporary Construction
19	NS 6AM-6PM Including Sun.	50	NS Fire Zone
20	NS 7AM-7PM Mon-Fri.	51	NP 8AM-6PM Including Sun.
21	NS Ex. Trucks Loading & Unloading 7AM-7PM Ex. Sun.	52	NP 7AM-6PM Except Sun.
22	NS 10AM-6PM Including Sun.	53	NS 7AM-7PM Ex. Authorized Veh. (Ambulance)
23	NP 7:30AM-8AM Mon & Thurs.	54	NS Ex. Trucks Loading & Unloading 7AM-7PM Mon-Fri.
24	NS 8AM-9AM Except Sun.	55	NS 8AM-6PM Mon-Fri Ex. Authorized Veh. (Fire Dept.
25	2-Hr Parking 9AM-7PM Except Sun.		Medical Center Permits Only)
26	NP 11AM-2PM Tue & Fri.	56	NP 8AM-6PM Mon-Fri.
27	NP 11AM-2PM Mon & Thurs.	57	NS 7AM-7PM Ex. Authorized Veh. (Buses with
28	NS 7AM-3PM Mon-Fri Ex. Authorized Veh. (Parks Dept)		NYU Permit)
29	NP 11AM-12:30PM Mon & Thurs.	58	NS 7AM-7PM Ex. Authorized Veh. (US Mail)
30	NP 11AM-12:30PM Tue & Fri.	59	NP 7AM-7PM Ex. Sunday
31	1-HR Parking 8:30AM-10PM Except Sun.	60	NS Anytime Ex. Vehicles with NYP Plates

Notes: NP = No Parking; NS = No Standing; Sun = Sunday; Mon = Monday; Tue = Tuesday; Wed = Wednesday; Thu = Thursday; Fri = Friday; Sat = Saturday

Sources: Surveys conducted by AKRF, Inc. (May 2011)

Table 14-61
2011 Existing Off-Street Parking - 1/4 Mile
Weekday Utilization

Map #	Name/Operator and Address/Location	License Number	Licensed Capacity	Utilization Rate				Utilized Spaces				Available Spaces			
				AM	MD	PM	ON	AM	MD	PM	ON	AM	MD	PM	ON
1	Lafayette Street Parking Group, LLC / 358 Lafayette Street	1307153	30	75%	90%	80%	75%	23	27	24	23	7	3	6	7
2	Edison NY Parking, LLC / 375 Lafayette Street	926755	67	60%	85%	75%	75%	40	57	50	50	27	10	17	17
*	Edison NY Parking, LLC / 375 Lafayette Street	926760	40	60%	85%	75%	75%	24	34	30	30	16	6	10	10
3	Icon / 303 Elizabeth Street	953176	100	35%	90%	100%	35%	35	90	100	35	65	10	0	65
4	Mott Parking, LLC / 284 Mott Street	1155049	62	75%	85%	85%	75%	47	53	53	47	15	9	9	15
5	VIP Capitol Parking Corporation /	962302	50	66%	95%	33%	50%	33	48	17	25	17	2	33	25
6	258-262 Lafayette, LLC / 258-262 Lafayette Street	1248479	60	30%	95%	50%	CLD	18	57	30	CLD	42	3	30	CLD
7	Soho Village Parking, LLC / 610 Broadway	1199393	126	40%	80%	40%	5%	50	101	50	6	76	25	76	120
8	Mercer Parking Garage / 165 Mercer Street	428016	120	30%	85%	50%	30%	36	102	60	36	84	18	60	84
9	Kinny-Charlton Corporation / 14-18 Charlton Street	1204606	63	90%	80%	80%	90%	57	50	50	57	6	13	13	6
10	Albro Parking Corporation / 146 Wooster Street	924435	34	50%	50%	20%	5%	17	17	7	2	17	17	27	32
11 (1)	Central Parking System Inc. / 91-133 Bleecker Street	975257	670	80%	81%	81%	80%	535	544	542	534	135	126	128	136
12	Thompson Street Parking Corp. / 221 Thompson Street	889341	235	70%	90%	70%	55%	165	212	165	129	70	23	70	106
13	Minetta Lane Parking, LLC / 122 W. 3rd Street	1313161	300	50%	90%	70%	50%	150	270	210	150	150	30	90	150
14	Two Fifth Parking, LLC / 2 5th Avenue	1313004	146	70%	80%	66%	66%	102	117	96	96	44	29	50	50
15	8th Street Parking, LLC / 11 5th Avenue	1233571	113	50%	90%	90%	50%	57	102	102	57	56	11	11	56
16	Champion Bronx Corp. / 60-68 E. 8th Street	924489	169	60%	85%	50%	33%	101	144	85	56	68	25	84	113
17	Hilary Gardens Garage Co. / 300 Mercer Street	900438	225	40%	80%	60%	40%	90	180	135	90	135	45	90	135
18	410 Lafayette Street Parking, LLC / 410 Lafayette Street	1187631	53	80%	80%	80%	80%	42	42	42	42	11	11	11	11
19	403 Lafayette, LLC / 403 Lafayette Street	1026633	267	50%	75%	45%	50%	134	200	120	134	133	67	147	133
20	Lafayette Place Parking LLC / 445 Lafayette Street	1232463	14	75%	100%	75%	100%	11	14	11	14	3	0	3	0
21	Bond Street Garage / 25 Bond Street	1268885	48	90%	90%	90%	90%	43	43	43	43	5	5	5	5
1/4-Mile Area Totals			**2,992**	**60%**	**84%**	**68%**	**56%**	**1810**	**2504**	**2022**	**1656**	**1182**	**488**	**970**	**1276**

Notes: MD = Midday; ON = Overnight; CLD = Closed
* Garage has two licenses but only one listed capacity of 67 cars; 40 is an estimate taken by the surveyor to account for the remaining cars visible on the lot (roughly 100 cars in total).
(1) Parking utilization levels at the parking garage located at 91-133 Bleecker Street, within Washington Square Village, are based on an hour-by-hour survey of its entering and exiting traffic, conducted on April 14, 2011.
Sources: AKRF, Inc. (September 2009, April and May 2011)

2021 NO BUILD CONDITION

Overall off-street public parking utilization is expected to experience the same growth as projected for traffic. In addition, the public parking demand generated by the No Build projects in the immediate area is included in the public parking utilization projections. As presented in **Table 14-62,** the 2021 No Build public parking utilization is expected to increase to 58 percent overnight and to a midday peak of 91 percent in the ¼-mile off-street parking study area.

Table 14-62
2011 Existing and 2021 No Build Parking Supply and Utilization

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
2011 Public Parking Supply	2,992	2,992	2,992	2,932
2011 Public Parking Demand	1,810	2,504	2,022	1,656
2011 Public Parking Utilization	60%	84%	68%	56%
2021 No Build Public Parking Supply	2,992	2,992	2,992	2,932
2021 No Build Background Incremental Demand	34	48	38	31
Discrete No Build Projects Total Parking Demand	89	164	49	0
2021 No Build Public Parking Demand Total	1,933	2,716	2,109	1,687
2021 No Build Public Parking Utilization	65%	91%	70%	58%
Available Spaces (Shortfall)	1059	276	883	1245

2021 BUILD CONDITION

Vehicle trips generated by the proposed project were assigned to the available public parking facilities within the ¼-mile off-street parking study area, including the 670-space public parking garage on the North Block, which would remain in use in the 2021 Build condition. The incremental parking demand generated by the 2021 Phase 1 completion is presented in **Table 14-63**. As demonstrated in **Table 14-64**, there would be an adequate supply of parking spaces in the ¼-mile off-street parking study area to accommodate the parking demand generated by the 2021 Phase 1 completion of the proposed project, with utilization levels expected to increase to 58 percent overnight and to a midday peak of 94 percent.

Table 14-63
2021 Phase 1 Completion Incremental Parking Demand

Hour	Academic Space	Student Housing	Hotel	Conference Center	PS/IS School	NE Local Retail	Local Retail	Total
12 AM - 01 AM	0	5	19	0	0	0	0	24
01 AM - 02 AM	0	5	20	0	0	0	0	25
02 AM - 03 AM	0	5	20	0	0	0	0	25
03 AM - 04 AM	0	5	20	0	0	0	0	25
04 AM - 05 AM	0	5	20	0	0	0	0	25
05 AM - 06 AM	0	5	20	0	0	0	0	25
06 AM - 07 AM	0	5	20	0	1	0	0	26
07 AM - 08 AM	1	4	20	5	9	0	0	39
08 AM - 09 AM	7	3	17	25	10	0	0	62
09 AM - 10 AM	13	2	15	37	10	0	0	77
10 AM - 11 AM	15	1	14	44	10	1	0	85
11 AM - 12 PM	17	0	13	47	10	1	1	89
12 PM - 01 PM	18	0	14	50	10	1	1	94
01 PM - 02 PM	18	0	12	50	10	1	2	93
02 PM - 03 PM	18	0	10	50	10	1	2	91
03 PM - 04 PM	19	0	8	46	2	1	3	79
04 PM - 05 PM	18	0	6	36	1	1	2	64
05 PM - 06 PM	13	1	13	17	0	1	2	47
06 PM - 07 PM	9	3	9	5	0	1	1	28
07 PM - 08 PM	6	5	13	2	0	0	0	26
08 PM - 09 PM	3	5	15	0	0	0	0	23
09 PM - 10 PM	0	5	16	0	0	0	0	21
10 PM - 11 PM	0	5	17	0	0	0	0	22
11 PM - 12 AM	0	5	18	0	0	0	0	23

Table 14-64
2021 No Build and Build Parking Supply and Utilization

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
2021 No Build Public Parking Supply	2,992	2,992	2,992	2,932
2021 No Build Background Incremental Demand	34	48	38	31
Discrete No Build Projects Total Parking Demand	89	164	49	0
2021 No Build Public Parking Demand Total	1,933	2,716	2,109	1,687
2021 No Build Public Parking Utilization	65%	91%	70%	58%
2021 Build Public Parking Supply	2,992	2,992	2,992	2,932
2021 Build Proposed Project Parking Demand	62	94	47	25
2021 Build Public Parking Demand Total	1,995	2,810	2,156	1,712
2021 Build Public Parking Utilization	67%	94%	72%	58%
Available Spaces (Shortfall)	997	182	836	1220

2031 NO BUILD CONDITION

Overall off-street public parking utilization is expected to experience the same growth as projected for traffic. Similar to the 2021 No Build condition, the public parking demand generated by the No Build projects in the immediate area is included in the public parking utilization projections. As presented in **Table 14-65,** the 2031 No Build public parking utilization is expected to increase to 58 percent overnight and to a midday peak of 92 percent in the ¼-mile off-street parking study area.

Table 14-65
2011 Existing and 2031 Future Parking Supply and Utilization

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
2011 Public Parking Supply	2,992	2,992	2,992	2,932
2011 Public Parking Demand	1,810	2,504	2,022	1,656
2011 Public Parking Utilization	60%	84%	68%	56%
2031 No Build Public Parking Supply	2,992	2,992	2,992	2,932
2031 No Build Background Incremental Demand	58	80	65	53
Discrete No Build Projects Total Parking Demand	89	164	49	0
2031 No Build Public Parking Demand Total	1,957	2,748	2,136	1,709
2031 No Build Public Parking Utilization	65%	92%	71%	58%
Available Spaces (Shortfall)	1035	244	856	1223

2031 BUILD CONDITION

Vehicle trips generated by the proposed project were assigned to the available public parking facilities within the ¼-mile off-street parking study area. The incremental parking demand generated by the 2031 Phase 2 full build-out is presented in **Table 14-66**.

Table 14-66
2031 Phase 2 Full Build-Out Incremental Parking Demand

Hour	Academic Space	Student Housing	Hotel	Conference Center	PS/IS School	NE Local Retail	Local Retail	Total
12 AM - 01 AM	0	5	19	0	0	0	0	24
01 AM - 02 AM	0	5	20	0	0	0	0	25
02 AM - 03 AM	0	5	20	0	0	0	0	25
03 AM - 04 AM	0	5	20	0	0	0	0	25
04 AM - 05 AM	0	5	20	0	0	0	0	25
05 AM - 06 AM	0	5	20	0	0	0	0	25
06 AM - 07 AM	0	5	20	0	1	0	0	26
07 AM - 08 AM	11	4	20	5	9	0	0	49
08 AM - 09 AM	49	3	17	25	10	0	0	104
09 AM - 10 AM	93	2	15	37	10	0	0	157
10 AM - 11 AM	105	1	14	44	10	1	0	175
11 AM - 12 PM	117	0	13	47	10	1	1	189
12 PM - 01 PM	123	0	14	50	10	1	1	199
01 PM - 02 PM	125	0	12	50	10	1	2	200
02 PM - 03 PM	127	0	10	50	10	1	2	200
03 PM - 04 PM	125	0	8	46	2	1	3	185
04 PM - 05 PM	116	0	6	36	1	1	2	162
05 PM - 06 PM	82	1	13	17	0	1	2	116
06 PM - 07 PM	58	3	9	5	0	1	1	77
07 PM - 08 PM	35	5	13	2	0	0	0	55
08 PM - 09 PM	16	5	15	0	0	0	0	36
09 PM - 10 PM	0	5	16	0	0	0	0	21
10 PM - 11 PM	0	5	17	0	0	0	0	22
11 PM - 12 AM	0	5	18	0	0	0	0	23

As discussed above, detailed information was obtained for the 670-space public parking garage on the North Block for the purpose of determining the amount and population of parkers that would be retained on-site (within the future 389-space accessory parking garage) or reallocated to other public parking garages in the area. The parking survey conducted at the existing parking garage provided an hour-by-hour account of the entering and exiting traffic, by monthly and daily customers. The information provided by the operator of the existing garage on the various types of monthly parkers was used to assign retention priority to the future accessory parking garage. For example, NYU Affiliated and WSV residents were assumed to have first priority to the 389 future accessory parking spaces. The existing hour-by-hour entering and exiting traffic for the monthly parkers were prorated based on the ratio of the future and existing garage capacities to arrive at the future parking demand profile for the 389-space accessory garage. As parking spaces become available during the day, they are anticipated to serve the parking demand generated by the academic use component of the proposed project.

Table 14-67 compares the projected 2031 No Build and Build public parking utilization levels, taking into account the replacement of the existing 670-space public parking garage with a 389-space accessory parking garage. This summary shows that the 2031 Build public parking utilization would increase to 65 percent overnight and to a midday peak of 109 percent in the ¼-mile off-street parking study area. While there would be an adequate supply of off-street public parking spaces during most hours of the day to accommodate the parking demand generated by the 2031 Phase 2 full build-out of the proposed project and the displaced parking demand from the existing public parking garage, a parking shortfall of approximately 236 spaces is anticipated for the peak midday parking utilization period. Most of this excess parking demand is expected be accommodated by parking facilities outside of the ¼-mile parking study area radius. However, some may seek parking on-street or choose alternate modes of transportation. As stated in the 2010 *CEQR Technical Manual* and discussed above in Section F, "Transportation Analysis

Methodology," for proposed projects located in Manhattan, this parking shortfall would not constitute a significant adverse parking impact due to the magnitude of available alternative modes of transportation.

Table 14-67
2011 Existing and 2031 Future Parking Supply and Utilization

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
2031 No Build Public Parking Supply	2,992	2,992	2,992	2,932
2031 No Build Background Incremental Demand	58	80	65	53
Discrete No Build Projects Total Parking Demand	89	164	49	0
2031 No Build Public Parking Demand Total	1,957	2,748	2,136	1,709
2031 No Build Public Parking Utilization	65%	92%	71%	58%
2031 WSV Displaced Public Parking Supply	-670	-670	-670	-670
2031 WSV Relocated Accessory Parking Supply	389	389	389	389
2031 Build Public Parking Supply	2,711	2711	2711	2651
2031 Build Proposed Project Parking Demand	104	199	116	25
2031 Build Public Parking Demand Total	2,061	2947	2252	1734
2031 Build Public Parking Utilization	76%	109%	83%	65%
Available Spaces (Shortfall)	650	(236)	459	917

L. WEEKEND CONDITION ASSESSMENT

The development program planned for the NYU Core project contains primarily university-oriented uses that would generate most of their trip-making during weekday peak periods. However, some of the project's supporting uses, such as the local retail, hotel, and conference space, albeit expected to primarily serve the university population and its visitors, would together with the university academic and housing uses generate a measurable amount of vehicular and pedestrian trips during weekend peak periods. To determine the potential for transportation-related impacts during non-weekday peak hours, a semi-quantitative assessment of a representative weekend peak period (Saturday afternoon) for the Phase 2–2031 Full Build-Out scenario was prepared. This assessment, which included estimates of project-generated Saturday peak hour trips and comparisons of weekday and Saturday background conditions, is presented below.

SATURDAY TRAVEL DEMAND PROJECTIONS

Using the same methodology and sources of information described in Section D, "Level 1 Screening Assessment," travel demand assumptions were developed for the Saturday afternoon peak hour. Since the PS/IS would be closed on weekends, it was not considered in the Saturday travel demand estimates. The travel demand assumptions for RWCDS 3 are presented in **Table 14-68**. The person and vehicle-trip estimates for this development scenario are shown in **Table 14-69**. This table also summarizes the total person and vehicle trips presented for the weekday peak hours in **Tables 14-6** and **14-7**. In total, 3,756 project-generated person trips and 224 project-generated vehicle trips were projected for the Saturday afternoon peak hour. In comparison, the Saturday peak hour person and vehicle trips would be approximately 65 to 84 percent and 72 to 84 percent, respectively, of those estimated for the weekday peak hours. Further, as shown in **Table 14-70**, overall Saturday travel demand projections for RWCDS 3 are higher than those for the Illustrative Plan, RWCDS 1, and RWCDS 2. Hence, the evaluation below focuses on anticipated Saturday conditions associated with RWCDS 3.

Table 14-68
Saturday Travel Demand Assumptions

Use/User Group	Academic Space: Undergraduates	Academic Space: Graduates/ Professionals	Academic Space: Faculty/Staff	Student Housing (External Dorm Trips)	Hotel	Conference Center: Patrons	Conference Center: Employees	Local Retail
Person Trips								
Daily Trip Rate	7.16 per 1,000 SF[1]	4.42 per 1,000 SF[1]	1.63 per 1,000 SF[1]	5.65 per Bed[6]	9.42 per Room[4]	27.2 per 1,000 SF[10]	10.0 per 1,000 SF[10]	240.0 per 1,000 SF[4]
Link Trip Credit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	25%
Net Daily Trip Rate	7.16 per 1,000 SF	4.42 per 1,000 SF	1.63 per 1,000 SF	5.65 per Bed	9.42 per Room	27.2 per 1,000 SF	10.0 per 1,000 SF	180.0 per 1,000 SF
Temporal Distribution	SAT[7] 13.2%	SAT[7] 10.7%	SAT[7] 8.4%	SAT[15] 8.0%	SAT[4] 7.5%	SAT[10] 10.5%	SAT[10] 14.7%	SAT[4] 10.0%
In/Out %	85.0%/15.0%	86.0%/14.0%	78.0%/22.0%	52.5%/47.5%	56.0%/44.0%	53.0%/47.0%	55.0%/45.0%	50.0%/50.0%
Modal Split	SAT[7]	SAT[7]	SAT[7]	SAT[11]	SAT[5]	SAT[10,12]	SAT[2]	SAT[6]
Auto	0.2%	3.7%	6.4%	1.0%	9.0%	7.0%	16.2%	2.0%
Taxi	0.3%	1.4%	0.7%	4.1%	18.0%	6.0%	2.5%	3.0%
Subway	21.0%	61.3%	53.1%	46.0%	24.0%	25.0%	54.4%	6.0%
Bus	0.7%	1.4%	3.4%	9.5%	3.0%	10.0%	6.4%	6.0%
Shuttle Bus	14.5%	5.7%	2.7%	5.0%	0.0%	0.0%	0.0%	0.0%
Walk Only	63.3%	26.5%	33.7%	34.4%	46.0%	52.0%	20.5%	83.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Vehicle Occupancy	SAT	SAT	SAT	SAT	SAT	SAT	SAT	SAT
Auto	1.11[7]	1.11[7]	1.19[7]	1.05[11]	1.40[5]	2.30[10]	1.15[2]	1.65[6]
Taxi	1.16[7]	1.16[7]	1.16[7]	1.30[6]	1.80[5]	1.80[10]	1.40[10]	1.40[6]
Shuttle Bus	50-55[7]	50-55[7]	50-55[7]	50-55[7]				
Delivery Trips								
Daily Trip Rate	0.003 per 1,000 SF[3,13]			0.01 per Bed[17]	0.01 per Room[5]	0.06 per 1,000 SF[10]		0.04 per 1,000 SF[4]
Temporal Distribution	SAT[3,14] 9.1%			SAT[15] 9.0%	SAT[5] 9.0%	SAT[10] 14.7%		SAT[4] 11.0%
In/Out %	50.0%/50.0%			50.0%/50.0%	50.0%/50.0%	50.0%/50.0%		50.0%/50.0%

Notes:
N/A = Not Applicable

Sources:
(1) Based on 2009 NYU On-Line Transportation Survey, anticipated academic space in the WSC, and NYU's 2031 future enrollment projection.
(2) 2000 U.S. Census Data.
(3) *Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development project FEIS* (2007).
(4) 2010 *CEQR Technical Manual.*
(5) *Western Rail Yard FEIS* (2009).
(6) *DASNY New School FEAF* (2010).
(7) NYU On-line Transportation Survey and discussion with NYU staff.
(8) *Riverside Center FSEIS* (2010).
(9) *West 44th Street and Eleventh Avenue Rezoning FEIS* (2010).
(10) *Battery Maritime Building Redevelopment EAS* (2008).
(11) 2005-2009 U.S. Census ACS; JTW data were adjusted to account for low auto ownership, and shuttle bus usage by students residing in NYU housing.
(12) Modal split factors adjusted to account for the WSC local travel patterns; ferry trips were added to the bus mode and all PATH trips were added to the subway mode.
(13) Assumed Saturday academic delivery trip rate is 5% of the weekday trip rate.
(14) Applied weekday midday delivery temporal distribution.
(15) Applied CEQR residential Saturday factors.
(16) Applied *DASNY New School FEAF* in/out distribution.
(17) CEQR residential Saturday delivery rate (per DU) adjusted for student housing (per Bed).

Table 14-69
Phase 2: 2031 Full Build-Out Saturday Peak Hour Person and Vehicle Trips by Mode

Saturday Peak Hour Person Trips by Mode																
		Auto		Taxi		Subway		Bus		Shuttle Bus		Walk Only		Total		Total
Program		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In + Out
Academic Space		23	4	9	1	486	89	16	3	144	26	667	123	1345	246	**1591**
Student Housing		3	3	13	12	144	130	30	27	16	14	106	97	312	283	**595**
Hotel		11	8	21	17	29	22	4	3	0	0	54	43	119	93	**212**
Conference Center-Patron		9	8	8	7	32	29	13	11	0	0	67	59	129	114	**243**
Conference Center-Employee		11	9	2	1	38	30	4	4	0	0	14	12	69	56	**125**
Local Retail		6	6	8	8	17	17	17	17	0	0	231	231	279	279	**558**
Local Retail NE		4	4	6	6	13	13	13	13	0	0	180	180	216	216	**432**
Total		**67**	**42**	**67**	**52**	**759**	**330**	**97**	**78**	**160**	**40**	**1319**	**745**	**2469**	**1287**	**3756**
Weekday Peak Hour Totals	**AM**	147	19	71	37	1824	133	113	28	581	13	2581	253	5317	483	5800
	Midday	67	55	77	69	688	425	102	91	155	134	1341	1242	2430	2016	4446
	PM	49	108	77	77	768	1608	83	146	94	268	823	1490	1894	3697	5591

Saturday Peak Hour Vehicle Trips by Mode										
		Auto		Taxi		Delivery		Shuttle Bus		Total
Program		In	Out	In	Out	In	Out	In	Out	In + Out
Academic Space		21	4	8	8	2	2	6	6	**57**
Student Housing		3	3	14	14	1	1	1	0	**38**
Hotel		8	6	15	15	0	0	0	0	**44**
Conference Center-Patron		4	3	6	6	0	0	0	0	**19**
Conference Center-Employee		10	8	2	2	0	0	0	0	**22**
Local Retail		4	4	9	9	0	0	0	0	**26**
Local Retail NE		2	2	6	6	1	1	0	0	**18**
Total		**52**	**30**	**60**	**60**	**4**	**4**	**7**	**7**	**224**
Weekday Peak Hour Totals	**AM**	107	44	52	52	11	11	17	17	311
	Midday	48	38	71	71	12	12	7	7	266
	PM	37	83	77	77	4	4	10	10	302

Table 14-70
Phase 2: 2031 Full Build-Out—Comparison of Total Saturday Person and Vehicle Trips for Different Development Scenarios

Peak Hour Person Trips by Mode															
	Auto		Taxi		Subway		Bus		Shuttle Bus		Walk Only		Total		Total
Program	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In + Out
Illustrative Program	31	27	38	33	438	296	62	54	95	84	609	548	1273	1042	**2315**
RWCDS 1 (Max Academic)	17	6	16	8	529	161	33	21	199	41	973	282	1767	519	**2286**
RWCDS 2 (Max Dormitory)	24	15	37	30	567	275	80	68	165	46	1194	662	2067	1096	**3163**
RWCDS 3 (Max Hotel)	67	42	67	52	759	330	97	78	160	40	1319	745	2469	1287	**3756**

Peak Hour Vehicle Trips by Mode								
	Auto		Taxi		Delivery		Shuttle Bus		Total
Program	In	Out	In	Out	In	Out	In	Out	In + Out
Illustrative Program	23	20	36	36	3	3	6	6	**133**
RWCDS 1 (Max Academic)	15	5	17	17	3	3	8	8	**76**
RWCDS 2 (Max Dormitory)	19	11	38	38	5	5	6	6	**128**
RWCDS 3 (Max Hotel)	52	30	60	60	4	4	7	7	**224**

The Saturday project-generated peak hour trips were allocated or assigned to the transportation network in the same manner as described above for the weekday peak hours and are further discussed below.

TRAFFIC

Based on an assignment of the project-generated Saturday peak hour vehicle trips (see **Figure 14-50**), it was determined that only five of the 17 intersections selected for the weekday analyses would be expected to also incur incremental vehicle trips exceeding the CEQR analysis threshold (50 peak hour vehicle trips) for the Saturday peak hour. Further, the Saturday peak hour vehicle-trip increments at each location would be lower than those during the weekday peak hours. The intersections where the Saturday incremental peak hour vehicle trips are expected to exceed the CEQR analysis threshold would be:

1) West 3rd Street and Mercer Street (64 vs. up to 88 during weekday peak hours);
2) Bleecker Street and Mercer Street (69 vs. up to 95 during weekday peak hours);
3) West Houston Street and Mercer Street (77 vs. up to 109 during weekday peak hours);
4) West Houston Street and Greene Street (53 vs. up to 83 during weekday peak hours); and
5) West Houston Street and West Broadway/LaGuardia Place (60 vs. up to 96 during weekday peak hours).

For the other 12 intersections studied for the weekday peak hours, since the Saturday peak hour vehicle-trip increments would be below the CEQR analysis threshold, there would not be a potential for significant adverse traffic impacts during the Saturday peak hour at these locations. A more in-depth review of conditions at the five intersections listed above is provided below.

BACKGROUND TRAFFIC CONDITIONS

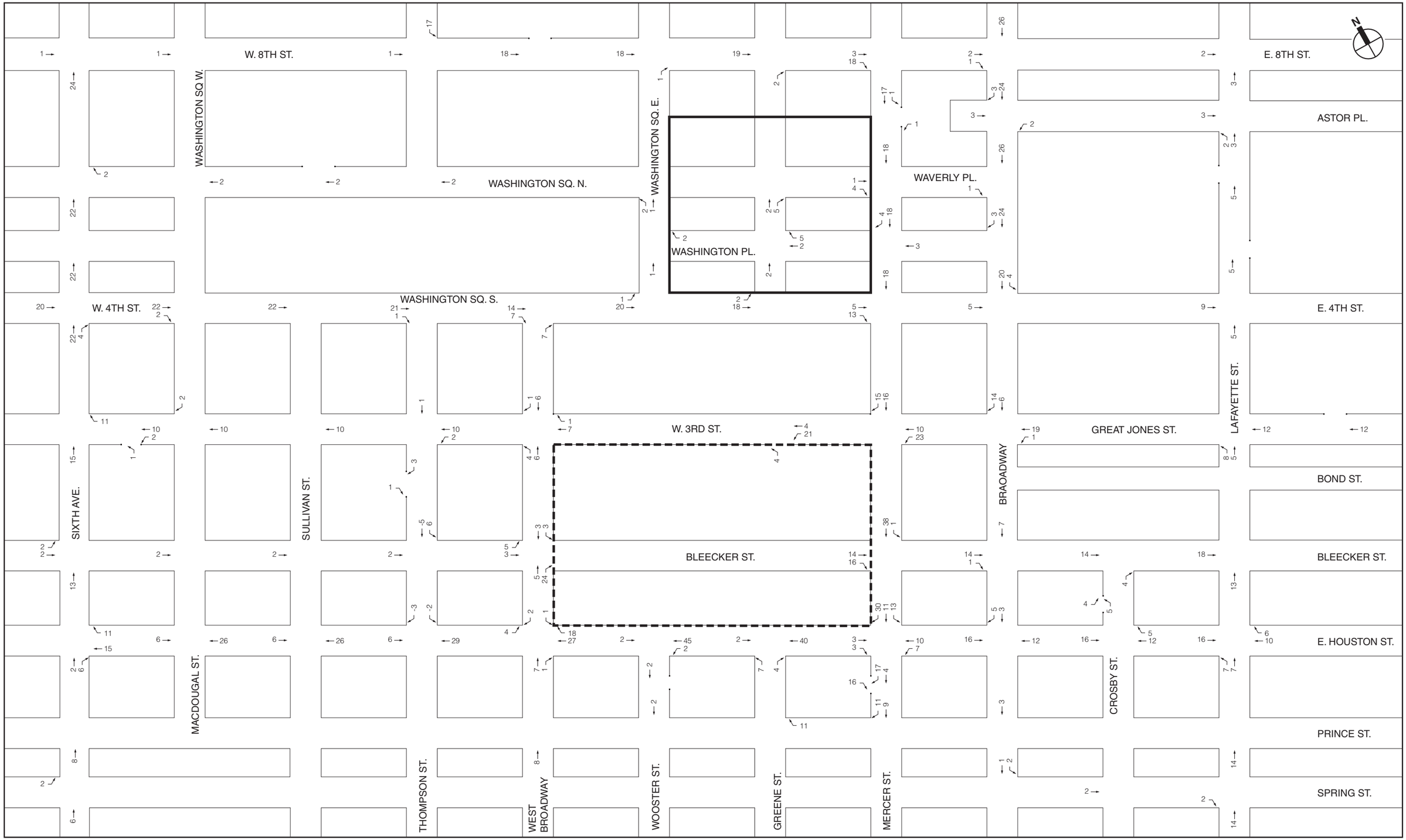
ATR data were collected for 9 plus consecutive days in May 2011 at ten locations within the traffic study area. As shown in **Table 14-71**, overall Saturday midday and PM peak hour traffic levels are comparable to those during the weekday midday and PM peak hours and slightly higher than the weekday AM peak hour. Along individual roadways, differences in traffic levels varied across weekday and Saturday peak hours with no distinct trends, but they are generally within what can be expected of typical daily variations.

Table 14-71
2011 ATR Data Summary

Location	Weekday Peak Hours (Tue-Thu Average)			Saturday Peak Hours	
	AM (8-9 AM)	Midday (12-1 PM)	PM (5-6 PM)	Midday (1-2 PM)	PM (5-6 PM)
W. 4th St EB at Sixth Ave	124	271	247	306	287
Sixth Ave NB at W. 4th St	2,095	2,013	1,937	2,125	1,890
Houston St EB at W. Broadway	380	527	468	606	489
W Broadway NB at W. Houston St.	327	421	393	353	327
W. Houston St. WB at LaGuardia Pl.	1,306	1,202	1,399	1,317	1,548
LaGuardia Pl. SB at W. Houston St.	153	226	249	249	192
Bleecker St. EB at Mercer St.	335	411	487	416	400
Mercer St. SB at Bleecker St.	159	391	300	381	224
W. 3rd St. WB at Broadway	324	337	413	439	351
Broadway SB at W. 3rd St.	1,047	1,333	1,204	1,285	1,210

In terms of intersection operations, curbside restrictions are comparable for weekday and Saturday peak hours at most study area locations, with either 1) parking restricted or permitted for both or 2) weekday delivery activities replaced with weekend parking. It was also confirmed

12.15.11



NOT TO SCALE

Proposed Development Area Boundary

Commercial Overlay Area Boundary

2031 Proposed Project Net Incremental Vehicle Trips
Saturday Peak Hour

Figure 14-50

NYU Core

that signal timings at all 17 study area intersections are the same for the weekdays and weekend days.

ASSESSMENT OF POTENTIAL SATURDAY PEAK HOUR TRAFFIC IMPACTS

For the five intersections where the Saturday peak hour project-generated vehicle-trip increments were projected to exceed the CEQR analysis threshold, the above background traffic volume data and findings of the weekday peak hour analyses were reviewed to determine the potential for significant adverse traffic impacts during the Saturday peak hour, as follows:

1) West 3rd Street and Mercer Street – The 2031 Build condition service levels for all lane groups at this intersection were predicted to be acceptable during the weekday analysis peak hours. Hence, with lower project-generated increments and comparable background conditions, it is expected that there would not be a potential for any significant adverse traffic impacts at this intersection during the Saturday peak hour.
2) Bleecker Street and Mercer Street – Under the 2031 Build condition, the eastbound approach at this intersection was predicted to incur significant adverse traffic impacts during all three weekday analysis peak hours. Although the projected Saturday peak hour trip increment at this approach would be less than those during the weekday peak hours, it is possible that this approach could similarly incur a significant adverse traffic impact during the Saturday peak hour.
3) West Houston Street and Mercer Street – Under the 2031 Build condition, the southbound approach at this intersection was predicted to incur significant adverse traffic impacts during the weekday PM peak hour. Although the projected Saturday peak hour trip increment at this approach would be less than those during the weekday peak hours, it is possible that this approach could similarly incur a significant adverse traffic impact during the Saturday peak hour.
4) West Houston Street and Greene Street – The 2031 Build condition service levels for all lane groups at this intersection were predicted to be acceptable during the weekday analysis peak hours. Hence, with lower project-generated increments and comparable background conditions, it is expected that there would not be a potential for any significant adverse traffic impacts at this intersection during the Saturday peak hour.
5) West Houston Street and West Broadway/LaGuardia Place – Under the 2031 Build condition, lane groups at the northbound and southbound approaches at this intersection were predicted to incur significant adverse traffic impacts during the weekday midday and PM peak hours. Although the projected Saturday peak hour trip increments at these lane groups would be less than those during the weekday peak hours, it is possible that these lane groups could similarly incur significant adverse traffic impacts during the Saturday peak hour.

Overall, the significant adverse traffic impacts that may also prevail during the Saturday peak hour would be of lesser magnitude than those identified for the weekday peak hours. As such, the findings made for the weekday peak hours represent the worst-case traffic conditions and provided the disclosure on the extent of potential significant adverse traffic impacts at area intersections. Measures that can be implemented to mitigate these impacts for both the weekday and Saturday peak hours are discussed in Chapter 21, “Mitigation.”

TRANSIT

As shown in **Table 14-69**, 1,089 project-generated subway trips and 175 project-generated bus trips were estimated for the Saturday afternoon peak hour. In comparison, the Saturday peak hour subway trips would be approximately 45 to 56 percent of those estimated for the weekday AM and PM commuter peak hours and approximately the same as the weekday midday peak hour. These Saturday peak hour subway trips would be distributed to the several nearby subway stations described in Section H, "Transit." With generally lower background ridership levels at these stations, the lower subway trip generation during the Saturday peak hour is not expected to result in the significant adverse stairway impacts identified for the weekday peak periods. For buses, the projected Saturday peak hour ridership would be lower than the peak bus ridership projected for weekday peak hours. With these trips distributed to area bus routes, the proposed project would similarly not result in a potential for any significant adverse bus line-haul impacts.

PEDESTRIANS

Projected Saturday peak hour pedestrian trips were assigned to the pedestrian network in the same manner described in Section I, "Pedestrians." In comparison, the Saturday peak hour person trips would be approximately 65 to 84 percent of those estimated for the weekday peak hours. The assignment of the project-generated Saturday peak hour pedestrian trips showed that only approximately 50 percent of the pedestrian elements selected for the weekday analyses would be expected to also incur project-generated trips exceeding the CEQR analysis threshold (200 pedestrians on a sidewalk, corner reservoir, or crosswalk). Further, the Saturday peak hour pedestrian increments at each location would be lower than those during the weekday peak hours. The locations where the Saturday incremental peak hour pedestrian trips are expected to exceed the CEQR analysis threshold would primarily be along:

1) University Place – east side of the street between West 4th and East 8th Streets;
2) Bleecker Street – east of LaGuardia Place to/from the Bleecker Street subway station;
3) Houston Street – east of LaGuardia Place to/from the Broadway/Lafayette subway station; and
4) Mercer Street – along the Proposed Development Area boundary.

Adjacent to the Proposed Development Area, the Broadway corridor and nearby Soho are well-known for their shopping and tourist destinations. Saturday peak hour pedestrian levels at these locations are generally comparable or at certain locations even higher than the weekday peak hours. However, virtually all pedestrian elements along the Broadway corridor would incur project-generated Saturday peak hour trips that are below the CEQR analysis threshold. Those that would exceed the threshold are located near the 8th Street subway station and the NYU shuttle bus stop at Washington Place, and along the east-west Bleecker Street and Houston Street routes to/from the Bleecker Street and Broadway-Lafayette subway stations.

In areas east of Sixth Avenue and west of Broadway, particularly locations adjacent to the many NYU academic buildings, administrative offices, and support facilities, background pedestrian levels are generally lower on a Saturday (when there would be substantially fewer students/faculty/staff traveling to/from the campus) than on a weekday. And as described above, incremental Saturday peak hour trips at these locations would likewise be lower.

As detailed in Section I, "Pedestrians," the 2031 Build-Out of the proposed project would result in a weekday midday peak hour impact at the southeast corner of University Place and Waverly Place and weekday midday and PM peak hour impacts at the west crosswalk of Washington

Square East and West 4th Street. While these significant adverse pedestrian impacts may also prevail during the Saturday peak hour, they are expected to be of lesser magnitude than those identified for the weekday peak hours. As such, the findings made for the weekday peak hours represent the worst-case pedestrian conditions and provided the disclosure on the extent of potential significant adverse pedestrian impacts at area sidewalks, corner reservoirs, and crosswalks. Measures that can be implemented to mitigate these impacts for both the weekday and Saturday peak hours are discussed in Chapter 21, "Mitigation."

PARKING

As with traffic, transit, and pedestrians, the parking demand attributed to the proposed project for a Saturday would be lower than what was estimated for a weekday. In the area surrounding the Proposed Development Area, available off-street parking supply is typically more abundant on the weekends. In addition, with more relaxed curbside parking regulations on the weekends, on-street parking spaces would be more available as well. Therefore, the 2031 Build condition parking shortfall predicted for the weekday midday period is not expected to occur on a Saturday.

CONCLUSION

The above shows that the potential transportation-related impacts during the Saturday afternoon peak hour would be within the envelope of impacts identified for the weekday peak hours. The likely measures that would be required to mitigate these weekend impacts are discussed in Chapter 21, "Mitigation." ✷