## A. INTRODUCTION

This chapter examines the potential for the proposed actions to result in significant adverse impacts on study area transportation systems, through a comparison of conditions with the proposed actions (the With Action condition) to conditions in the future without the proposed actions (the No Action condition).

As described in Chapter 1, "Project Description," the applicant proposes a rezoning of a portion of the block bounded by West 56th and West 57th Streets and Eleventh and Twelfth Avenues from M1-5 and M2-3 to C4-7, along with other related land use actions. The proposed actions would facilitate the development on the proposed project site (development site 1) of a mixed use building of approximately 1.2 million gross square feet (gsf). In addition, the proposed actions are assumed to result in the redevelopment of one additional site (development site 2) with a new, approximately 117,612 gsf hotel with 181 hotel rooms. In terms of parking, the proposed actions would provide a below-grade public parking garage that could include either 395 spaces or up to 500 spaces.

This analysis assesses the potential impacts resulting from redevelopment of both sites. It assumes as a conservative measure that the proposed project site is redeveloped with the Mixed Use Reasonable Worse Case Development Scenario (RWCDS 2), which (as described in greater detail below) has a greater potential to result in transportation-related impacts than would the proposed project (RWCDS 1).

It is possible that new impacts, new unmitigated impacts and new mitigation may be identified between Draft and Final EIS. If conditions change or it is determined that proposed mitigation measures are not feasible, additional mitigation measures may be explored. If it is determined that other measures are not available to mitigate identified significant adverse transportation impacts, either in part or in whole, those impacts would be identified in the FEIS as unmitigated and a discussion will be included in the "Unavoidable Adverse Impacts" chapter of the FEIS.

### PRINCIPAL CONCLUSIONS

*TRAFFIC*

Traffic conditions were evaluated at 15 intersections for the weekday AM, midday, PM, and the Saturday peak hours. In the With Action condition, there would be the potential for significant adverse impacts at 7 intersections during the weekday AM peak hour, 10 intersections during the weekday midday peak hour, 13 intersections during the PM peak hour, and 8 intersections during the Saturday peak hour.

**Table 11-1** provides a summary of the impacted locations by analysis time period and lane-groups. Potential measures to mitigate the projected traffic impacts are described in Chapter 19, "Mitigation." As shown in that chapter, all of the significant adverse impacts could be fully mitigated with standard mitigation measures, including signal timing changes and approach daylighting.

**Table 11-1**
**Summary of Significant Adverse Traffic Impacts**

| Intersection | | Weekday AM Peak Hour | Weekday Midday Peak Hour | Weekday PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|---|---|
| **EB/WB Street** | **NB/SB Street** | | | | |
| West 57th Street | 12th Avenue | | | WB-R | |
| West 56th Street | 12th Avenue | | | SB-L (Mainline) | SB-L (Mainline) |
| West 55th Street | 12th Avenue | WB-L | WB-L | WB-L | |
| West 58th Street | 11th Avenue | | | SB-L | |
| West 57th Street | 11th Avenue | EB-L<br>WB-L<br>WB-TR | WB-L | WB-L<br>WB-TR<br><br>SB-L | WB-L<br>WB-TR<br>NB-L |
| West 55th Street | 11th Avenue | | WB-LTR | WB-LTR | |
| West 58th Street | 10th Avenue | | EB-LT | EB-LT | |
| West 57th Street | 10th Avenue | <br>EB-LT<br>WB-TR | <br>EB-LT<br>WB-TR | <br>EB-LT<br>WB-TR | EB-DefL<br><br>WB-TR |
| West 56th Street | 10th Avenue | EB-LT | EB-LT | EB-LT | EB-LT |
| West 55th Street | 10th Avenue | | <br>WB-TR | WB-T | <br>WB-TR |
| West 57th Street | 9th Avenue | EB-T<br>EB-R<br><br>WB-T | EB-T<br>EB-R<br><br>WB-T | <br>EB-R<br>WB-LT | <br>EB-R<br><br>WB-T |
| West 56th Street | 9th Avenue | EB-TR | EB-TR | EB-TR | EB-TR |
| West 57th Street | 8th Avenue | EB-LT<br>WB-TR | <br>WB-TR | <br>WB-TR | <br>WB-TR |

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

*TRANSIT*

The screening assessment concluded that a detailed examination of subway line-haul analysis was not warranted. However, bus line-haul analyses and a detailed analysis of station elements at the 59th Street/Columbus Circle subway station (A, B, C, D and No.1 lines) and the 57th Street/7th Avenue station (N, Q, R lines) were prepared. Based on the result of the transit analysis, the proposed actions would not result in potential significant adverse impacts at the two stations analyzed during any of the peak periods. However, the proposed actions would result in potential significant adverse impacts on bus line-haul levels on the eastbound M57 during the weekday AM peak period and the westbound M31 and westbound M57 during the weekday PM peak period. Potential measures to mitigate the projected potential significant adverse bus line-haul impacts are described in Chapter 19, "Mitigation." As discussed in that chapter, these impacts could be mitigated by increasing bus service along affected routes.

*PEDESTRIANS*

Weekday and Saturday peak period pedestrian conditions were evaluated at key sidewalk, corner reservoir, and crosswalk elements at 8 intersections. Significant adverse impacts were identified only for the south crosswalk of West 57th Street and Eleventh Avenue. These impacts would occur during all of the four analysis time periods. **Table 11-2** provides a summary of the impacted location by analysis time periods. As detailed in Chapter 19, "Mitigation," these significant adverse impacts could be mitigated by widening the crosswalk.

**Table 11-2**
**Summary of Significant Adverse Pedestrian Impacts**

| Intersection | Pedestrian Element | 2017 With Action | | | |
|---|---|---|---|---|---|
| | | AM Peak Hour | Midday Peak Hour | PM Peak Hour | Saturday Peak Hour |
| 57th Street and 11th Avenue | South Crosswalk | X | X | X | X |

**Notes:** X = Impacted

*VEHICULAR AND PEDESTRIAN SAFETY*

Crash data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the time period between May 31, 2009 and May 31, 2012. During this time period, a total of 250 reportable and non-reportable accidents, 2 fatalities, 378 injuries, and 77 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 2009 to 2012 period. These intersections are Tenth Avenue at West 57th Street, Ninth Avenue at West 57th Street and Eighth Avenue at West 57th Street.

The three intersections identified above would experience significant adverse traffic impacts during all analysis peak hours. However, as described in Chapter 19, "Mitigation," the predicted impacts at these intersections could be fully mitigated with standard traffic engineering measures. Nonetheless, additional safety measures, such as the restriping of faded crosswalks, installation of pedestrian warning signs and the installation of countdown timers can be implemented to improve pedestrian safety at these intersections.

*PARKING*

The proposed actions would include a below-grade public parking garage with up to 500 parking spaces. The proposed actions are expected to eliminate the 1,000-space public parking garage that currently exists on development site 1. Accounting for the change in on-site parking spaces, and the parking demand generated from background growth, No Action projects and the proposed actions, the With Action public parking supply and utilization analysis shows that there could be a parking shortfall during the weekday midday period within the ¼-mile off-street parking study area. The proposed actions could provide a smaller garage with 395 spaces. With a smaller garage, the parking shortfall during the weekday midday peak period would be greater than with a 500 space garage, and there is a potential that additional parking shortfall could occur during other analyzed peak periods. It is anticipated that the excess demand could be accommodated with a slightly longer walking distance beyond the ¼-mile radius. Furthermore, as stated in the *CEQR Technical Manual*, a parking shortfall resulting from a project located in Manhattan does not constitute a significant adverse parking impact, due to the multitude of available modes of transportation.

## B. PRELIMINARY ANALYSIS METHODOLOGY

The 2012 *City Environmental Quality Review* (*CEQR) Technical Manual* describes a two-tier screening procedure for the preparation of a "preliminary analysis" to determine if quantified analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation analysis (Level 1) to estimate the volume of person and vehicle trips attributable to the proposed actions. 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) are 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 analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

## C. LEVEL 1 SCREENING ASSESSMENT

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

### OVERVIEW

*THE PROPOSED PROJECT SITE*

The proposed project site totals approximately 83,303 square feet of lot area and consists of Block 1104, Lots 31, 40, 44 and 55. Lots 31 and 40 are currently developed with low-rise structures and open service areas that are used by Lexus and Acura for auto sales and service. Lot 44 is a four-story parking garage with a licensed capacity of 1,000 spaces. Lot 55 includes a one-story auto repair shop.

As shown in **Table 11-3**, the Mixed Use RWCDS for the proposed project site assumes that development under the proposed rezoning could include approximately 848 residential apartments, approximately 35,000 gsf of ground-floor local retail uses, approximately 75,000 gsf of destination retail space, approximately 30,000 gsf of medical office space, a 285-room hotel and approximately 500 below-grade public parking spaces. As discussed above, for transportation analysis purposes, the Mixed-Use RWCDS was analyzed.

**Table 11-3**
**RWCDS 2**

| Use | Description | GSF |
|---|---|---|
| Residential | 848 Units | 704,250 |
| Parking | 500 Spaces | 170,750 |
| Hotel | 285 rooms | 185,000 |
| Local Retail | — | 35,000 |
| Destination Retail | — | 75,000 |
| Medical Office | — | 30,000 |
| | **Total GSF** | **1,200,000** |

*LOTS 25 AND 29—PROJECTED DEVELOPMENT SITE*

Lots 25 and 29 were evaluated for both residential and hotel developments. For these lots, residential development is not considered to be feasible. However, a hotel development would be possible and will therefore be considered as part of the Mixed-Use RWCDS for travel demand analysis purposes. In terms of the development program, a new hotel building would have approximately 117,612 gsf consisting of approximately 181 hotel rooms at about 650 gsf per room.

## TRANSPORTATION PLANNING ASSUMPTIONS

The trip-making characteristics will be the subject of evaluating potential transportation-related impacts. Travel demand projections and assignments of vehicular, transit, and pedestrian trips were conducted, pursuant to the methodologies outlined in the 2012 *CEQR Technical Manual*, to determine the various transportation facilities that warrant detailed impact analyses.

The travel demand assumptions identified for the various development components of the Mixed-Use RWCDS and the Proposed Project are summarized in **Table 11-4** and are discussed in detail as follows:

*RESIDENTIAL*

Trip estimates for the residential component were developed using person and delivery trip generation and temporal distributions, and delivery directional distribution factors from the 2012 *CEQR Technical Manual*. Person trip directional distributions and taxi vehicle occupancy were derived from factors in the *625 West 57th Street FSEIS* (2012). The modal split and auto occupancy factors were based on the 2007- 2011 ACS (American Community Survey, U.S Department of Commerce: Bureau of the Census) Journey-to-Work (JTW) data for Manhattan census tracts 127, 129, 133, 135, 139, 145, 147, and 151.

*LOCAL RETAIL*

Trip estimates for the local retail component were developed using person and delivery trip generation and temporal distributions, and delivery directional distribution factors from the 2012 *CEQR Technical Manual*. Person trip directional distributions were derived from factors in the *625 West 57th Street FSEIS* (2012). The modal split and vehicle occupancy factors were taken from the *West 44th Street and Eleventh Avenue Rezoning FEIS* (2010). A 25-percent linked trip credit was applied to the standard rate of 205 weekday trips and 240 Saturday trips per 1,000 gsf, resulting in 153.75 trips and 180 trips per 1,000 gsf, respectively.

*DESTINATION RETAIL*

Trip estimates for the destination retail component were developed using person and delivery trip generation and temporal distributions, and delivery directional distribution factors from the 2012 *CEQR Technical Manual*. Person trip directional distributions, modal splits, and vehicle occupancies were derived from factors in the *625 West 57th Street FSEIS* (2012).

*COMMUNITY FACILITY (MEDICAL OFFICE) STAFF*

Trip estimates for the medical office staff were developed using person and delivery trip generation factors, temporal distributions, directional distributions, and taxi occupancy from the *625 West 57th Street FSEIS* (2012). Modal splits and auto occupancies were derived from 2000 U.S. Census reverse-journey-to-work data for Manhattan census tracts 127, 129, 133, 135, 139, 145, 147, and 151.

*COMMUNITY FACILITY (MEDICAL OFFICE) VISITORS*

Trip estimates for the medical office visitors were developed using person and delivery trip generation factors, temporal distributions, directional distributions, vehicle occupancies, and modal splits from the *625 West 57th Street FSEIS* (2012).

# Table 11-4
## Transportation Planning Assumptions

| Use | Residential | | | | Destination Retail | | | | Local Retail | | | | Community Facility(Medical Office) Staff | | | | Community Facility(Medical Office) Visitors | | | | Hotel | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Total Daily Person Trip** | (1) Weekday 8.075 Trips / DU | | | SAT 9.6 | (1) Weekday 78.2 Trips / KSF | | | SAT 92.5 | (1) Weekday 205.0 Trips / KSF | | | SAT 240.0 | (2) Weekday 10.0 Trips / KSF | | | SAT 4.3 | (2) Weekday 33.6 Trips / KSF | | | SAT 14.5 | (1) Weekday 9.40 Trips / Room | | | SAT 9.4 |
| **Trip Linkage** | 0% | | | | 0% | | | | 25% | | | | 0% | | | | 0% | | | | 0% | | | |
| **Net Daily Person trip** | Weekday 8.075 Trips / DU | | | SAT 9.6 | Weekday 78.2 Trips / KSF | | | SAT 92.5 | Weekday 153.8 Trips / KSF | | | SAT 180.0 | Weekday 10.0 Trips / KSF | | | SAT 4.3 | Weekday 33.6 Trips / KSF | | | SAT 14.5 | Weekday 9.40 Trips / Unit | | | SAT 9.40 |
| | **AM** | **MD** | **PM** | **SAT** | **AM** | **MD** | **PM** | **SAT** | **AM** | **MD** | **PM** | **SAT** | **AM** | **MD** | **PM** | **SAT** | **AM** | **MD** | **PM** | **SAT** | **AM** | **MD** | **PM** | **SAT** |
| **Temporal** | (1) | | | | (1) | | | | (1) | | | | (2) | | | | (2) | | | | (1) | | | |
| | 10% | 5% | 11% | 8% | 3% | 9% | 9% | 11% | 3% | 19% | 10% | 10% | 24.0% | 17.0% | 24.0% | 17.0% | 6.0% | 9.0% | 5.0% | 9.0% | 8.0% | 14.0% | 13.0% | 9.0% |
| **Direction** | (2) | | | | (2) | | | | (4) | | | | (2) | | | | (2) | | | | (6) | | | |
| In | 16% | 50% | 67% | 53% | 61% | 55% | 47% | 55% | 50% | 50% | 50% | 50% | 94% | 50% | 12% | 50% | 94% | 50% | 12% | 50% | 39% | 54% | 65% | 56% |
| Out | 84% | 50% | 33% | 47% | 39% | 45% | 53% | 45% | 50% | 50% | 50% | 50% | 6% | 50% | 88% | 50% | 6% | 50% | 88% | 50% | 61% | 46% | 35% | 44% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| **Modal Split** | (3) | | | | (2) | | | | (4) | | | | (5) | | | | (2) | | | | (6) | | | |
| | **All** | | | | **AM/MD/PM** | | | **SAT** | **All** | | | | **All** | | | | **All** | | | | **AM/PM/SAT** | | | **Midday** |
| Auto | 7.0% | | | | 10.0% | | | 12.0% | 2.0% | | | | 25.7% | | | | 25.0% | | | | 9.0% | | | 8.0% |
| Taxi | 5.0% | | | | 15.0% | | | 15.0% | 3.0% | | | | 2.3% | | | | 25.0% | | | | 18.0% | | | 15.0% |
| Subway | 43.0% | | | | 20.0% | | | 18.0% | 6.0% | | | | 50.1% | | | | 29.0% | | | | 24.0% | | | 13.0% |
| Bus/School Bus | 8.0% | | | | 20.0% | | | 20.0% | 6.0% | | | | 11.2% | | | | 11.0% | | | | 3.0% | | | 3.0% |
| Walk | 37.0% | | | | 35.0% | | | 35.0% | 83.0% | | | | 10.7% | | | | 10.0% | | | | 46.0% | | | 61.0% |
| Total | 100% | | | | 100% | | | 100% | 100% | | | | 100.0% | | | | 100.0% | | | | 100% | | | 100% |
| **Vehicle Occupancy** | (2)(3) | | | | (2) | | | | (4) | | | | (5)(2) | | | | (2) | | | | (6) | | | |
| Auto | 1.13 | | | | 2.00 | | | | 1.65 | | | | 1.15 | | | | 1.65 | | | | 1.40 | | | |
| Taxi | 1.40 | | | | 2.00 | | | | 1.40 | | | | 1.40 | | | | 1.20 | | | | 1.80 | | | |
| School Bus | - | | | | - | | | | - | | | | - | | | | - | | | | - | | | |
| **Daily Delivery Trip Generation Rate** | (1) Weekday 0.06 Delivery Trips / DU | | | SAT 0.02 | (1) Weekday 0.35 Delivery Trips / KSF | | | SAT 0.04 | (1) Weekday 0.35 Delivery Trips / KSF | | | SAT 0.04 | (2) Weekday 0.32 Delivery Trips / KSF | | | SAT 0.01 | | | | | (6) Weekday 0.06 Delivery Trips / KSF | | | SAT 0.01 |
| | **AM** | **MD** | **PM** | **SAT MD** | **AM** | **MD** | **PM** | **SAT MD** | **AM** | **MD** | **PM** | **SAT MD** | **AM** | **MD** | **PM** | **SAT MD** | | | | | **AM** | **MD** | **PM** | **SAT MD** |
| **Delivery Temporal** | (1) | | | | (1) | | | | (1) | | | | (2) | | | | | | | | (6) | | | |
| | 12% | 9% | 2% | 9% | 8% | 11% | 2% | 11% | 8% | 11% | 2% | 11% | 10.0% | 11.0% | 2.0% | 11.0% | | | | | 12.0% | 9.0% | 1.0% | 9.0% |
| **Delivery Direction** | (1) | | | | (1) | | | | (1) | | | | (2) | | | | | | | | (1) | | | |
| In | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | | | | | 50% | 50% | 50% | 50% |
| Out | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | 50% | | | | | 50% | 50% | 50% | 50% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | | | | | 100% | 100% | 100% | 100% |

**Source**
(1) *2012 CEQR Technical Manual*
(2) *625 W.57th Street FSEIS*, December 2012
(3) U.S. Census American Community Survey 2007-2011 Journey to Work Data for Manhattan Tracts 127, 129, 133, 135, 139, 145, 147, and 151
(4) *West 44th Street and Eleventh Avenue Rezoning FEIS*, Jan 2010
(5) 2000 U.S. Census Reverse Journey To Work Data for Manhattan Tracts 127, 129, 133, 135, 139, 145, 147, and 151
(6) *Western Rail Yard FEIS*, 2009

*HOTEL*

Travel demand factors from the 2012 *CEQR Technical Manual* and *Western Rail Yard FEIS* (2009) for a typical New York City hotel were used to estimate trips generated by the hotel. These factors include daily person and delivery trip generation rates, modal split, vehicle occupancies, and temporal and directional distributions.

**TRAVEL DEMAND PROJECTION SUMMARY**

As shown in **Table 11-5**, the Mixed-Use RWCDS (RWCDS 2) would generate approximately 1,502, 2,653, 2,510, and 2,498 person trips, including 476, 448, 650, and 573 subway trips, and 124, 230, 229, and 261 bus trips, during the weekday AM, midday, and PM, and the Saturday peak hours, respectively. The Mixed-Use RWCDS would also generate approximately 254, 346, 353, and 337 vehicle trips, including 102, 122, 139, and 129 auto trips and 140, 212, 212, and 206 taxi trips, during the weekday AM, midday, and PM, and the Saturday peak hours, respectively.

As shown in **Table 11-6**, the Proposed Project (RWCDS 1) would generate approximately 1,154, 1,706, 1,700, and 1,671 person trips, including 425, 280, 492, and 439 subway trips, and 89, 112, 123, and 119 bus trips, during the weekday AM, midday, and PM, and the Saturday peak hours, respectively. The Proposed Project would also generate approximately 140, 118, 146, and 139 vehicle trips, including 62, 44, 74, and 67 auto trips and 68, 66, 70, and 70 taxi trips, during the weekday AM, midday, and PM, and the Saturday peak hours, respectively.

Although the Proposed Project contains 341 more dwelling units than the Mixed-Use RWCDS, the destination retail and hotel components generate a substantial level of pedestrian trips which are enough to surpass the trips generated by the Proposed Project. Similarly, the total number of vehicles generated by the Mixed-Use RWCDS is much higher than those generated by the Proposed Project—by approximately a factor of 2-to-1—again contributed by the destination retail and hotel components. Therefore, the vehicle, pedestrian and transit trips generated under the Mixed-Use RWCDS were used in analyzing the potential for significant adverse transportation impacts as discussed in detail in the following sections.

*TRAFFIC*

Since the projected vehicle trips would be greater than the *CEQR* analysis threshold of 50 peak hour vehicle trips, a Level 2 screening assessment was conducted to determine if there is a need for additional quantified traffic analyses.

*TRANSIT*

Since the projected bus trips would be at or greater than 200 during all peak hours except weekday AM, and the subway trips would be greater than 200 during all four peak hours, a Level 2 screening assessment was conducted to determine if there is a need for additional quantified transit analyses.

*PEDESTRIAN*

Other than the person trips by autos that are made directly to/from the on-site parking garage, all person trips would traverse the pedestrian elements surrounding the project site. A Level 2 screening assessment was conducted to determine if there is a need for additional quantified pedestrian analyses.

## Table 11-5
## Trip Generation Summary: RWCDS 2

| Use | Peak Hour | In/Out | Person Trip | | | | | | Vehicle Trip | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Auto | Taxi | Subway | Bus | Walk | Total | Auto | Taxi | Delivery | Total |
| **Residential** | Weekday AM | In | 8 | 5 | 47 | 9 | 41 | 110 | 7 | 19 | 3 | 29 |
| | | Out | 40 | 29 | 247 | 46 | 213 | 575 | 36 | 19 | 3 | 58 |
| | | Total | 48 | 34 | 294 | 55 | 254 | 685 | 43 | 38 | 6 | 87 |
| | Weekday Midday | In | 12 | 9 | 74 | 14 | 63 | 172 | 11 | 9 | 2 | 22 |
| | | Out | 12 | 9 | 74 | 14 | 63 | 172 | 11 | 9 | 2 | 22 |
| | | Total | 24 | 18 | 148 | 28 | 126 | 344 | 22 | 18 | 4 | 44 |
| | Weekday PM | In | 35 | 25 | 217 | 40 | 187 | 504 | 31 | 19 | 1 | 51 |
| | | Out | 17 | 12 | 107 | 20 | 92 | 248 | 15 | 19 | 1 | 35 |
| | | Total | 52 | 37 | 324 | 60 | 279 | 752 | 46 | 38 | 2 | 86 |
| | Saturday | In | 24 | 17 | 148 | 28 | 128 | 345 | 21 | 17 | 1 | 39 |
| | | Out | 21 | 15 | 132 | 24 | 113 | 305 | 19 | 17 | 1 | 37 |
| | | Total | 45 | 32 | 280 | 52 | 241 | 650 | 40 | 34 | 2 | 76 |
| **Local Retail** | Weekday AM | In | 2 | 2 | 5 | 5 | 67 | 81 | 1 | 3 | 0 | 4 |
| | | Out | 2 | 2 | 5 | 5 | 67 | 81 | 1 | 3 | 0 | 4 |
| | | Total | 4 | 4 | 10 | 10 | 134 | 162 | 2 | 6 | 0 | 8 |
| | Weekday Midday | In | 10 | 15 | 31 | 31 | 424 | 511 | 6 | 16 | 1 | 23 |
| | | Out | 10 | 15 | 31 | 31 | 424 | 511 | 6 | 16 | 1 | 23 |
| | | Total | 20 | 30 | 62 | 62 | 848 | 1022 | 12 | 32 | 2 | 46 |
| | Weekday PM | In | 5 | 8 | 16 | 16 | 223 | 268 | 3 | 9 | 0 | 12 |
| | | Out | 5 | 8 | 16 | 16 | 223 | 268 | 3 | 9 | 0 | 12 |
| | | Total | 10 | 16 | 32 | 32 | 446 | 536 | 6 | 18 | 0 | 24 |
| | Saturday | In | 6 | 9 | 19 | 19 | 261 | 314 | 4 | 10 | 0 | 14 |
| | | Out | 6 | 9 | 19 | 19 | 261 | 314 | 4 | 10 | 0 | 14 |
| | | Total | 12 | 18 | 38 | 38 | 522 | 628 | 8 | 20 | 0 | 28 |
| **Destination Retail** | Weekday AM | In | 11 | 16 | 21 | 21 | 38 | 107 | 5 | 10 | 1 | 16 |
| | | Out | 7 | 10 | 14 | 14 | 24 | 69 | 3 | 10 | 1 | 14 |
| | | Total | 18 | 26 | 35 | 35 | 62 | 176 | 8 | 20 | 2 | 30 |
| | Weekday Midday | In | 29 | 44 | 58 | 58 | 102 | 291 | 15 | 29 | 1 | 45 |
| | | Out | 24 | 36 | 48 | 48 | 83 | 239 | 12 | 29 | 1 | 42 |
| | | Total | 53 | 80 | 106 | 106 | 185 | 530 | 27 | 58 | 2 | 87 |
| | Weekday PM | In | 25 | 37 | 50 | 50 | 87 | 249 | 12 | 29 | 0 | 41 |
| | | Out | 28 | 42 | 56 | 56 | 98 | 280 | 14 | 29 | 0 | 43 |
| | | Total | 53 | 79 | 106 | 106 | 185 | 529 | 26 | 58 | 0 | 84 |
| | Saturday | In | 50 | 63 | 76 | 84 | 147 | 420 | 25 | 42 | 0 | 67 |
| | | Out | 41 | 52 | 62 | 69 | 120 | 344 | 21 | 42 | 0 | 63 |
| | | Total | 91 | 115 | 138 | 153 | 267 | 764 | 46 | 84 | 0 | 130 |
| **Hotel** | Weekday AM | In | 12 | 25 | 33 | 4 | 63 | 137 | 9 | 27 | 2 | 38 |
| | | Out | 19 | 38 | 51 | 6 | 98 | 212 | 14 | 27 | 2 | 43 |
| | | Total | 31 | 63 | 84 | 10 | 161 | 349 | 23 | 54 | 4 | 81 |
| | Weekday Midday | In | 26 | 50 | 43 | 10 | 202 | 331 | 19 | 38 | 1 | 58 |
| | | Out | 23 | 42 | 37 | 8 | 172 | 282 | 16 | 38 | 1 | 55 |
| | | Total | 49 | 92 | 80 | 18 | 374 | 613 | 35 | 76 | 2 | 113 |
| | Weekday PM | In | 33 | 67 | 89 | 11 | 170 | 370 | 24 | 41 | 0 | 65 |
| | | Out | 18 | 36 | 48 | 6 | 92 | 200 | 13 | 41 | 0 | 54 |
| | | Total | 51 | 103 | 137 | 17 | 262 | 570 | 37 | 82 | 0 | 119 |
| | Saturday | In | 20 | 40 | 53 | 7 | 102 | 222 | 14 | 28 | 0 | 42 |
| | | Out | 16 | 31 | 42 | 5 | 80 | 174 | 11 | 28 | 0 | 39 |
| | | Total | 36 | 71 | 95 | 12 | 182 | 396 | 25 | 56 | 0 | 81 |
| **Medical Office – Staff** | Weekday AM | In | 17 | 2 | 34 | 8 | 7 | 68 | 15 | 1 | 0 | 16 |
| | | Out | 1 | 0 | 2 | 0 | 0 | 3 | 1 | 1 | 0 | 2 |
| | | Total | 18 | 2 | 36 | 8 | 7 | 71 | 16 | 2 | 0 | 18 |
| | Weekday Midday | In | 7 | 1 | 13 | 3 | 3 | 27 | 6 | 0 | 1 | 7 |
| | | Out | 7 | 1 | 13 | 3 | 3 | 27 | 6 | 0 | 1 | 7 |
| | | Total | 14 | 2 | 26 | 6 | 6 | 54 | 12 | 0 | 2 | 14 |
| | Weekday PM | In | 2 | 0 | 4 | 1 | 1 | 8 | 2 | 1 | 0 | 3 |
| | | Out | 16 | 1 | 32 | 7 | 7 | 63 | 14 | 1 | 0 | 15 |
| | | Total | 18 | 1 | 36 | 8 | 8 | 71 | 16 | 2 | 0 | 18 |
| | Saturday | In | 3 | 0 | 5 | 1 | 1 | 10 | 2 | 0 | 0 | 2 |
| | | Out | 3 | 0 | 5 | 1 | 1 | 10 | 2 | 0 | 0 | 2 |
| | | Total | 6 | 0 | 10 | 2 | 2 | 20 | 4 | 0 | 0 | 4 |

## Table 11-5 (cont'd)
## Trip Generation Summary: Mixed-Use RWCDS (RWCDS 2)

| Use | Peak Hour | In/Out | Person Trip | | | | | | Vehicle Trip | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Auto | Taxi | Subway | Bus | Walk | Total | Auto | Taxi | Delivery | Total |
| Medical Office - Visitors | Weekday AM | In | 14 | 14 | 16 | 6 | 6 | 56 | 9 | 10 | 0 | 19 |
| | | Out | 1 | 1 | 1 | 0 | 0 | 3 | 1 | 10 | 0 | 11 |
| | | Total | 15 | 15 | 17 | 6 | 6 | 59 | 10 | 20 | 0 | 30 |
| | Weekday Midday | In | 11 | 11 | 13 | 5 | 5 | 45 | 7 | 13 | 0 | 20 |
| | | Out | 11 | 11 | 13 | 5 | 5 | 45 | 7 | 13 | 0 | 20 |
| | | Total | 22 | 22 | 26 | 10 | 10 | 90 | 14 | 26 | 0 | 40 |
| | Weekday PM | In | 2 | 2 | 2 | 1 | 1 | 8 | 1 | 7 | 0 | 8 |
| | | Out | 11 | 11 | 13 | 5 | 4 | 44 | 7 | 7 | 0 | 14 |
| | | Total | 13 | 13 | 15 | 6 | 5 | 52 | 8 | 14 | 0 | 22 |
| | Saturday | In | 5 | 5 | 6 | 2 | 2 | 20 | 3 | 6 | 0 | 9 |
| | | Out | 5 | 5 | 6 | 2 | 2 | 20 | 3 | 6 | 0 | 9 |
| | | Total | 10 | 10 | 12 | 4 | 4 | 40 | 6 | 12 | 0 | 18 |
| Total | Weekday AM | In | 64 | 64 | 156 | 53 | 222 | 559 | 46 | 70 | 6 | 122 |
| | | Out | 70 | 80 | 320 | 71 | 402 | 943 | 56 | 70 | 6 | 132 |
| | | Total | 134 | 144 | 476 | 124 | 624 | 1502 | 102 | 140 | 12 | 254 |
| | Weekday Midday | In | 95 | 130 | 232 | 121 | 799 | 1377 | 64 | 106 | 6 | 176 |
| | | Out | 87 | 114 | 216 | 109 | 750 | 1276 | 58 | 106 | 6 | 170 |
| | | Total | 182 | 244 | 448 | 230 | 1549 | 2653 | 122 | 212 | 12 | 346 |
| | Weekday PM | In | 102 | 139 | 378 | 119 | 669 | 1407 | 73 | 106 | 1 | 180 |
| | | Out | 95 | 110 | 272 | 110 | 516 | 1103 | 66 | 106 | 1 | 173 |
| | | Total | 197 | 249 | 650 | 229 | 1185 | 2510 | 139 | 212 | 2 | 353 |
| | Saturday | In | 108 | 134 | 307 | 141 | 641 | 1331 | 69 | 103 | 1 | 173 |
| | | Out | 92 | 112 | 266 | 120 | 577 | 1167 | 60 | 103 | 1 | 164 |
| | | Total | 200 | 246 | 573 | 261 | 1218 | 2498 | 129 | 206 | 2 | 337 |

## Table 11-6
## Trip Generation Summary: Proposed Project (RWCDS 1)

| Use | Peak Hour | In/Out | Person Trip | | | | | | Vehicle Trip | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Auto | Taxi | Subway | Bus | Walk | Total | Auto | Taxi | Delivery | Total |
| Residential | Weekday AM | In | 11 | 8 | 66 | 12 | 57 | 154 | 10 | 30 | 4 | 44 |
| | | Out | 56 | 40 | 347 | 65 | 298 | 806 | 50 | 30 | 4 | 84 |
| | | Total | 67 | 48 | 413 | 77 | 355 | 960 | 60 | 60 | 8 | 128 |
| | Weekday Midday | In | 17 | 12 | 103 | 19 | 89 | 240 | 15 | 14 | 3 | 32 |
| | | Out | 17 | 12 | 103 | 19 | 89 | 240 | 15 | 14 | 3 | 32 |
| | | Total | 34 | 24 | 206 | 38 | 178 | 480 | 30 | 28 | 6 | 64 |
| | Weekday PM | In | 50 | 35 | 304 | 57 | 262 | 708 | 44 | 25 | 1 | 70 |
| | | Out | 24 | 17 | 150 | 28 | 129 | 348 | 22 | 25 | 1 | 48 |
| | | Total | 74 | 52 | 454 | 85 | 391 | 1056 | 66 | 50 | 2 | 118 |
| | Saturday | In | 34 | 24 | 208 | 39 | 179 | 484 | 30 | 23 | 1 | 54 |
| | | Out | 30 | 21 | 185 | 34 | 159 | 429 | 27 | 23 | 1 | 51 |
| | | Total | 64 | 45 | 393 | 73 | 338 | 913 | 57 | 46 | 2 | 105 |
| Local Retail | Weekday AM | In | 2 | 3 | 6 | 6 | 80 | 97 | 1 | 4 | 1 | 6 |
| | | Out | 2 | 3 | 6 | 6 | 80 | 97 | 1 | 4 | 1 | 6 |
| | | Total | 4 | 6 | 12 | 12 | 160 | 194 | 2 | 8 | 2 | 12 |
| | Weekday Midday | In | 12 | 18 | 37 | 37 | 509 | 613 | 7 | 20 | 1 | 28 |
| | | Out | 12 | 18 | 37 | 37 | 509 | 613 | 7 | 20 | 1 | 28 |
| | | Total | 24 | 36 | 74 | 74 | 1018 | 1226 | 14 | 40 | 2 | 56 |
| | Weekday PM | In | 6 | 10 | 19 | 19 | 268 | 322 | 4 | 10 | 0 | 14 |
| | | Out | 6 | 10 | 19 | 19 | 268 | 322 | 4 | 10 | 0 | 14 |
| | | Total | 12 | 20 | 38 | 38 | 536 | 644 | 8 | 20 | 0 | 28 |
| | Saturday | In | 8 | 11 | 23 | 23 | 314 | 379 | 5 | 12 | 0 | 17 |
| | | Out | 8 | 11 | 23 | 23 | 314 | 379 | 5 | 12 | 0 | 17 |
| | | Total | 16 | 22 | 46 | 46 | 628 | 758 | 10 | 24 | 0 | 34 |
| Total | Weekday AM | In | 13 | 11 | 72 | 18 | 137 | 251 | 11 | 34 | 5 | 50 |
| | | Out | 58 | 43 | 353 | 71 | 378 | 903 | 51 | 34 | 5 | 90 |
| | | Total | 71 | 54 | 425 | 89 | 515 | 1154 | 62 | 68 | 10 | 140 |
| | Weekday Midday | In | 29 | 30 | 140 | 56 | 598 | 853 | 22 | 33 | 4 | 59 |
| | | Out | 29 | 30 | 140 | 56 | 598 | 853 | 22 | 33 | 4 | 59 |
| | | Total | 58 | 60 | 280 | 112 | 1196 | 1706 | 44 | 66 | 8 | 118 |
| | Weekday PM | In | 56 | 45 | 323 | 76 | 530 | 1030 | 48 | 35 | 1 | 84 |
| | | Out | 30 | 27 | 169 | 47 | 397 | 670 | 26 | 35 | 1 | 62 |
| | | Total | 86 | 72 | 492 | 123 | 927 | 1700 | 74 | 70 | 2 | 146 |
| | Saturday | In | 42 | 35 | 231 | 62 | 493 | 863 | 35 | 35 | 1 | 71 |
| | | Out | 38 | 32 | 208 | 57 | 473 | 808 | 32 | 35 | 1 | 68 |
| | | Total | 80 | 67 | 439 | 119 | 966 | 1671 | 67 | 70 | 2 | 139 |

## D. 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 *CEQR* thresholds. If the results of this analysis show that the proposed project would generate 50 or more peak hour vehicle trips through an intersection, 50 or more peak hour bus riders on a bus route in a single direction, 200 or more peak hour subway passengers per station, or 200 or more peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, pedestrian, and parking impacts. For the proposed project, trips projected for the 2017 Build year, representing the maximum number of project-generated trips under the RWCDS, were allocated to the area's roadways, transit facilities, and pedestrian elements. The comparison of these trips to those of the No-Action condition formed the basis for identifying the various study areas for which detailed analyses of potential impacts would be prepared.

### TRAFFIC

As shown above, incremental vehicle trips resulting from the Mixed-Use RWCDS would exceed the *CEQR* Level 1 screening threshold during all peak hours. These vehicle trips were assigned to area intersections based on the most likely travel routes to and from the project site, prevailing travel patterns, commuter origin-destination summaries from the census data, the configuration of the roadway network, and the anticipated locations of site access and egress. For a conservative analysis, all auto trips were assigned to the on-site 500 space public parking garage with entrances on West 56th Street and West 57th Street between Eleventh Avenue and Route 9A. Taxi trips were assigned to the block faces bordering the project site. All delivery trips were assigned to dedicated loading area on West 56th Street via the New York City Department of Transportation (NYCDOT) designated truck routes.

Traffic assignments for autos, taxis, and deliveries for individual components are discussed as follows:

*AUTOS*

*Residential*

Residential auto assignments were based on the journey-to-work origin-destination information from the 2000 U.S. Census database. Based on this information, majority of residential trips would occur within Manhattan (approximately 99 percent) with the remaining trips being made to Brooklyn and New Jersey.

Overall, the vehicle trips generated by the residential component were distributed to the study area streets/roadways in the following manner: approximately 20 percent of project-generated vehicle trips were assumed to approach the project site from the north, 50 percent from the south, and the remaining 30 percent from the east. Reverse auto trips are expected to return along the same general routes on which they departed. As discussed above, all residential auto trips were assigned to the public parking garage proposed for the project site.

*Hotel*

Hotel auto trip assignments were split between the area's major transit hubs, and tourist, business, and shopping destinations. Specifically, approximately 60 percent of the hotel generated trips were assigned to the three major airports (JFK, LaGuardia and Newark Liberty International) and two railroad stations (Grand Central Terminal and Pennsylvania Station);

whereas, the remaining 40 percent of the trips were assigned to the tourist, business, and shopping destinations primarily in Manhattan.

Trips assigned to JFK and LaGuardia Airports were split between the Ed Koch Queensboro Bridge, the RFK Triboro Bridge and Queens-Midtown Tunnel via the FDR Drive, whereas the trips to Newark Liberty International Airport were assigned via the Lincoln Tunnel. Trips to Grand Central Terminal and Pennsylvania Station were assigned via major cross street and direct routes within the study area.

Overall, the vehicle trips generated by the hotel component were distributed to the study area streets/roadways in the following manner: approximately 15 percent of project generated trips were assumed to approach the project site from the north, 45 percent from the south, and the remaining 40 percent from the east.

*Destination Retail*

The destination retail component is expected to draw customers from within a three-mile radius of the project site; therefore, a majority of the auto trips are expected to come from within Manhattan (65 percent) with some trips expected to come from Brooklyn (30 percent) and Queens (five percent).

Overall, the vehicle trips generated by the destination retail component were distributed to the study area streets/roadways in the following manner: approximately 35 percent of project generated trips were assumed to approach the project site from the north, 35 percent from the south, and the remaining 30 percent from the east. Departing trips were assigned along the same routes as arrivals.

*Local Retail*

The local retail uses are expected to serve the immediate surrounding area. Therefore, auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas.

Overall, the vehicle trips generated by the local retail component were distributed to the study area streets/roadways in the following manner: approximately 35 percent of project generated trips were assumed to approach the project site from the north, 35 percent from the south, and the remaining 30 percent from the east. Departing trips were assigned along the same routes as arrivals.

*Medical Office - Staff*

Auto trips generated by the medical office use for staff were based on U.S. Census 2000 reverse journey-to-work data. Most of the staff trips would originate from Queens (29 percent) and within Manhattan (23 percent). The remaining trips would originate from New Jersey (17 percent), Brooklyn (10 percent), New York counties outside of the five boroughs (10 percent), the Bronx (6 percent), Long Island (3 percent), and Staten Island (2 percent).

Of the trips within Manhattan, approximately 70 percent were assigned from points east and south of the site, and the remaining 30 percent were assigned from points east and north. The majority of trips (80 percent) traveling from Queens and Long Island were assigned to the site via the Ed Koch Queensboro Bridge while the remaining trips were assigned from the Queens Midtown Tunnel. Trips from Brooklyn are expected to use East River crossings to enter Manhattan and will than approach the project site via the most direct routes available.

Overall, the vehicle trips generated by the medical office staff were distributed to the study area streets/roadway in the following manner: approximately 45 percent of project generated trips were assumed to approach the project site from the north, 35 percent from the south, and 20 percent from the east. Reverse trips are expected to depart along the same general routes on which they arrived. Medical office auto trips were assigned to the proposed on-site public parking garage.

*Medical Office - Visitors*

For medical office visitor trips, half of the trips were assigned locally to reflect neighborhood medical facilities (i.e. neighborhood physician's office, local medical clinic), and the remaining half were assigned more regionally—similar to destination retail—to account for specialist offices or other facilities that would draw trips from beyond the local area.

Overall, the vehicle trips generated by the medical office visitors were distributed to the study area streets/roadways in the following manner: approximately 35 percent of project generated trips were assumed to approach the project site from the north, 35 percent from the south, and the remaining 30 percent from the east.

*Taxis*

The majority of taxi pick-ups and drop-offs for all development components were assigned to pick up and drop off along the building frontages on West 56th Street, West 57th Street, and Eleventh Avenue.

*Deliveries*

Truck delivery trips for all land uses were assigned to NYCDOT-designated truck routes. Trucks were assigned to the study area from regional origins via the Lincoln Tunnel, Ed Koch Queensboro Bridge, West 57th Street, Eleventh Avenue, and Route 9A. Trucks were assigned along regional and local truck routes as long as possible until reaching the project site.

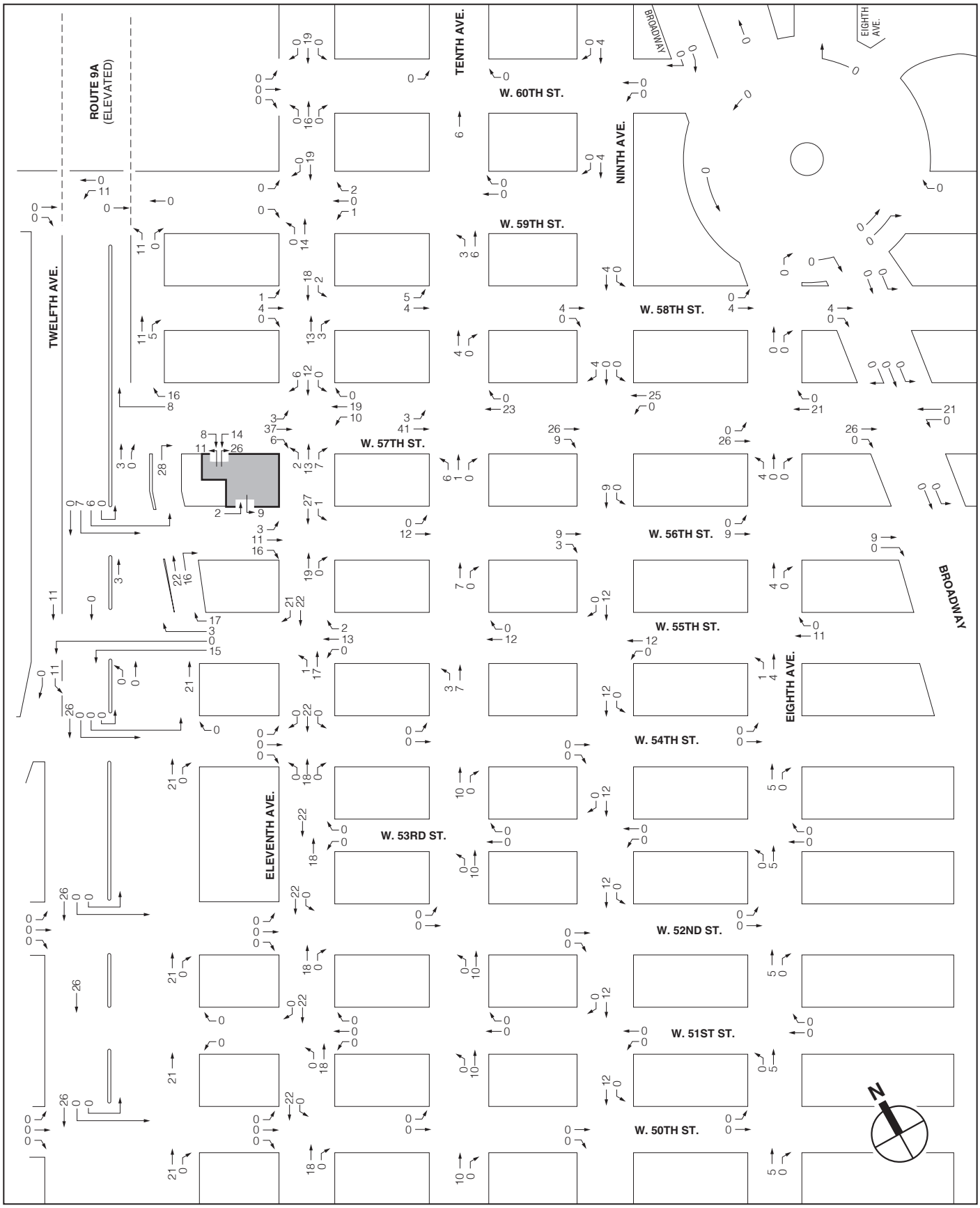
*On-Site Parking Displacement*

In the future with the proposed project, the existing 1,000 space parking garage would be replaced with either a 395 space or a 500 space below-grade public parking space garage. Vehicle trips associated with the parking demand that could no longer be accommodated within the on-site public parking garage were reassigned to other area public parking garages with available capacities. These reassignments are reflected in the overall vehicle trip increments developed for the Mixed Use RWCDS. For the purposes of a conservative traffic analysis, a 500 space parking garage would allow a greater number of existing parking patrons (and associated trips) to be retained in the study area. In comparison, a 395 space garage would result in a larger displacement of existing parking patrons which would potentially decrease the traffic levels at the study area intersections as the patrons seek parking in the broader area.

The total weekday AM, midday, PM, and Saturday peak hour vehicle trip increments are presented in **Figures 11-1, 11-2, 11-3 and 11-4**, respectively.

According to the *CEQR Technical Manual*, intersections expected to incur 50 or more incremental peak hour vehicle trips as a result of a proposed project would have the potential for significant adverse traffic impacts and should be assessed in a quantified traffic impact analysis. As depicted in **Figure 11-5**, the following 15 intersections, together comprising the traffic study area, are included for the weekday AM, midday, PM, and Saturday peak hour traffic impact analysis.

7.1.13



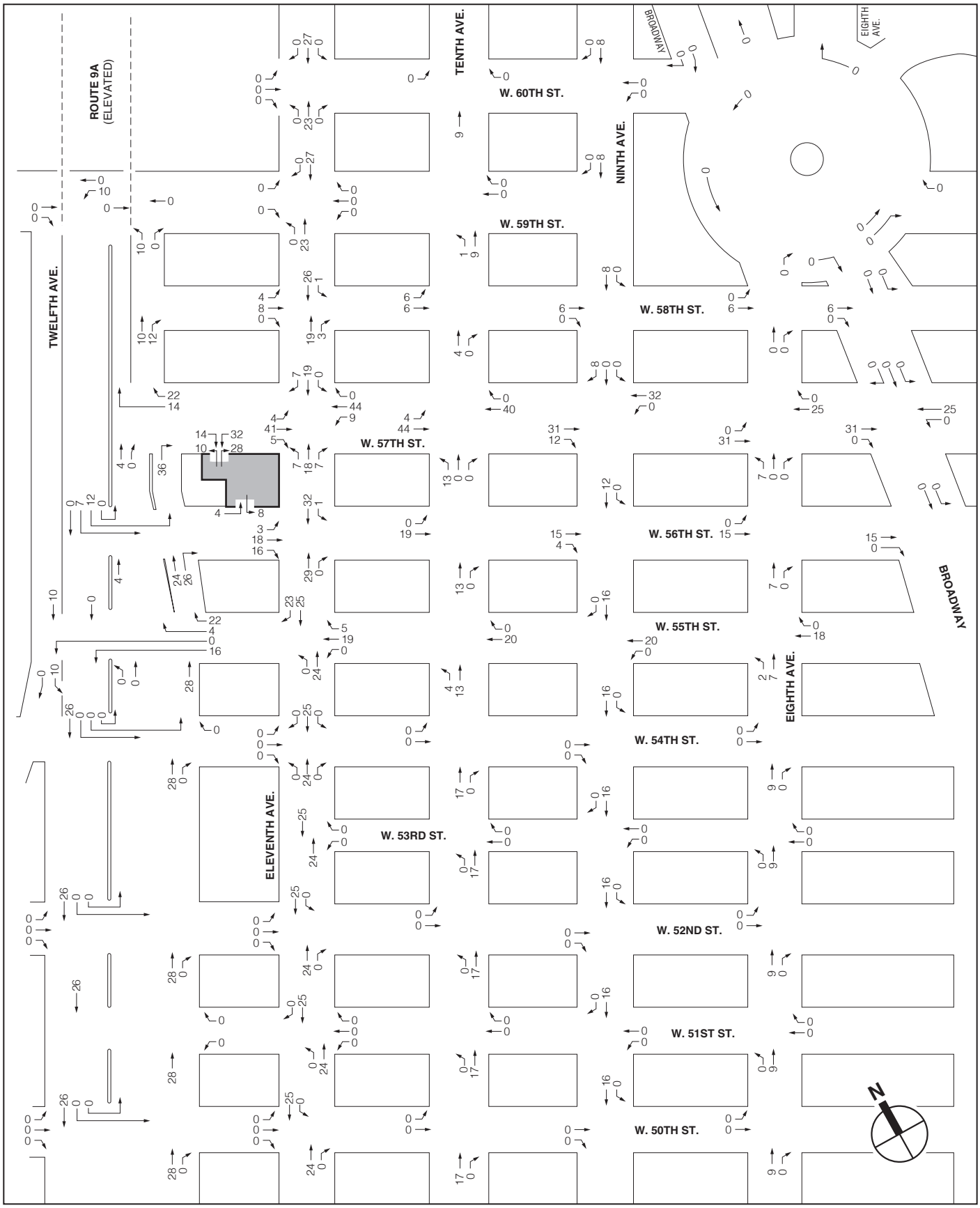

*Project Site*

Incremental Vehicle Trips
Weekday AM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-1**

7.1.13



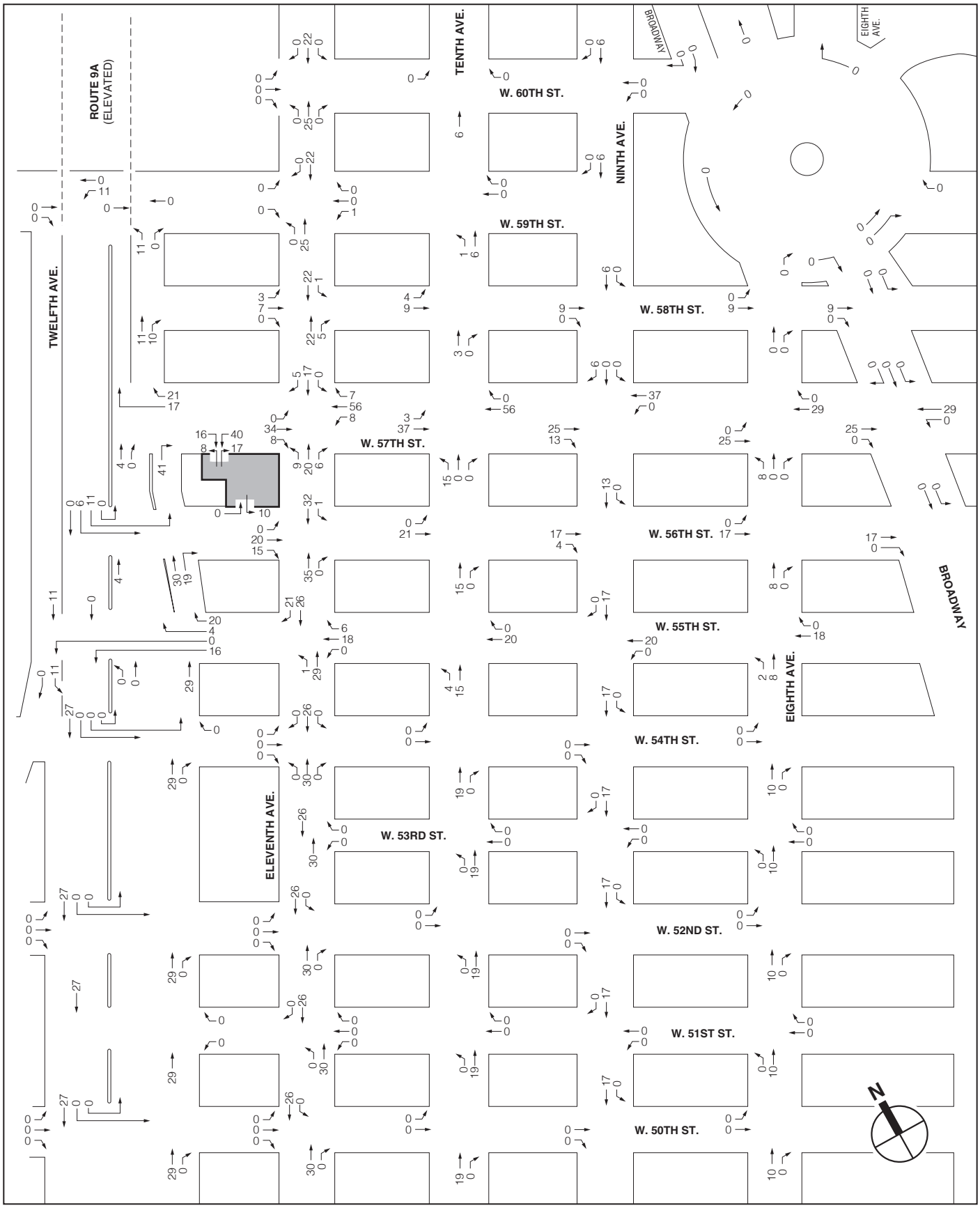

*Project Site*

Incremental Vehicle Trips
Weekday Midday Peak Hour

**606 WEST 57TH STREET**

**Figure 11-2**

7.1.13



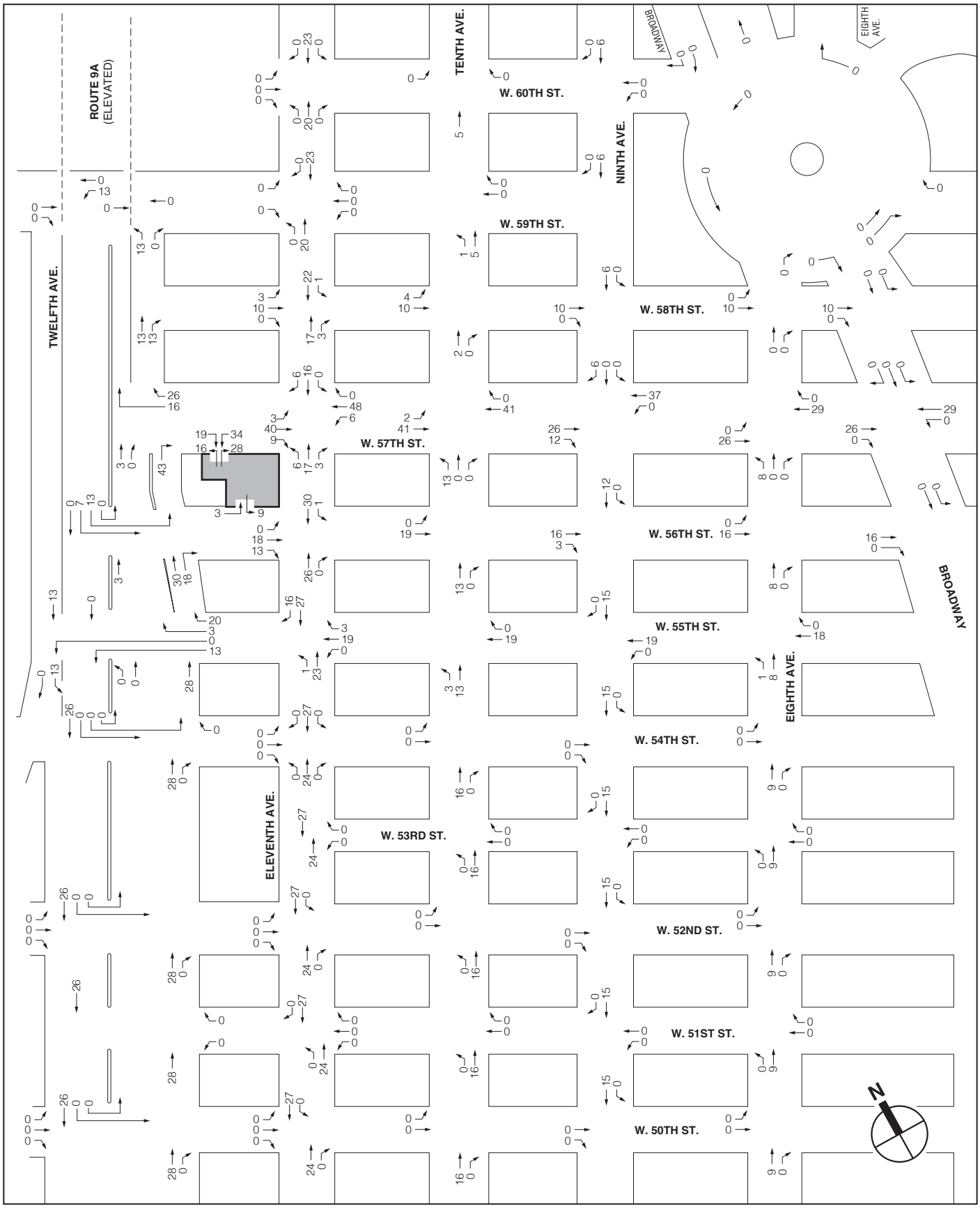

*Project Site*

Incremental Vehicle Trips
Weekday PM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-3**

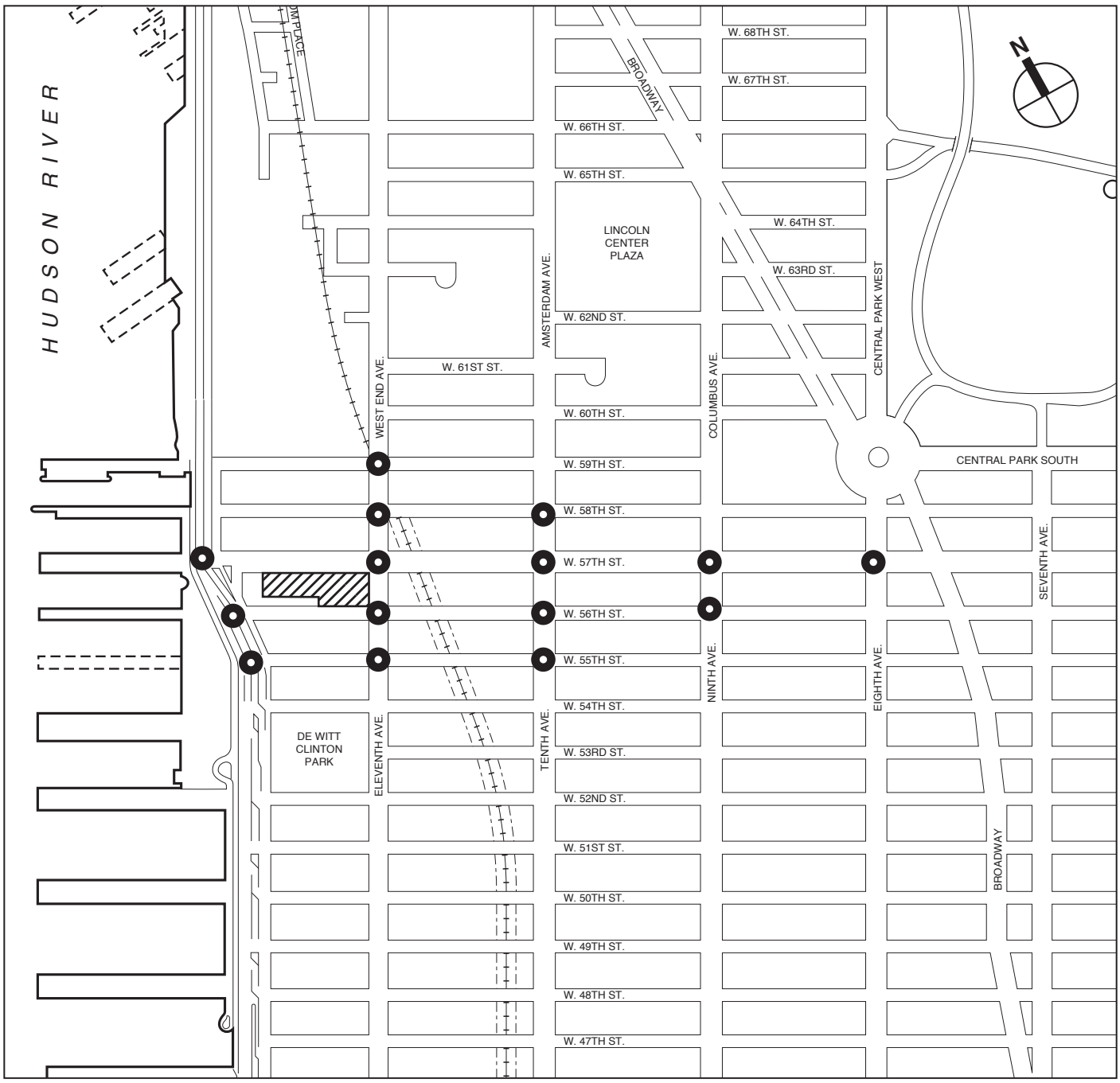
9.6.13




*Project Site*

Incremental Vehicle Trips
Saturday Peak Hour
**Figure 11-4**

**606 WEST 57TH STREET**




Traffic Analysis Locations

**Figure 11-5**

- Twelfth Avenue & West 57th Street;
- Twelfth Avenue & West 56th Street;
- Twelfth Avenue & West 55th Street;
- Eleventh Avenue & West 59th Street;
- Eleventh Avenue & West 58th Street;
- Eleventh Avenue & West 57th Street;
- Eleventh Avenue & West 56th Street;
- Eleventh Avenue & West 55th Street;
- Tenth Avenue & West 58th Street;
- Tenth Avenue & West 57th Street;
- Tenth Avenue & West 56th Street;
- Tenth Avenue & West 55th Street;
- Ninth Avenue & West 57th Street;
- Ninth Avenue & West 56th Street; and
- Eighth Avenue & West 57th Street.

*TRANSIT*

The proposed project site is located near two New York City Transit (NYCT) subway stations: the 57th Street at Seventh Avenue Station (N, Q, and R trains), and the 59th Street Columbus Circle Station (No. 1, A, B, C, and D trains). Subway lines at these stations provide convenient connections to other subway lines and the various railroad services at Penn Station. Therefore, most projected subway and rail trips are expected to be served by these stations. As summarized in **Table 11-5**, the Mixed-Use RWCDS is expected to generate 476, 448, 650, and 573 peak hour subway trips during the weekday AM, midday, and PM, and the Saturday peak hours, respectively. Although these trips would be distributed to the two nearby stations, given the level of transit trips, quantified analyses of affected subway elements at both stations for the weekday AM and PM peak hours would be necessary.

Additionally, the project generated subway trips were distributed to eight different subway lines (No. 1, A, B, C, D, N, Q, and R) serving the study area. The detailed subway trip assignments showed that all eight subway lines would incur fewer than 200 additional riders per line per direction during any analysis peak hours which is the *CEQR* analysis threshold to perform a quantified subway line-haul analysis. Therefore, it was determined that a detailed subway line-haul analysis is not warranted.

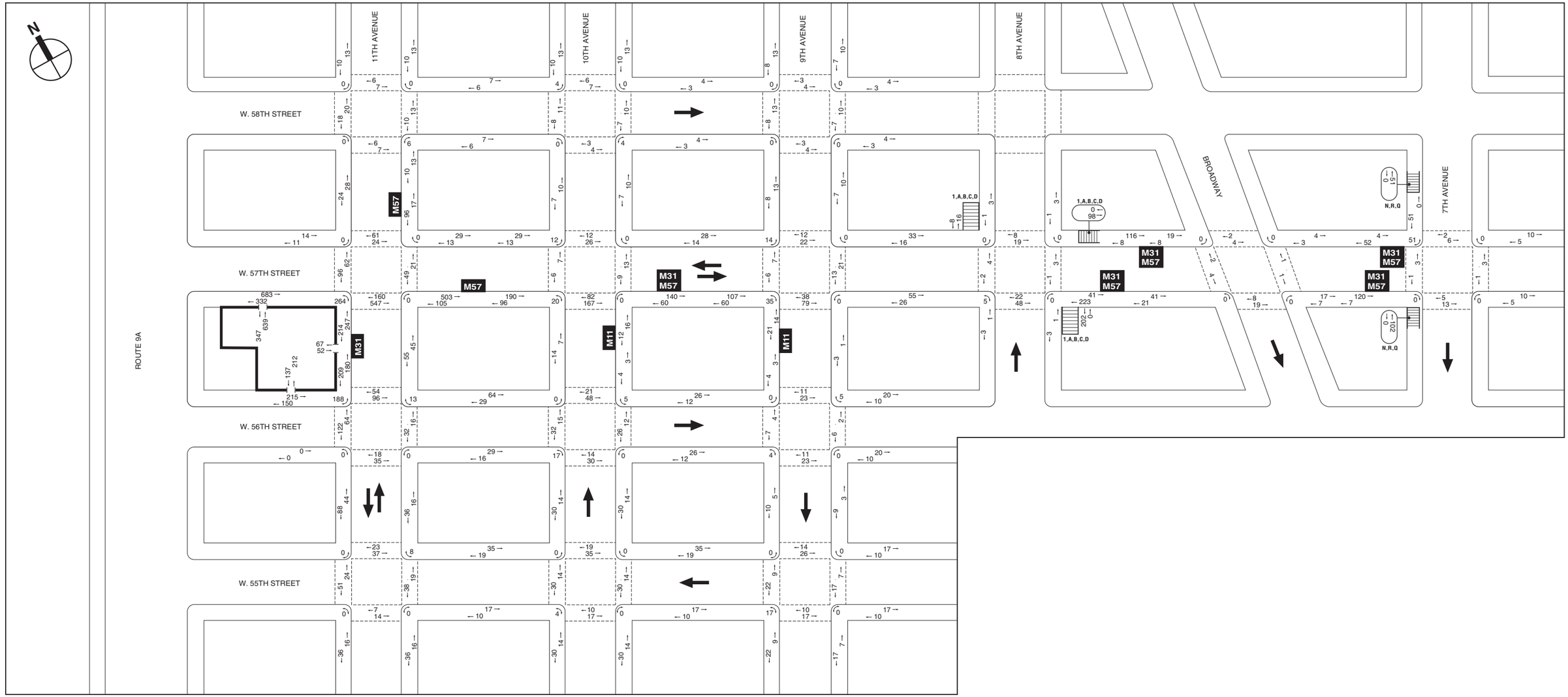
With regard to bus service, there are three local bus routes (M11, M31, and M57) with stops adjacent to or near the project site. As summarized in **Table 11-5**, the Mixed-Use RWCDS is expected to generate 124, 230, 229, and 261 bus trips during the weekday AM, midday, and PM, and the Saturday peak hours, respectively. In addition, there could be some cross-town subway-to-bus transfer trips from the two subway stations. Allocation of these trips to the bus routes serving the stops near the subway stations (i.e., M31 and M57) shows that these routes could incur 50 or more peak hour riders in a single direction. Therefore, quantified bus line-haul analysis of these routes was performed for potential bus impacts during the weekday AM and PM peak hours.

*PEDESTRIANS*

As shown in **Table 11-5**, the projected peak hour pedestrian trips would exceed the CEQR analysis threshold of 200 pedestrians during all peak hours. Level 2 pedestrian trip assignments were individually developed for all the proposed development components and are discussed as follows:

- Auto Trips – For the residential use, the motorists would have a direct access from the on-site parking to the building and would not occupy any sidewalks, crosswalks, or corners. For all other uses, motorists would park at the on-site parking facility and would than walk to-and-from the hotel lobby, local and destination retail establishments and medical office facilities.
- Taxi Trips – Taxi patrons would get dropped off and picked up along West 57th Street, West 56th Street, and Eleventh Avenue.
- Bus Trips – Bus riders would use the M11, M31, and M57 buses and would get on and off at the bus stops nearest to the project site.
- Subway Trips – Subway riders were assigned to the 57th Street at Seventh Avenue Station (N, Q, and R trains), and the 59th Street Columbus Circle Station (No. 1, A, B, C, and D trains). It is anticipated majority of the subway riders would transfer to the nearby buses to reach the project site.
- Walk-Only Trips – Pedestrian walk-only trip assignments were developed by distributing project-generated person trips to surrounding pedestrian facilities (i.e., sidewalks, corner reservoirs, and crosswalks) based on the origin and destination (OD) data as well as the land use characteristics and the population distribution of the surrounding neighborhood.

The pedestrian trip assignments are shown in **Figures 11-6 through 11-9**. Based on the above assignment of pedestrian trips and the Level 2 assessment criteria, 12 sidewalks, 6 crosswalks, and 19 corners were analyzed, as shown in **Figure 11-10** and summarized in **Table 11-7.**




NOT TO SCALE

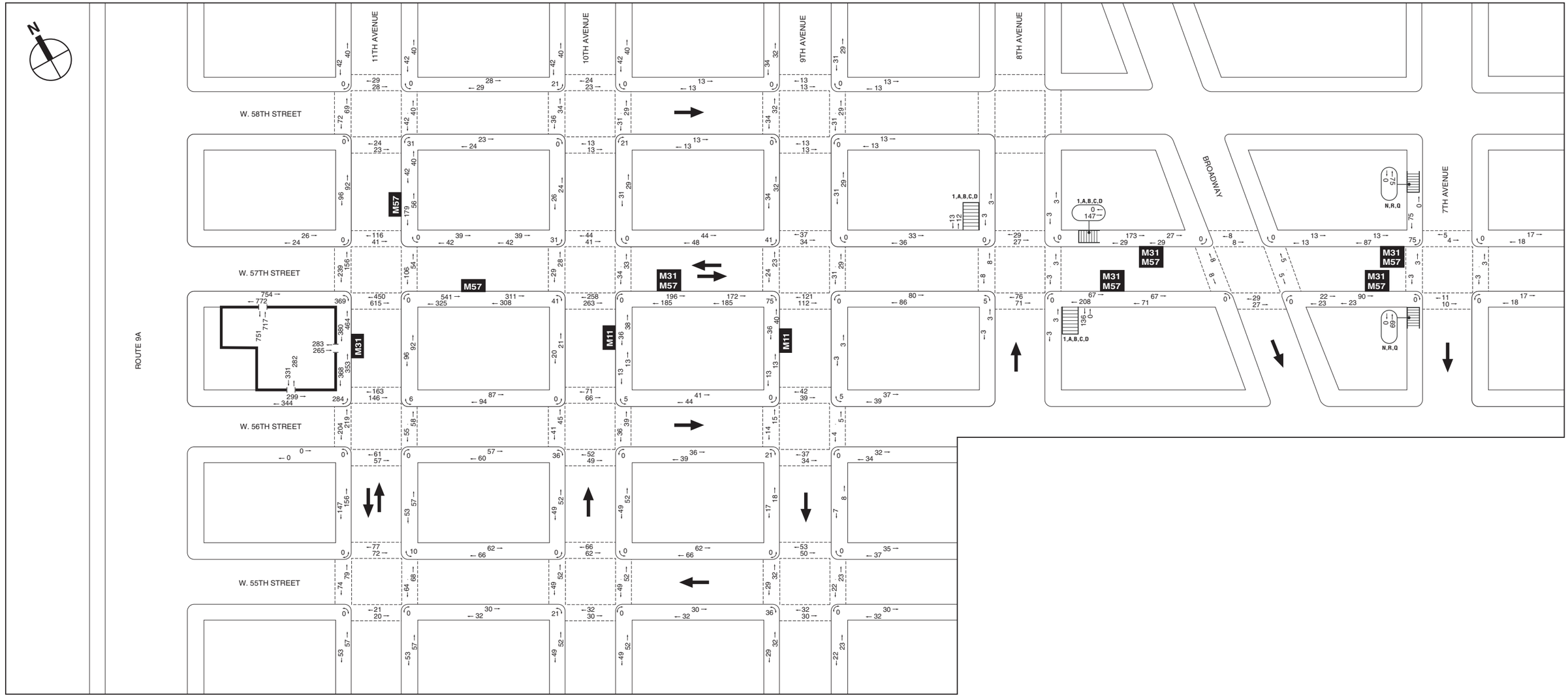
*Project Site*

*Subway Station Entrance*

M57 *Bus Stop*

**606 WEST 57TH STREET**

Project Generated Pedestrian Volumes
Weekday AM Peak Hour
**Figure 11-6**




NOT TO SCALE

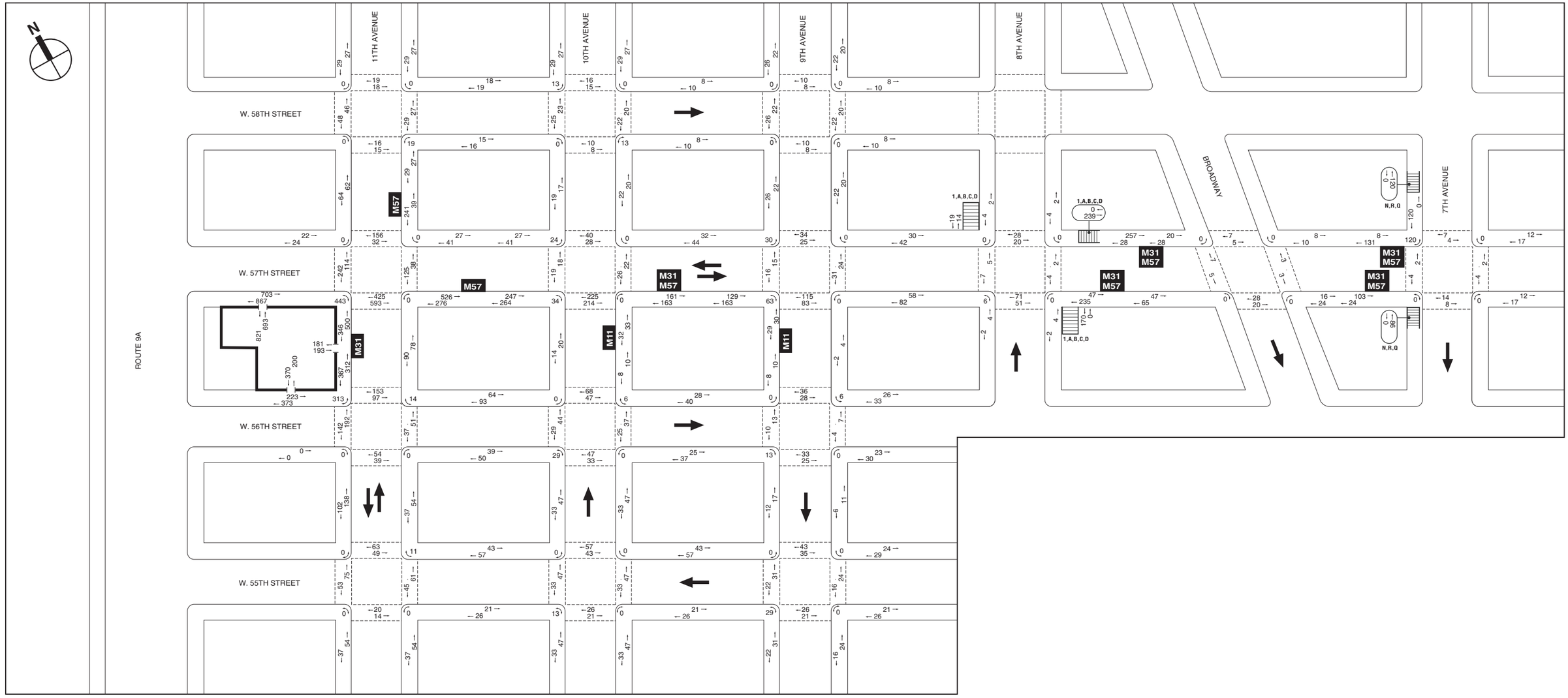
*Project Site*

*Subway Station Entrance*

M57 *Bus Stop*

**606 WEST 57TH STREET**

Project Generated Pedestrian Volumes
Weekday MD Peak Hour
**Figure 11-7**




NOT TO SCALE

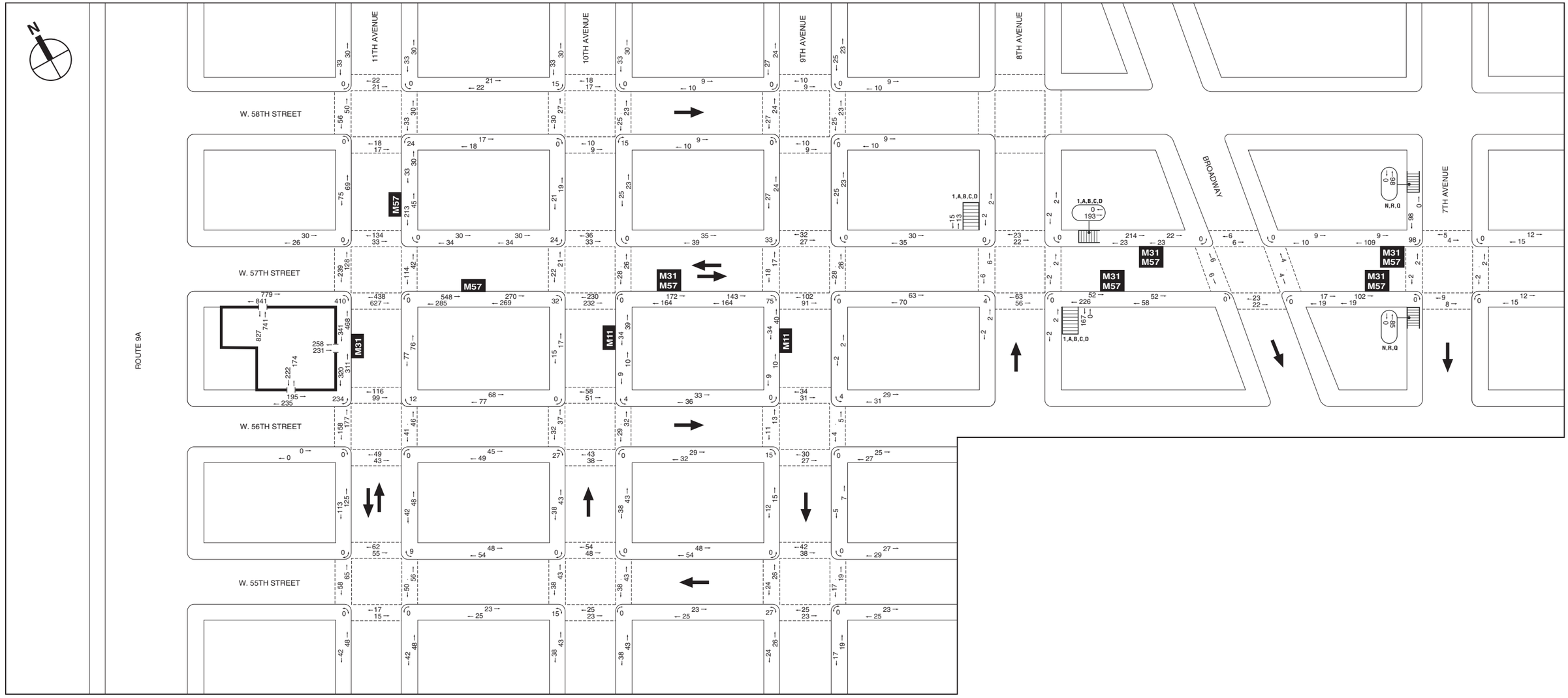
*Project Site*

*Subway Station Entrance*

M57 *Bus Stop*

**606 WEST 57TH STREET**

Project Generated Pedestrian Volumes
Weekday PM Peak Hour
**Figure 11-8**




NOT TO SCALE

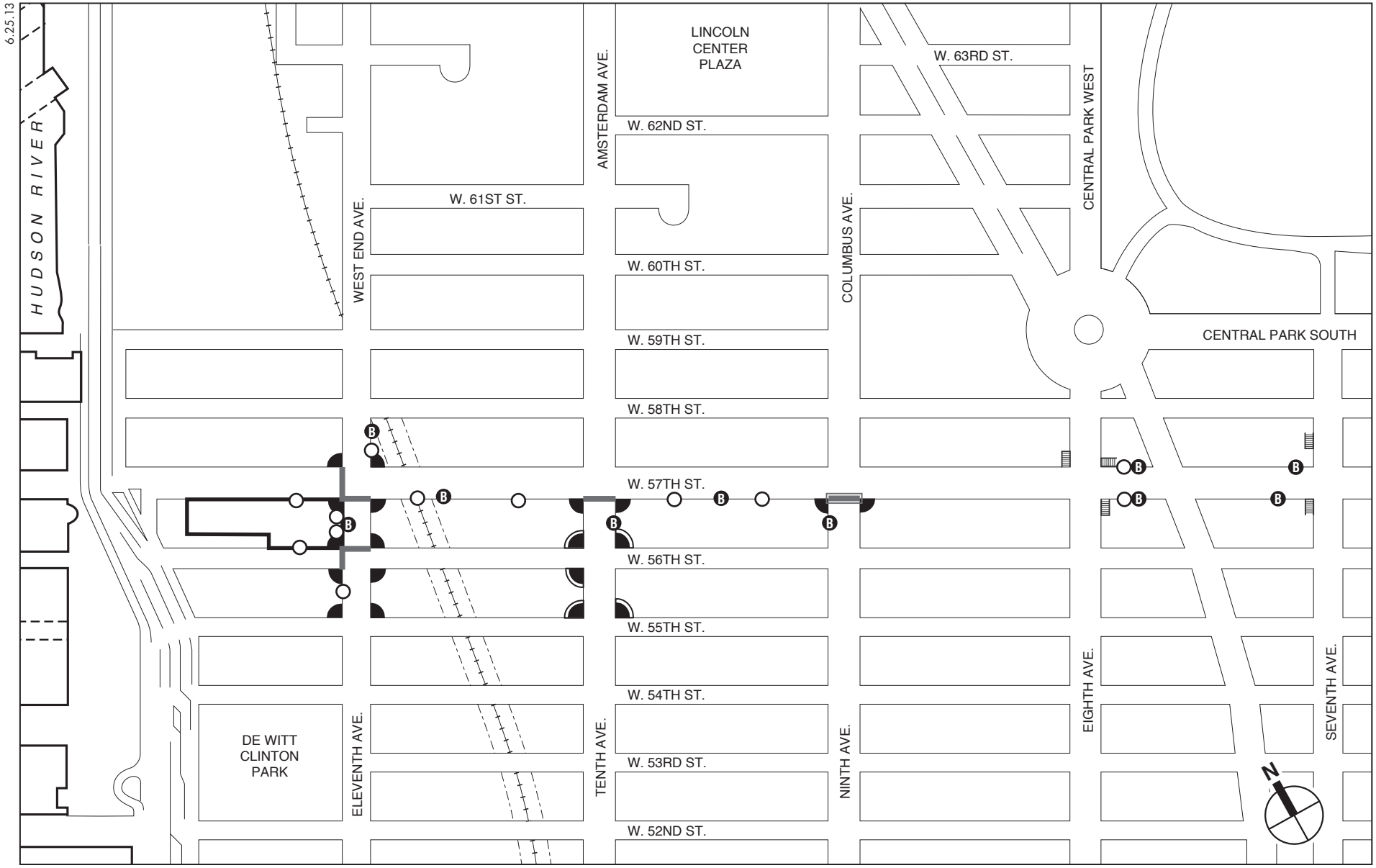
*Project Site*

*Subway Station Entrance*

M57 *Bus Stop*

Project Generated Pedestrian Volumes
Saturday Peak Hour

**Figure 11-9**




Pedestrian Analysis Locations

**Figure 11-10**

## Table 11-7
## Pedestrian Analysis Locations

| Pedestrian Elements | Weekday | | | | Saturday | |
|---|---|---|---|---|---|---|
| | AM | MD | PM | Analysis Location | Midday | Analysis Location |
| **8th Avenue and 57th Street** | | | | | | |
| North sidewalk between 8th Ave and Broadway (on 57th St) | 124 | **202** | **285** | ✓ | **237** | ✓ |
| South Sidewalk between 8th Ave and Broadway (on 57th St) | **264** | **275** | **282** | ✓ | **278** | ✓ |
| **9th Avenue and 57th Street** | | | | | | |
| South Crosswalk | 117 | **233** | 198 | ✓ | 193 | |
| Southeast Corner | 151 | **293** | **253** | ✓ | **247** | ✓ |
| Southwest Corner | 165 | **355** | **292** | ✓ | **303** | ✓ |
| South Sidewalk between 10th Ave and 9th Ave(on 57th St) | 167 | **357** | **292** | ✓ | **307** | ✓ |
| **10th Avenue and 57th Street** | | | | | | |
| South Crosswalk | **249** | **521** | **439** | ✓ | **462** | ✓ |
| Southeast Corner | **271** | **588** | **487** | ✓ | **516** | ✓ |
| Southwest Corner | **282** | **619** | **510** | ✓ | **537** | ✓ |
| South sidewalk between 10th Ave and 9th Ave (on 57th St) | **200** | **381** | **324** | ✓ | **336** | ✓ |
| South sidewalk between 11th Ave and 10th Ave(on 57th St) | **286** | **619** | **511** | ✓ | **539** | ✓ |
| **11th Avenue and 57th Street** | | | | | | |
| South Crosswalk | **707** | **1065** | **1018** | ✓ | **1065** | ✓ |
| West Crosswalk | 158 | **395** | **356** | ✓ | **367** | ✓ |
| Northeast Corner | 155 | **317** | **351** | ✓ | **323** | ✓ |
| Southeast Corner | **777** | **1225** | **1181** | ✓ | **1221** | ✓ |
| Southwest Corner | **1129** | **1829** | **1817** | | **1842** | ✓ |
| Northwest Corner | **243** | **552** | **544** | ✓ | **534** | ✓ |
| East sidewalk between 57th St and 58th St (on 11th Ave) | 113 | **235** | **280** | ✓ | **258** | ✓ |
| South sidewalk between 11th Ave and 10th Ave (on 57th St) | **608** | **866** | **802** | ✓ | **833** | ✓ |
| West sidewalk between 56th St and 57th St (on 11th Ave) | **461** | **844** | **846** | ✓ | **809** | ✓ |
| South sidewalk between R9A and 11th Ave (on 57th St) | **1015** | **1526** | **1570** | ✓ | **1620** | ✓ |
| **56th Street and 11th Avenue** | | | | | | |
| North Crosswalk | 150 | **309** | **250** | ✓ | **215** | ✓ |
| West Crosswalk | 186 | **423** | **334** | ✓ | **335** | ✓ |
| Northeast Corner | **211** | **428** | **352** | ✓ | **314** | ✓ |
| Southeast Corner | 101 | **231** | 181 | ✓ | 179 | |
| Southwest Corner | **239** | **541** | **427** | ✓ | **427** | ✓ |
| Northwest Corner | **524** | **1016** | **897** | ✓ | **784** | ✓ |
| West Sidewalk between 55th St and 56th St (on 11th Ave) | 132 | **303** | **240** | ✓ | **238** | ✓ |
| West Sidewalk between 56th St and 57th St (on 11th Ave) | **389** | **721** | **679** | ✓ | **631** | ✓ |
| North Sidewalk between R9A and 11th Ave (on 56th St) | **365** | **643** | **596** | ✓ | **430** | ✓ |
| **56th Street and 10th Avenue** | | | | | | |
| Northeast Corner | 112 | **217** | 183 | ✓ | 174 | |
| Southwest Corner | 108 | **223** | 182 | ✓ | 177 | |
| Northwest Corner | 116 | **223** | 188 | ✓ | 178 | |
| **55th Street and 11th Avenue** | | | | | | |
| Northeast Corner | 125 | **291** | **229** | ✓ | **232** | ✓ |
| Northwest Corner | 135 | **302** | **240** | ✓ | **240** | ✓ |
| **55th Street and 10th Avenue** | | | | | | |
| Northeast Corner | 98 | **229** | 180 | ✓ | 183 | |
| Northwest Corner | 98 | **229** | 180 | ✓ | 183 | |

**Notes:** ✓ denotes pedestrian elements selected for the detailed analysis.

# E. TRANSPORTATION ANALYSIS METHODOLOGIES

## TRAFFIC OPERATIONS

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

*SIGNALIZED INTERSECTIONS*

The average control delay per vehicle is the basis for LOS determination for individual lane groups (grouping of movements in one or more travel lanes), the approaches, and the overall intersection. The levels of service are defined in **Table 11-8**.

**Table 11-8**
**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 With Action

condition of 5 or more seconds of delay in a lane group over No Action levels beyond mid-LOS D. For No Action LOS E, a 4-second increase in delay is considered significant. For No Action LOS F, a 3-second increase in delay is considered significant. In addition, impacts are considered significant if levels of service deteriorate from acceptable A, B, or C in the No Action condition to marginally unacceptable LOS D (a delay in excess of 45 seconds, the midpoint of LOS D), or unacceptable LOS E or F in the With Action condition.

*UNSIGNALIZED INTERSECTIONS*

For unsignalized intersections, the average control delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS criteria for unsignalized intersections are summarized in **Table 11-9**.

**Table 11-9**
**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 With-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 is applied to account for counter-flow friction), surging of exiting pedestrians (up to 25 percent capacity reduction is 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 LOS for the operation of an element, as summarized in **Table 11-10**.

**Table 11-10**
**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* (February 2012).

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 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 11-11** are reached or exceeded.

**Table 11-11**
**Significant Impact Guidance for Stairs and Passageways**

| With 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*.

For escalators and control area elements, impacts are significant if the proposed project 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*

As per the *CEQR Technical Manual*, line-haul capacities are evaluated when a proposed project 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 project, 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 project 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 and the MTA Bus Company 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 No Action condition within guideline capacity to a With-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 2010 *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 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 11-12**. The *CEQR Technical Manual* specifies acceptable LOS in Central Business District (CBD) areas is mid-LOS D or better.

**Table 11-12**
**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*.

*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 With Action conditions. For different pedestrian elements, flow conditions, and area types, the CEQR procedure for impact determination corresponds with various sliding-scale formulas, as further detailed below.

*Sidewalks*

There are two sliding-scale formulas for determining significant sidewalk impacts. For non-platoon flow, the 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 With Action pedestrian flow exceeds LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 11-13** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

**Table 11-13**
**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)** | **With Action Ped. Flow Incr. (Y, PMF)** | **No Action Ped. Flow (X, PMF)** | **With Action Ped. Flow Incr. (Y, PMF)** | **No Action Ped. Flow (X, PMF)** | **With Action Ped. Flow Incr. (Y, PMF)** | **No Action Ped. Flow (X, PMF)** | **With Action Ped. Flow Incr. (Y, PMF)** |
| 7.5 to 7.8 | ≥ 2.6 | – | – | 3.5 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 | 10.4 to 11.0 | ≥ 2.2 | 6.3 to 7.0 | ≥ 2.2 | 6.4 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 | 10.3 to 11.0 | ≥ 1.7 | 10.3 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*.

*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 With Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD

areas. **Table 11-14** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant corner reservoir and crosswalk impacts.

**Table 11-14**
**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)** | **With Action Pedestrian Space Reduction (Y, SFP)** | **No Action Pedestrian Space (X, SFP)** | **With Action Pedestrian Space Reduction (Y, SFP)** |
| 25.8 to 26.6 | ≥ 2.6 | – | – |
| 24.9 to 25.7 | ≥ 2.5 | – | – |
| 24.0 to 24.8 | ≥ 2.4 | – | – |
| 23.1 to 23.9 | ≥ 2.3 | – | – |
| 22.2 to 23.0 | ≥ 2.2 | – | – |
| 21.3 to 22.1 | ≥ 2.1 | 21.3 to 21.5 | ≥ 2.1 |
| 20.4 to 21.2 | ≥ 2.0 | 20.4 to 21.2 | ≥ 2.0 |
| 19.5 to 20.3 | ≥ 1.9 | 19.5 to 20.3 | ≥ 1.9 |
| 18.6 to 19.4 | ≥ 1.8 | 18.6 to 19.4 | ≥ 1.8 |
| 17.7 to 18.5 | ≥ 1.7 | 17.7 to 18.5 | ≥ 1.7 |
| 16.8 to 17.6 | ≥ 1.6 | 16.8 to 17.6 | ≥ 1.6 |
| 15.9 to 16.7 | ≥ 1.5 | 15.9 to 16.7 | ≥ 1.5 |
| 15.0 to 15.8 | ≥ 1.4 | 15.0 to 15.8 | ≥ 1.4 |
| 14.1 to 14.9 | ≥ 1.3 | 14.1 to 14.9 | ≥ 1.3 |
| 13.2 to 14.0 | ≥ 1.2 | 13.2 to 14.0 | ≥ 1.2 |
| 12.3 to 13.1 | ≥ 1.1 | 12.3 to 13.1 | ≥ 1.1 |
| 11.4 to 12.2 | ≥ 1.0 | 11.4 to 12.2 | ≥ 1.0 |
| 10.5 to 11.3 | ≥ 0.9 | 10.5 to 11.3 | ≥ 0.9 |
| 9.6 to 10.4 | ≥ 0.8 | 9.6 to 10.4 | ≥ 0.8 |
| 8.7 to 9.5 | ≥ 0.7 | 8.7 to 9.5 | ≥ 0.7 |
| 7.8 to 8.6 | ≥ 0.6 | 7.8 to 8.6 | ≥ 0.6 |
| 6.9 to 7.7 | ≥ 0.5 | 6.9 to 7.7 | ≥ 0.5 |
| 6.0 to 6.8 | ≥ 0.4 | 6.0 to 6.8 | ≥ 0.4 |
| 5.1 to 5.9 | ≥ 0.3 | 5.1 to 5.9 | ≥ 0.3 |
| < 5.1 | ≥ 0.2 | < 5.1 | ≥ 0.2 |
| **Notes:** SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No-Action pedestrian space in SFP. | | | |
| **Sources:** New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*. | | | |

## VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

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

## PARKING CONDITIONS ASSESSMENT

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

mile study area, the study area could sometimes be extended to a ½ mile to identify additional parking supply.

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

## F. DETAILED TRAFFIC ANALYSIS

### 2013 EXISTING CONDITIONS

*ROADWAY NETWORK AND TRAFFIC STUDY AREA*

As detailed above in Section D, "Level 2 Screening Assessment," 15 key intersections in the study area were identified that would most likely be affected by project-generated traffic. The study area is typical of the Manhattan grid, composed of major north-south avenues and principal as well as minor east-west cross-streets. It is generally bounded by West 59th Street to the north, Eighth Avenue to the east, West 55th Street to the south, and Twelfth Avenue to the west. All of the study intersections are signalized except the intersection of the Twelfth Avenue service road and West 57th Street.

Twelfth Avenue acts as a service road for Route 9A. It mostly serves vehicles making a U-turn at West 59th Street to access facilities on southbound Route 9A such as the ship terminals, although it does serve some local traffic, including buses that lay over on West 59th Street between Eleventh and Twelfth Avenues.

Eleventh Avenue, which runs from 14th Street (where it continues south as West Street) to West 59th Street (where it continues north as West End Avenue), is a 70 foot wide, two-way arterial with two lanes in each direction, plus parking. Parking is typically restricted, especially southbound in the AM peak hour and northbound in the PM peak. The avenue provides left-turn lanes at most intersections south of West 66th Street.

Tenth and Ninth Avenues are one-way arterials with five to six lanes (including parking lanes). Tenth Avenue serves northbound traffic and continues as Amsterdam Avenue north of West 60th Street. Ninth Avenue serves southbound traffic and continues as Columbus Avenue north of West 60th Street.

Eighth Avenue is a northbound arterial roadway with four to six lanes of moving traffic, depending on parking regulations.

West 57th Street is a principal east-west cross street within the study area. It is approximately 60 feet wide with two travel lanes in each direction and parking on both sides of the street except at intersection approaches where there is a left turn bay. West 57th Street runs from Twelfth Avenue in the west to Sutton Place in the east.

West 58th Street is a local one-way eastbound cross street within the study area. It is approximately 34 feet wide with one travel lane and parking along both sides of the street, but parking is typically restricted to vehicles with special plates due to facilities such as the John Jay College of Criminal Justice and St. Luke's Hospital. Other study area local cross-town streets include West 59th Street, West 56th Street, and West 55th Street.

*TRAFFIC CONDITIONS*

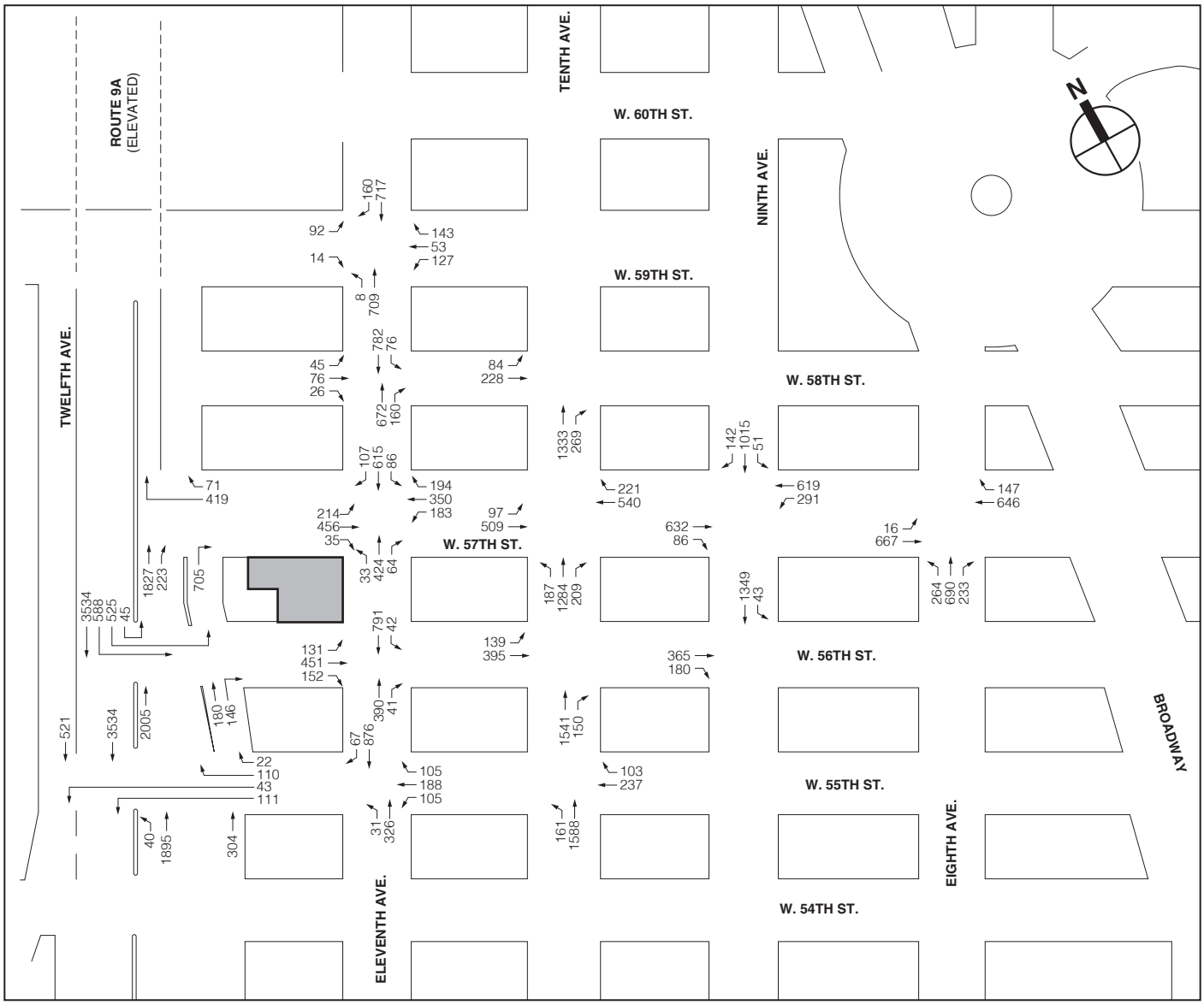
Traffic data were collected in March 2013 for the weekday AM, midday, and PM, and Saturday peak periods using manual intersection counts and 24-hour Automatic Traffic Recorder (ATR) machine counts. Peak period traffic volumes were developed based on a combination of manual intersection counts and ATR counts. The standard peak hours in Manhattan south of 110th Street generally occur from 8:00 to 9:00 AM, 12:00 PM to 1:00 PM, and 5:00 PM to 6:00 PM on for weekday conditions and from 3:00 PM to 4:00 PM for Saturday conditions. These peak hours were assumed for the traffic analysis purposes. The Proposed Project is also adjacent to an existing garage operated by the Department of Sanitation (DSNY). Traffic activities generated by the DSNY garage were accounted for in the baseline traffic networks.

In addition, inventories of roadway geometry, traffic controls, bus stops, and parking regulations/activities were recorded to provide appropriate inputs for the operational analyses. Official signal timings were also obtained from NYCDOT for use in the analysis of the study area signalized intersections. **Figures 11-11 to 11-14** show the 2013 existing traffic volumes for the weekday AM, midday, PM and Saturday peak hours, respectively.

During the traffic data collection, the curbside lane of the westbound approach at Twelfth Avenue and West 57th Street was blocked by construction. Therefore, this approach was analyzed with two right-turn lanes in the existing conditions, but was restored to three right-turn lanes in the No Action and With Action conditions analyses, as discussed below.

*LEVELS OF SERVICE*

**Tables 11-15** and **11-16** provide the existing levels of service for the study area intersections. Overall, 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 or fewer per vehicle for signalized intersections and 30 seconds or fewer per vehicle for unsignalized intersections) or better for the peak hours. Approaches/lane groups operating beyond mid-LOS D and those with v/c ratios of 0.90 or greater are listed below.

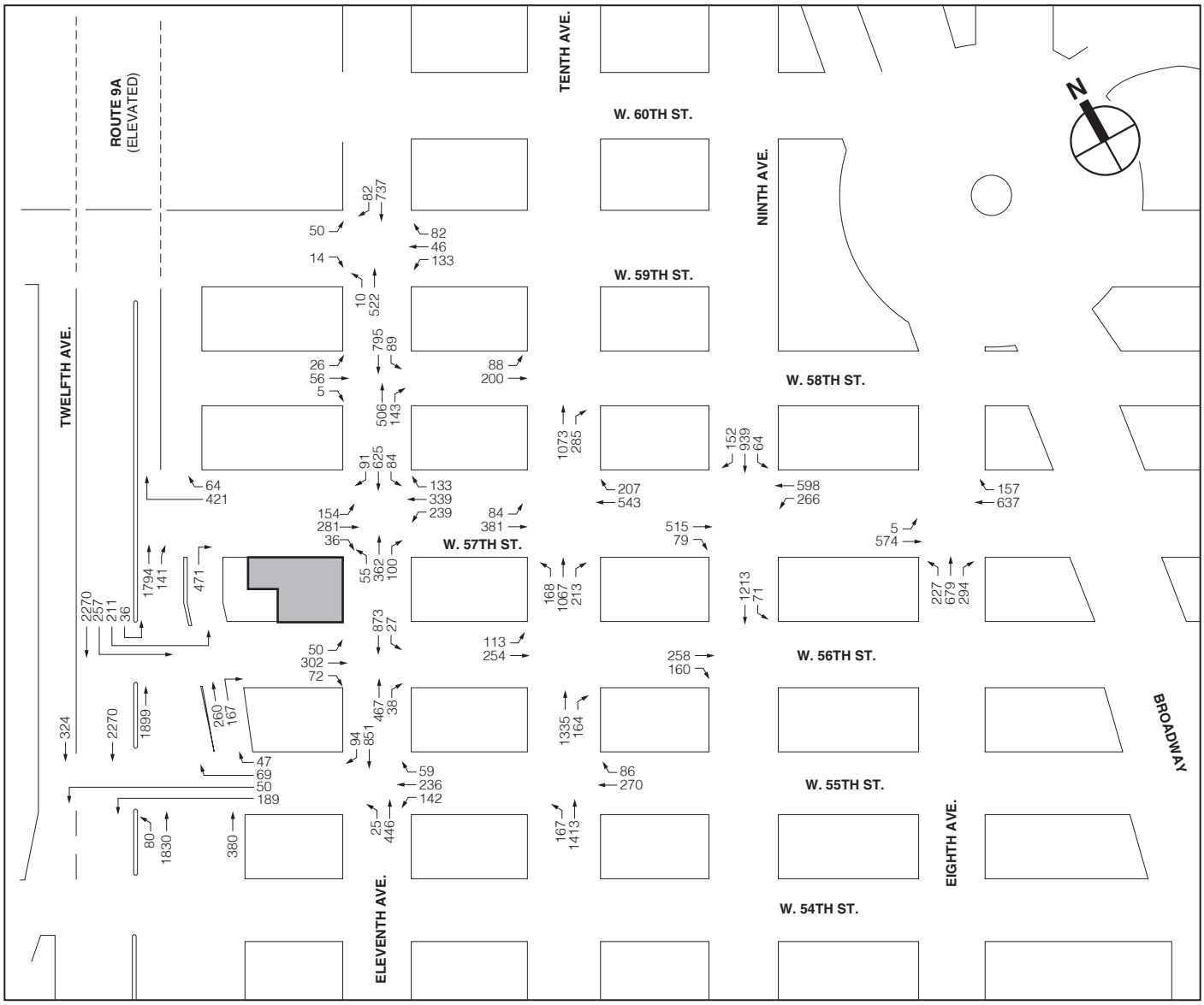



*Project Site*

2013 Existing Traffic Volumes
Weekday AM Peak Hour

**606 WEST 57TH STREET**

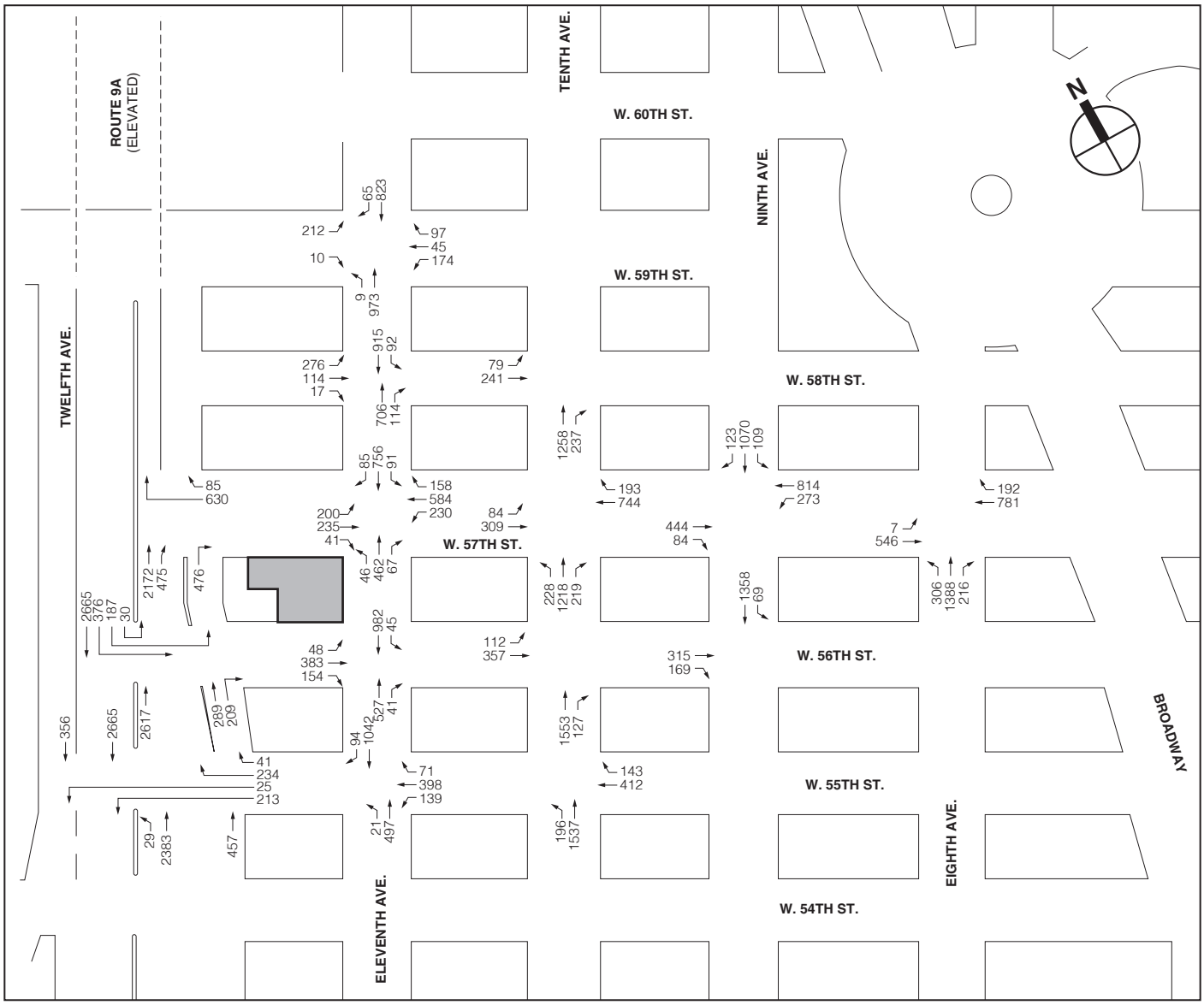
**Figure 11-11**




2013 Existing Traffic Volumes
Weekday Midday Peak Hour

**606 WEST 57TH STREET**

**Figure 11-12**

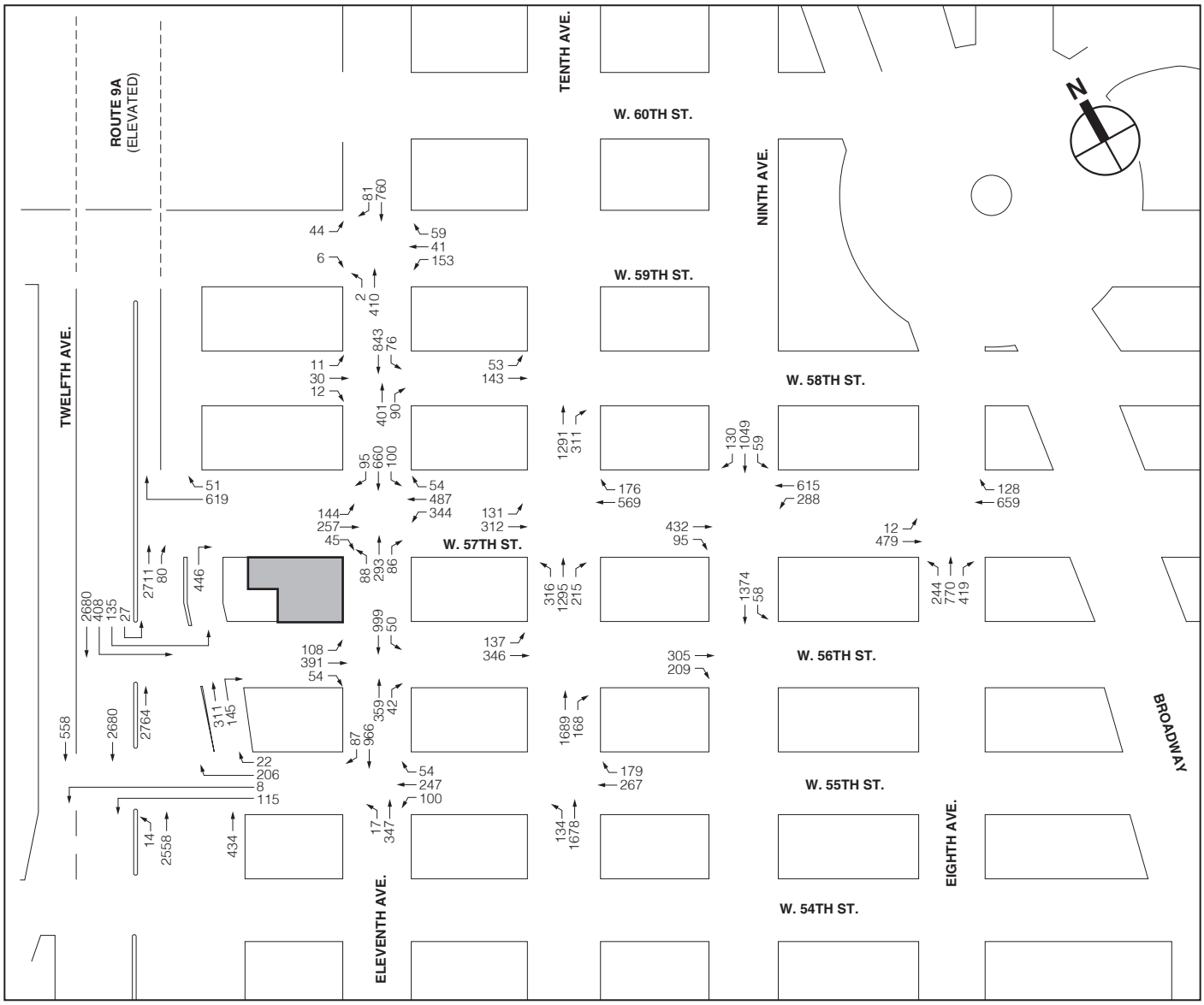



*Project Site*

2013 Existing Traffic Volumes
Weekday PM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-13**




*Project Site*

2013 Existing Traffic Volumes
Saturday Peak Hour

**606 WEST 57TH STREET**

**Figure 11-14**

## Table 11-15
## 2013 Existing Conditions Level of Service Analysis
## Signalized Intersections

| Intersection | Weekday AM | | | | Weekday Midday | | | | Weekday PM | | | | Saturday | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **12th Avenue (Route 9A) & West 57th Street** | | | | | | | | | | | | | | | | |
| WB | R | 0.67 | 41.1 | D | R | 0.87 | 57.3 | E | R | 1.05 | 104.0 | F | R | 1.05 | 92.4 | F |
| NB (Mainline) | T | 0.55 | 24.1 | C | T | 0.47 | 11.8 | B | T | 0.56 | 5.1 | A | T | 0.61 | 13.7 | B |
| | Int. | | 27.8 | C | Int. | | 20.7 | C | Int. | | 26.1 | C | Int. | | 29.6 | C |
| **12th Avenue (Route 9A) & West 56th Street** | | | | | | | | | | | | | | | | |
| NB (Mainline) | T | 0.78 | 37.1 | D | T | 0.52 | 9.0 | A | T | 0.69 | 5.8 | A | T | 0.68 | 11.2 | B |
| SB (Mainline) | L | 0.88 | 38.3 | D | L | 0.91 | 68.1 | E | L | 0.89 | 71.9 | E | L | 1.04 | 95.9 | F |
| NB (Service Road) | TR | 0.32 | 26.8 | C | TR | 0.27 | 7.0 | A | TR | 0.34 | 3.8 | A | TR | 0.26 | 6.9 | A |
| | Int. | | 36.5 | D | Int. | | 22.6 | C | Int. | | 16.3 | B | Int. | | 23.4 | C |
| **12th Avenue (Route 9A) & West 55th Street** | | | | | | | | | | | | | | | | |
| WB | L | 0.60 | 64.1 | E | L | 0.82 | 61.9 | E | L | 0.89 | 88.6 | F | L | 0.35 | 40.1 | D |
| | R | 0.32 | 53.8 | D | R | 0.25 | 37.8 | D | R | 0.64 | 62.3 | E | R | 0.40 | 40.2 | D |
| NB (Mainline) | L | 0.51 | 89.9 | F | L | 0.69 | 80.3 | F | L | 0.30 | 74.0 | E | L | 0.11 | 52.6 | D |
| | T | 0.46 | 8.8 | A | T | 0.52 | 11.2 | B | T | 0.59 | 2.6 | A | T | 0.67 | 13.4 | B |
| SB (Mainline) | T | 0.99 | 24.4 | C | T | 0.75 | 23.6 | C | T | 0.77 | 21.8 | C | T | 0.90 | 29.7 | C |
| NB (Service Road) | T | 0.26 | 7.4 | A | T | 0.40 | 10.6 | B | T | 0.46 | 3.0 | A | T | 0.43 | 11.0 | B |
| SB (Service Road) | T | 0.26 | 5.8 | A | T | 0.20 | 14.9 | B | T | 0.18 | 12.0 | B | T | 0.38 | 17.0 | B |
| | Int. | | 19.6 | B | Int. | | 20.7 | C | Int. | | 16.8 | B | Int. | | 21.7 | C |
| **11th Avenue & West 59th Street** | | | | | | | | | | | | | | | | |
| EB | LR | 0.54 | 32.3 | C | LR | 0.22 | 22.3 | C | LR | 0.99 | 81.5 | F | LR | 0.17 | 21.6 | C |
| WB | L | 0.30 | 23.2 | C | L | 0.30 | 23.3 | C | L | 0.41 | 25.2 | C | L | 0.38 | 24.6 | C |
| | TR | 0.45 | 25.8 | C | TR | 0.28 | 22.8 | C | TR | 0.32 | 23.4 | C | TR | 0.24 | 22.2 | C |
| NB | L | 0.03 | 9.8 | A | L | 0.05 | 9.9 | A | L | 0.06 | 10.2 | B | L | 0.01 | 9.5 | A |
| | T | 0.53 | 14.7 | B | T | 0.39 | 12.6 | B | T | 0.75 | 19.1 | B | T | 0.30 | 11.7 | B |
| SB | T | 0.49 | 13.8 | B | T | 0.50 | 13.9 | B | T | 0.63 | 16.3 | B | T | 0.57 | 15.0 | B |
| | R | 0.26 | 11.9 | B | R | 0.13 | 10.5 | B | R | 0.13 | 10.5 | B | R | 0.15 | 10.6 | B |
| | Int. | | 16.9 | B | Int. | | 15.1 | B | Int. | | 24.7 | C | Int. | | 15.6 | B |
| **11th Avenue & West 58th Street** | | | | | | | | | | | | | | | | |
| EB | LTR | 0.17 | 20.9 | C | LTR | 0.11 | 20.3 | C | LTR | 0.48 | 24.9 | C | LTR | 0.07 | 20.0- | B |
| NB | TR | 0.67 | 17.4 | B | TR | 0.50 | 14.1 | B | TR | 0.66 | 17.0 | B | TR | 0.36 | 12.3 | B |
| SB | L | 0.42 | 18.5 | B | L | 0.35 | 15.1 | B | L | 0.59 | 27.3 | C | L | 0.24 | 12.4 | B |
| | T | 0.61 | 15.9 | B | T | 0.58 | 15.3 | B | T | 0.74 | 19.0 | B | T | 0.64 | 16.4 | B |
| | Int. | | 17.1 | B | Int. | | 15.1 | B | Int. | | 19.6 | B | Int. | | 15.0 | B |
| **11th Avenue & West 57th Street** | | | | | | | | | | | | | | | | |
| EB | L | 0.90 | 65.4 | E | L | 0.61 | 26.8 | C | L | 1.05 | 98.6 | F | L | 0.64 | 28.5 | C |
| | TR | 0.62 | 30.4 | C | TR | 0.41 | 26.6 | C | TR | 0.41 | 26.6 | C | TR | 0.40 | 26.5 | C |
| WB | L | 0.77 | 44.8 | D | L | 0.80 | 42.2 | D | L | 0.75 | 37.1 | D | L | 1.05 | 91.2 | F |
| | TR | 0.80 | 37.9 | D | TR | 0.68 | 32.6 | C | TR | 1.03 | 70.9 | E | TR | 0.71 | 33.1 | C |
| NB | L | 0.25 | 19.5 | B | L | 0.35 | 21.6 | C | L | 0.39 | 24.6 | C | L | 0.66 | 38.2 | D |
| | TR | 0.51 | 19.5 | B | TR | 0.46 | 18.8 | B | TR | 0.50 | 19.2 | B | TR | 0.39 | 17.7 | B |
| SB | L | 0.40 | 21.7 | C | L | 0.35 | 20.3 | C | L | 0.45 | 24.0 | C | L | 0.39 | 20.8 | C |
| | TR | 0.72 | 24.5 | C | TR | 0.66 | 22.7 | C | TR | 0.81 | 28.0 | C | TR | 0.71 | 24.1 | C |
| | Int. | | 31.3 | C | Int. | | 26.3 | C | Int. | | 42.2 | D | Int. | | 34.2 | C |
| **11th Avenue & West 56th Street** | | | | | | | | | | | | | | | | |
| EB | LTR | 0.76 | 31.4 | C | LTR | 0.51 | 25.5 | C | LTR | 0.69 | 29.8 | C | LTR | 0.64 | 28.3 | C |
| NB | TR | 0.35 | 12.3 | B | TR | 0.39 | 12.7 | B | TR | 0.46 | 13.5 | B | TR | 0.34 | 12.1 | B |
| SB | L | 0.13 | 10.8 | B | L | 0.10 | 10.5 | B | L | 0.17 | 11.7 | B | L | 0.16 | 11.2 | B |
| | T | 0.56 | 14.8 | B | T | 0.64 | 16.2 | B | T | 0.65 | 16.5 | B | T | 0.68 | 17.2 | B |
| | Int. | | 20.3 | C | Int. | | 17.3 | B | Int. | | 19.0 | B | Int. | | 18.8 | B |
| **11th Avenue & West 55th Street** | | | | | | | | | | | | | | | | |
| WB | LTR | 0.61 | 31.5 | C | LTR | 0.80 | 38.8 | D | LTR | 0.83 | 40.4 | D | LTR | 0.58 | 30.4 | C |
| NB | L | 0.19 | 10.2 | B | L | 0.15 | 9.5 | A | L | 0.14 | 9.6 | A | L | 0.15 | 10.2 | B |
| | T | 0.26 | 8.9 | A | T | 0.34 | 9.6 | A | T | 0.31 | 9.3 | A | T | 0.24 | 8.7 | A |
| SB | TR | 0.56 | 12.1 | B | TR | 0.59 | 12.6 | B | TR | 0.68 | 14.4 | B | TR | 0.73 | 15.6 | B |
| | Int. | | 16.0 | B | Int. | | 18.5 | B | Int. | | 20.0 | C | Int. | | 17.3 | B |

## Table 11-15 (cont'd)
## 2013 Existing Conditions Level of Service Analysis
## Signalized Intersections

| Intersection | Weekday AM | | | | Weekday Midday | | | | Weekday PM | | | | Saturday | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **10th Avenue & West 58th Street** | | | | | | | | | | | | | | | | |
| EB | LT | 0.82 | 43.6 | D | LT | 0.84 | 44.9 | D | LT | 0.89 | 51.7 | D | LT | 0.53 | 29.0 | C |
| NB | TR | 0.53 | 13.3 | B | TR | 0.61 | 14.6 | B | TR | 0.46 | 12.3 | B | TR | 0.63 | 14.7 | B |
| | Int. | | 18.7 | B | Int. | | 20.5 | C | Int. | | 19.7 | B | Int. | | 16.4 | B |
| **10th Avenue & West 57th Street** | | | | | | | | | | | | | | | | |
| EB | - | - | - | - | - | - | - | - | - | - | - | - | DefL | 0.97 | 96.0 | F |
| | LT | 1.05 | 76.9 | E | LT | 1.00 | 64.8 | E | LT | 0.89 | 45.7 | D | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | T | 0.59 | 26.6 | C |
| WB | TR | 1.05 | 72.8 | E | TR | 0.97 | 51.2 | D | TR | 1.05 | 69.8 | E | TR | 0.81 | 32.0 | C |
| NB | LTR | 0.66 | 18.0 | B | LTR | 0.64 | 18.0 | B | LTR | 0.59 | 16.9 | B | LTR | 0.80 | 21.4 | C |
| | Int. | | 43.9 | D | Int. | | 37.2 | D | Int. | | 37.0 | D | Int. | | 27.6 | C |
| **10th Avenue & West 56th Street** | | | | | | | | | | | | | | | | |
| EB | LT | 1.05 | 81.9 | F | LT | 0.81 | 39.6 | D | LT | 0.91 | 49.6 | D | LT | 1.05 | 82.6 | F |
| NB | TR | 0.56 | 13.6 | B | TR | 0.68 | 15.7 | B | TR | 0.40 | 11.7 | B | TR | 0.69 | 15.9 | B |
| | Int. | | 35.6 | D | Int. | | 20.4 | C | Int. | | 20.0 | B | Int. | | 31.1 | C |
| **10th Avenue & West 55th Street** | | | | | | | | | | | | | | | | |
| WB | - | - | - | - | - | - | - | - | T | 1.01 | 74.0 | E | - | - | - | - |
| | TR | 0.71 | 34.3 | C | TR | 0.85 | 44.5 | D | - | - | - | - | TR | 1.00 | 72.2 | E |
| | - | - | - | - | - | - | - | - | R | 0.48 | 28.3 | C | - | - | - | - |
| NB | LT | 0.56 | 13.7 | B | LT | 0.60 | 14.3 | B | LT | 0.49 | 12.7 | B | LT | 0.65 | 15.1 | B |
| | Int. | | 17.1 | B | Int. | | 20.4 | C | Int. | | 26.0 | C | Int. | | 26.7 | C |
| **9th Avenue & West 57th Street** | | | | | | | | | | | | | | | | |
| EB | T | 1.05 | 83.8 | F | T | 0.87 | 47.9 | D | T | 0.79 | 42.4 | D | T | 0.67 | 36.4 | D |
| | R | 0.59 | 45.1 | D | R | 0.54 | 43.0 | D | R | 0.65 | 51.9 | D | R | 0.58 | 44.4 | D |
| WB | DefL | 1.05 | 90.4 | F | DefL | 0.95 | 59.0 | E | - | - | - | - | DefL | 0.86 | 41.2 | D |
| | - | - | - | - | - | - | - | - | LT | 1.05 | 65.9 | E | - | - | - | - |
| | T | 1.05 | 73.2 | E | T | 1.03 | 66.2 | E | - | - | - | - | T | 0.96 | 50.2 | D |
| SB | L | 0.18 | 22.0 | C | L | 0.25 | 23.3 | C | L | 0.40 | 26.7 | C | L | 0.27 | 24.0 | C |
| | TR | 0.65 | 26.6 | C | TR | 0.77 | 29.9 | C | TR | 0.57 | 25.1 | C | TR | 0.74 | 28.8 | C |
| | Int. | | 56.9 | E | Int. | | 44.9 | D | Int. | | 43.6 | D | Int. | | 36.7 | D |
| **9th Avenue & West 56th Street** | | | | | | | | | | | | | | | | |
| EB | TR | 1.05 | 80.0- | E | TR | 0.77 | 33.3 | C | TR | 0.93 | 50.7 | D | TR | 1.05 | 83.1 | F |
| SB | L | 0.08 | 9.6 | A | L | 0.15 | 12.7 | B | L | 0.20 | 13.7 | B | L | 0.07 | 9.4 | A |
| | T | 0.41 | 11.9 | B | T | 0.51 | 15.9 | B | T | 0.43 | 14.8 | B | T | 0.50 | 12.9 | B |
| | Int. | | 32.5 | C | Int. | | 20.2 | C | Int. | | 24.1 | C | Int. | | 31.1 | C |
| **8th Avenue & West 57th Street** | | | | | | | | | | | | | | | | |
| EB | LT | 0.80 | 31.7 | C | LT | 0.75 | 29.2 | C | LT | 0.67 | 26.6 | C | LT | 0.53 | 23.3 | C |
| WB | TR | 0.95 | 47.3 | D | TR | 0.95 | 46.2 | D | TR | 1.05 | 68.7 | E | TR | 0.90 | 38.2 | D |
| NB | LTR | 0.53 | 16.1 | B | LTR | 0.53 | 16.2 | B | LTR | 0.70 | 18.8 | B | LTR | 0.71 | 19.6 | B |
| | Int. | | 29.3 | C | Int. | | 28.8 | C | Int. | | 33.7 | C | Int. | | 25.8 | C |

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

## Table 11-16
## 2013 Existing Conditions Level of Service Analysis
## Unsignalized Intersections

| Intersection | Weekday AM | | | | Weekday Midday | | | | Weekday PM | | | | Saturday | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **12th Avenue (Route 9A) & West 57th Street** | | | | | | | | | | | | | | | | |
| NB (Service Road) | R | 0.72 | 16.6 | C | R | 0.54 | 12.5 | B | R | 0.57 | 12.7 | B | R | 0.50 | 11.8 | B |

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

*Twelfth Avenue*

- Westbound right-turn at the Twelfth Avenue and West 57th Street intersection (LOS E with a delay of 57.3 spv during the weekday midday peak hour; LOS F with a delay of 104.0 spv and a v/c ratio of 1.05 during the weekday PM peak hour; and LOS F with a delay of 92.4 spv and a v/c ratio of 1.05 during the Saturday peak hour);
- Southbound (mainline) left-turn at the Twelfth Avenue and West 56th Street intersection (LOS E with a delay of 68.1 spv and a v/c ratio of 0.91 during the weekday midday peak hour; LOS E with a delay of 71.9 spv during the weekday PM peak hour; and LOS F with a delay of 95.9 spv and a v/c ratio of 1.04 during the Saturday peak hour);
- Westbound left-turn at the Twelfth Avenue and West 55th Street intersection (LOS E with a delay of 64.1 spv during the weekday AM peak hour; LOS E with a delay of 61.9 spv during the weekday midday peak hour; and LOS F with a delay of 88.6 spv during the weekday PM peak hour);
- Westbound right-turn at the Twelfth Avenue and West 55th Street intersection (LOS D with a delay of 53.8 spv during the weekday AM peak hour; and LOS E with a delay of 62.3 spv during the weekday PM peak hour);
- Northbound (mainline) left-turn at the Twelfth Avenue and West 55th Street intersection (LOS F with a delay of 89.9 spv during the weekday AM peak hour; LOS F with a delay of 80.3 spv during the weekday midday peak hour; LOS E with a delay of 74.0 spv during the weekday PM peak hour; and LOS D with a delay of 52.6 spv during the Saturday peak hour);
- Southbound (mainline) through at the Twelfth Avenue and West 55th Street intersection (LOS C with a delay of 24.4 spv and a v/c ratio of 0.99 during the weekday AM peak hour; and LOS C with a delay of 29.7 spv and a v/c ratio of 0.90 during the Saturday peak hour);

*Eleventh Avenue*

- Eastbound approach at the Eleventh Avenue and West 59th Street intersection (LOS F with a delay of 81.5 spv and a v/c ratio of 0.99 during the weekday PM peak hour);
- Eastbound left-turn at the Eleventh Avenue and West 57th Street intersection (LOS E with a delay of 65.4 spv and a v/c ratio of 0.90 during the weekday AM peak hour; and LOS F with a delay of 98.6 spv and a v/c ratio of 1.05 during the weekday PM peak hour);
- Westbound left-turn at the Eleventh Avenue and West 57th Street intersection (LOS F with a delay of 91.2 spv and a v/c ratio of 1.05 during the Saturday peak hour);
- Westbound through/right-turn at the Eleventh Avenue and West 57th Street intersection (LOS E with a delay of 70.9 spv and a v/c ratio of 1.03 during the weekday PM peak hour);

*Tenth Avenue*

- Eastbound approach at the Tenth Avenue and West 58th Street intersection (LOS D with a delay of 51.7 spv weekday PM peak hour);
- Eastbound defacto left-turn at the Tenth Avenue and West 57th Street intersection (LOS F with a delay of 96.0 spv and a v/c ratio of 0.97 during the Saturday peak hour);
- Eastbound approach at the Tenth Avenue and West 57th Street intersection (LOS E with a delay of 76.9 spv and a v/c ratio of 1.05 during the weekday AM peak hour; LOS E with a delay of 64.8 spv and a v/c ratio of 1.00 during the weekday midday peak hour; and LOS D with a delay of 45.7 spv during the weekday PM peak hour);

- Westbound approach at the Tenth Avenue and West 57th Street intersection (LOS E with a delay of 72.8 spv and a v/c ratio of 1.05 during the weekday AM peak hour; LOS D with a delay of 51.2 spv and a v/c ratio of 0.97 during the weekday midday peak hour; and LOS E with a delay of 69.8 spv and a v/c ratio of 1.05 during the weekday PM peak hour);
- Eastbound approach at the Tenth Avenue and West 56th Street intersection (LOS F with a delay of 81.9 spv and a v/c ratio of 1.05 during the weekday AM peak hour; LOS D with a delay of 49.6 spv and a v/c ratio of 0.91 during the weekday PM peak hour; and LOS F with a delay of 82.6 spv and a v/c ratio of 1.05 during the Saturday peak hour);
- Westbound through at the Tenth Avenue and West 55th Street intersection (LOS E with a delay of 74.0 spv and a v/c ratio of 1.01 during the weekday PM peak hour);
- Westbound approach at the Tenth Avenue and West 55th Street intersection (LOS E with a delay of 72.2 spv and a v/c ratio of 1.00 during the Saturday peak hour);

*Ninth Avenue*

- Eastbound through at the Ninth Avenue and West 57th Street intersection (LOS F with a delay of 83.8 spv and a v/c ratio of 1.05 during the weekday AM peak hour; and LOS D with a delay of 47.9 spv during the weekday midday peak hour);
- Eastbound right-turn at the Ninth Avenue and West 57th Street intersection (LOS D with a delay of 45.1 spv during the weekday AM peak hour; and LOS D with a delay of 51.9 spv during the weekday PM peak hour);
- Westbound defacto left-turn at the Ninth Avenue and West 57th Street intersection (LOS F with a delay of 90.4 spv and a v/c ratio of 1.05 during the weekday AM peak hour; and LOS E with a delay of 59.0 spv and a v/c ratio of 0.95 during the weekday midday peak hour);
- Westbound approach at the intersection of Ninth Avenue and West 57th Street (LOS E with a delay of 65.9 spv and a v/c ratio of 1.05 during the weekday PM peak hour);
- Westbound through at the Ninth Avenue and West 57th Street intersection (LOS E with a delay of 73.2 spv and a v/c ratio of 1.05 during the weekday AM peak hour; LOS E with a delay of 66.2 spv and a v/c ratio of 1.03 during the weekday midday peak hour; and LOS D with a delay of 50.2 spv and a v/c ratio of 0.96 during the Saturday peak hour);
- Eastbound approach at the Ninth Avenue and West 56th Street intersection (LOS E with a delay of 80.0 spv and a v/c ratio of 1.05 during the weekday AM peak hour; LOS D with a delay of 50.7 spv and a v/c ratio of 0.93 during the weekday PM peak hour; and LOS F with a delay of 83.1 and a v/c ratio of 1.05 during the Saturday peak hour);

*Eighth Avenue*

- Westbound approach at the Eighth Avenue and West 57th Street intersection (LOS D with a delay of 47.3 spv and a v/c ratio of 0.95 during the weekday AM peak hour; LOS D with a delay of 46.2 spv and a v/c ratio of 0.95 during the weekday midday peak hour; LOS E with a delay of 68.7 spv and a v/c ratio of 1.05 during the weekday PM peak hour; and LOS D with a delay of 38.2 spv and a v/c ratio of 0.90 during the Saturday peak hour).

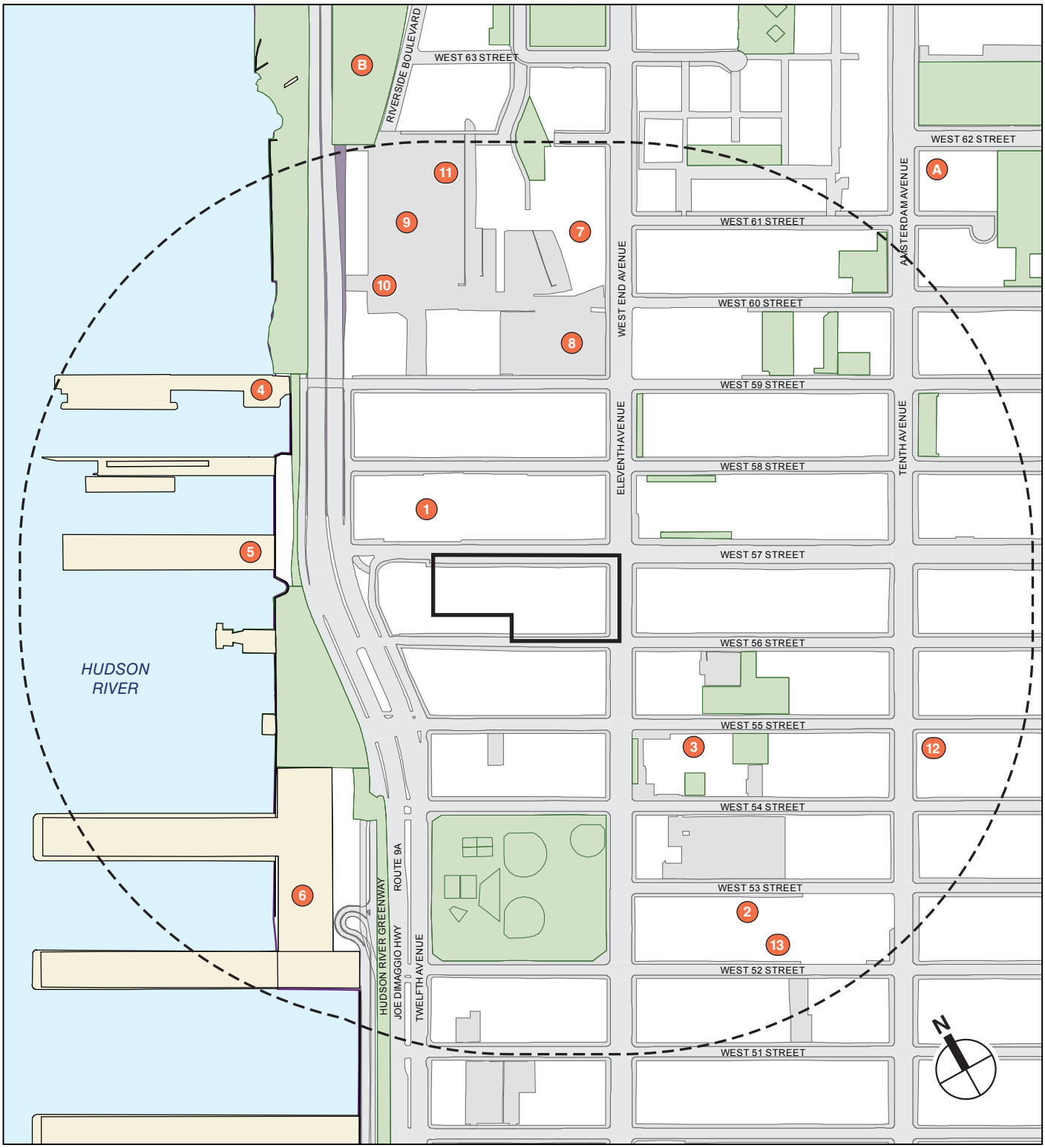
## THE FUTURE WITHOUT THE PROPOSED ACTIONS

The No Action condition was developed by increasing existing (2013) 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 years between 2013 and 2017. In addition, a total of 15 development projects expected to occur in the No Action condition

(No Action projects) were identified in coordination with the New York City Department of City Planning (DCP) as being planned for the study area (see **Figure 11-15**). However, many of these planned projects are modest in size and would be modest traffic generators. After reviewing the development programs for each of the 15 planned projects, it was determined that background growth will address the increase in traffic and pedestrian levels for 7 of the small- to moderate-sized projects in the study area. Person and vehicle trips generated by the remaining projects were then determined and incorporated into the No Action traffic analysis. **Table 11-17** summarize the projects that were accounted for in this future 2017 baseline, including those that were considered as part of the study area background growth.

**Table 11-17**
**Planned Projects Within or Near the Study Area by 2017**

| Map No. | Location | Description | Transportation Assumptions | With Action Year |
|---|---|---|---|---|
| **Within the ¼-mile study area** | | | | |
| 1 | 625 West 57th Street | Mixed-use building and conversion of existing buildings to residential and retail uses, totaling 863 dwelling units (151 affordable units),62,000 gsf of retail, 28,000 gsf community facility, and 285 accessory parking spaces | Transportation Assumptions from *625 West 57th Street FSEIS* (2012) | 2015 |
| 2 | 530-548 West 53rd Street | Residential development with 100 dwelling units | Included in background growth | 2013 |
| 3 | Harborview Terrace, 525 West 55th Street | Residential development with 320 dwelling units (mixed-income) and 37 accessory parking spaces | See project site 1, above | 2017 |
| 4 | Pier 99, West 59th Street on the Hudson River | Conversion of existing facility to accept commercial waste | Included in background growth | 2013 |
| 5 | Pier 97, West 57th Street on the Hudson River | 1-acre addition to Hudson River Park; active and passive recreation space; lawn and playground areas | Included in background growth | 2017 |
| 6 | Piers 92 and 94, between West 52nd and West 54th Streets on the Hudson River | Expansion of up to 40,000 square feet of trade show facility; conversion of portions of Pier 92 from passenger ship terminal to trade show space; new waterfront esplanade | Transportation assumptions from *Piers 92-94 Redevelopment EAS* | 2013 |
| 7 | Riverside Center Building 2 | Mixed-use Building with 446 dwelling units; 15,635 gsf retail; and a 151,598 gsf public school | Transportation assumptions from *Riverside Center FSEIS* (2010) | 2015 |
| 8 | Riverside Center Building 5 | Mixed-use Building with 455 dwelling units; 61,580 gsf retail; and a 250-room hotel | See project site 7, above | 2015 |
| 9 | Riverside Center Building 1 | Mixed-use Building with 809 dwelling units; 104,432 gsf retail; and 25,233 gsf retail | See project site 7, above | 2016 |
| 10 | Riverside Center open space | 2.75 acres of passive and active open space | Included in background growth | 2017 |
| 11 | 40 Riverside Boulevard | Mixed-use Building with 520 dwelling units; 4,581 gsf office space; 7,168 gsf retail; and 535 parking spaces | Trip rates and temporal distribution from the *CEQR Technical Manual*; Modal split and vehicle occupancy from U.S. Bureau of the Census, 2007-2011 American Community Survey (ACS) estimates; directional distribution from *625 West 57th Street FSEIS* (2012) | 2014 |




606 WEST 57TH STREET

2017 No Build Projects
**Figure 11-15**

**Table 11-17 (cont'd)**
**Planned Projects Within or Near the Study Area by 2017**

| Map No. | Location | Description | Transportation Assumptions | With Action Year |
|---|---|---|---|---|
| **Within the ¼-mile study area** | | | | |
| 12 | 824 Tenth Avenue | Expansion of existing store from 1,000 gsf to 2,800 gsf | Included in background growth | 2017 |
| 13 | 533-541 West 52nd Street | Residential development with 100 units | Included in background growth | 2013 |
| **Adjacent to the ¼-mile study area** | | | | |
| A | Fordham Center Master Plan, Phase 1 | Mixed use development with 876 residential units, 382,667 sf academic space, and 695-bed student dormitory; and 205 parking spaces | Transportation assumptions from *Fordham University Lincoln Center Master Plan FEIS* (2009) | 2014 |
| B | Riverside Park South, between Route 9A and Riverside Blvd from West 61st to West 65th Street | Expansion of park with 9.6 acres of passive and active open space | Included in background growth | 2017 |
| **Sources:** AKRF, Inc. site visit March 2013; *Riverside Center FSEIS,* October 2010; *625 West 57th Street FSEIS*, December 2012; NYC Department of Buildings; NYC Department of City Planning | | | | |

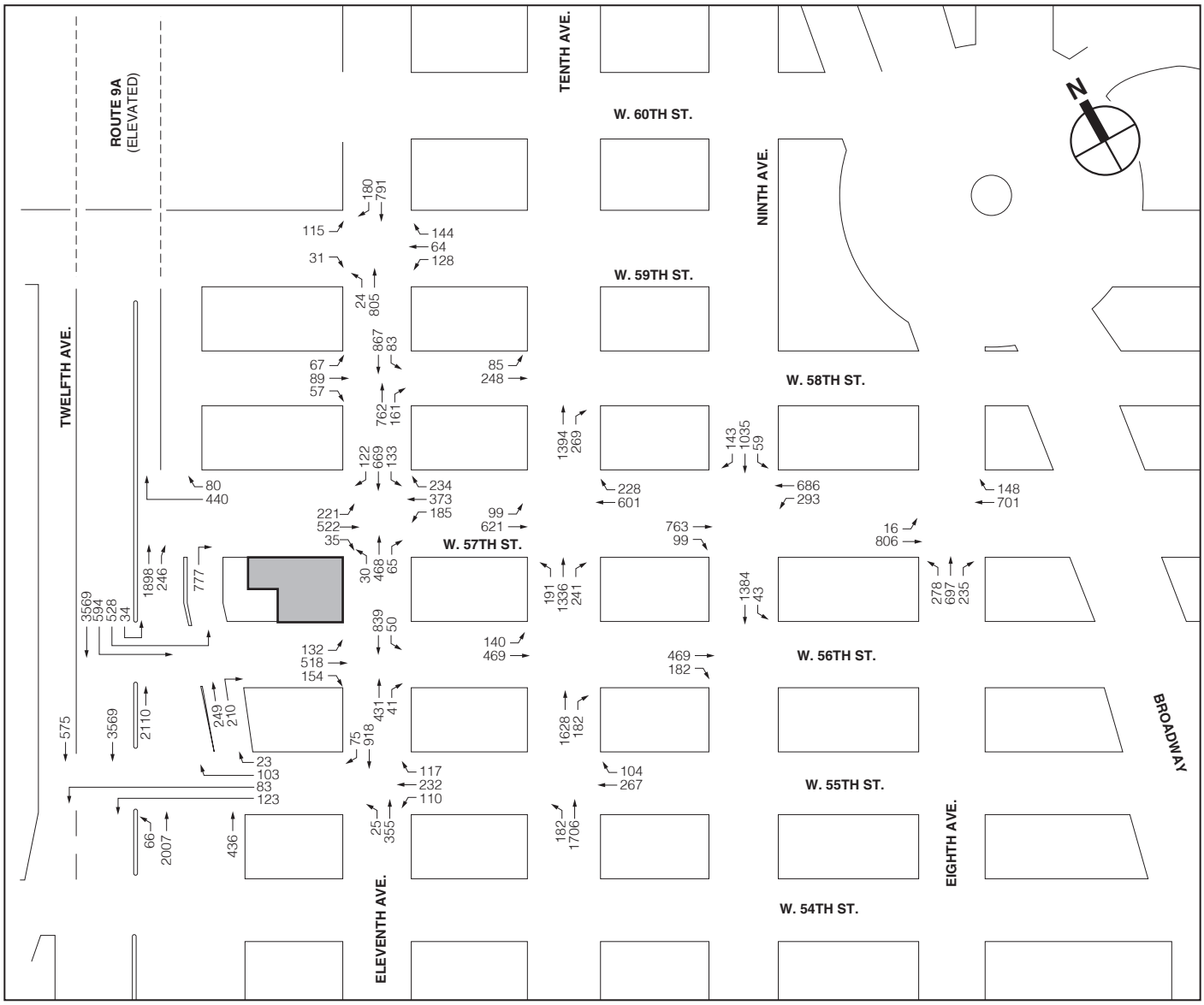
In addition, the New York City Department of Housing Preservation and Development (HPD) has proposed rezoning portions of two blocks bounded by West 53rd Street, Tenth Avenue, West 51st Street and Eleventh Avenue. Combined, these two blocks could be developed with residential, commercial and community facility uses. The development program for the proposed rezoning has not been finalized. Once the development program is finalized, if warranted, the trips expected to be generated by the proposed rezoning would be incorporated in the No Action traffic analysis for the FEIS.

*TRAFFIC OPERATIONS*

The No Action condition traffic volumes are shown in **Figures 11-16** to **11-19** for the weekday AM, midday, PM, and Saturday peak hours. The No Action condition traffic volumes were constructed by layering on top of the existing traffic volumes with background growth, the trips generated by the discrete No Action projects in the area. **Tables 11-18 and 11-19** show an overall comparison of traffic levels of service for existing and No Action conditions.

Mitigation measures described in the *Riverside Center FSEIS* for the intersections of Twelfth Avenue at West 57th Street, Twelfth Avenue at West 56th Street, Eleventh Avenue at West 59th Street, and Ninth Avenue at West 57th Street were also incorporated into the No Action and With Action traffic analyses. Between DEIS and FEIS the expected dates of completion for the Riverside Center project components will be confirmed, and the timing for the implementation of traffic mitigation measures will be considered. Based on the construction schedule and traffic mitigation implementation plan, if any changes to traffic analysis are required, those would be addressed in the FEIS.

In addition, as mentioned above in the "2013 Existing Conditions" section, during the traffic data collection, the curbside lane of the westbound approach at Twelfth Avenue and West 57th Street was blocked by construction. Therefore, this approach was analyzed as consisting of 2 right-turn lanes in the existing conditions, but was restored to 3 right-turn lanes in the No Action and With Action conditions analyses.

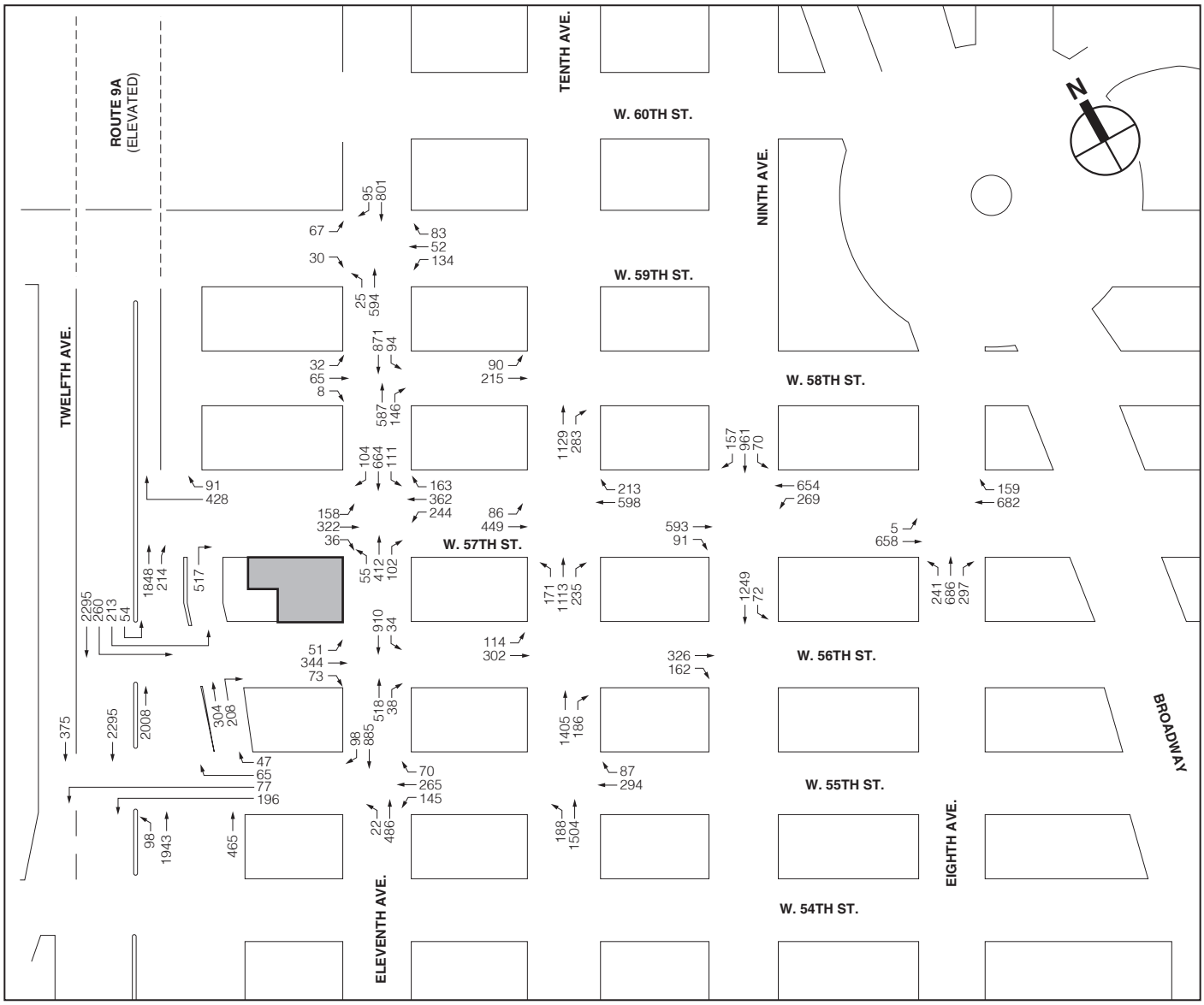



*Project Site*

2017 No Action Traffic Volumes
Weekday AM Peak Hour

**606 WEST 57TH STREET**

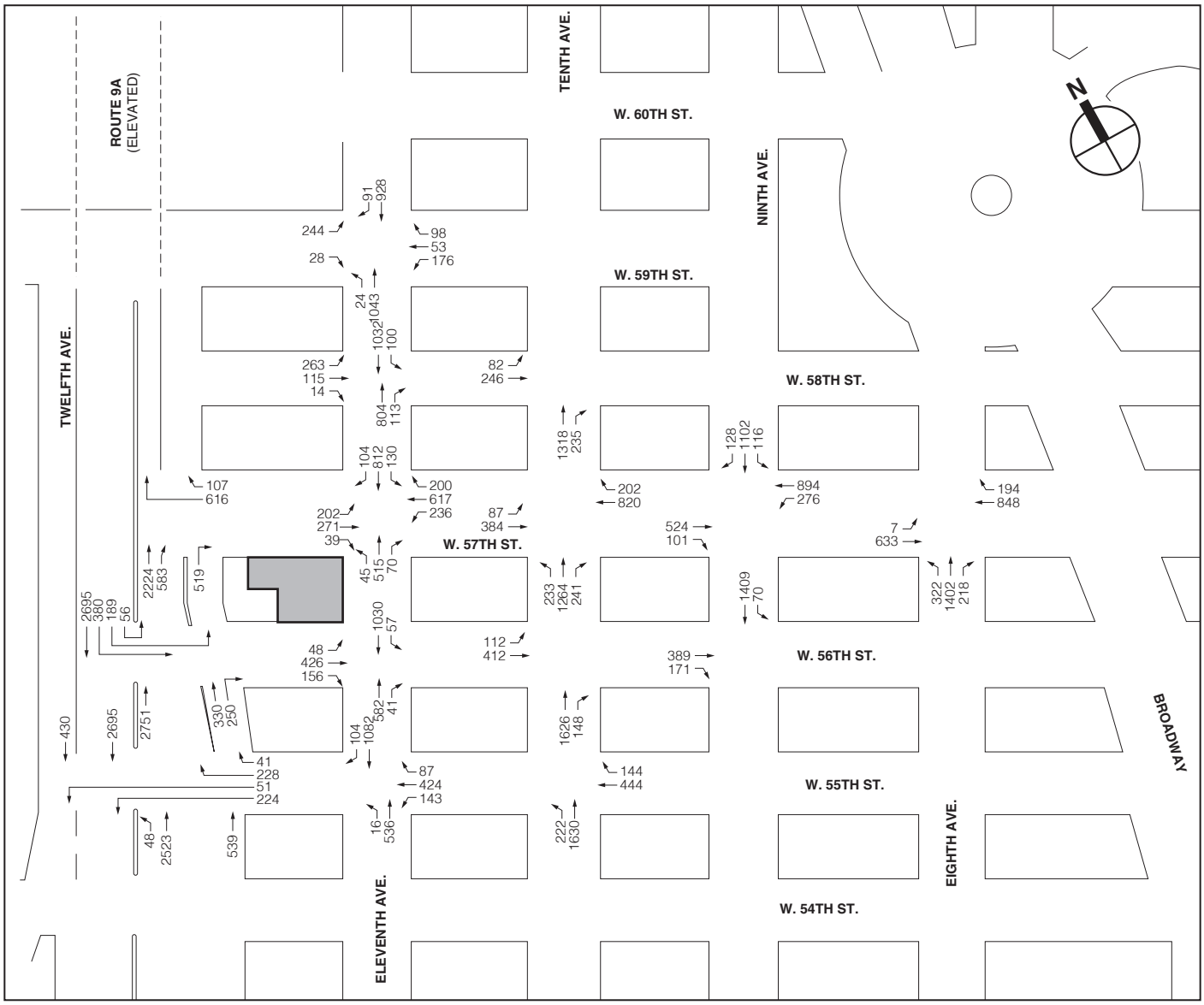
**Figure 11-16**




2017 No Action Traffic Volumes
Weekday Midday Peak Hour

**606 WEST 57TH STREET**

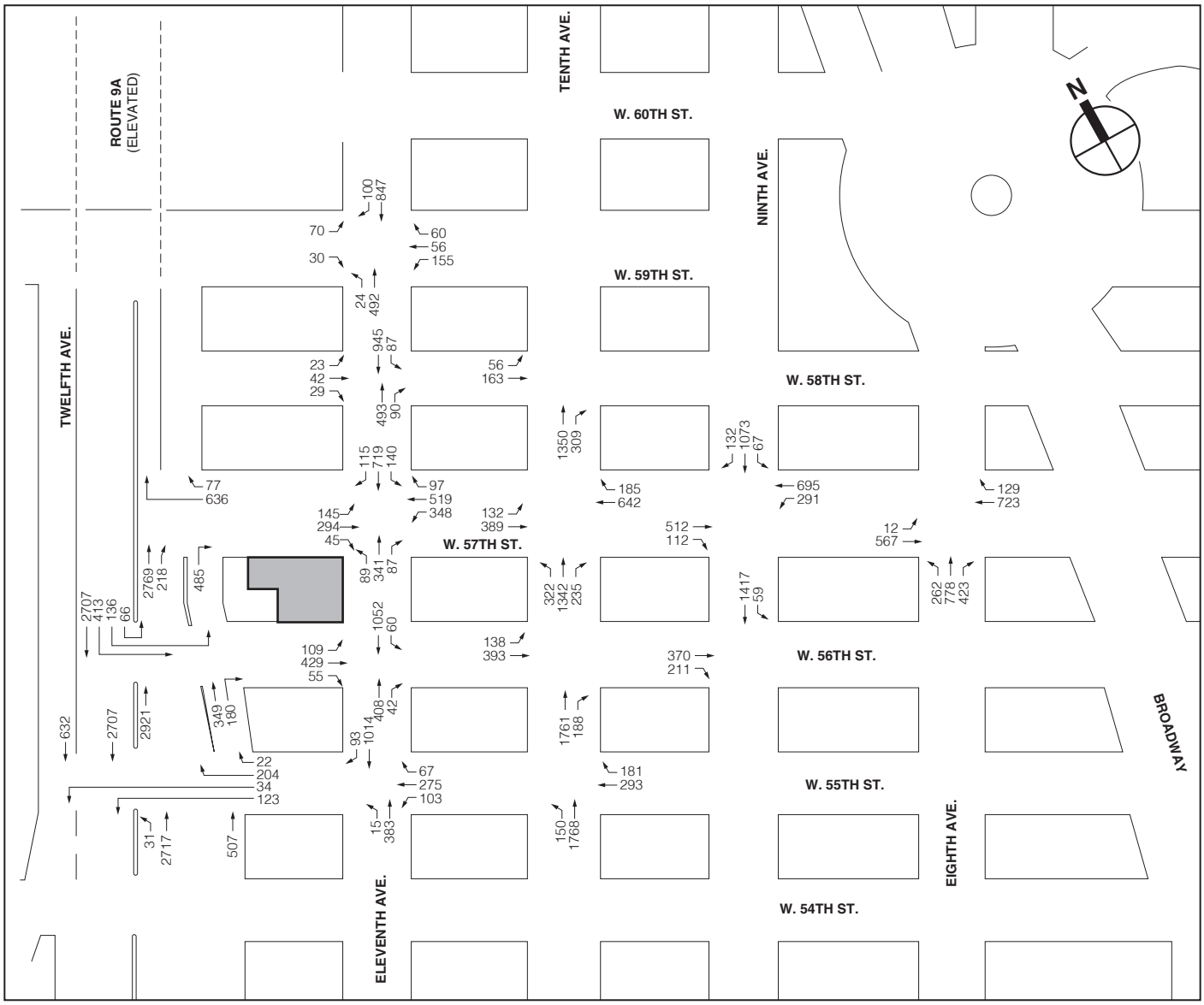
**Figure 11-17**




2017 No-Action Traffic Volumes
Weekday PM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-18**




2017 No-Action Traffic Volumes
Saturday Peak Hour

**606 WEST 57TH STREET**

**Figure 11-19**

## Table 11-18
## 2013 Existing and 2017 No Action Conditions Level of Service Analysis
## Signalized Intersections

| Intersection | Weekday AM | | | | | | | | Weekday Midday | | | | | | | | Weekday PM | | | | | | | | Saturday | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | |
| | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **12th Avenue (Route 9A) & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB | R | 0.67 | 41.1 | D | R | 0.47 | 35.1 | D | R | 0.87 | 57.3 | E | R | 0.60 | 40.7 | D | R | 1.05 | 104.0 | F | R | 0.96 | 76.2 | E | R | 1.05 | 92.4 | F | R | 0.73 | 43.9 | D |
| NB (Mainline) | T | 0.55 | 24.1 | C | T | 0.56 | 23.9 | C | T | 0.47 | 11.8 | B | T | 0.50 | 12.2 | B | T | 0.56 | 5.1 | A | T | 0.60 | 5.3 | A | T | 0.61 | 13.7 | B | T | 0.65 | 14.4 | B |
| | Int. | | 27.8 | C | Int. | | 26.4 | C | Int. | | 20.7 | C | Int. | | 17.8 | B | Int. | | 26.1 | C | Int. | | 21.2 | C | Int. | | 29.6 | C | Int. | | 20.3 | C |
| **12th Avenue (Route 9A) & West 56th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NB (Mainline) | T | 0.78 | 37.1 | D | T | 0.82 | 38.8 | D | T | 0.52 | 9.0 | A | T | 0.57 | 10.9 | B | T | 0.69 | 5.8 | A | T | 0.72 | 6.2 | A | T | 0.68 | 11.2 | B | T | 0.74 | 14.0 | B |
| SB (Mainline) | L | 0.88 | 38.3 | D | L | 0.88 | 38.2 | D | L | 0.91 | 68.1 | E | L | 0.84 | 57.3 | E | L | 0.89 | 71.9 | E | L | 0.94 | 79.1 | E | L | 1.04 | 95.9 | F | L | 0.99 | 79.7 | E |
| NB (Service Road) | TR | 0.32 | 26.8 | C | TR | 0.45 | 29.3 | C | TR | 0.27 | 7.0 | A | TR | 0.34 | 8.8 | A | TR | 0.34 | 3.8 | A | TR | 0.40 | 4.2 | A | TR | 0.26 | 6.9 | A | TR | 0.32 | 8.5 | A |
| | Int. | | 36.5 | D | Int. | | 37.4 | D | Int. | | 22.6 | C | Int. | | 18.6 | B | Int. | | 16.3 | B | Int. | | 17.6 | B | Int. | | 23.4 | C | Int. | | 23.2 | C |
| **12th Avenue (Route 9A) & West 55th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB | L | 0.60 | 64.1 | E | L | 0.81 | 78.8 | E | L | 0.82 | 61.9 | E | L | 0.93 | 78.3 | E | L | 0.89 | 88.6 | F | L | 1.02 | 118.1 | F | L | 0.35 | 40.1 | D | L | 0.44 | 42.3 | D |
| | R | 0.32 | 53.8 | D | R | 0.31 | 53.5 | D | R | 0.25 | 37.8 | D | R | 0.24 | 37.7 | D | R | 0.64 | 62.3 | E | R | 0.63 | 61.8 | E | R | 0.40 | 40.2 | D | R | 0.40 | 40.1 | D |
| NB (Mainline) | L | 0.51 | 89.9 | F | L | 0.84 | 132.7 | F | L | 0.69 | 80.3 | F | L | 0.85 | 101.6 | F | L | 0.30 | 74.0 | E | L | 0.50 | 83.6 | F | L | 0.11 | 52.6 | D | L | 0.24 | 55.9 | E |
| | T | 0.46 | 8.8 | A | T | 0.49 | 9.1 | A | T | 0.52 | 11.2 | B | T | 0.56 | 11.6 | B | T | 0.59 | 2.6 | A | T | 0.62 | 2.8 | A | T | 0.67 | 13.4 | B | T | 0.71 | 14.2 | B |
| SB (Mainline) | T | 0.99 | 24.4 | C | T | 1.00 | 26.6 | C | T | 0.75 | 23.6 | C | T | 0.76 | 23.8 | C | T | 0.77 | 21.8 | C | T | 0.78 | 22.1 | C | T | 0.90 | 29.7 | C | T | 0.91 | 30.4 | C |
| NB (Service Road) | T | 0.26 | 7.4 | A | T | 0.37 | 8.5 | A | T | 0.40 | 10.6 | B | T | 0.48 | 11.8 | B | T | 0.46 | 3.0 | A | T | 0.54 | 3.6 | A | T | 0.43 | 11.0 | B | T | 0.51 | 12.1 | B |
| SB (Service Road) | T | 0.26 | 5.8 | A | T | 0.29 | 5.9 | A | T | 0.20 | 14.9 | B | T | 0.23 | 15.2 | B | T | 0.18 | 12.0 | B | T | 0.22 | 12.4 | B | T | 0.38 | 17.0 | B | T | 0.44 | 17.8 | B |
| | Int. | | 19.6 | B | Int. | | 22.2 | C | Int. | | 20.7 | C | Int. | | 22.3 | C | Int. | | 16.8 | B | Int. | | 18.2 | B | Int. | | 21.7 | C | Int. | | 22.3 | C |
| **11th Avenue & West 59th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LR | 0.54 | 32.3 | C | LR | 0.76 | 46.1 | D | LR | 0.22 | 22.3 | C | LR | 0.36 | 25.1 | C | LR | 0.99 | 81.5 | F | LR | 1.24 | 163.1 | F | LR | 0.17 | 21.6 | C | LR | 0.37 | 25.3 | C |
| WB | L | 0.30 | 23.2 | C | L | 0.29 | 23.0 | C | L | 0.30 | 23.3 | C | L | 0.29 | 23.0 | C | L | 0.41 | 25.2 | C | L | 0.38 | 24.3 | C | L | 0.38 | 24.6 | C | L | 0.37 | 24.3 | C |
| | TR | 0.45 | 25.8 | C | TR | 0.44 | 25.5 | C | TR | 0.28 | 22.8 | C | TR | 0.28 | 22.7 | C | TR | 0.32 | 23.4 | C | TR | 0.31 | 23.3 | C | TR | 0.24 | 22.2 | C | TR | 0.26 | 22.3 | C |
| NB | L | 0.03 | 9.8 | A | L | 0.12 | 11.2 | B | L | 0.05 | 9.9 | A | L | 0.12 | 11.1 | B | L | 0.06 | 10.2 | B | L | 0.19 | 13.3 | B | L | 0.01 | 9.5 | A | L | 0.16 | 12.1 | B |
| | T | 0.53 | 14.7 | B | T | 0.56 | 15.0 | B | T | 0.39 | 12.6 | B | T | 0.41 | 12.8 | B | T | 0.75 | 19.1 | B | T | 0.74 | 18.7 | B | T | 0.30 | 11.7 | B | T | 0.36 | 12.3 | B |
| SB | T | 0.49 | 13.8 | B | T | 0.54 | 14.6 | B | T | 0.50 | 13.9 | B | T | 0.54 | 14.6 | B | T | 0.63 | 16.3 | B | T | 0.71 | 18.1 | B | T | 0.57 | 15.0 | B | T | 0.63 | 16.2 | B |
| | R | 0.26 | 11.9 | B | R | 0.30 | 12.3 | B | R | 0.13 | 10.5 | B | R | 0.16 | 10.7 | B | R | 0.13 | 10.5 | B | R | 0.18 | 11.0 | B | R | 0.15 | 10.6 | B | R | 0.18 | 11.0 | B |
| | Int. | | 16.9 | B | Int. | | 18.4 | B | Int. | | 15.1 | B | Int. | | 15.6 | B | Int. | | 24.7 | C | Int. | | 34.4 | C | Int. | | 15.6 | B | Int. | | 16.5 | B |
| **11th Avenue & West 58th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LTR | 0.17 | 20.9 | C | LTR | 0.25 | 21.8 | C | LTR | 0.11 | 20.3 | C | LTR | 0.13 | 20.5 | C | LTR | 0.48 | 24.9 | C | LTR | 0.46 | 24.6 | C | LTR | 0.07 | 20.0- | B | LTR | 0.13 | 20.5 | C |
| NB | TR | 0.67 | 17.4 | B | TR | 0.75 | 19.7 | B | TR | 0.50 | 14.1 | B | TR | 0.57 | 15.2 | B | TR | 0.66 | 17.0 | B | TR | 0.74 | 19.2 | B | TR | 0.36 | 12.3 | B | TR | 0.43 | 13.1 | B |
| SB | L | 0.42 | 18.5 | B | L | 0.54 | 25.3 | C | L | 0.35 | 15.1 | B | L | 0.43 | 17.9 | B | L | 0.59 | 27.3 | C | L | 0.78 | 49.2 | D | L | 0.24 | 12.4 | B | L | 0.33 | 14.3 | B |
| | T | 0.61 | 15.9 | B | T | 0.67 | 17.3 | B | T | 0.58 | 15.3 | B | T | 0.63 | 16.4 | B | T | 0.74 | 19.0 | B | T | 0.83 | 22.8 | C | T | 0.64 | 16.4 | B | T | 0.71 | 18.2 | B |
| | Int. | | 17.1 | B | Int. | | 19.2 | B | Int. | | 15.1 | B | Int. | | 16.2 | B | Int. | | 19.6 | B | Int. | | 22.8 | C | Int. | | 15.0 | B | Int. | | 16.5 | B |

## Table 11-18 (cont'd)
## 2013 Existing and 2017 No Action Conditions Level of Service Analysis
## Signalized Intersections

| | Weekday AM | | | | | | | | Weekday Midday | | | | | | | | Weekday PM | | | | | | | | Saturday | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | |
| 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 | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **11th Avenue & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | L | 0.90 | 65.4 | E | L | 1.02 | 97.2 | F | L | 0.61 | 26.8 | C | L | 0.66 | 30.3 | C | L | 1.05 | 98.6 | F | L | 1.06 | 102.0 | F | L | 0.64 | 28.5 | C | L | 0.71 | 34.7 | C |
| | TR | 0.62 | 30.4 | C | TR | 0.71 | 33.0 | C | TR | 0.41 | 26.6 | C | TR | 0.46 | 27.4 | C | TR | 0.41 | 26.6 | C | TR | 0.45 | 27.3 | C | TR | 0.40 | 26.5 | C | TR | 0.45 | 27.3 | C |
| WB | L | 0.77 | 44.8 | D | L | 0.87 | 60.9 | E | L | 0.80 | 42.2 | D | L | 0.86 | 50.6 | D | L | 0.75 | 37.1 | D | L | 0.80 | 43.0 | D | L | 1.05 | 91.2 | F | L | 1.13 | 119.8 | F |
| | TR | 0.80 | 37.9 | D | TR | 0.92 | 49.5 | D | TR | 0.68 | 32.6 | C | TR | 0.75 | 35.1 | D | TR | 1.03 | 70.9 | E | TR | 1.16 | 119.4 | F | TR | 0.71 | 33.1 | C | TR | 0.84 | 39.8 | D |
| NB | L | 0.25 | 19.5 | B | L | 0.28 | 21.2 | C | L | 0.35 | 21.6 | C | L | 0.38 | 23.0 | C | L | 0.39 | 24.6 | C | L | 0.46 | 30.5 | C | L | 0.66 | 38.2 | D | L | 0.82 | 62.7 | E |
| | TR | 0.51 | 19.5 | B | TR | 0.56 | 20.5 | C | TR | 0.46 | 18.8 | B | TR | 0.52 | 19.7 | B | TR | 0.50 | 19.2 | B | TR | 0.55 | 20.2 | C | TR | 0.39 | 17.7 | B | TR | 0.45 | 18.6 | B |
| SB | L | 0.40 | 21.7 | C | L | 0.71 | 38.7 | D | L | 0.35 | 20.3 | C | L | 0.52 | 26.4 | C | L | 0.45 | 24.0 | C | L | 0.74 | 43.1 | D | L | 0.39 | 20.8 | C | L | 0.64 | 31.9 | C |
| | TR | 0.72 | 24.5 | C | TR | 0.81 | 28.3 | C | TR | 0.66 | 22.7 | C | TR | 0.70 | 23.9 | C | TR | 0.81 | 28.0 | C | TR | 0.90 | 35.0 | D | TR | 0.71 | 24.1 | C | TR | 0.81 | 28.2 | C |
| | Int. | | 31.3 | C | Int. | | 38.8 | D | Int. | | 26.3 | C | Int. | | 28.5 | C | Int. | | 42.2 | D | Int. | | 57.5 | E | Int. | | 34.2 | C | Int. | | 41.1 | D |
| **11th Avenue & West 56th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LTR | 0.76 | 31.4 | C | LTR | 0.84 | 35.1 | D | LTR | 0.51 | 25.5 | C | LTR | 0.56 | 26.4 | C | LTR | 0.69 | 29.8 | C | LTR | 0.75 | 31.9 | C | LTR | 0.64 | 28.3 | C | LTR | 0.69 | 29.7 | C |
| NB | TR | 0.35 | 12.3 | B | TR | 0.38 | 12.6 | B | TR | 0.39 | 12.7 | B | TR | 0.43 | 13.2 | B | TR | 0.46 | 13.5 | B | TR | 0.51 | 14.1 | B | TR | 0.34 | 12.1 | B | TR | 0.38 | 12.6 | B |
| SB | L | 0.13 | 10.8 | B | L | 0.17 | 11.4 | B | L | 0.10 | 10.5 | B | L | 0.13 | 11.0 | B | L | 0.17 | 11.7 | B | L | 0.25 | 13.3 | B | L | 0.16 | 11.2 | B | L | 0.22 | 12.3 | B |
| | T | 0.56 | 14.8 | B | T | 0.59 | 15.4 | B | T | 0.64 | 16.2 | B | T | 0.66 | 16.8 | B | T | 0.65 | 16.5 | B | T | 0.68 | 17.2 | B | T | 0.68 | 17.2 | B | T | 0.72 | 18.0 | B |
| | Int. | | 20.3 | C | Int. | | 22.1 | C | Int. | | 17.3 | B | Int. | | 17.9 | B | Int. | | 19.0 | B | Int. | | 20.1 | C | Int. | | 18.8 | B | Int. | | 19.7 | B |
| **11th Avenue & West 55th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB | LTR | 0.61 | 31.5 | C | LTR | 0.71 | 34.4 | C | LTR | 0.80 | 38.8 | D | LTR | 0.86 | 43.9 | D | LTR | 0.83 | 40.4 | D | LTR | 0.90 | 47.0 | D | LTR | 0.58 | 30.4 | C | LTR | 0.64 | 32.1 | C |
| NB | L | 0.19 | 10.2 | B | L | 0.17 | 9.9 | A | L | 0.15 | 9.5 | A | L | 0.14 | 9.4 | A | L | 0.14 | 9.6 | A | L | 0.11 | 9.2 | A | L | 0.15 | 10.2 | B | L | 0.15 | 10.6 | B |
| | T | 0.26 | 8.9 | A | T | 0.28 | 9.1 | A | T | 0.34 | 9.6 | A | T | 0.37 | 9.9 | A | T | 0.31 | 9.3 | A | T | 0.34 | 9.6 | A | T | 0.24 | 8.7 | A | T | 0.26 | 8.9 | A |
| SB | TR | 0.56 | 12.1 | B | TR | 0.59 | 12.6 | B | TR | 0.59 | 12.6 | B | TR | 0.61 | 13.0 | B | TR | 0.68 | 14.4 | B | TR | 0.72 | 15.2 | B | TR | 0.73 | 15.6 | B | TR | 0.77 | 16.8 | B |
| | Int. | | 16.0 | B | Int. | | 17.4 | B | Int. | | 18.5 | B | Int. | | 20.3 | C | Int. | | 20.0 | C | Int. | | 22.4 | C | Int. | | 17.3 | B | Int. | | 18.5 | B |
| **10th Avenue & West 58th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LT | 0.82 | 43.6 | D | LT | 0.87 | 49.1 | D | LT | 0.84 | 44.9 | D | LT | 0.88 | 50.0 | D | LT | 0.89 | 51.7 | D | LT | 0.91 | 55.4 | E | LT | 0.53 | 29.0 | C | LT | 0.59 | 30.7 | C |
| NB | TR | 0.53 | 13.3 | B | TR | 0.55 | 13.5 | B | TR | 0.61 | 14.6 | B | TR | 0.63 | 14.8 | B | TR | 0.46 | 12.3 | B | TR | 0.47 | 12.5 | B | TR | 0.63 | 14.7 | B | TR | 0.65 | 15.1 | B |
| | Int. | | 18.7 | B | Int. | | 20.0+ | C | Int. | | 20.5 | C | Int. | | 21.7 | C | Int. | | 19.7 | B | Int. | | 20.4 | C | Int. | | 16.4 | B | Int. | | 17.1 | B |
| **10th Avenue & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | DefL | 0.97 | 96.0 | F | DefL | 1.16 | 160.9 | F |
| | LT | 1.05 | 76.9 | E | LT | 1.29 | 170.7 | F | LT | 1.00 | 64.8 | E | LT | 1.18 | 126.6 | F | LT | 0.89 | 45.7 | D | LT | 1.10 | 98.5 | F | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | T | 0.59 | 26.6 | C | T | 0.74 | 32.3 | C |
| WB | TR | 1.05 | 72.8 | E | TR | 1.14 | 104.5 | F | TR | 0.97 | 51.2 | D | TR | 1.05 | 70.7 | E | TR | 1.05 | 69.8 | E | TR | 1.14 | 102.8 | F | TR | 0.81 | 32.0 | C | TR | 0.89 | 38.4 | D |
| NB | LTR | 0.66 | 18.0 | B | LTR | 0.70 | 18.8 | B | LTR | 0.64 | 18.0 | B | LTR | 0.67 | 18.5 | B | LTR | 0.59 | 16.9 | B | LTR | 0.62 | 17.3 | B | LTR | 0.80 | 21.4 | C | LTR | 0.83 | 22.8 | C |
| | Int. | | 43.9 | D | Int. | | 73.3 | E | Int. | | 37.2 | D | Int. | | 57.0 | E | Int. | | 37.0 | D | Int. | | 56.6 | E | Int. | | 27.6 | C | Int. | | 33.2 | C |
| **10th Avenue & West 56th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LT | 1.05 | 81.9 | F | LT | 1.20 | 135.6 | F | LT | 0.81 | 39.6 | D | LT | 0.91 | 50.2 | D | LT | 0.91 | 49.6 | D | LT | 1.01 | 71.6 | E | LT | 1.05 | 82.6 | F | LT | 1.15 | 118.3 | F |
| NB | TR | 0.56 | 13.6 | B | TR | 0.60 | 14.2 | B | TR | 0.68 | 15.7 | B | TR | 0.72 | 16.5 | B | TR | 0.40 | 11.7 | B | TR | 0.43 | 11.9 | B | TR | 0.69 | 15.9 | B | TR | 0.73 | 16.7 | B |
| | Int. | | 35.6 | D | Int. | | 46.1 | D | Int. | | 20.4 | C | Int. | | 23.6 | C | Int. | | 20.0 | B | Int. | | 25.5 | C | Int. | | 31.1 | C | Int. | | 40.6 | D |
| **10th Avenue & West 55th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | T | 1.01 | 74.0 | E | T | 1.09 | 98.5 | F | - | - | - | - | - | - | - | - |
| | TR | 0.71 | 34.3 | C | TR | 0.79 | 38.8 | D | TR | 0.85 | 44.5 | D | TR | 0.90 | 50.8 | D | - | - | - | - | - | - | - | - | TR | 1.00 | 72.2 | E | TR | 1.08 | 94.8 | F |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | R | 0.48 | 28.3 | C | R | 0.51 | 29.4 | C | - | - | - | - | - | - | - | - |
| NB | LT | 0.56 | 13.7 | B | LT | 0.61 | 14.4 | B | LT | 0.60 | 14.3 | B | LT | 0.65 | 15.1 | B | LT | 0.49 | 12.7 | B | LT | 0.53 | 13.2 | B | LT | 0.65 | 15.1 | B | LT | 0.69 | 15.8 | B |
| | Int. | | 17.1 | B | Int. | | 18.4 | B | Int. | | 20.4 | C | Int. | | 22.2 | C | Int. | | 26.0 | C | Int. | | 31.4 | C | Int. | | 26.7 | C | Int. | | 32.0 | C |

## Table 11-18 (cont'd)
## 2013 Existing and 2017 No Action Conditions Level of Service Analysis
## Signalized Intersections

| | Weekday AM | | | | | | | | Weekday Midday | | | | | | | | Weekday PM | | | | | | | | Saturday | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | |
| 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 | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **9th Avenue & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | T | 1.05 | 83.8 | F | T | 1.21 | 143.1 | F | T | 0.87 | 47.9 | D | T | 0.91 | 50.7 | D | T | 0.79 | 42.4 | D | T | 0.85 | 44.9 | D | T | 0.67 | 36.4 | D | T | 0.72 | 36.5 | D |
| | R | 0.59 | 45.1 | D | R | 0.65 | 47.3 | D | R | 0.54 | 43.0 | D | R | 0.56 | 41.4 | D | R | 0.65 | 51.9 | D | R | 0.70 | 52.9 | D | R | 0.58 | 44.4 | D | R | 0.62 | 44.0 | D |
| WB | DefL | 1.05 | 90.4 | F | DefL | 1.05 | 89.5 | F | DefL | 0.95 | 59.0 | E | DefL | 0.97 | 65.4 | E | - | - | - | - | - | - | - | - | DefL | 0.86 | 41.2 | D | DefL | 0.89 | 44.2 | D |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | LT | 1.05 | 65.9 | E | LT | 1.11 | 86.1 | F | - | - | - | - | - | - | - | - |
| | T | 1.05 | 73.2 | E | T | 1.14 | 102.4 | F | T | 1.03 | 66.2 | E | T | 1.07 | 78.6 | E | - | - | - | - | - | - | - | - | T | 0.96 | 50.2 | D | T | 1.04 | 67.9 | E |
| SB | L | 0.18 | 22.0 | C | L | 0.23 | 23.5 | C | L | 0.25 | 23.3 | C | L | 0.29 | 25.6 | C | L | 0.40 | 26.7 | C | L | 0.47 | 30.3 | C | L | 0.27 | 24.0 | C | L | 0.34 | 27.3 | C |
| | TR | 0.65 | 26.6 | C | TR | 0.68 | 27.9 | C | TR | 0.77 | 29.9 | C | TR | 0.84 | 34.2 | C | TR | 0.57 | 25.1 | C | TR | 0.63 | 27.4 | C | TR | 0.74 | 28.8 | C | TR | 0.81 | 32.4 | C |
| | Int. | | 56.9 | E | Int. | | 80.0 | F | Int. | | 44.9 | D | Int. | | 51.1 | D | Int. | | 43.6 | D | Int. | | 52.8 | D | Int. | | 36.7 | D | Int. | | 43.1 | D |
| **9th Avenue & West 56th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | TR | 1.05 | 80.0- | E | TR | 1.23 | 146.4 | F | TR | 0.77 | 33.3 | C | TR | 0.88 | 42.9 | D | TR | 0.93 | 50.7 | D | TR | 1.06 | 82.7 | F | TR | 1.05 | 83.1 | F | TR | 1.17 | 125.2 | F |
| SB | L | 0.08 | 9.6 | A | L | 0.09 | 9.7 | A | L | 0.15 | 12.7 | B | L | 0.14 | 12.7 | B | L | 0.20 | 13.7 | B | L | 0.20 | 13.8 | B | L | 0.07 | 9.4 | A | L | 0.07 | 9.4 | A |
| | T | 0.41 | 11.9 | B | T | 0.42 | 12.0 | B | T | 0.51 | 15.9 | B | T | 0.53 | 16.1 | B | T | 0.43 | 14.8 | B | T | 0.45 | 14.9 | B | T | 0.50 | 12.9 | B | T | 0.52 | 13.1 | B |
| | Int. | | 32.5 | C | Int. | | 57.2 | E | Int. | | 20.2 | C | Int. | | 23.5 | C | Int. | | 24.1 | C | Int. | | 33.9 | C | Int. | | 31.1 | C | Int. | | 44.2 | D |
| **8th Avenue & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LT | 0.80 | 31.7 | C | LT | 0.96 | 48.1 | D | LT | 0.75 | 29.2 | C | LT | 0.86 | 35.2 | D | LT | 0.67 | 26.6 | C | LT | 0.77 | 30.4 | C | LT | 0.53 | 23.3 | C | LT | 0.63 | 25.2 | C |
| WB | TR | 0.95 | 47.3 | D | TR | 1.02 | 61.6 | E | TR | 0.95 | 46.2 | D | TR | 1.00 | 57.3 | E | TR | 1.05 | 68.7 | E | TR | 1.11 | 92.1 | F | TR | 0.90 | 38.2 | D | TR | 0.96 | 47.9 | D |
| NB | LTR | 0.53 | 16.1 | B | LTR | 0.54 | 16.3 | B | LTR | 0.53 | 16.2 | B | LTR | 0.54 | 16.3 | B | LTR | 0.70 | 18.8 | B | LTR | 0.72 | 19.0 | B | LTR | 0.71 | 19.6 | B | LTR | 0.73 | 20.0- | B |
| | Int. | | 29.3 | C | Int. | | 38.5 | D | Int. | | 28.8 | C | Int. | | 34.2 | C | Int. | | 33.7 | C | Int. | | 41.3 | D | Int. | | 25.8 | C | Int. | | 29.5 | C |

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

## Table 11-19
## 2013 Existing and 2017 No Action Conditions Level of Service Analysis
## Unsignalized Intersections

| | Weekday AM | | | | | | | | Weekday Midday | | | | | | | | Weekday PM | | | | | | | | Saturday | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | | 2013 Existing | | | | 2017 No Action | | | |
| 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 | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **12th Avenue (Route 9A) & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NB (Service Road) | R | 0.72 | 16.6 | C | R | 0.79 | 20.0 | C | R | 0.54 | 12.5 | B | R | 0.59 | 13.4 | B | R | 0.57 | 12.7 | B | R | 0.60 | 13.6 | B | R | 0.50 | 11.8 | B | R | 0.55 | 12.5 | B |

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

Based on the analysis results presented in **Tables 11-18** to **11-19**, the majority of the approaches/lane-groups will operate at the same LOS as in existing conditions. It should also be noted that the approved trip generations used in the analyses for the 625 West 57th Street project, the Piers 92 and 94 project, and the Fordham Center Master Plan project included negative trip increments for the proposed developments when compared to existing conditions. Therefore, some analysis locations experienced improvements in levels of service when compared to existing conditions. The following approaches/lane-groups are expected to operate at deteriorated LOS when compared to existing conditions:

*Twelfth Avenue*

- Northbound (mainline) left-turn at the Twelfth Avenue and West 55th Street intersection will deteriorate to LOS F with a v/c ratio of 0.50 and a delay of 83.6 spv during the weekday PM peak hour and to LOS E with a v/c ratio of 0.24 and a delay of 55.9 spv during the Saturday peak hour;

*Eleventh Avenue*

- Eastbound approach at the Eleventh Avenue and West 59th Street intersection will deteriorate to LOS D with a v/c ratio of 0.76 and a delay of 46.1 spv during the weekday AM peak hour;
- Southbound left-turn at the Eleventh Avenue and West 58th Street intersection will deteriorate to LOS D with a v/c ratio of 0.78 and a delay of 49.2 spv during the weekday PM peak hour;
- Eastbound left-turn at the Eleventh Avenue and West 57th Street intersection will deteriorate to LOS F with a v/c ratio of 1.02 and a delay of 97.2 spv during the weekday AM peak hour;
- Westbound left-turn at the Eleventh Avenue and West 57th Street intersection will deteriorate to LOS E with a v/c ratio of 0.87 and a delay of 60.9 spv during the weekday AM peak hour and within LOS D with a v/c ratio of 0.86 and a delay of 50.6 spv during the weekday midday peak hour;
- Westbound through/right-turn at the Eleventh Avenue and West 57th Street intersection will deteriorate within LOS D with a v/c ratio of 0.92 and a delay of 49.5 spv during the weekday AM peak hour, to LOS F with a v/c ratio of 1.16 and a delay of 119.4 spv during the weekday PM peak hour;
- Northbound left-turn at the Eleventh Avenue and West 57th Street intersection will deteriorate to LOS E with a v/c ratio of 0.82 and a delay of 62.7 spv during the Saturday peak hour;
- Westbound approach at the Eleventh Avenue and West 55th Street intersection will deteriorate within to LOS D with a v/c ratio of 0.90 and a delay of 47.0 spv during the weekday PM peak hour;

*Tenth Avenue*

- Eastbound approach at the Tenth Avenue and West 58th Street intersection will deteriorate within LOS D with a v/c ratio of 0.87 and a delay of 49.1 spv during the weekday AM peak hour, within LOS D with a v/c ratio of 0.88 and a delay of 50.0 spv during the weekday midday peak hour, and to LOS E with a v/c ratio of 0.91 and a delay of 55.4 spv during the weekday PM peak hour;

- Eastbound approach at the Tenth Avenue and West 57th Street intersection will deteriorate to LOS F with a v/c ratio of 1.29 and a delay of 170.7 spv during the weekday AM peak hour, to LOS F with a v/c ratio of 1.18 and a delay of 126.6 spv during the weekday midday peak hour, and to LOS F with a v/c ratio of 1.10 and a delay of 98.5 spv during the weekday PM peak hour;
- Westbound approach at the Tenth Avenue and West 57th Street intersection will deteriorate to LOS F with a v/c ratio of 1.14 and a delay of 104.5 spv during the weekday AM peak hour, to LOS E with a v/c ratio of 1.05 and a delay of 70.7 spv during the weekday midday peak hour, and to LOS F with a v/c ratio of 1.14 and a delay of 102.8 spv during the weekday PM peak hour;
- Eastbound approach at the Tenth Avenue and West 56th Street intersection will deteriorate within LOS D with a v/c ratio of 0.91 and a delay of 50.2 spv during the weekday midday peak hour, and to LOS E with a v/c ratio of 1.01 and a delay of 71.6 spv during the weekday PM peak hour;
- Westbound approach at the Tenth Avenue and West 55th Street intersection will deteriorate within LOS D with a v/c ratio of 0.90 and a delay of 50.8 spv during the weekday midday peak hour, and to LOS F with a v/c ratio of 1.08 and a delay of 94.8 spv during the Saturday peak hour;
- Westbound through at the Tenth Avenue and West 55th Street intersection will deteriorate to LOS F with a v/c ratio of 1.09 and a delay of 98.5 spv during the weekday PM peak hour;

*Ninth Avenue*

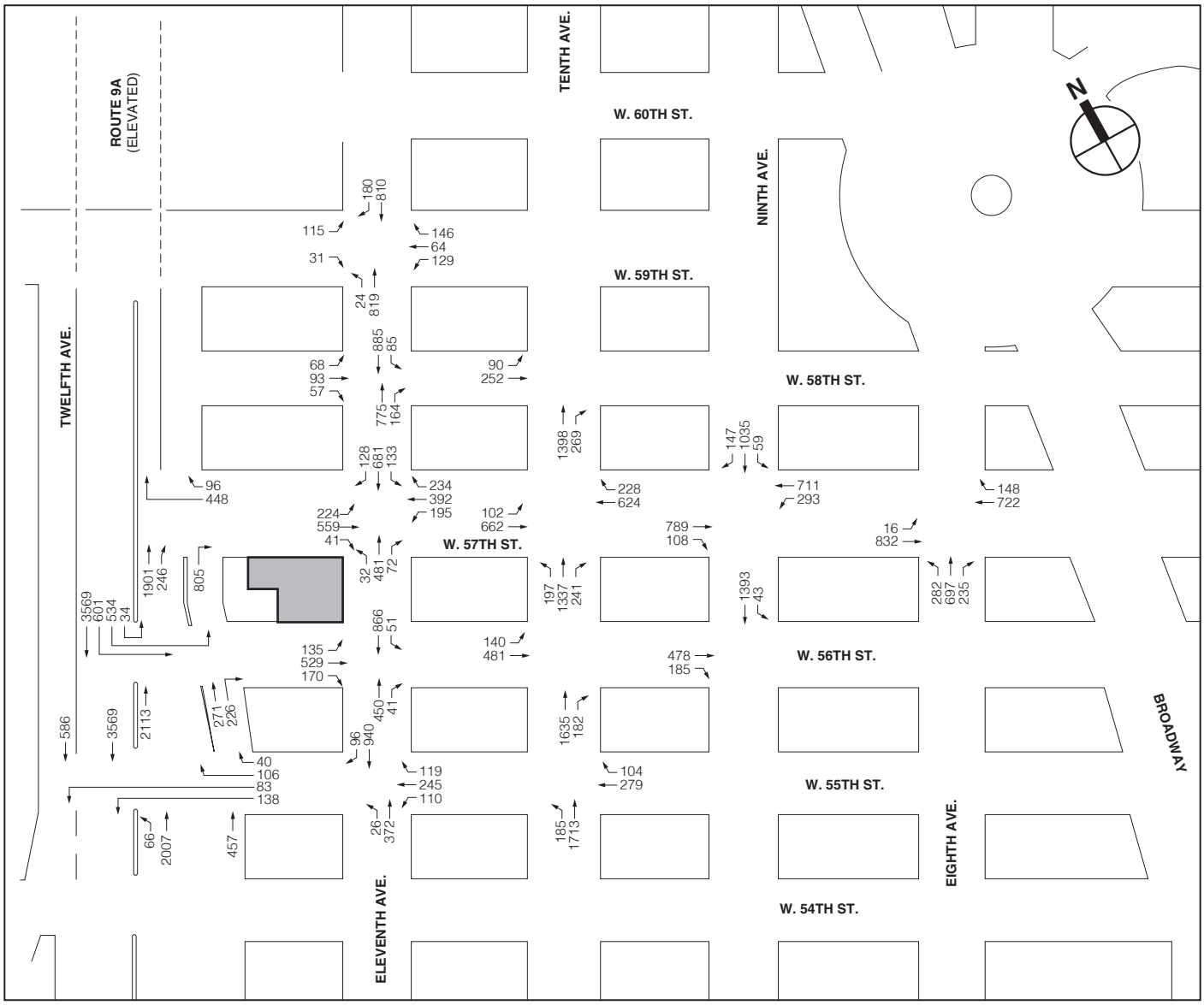
- Westbound through at the Ninth Avenue and West 57th Street intersection will deteriorate to LOS F with a v/c ratio of 1.14 and a delay of 102.4 spv during the weekday AM peak hour, and to LOS E with a v/c ratio of 1.04 and a delay of 67.9 spv during the Saturday peak hour;
- Eastbound approach at the Ninth Avenue and West 56th Street intersection will deteriorate to LOS F with a v/c ratio of 1.23 and a delay of 146.4 spv during weekday AM peak hour and to LOS F with a v/c ratio of 1.06 and a delay of 82.7 spv during the weekday PM peak hour;

*Eighth Avenue*

- Eastbound approach at the Eighth Avenue and West 57th Street intersection will deteriorate to LOS D with a v/c ratio of 0.96 and a delay of 48.1 spv during the weekday AM peak hour; and
- Westbound approach at the Eighth Avenue and West 57th Street intersection will deteriorate to LOS E with a v/c ratio of 1.02 and a delay of 61.6 spv during the weekday AM peak hour, to LOS E with a v/c ratio of 1.00 and a delay of 57.3 spv during the weekday midday peak hour, to LOS F with a v/c ratio of 1.11 and a delay of 92.1 spv during the weekday PM peak hour, and to LOS D with a v/c ratio of 0.96 and a delay of 47.9 spv during the Saturday peak hour.

## PROBABLE IMPACTS OF THE PROPOSED ACTIONS

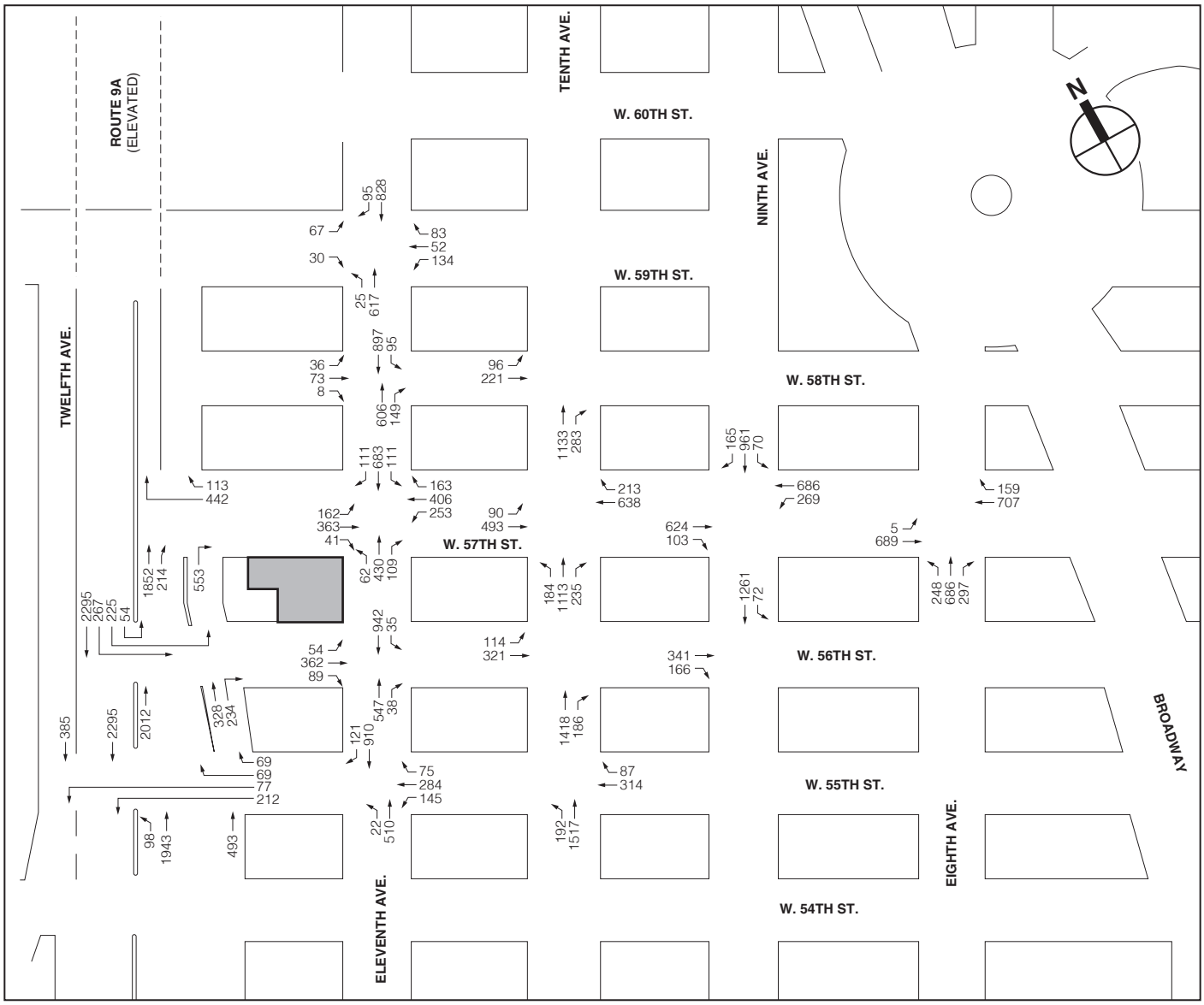
The With Action condition traffic volumes are shown in **Figures 11-20** to **11-23** for the weekday AM, midday, PM, and Saturday peak hours.




2017 With Action Traffic Volumes
Weekday AM Peak Hour

**606 WEST 57TH STREET**

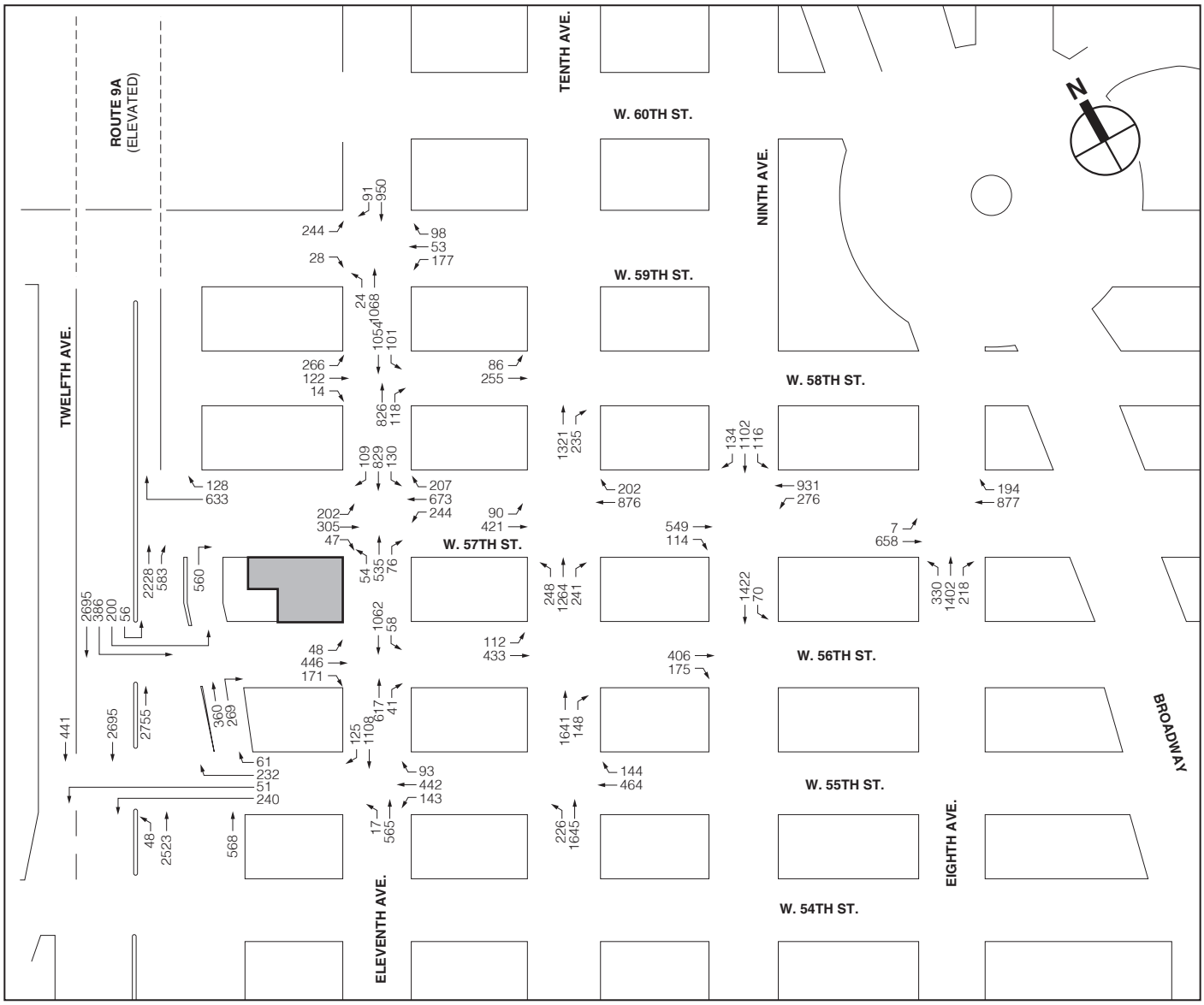
**Figure 11-20**




606 WEST 57TH STREET

2017 With Action Traffic Volumes
Weekday Midday Peak Hour

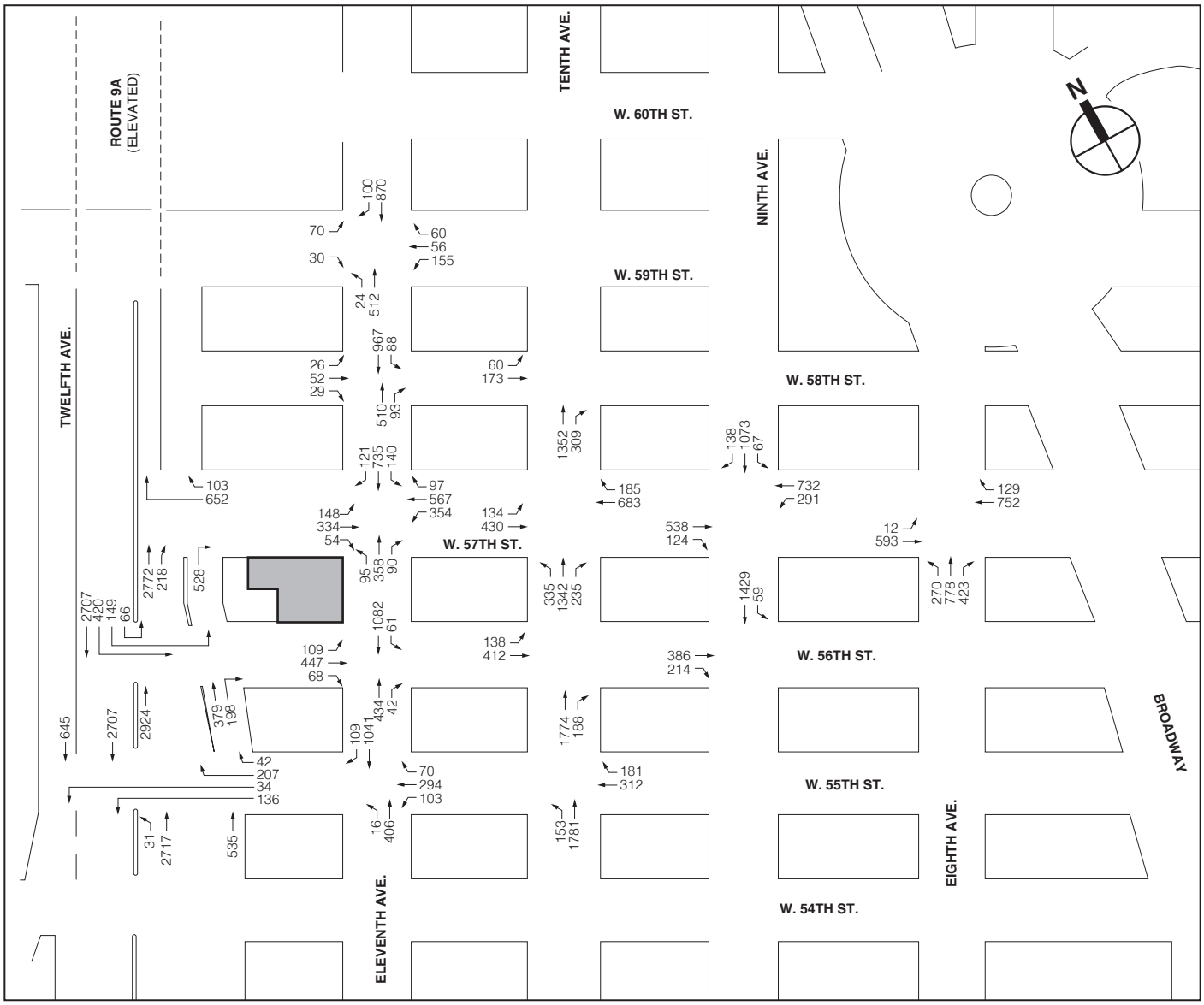
**Figure 11-21**




2017 With-Action Traffic Volumes
Weekday PM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-22**




2017 With-Action Traffic Volumes
Saturday Peak Hour

**606 WEST 57TH STREET**

**Figure 11-23**

*SIGNIFICANT ADVERSE IMPACTS*

As shown in **Tables 11-20 and 11-21** and discussed below, significant adverse traffic impacts were identified at 24 approaches/lane groups (of 13 different intersections). Potential measures that can be implemented to mitigate these significant adverse traffic impacts are discussed in Chapter 19, "Mitigation."

*Twelfth Avenue*

- The westbound right-turn at the Twelfth Avenue and West 57th Street intersection would deteriorate from LOS E (v/c ratio 0.96 and 76.2 spv of delay) to LOS F (v/c ratio of 1.00 and 87.2 spv of delay), an increase in delay of more than four seconds, during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The southbound (mainline) left-turn at Twelfth Avenue and West 56th Street intersection would deteriorate from LOS E (v/c ratio of 0.94 and 79.1 spv of delay) to LOS F (v/c ratio of 0.97 and 84.1 spv of delay), and from LOS E (v/c ratio of 0.99 and 79.7 spv of delay) to LOS F (v/c ratio of 1.02 and 87.5 spv of delay), increases in delay of more than four seconds, during the weekday PM and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The westbound left-turn at Twelfth Avenue and West 55th Street intersection would deteriorate from LOS E (v/c ratio of 0.81 and 78.8 spv of delay) to LOS F (v/c ratio of 0.87 and of 86.1 spv of delay), from LOS E (v/c ratio of 0.93 and 78.3 spv of delay) to LOS F (v/c ratio of 0.99 and 90.5 spv of delay), and within LOS F (from a v/c ratio of 1.02 and 118.1 spv of delay to a v/c ratio of 1.08 and 136.1 spv of delay), increases in delay of more than four seconds, four seconds, and three seconds, during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

*Eleventh Avenue*

- The southbound left-turn at Eleventh Avenue and West 58th Street intersection would deteriorate from LOS D (v/c ratio of 0.78 and 49.2 spv of delay) to LOS E (v/c ratio of 0.84 and 60.2 spv of delay), an increase in delay of more than five seconds, during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The eastbound left-turn at the Eleventh Avenue and West 57th Street intersection would deteriorate within LOS F (from a v/c ratio of 1.02 and 97.2 spv of delay to a v/c ratio of 1.07 and 111.6 spv of delay), an increase in delay of more than three seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The westbound left-turn at the Eleventh Avenue and West 57th Street intersection would deteriorate from LOS E (v/c ratio of 0.87 and 60.9 spv of delay) to LOS F (v/c ratio of 0.98 and 88.0 spv of delay), from LOS D (v/c ratio of 0.86 and 50.6 spv of delay) to LOS E (v/c ratio of 0.98 and 78.4 spv of delay), from LOS D (v/c ratio of 0.80 and 43.0 spv of delay) to LOS E (v/c ratio of 0.91 and 61.5 spv of delay), and within LOS F (from a v/c ratio of 1.13 and 119.8 spv of delay to v/c ratio of 1.27 and 173.6 spv of delay), increases in delay of more than four seconds, five seconds, five seconds, and three seconds, during the weekday AM, midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

## Table 11-20
## 2017 No Action and With Action Conditions Level of Service Analysis
## Signalized Intersections

| Intersection | Weekday AM | | | | | | | | Weekday Midday | | | | | | | | Weekday PM | | | | | | | | Saturday | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | |
| | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **12th Avenue (Route 9A) & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB | R | 0.47 | 35.1 | D | R | 0.49 | 35.6 | D | R | 0.60 | 40.7 | D | R | 0.65 | 41.8 | D | R | 0.96 | 76.2 | E | R | 1.00 | 87.2 | F+ | R | 0.73 | 43.9 | D | R | 0.77 | 45.5 | D |
| NB (Mainline) | T | 0.56 | 23.9 | C | T | 0.56 | 24.0 | C | T | 0.50 | 12.2 | B | T | 0.50 | 12.2 | B | T | 0.60 | 5.3 | A | T | 0.60 | 5.4 | A | T | 0.65 | 14.4 | B | T | 0.65 | 14.4 | B |
| | Int. | | 26.4 | C | Int. | | 26.6 | C | Int. | | 17.8 | B | Int. | | 18.3 | B | Int. | | 21.2 | C | Int. | | 24.4 | C | Int. | | 20.3 | C | Int. | | 20.9 | C |
| **12th Avenue (Route 9A) & West 56th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NB (Mainline) | T | 0.82 | 38.8 | D | T | 0.82 | 38.9 | D | T | 0.57 | 10.9 | B | T | 0.57 | 10.9 | B | T | 0.72 | 6.2 | A | T | 0.72 | 6.3 | A | T | 0.74 | 14.0 | B | T | 0.74 | 14.0 | B |
| SB (Mainline) | L | 0.88 | 38.2 | D | L | 0.89 | 39.1 | D | L | 0.84 | 57.3 | E | L | 0.87 | 60.1 | E | L | 0.94 | 79.1 | E | L | 0.97 | 84.1 | F+ | L | 0.99 | 79.7 | E | L | 1.02 | 87.5 | F+ |
| NB (Service Road) | TR | 0.45 | 29.3 | C | TR | 0.48 | 30.1 | C | TR | 0.34 | 8.8 | A | TR | 0.37 | 9.1 | A | TR | 0.40 | 4.2 | A | TR | 0.43 | 4.4 | A | TR | 0.32 | 8.5 | A | TR | 0.35 | 8.8 | A |
| | Int. | | 37.4 | D | Int. | | 37.8 | D | Int. | | 18.6 | B | Int. | | 19.2 | B | Int. | | 17.6 | B | Int. | | 18.6 | B | Int. | | 23.2 | C | Int. | | 24.6 | C |
| **12th Avenue (Route 9A) & West 55th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB | L | 0.81 | 78.8 | E | L | 0.87 | 86.1 | F+ | L | 0.93 | 78.3 | E | L | 0.99 | 90.5 | F+ | L | 1.02 | 118.1 | F | L | 1.08 | 136.1 | F+ | L | 0.44 | 42.3 | D | L | 0.48 | 43.3 | D |
| | R | 0.31 | 53.5 | D | R | 0.35 | 54.5 | D | R | 0.24 | 37.7 | D | R | 0.30 | 38.6 | D | R | 0.63 | 61.8 | E | R | 0.68 | 64.1 | E | R | 0.40 | 40.1 | D | R | 0.44 | 40.9 | D |
| NB (Mainline) | L | 0.84 | 132.7 | F | L | 0.84 | 132.7 | F | L | 0.85 | 101.6 | F | L | 0.85 | 101.6 | F | L | 0.50 | 83.6 | F | L | 0.50 | 83.6 | F | L | 0.24 | 55.9 | E | L | 0.24 | 55.9 | E |
| | T | 0.49 | 9.1 | A | T | 0.49 | 9.1 | A | T | 0.56 | 11.6 | B | T | 0.56 | 11.6 | B | T | 0.62 | 2.8 | A | T | 0.62 | 2.8 | A | T | 0.71 | 14.2 | B | T | 0.71 | 14.2 | B |
| SB (Mainline) | T | 1.00 | 26.6 | C | T | 1.00 | 26.6 | C | T | 0.76 | 23.8 | C | T | 0.76 | 23.8 | C | T | 0.78 | 22.1 | C | T | 0.78 | 22.1 | C | T | 0.91 | 30.4 | C | T | 0.91 | 30.4 | C |
| NB (Service Road) | T | 0.37 | 8.5 | A | T | 0.39 | 8.7 | A | T | 0.48 | 11.8 | B | T | 0.51 | 12.3 | B | T | 0.54 | 3.6 | A | T | 0.57 | 3.9 | A | T | 0.51 | 12.1 | B | T | 0.53 | 12.5 | B |
| SB (Service Road) | T | 0.29 | 5.9 | A | T | 0.29 | 5.9 | A | T | 0.23 | 15.2 | B | T | 0.24 | 15.3 | B | T | 0.22 | 12.4 | B | T | 0.23 | 12.4 | B | T | 0.44 | 17.8 | B | T | 0.44 | 17.9 | B |
| | Int. | | 22.2 | C | Int. | | 22.2 | C | Int. | | 22.3 | C | Int. | | 23.1 | C | Int. | | 18.2 | B | Int. | | 19.3 | B | Int. | | 22.3 | C | Int. | | 22.5 | C |
| **11th Avenue & West 59th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LR | 0.76 | 46.1 | D | LR | 0.76 | 46.5 | D | LR | 0.36 | 25.1 | C | LR | 0.36 | 25.1 | C | LR | 1.24 | 163.1 | F | LR | 1.24 | 163.1 | F | LR | 0.37 | 25.3 | C | LR | 0.37 | 25.3 | C |
| WB | L | 0.29 | 23.0 | C | L | 0.29 | 23.0 | C | L | 0.29 | 23.0 | C | L | 0.29 | 23.0 | C | L | 0.38 | 24.3 | C | L | 0.38 | 24.4 | C | L | 0.37 | 24.3 | C | L | 0.37 | 24.3 | C |
| | TR | 0.44 | 25.5 | C | TR | 0.44 | 25.6 | C | TR | 0.28 | 22.7 | C | TR | 0.28 | 22.7 | C | TR | 0.31 | 23.3 | C | TR | 0.31 | 23.3 | C | TR | 0.26 | 22.3 | C | TR | 0.26 | 22.3 | C |
| NB | L | 0.12 | 11.2 | B | L | 0.13 | 11.3 | B | L | 0.12 | 11.1 | B | L | 0.13 | 11.3 | B | L | 0.19 | 13.3 | B | L | 0.20 | 13.7 | B | L | 0.16 | 12.1 | B | L | 0.16 | 12.3 | B |
| | T | 0.56 | 15.0 | B | T | 0.57 | 15.2 | B | T | 0.41 | 12.8 | B | T | 0.42 | 13.0 | B | T | 0.74 | 18.7 | B | T | 0.76 | 19.2 | B | T | 0.36 | 12.3 | B | T | 0.38 | 12.5 | B |
| SB | T | 0.54 | 14.6 | B | T | 0.55 | 14.8 | B | T | 0.54 | 14.6 | B | T | 0.56 | 14.9 | B | T | 0.71 | 18.1 | B | T | 0.73 | 18.6 | B | T | 0.63 | 16.2 | B | T | 0.65 | 16.6 | B |
| | R | 0.30 | 12.3 | B | R | 0.30 | 12.3 | B | R | 0.16 | 10.7 | B | R | 0.16 | 10.7 | B | R | 0.18 | 11.0 | B | R | 0.18 | 11.0 | B | R | 0.18 | 11.0 | B | R | 0.18 | 11.0 | B |
| | Int. | | 18.4 | B | Int. | | 18.5 | B | Int. | | 15.6 | B | Int. | | 15.7 | B | Int. | | 34.4 | C | Int. | | 34.5 | C | Int. | | 16.5 | B | Int. | | 16.6 | B |
| **11th Avenue & West 58th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LTR | 0.25 | 21.8 | C | LTR | 0.26 | 21.9 | C | LTR | 0.13 | 20.5 | C | LTR | 0.14 | 20.7 | C | LTR | 0.46 | 24.6 | C | LTR | 0.47 | 24.8 | C | LTR | 0.13 | 20.5 | C | LTR | 0.15 | 20.7 | C |
| NB | TR | 0.75 | 19.7 | B | TR | 0.77 | 20.3 | C | TR | 0.57 | 15.2 | B | TR | 0.59 | 15.6 | B | TR | 0.74 | 19.2 | B | TR | 0.77 | 20.1 | C | TR | 0.43 | 13.1 | B | TR | 0.44 | 13.3 | B |
| SB | L | 0.54 | 25.3 | C | L | 0.57 | 27.3 | C | L | 0.43 | 17.9 | B | L | 0.45 | 19.0 | B | L | 0.78 | 49.2 | D | L | 0.84 | 60.2 | E+ | L | 0.33 | 14.3 | B | L | 0.34 | 14.8 | B |
| | T | 0.67 | 17.3 | B | T | 0.69 | 17.7 | B | T | 0.63 | 16.4 | B | T | 0.65 | 16.8 | B | T | 0.83 | 22.8 | C | T | 0.85 | 23.8 | C | T | 0.71 | 18.2 | B | T | 0.73 | 18.7 | B |
| | Int. | | 19.2 | B | Int. | | 19.6 | B | Int. | | 16.2 | B | Int. | | 16.7 | B | Int. | | 22.8 | C | Int. | | 24.0 | C | Int. | | 16.5 | B | Int. | | 16.9 | B |

## Table 11-20 (cont'd)
## 2017 No Action and With Action Conditions Level of Service Analysis
## Signalized Intersections

| | Weekday AM | | | | | | | | Weekday Midday | | | | | | | | Weekday PM | | | | | | | | Saturday | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | |
| 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 | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **11th Avenue & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | L | 1.02 | 97.2 | F | L | 1.07 | 111.6 | F+ | L | 0.66 | 30.3 | C | L | 0.73 | 36.2 | D | L | 1.06 | 102.0 | F | L | 1.07 | 104.0 | F | L | 0.71 | 34.7 | C | L | 0.78 | 41.7 | D |
| | TR | 0.71 | 33.0 | C | TR | 0.77 | 35.7 | D | TR | 0.46 | 27.4 | C | TR | 0.54 | 28.9 | C | TR | 0.45 | 27.3 | C | TR | 0.53 | 28.9 | C | TR | 0.45 | 27.3 | C | TR | 0.54 | 28.9 | C |
| WB | L | 0.87 | 60.9 | E | L | 0.98 | 88.0 | F+ | L | 0.86 | 50.6 | D | L | 0.98 | 78.4 | E+ | L | 0.80 | 43.0 | D | L | 0.91 | 61.5 | E+ | L | 1.13 | 119.8 | F | L | 1.27 | 173.6 | F+ |
| | TR | 0.92 | 49.5 | D | TR | 0.98 | 60.5 | E+ | TR | 0.75 | 35.1 | D | TR | 0.85 | 41.3 | D | TR | 1.16 | 119.4 | F | TR | 1.28 | 167.1 | F+ | TR | 0.84 | 39.8 | D | TR | 0.91 | 45.9 | D+ |
| NB | L | 0.28 | 21.2 | C | L | 0.31 | 22.7 | C | L | 0.38 | 23.0 | C | L | 0.49 | 28.5 | C | L | 0.46 | 30.5 | C | L | 0.60 | 41.9 | D | L | 0.82 | 62.7 | E | L | 0.94 | 88.2 | F+ |
| | TR | 0.56 | 20.5 | C | TR | 0.59 | 21.1 | C | TR | 0.52 | 19.7 | B | TR | 0.56 | 20.5 | C | TR | 0.55 | 20.2 | C | TR | 0.58 | 20.8 | C | TR | 0.45 | 18.6 | B | TR | 0.47 | 19.0 | B |
| SB | L | 0.71 | 38.7 | D | L | 0.75 | 43.9 | D | L | 0.52 | 26.4 | C | L | 0.57 | 29.6 | C | L | 0.74 | 43.1 | D | L | 0.80 | 51.5 | D+ | L | 0.64 | 31.9 | C | L | 0.67 | 34.5 | C |
| | TR | 0.81 | 28.3 | C | TR | 0.84 | 30.0 | C | TR | 0.70 | 23.9 | C | TR | 0.76 | 25.8 | C | TR | 0.90 | 35.0 | D | TR | 0.94 | 39.2 | D | TR | 0.81 | 28.2 | C | TR | 0.84 | 30.0 | C |
| | Int. | | 38.8 | D | Int. | | 44.7 | D | Int. | | 28.5 | C | Int. | | 33.7 | C | Int. | | 57.5 | E | Int. | | 73.3 | E | Int. | | 41.1 | D | Int. | | 50.2 | D |
| **11th Avenue & West 56th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LTR | 0.84 | 35.1 | D | LTR | 0.90 | 40.4 | D | LTR | 0.56 | 26.4 | C | LTR | 0.63 | 28.2 | C | LTR | 0.75 | 31.9 | C | LTR | 0.82 | 35.7 | D | LTR | 0.69 | 29.7 | C | LTR | 0.76 | 32.4 | C |
| NB | TR | 0.38 | 12.6 | B | TR | 0.40 | 12.8 | B | TR | 0.43 | 13.2 | B | TR | 0.45 | 13.5 | B | TR | 0.51 | 14.1 | B | TR | 0.54 | 14.6 | B | TR | 0.38 | 12.6 | B | TR | 0.41 | 12.8 | B |
| SB | L | 0.17 | 11.4 | B | L | 0.18 | 11.6 | B | L | 0.13 | 11.0 | B | L | 0.15 | 11.3 | B | L | 0.25 | 13.3 | B | L | 0.27 | 14.0 | B | L | 0.22 | 12.3 | B | L | 0.24 | 12.7 | B |
| | T | 0.59 | 15.4 | B | T | 0.61 | 15.7 | B | T | 0.66 | 16.8 | B | T | 0.69 | 17.4 | B | T | 0.68 | 17.2 | B | T | 0.70 | 17.7 | B | T | 0.72 | 18.0 | B | T | 0.74 | 18.6 | B |
| | Int. | | 22.1 | C | Int. | | 24.2 | C | Int. | | 17.9 | B | Int. | | 18.8 | B | Int. | | 20.1 | C | Int. | | 21.5 | C | Int. | | 19.7 | B | Int. | | 20.7 | C |
| **11th Avenue & West 55th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB | LTR | 0.71 | 34.4 | C | LTR | 0.75 | 36.0 | D | LTR | 0.86 | 43.9 | D | LTR | 0.94 | 54.1 | D+ | LTR | 0.90 | 47.0 | D | LTR | 0.96 | 55.8 | E+ | LTR | 0.64 | 32.1 | C | LTR | 0.69 | 33.6 | C |
| NB | L | 0.17 | 9.9 | A | L | 0.18 | 10.4 | B | L | 0.14 | 9.4 | A | L | 0.15 | 9.8 | A | L | 0.11 | 9.2 | A | L | 0.13 | 9.8 | A | L | 0.15 | 10.6 | B | L | 0.18 | 11.7 | B |
| | T | 0.28 | 9.1 | A | T | 0.30 | 9.3 | A | T | 0.37 | 9.9 | A | T | 0.39 | 10.1 | B | T | 0.34 | 9.6 | A | T | 0.36 | 9.7 | A | T | 0.26 | 8.9 | A | T | 0.28 | 9.1 | A |
| SB | TR | 0.59 | 12.6 | B | TR | 0.62 | 13.2 | B | TR | 0.61 | 13.0 | B | TR | 0.65 | 13.7 | B | TR | 0.72 | 15.2 | B | TR | 0.75 | 16.3 | B | TR | 0.77 | 16.8 | B | TR | 0.81 | 18.3 | B |
| | Int. | | 17.4 | B | Int. | | 18.1 | B | Int. | | 20.3 | C | Int. | | 23.4 | C | Int. | | 22.4 | C | Int. | | 25.2 | C | Int. | | 18.5 | B | Int. | | 19.7 | B |
| **10th Avenue & West 58th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LT | 0.87 | 49.1 | D | LT | 0.90 | 52.6 | D | LT | 0.88 | 50.0 | D | LT | 0.92 | 56.4 | E+ | LT | 0.91 | 55.4 | E | LT | 0.95 | 63.1 | E+ | LT | 0.59 | 30.7 | C | LT | 0.63 | 32.1 | C |
| NB | TR | 0.55 | 13.5 | B | TR | 0.55 | 13.6 | B | TR | 0.63 | 14.8 | B | TR | 0.63 | 15.0 | B | TR | 0.47 | 12.5 | B | TR | 0.48 | 12.6 | B | TR | 0.65 | 15.1 | B | TR | 0.65 | 15.2 | B |
| | Int. | | 20.0 | C | Int. | | 20.8 | C | Int. | | 21.7 | C | Int. | | 23.3 | C | Int. | | 20.4 | C | Int. | | 22.2 | C | Int. | | 17.1 | B | Int. | | 17.4 | B |
| **10th Avenue & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | DefL | 1.16 | 160.9 | F | DefL | 1.31 | 221.3 | F+ |
| | LT | 1.29 | 170.7 | F | LT | 1.39 | 215.4 | F+ | LT | 1.18 | 126.6 | F | LT | 1.33 | 187.6 | F+ | LT | 1.10 | 98.5 | F | LT | 1.22 | 142.3 | F+ | - | - | - | - | - | - | - | - |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | T | 0.74 | 32.3 | C | T | 0.82 | 37.3 | D |
| WB | TR | 1.14 | 104.5 | F | TR | 1.18 | 119.9 | F+ | TR | 1.05 | 70.7 | E | TR | 1.11 | 93.4 | F+ | TR | 1.14 | 102.8 | F | TR | 1.20 | 126.6 | F+ | TR | 0.89 | 38.4 | D | TR | 0.94 | 45.3 | D+ |
| NB | LTR | 0.70 | 18.8 | B | LTR | 0.71 | 18.9 | B | LTR | 0.67 | 18.5 | B | LTR | 0.69 | 18.8 | B | LTR | 0.62 | 17.3 | B | LTR | 0.63 | 17.5 | B | LTR | 0.83 | 22.8 | C | LTR | 0.85 | 23.4 | C |
| | Int. | | 73.3 | E | Int. | | 88.5 | F | Int. | | 57.0 | E | Int. | | 79.0 | E | Int. | | 56.6 | E | Int. | | 72.7 | E | Int. | | 33.2 | C | Int. | | 38.4 | D |
| **10th Avenue & West 56th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LT | 1.20 | 135.6 | F | LT | 1.24 | 152.7 | F+ | LT | 0.91 | 50.2 | D | LT | 0.98 | 64.0 | E+ | LT | 1.01 | 71.6 | E | LT | 1.08 | 90.8 | F+ | LT | 1.15 | 118.3 | F | LT | 1.22 | 146.0 | F+ |
| NB | TR | 0.60 | 14.2 | B | TR | 0.61 | 14.3 | B | TR | 0.72 | 16.5 | B | TR | 0.73 | 16.8 | B | TR | 0.43 | 11.9 | B | TR | 0.43 | 12.0 | B | TR | 0.73 | 16.7 | B | TR | 0.74 | 16.9 | B |
| | Int. | | 46.1 | D | Int. | | 51.0 | D | Int. | | 23.6 | C | Int. | | 27.0 | C | Int. | | 25.5 | C | Int. | | 30.4 | C | Int. | | 40.6 | D | Int. | | 47.9 | D |
| **10th Avenue & West 55th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WB | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | T | 1.09 | 98.5 | F | T | 1.14 | 115.5 | F+ | - | - | - | - | - | - | - | - |
| | TR | 0.79 | 38.8 | D | TR | 0.82 | 41.5 | D | TR | 0.90 | 50.8 | D | TR | 0.97 | 63.8 | E+ | - | - | - | - | - | - | - | - | TR | 1.08 | 94.8 | F | TR | 1.16 | 123.8 | F+ |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | R | 0.51 | 29.4 | C | R | 0.56 | 32.0 | C | - | - | - | - | - | - | - | - |
| NB | LT | 0.61 | 14.4 | B | LT | 0.62 | 14.4 | B | LT | 0.65 | 15.1 | B | LT | 0.66 | 15.3 | B | LT | 0.53 | 13.2 | B | LT | 0.54 | 13.3 | B | LT | 0.69 | 15.8 | B | LT | 0.70 | 16.0 | B |
| | Int. | | 18.4 | B | Int. | | 19.0 | B | Int. | | 22.2 | C | Int. | | 25.4 | C | Int. | | 31.4 | C | Int. | | 35.6 | D | Int. | | 32.0 | C | Int. | | 38.6 | D |

## Table 11-20 (cont'd)
## 2017 No Action and With Action Conditions Level of Service Analysis
## Signalized Intersections

| Intersection | Weekday AM | | | | | | | | Weekday Midday | | | | | | | | Weekday PM | | | | | | | | Saturday | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | |
| | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **9th Avenue & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | T | 1.21 | 143.1 | F | T | 1.26 | 160.5 | F+ | T | 0.91 | 50.7 | D | T | 0.96 | 58.3 | E+ | T | 0.85 | 44.9 | D | T | 0.90 | 49.1 | D | T | 0.72 | 36.5 | D | T | 0.76 | 37.9 | D |
| | R | 0.65 | 47.3 | D | R | 0.72 | 53.2 | D+ | R | 0.56 | 41.4 | D | R | 0.69 | 52.3 | D+ | R | 0.70 | 52.9 | D | R | 0.86 | 76.9 | E+ | R | 0.62 | 44.0 | D | R | 0.74 | 54.8 | D+ |
| WB | DefL | 1.05 | 89.5 | F | DefL | 1.05 | 84.5 | F | DefL | 0.97 | 65.4 | E | DefL | 0.97 | 67.5 | E | - | - | - | - | - | - | - | - | DefL | 0.89 | 44.2 | D | DefL | 0.92 | 49.1 | D |
| | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | LT | 1.11 | 86.1 | F | LT | 1.16 | 103.4 | F+ | - | - | - | - | - | - | - | - |
| | T | 1.14 | 102.4 | F | T | 1.18 | 118.6 | F+ | T | 1.07 | 78.6 | E | T | 1.12 | 96.9 | F+ | - | - | - | - | - | - | - | - | T | 1.04 | 67.9 | E | T | 1.10 | 86.5 | F+ |
| SB | L | 0.23 | 23.5 | C | L | 0.24 | 23.8 | C | L | 0.29 | 25.6 | C | L | 0.30 | 25.8 | C | L | 0.47 | 30.3 | C | L | 0.48 | 30.7 | C | L | 0.34 | 27.3 | C | L | 0.34 | 27.6 | C |
| | TR | 0.68 | 27.9 | C | TR | 0.69 | 28.0 | C | TR | 0.84 | 34.2 | C | TR | 0.85 | 34.8 | C | TR | 0.63 | 27.4 | C | TR | 0.63 | 27.5 | C | TR | 0.81 | 32.4 | C | TR | 0.81 | 32.6 | C |
| | Int. | | 80.0 | F | Int. | | 88.4 | F | Int. | | 51.1 | D | Int. | | 58.1 | E | Int. | | 52.8 | D | Int. | | 61.1 | E | Int. | | 43.1 | D | Int. | | 49.2 | D |
| **9th Avenue & West 56th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | TR | 1.23 | 146.4 | F | TR | 1.26 | 160.7 | F+ | TR | 0.88 | 42.9 | D | TR | 0.94 | 50.6 | D+ | TR | 1.06 | 82.7 | F | TR | 1.12 | 101.0 | F+ | TR | 1.17 | 125.2 | F | TR | 1.23 | 148.2 | F+ |
| SB | L | 0.09 | 9.7 | A | L | 0.09 | 9.7 | A | L | 0.14 | 12.7 | B | L | 0.15 | 12.7 | B | L | 0.20 | 13.8 | B | L | 0.20 | 13.8 | B | L | 0.07 | 9.4 | A | L | 0.07 | 9.4 | A |
| | T | 0.42 | 12.0 | B | T | 0.42 | 12.0 | B | T | 0.53 | 16.1 | B | T | 0.53 | 16.2 | B | T | 0.45 | 14.9 | B | T | 0.45 | 15.0 | B | T | 0.52 | 13.1 | B | T | 0.52 | 13.2 | B |
| | Int. | | 57.2 | E | Int. | | 62.4 | E | Int. | | 23.5 | C | Int. | | 25.9 | C | Int. | | 33.9 | C | Int. | | 39.6 | D | Int. | | 44.2 | D | Int. | | 51.3 | D |
| **8th Avenue & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EB | LT | 0.96 | 48.1 | D | LT | 0.99 | 54.6 | D+ | LT | 0.86 | 35.2 | D | LT | 0.90 | 38.8 | D | LT | 0.77 | 30.4 | C | LT | 0.81 | 32.6 | C | LT | 0.63 | 25.2 | C | LT | 0.65 | 25.9 | C |
| WB | TR | 1.02 | 61.6 | E | TR | 1.04 | 69.6 | E+ | TR | 1.00 | 57.3 | E | TR | 1.03 | 65.3 | E+ | TR | 1.11 | 92.1 | F | TR | 1.14 | 103.3 | F+ | TR | 0.96 | 47.9 | D | TR | 1.00 | 55.0 | E+ |
| NB | LTR | 0.54 | 16.3 | B | LTR | 0.54 | 16.3 | B | LTR | 0.54 | 16.3 | B | LTR | 0.54 | 16.4 | B | LTR | 0.72 | 19.0 | B | LTR | 0.72 | 19.1 | B | LTR | 0.73 | 20.0- | B | LTR | 0.74 | 20.1 | C |
| | Int. | | 38.5 | D | Int. | | 43.0 | D | Int. | | 34.2 | C | Int. | | 37.9 | D | Int. | | 41.3 | D | Int. | | 45.2 | D | Int. | | 29.5 | C | Int. | | 32.0 | C |

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

## Table 11-21
## 2017 No Action and With Action Conditions Level of Service Analysis
## Unsignalized Intersections

| Intersection | Weekday AM | | | | | | | | Weekday Midday | | | | | | | | Weekday PM | | | | | | | | Saturday | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | | 2017 No Action | | | | 2017 With Action | | | |
| | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS | Lane Group | v/c Ratio | Delay (sec) | LOS |
| **12th Avenue (Route 9A) & West 57th Street** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NB (Service Road) | R | 0.79 | 20.0 | C | R | 0.82 | 21.9 | C | R | 0.59 | 13.4 | B | R | 0.63 | 14.2 | B | R | 0.60 | 13.6 | B | R | 0.65 | 14.7 | B | R | 0.55 | 12.5 | B | R | 0.60 | 13.3 | B |

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

- The westbound through/right-turn at the Eleventh Avenue and West 57th Street intersection would deteriorate from LOS D (v/c ratio of 0.92 and 49.5 spv of delay) to LOS E (v/c ratio of 0.98 and 60.5 spv of delay), within LOS F (from a v/c ratio of 1.16 and 119.4 spv of delay to a v/c ratio of 1.28 and 167.1 spv of delay), and within LOS D (from a v/c ratio of 0.84 and 39.8 spv of delay to a v/c ratio of 0.91 and 45.9 spv of delay), increases in delay of more than five seconds, three seconds, and five seconds, during the weekday AM, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The northbound left-turn at the Eleventh Avenue and West 57th Street intersection would deteriorate from LOS E (v/c ratio of 0.82 and 62.7 spv of delay) to LOS F (v/c ratio of 0.94 and 88.2 spv of delay), an increase in delay of more than four seconds, during the Saturday peak hour. This projected increase in delay constitutes a significant adverse impact.
- The southbound left-turn at the Eleventh Avenue and West 57th Street intersection would deteriorate within LOS D (from a v/c ratio of 0.74 and 43.1 spv of delay to a v/c ratio of 0.80 and 51.5 spv of delay), an increase in delay of more than five seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The westbound approach at the Eleventh Avenue and West 55th Street intersection would deteriorate within LOS D (from v/c ratio of 0.86 and 43.9 spv of delay to a v/c ratio of 0.94 and 54.1 spv of delay), and from LOS D (v/c ratio of 0.90 and 47.0 spv of delay) to LOS E (v/c ratio of 0.96 and 55.8 spv of delay), increases in delay of more than five seconds, and five seconds, during the weekday midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

*Tenth Avenue*

- The eastbound approach at the Tenth Avenue and West 58th Street intersection would deteriorate from LOS D (v/c ratio of 0.88 and 50.0 spv of delay) to LOS E (v/c ratio of 0.92 and 56.4 spv of delay), and within LOS E (from a v/c ratio of 0.91 and 55.4 spv of delay to a v/c ratio of 0.95 and 63.1 spv of delay), increases in delay of more than five seconds and four seconds, during the weekday midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The eastbound defacto left-turn at the Tenth Avenue and West 57th Street intersection would deteriorate within LOS F (from a v/c ratio of 1.16 and 160.9 spv of delay to a v/c ratio of 1.31 and 221.3 spv of delay), an increase in delay of more than three seconds, during the Saturday peak hour. This projected increase in delay constitutes a significant adverse impact.
- The eastbound approach at the Tenth Avenue and West 57th Street intersection would deteriorate within LOS F (from a v/c ratio of 1.29 and 170.7 spv of delay to a v/c ratio of 1.39 and 215.4 spv of delay), within LOS F (from a v/c ratio of 1.18 and 126.6 spv of delay to a v/c ratio of 1.33 and 187.6 spv of delay), and within LOS F (from a v/c ratio of 1.10 and 98.5 spv of delay to a v/c ratio of 1.22 and 142.3 spv of delay), increases in delay of more than three seconds, three seconds, and three seconds, during the weekday AM, midday, and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The westbound approach at the Tenth Avenue and West 57th Street intersection would deteriorate within LOS F (from a v/c ratio of 1.14 and 104.5 spv of delay to a v/c ratio of 1.18 and 119.9 spv of delay), from LOS E (v/c ratio of 1.05 and 70.7 spv of delay) to LOS F (v/c ratio of 1.11 and 93.4 spv of delay), within LOS F (from a v/c ratio of 1.14 and 102.8

spv of delay to a v/c ratio of 1.20 and 126.6 spv of delay), and within LOS D (from a v/c ratio of 0.89 and 38.4 spv of delay to a v/c ratio of 0.94 and 45.3 spv of delay), increases in delay of more than three seconds, four seconds, three seconds, and five seconds during the weekday AM, midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

- The eastbound approach at the Tenth Avenue and West 56th Street intersection would deteriorate within LOS F (from a v/c ratio of 1.20 and 135.6 spv of delay to a v/c ratio of 1.24 and 152.7 spv of delay), from LOS D (v/c ratio of 0.91 and 50.2 spv of delay) to LOS E (v/c ratio of 0.98 and 64.0 spv of delay), from LOS E (v/c ratio of 1.01 and 71.6 spv of delay) to LOS F (v/c ratio of 1.08 and 90.8 spv of delay), and within LOS F (from a v/c ratio of 1.15 and 118.3 spv of delay to a v/c ratio of 1.22 and 146.0 spv of delay), increases in delay of more than three seconds, five seconds, four seconds, and three seconds, during the weekday AM, midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The westbound through at the Tenth Avenue and West 55th Street intersection would deteriorate within LOS F (from v/c ratio of 1.09 and 98.5 spv of delay to a v/c ratio of 1.14 and 115.5 spv of delay), an increase in delay of more than three seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The westbound approach at the Tenth Avenue and West 55th Street intersection would deteriorate from LOS D (v/c ratio of 0.90 and 50.8 spv of delay) to LOS E (v/c ratio of 0.97 and 63.8 spv of delay) and within LOS F (from a v/c ratio of 1.08 and 94.8 spv of delay to a v/c ratio of 1.16 and 123.8 spv of delay), increases in delay of more than five seconds and three seconds, during the weekday midday and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

*Ninth Avenue*

- The eastbound through at the Ninth Avenue and West 57th Street intersection would deteriorate within LOS F (from a v/c ratio of 1.21 and 143.1 spv of delay to a v/c ratio of 1.26 and 160.5 spv of delay), and from LOS D (v/c ratio of 0.91 and 50.7 spv of delay) to LOS E (v/c ratio of 0.96 and 58.3 spv of delay), increases in delay of more than three seconds and five seconds, during the weekday AM and midday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The eastbound right-turn at the Ninth Avenue and West 57th Street intersection would deteriorate within LOS D (from a v/c ratio of 0.65 and 47.3 spv of delay to v/c ratio of 0.72 and 53.2 spv of delay), within LOS D (from a v/c ratio of 0.56 and 41.4 spv of delay to a v/c ratio of 0.69 and 52.3 spv of delay), from LOS D (v/c ratio of 0.70 and 52.9 spv of delay) to LOS E (v/c ratio of 0.86 and 76.9 spv of delay), and within LOS D (from a v/c ratio of 0.62 and 44.0 spv of delay to a v/c ratio of 0.74 and 54.8 spv of delay), increases in delay of more than five seconds, during the weekday AM, midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.
- The westbound approach at the Ninth Avenue and West 57th Street intersection would deteriorate within LOS F (from a v/c ratio of 1.11 and 86.1 spv of delay to a v/c ratio of 1.16 and 103.4 spv of delay), an increase in delay of more than three seconds, during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The westbound through at the Ninth Avenue and West 57th Street intersection would deteriorate within LOS F (from a v/c ratio of 1.14 and 102.4 spv of delay to a v/c ratio of

1.18 and 118.6 spv of delay), from LOS E (v/c ratio of 1.07 and 78.6 spv of delay) to LOS F (v/c ratio 1.12 and 96.9 spv of delay), from LOS E (v/c ratio of 1.04 and 67.9 spv of delay) to LOS F (v/c ratio 1.10 and 86.5 spv of delay), increases in delay of more than three seconds, four seconds, and four seconds, during the weekday AM, midday, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

- The eastbound approach at the Ninth Avenue and West 56th Street intersection would deteriorate within LOS F (v/c ratio of 1.23 and 146.4 spv of delay to a v/c ratio of 1.26 and 160.7 spv of delay), within LOS D (v/c ratio of 0.88 and 42.9 spv of delay to a v/c ratio of 0.94 and 50.6 spv of delay), within LOS F (from a v/c ratio of 1.06 and 82.7 spv of delay to a v/c ratio of 1.12 and 101.0 spv of delay), and within LOS F (from a v/c ratio of 1.17 and 125.2 spv of delay to a v/c ratio of 1.23 and 148.2 spv of delay), increases in delay of more than three seconds, five seconds, three seconds, and three seconds, during the weekday AM, midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

*Eighth Avenue*

- The eastbound approach at the Eighth Avenue and West 57th Street intersection would deteriorate within LOS D (from a v/c ratio of 0.96 and 48.1 spv of delay to a v/c ratio of 0.99 and 54.6 spv of delay), an increase in delay of more than five seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact.
- The westbound approach at the Eighth Avenue and West 57th Street intersection would deteriorate within LOS E (from a v/c ratio of 1.02 and 61.6 spv of delay to a v/c ratio of 1.04 and 69.6 spv of delay), within LOS E (from a v/c ratio of 1.00 and 57.3 spv of delay to a v/c ratio of 1.03 and 65.3 spv of delay), within LOS F (from a v/c ratio of 1.11 and 92.1 spv of delay to a v/c ratio of 1.14 and 103.3 spv of delay), and from LOS D (v/c ratio of 0.96 and 47.9 spv of delay) to LOS E (v/c ratio of 1.00 and 55.0 spv of delay), increases in delay of more than four seconds, four seconds, three seconds, and five seconds, during the weekday AM, midday, PM, and Saturday peak hours, respectively. These projected increases in delay constitute significant adverse impacts.

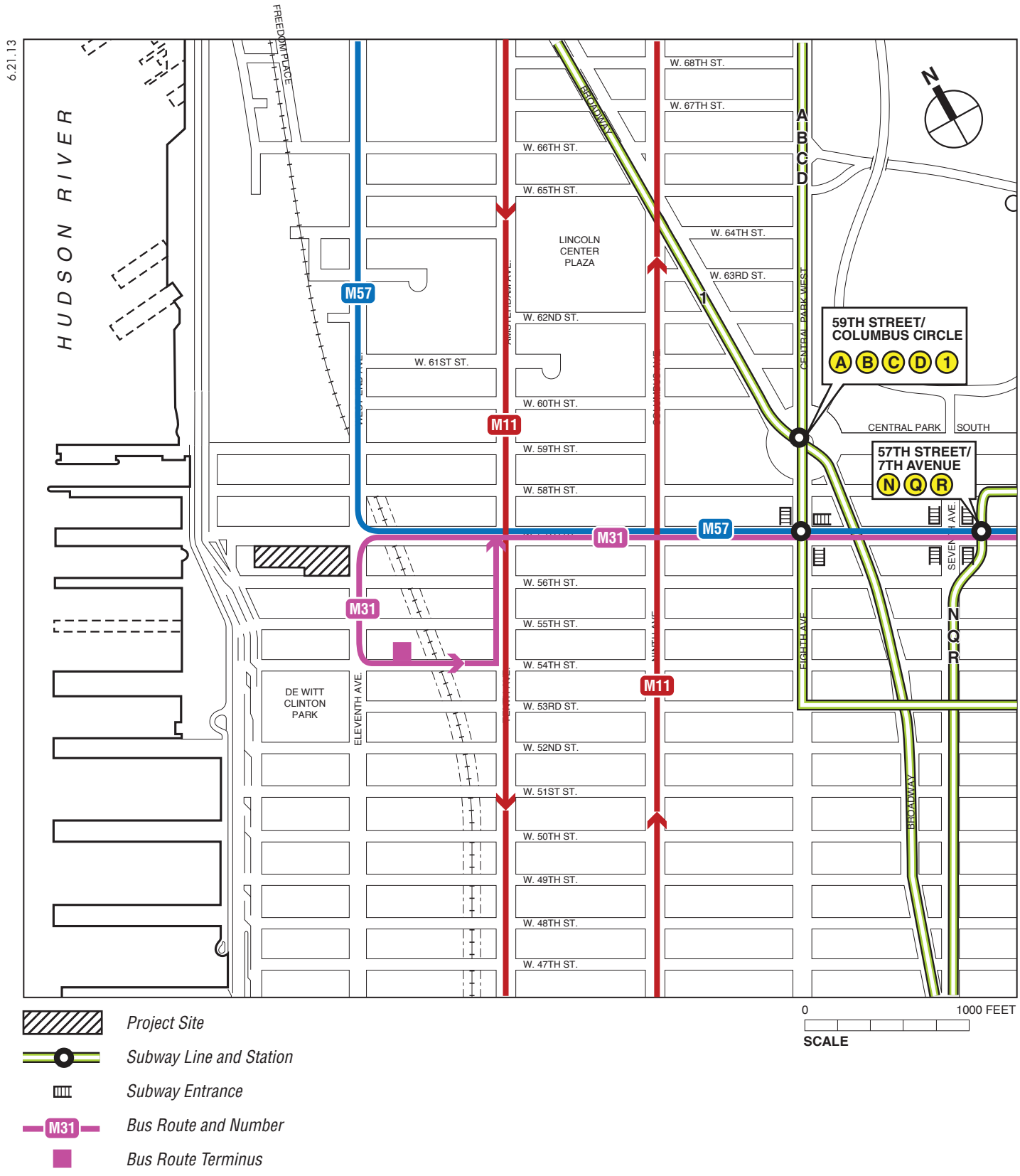
## G. TRANSIT

The project site is located near two New York City Transit (NYCT) subway stations: 1) 57th Street at Seventh Avenue Station (N, Q, and R trains), and 2) 59th Street Columbus Circle Station (No. 1, A, B, C, and D trains). Subway lines at these stations provide convenient connections to other subway lines and the various railroad services at Penn Station. Therefore, most projected subway and rail trips are expected to be served by these stations. 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 a summary of the subway lines that would most likely serve the project site. Subway lines serving stations further away are shown in **Figure 11-24** but are not included in the description below.




606 WEST 57TH STREET

Study Area Transit Map
**Figure 11-24**

- The A subway line (Eighth Avenue Express) operates between Far Rockaway-Mott Avenue, Queens and Inwood-207th Street, Manhattan.
- The B subway line (Central Park West Local/Sixth Avenue Express) operates between Bedford Park Boulevard, Bronx and Brighton Sixth Street, Brooklyn.
- 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 205th Street/Bainbridge Avenue, Bronx and Coney Island/Stillwell Avenue, Brooklyn.
- The N subway line (Broadway Local) operates between Coney Island-Stillwell Avenue, Brooklyn and Astoria-Ditmars Boulevard, Queens.
- The Q subway line (Broadway Express) operates between Coney Island-Stillwell Avenue, Brooklyn and Astoria-Ditmars Boulevard, Queens.
- The R subway line (Broadway Local) operates between 95th Street-4th Avenue, Brooklyn and Forest Hills-71st Avenue, Queens.
- The No.1 subway line (Broadway-Seventh Avenue Local) operates between South Ferry, Manhattan and Van Cortlandt Park-242nd Street, Bronx.

*BUS SERVICE*

The NYCT M11, M31 and M57 routes have stops adjacent to or near the project site (see **Figure 11-24**). These routes operate standard buses with a guideline capacity of 54 passengers per bus. **Table 11-22** provides a summary of these routes and their peak period schedules.

**Table 11-22**
**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 | PM |
| M11 (NB/SB) | Greenwich Village | Harlem | 9th Avenue and 10th Avenue | (13/8-9) | (8-10/11-12) |
| M31 (EB/WB) | Yorkville – York Avenue and East 92nd Street | Clinton – Eleventh Avenue and West 54th Street | West 57th Street | (12/8) | (9/9) |
| M57 (EB/WB) | Upper West Side – Broadway and West 72nd Street | East Midtown – East 60th Street and York Avenue | West 57th Street | (9/8) | (8/8) |

**Source:** NYCT Timetables (2012/2013).

## SUBWAY STATION ANALYSIS

*EXISTING CONDITIONS*

As presented in Section B under "Level 1 Screening Assessment," the proposed actions are expected to generate approximately 476 and 650 subway trips during the AM and PM peak hours, respectively. These trips were assigned to the eight area subway lines, and critical station elements, including station control areas and stairways were identified for analysis.

Field surveys were conducted at the 57th Street - Seventh Avenue (N, Q, and R) Station, and the 59th Street – Columbus Circle (1, A, B, C, and D) Station in February 2013 during the hours of 7:00 AM to 9:30 AM and 4:00 PM to 6:30 PM. As shown in **Table 11-23** and **Table 11-24**, all critical subway station elements operate at LOS A, B, or C during the weekday AM and PM peak periods.

**Table 11-23**
**2013 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** | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) - N051 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| O-22 A, B (NW corner) | 8.1 | 6.9 | 26 | 41 | 0.95 | 0.90 | 0.07 | A |
| S-2 (NE corner) | 5.8 | 4.8 | 11 | 84 | 0.95 | 0.90 | 0.15 | A |
| O5 A, B (SE corner) | 8.0 | 6.8 | 33 | 333 | 0.95 | 0.90 | 0.42 | A |
| **Platform-Level** | | | | | | | | |
| P-1 A, B (Downtown) | 11.0 | 9.8 | 248 | 160 | 0.75 | 0.90 | 0.35 | A |
| P-3 A, B (Uptown) | 9.0 | 7.8 | 65 | 540 | 0.75 | 0.90 | 0.75 | C |
| 57th Street/7th Avenue Station (N/Q/R line) –A010 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| S-7 (NW corner) | 5.7 | 4.7 | 58 | 365 | 0.95 | 0.90 | 0.70 | B |
| S-5 (SW corner) | 5.7 | 4.7 | 52 | 183 | 0.95 | 0.90 | 0.39 | A |
| **Platform-Level** | | | | | | | | |
| P-5 A, B (Downtown) | 9.5 | 8.3 | 127 | 573 | 0.75 | 0.90 | 0.80 | C |
| P-6 A, B (Uptown) | 11.5 | 10.3 | 58 | 331 | 0.75 | 0.90 | 0.36 | A |
| **Weekday PM Peak 15 Minutes** | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) - N051 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| O-22 A, B (NW corner) | 8.1 | 6.9 | 54 | 14 | 0.95 | 0.90 | 0.07 | A |
| S-2 (NE corner) | 5.8 | 4.8 | 90 | 20 | 0.95 | 0.90 | 0.17 | A |
| O5 A, B (SE corner) | 8.0 | 6.8 | 199 | 82 | 0.95 | 0.90 | 0.31 | A |
| **Platform-Level** | | | | | | | | |
| P-1 A, B (Downtown) | 11.0 | 9.8 | 805 | 58 | 0.75 | 0.90 | 0.67 | B |
| P-3 A, B (Uptown) | 9.0 | 7.8 | 298 | 189 | 0.75 | 0.90 | 0.52 | B |

**Table 11-23 (cont'd)**
**2013 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 PM Peak 15 Minutes** | | | | | | | | |
| 57th Street/7th Avenue Station (N/Q/R line) –A010 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| S-7 (NW corner) | 5.7 | 4.7 | 203 | 119 | 0.95 | 0.90 | 0.52 | B |
| S-5 (SW corner) | 5.7 | 4.7 | 228 | 43 | 0.95 | 0.90 | 0.43 | A |
| **Platform-Level** | | | | | | | | |
| P-5 A, B (Downtown) | 9.5 | 8.3 | 324 | 84 | 0.75 | 0.90 | 0.39 | A |
| P-6 A, B (Uptown) | 11.5 | 10.3 | 331 | 163 | 0.75 | 0.90 | 0.39 | A |

**Notes:**
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *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 11-24**
**2013 Existing Conditions Subway Fare Array Control Area Analysis**

| Station Fare Array Elements | Quantity | Fare Array Capacity for 15 Minutes | | 15 minute Ped Volumes | | Surging Factor | Friction Factor | V/C Ratio | LOS |
|---|---|---|---|---|---|---|---|---|---|
| | | Entry | Exit | Entry | Exit | | | | |
| **Weekday AM Peak 15 Minutes** | | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) - N051 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 702 | 0.90 | 1.00 | 0.35 | A |
| Two-way Turnstiles | 10 | 420 | 645 | 464 | 1,219 | 0.90 | 0.90 | 0.36 | A |
| 57th Street/7th Avenue Station (N/Q/R line) – A010 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 706 | 0.90 | 1.00 | 0.35 | A |
| Two-way Turnstiles | 8 | 420 | 645 | 162 | 323 | 0.90 | 0.90 | 0.13 | A |
| **Weekday PM Peak 15 Minutes** | | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) – N051 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 316 | 0.90 | 1.00 | 0.16 | A |
| Two-way Turnstiles | 10 | 420 | 645 | 1,444 | 198 | 0.90 | 0.90 | 0.42 | A |
| 57th Street/7th Avenue Station (N/Q/R line) –A010 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 114 | 0.90 | 1.00 | 0.06 | A |
| Two-way Turnstiles | 8 | 420 | 645 | 617 | 55 | 0.90 | 0.90 | 0.22 | A |

**Notes:**
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *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)

*THE FUTURE WITHOUT THE PROPOSED ACTIONS*

An annual background growth rate of 0.25 percent was applied to the existing station volumes from 2013 to 2017. In addition, trips associated with the No Action projects that could add to the demand at the analysis subway station elements were incorporated into the No Action station volumes. As shown in **Tables 11-25** and **11-26**, all critical subway station elements will continue to operate at acceptable levels during the weekday AM and PM peak periods.

**Table 11-25**
**2017 No Action 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** | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) - N051 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| O-22 A, B (NW corner) | 8.1 | 6.9 | 29 | 39 | 0.95 | 0.90 | 0.08 | A |
| S-2 (NE corner) | 5.8 | 4.8 | 11 | 50 | 0.95 | 0.90 | 0.10 | A |
| O5 A, B (SE corner) | 8.0 | 6.8 | 98 | 336 | 0.95 | 0.90 | 0.49 | B |
| **Platform-Level** | | | | | | | | |
| P-1 A, B (Downtown) | 11.0 | 9.8 | 268 | 160 | 0.75 | 0.90 | 0.36 | A |
| P-3 A, B (Uptown) | 9.0 | 7.8 | 76 | 541 | 0.75 | 0.90 | 0.76 | C |
| 57th Street/7th Avenue Station (N/Q/R line) –A010 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| S-7 (NW corner) | 5.7 | 4.7 | 59 | 352 | 0.95 | 0.90 | 0.68 | B |
| S-5 (SW corner) | 5.7 | 4.7 | 84 | 185 | 0.95 | 0.90 | 0.44 | A |
| **Platform-Level** | | | | | | | | |
| P-5 A, B (Downtown) | 9.5 | 8.3 | 150 | 569 | 0.75 | 0.90 | 0.81 | C |
| P-6 A, B (Uptown) | 11.5 | 10.3 | 68 | 327 | 0.75 | 0.90 | 0.36 | A |
| **Weekday PM Peak 15 Minutes** | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) - N051 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| O-22 A, B (NW corner) | 8.1 | 6.9 | 54 | 16 | 0.95 | 0.90 | 0.08 | A |
| S-2 (NE corner) | 5.8 | 4.8 | 91 | 64 | 0.95 | 0.90 | 0.24 | A |
| O5 A, B (SE corner) | 8.0 | 6.8 | 180 | 83 | 0.95 | 0.90 | 0.29 | A |
| **Platform-Level** | | | | | | | | |
| P-1 A, B (Downtown) | 11.0 | 9.8 | 807 | 60 | 0.75 | 0.90 | 0.67 | B |
| P-3 A, B (Uptown) | 9.0 | 7.8 | 294 | 196 | 0.75 | 0.90 | 0.53 | B |

**Table 11-25 (cont'd)**
**2017 No Action Conditions Subway Stairway Analysis**

| Stairway | Width (ft.) | Effective Width (ft.) | 15-Minute Pedestrian Volumes | | Surging Factor | Friction Factor | V/C Ratio | LOS |
|---|---|---|---|---|---|---|---|---|
| **Weekday PM Peak 15 Minutes** | | | | | | | | |
| 57th Street/7th Avenue Station (N/Q/R line) –A010 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| S-7 (NW corner) | 5.7 | 4.7 | 205 | 142 | 0.95 | 0.90 | 0.56 | B |
| S-5 (SW corner) | 5.7 | 4.7 | 219 | 43 | 0.95 | 0.90 | 0.42 | A |
| **Platform-Level** | | | | | | | | |
| P-5 A, B (Downtown) | 9.5 | 8.3 | 323 | 92 | 0.75 | 0.90 | 0.40 | A |
| P-6 A, B (Uptown) | 11.5 | 10.3 | 327 | 180 | 0.75 | 0.90 | 0.41 | A |

**Notes:**
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *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 11-26**
**2017 No Action Conditions Subway Fare Array Control Area Analysis**

| Station Fare Array Elements | Quantity | Fare Array Capacity for 15 Minutes | | 15 minute Ped Volumes | | Surging Factor | Friction Factor | V/C Ratio | LOS |
|---|---|---|---|---|---|---|---|---|---|
| | | Entry | Exit | Entry | Exit | | | | |
| **Weekday AM Peak 15 Minutes** | | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) - N051 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 695 | 0.90 | 1.00 | 0.35 | A |
| Two-way Turnstiles | 10 | 420 | 645 | 537 | 1,208 | 0.90 | 0.90 | 0.37 | A |
| 57th Street/7th Avenue Station (N/Q/R line) – A010 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 701 | 0.90 | 1.00 | 0.35 | A |
| Two-way Turnstiles | 8 | 420 | 645 | 195 | 321 | 0.90 | 0.90 | 0.14 | A |
| **Weekday PM Peak 15 Minutes** | | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) – N051 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 347 | 0.90 | 1.00 | 0.17 | A |
| Two-way Turnstiles | 10 | 420 | 645 | 1,436 | 218 | 0.90 | 0.90 | 0.42 | A |
| 57th Street/7th Avenue Station (N/Q/R line) –A010 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 130 | 0.90 | 1.00 | 0.07 | A |
| Two-way Turnstiles | 8 | 420 | 645 | 612 | 63 | 0.90 | 0.90 | 0.22 | A |

**Notes:**
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *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)

*PROBABLE IMPACTS OF THE PROPOSED ACTIONS*

The 476 (156 in and 320 out) AM peak hour and 650 (378 in and 272 out) PM peak hour project-generated subway trips were distributed to the 59th Street/Columbus Circle Station and the 57th Street/7th Avenue Station. This distribution was based on the proximity of the subway stations to the proposed project site, the number of lines being served at each station, and the 2011 cordon counts at or near the two subway stations. Based on this assessment, 68 percent of these trips were assigned to the 59th Street/Columbus Circle Station and the remaining 32 percent to the 57th Street/7th Avenue Station. These trips were added to the projected 2017 No Action volumes to generate the 2017 With Action volumes for analysis.

As shown in **Tables 11-27** and **11-28**, all station stairways and control area elements would continue to operate at acceptable levels in the 2017 With Action conditions.

**Table 11-27**
**2017 With Action 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** | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) - N051 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| O-22 A, B (NW corner) | 8.1 | 6.9 | 32 | 41 | 0.95 | 0.90 | 0.08 | A |
| S-2 (NE corner) | 5.8 | 4.8 | 11 | 81 | 0.95 | 0.90 | 0.15 | A |
| O5 A, B (SE corner) | 8.0 | 6.8 | 162 | 336 | 0.95 | 0.90 | 0.56 | B |
| **Platform-Level** | | | | | | | | |
| P-1 A, B (Downtown) | 11.0 | 9.8 | 286 | 162 | 0.75 | 0.90 | 0.38 | A |
| P-3 A, B (Uptown) | 9.0 | 7.8 | 86 | 544 | 0.75 | 0.90 | 0.77 | C |
| 57th Street/7th Avenue Station (N/Q/R line) – A010 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| S-7 (NW corner) | 5.7 | 4.7 | 59 | 367 | 0.95 | 0.90 | 0.70 | C |
| S-5 (SW corner) | 5.7 | 4.7 | 115 | 185 | 0.95 | 0.90 | 0.49 | B |
| **Platform-Level** | | | | | | | | |
| P-5 A, B (Downtown) | 9.5 | 8.3 | 172 | 578 | 0.75 | 0.90 | 0.84 | C |
| P-6 A, B (Uptown) | 11.5 | 10.3 | 77 | 333 | 0.75 | 0.90 | 0.37 | A |
| **Weekday PM Peak 15 Minutes** | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) - N051 | | | | | | | | |
| **Street-Level** | | | | | | | | |
| O-22 A, B (NW corner) | 8.1 | 6.9 | 57 | 20 | 0.95 | 0.90 | 0.08 | A |
| S-2 (NE corner) | 5.8 | 4.8 | 91 | 131 | 0.95 | 0.90 | 0.35 | A |
| O5 A, B (SE corner) | 8.0 | 6.8 | 228 | 83 | 0.95 | 0.90 | 0.34 | A |
| **Platform-Level** | | | | | | | | |
| P-1 A, B (Downtown) | 11.0 | 9.8 | 333 | 102 | 0.75 | 0.90 | 0.42 | A |
| P-3 A, B (Uptown) | 9.0 | 7.8 | 341 | 203 | 0.75 | 0.90 | 0.44 | A |

**Table 11-27 (cont'd)**
**2017 With Action Conditions Subway Stairway Analysis**

| Stairway | Width (ft.) | Effective Width (ft.) | 15-Minute Pedestrian Volumes | Surging Factor | Friction Factor | V/C Ratio | LOS |
|---|---|---|---|---|---|---|---|
| **Weekday PM Peak 15 Minutes** | | | | | | | |
| 57th Street/7th Avenue Station (N/Q/R line) – A010 | | | | | | | |
| **Street-Level** | | | | | | | |
| S-7 (NW corner) | 5.7 | 4.7 | 205 | 175 | 0.95 | 0.90 | 0.61 | B |
| S-5 (SW corner) | 5.7 | 4.7 | 243 | 43 | 0.95 | 0.90 | 0.45 | B |
| **Platform-Level** | | | | | | | |
| P-5 A, B (Downtown) | 9.5 | 8.3 | 820 | 62 | 0.75 | 0.90 | 0.68 | B |
| P-6 A, B (Uptown) | 11.5 | 10.3 | 310 | 203 | 0.75 | 0.90 | 0.55 | B |

**Notes:**
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *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 11-28**
**2017 With Action Conditions Subway Fare Array Control Area Analysis**

| Station Fare Array Elements | Quantity | Fare Array Capacity for 15 Minutes | | 15 minute Ped Volumes | | Surging Factor | Friction Factor | V/C Ratio | LOS |
|---|---|---|---|---|---|---|---|---|---|
| | | Entry | Exit | Entry | Exit | | | | |
| **Weekday AM Peak 15 Minutes** | | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) - N051 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 707 | 0.90 | 1.00 | 0.35 | A |
| Two-way Turnstiles | 10 | 420 | 645 | 604 | 1,229 | 0.90 | 0.90 | 0.40 | A |
| 57th Street/7th Avenue Station (N/Q/R line) – A010 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 711 | 0.90 | 1.00 | 0.36 | A |
| Two-way Turnstiles | 8 | 420 | 645 | 226 | 326 | 0.90 | 0.90 | 0.15 | A |
| **Weekday PM Peak 15 Minutes** | | | | | | | | | |
| Columbus Circle/59th Street (A/B/C/D/1 line) – N051 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 378 | 0.90 | 1.00 | 0.19 | A |
| Two-way Turnstiles | 10 | 420 | 645 | 1,507 | 238 | 0.90 | 0.90 | 0.44 | A |
| 57th Street/7th Avenue Station (N/Q/R line) –A010 | | | | | | | | | |
| High-Exit only – Turnstile (HXT) | 4 | 0 | 555 | 0 | 146 | 0.90 | 1.00 | 0.07 | A |
| Two-way Turnstiles | 8 | 420 | 645 | 645 | 71 | 0.90 | 0.90 | 0.23 | A |

**Notes:**
Capacities were calculated based on rates presented in the 2012 *CEQR Technical Manual*.
Surging factors are only applied to the exiting pedestrian volume (2012 *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)

## BUS LINE-HAUL ANALYSIS

*EXISTING CONDITIONS*

To assess the potential impacts on the study area bus routes, maximum load point data for the M31 and M57 bus routes were obtained from NYCT. A field survey was conducted on June 19, 2013 to supplement data for the westbound M31 line during the AM peak hour (8:00- 9:00 AM). As shown in **Table 11-29**, under existing conditions, the M31 and M57 bus routes currently operate within the guideline capacity during the weekday AM and PM peak hours.

**Table 11-29**
**2013 Existing Conditions: Bus Line-Haul Analysis**

| Route | Direction | Peak Load Point | Hourly Volumes | Buses/ Hour | AP |
|---|---|---|---|---|---|
| **AM Peak Hour** | | | | | |
| M31 | West | West 57th Street and Broadway | 166 | 6 | 28 |
| M57 | East | West 57th Street and Broadway | 244 | 7 | 35 |
| | West | West 57th Street and Broadway | 205 | 5 | 41 |
| **PM Peak Hour** | | | | | |
| M31 | West | West 57th Street and Broadway | 286 | 9 | 32 |
| M57 | East | East 57th Street and Lexington Avenue | 195 | 7 | 28 |
| | West | West 57th Street and Broadway | 298 | 7 | 43 |

**Notes:** AP=average passengers per bus;
***** Articulated buses with guideline capacity of 85 passengers/bus
**Source:** NYCT Bus ridership data (2010/2012), AKRF field survey- June 19, 2013

*THE FUTURE WITHOUT THE PROPOSED ACTIONS*

Estimates of peak hour bus volumes in the No Action condition were developed by applying the *CEQR Technical Manual* recommended annual background growth rates as previously described. In addition, trips associated with the No Action projects that could add to the bus transit demand were incorporated into the No Action bus line-haul volumes. As shown in **Table 11-30**, under the No Action condition, during the AM peak hour, the eastbound M57 would exceed the guideline capacity (54 passengers per bus) while the westbound M57 would exceed the guideline capacity during the PM peak hour.

**Table 11-30**
**2017 No Action Conditions: Bus Line-Haul Analysis**

| Route | Direction | Peak Load Point | Hourly Volumes | Buses/ Hour | AP |
|---|---|---|---|---|---|
| **AM Peak Hour** | | | | | |
| M31 | West | West 57th Street and Broadway | 76[1] | 6 | 13 |
| M57 | East | West 57th Street and Broadway | 523 | 7 | (75) |
| | West | West 57th Street and Broadway | 115[1] | 5 | 23 |
| **PM Peak Hour** | | | | | |
| M31 | West | West 57th Street and Broadway | 432 | 9 | 48 |
| M57 | East | East 57th Street and Lexington Avenue | 64[1] | 7 | 10 |
| | West | West 57th Street and Broadway | 446 | 7 | (64) |

**Notes:** AP=average passengers per bus;
***** Articulated buses with guideline capacity of 85 passengers/bus
(#)=exceeds NYCT guideline capacity.
[1] No Action hourly volume incorporated negative No Action project increments.
**Source:** NYCT Bus ridership data (2010/2012), AKRF field survey- June 19, 2013

*PROBABLE IMPACTS OF THE PROPOSED ACTIONS*

Peak period bus ridership for the With Action condition was generated by adding the incremental trips associated with the proposed project to the No Action bus line-haul volumes. For the office use, 2000 RJTW data was used to determine the origins of bus trips to the study area. It was estimated that 70 percent of people residing north of the project site would take the M11 route and the remaining 30 percent would take the M57 route. For those residing south of the project site, it was estimated that 70 percent would take the M31 and M57 routes (35 percent each) and the remaining 30 percent would take the M11 route. For the retail use, the population distribution in the neighborhood was used to determine the origins of bus trips. It was estimated that 34 percent of trips would come from east of the project site via the M31 and M57 routes (17

percent each) while 42 percent would come from north of the project site via the M57 and M11 routes (21 percent each). The remaining 24 percent were estimated to come from south of the project site via the M11 route. For the residential use, the ACS 2007-2011 journey-to-work estimates were used to determine the destination of bus trips originating from the study area. It was estimated that approximately 29 percent of the residents would take the M11 route, approximately 7 percent would take the M31 route, and approximately 64 percent would take the M57 route to their destinations of employment.

As described in Section E, "Transportation Analysis Methodologies," impacts on bus line-haul levels are considered significant if a proposed project would result in operating conditions above guideline capacities. As shown in **Table 11-31**, under the With Action condition, during the AM peak period, the eastbound M57 would exceed guideline capacity while westbound M31 and westbound M57 would exceed guideline capacity during the PM peak. These projected increases in bus ridership beyond guideline capacities constitute potential significant adverse bus line-haul impacts based on the *CEQR* criteria.

Proposed measures to mitigate the potential significant adverse bus line-haul impacts include scheduling additional buses to increase the capacity. Typically, NYCT routinely monitors changes in bus ridership and would make the necessary service adjustments where warranted. These service adjustments are subject to fiscal and operational constraints and, if implemented, are expected to occur over time. These measures are discussed in greater detail in Chapter 19, "Mitigation."

**Table 11-31**
**2017 With Action Conditions: Bus Line-Haul Analysis**

| Route | Direction | Peak Load Point | Hourly Volumes | Buses/ Hour | AP |
|---|---|---|---|---|---|
| **AM Peak Hour** | | | | | |
| M31 | West | West 57th Street and Broadway | 162 | 6 | 27 |
| M57 | East | West 57th Street and Broadway | 838 | 7 | **(120)** |
| | West | West 57th Street and Broadway | 202 | 5 | 41 |
| **PM Peak Hour** | | | | | |
| M31 | West | West 57th Street and Broadway | 641 | 9 | (72) |
| M57 | East | East 57th Street and Lexington Avenue | 344 | 7 | 50 |
| | West | West 57th Street and Broadway | 658 | 7 | **(94)** |

**Notes:** AP=average passengers per bus;
***** Articulated buses with guideline capacity of 85 passengers/bus
(#)=exceeds NYCT guideline capacity.
**Source:** NYCT Bus ridership data (2010/2012), AKRF field survey- June 19, 2013

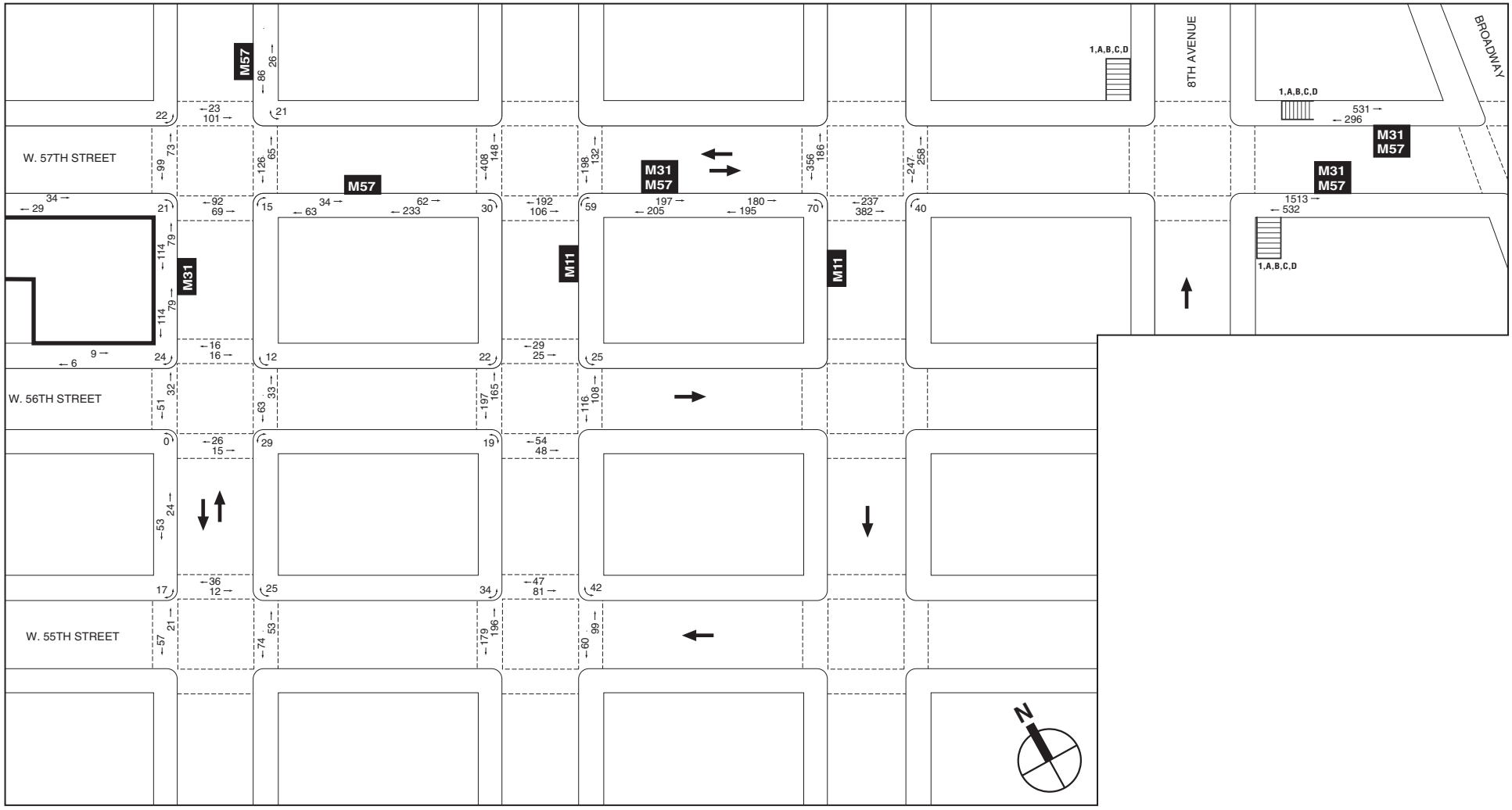
# H. PEDESTRIANS

## EXISTING CONDITIONS

Pedestrian data were collected in March 2013 at key locations near the project site during the weekday hours of 7:00 AM to 10:00 AM, 11:00 AM to 2:00 PM, and 4:00 PM to 7:00 PM, and during the Saturday hours of 12:00 PM to 4:00 PM.

Peak hours were determined by comparing rolling hourly averages; the highest 15-minute volumes within the peak hours were selected for analysis. The existing peak 15-minute weekday AM, midday, PM, and Saturday pedestrian analysis networks are presented in **Figures 11-25** to **11-28**. As shown in **Tables 11-32** to **11-34**, all sidewalks, corner reservoirs, and crosswalk

6.25.13




*Project Site*

*Subway Station Entrance*

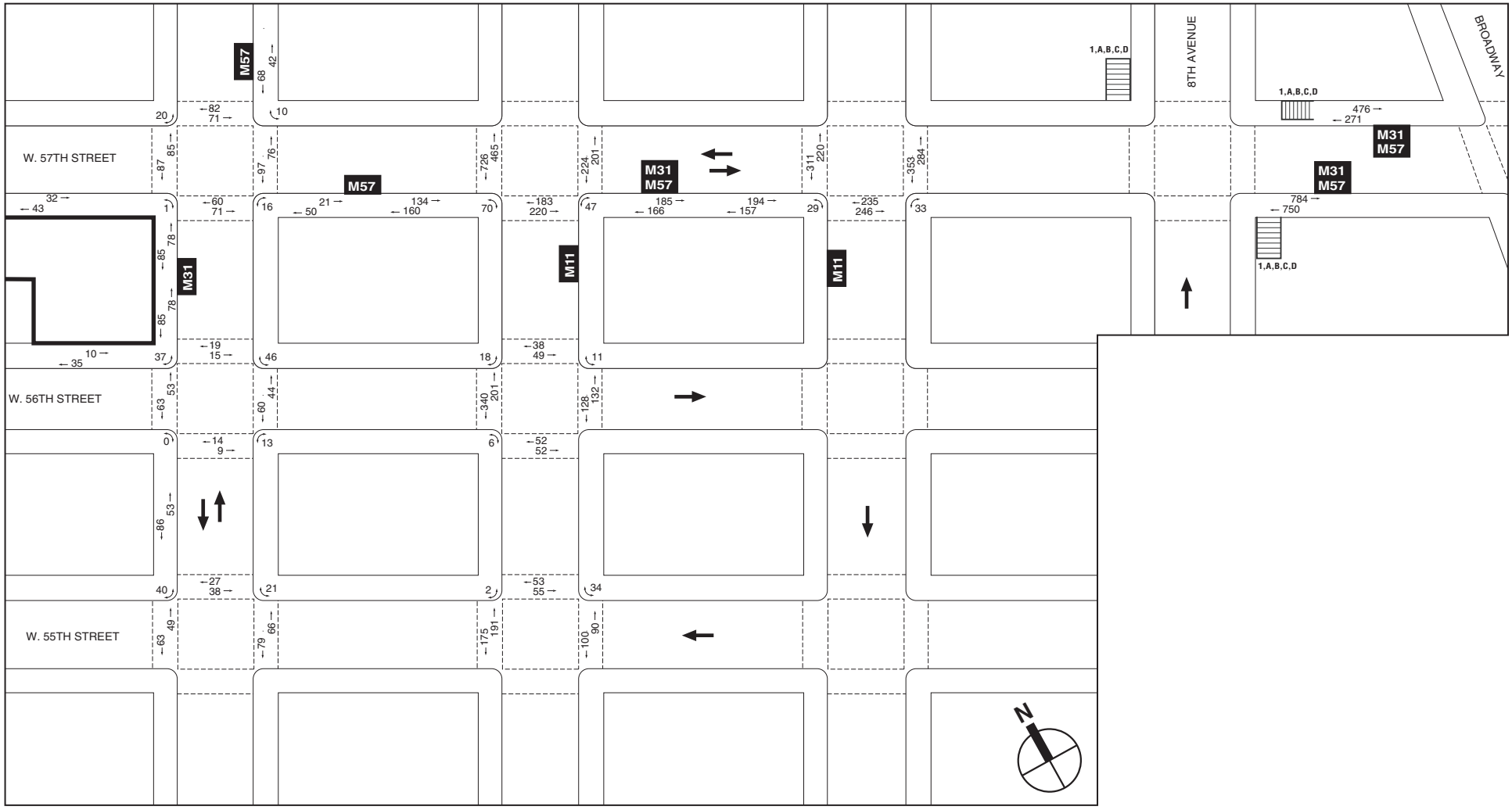
M57 *Bus Stop*

Existing Pedestrian Volumes
Weekday AM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-25**

6.25.13




*Project Site*

*Subway Station Entrance*

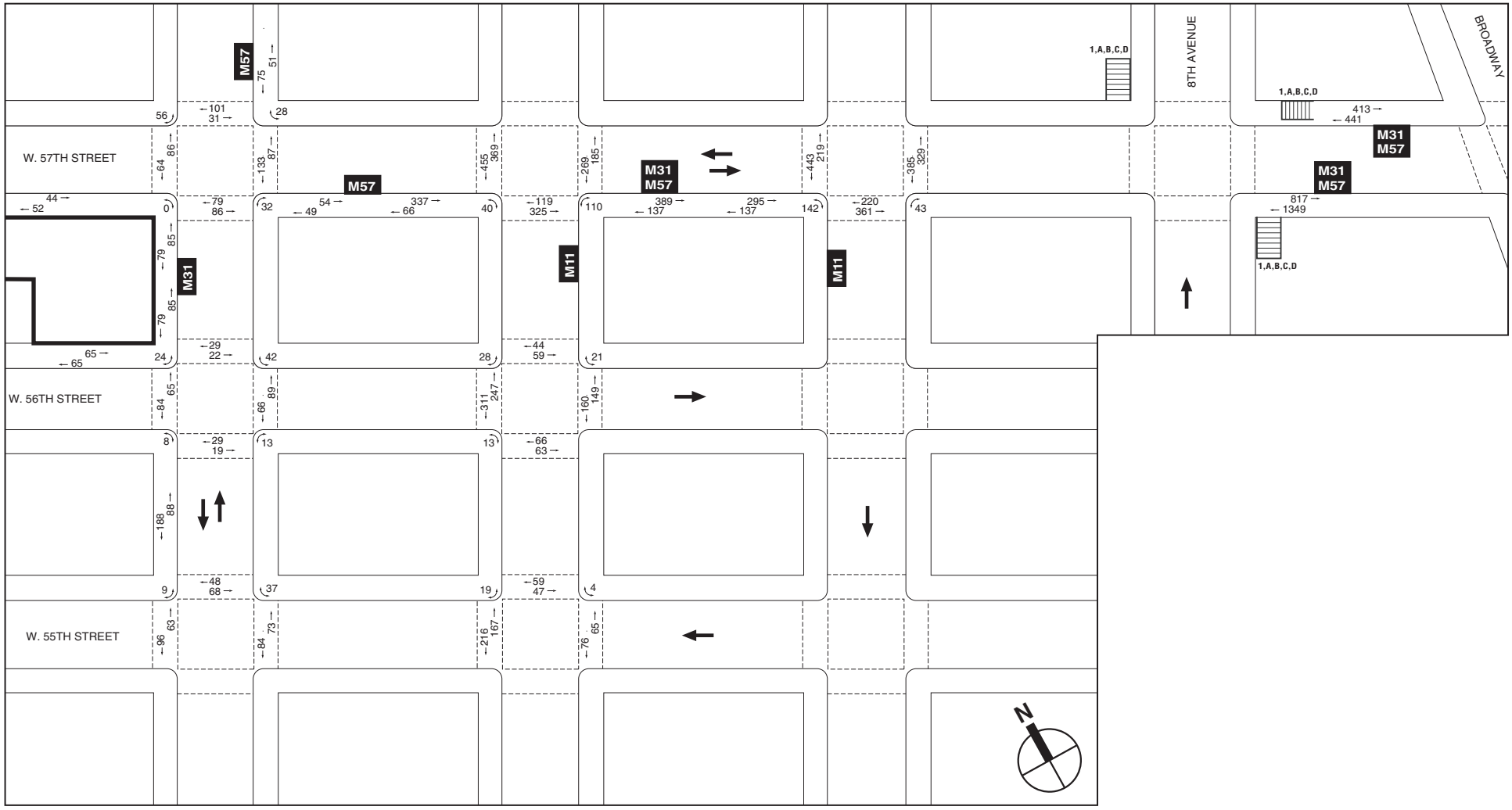
M57 *Bus Stop*

Existing Pedestrian Volumes
Weekday MD Peak Hour

**606 WEST 57TH STREET**

**Figure 11-26**

6.25.13




*Project Site*

*Subway Station Entrance*

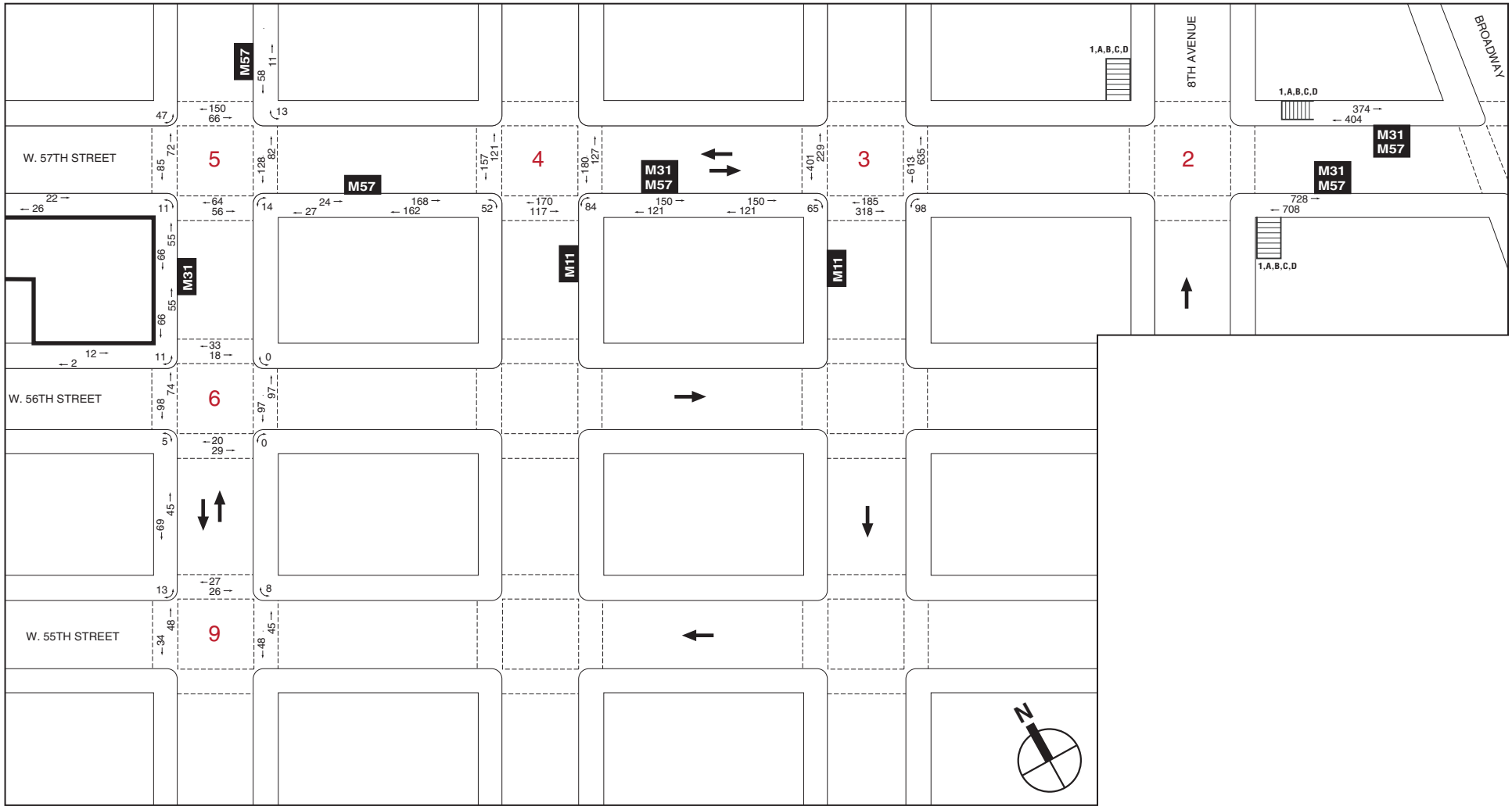
M57 *Bus Stop*

Existing Pedestrian Volumes
Weekday PM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-27**

9.6.13




*Project Site*

*Subway Station Entrance*

M57 *Bus Stop*

Existing Pedestrian Volumes
Saturday Peak Hour

**606 WEST 57TH STREET**

**Figure 11-28**

analysis locations operate at acceptable mid-LOS D or better service levels (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks.)

## THE FUTURE WITHOUT THE PROPOSED ACTIONS

No Action condition pedestrian volumes were estimated by increasing existing pedestrian levels to reflect expected growth in overall travel through and within the study area. As per *CEQR* guidelines, an annual background growth rate of 0.25 percent was assumed for the years 2013 to 2017. Pedestrian volumes from projects that are anticipated to be completed in the study area, absent the proposed project, were also added to determine the No Action condition pedestrian volumes. The total No Action peak 15-minute pedestrian volumes for the weekday AM, midday, PM, and Saturday peak periods are presented in **Figures 11-29** to **11-32**. As summarized in **Tables 11-35** to **11-37**, all sidewalk, corner reservoir, and crosswalk analysis locations will continue to operate at acceptable mid-LOS D or better service levels (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks.)

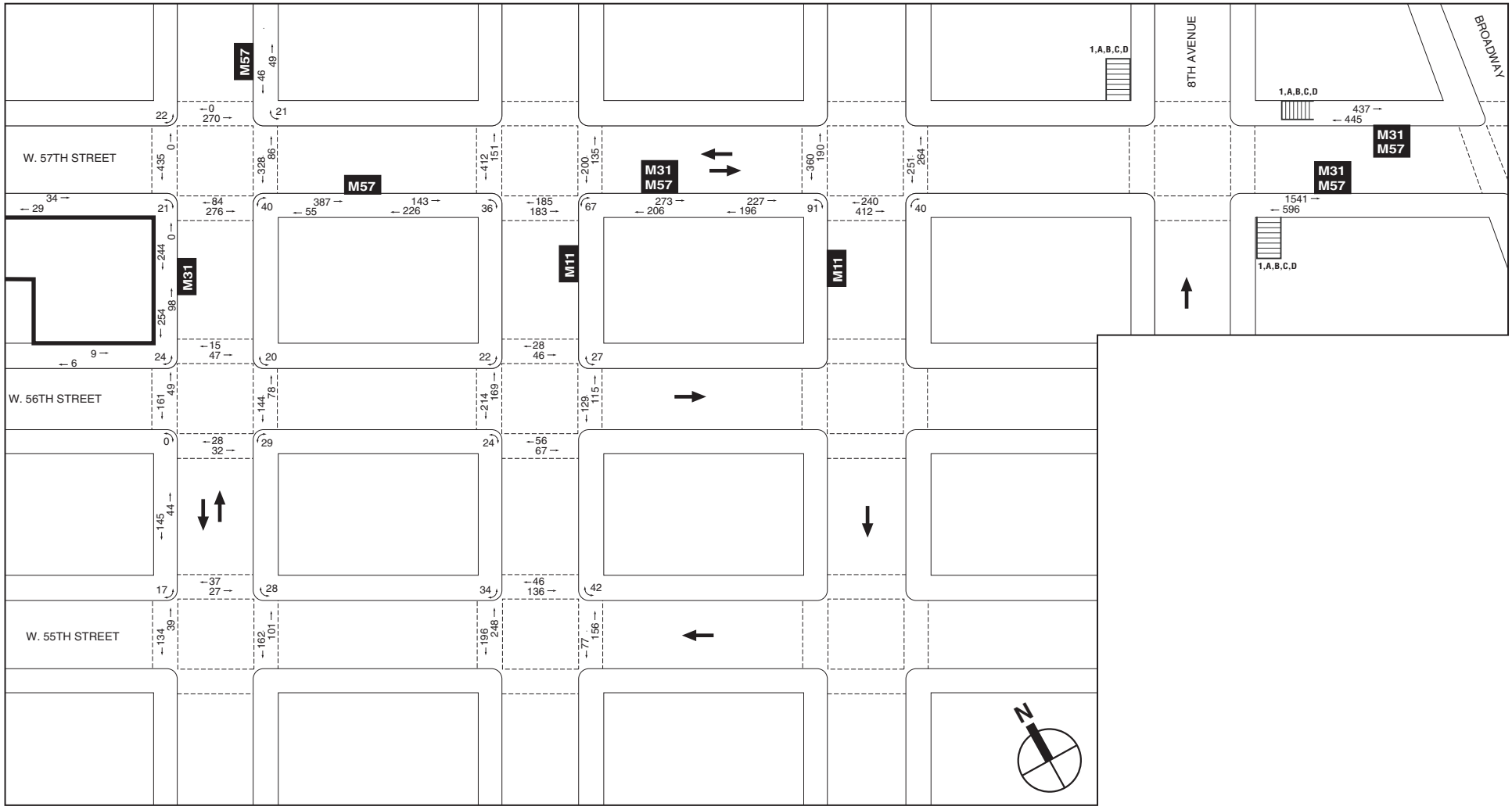
## PROBABLE IMPACTS OF THE PROPOSED ACTIONS

The project-generated pedestrian volumes were assigned to the pedestrian network considering current land uses in the area, population distribution, nearby parking locations, available transit services, and surrounding pedestrian facilities. The hourly incremental pedestrian volumes presented above in Section D, "Level 2 Screening Assessment", were added to the projected 2017 No Action volumes to generate the 2017 With Action pedestrian volumes for analysis (see **Figures 11-33** to **11-36**).

As shown in **Tables 11-38** to **11-40**, with the exception of the following location all the sidewalk, corner reservoir, and crosswalk analysis locations would continue to operate acceptably at mid-LOS D or better (maximum of 8.5 PMF platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks), or incur decreased LOS that, when compared to the No Action condition, do not exceed the 2012 *CEQR Technical Manual* sliding scale impact thresholds in the With Action condition:

- The south crosswalk of 57th Street and 11th Avenue, which would operate at LOS E with 12.3SFP, 10.8 SFP, 11.6 SFP, and 10.1 SFP during the weekday AM, weekday midday, weekday PM ,and Saturday peak 15-minute periods, respectively.

7.2.13




*Project Site*

*Subway Station Entrance*

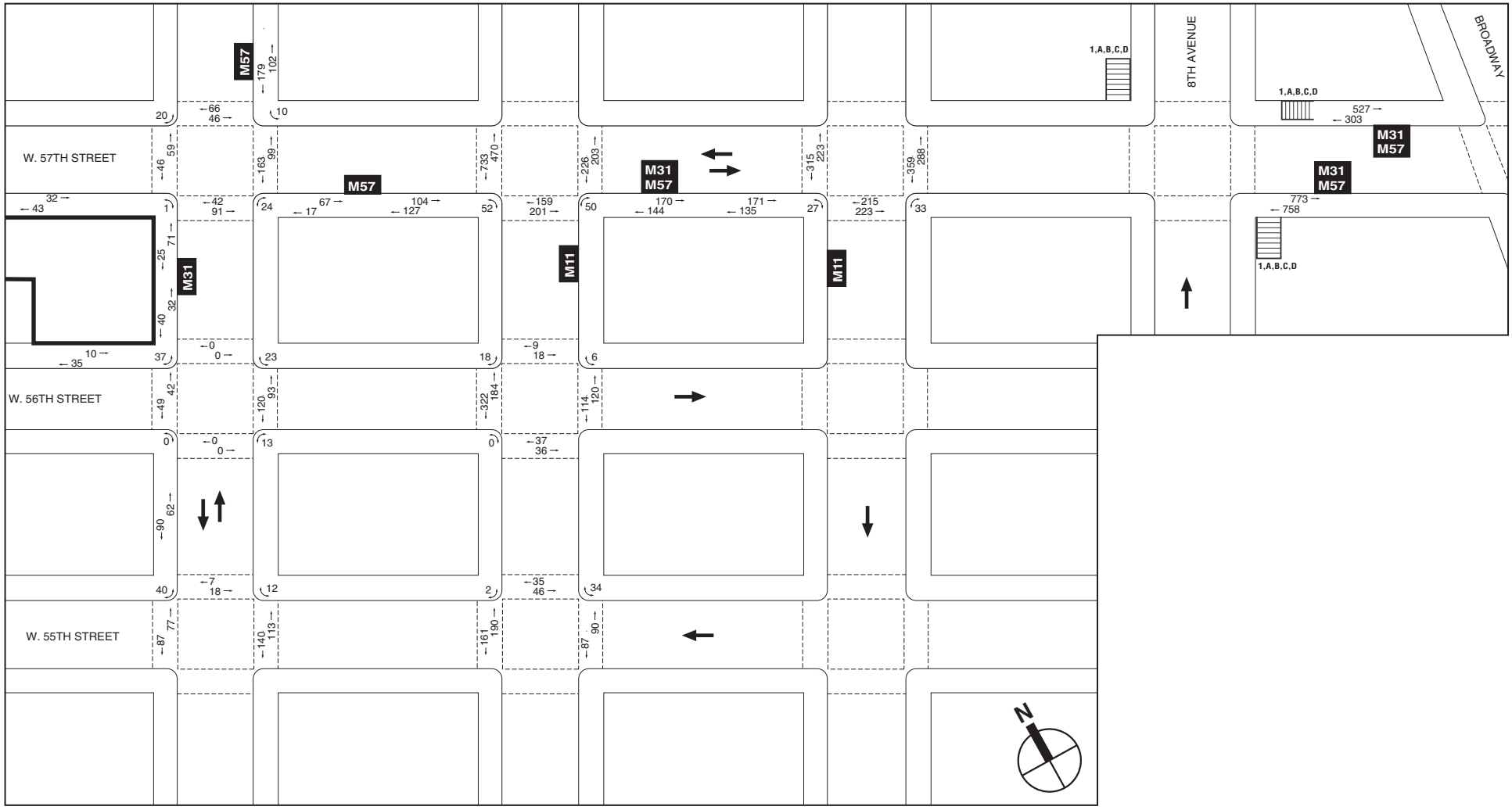
M57 *Bus Stop*

No Action Pedestrian Volumes
Weekday AM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-29**

7.2.13




*Project Site*

*Subway Station Entrance*

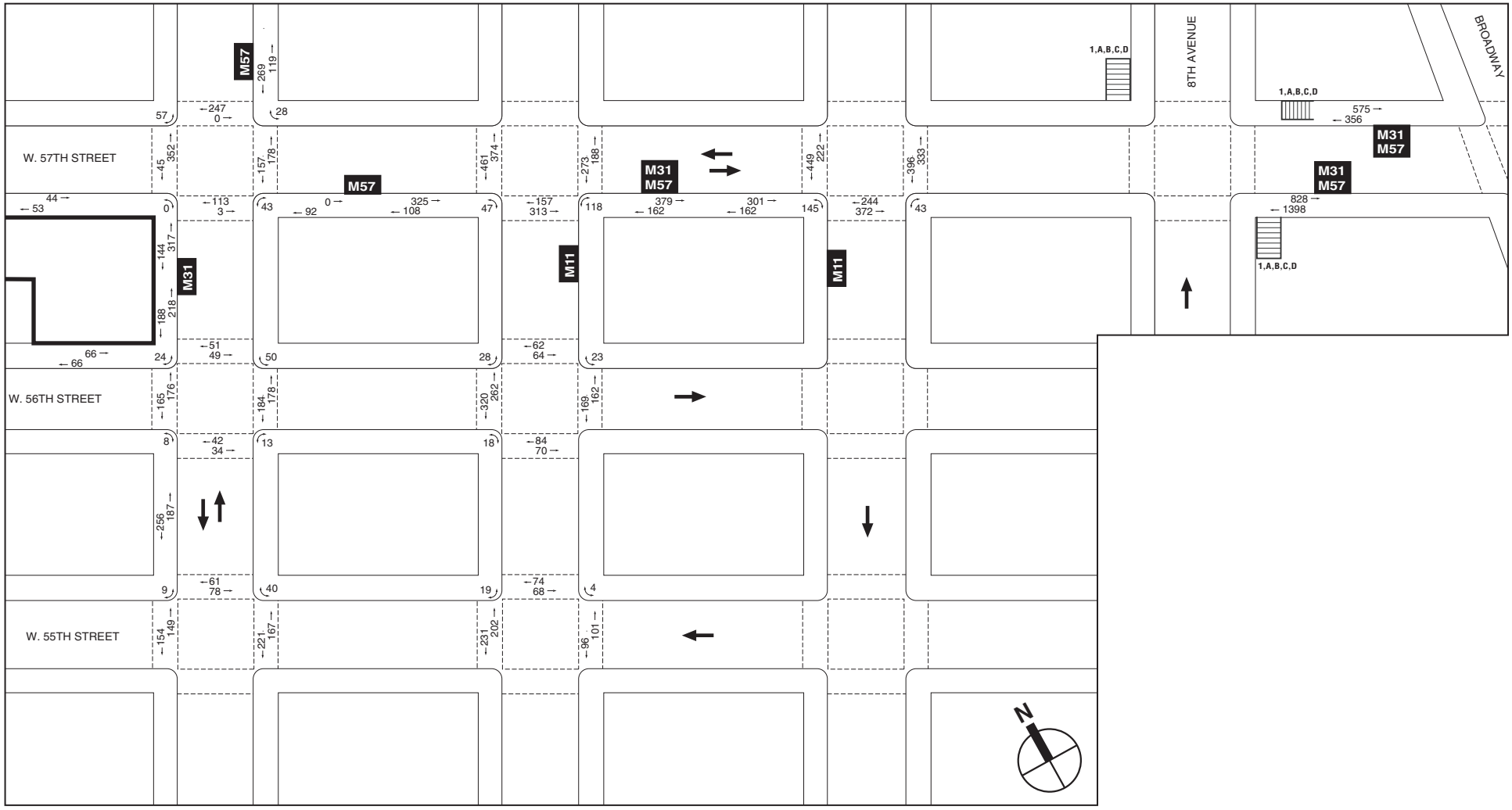
**M57** *Bus Stop*

No Action Pedestrian Volumes
Weekday MD Peak Hour

**606 WEST 57TH STREET**

**Figure 11-30**

7.2.13




*Project Site*

*Subway Station Entrance*

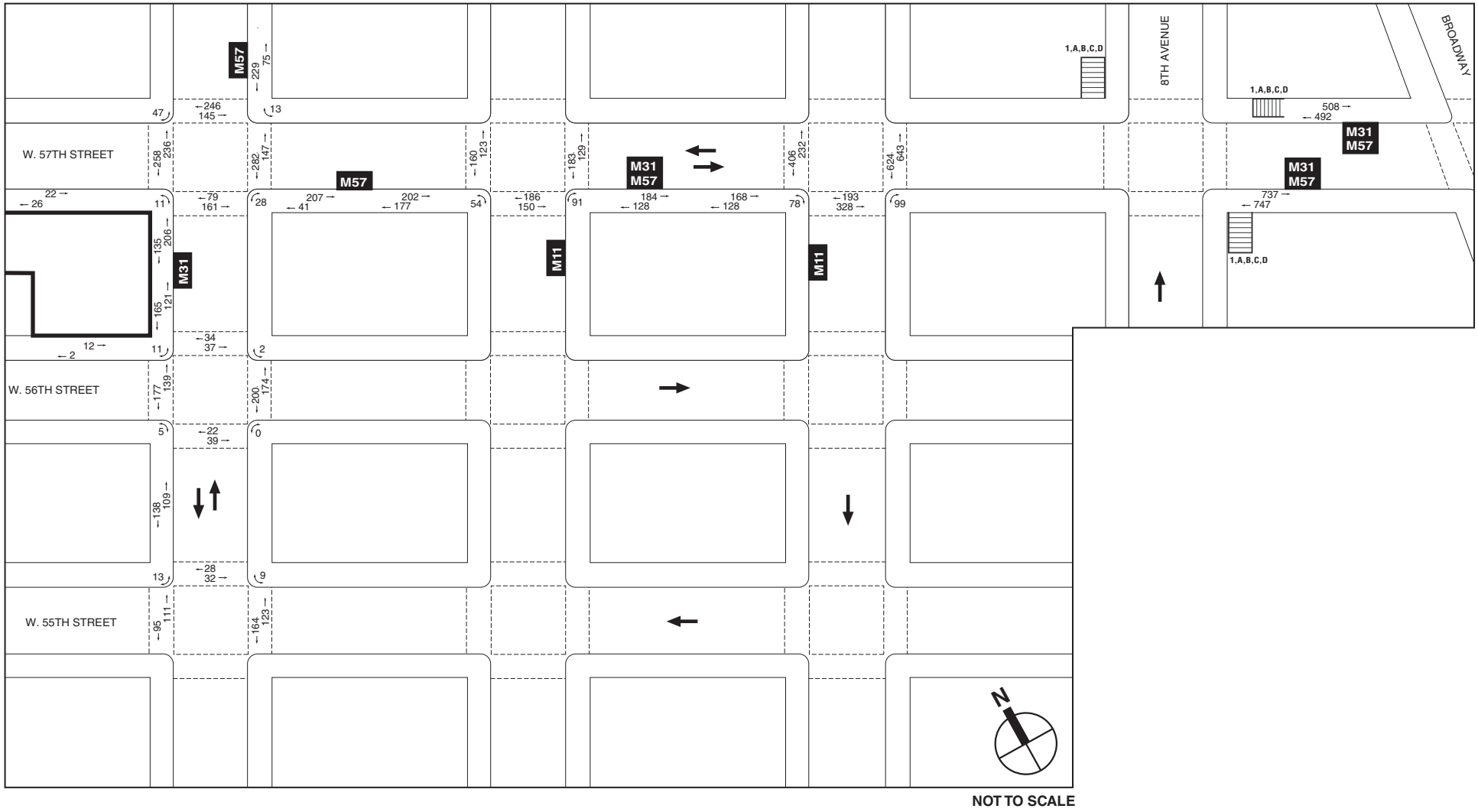
**M57** *Bus Stop*

No Action Pedestrian Volumes
Weekday PM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-31**

9.6.13




*Project Site*

*Subway Station Entrance*

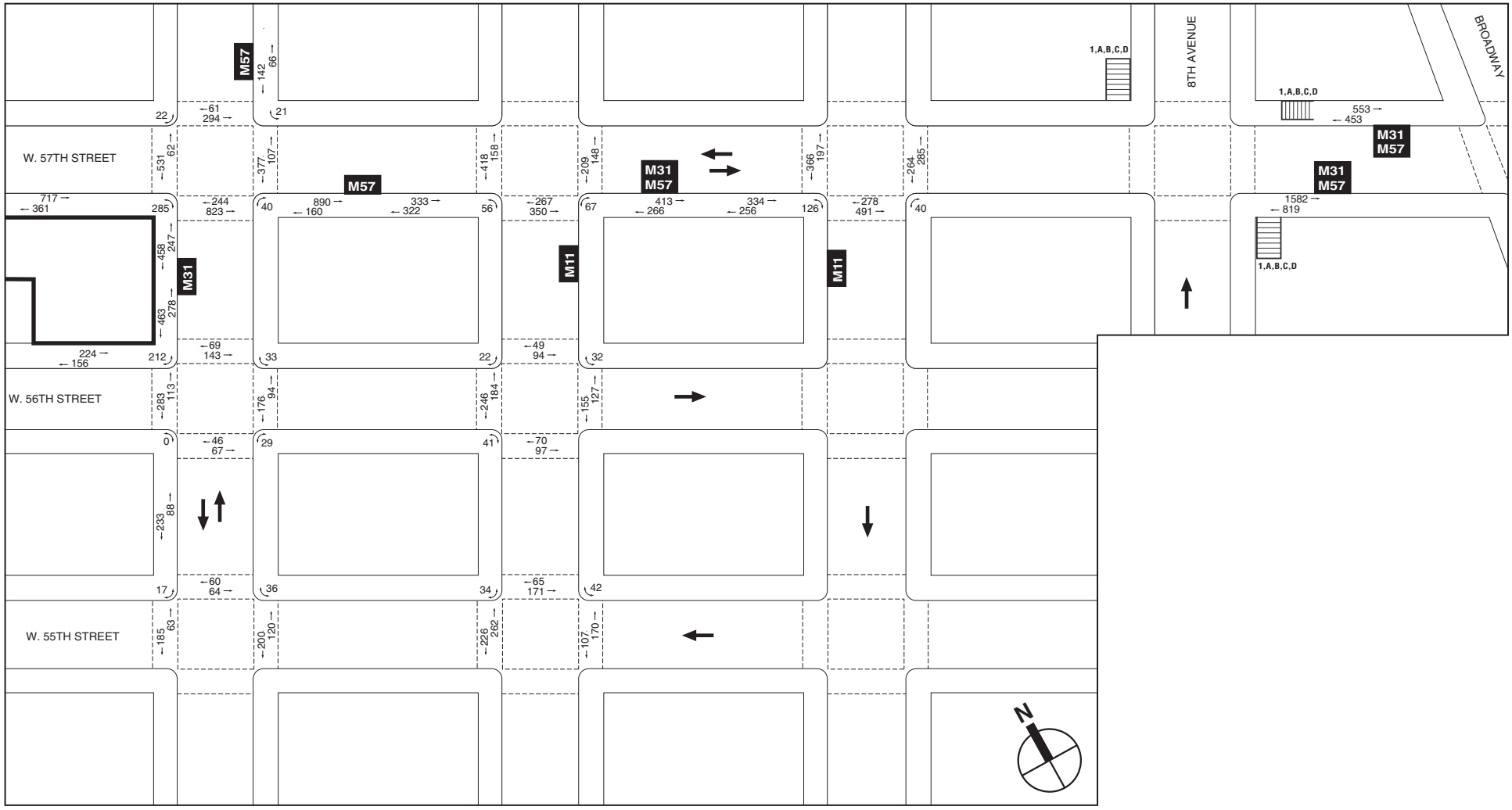
**M57** *Bus Stop*

No Action Pedestrian Volumes
Saturday Peak Hour

**606 WEST 57TH STREET**

**Figure 11-32**

7.2.13




*Project Site*

*Subway Station Entrance*

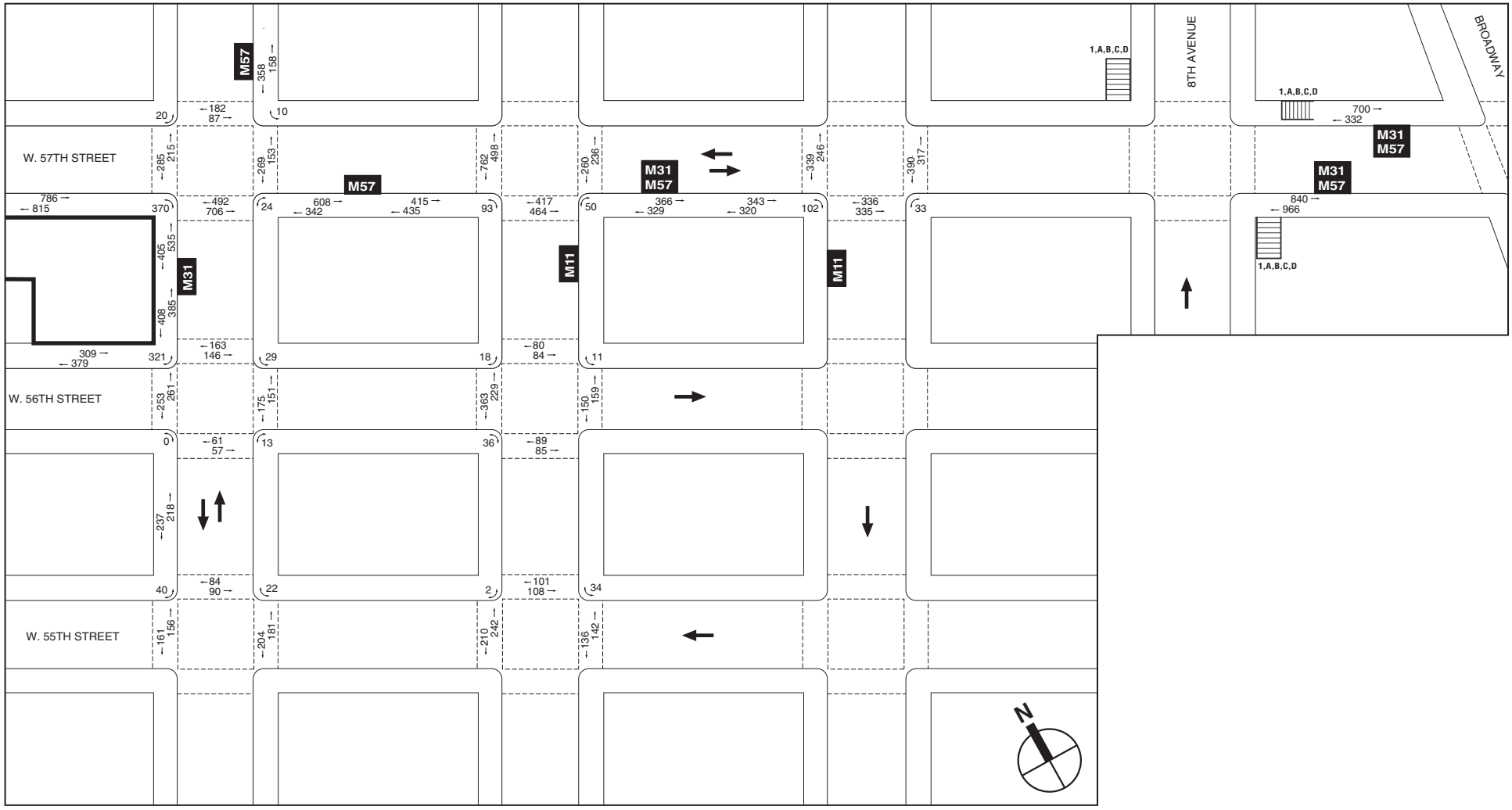
**M57** *Bus Stop*

With Action Pedestrian Volumes
Weekday AM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-33**

7.2.13

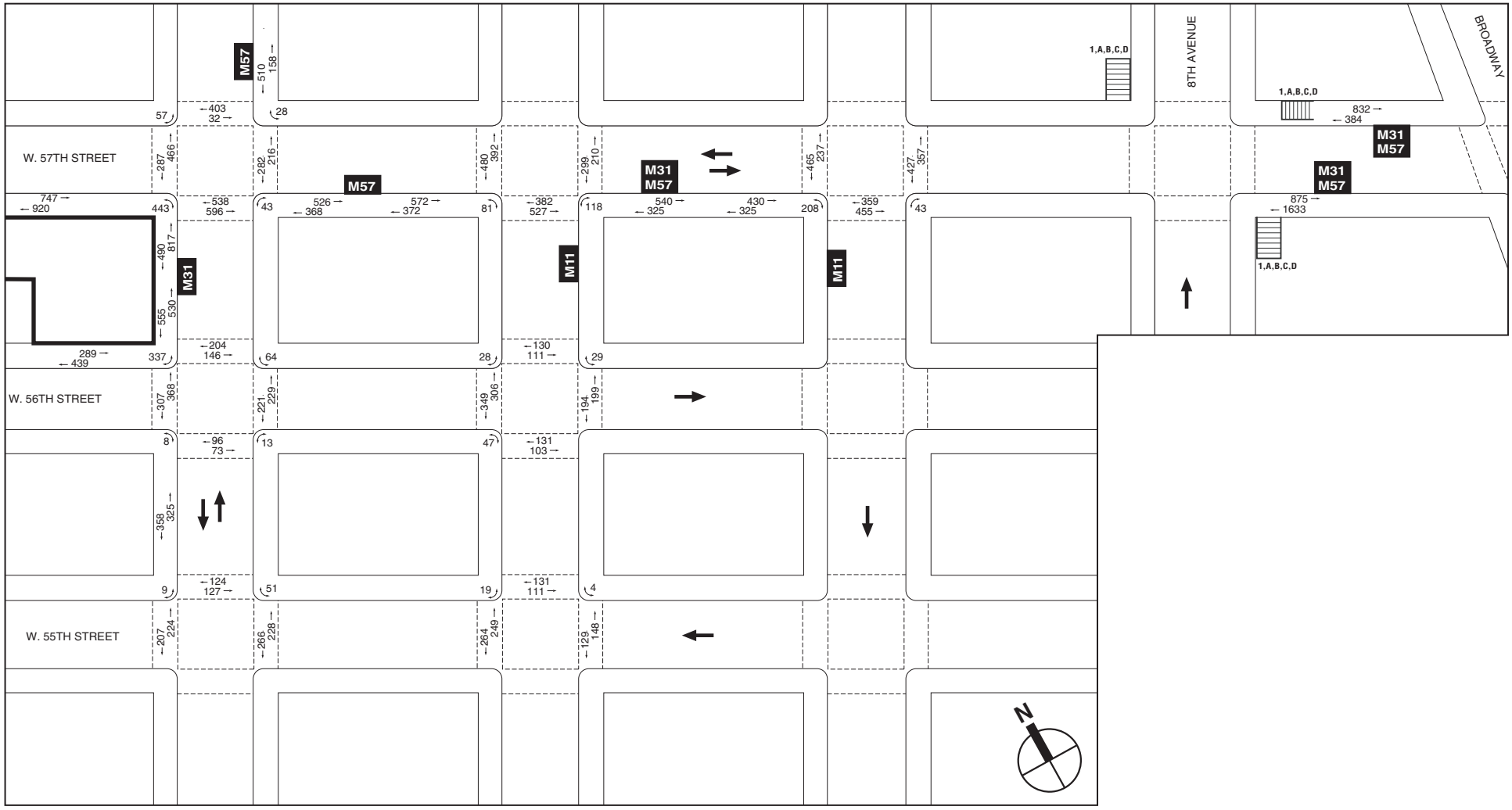



With Action Pedestrian Volumes
Weekday MD Peak Hour

**606 WEST 57TH STREET**

**Figure 11-34**

7.2.13




*Project Site*

*Subway Station Entrance*

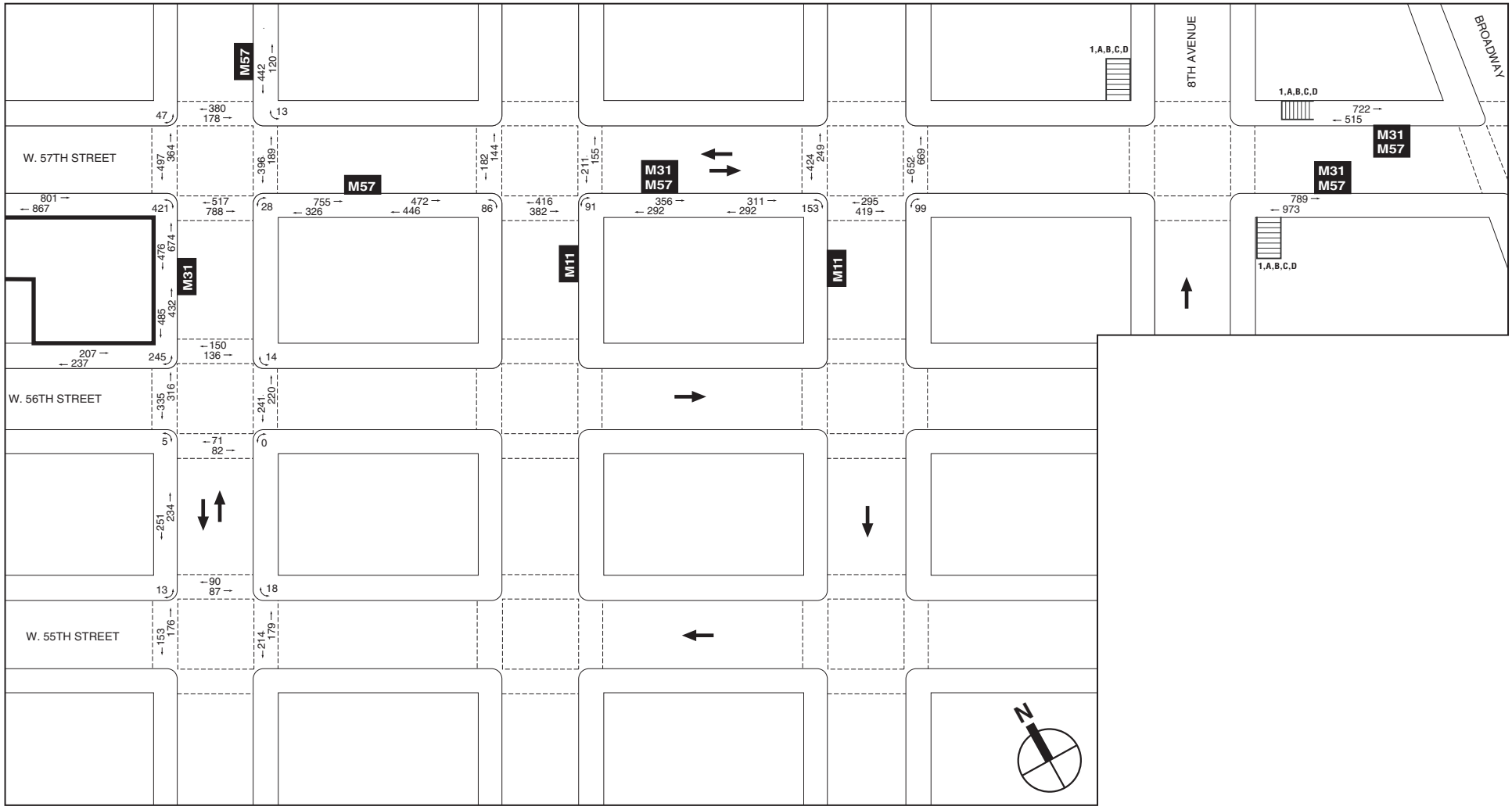
**M57** *Bus Stop*

With Action Pedestrian Volumes
Weekday PM Peak Hour

**606 WEST 57TH STREET**

**Figure 11-35**

9.6.13




*Project Site*

*Subway Station Entrance*

**M57** *Bus Stop*

With Action Pedestrian Volumes
Saturday Peak Hour

**606 WEST 57TH STREET**

**Figure 11-36**

**Table 11-32**
**2013 Existing Conditions: Sidewalk Analysis**

| Location | Sidewalk | Effective Width (ft) | Two-way Peak Hour Volume | PHF | PMF | Platoon LOS |
|---|---|---|---|---|---|---|
| **Weekday AM Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 5.0 | 112 | 0.80 | 0.47 | A |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 97 | 0.80 | 0.20 | A |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 193 | 0.80 | 0.40 | A |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 63 | 0.80 | 0.19 | A |
| Eleventh Avenue between 56th Street and 55th Street | West | 7.5 | 77 | 0.80 | 0.40 | A |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 15 | 0.80 | 0.04 | A |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 193 | 0.80 | 0.50 | B |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 402 | 0.89 | 2.51 | B |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 295 | 0.80 | 0.91 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 375 | 0.82 | 0.58 | B |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 827 | 0.83 | 1.66 | B |
| | South | 8.0 | 2045 | 0.94 | 4.54 | C |
| **Weekday Midday Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 5.0 | 110 | 0.89 | 0.41 | A |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 71 | 0.85 | 0.14 | A |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 163 | 0.83 | 0.33 | A |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 75 | 0.82 | 0.22 | A |
| Eleventh Avenue between 56th Street and 55th Street | West | 7.5 | 139 | 0.91 | 0.33 | A |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 45 | 0.80 | 0.13 | A |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 163 | 0.83 | 0.41 | A |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 351 | 0.80 | 2.44 | B |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 294 | 0.86 | 0.84 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 351 | 0.87 | 0.52 | B |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 747 | 0.80 | 1.56 | B |
| | South | 8.0 | 1534 | 0.89 | 3.59 | C |
| **Weekday PM Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 5.0 | 126 | 0.80 | 0.53 | B |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 103 | 0.83 | 0.21 | A |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 164 | 0.87 | 0.31 | A |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 96 | 0.96 | 0.24 | A |
| Eleventh Avenue between 56th Street and 55th Street | West | 7.5 | 276 | 0.80 | 0.31 | A |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 130 | 0.80 | 0.39 | A |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 164 | 0.87 | 0.39 | A |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 526 | 0.80 | 3.65 | C |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 403 | 0.94 | 1.06 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 432 | 0.95 | 0.58 | B |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 854 | 0.89 | 1.61 | B |
| | South | 8.0 | 2166 | 0.95 | 4.73 | C |
| **Saturday Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 5.0 | 69 | 0.80 | 0.29 | A |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 51 | 0.80 | 0.11 | A |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 121 | 0.82 | 0.25 | A |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 48 | 0.80 | 0.14 | A |
| Eleventh Avenue between 56th Street and 55th Street | West | 7.5 | 114 | 0.80 | 0.25 | A |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 14 | 0.88 | 0.04 | A |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 121 | 0.80 | 0.32 | A |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 271 | 0.81 | 1.87 | B |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 330 | 0.83 | 0.99 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 271 | 0.81 | 0.43 | A |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 778 | 0.85 | 1.53 | B |
| | South | 8.0 | 1436 | 0.85 | 3.52 | C |

**Note:** PMF = pedestrians per minute per foot

**Table 11-33**
**2013 Existing Conditions: Corner Analysis**

| Location | Corner | Weekday AM Peak Period | | Weekday Midday Peak Period | | Weekday PM Peak Period | | Saturday Peak Period | |
|---|---|---|---|---|---|---|---|---|---|
| | | SFP | LOS | SFP | LOS | SFP | LOS | SFP | LOS |
| Eleventh Avenue and W 57th Street | Northeast | 501.8 | A | 497.5 | A | 460.5 | A | 448.5 | A |
| | Southeast | 474.5 | A | 542.1 | A | 441.9 | A | 512.3 | A |
| | Southwest | 536.9 | A | 610.6 | A | 590.7 | A | 675.3 | A |
| | Northwest | 578.5 | A | 532.9 | A | 549.4 | A | 464.9 | A |
| Eleventh Avenue and W 56th Street | Northeast | 797.0 | A | 620.8 | A | 469.0 | A | 494.2 | A |
| | Southeast | 529.3 | A | 630.6 | A | 417.8 | A | 401.6 | A |
| | Southwest | 781.7 | A | 696.9 | A | 469.8 | A | 464.6 | A |
| | Northwest | 534.6 | A | 407.5 | A | 328.6 | A | 336.8 | A |
| Eleventh Avenue and W 55th Street | Northeast | 456.2 | A | 425.6 | A | 317.8 | A | 604.2 | A |
| | Northwest | 505.0 | A | 334.5 | A | 242.0 | A | 530.8 | A |
| Tenth Avenue and W 57th Street | Southeast | 357.1 | A | 257.1 | A | 231.5 | A | 344.7 | A |
| | Southwest | 233.3 | A | 114.3 | A | 144.5 | A | 362.6 | A |
| Tenth Avenue and W 56th Street | Northeast | 447.2 | A | 428.5 | A | 312.1 | A | N/A | N/A |
| | Southwest | 294.8 | A | 202.7 | A | 187.0 | A | | |
| | Northwest | 364.8 | A | 222.4 | A | 211.0 | A | | |
| Tenth Avenue and W 55th Street | Northeast | 432.6 | A | 413.2 | A | 549.2 | A | N/A | N/A |
| | Northwest | 244.3 | A | 301.0 | A | 287.4 | A | | |
| Ninth Avenue and W 57th Street | Southeast | 160.3 | A | 148.5 | A | 145.0 | A | 101.4 | A |
| | Southwest | 138.4 | A | 151.7 | A | 124.4 | A | 137.3 | A |

**Note:** SFP = square feet per pedestrian

**Table 11-34**
**2013 Existing Conditions: Crosswalk Analysis**

| Location | Crosswalk | Crosswalk Length (ft) | Crosswalk Width (ft) | Two-way Peak Hour Volume | SFP | LOS |
|---|---|---|---|---|---|---|
| **Weekday AM Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 161 | 91.2 | A |
| | West | 59.0 | 14.0 | 172 | 182.8 | A |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 32 | 520.3 | A |
| | West | 34.0 | 13.0 | 83 | 522.5 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 298 | 113.7 | A |
| Ninth Avenue and W 57th Street | South | 70.0 | 19.0 | 619 | 30.7 | C |
| **Weekday Midday Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 131 | 109.7 | A |
| | West | 59.0 | 14.0 | 172 | 180.2 | A |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 34 | 529.7 | A |
| | West | 34.0 | 13.0 | 116 | 372.7 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 403 | 78.9 | A |
| Ninth Avenue and W 57th Street | South | 70.0 | 19.0 | 481 | 35.2 | C |
| **Weekday PM Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 165 | 87.3 | A |
| | West | 59.0 | 14.0 | 150 | 208.0 | A |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 51 | 353.2 | A |
| | West | 34.0 | 13.0 | 149 | 289.0 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 444 | 70.9 | A |
| Ninth Avenue and W 57th Street | South | 70.0 | 19.0 | 581 | 31.5 | C |
| **Saturday Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 120 | 123.5 | A |
| | West | 59.0 | 14.0 | 157 | 204.9 | A |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 51 | 333.3 | A |
| | West | 34.0 | 13.0 | 172 | 274.4 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 287 | 118.0 | A |

**Note:** SFP = square feet per pedestrian

**Table 11-35**
**2017 No Action Conditions: Sidewalk Analysis**

| Location | Sidewalk | Effective Width (ft) | Two-way Peak Hour Volume | PHF | PMF | Platoon LOS |
|---|---|---|---|---|---|---|
| **Weekday AM Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 8.0 | 95 | 0.80 | 0.25 | A |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 442 | 0.80 | 0.92 | B |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 244 | 0.80 | 0.51 | B |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 63 | 0.80 | 0.19 | A |
| Eleventh Avenue between 56th Street and 55th Street | West | 9.0 | 189 | 0.80 | 0.51 | B |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 15 | 0.80 | 0.04 | A |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 352 | 0.80 | 0.92 | B |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 479 | 0.89 | 2.99 | B |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 369 | 0.80 | 1.14 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 423 | 0.82 | 0.66 | B |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 882 | 0.83 | 1.77 | B |
| | South | 10.0 | 2137 | 0.94 | 3.80 | C |
| **Weekday Midday Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 8.0 | 281 | 0.89 | 0.66 | B |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 84 | 0.85 | 0.17 | A |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 96 | 0.83 | 0.19 | A |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 75 | 0.82 | 0.22 | A |
| Eleventh Avenue between 56th Street and 55th Street | West | 9.0 | 152 | 0.91 | 0.19 | A |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 45 | 0.80 | 0.13 | A |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 72 | 0.83 | 0.18 | A |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 314 | 0.80 | 2.18 | B |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 231 | 0.86 | 0.66 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 306 | 0.87 | 0.45 | A |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 830 | 0.80 | 1.73 | B |
| | South | 10.0 | 1531 | 0.89 | 2.87 | B |
| **Weekday PM Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 8.0 | 388 | 0.80 | 1.01 | B |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 92 | 0.83 | 0.18 | A |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 461 | 0.87 | 0.88 | B |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 97 | 0.96 | 0.24 | A |
| Eleventh Avenue between 56th Street and 55th Street | West | 9.0 | 443 | 0.80 | 0.88 | B |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 132 | 0.80 | 0.39 | A |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 406 | 0.87 | 0.97 | B |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 541 | 0.80 | 3.76 | C |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 433 | 0.94 | 1.14 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 463 | 0.95 | 0.63 | B |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 931 | 0.89 | 1.75 | B |
| | South | 10.0 | 2226 | 0.95 | 3.89 | C |
| **Saturday Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 8.0 | 304 | 0.80 | 0.79 | B |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 248 | 0.80 | 0.52 | B |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 341 | 0.82 | 0.70 | B |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 48 | 0.80 | 0.14 | A |
| Eleventh Avenue between 56th Street and 55th Street | West | 9.0 | 247 | 0.80 | 0.70 | B |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 14 | 0.88 | 0.04 | A |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 286 | 0.80 | 0.74 | B |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 312 | 0.81 | 2.15 | B |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 379 | 0.83 | 1.13 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 296 | 0.81 | 0.47 | A |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 1000 | 0.85 | 1.96 | B |
| | South | 10.0 | 1484 | 0.85 | 2.91 | B |

**Note:** PMF = pedestrians per minute per foot

**Table 11-36**
**2017 No Action Conditions: Corner Analysis**

| Location | Corner | Weekday AM Peak Period | | Weekday Midday Peak Period | | Weekday PM Peak Period | | Saturday Peak Period | |
|---|---|---|---|---|---|---|---|---|---|
| | | SFP | LOS | SFP | LOS | SFP | LOS | SFP | LOS |
| Eleventh Avenue and W 57th Street | Northeast | 330.1 | A | 611.1 | A | 391.8 | A | 280.2 | A |
| | Southeast | 213.7 | A | 414.5 | A | 370.4 | A | 249.4 | A |
| | Southwest | 224.7 | A | 776.0 | A | 354.9 | A | 249.7 | A |
| | Northwest | 231.6 | A | 785.5 | A | 267.5 | A | 200.9 | A |
| Eleventh Avenue and W 56th Street | Northeast | 363.4 | A | 476.4 | A | 221.7 | A | 269.1 | A |
| | Southeast | 280.2 | A | 389.7 | A | 197.0 | A | 222.1 | A |
| | Southwest | 358.4 | A | 1077.8 | A | 223.3 | A | 273.8 | A |
| | Northwest | 241.8 | A | 609.3 | A | 153.6 | A | 194.4 | A |
| Eleventh Avenue and W 55th Street | Northeast | 254.2 | A | 347.0 | A | 174.6 | A | 256.1 | A |
| | Northwest | 279.0 | A | 323.5 | A | 150.0 | A | 284.7 | A |
| Tenth Avenue and W 57th Street | Southeast | 317.2 | A | 269.4 | A | 220.9 | A | 315.6 | A |
| | Southwest | 211.3 | A | 118.1 | A | 140.0 | A | 329.6 | A |
| Tenth Avenue and W 56th Street | Northeast | 392.1 | A | 598.0 | A | 280.4 | A | N/A | N/A |
| | Southwest | 266.5 | A | 229.3 | A | 172.9 | A | | |
| | Northwest | 330.2 | A | 263.4 | A | 197.4 | A | | |
| Tenth Avenue and W 55th Street | Northeast | 309.7 | A | 470.8 | A | 398.9 | A | N/A | N/A |
| | Northwest | 195.3 | A | 331.3 | A | 243.9 | A | | |
| Ninth Avenue and W 57th Street | Southeast | 154.7 | A | 153.7 | A | 139.1 | A | 99.0 | A |
| | Southwest | 131.0 | A | 158.6 | A | 120.3 | A | 133.0 | A |

**Note:** SFP = square feet per pedestrian

**Table 11-37**
**2017 No Action Conditions: Crosswalk Analysis**

| Location | Crosswalk | Crosswalk Length (ft) | Crosswalk Width (ft) | Two-way Peak Hour Volume | SFP | LOS |
|---|---|---|---|---|---|---|
| **Weekday AM Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 360 | 39.8 | C |
| | West | 59.0 | 14.0 | 435 | 67.6 | A |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 62 | 267.1 | A |
| | West | 34.0 | 13.0 | 210 | 202.5 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 368 | 91.7 | A |
| Ninth Avenue and W 57th Street | South | 70.0 | 19.0 | 652 | 31.3 | C |
| **Weekday Midday Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 133 | 107.9 | A |
| | West | 59.0 | 14.0 | 105 | 294.4 | A |
| Eleventh Avenue and W 56th Street | North[1] | 70.0 | 14.0 | 0 | N/A | A |
| | West | 34.0 | 13.0 | 91 | 476.4 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 360 | 88.6 | A |
| Ninth Avenue and W 57th Street | South | 70.0 | 19.0 | 438 | 45.3 | B |
| **Weekday PM Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 116 | 123.8 | A |
| | West | 59.0 | 14.0 | 397 | 74.5 | A |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 100 | 179.3 | A |
| | West | 34.0 | 13.0 | 341 | 123.7 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 470 | 67.1 | A |
| Ninth Avenue and W 57th Street | South | 70.0 | 19.0 | 616 | 34.5 | C |
| **Saturday Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 240 | 61.6 | A |
| | West | 59.0 | 14.0 | 494 | 62.7 | A |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 71 | 240.7 | A |
| | West | 34.0 | 13.0 | 316 | 147.2 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 336 | 100.5 | A |

**Note:** SFP = square feet per pedestrian
[1] When the total No Action project generated trips were negative, the total No Action volumes were capped at "0". "N/A" is entered for SFP because the calculation for SFP would return an error when there is "0" pedestrian volume (since "0" is in the denominator). LOS A indicates that this crosswalk has ample pedestrian space to accommodate very low pedestrian volumes.

**Table 11-38**
**2017 With Action Conditions: Sidewalk Analysis**

| Location | Sidewalk | Effective Width (ft) | Two-way Peak Hour Volume | PHF | PMF | Platoon LOS |
|---|---|---|---|---|---|---|
| **Weekday AM Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 8.0 | 208 | 0.80 | 0.54 | B |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 1050 | 0.80 | 2.19 | B |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 705 | 0.80 | 1.47 | B |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 1078 | 0.80 | 3.21 | C |
| Eleventh Avenue between 56th Street and 55th Street | West | 9.0 | 321 | 0.80 | 1.47 | B |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 380 | 0.80 | 1.13 | B |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 741 | 0.80 | 1.93 | B |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 679 | 0.89 | 4.24 | C |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 655 | 0.80 | 2.02 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 590 | 0.82 | 0.92 | B |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 1006 | 0.83 | 2.02 | B |
| | South | 10.0 | 2401 | 0.94 | 4.27 | C |
| **Weekday Midday Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 8.0 | 516 | 0.89 | 1.21 | B |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 950 | 0.85 | 1.87 | B |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 940 | 0.83 | 1.88 | B |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 1601 | 0.82 | 4.68 | C |
| Eleventh Avenue between 56th Street and 55th Street | West | 9.0 | 455 | 0.91 | 1.88 | B |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 688 | 0.80 | 2.04 | B |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 793 | 0.83 | 1.99 | B |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 695 | 0.80 | 4.83 | C |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 850 | 0.86 | 2.43 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 663 | 0.87 | 0.98 | B |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 1032 | 0.80 | 2.15 | B |
| | South | 10.0 | 1806 | 0.89 | 3.38 | C |
| **Weekday PM Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 8.0 | 668 | 0.80 | 1.74 | B |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 894 | 0.83 | 1.79 | B |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 1307 | 0.87 | 2.50 | B |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 1667 | 0.96 | 4.13 | C |
| Eleventh Avenue between 56th Street and 55th Street | West | 9.0 | 683 | 0.80 | 2.50 | B |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 728 | 0.80 | 2.17 | B |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 1085 | 0.87 | 2.59 | B |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 865 | 0.80 | 6.01 | D |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 944 | 0.94 | 2.48 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 755 | 0.95 | 1.02 | B |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 1216 | 0.89 | 2.29 | B |
| | South | 10.0 | 2508 | 0.95 | 4.38 | C |
| **Saturday Peak Period** | | | | | | |
| Eleventh Avenue between 58th Street and 57th Street | East | 8.0 | 562 | 0.80 | 1.46 | B |
| 57th Street between Eleventh Avenue and Bus Stop | South | 10.0 | 1081 | 0.80 | 2.25 | B |
| Eleventh Avenue between 57th Street and Bus Stop | West | 10.0 | 1150 | 0.82 | 2.34 | B |
| 57th Street between Twelfth Avenue and Eleventh Avenue | South | 7.0 | 1668 | 0.80 | 4.96 | C |
| Eleventh Avenue between 56th Street and 55th Street | West | 9.0 | 485 | 0.80 | 2.34 | B |
| 56th Street between Twelfth Avenue and Eleventh Avenue | North | 7.0 | 444 | 0.88 | 1.21 | B |
| Eleventh Avenue between Bus Stop and 56th Street | West | 7.0 | 917 | 0.80 | 2.39 | B |
| 57th Street between Tenth Avenue and Bus Stop | South | 3.0 | 648 | 0.81 | 4.46 | C |
| 57th Street between Bus Stop and Tenth Avenue | South | 6.8 | 918 | 0.83 | 2.75 | B |
| 57th Street between Bus Stop and Ninth Avenue | South | 13.0 | 603 | 0.81 | 0.96 | B |
| 57th Street between Eighth Avenue and Broadway | North | 10.0 | 1237 | 0.85 | 2.43 | B |
| | South | 10.0 | 1762 | 0.85 | 3.45 | C |

**Note:** PMF = pedestrians per minute per foot

**Table 11-39**
**2017 With Action Conditions: Corner Analysis**

| Location | Corner | Weekday AM Peak Period | | Weekday Midday Peak Period | | Weekday PM Peak Period | | Saturday Peak Period | |
|---|---|---|---|---|---|---|---|---|---|
| | | SFP | LOS | SFP | LOS | SFP | LOS | SFP | LOS |
| Eleventh Avenue and W 57th Street | Northeast | 266.2 | A | 323.7 | A | 237.2 | A | 194.8 | A |
| | Southeast | 105.4 | A | 93.2 | A | 93.2 | A | 81.6 | A |
| | Southwest | 81.4 | A | 75.2 | A | 66.4 | A | 60.0 | B |
| | Northwest | 170.0 | A | 225.4 | A | 144.5 | A | 122.4 | A |
| Eleventh Avenue and W 56th Street | Northeast | 209.7 | A | 157.9 | A | 122.3 | A | 146.8 | A |
| | Southeast | 209.3 | A | 185.8 | A | 135.4 | A | 152.7 | A |
| | Southwest | 185.7 | A | 146.9 | A | 106.5 | A | 124.3 | A |
| | Northwest | 80.7 | A | 60.4 | A | 48.3 | B | 58.8 | B |
| Eleventh Avenue and W 55th Street | Northeast | 185.0 | A | 162.1 | A | 118.7 | A | 150.3 | A |
| | Northwest | 176.4 | A | 130.9 | A | 94.0 | A | 145.1 | A |
| Tenth Avenue and W 57th Street | Southeast | 229.7 | A | 150.6 | A | 143.8 | A | 179.4 | A |
| | Southwest | 160.5 | A | 81.3 | A | 97.8 | A | 173.5 | A |
| Tenth Avenue and W 56th Street | Northeast | 293.1 | A | 307.2 | A | 200.3 | A | N/A | N/A |
| | Southwest | 218.1 | A | 162.5 | A | 137.3 | A | | |
| | Northwest | 259.6 | A | 183.5 | A | 156.0 | A | | |
| Tenth Avenue and W 55th Street | Northeast | 252.0 | A | 260.7 | A | 257.4 | A | N/A | N/A |
| | Northwest | 167.8 | A | 212.6 | A | 183.9 | A | | |
| Ninth Avenue and W 57th Street | Southeast | 136.4 | A | 117.8 | A | 114.2 | A | 85.1 | A |
| | Southwest | 114.1 | A | 113.4 | A | 97.7 | A | 104.7 | A |

**Note:** SFP = square feet per pedestrian

**Table 11-40**
**2017 With Action Conditions: Crosswalk Analysis**

| Location | Crosswalk | Crosswalk Length (ft) | Crosswalk Width (ft) | Two-way Peak Hour Volume | SFP | LOS |
|---|---|---|---|---|---|---|
| **Weekday AM Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 1067 | 12.3 | E+ |
| | West | 59.0 | 14.0 | 593 | 49.0 | B |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 212 | 76.7 | A |
| | West | 34.0 | 13.0 | 396 | 105.1 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 617 | 53.7 | B |
| Ninth Avenue and W 57th Street | South | 70.0 | 19.0 | 769 | 26.1 | C |
| **Weekday Midday Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 1198 | 10.8 | E+ |
| | West | 59.0 | 14.0 | 500 | 59.4 | B |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 309 | 56.7 | B |
| | West | 34.0 | 13.0 | 514 | 80.6 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 881 | 34.9 | C |
| Ninth Avenue and W 57th Street | South | 70.0 | 19.0 | 671 | 28.7 | C |
| **Weekday PM Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 1134 | 11.6 | E+ |
| | West | 59.0 | 14.0 | 753 | 38.6 | C |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 350 | 50.0 | B |
| | West | 34.0 | 13.0 | 675 | 60.3 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 909 | 33.7 | C |
| Ninth Avenue and W 57th Street | South | 70.0 | 19.0 | 814 | 25.4 | C |
| **Saturday Peak Period** | | | | | | |
| Eleventh Avenue and W 57th Street | South | 70.0 | 15.0 | 1305 | 10.1 | E+ |
| | West | 59.0 | 14.0 | 861 | 34.6 | C |
| Eleventh Avenue and W 56th Street | North | 70.0 | 14.0 | 286 | 58.1 | B |
| | West | 34.0 | 13.0 | 651 | 69.2 | A |
| Tenth Avenue and 57th Street | South | 60.0 | 18.0 | 798 | 41.0 | B |

**Note:** SFP = square feet per pedestrian
"+" denotes a significant adverse pedestrian impact.

# I. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Accident records for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the time period between May 31, 2009 and May 31, 2012. The data obtained quantify the total number of reportable accidents (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of vehicular accidents with pedestrians and bicycles at each location.

During the May 31, 2009 and May 31, 2012 three-year period, a total of 250 reportable and non-reportable accidents, 2 fatalities, 378 injuries, and 77 pedestrian/bicyclist-related accidents occurred at the study area intersections. A rolling total of accident data identifies three study area intersections as high accident locations in the 2009 to 2012 period. These intersections are Tenth Avenue at West 57th Street, Ninth Avenue at West 57th Street, and Eighth Avenue at West 57th Street. **Table 11-41** 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 11-41**
**Accident Summary**

| Intersection | | Study Period | | | | | | Accidents by Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North-South Roadway | East-West Roadway | All Accidents by Year | | | | Total Fatalities | Total Injuries | Pedestrian | | | | Bicycle | | | |
| | | 2009 | 2010 | 2011 | 2012 | | | 2009 | 2010 | 2011 | 2012 | 2009 | 2010 | 2011 | 2012 |
| Route 9A | West 55th Street | 4 | 4 | 6 | 0 | 0 | 20 | 1 | | | | | | 1 | |
| Route 9A | West 56th Street | 2 | 3 | 6 | 3 | 0 | 25 | | | | | | | | |
| Route 9A | West 57th Street | 12 | 8 | 10 | 3 | 0 | 66 | 1 | | | | | | | |
| Twelfth Avenue | West 55th Street | 4 | 4 | 6 | 0 | 0 | 20 | 1 | | | | | | 1 | |
| Twelfth Avenue | West 56th Street | 2 | 3 | 6 | 3 | 0 | 25 | | | | | | | | |
| Twelfth Avenue | West 57th Street | 12 | 8 | 10 | 3 | 0 | 66 | 1 | | | | | | | |
| Eleventh Avenue | West 55th Street | 1 | 0 | 4 | 0 | 0 | 6 | | | 3 | | | | | |
| Eleventh Avenue | West 56th Street | 1 | 3 | 1 | 1 | 0 | 6 | | | | | | 1 | | |
| Eleventh Avenue | West 57th Street | 3 | 5 | 8 | 3 | 0 | 23 | 3 | 1 | 1 | 2 | | 1 | 1 | |
| Eleventh Avenue | West 58th Street | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| Eleventh Avenue | West 59th Street | 0 | 0 | 1 | 1 | 0 | 2 | | | 1 | 1 | | | | |
| Tenth Avenue | West 55th Street | 1 | 1 | 2 | 1 | 0 | 7 | | 1 | | | | | | |
| Tenth Avenue | West 56th Street | 2 | 0 | 5 | 0 | 0 | 8 | 1 | | 3 | | | | | |
| **Tenth Avenue** | **West 57th Street** | 8 | 3 | 5 | 4 | 1 | 20 | 4 | 2 | 3 | 3 | 1 | | | |
| Tenth Avenue | West 58th Street | 0 | 2 | 1 | 0 | 0 | 5 | | 1 | 1 | | | | | |
| Ninth Avenue | West 56th Street | 2 | 3 | 1 | 4 | 0 | 14 | | 1 | | 1 | | | 1 | |
| **Ninth Avenue** | **West 57th Street** | 7 | 7 | 9 | 6 | 0 | 38 | 2 | 4 | 4 | 3 | 1 | 2 | 1 | 2 |
| **Eighth Avenue** | **West 57th Street** | 3 | 10 | 9 | 0 | 1 | 27 | 2 | 3 | 8 | | | 1 | 1 | |

**Note:** Bold text indicates high accident location.
**Source:** NYSDOT May 31, 2009 and May 31, 2012 accident data.

**Table 11-42** shows a detailed description of each pedestrian/bicyclist-related accident at the three high accident locations listed above during the three year period.

**TENTH AVENUE AND WEST 57TH STREET**

Based on the review of the accident history at the intersection of Tenth Avenue and West 57th Street, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. Based on the detailed description, half of the pedestrian-related accidents were related to vehicles making left turning movements from Tenth Avenue onto West 57th Street. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of Tenth Avenue and West 57th Street is signalized and provides four high visibility crosswalks. In addition, countdown timers are present on all four crosswalks. With the proposed project, the intersection of Tenth Avenue and West 57th Street would experience increases in vehicular traffic of approximately 74, 101, 111, and 97 vehicles during the weekday AM, midday, PM, and Saturday peak hours, respectively. In terms of pedestrian trips, the highest incremental pedestrian traffic is expected to traverse the south crosswalk with project generated trips of 249, 521, 439, and 462 pedestrians during the weekday AM, midday, PM, and Saturday peak hours, respectively. All other crosswalks would experience fewer than 200 incremental pedestrian trips during all four analysis peak hours.

As discussed above in Section F, "Detailed Traffic Analysis," this intersection would be impacted during all peak hours in the 2017 With Action condition. However, as described in Chapter 19, "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 restriping of all four crosswalks, which are faded, and the installation of pedestrian warning signs can be implemented to improve pedestrian safety at this intersection.

**Table 11-42**
**Vehicle and Pedestrian Accident Details**

| Inter-section | 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 |
| Tenth Avenue & West 57th Street | 2009 | 7/9 | 14:30 PM | X | | Going straight – East | Crossing | | X | | |
| | | 8/14 | 12:30 PM | X | | Stopped in traffic – West | Going straight – West | | X | | |
| | | 9/3 | 21:10 PM | X | | Going straight – East | Unknown | | | | Unsafe speed |
| | | 9/14 | 13:00 PM | X | | Making right turn – East | Unknown | X | | | |
| | | 10/8 | 15:25 PM | X | | Making left turn – Northwest | Crossing with signal | X | | | |
| | 2010 | 1/10 | 19:50 PM | X | | Making left turn – Northwest | Crossing with signal | X | | X | |
| | | 2/27 | 23:40 PM | X | | Making left turn – Northwest | Crossing with signal | X | | | Failure to yield R.o.W. |
| | 2011 | 1/6 | 8:00 AM | X | | Backing – East | Crossing with signal | | | | Backing unsafely |
| | | 3/28 | 14:10 PM | X | | Going straight – West | Crossing against signal | | X | | Traffic control devices disregarded |
| | | 12/2 | 2:42 AM | X | X | Going straight – East | Unknown | | | | Unknown |
| | 2012 | 1/7 | 19:45 PM | X | | Making left turn – Northwest | Crossing with signal | X | | | Failure to yield R.o.W. |
| | | 3/29 | 7:10 AM | X | | Making left turn – Northwest | Crossing with signal | X | | X | |
| | | 4/30 | 8:30 AM | X | | Making left turn – West | Crossing with signal | X | | | Glare |
| Ninth Avenue & West 57th Street | 2009 | 8/24 | 19:30 PM | X | | Unknown | Going straight – Southwest | | | | |
| | | 10/28 | 6:42 AM | X | | Making left turn – South | Crossing against signal | X | X | | |
| | | 11/12 | 15:37 PM | X | | Making left turn – South | Crossing with signal | X | | | |
| | 2010 | 1/6 | 13:20 PM | X | | Making left turn – South | Crossing with signal | X | | X | |
| | | 3/20 | 16:35 PM | X | | Unknown | Along highway with traffic | | | | Unknown |
| | | 6/23 | 14:39 PM | X | | Going straight – West | Going straight – West | | | X | |
| | | 7/18 | 21:05 PM | X | | Going straight – East | Unknown | | | X | |
| | | 9/10 | 1:00 AM | X | | Making left turn – West | Crossing with signal | X | | X | |
| | | 11/4 | 22:15 PM | X | | Making left turn – Southeast | Crossing with signal | X | | | |
| | 2011 | 8/3 | 21:30 PM | X | | Going straight – West | Crossing with signal | | X | | |
| | | 8/15 | 16:30 PM | X | | Making left turn – Southwest | Going straight – East | X | | | |
| | | 8/26 | 10:00 AM | X | | Starting from parking – West | Other actions in roadway | | X | | |
| | | 9/10 | 15:25 PM | X | | Making left turn – Southwest | Crossing against signal | X | X | | |
| | | 11/4 | 18:40 PM | X | | Going straight – East | Crossing against signal | | X | | |
| | 2012 | 1/26 | 23:10 PM | X | | Making turn – Southwest | Crossing with signal | | | | Turning improper / unsafe speed |
| | | 1/27 | 17:00 PM | X | | Making left turn – Southwest | Making left turn – Southwest | X | | | Aggressive driving, turning improper |
| | | 2/3 | 17:50 PM | X | | Going straight – South | Going straight – South | | | X | Following too closely |
| | | 2/18 | 1:00 AM | x | | Making left turn – North | Crossing against signal | X | | X | Failure to yield R.o.W. |
| | | 3/19 | 15:40 PM | X | | Going straight – East | Not in the roadway | | | | Reaction to other uninvolved vehicle |
| Eighth Avenue & West 57th Street | 2009 | 9/22 | 5:42 AM | X | | Making left turn – West | Crossing with signal | X | | | |
| | | 12/2 | 23:00 PM | X | | Going straight – East | Crossing | | | X | |
| | 2010 | 5/10 | 15:12 PM | X | | Making right turn – Northwest | Crossing with signal | X | | | |
| | | 7/9 | 8:45 AM | X | | Making right turn – Northeast | Crossing with signal | X | | | |
| | | 8/25 | 22:50 PM | X | | Going straight – East | Going straight – East | | | | Unknown |
| | | 11/2 | 10:29 AM | X | | Making right turn – North | Unknown | X | | X | |
| | 2011 | 3/5 | 2:40 AM | X | | Going straight – North | Crossing with signal | | X | X | |
| | | 3/11 | 18:50 PM | X | | Making right turn – East | Crossing with signal | X | | X | Driver inexperience |
| | | 3/19 | 4:20 AM | X | | Going straight – North | Unknown | | | | Unknown |
| | | 3/29 | 23:00 PM | X | | Making right turn – Northeast | Unknown | X | | | Failure to yield R.o.W. |
| | | 6/28 | 21:46 PM | X | | Going straight – West | Crossing with signal | | | | Failure to yield R.o.W. / passing or lane usage improperly |
| | | 7/28 | 21:20 PM | X | | Going straight – West | Crossing against signal | | X | X | |
| | | 10/1 | 1:40 AM | X | | Going straight – North | Crossing | | | | Alcohol involvement |
| | | 11/16 | 23:09 PM | X | | Going straight – West | Crossing against signal | | X | | |
| | | 12/26 | 10:00 AM | X | | Going straight – East | Other actions in roadway | | X | | |

## NINTH AVENUE AND WEST 57TH STREET

Based on the review of the accident history at the intersection of Ninth Avenue and West 57th Street, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of Ninth Avenue and West 57th Street is signalized and provides four high visibility crosswalks. In addition, countdown timers are present on all four crosswalks. Based on the detailed description, half of the pedestrian-related accidents were related to

vehicles making left turning movements from West 57th Street onto Ninth Avenue. With the proposed actions, the intersection of Ninth Avenue and West 57th Street would experience increases in vehicular traffic of approximately 64, 83, 81, and 81 vehicles during the weekday AM, midday, PM, and Saturday peak hours, respectively. In terms of pedestrian trips, the highest incremental pedestrian traffic is expected to traverse the south crosswalk with project generated trips of 117, 233, 198, and 193 pedestrians during the weekday AM, midday, PM, and Saturday peak hours, respectively. All other crosswalks would experience fewer than 200 incremental pedestrian trips during all four analysis peak hours.

As discussed above in Section F, "Detailed Traffic Analysis," this intersection would be impacted during all peak hours in the 2017 With Action condition. However, as described in Chapter 19, "Mitigation," the predicted impacts at this intersection could be fully mitigated with standard traffic engineering measures. Therefore, the proposed actions are not anticipated to exacerbate any of the current causes of pedestrian-related accidents. Nonetheless, additional safety measures, such as the installation of signage specifically warning pedestrians along the south crosswalk to wait for the walk signal, and restriping the faded east crosswalk can be implemented to improve pedestrian safety at this intersection.

### EIGHTH AVENUE AND WEST 57TH STREET

Based on the review of the accident history at the intersection of Eighth Avenue and West 57th Street, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded accidents. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of Eighth Avenue and West 57th Street is signalized and provides four high visibility crosswalks. In addition, countdown timers are present on the north and south crosswalks. With the proposed actions, the intersection of Eighth Avenue and West 57th Street would experience increases in vehicular traffic of approximately 51, 63, 62, and 63 vehicles during the weekday AM, midday, PM, and Saturday peak hours, respectively. In terms of pedestrian trips, the highest incremental pedestrian traffic is expected to traverse the south crosswalk with project generated trips of 70, 147, 122, and 119 pedestrians during the weekday AM, midday, PM, and Saturday peak hours, respectively. All other crosswalks would experience fewer than 200 incremental pedestrian trips during all four analysis peak hours.

As discussed above in Section F, "Detailed Traffic Analysis," this intersection would be impacted during all peak hours in the 2017 With Action condition. However, as described in Chapter 19, "Mitigation," the predicted impacts at this intersection could be fully mitigated with standard traffic engineering measures. Because the incremental increase in pedestrian trips from the proposed actions at this intersection's crosswalks would not be substantial, the potential for additional vehicular-pedestrian conflicts, which mostly occur with vehicular turning movements through crosswalks, is expected to be minimal. Therefore, the proposed actions are not anticipated to exacerbate any of the current causes of pedestrian-related accidents. Nonetheless, additional safety measures, such as the restriping of the east and west crosswalks, which are without striping where repaved, and the installation of countdown timers on the east and west crosswalks can be implemented to improve pedestrian safety at this intersection.

## J. PARKING

### 2013 EXISTING CONDITIONS

An inventory of on- and off-street parking within a ¼-mile of the project site was conducted in February and March 2013. The on-street survey involved recording curbside regulations and

performing general observations of daytime utilization. The off-street survey provided an inventory of the area's public parking facilities and their legal capacities and daytime utilization.

*ON-STREET PARKING*

Curbside parking regulations within a ¼-mile of the project site are illustrated in **Figure 11-37** and summarized in **Table 11-43**. 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 daytime hours.

**Table 11-43**
**On-Street Parking Regulations**

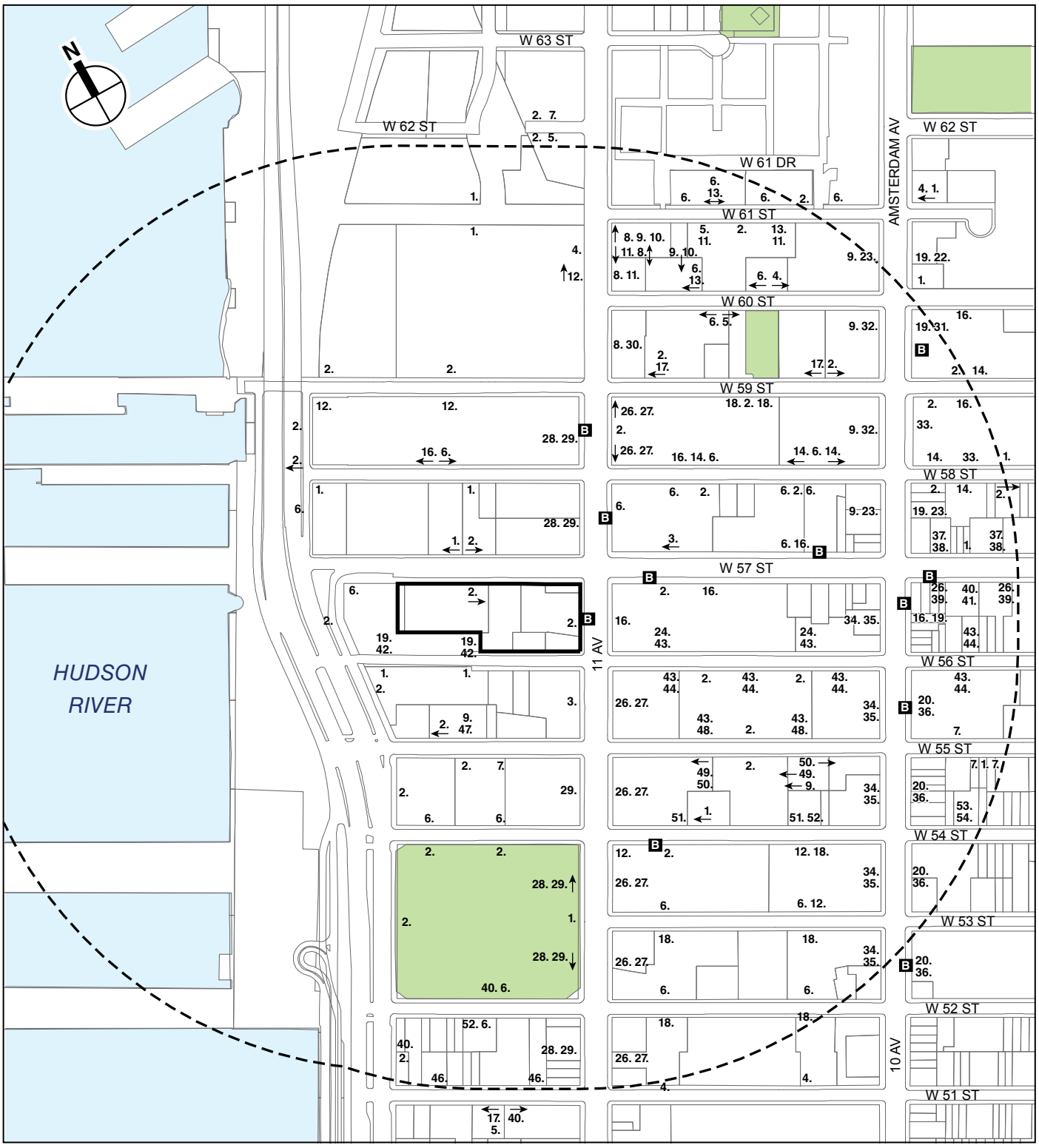
| No. | Regulation | No. | Regulation |
|---|---|---|---|
| 1 | NP Anytime | 29 | 2-Hr Parking 8AM-7PM Ex. Sun. |
| 2 | NS Anytime | 30 | 1-Hr Parking 8AM-7PM Except Sun. |
| 3 | No Stopping Anytime | 31 | 1-Hr Parking 10AM-7PM Except Sun. |
| 4 | NP 9-10:30AM Mon. & Thur. | 32 | 1-Hr Parking 9AM-4PM Mon-Fri, 9AM-7PM Sat |
| 5 | NP 9-10:30AM Tue. & Fri. | 33 | NS 7AM-7PM Mon-Fri. |
| 6 | NP 8AM-6PM Mon-Fri. | 34 | NS 4PM-7PM Ex. Sun. |
| 7 | NS Ex. Trucks Loading & Unloading 7AM-7PM Mon-Fri. | 35 | 1-Hr Parking 9AM-4PM Except Sun. |
| 8 | NP 7:30AM-8AM Mon., Tue., Thur., Fri. | 36 | 1-Hr Parking 10AM-4PM Mon-Fri, 9AM-7PM Sat |
| 9 | NS 4PM-7PM Mon-Fri. | 37 | NP 8:30-9AM Ex Sun. |
| 10 | 1-Hr Parking 8AM-4PM Mon.-Fri., 8AM-7PM Sat. | 38 | 1-Hr Parking 9AM-7PM Except Sun. |
| 11 | NS 7AM-7PM School Days | 39 | 1-Hr Parking 8:30AM-7PM Except Sun. |
| 12 | Bus Layover Area No Standing Anytime | 40 | NS Anytime Taxi Stand |
| 13 | NS 7AM-4PM School Days | 41 | NS Hotel Loading Zone |
| 14 | NS 7AM-7PM Mon-Fri. Ex Authorized Vehicles (Various) | 42 | NP 10AM-7PM Mon-Fri. |
| 15 | 2-Hr Parking 10AM-7PM Mon-Fri, 9AM-7PM Sat | 43 | NP 8AM-7PM Mon-Fri. |
| 16 | NS Ex Authorized Vehicles (Various) | 44 | NS 8-9:30AM Mon-Fri. |
| 17 | NP 8AM-Midnight Including Sun. | 45 | NS Ex. Trucks Loading & Unloading 9:30AM-5PM Mon-Fri. |
| 18 | NP 8AM-6PM Ex Sun. | 46 | NS Ex. Trucks Loading & Unloading 7AM-7PM Ex Sun. |
| 19 | NS 7AM-10AM, Mon-Fri. | 47 | NS Ex. Trucks Loading & Unloading 7AM-4PM Mon-Fri. |
| 20 | NS 7AM-10AM, 4PM-7PM Mon-Fri. | 48 | NS 5PM-7PMAM Mon-Fri. |
| 21 | 2-Hr Parking 10AM-4PM Mon-Fri, 9AM-7PM Sat | 49 | NP 7AM-7PM Mon.-Fri. |
| 22 | 1-Hr Parking 10AM-7PM Mon-Fri, 9AM-7PM Sat. | 50 | Taxi Relief Stand 1-Hr Limit NP 7AM-4PM Ex. Taxis |
| 23 | 2-Hr Parking 9AM-4PM Mon-Fri, 9AM-7PM Sat | 51 | NP 10-11:30AM Tue. & Fri. |
| 24 | NP 8-9:30AM Mon. & Thur. | 52 | NS Ex Trucks Loading & Unloading 8AM-6PM Ex Sun. |
| 25 | NP 8-9:30AM Tue. & Fri. | 53 | NS 11PM-6AM Incl. Sun. |
| 26 | NP 8AM-8:30PM Ex Sun. | 54 | NP 8AM-Midnight Ex Sun. |
| 27 | 2-Hr Parking 8:30AM-7PM Ex. Sun. | 55 | NS 7AM-5PM Mon-Fri. (Dept. of Education) |
| 28 | NP 7:30-8AM Ex Sun. | | |

**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.; February, 2013

*OFF-STREET PARKING*

Off-street publicly accessible parking lots and garages (see **Figure 11-38**) within ¼-mile of the project site were surveyed in March 2013. Each facility's operating license and legal capacity were noted. Based on responses given by parking attendants and visual inspections, where possible, estimates were made on the parking occupancy or utilization at each facility for the weekday morning, midday, evening, overnight, and Saturday time periods. A summary of the recorded information and the area's overall off-street public parking supply and utilization is presented in **Table 11-44**.

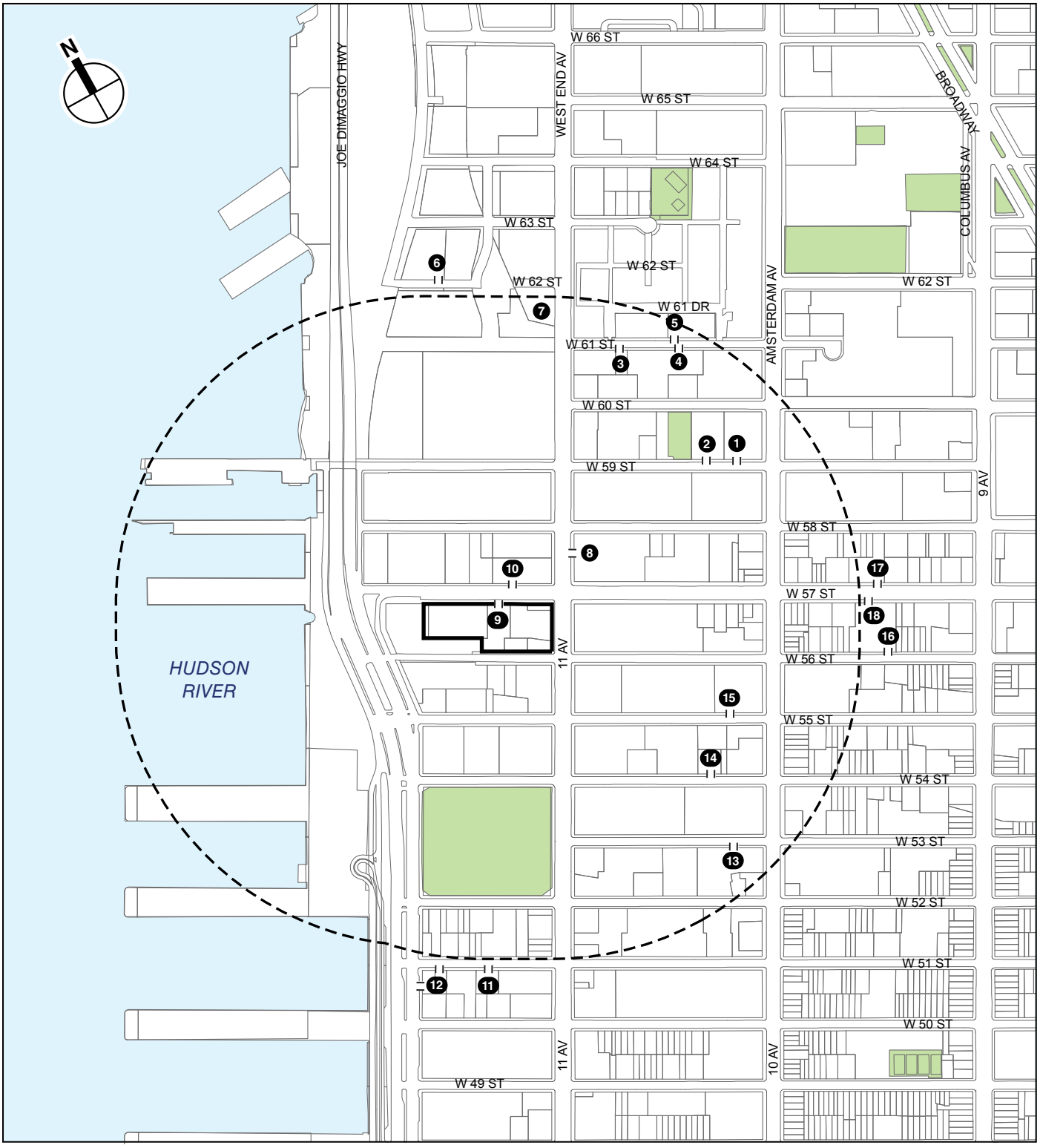
Within the ¼-mile parking study area, 18 public parking facilities were inventoried. The combined capacity of these facilities totals 3,651 parking spaces. Overall, they were 55, 80, 73, 55, and 36 percent utilized, with 1,647, 741, 995, 1,621, and 2,340 parking spaces available during the weekday morning, midday, evening, overnight, and Saturday time periods, respectively.




On-Street Parking Regulations

**606 WEST 57TH STREET**

**Figure 11-37**




Off Street Parking Facilities

**606 WEST 57TH STREET**

**Figure 11-38**

**Table 11-44**
**2013 Existing Off-Street Parking - 1/4 Mile**

| Map # | Name/Operator and Address/Location | License Number | Licensed Capacity | Utilization Rate | | | | | Utilized Spaces | | | | | Available Spaces | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AM | MD | PM | ON | SAT | AM | MD | PM | ON | SAT | AM | MD | PM | ON | SAT |
| 1 | Concerto Garage Corp. - 200 W. 60th Street | 884653 | 265 | 40% | 90% | 70% | 40% | 40% | 106 | 239 | 186 | 106 | 106 | 159 | 26 | 79 | 159 | 159 |
| 2 | Propark America NY - 515 W. 59th Street | 1171649 | 190 | 50% | 80% | 80% | 60% | 45% | 95 | 152 | 152 | 114 | 86 | 95 | 38 | 38 | 76 | 104 |
| 3 | Enterprise E. 60 West - 10 West End Avenue | 1307111 | 150 | 70% | 70% | 60% | 50% | 20% | 105 | 105 | 90 | 75 | 30 | 45 | 45 | 60 | 75 | 120 |
| 4 | Elemant Parking Management - 270 W. 60th Street | 1380145 | 90 | 75% | 80% | 80% | 75% | 33% | 68 | 72 | 72 | 68 | 30 | 22 | 18 | 18 | 22 | 60 |
| 5 | Sessanta Parking Co. - 229 W. 60th Street | 1342356 | 200 | 50% | 90% | 75% | 30% | 25% | 100 | 180 | 150 | 60 | 50 | 100 | 20 | 50 | 140 | 150 |
| 6 | Aspen 36 LLC - 60 Riverside Drive | 1416505 | 113 | 60% | 80% | 80% | 40% | 50% | 68 | 90 | 90 | 45 | 57 | 45 | 23 | 23 | 68 | 56 |
| - | (same as above) - 400 W. 63rd Street | 1416502 | 118 | 60% | 80% | 80% | 40% | 50% | 71 | 94 | 94 | 47 | 59 | 47 | 24 | 24 | 71 | 59 |
| 7 | West End Towers - 55 West End Avenue | 948832 | 375 | 50% | 81% | 75% | 55% | 41% | 188 | 304 | 281 | 206 | 154 | 187 | 71 | 94 | 169 | 221 |
| 8 | Kinney Parking System - 838-852 11th Avenue | 1137953 | 84 | 75% | 100% | 90% | 50% | 70% | 63 | 84 | 76 | 42 | 59 | 21 | 0 | 8 | 42 | 25 |
| 9 | GMC - 622 W. 57th Street | 429031 | 1,000 | 70% | 70% | 70% | 70% | 20% | 700 | 700 | 700 | 700 | 200 | 300 | 300 | 300 | 300 | 800 |
| 10 | MTP 57 LLC - 601 W. 57th Street | 1205750 | 100 | 50% | 80% | 65% | 50% | 50% | 50 | 80 | 65 | 50 | 50 | 50 | 20 | 35 | 50 | 50 |
| 11 | 50-51 Operating Corp. - 622-630 W. 51st Street | 1189161 | 121 | 33% | 90% | 50% | 25% | 90% | 40 | 109 | 61 | 30 | 109 | 81 | 12 | 60 | 91 | 12 |
| 12 | K Park Group LLC - 680 12th Avenue | 1186413 | 170 | 50% | 81% | 75% | 55% | 41% | 85 | 138 | 128 | 94 | 70 | 85 | 32 | 42 | 76 | 100 |
| 13 | Clinton 53 Parking LLC - 515 W. 52nd Street | 1263170 | 83 | 25% | 90% | 60% | 15% | 25% | 21 | 75 | 50 | 12 | 21 | 62 | 8 | 33 | 71 | 62 |
| 14 | 815 Tenth Parking LLC - 815 Tenth Avenue | 1179523 | 48 | 70% | 90% | 90% | 60% | 60% | 34 | 43 | 43 | 29 | 29 | 14 | 5 | 5 | 19 | 19 |
| 15 | Worthy Parking LLC - 841 Tenth Avenue | 1148650 | 86 | 40% | 100% | 80% | 80% | 50% | 34 | 86 | 69 | 69 | 43 | 52 | 0 | 17 | 17 | 43 |
| 16 | 56/57 Operating Corp. - 409 W. 56th Street | 1257438 | 25 | 60% | 100% | 60% | Closed | 50% | 15 | 25 | 15 | Closed | 13 | 10 | 0 | 10 | Closed | 12 |
| 17 | Effective Parking LLC - 435 W. 57th Street | 368157 | 55 | 66% | 90% | 90% | 90% | 90% | 36 | 50 | 50 | 50 | 50 | 19 | 5 | 5 | 5 | 5 |
| 18 | Apex Parking LLC - 440 W. 57th Street | 368300 | 378 | 33% | 75% | 75% | 55% | 25% | 125 | 284 | 284 | 208 | 95 | 253 | 94 | 94 | 170 | 283 |
| | | | **3,651** | **55%** | **80%** | **73%** | **55%** | **36%** | **2,004** | **2,910** | **2,656** | **2,005** | **1,311** | **1,647** | **741** | **995** | **1,621** | **2,340** |

**Notes:** MD = Midday; ON = Overnight; SAT=Saturday; CLD = Closed
**Sources:** Survey conducted by AKRF Inc.; March 2013.

## THE FUTURE WITHOUT THE PROPOSED ACTIONS

Overall off-street public parking utilization is expected to experience the same growth as projected for traffic. No Action projects within the ¼-mile parking study area are expected to include a total of up to 1,163 and 322 off-street public and accessory parking spaces, respectively. As presented in **Table 11-45**, the addition of the public and accessory parking spaces, and the parking demand generated from background growth and discrete projects that would advance absent the proposed actions, the No Action condition public parking utilization is expected to increase to 70, 89, 86, 74, and 49 percent during the weekday morning, midday, evening, overnight, and Saturday time periods, respectively, in the ¼-mile off-street parking study area.

**Table 11-45**
**2013 Existing and 2017 No Action Parking Supply and Utilization**

| | Weekday AM | Weekday Midday | Weekday PM | Weekday Overnight | Saturday |
|---|---|---|---|---|---|
| 2013 Existing Public Parking Supply | 3,651 | 3,651 | 3,651 | 3,626 | 3,651 |
| 2013 Existing Public Parking Demand | 2,004 | 2,910 | 2,656 | 2,005 | 1,311 |
| 2013 Existing Public Parking Utilization | 55% | 80% | 73% | 55% | 36% |
| 2013 Existing Public Parking Supply | 3,651 | 3,651 | 3,651 | 3,626 | 3,651 |
| New No Action Project Public Parking Supply Total | 1,163 | 1,163 | 1,163 | 1,163 | 1,163 |
| 2017 No Action Public Parking Supply Total | 4,814 | 4,814 | 4,814 | 4,789 | 4,814 |
| 2017 No Action Background Incremental Demand | 20 | 29 | 27 | 20 | 13 |
| Discrete No Action Projects Total Parking Demand | 1,679 | 1,688 | 1,761 | 1,843 | 1,222 |
| Discrete No Action Projects Accessory Parking Spaces | 322 | 322 | 322 | 322 | 322 |
| Discrete No Action Parking Demand Accommodated by Accessory Parking | 322 | 322 | 322 | 322 | 205 |
| Discrete No Action Parking Demand Accommodated by Public Parking | 1,357 | 1,366 | 1,439 | 1,521 | 1,017 |
| No Action Incremental Public Parking Demand | 1,377 | 1,395 | 1,466 | 1,541 | 1,030 |
| 2017 No Action Public Parking Demand Total | 3,381 | 4,305 | 4,122 | 3,546 | 2,341 |
| 2017 No Action Public Parking Utilization | 70% | 89% | 86% | 74% | 49% |
| 2017 No Action Available Spaces (Shortfall) | 1,433 | 509 | 692 | 1,243 | 2,473 |

## PROBABLE IMPACTS OF THE PROPOSED ACTIONS

In the future With Action condition, future developments (including the No Action projects and the proposed actions) are expected to eliminate the existing 1,000 space public parking garage on the project site. The proposed actions would include a below-grade public parking garage with approximately 500 spaces.

The weekday and Saturday incremental parking demand generated by the proposed actions are presented in **Tables 11-46** and **11-47**. As presented in **Table 11-48**, accounting for the displacement and the addition of public parking spaces, and the parking demand generated from background growth, No Action projects and the proposed actions, the With Action public parking utilization is expected to increase to 81, 102, 98, 86, and 57 percent during the weekday morning, midday, evening, overnight, and Saturday time periods, respectively. This represents a parking shortfall of approximately 98 spaces during the weekday midday peak period. As discussed above, the proposed actions could provide a smaller garage with 395 spaces. With a smaller garage, the parking shortfall during the weekday midday peak period would be greater than with a 500 space garage (a shortfall of 203 spaces), and there is a potential that additional parking shortfall could occur during other analyzed peak periods.

Most of this excess demand is expected to 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 *CEQR Technical Manual* and discussed in the above parking analysis methodology, a parking shortfall resulting from a project located in Manhattan and other CBD neighborhoods is generally not considered a significant adverse parking impact due to the magnitude of available alternative modes of transportation.

## Table 11-46
## Proposed Actions—Weekday Parking Demand

| Hour | Residential | Destination Retail | Local Retail | Community Facility | | Hotel | Total |
|---|---|---|---|---|---|---|---|
| | | | | Staff | Visitors | | |
| 12:00 AM - 1:00 AM | 119 | 0 | 0 | 0 | 0 | 30 | 149 |
| 1:00 AM - 2:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 2:00 AM - 3:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 3:00 AM - 4:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 4:00 AM - 5:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 5:00 AM - 6:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 6:00 AM - 7:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 7:00 AM - 8:00 AM | 106 | 0 | 0 | 0 | 0 | 31 | 137 |
| 8:00 AM - 9:00 AM | 77 | 2 | 0 | 14 | 8 | 26 | 127 |
| 9:00 AM - 10:00 AM | 61 | 4 | 1 | 18 | 8 | 22 | 114 |
| 10:00 AM - 11:00 AM | 51 | 7 | 1 | 18 | 8 | 20 | 105 |
| 11:00 AM - 12:00 PM | 47 | 9 | 2 | 18 | 7 | 18 | 101 |
| 12:00 PM - 1:00 PM | 47 | 12 | 2 | 18 | 7 | 21 | 107 |
| 1:00 PM - 2:00 PM | 47 | 12 | 2 | 18 | 7 | 18 | 104 |
| 2:00 PM - 3:00 PM | 47 | 10 | 1 | 18 | 6 | 15 | 97 |
| 3:00 PM - 4:00 PM | 48 | 12 | 0 | 18 | 6 | 11 | 95 |
| 4:00 PM - 5:00 PM | 55 | 11 | 0 | 14 | 6 | 9 | 95 |
| 5:00 PM - 6:00 PM | 71 | 9 | 0 | 2 | 0 | 20 | 102 |
| 6:00 PM - 7:00 PM | 86 | 8 | 0 | 0 | 0 | 15 | 109 |
| 7:00 PM - 8:00 PM | 100 | 8 | 0 | 0 | 0 | 21 | 129 |
| 8:00 PM - 9:00 PM | 106 | 6 | 0 | 0 | 0 | 24 | 136 |
| 9:00 PM - 10:00 PM | 111 | 0 | 0 | 0 | 0 | 26 | 137 |
| 10:00 PM - 11:00 PM | 115 | 0 | 0 | 0 | 0 | 28 | 143 |
| 11:00 PM - 12:00 AM | 119 | 0 | 0 | 0 | 0 | 29 | 148 |

## Table 11-47
## Proposed Actions—Saturday Parking Demand

| Hour | Residential | Destination Retail | Local Retail | Community Facility | | Hotel | Total |
|---|---|---|---|---|---|---|---|
| | | | | Staff | Visitors | | |
| 12:00 AM - 1:00 AM | 119 | 0 | 0 | 0 | 0 | 30 | 149 |
| 1:00 AM - 2:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 2:00 AM - 3:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 3:00 AM - 4:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 4:00 AM - 5:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 5:00 AM - 6:00 AM | 119 | 0 | 0 | 0 | 0 | 31 | 150 |
| 6:00 AM - 7:00 AM | 116 | 0 | 0 | 0 | 0 | 31 | 147 |
| 7:00 AM - 8:00 AM | 108 | 2 | 0 | 0 | 0 | 30 | 140 |
| 8:00 AM - 9:00 AM | 98 | 6 | 0 | 7 | 4 | 27 | 142 |
| 9:00 AM - 10:00 AM | 85 | 10 | 1 | 9 | 4 | 24 | 133 |
| 10:00 AM - 11:00 AM | 70 | 15 | 3 | 9 | 4 | 24 | 125 |
| 11:00 AM - 12:00 PM | 53 | 30 | 3 | 9 | 3 | 24 | 122 |
| 12:00 PM - 1:00 PM | 36 | 32 | 4 | 9 | 3 | 24 | 108 |
| 1:00 PM - 2:00 PM | 38 | 36 | 4 | 9 | 3 | 27 | 117 |
| 2:00 PM - 3:00 PM | 43 | 36 | 5 | 9 | 4 | 22 | 119 |
| 3:00 PM - 4:00 PM | 48 | 36 | 5 | 9 | 4 | 16 | 118 |
| 4:00 PM - 5:00 PM | 54 | 35 | 4 | 7 | 4 | 16 | 120 |
| 5:00 PM - 6:00 PM | 61 | 35 | 4 | 1 | 1 | 16 | 118 |
| 6:00 PM - 7:00 PM | 72 | 31 | 4 | 0 | 0 | 16 | 123 |
| 7:00 PM - 8:00 PM | 88 | 20 | 4 | 0 | 0 | 20 | 132 |
| 8:00 PM - 9:00 PM | 103 | 10 | 3 | 0 | 0 | 22 | 138 |
| 9:00 PM - 10:00 PM | 118 | 0 | 0 | 0 | 0 | 25 | 143 |
| 10:00 PM - 11:00 PM | 119 | 0 | 0 | 0 | 0 | 28 | 147 |
| 11:00 PM - 12:00 AM | 119 | 0 | 0 | 0 | 0 | 29 | 148 |

**Table 11-48**
**2017 No Action and With Action Parking Supply and Utilization**

| | Weekday AM | Weekday Midday | Weekday PM | Weekday Overnight | Saturday |
|---|---|---|---|---|---|
| 2017 No Action Public Parking Supply | 4,814 | 4,814 | 4,814 | 4,789 | 4,814 |
| 2017 No Action Public Parking Demand | 3,381 | 4,305 | 4,122 | 3,546 | 2,341 |
| 2017 No Action Public Parking Utilization | 70% | 89% | 86% | 74% | 49% |
| 2017 No Action Public Parking Supply | 4,814 | 4,814 | 4,814 | 4,789 | 4,814 |
| Displaced Public Parking Supply Total | -1,000 | -1,000 | -1,000 | -1,000 | -1,000 |
| New Proposed Actions Public Parking Supply Total | 500 | 500 | 500 | 500 | 500 |
| 2017 With Action Public Parking Supply Total | 4,314 | 4,314 | 4,314 | 4,289 | 4,314 |
| Proposed Actions Parking Demand | 127 | 107 | 102 | 150 | 117 |
| Proposed Actions Parking Demand Accommodated by Public Parking | 127 | 107 | 102 | 150 | 117 |
| 2017 With Action Public Parking Demand Total | 3,508 | 4,412 | 4,224 | 3,696 | 2,458 |
| 2017 With Action Public Parking Utilization | 81% | 102% | 98% | 86% | 57% |
| 2017 With Action Available Spaces (Shortfall) | 806 | (98) | 90 | 593 | 1,856 |

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