# 10

# Transportation

This chapter assesses the potential for the Proposed Actions to result in significant adverse impacts on traffic operations and mobility, public transportation facilities and services, pedestrian elements and flow, safety of all roadway users (pedestrians, cyclists, transit users, and motorists), and on- and off- street parking.

## Introduction

The Project Area is comprised of two development sites in the Hell's Kitchen neighborhood of Manhattan Community District 4. Development Site 1 is located at 629 West 54th Street (Manhattan Block 1102, Lot 1) and Development Site 2 is located at 801 Eleventh Avenue (Manhattan Block 1103, Lot 36). **Figure 10-1** shows the location of the development sites.

As described in **Chapter 1, Project Description**, the Proposed Actions would facilitate two new mixed-use buildings: a 44-story, mixed-use residential and commercial building on Development Site 1 and a 38-story, mixed-use residential and commercial building on Development Site 2 (the Proposed Projects). The proposed building on Development Site 1 would include 617 residential dwelling units (DUs) and 113,990 square feet (sf) of commercial auto dealership space, and the proposed building on Development Site 2 would include 477 residential DUs and 85,760 sf of commercial auto dealership space.

For the purpose of environmental analysis two reasonable worst-case development scenarios (RWCDSs) were analyzed to provide a conservative baseline in analyzing the Proposed Actions' potential impacts. One scenario is the Maximum Commercial Scenario which assumes that the commercial space of the Proposed Projects would be developed as office and retail uses instead of auto dealership use. The second scenario is the Maximum Residential Scenario which would maximize the residential floor area that could be developed on each Development Site.

Under the Maximum Commercial Scenario, it is assumed that Development Site 1 would contain 617 DUs, 65,364 gsf of office space and 48,626 gsf of retail space (assumed to be destination retail). Development Site 2 would contain 477 DUs, 47,350 gsf of office space, and 38,410 gsf of retail space (assumed to be local retail).

Under the Maximum Residential Scenario, it is assumed that Development Site 1 would contain 701 DUs and 50,118 gsf of auto dealership space. Development Site 2 would contain 541 DUs and 38,441 gsf of auto dealership space.

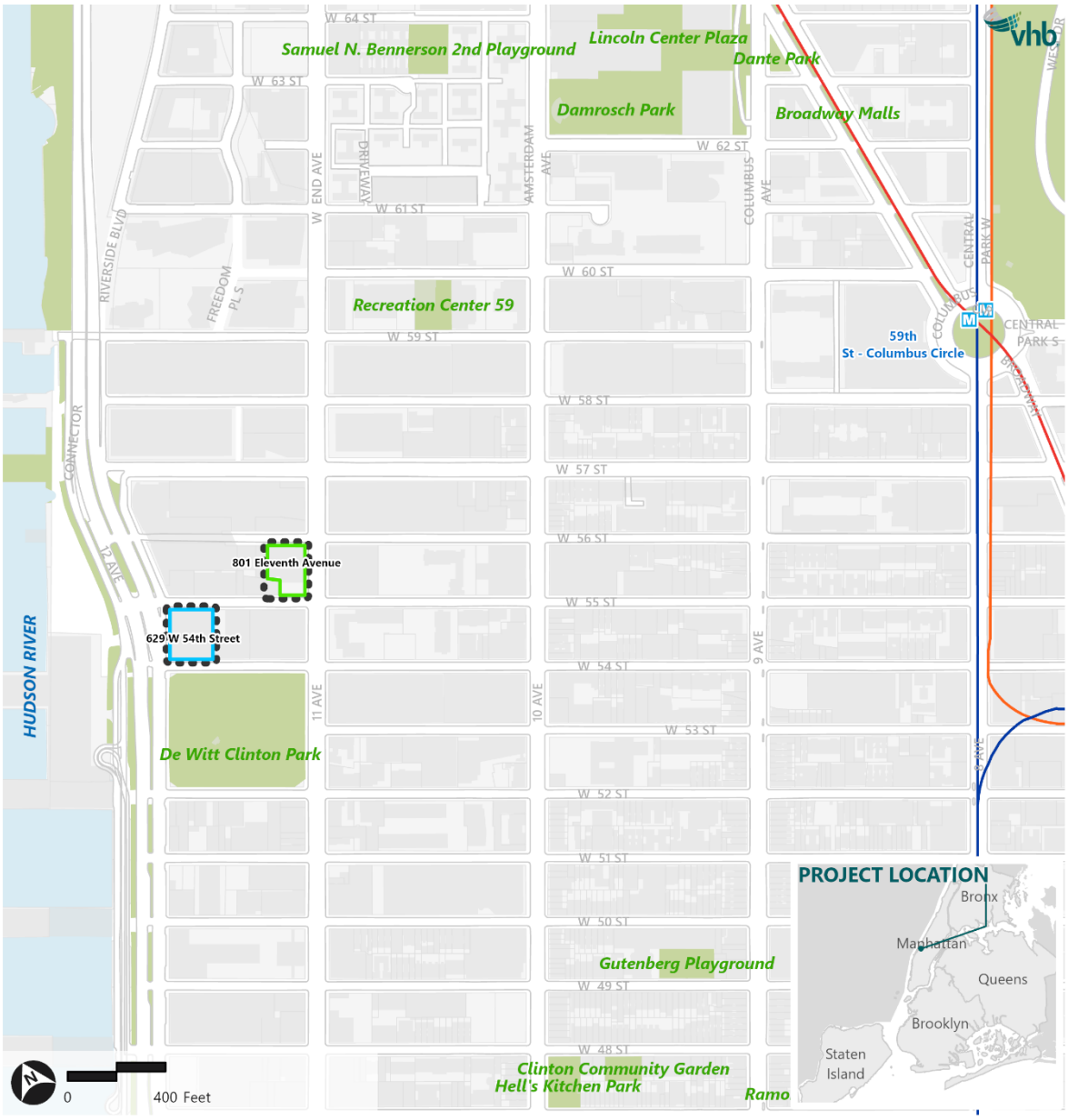
On-site parking would not be provided in the future with the Proposed Actions. Absent the Proposed Actions (the No-Action condition), it is assumed that Development Site 1 would continue to operate as a 152,375 gsf auto dealership. It is assumed that 57,805 gsf of space in Development Site 2 would be re-tenanted with another auto dealership.

**Table 10-1** summarizes the No-Action condition, With-Action condition, and the net change of component sizes by land use.

- The Proposed Projects would produce a net decrease of 10,430 gsf of auto dealership space and a net increase of 1,094 DUs compared to the No-Action condition.
- The Maximum Residential Scenario would produce a net decrease of 121,621 gsf of auto dealership space and a net increase of 1,242 DUs compared to the No-Action condition.
- The Maximum Commercial Scenario would produce a net decrease of 210,180 gsf of auto dealership space, and a net increase of 1,094 DUs, 112,714 gsf of office space, 38,410 gsf of local retail space, and 48,626 gsf of destination retail space compared to the No-Action condition.

Results of the travel demand analysis show that the Maximum Commercial Scenario would generate more vehicle, subway, and pedestrian trips than the Maximum Residential Scenario; therefore, the Maximum Commercial Scenario was used for the With-Action condition analysis to provide for a conservative analysis.

## Figure 10-1 Project Location




*Source: NYC DCP, MapPLUTO*

**Table 10-1 Development Increment for Analysis**

| | No-Action Condition | | | Proposed Projects | | |
|---|---|---|---|---|---|---|
| **Use** | **Development Site 1** | **Development Site 2** | **Total** | **Development Site 1** | **Development Site 2** | **Total** |
| Auto Dealership, sf | 152,375 | 57,805 | **210,180** | 113,990 | 85,760 | **199,750** |
| Residential, DUs | - | - | **-** | 617 | 477 | **1,094** |
| Office, sf | - | - | **-** | - | - | **-** |
| Local Retail, sf | - | - | **-** | - | - | **-** |
| Destination Retail, sf | - | - | **-** | - | - | **-** |
| | **Maximum Commercial Scenario** | | | **Maximum Residential Scenario** | | |
| **Use** | **Development Site 1** | **Development Site 2** | **Total** | **Development Site 1** | **Development Site 2** | **Total** |
| Auto Dealership, sf | - | - | **-** | 50,118 | 38,441 | **88,559** |
| Residential, DUs | 617 | 477 | **1,094** | 701 | 541 | **1,242** |
| Office, sf | 65,364 | 47,350 | **112,714** | - | - | **-** |
| Local Retail, sf | - | 38,410 | **38,410** | - | - | **-** |
| Destination Retail, sf | 48,626 | - | **48,626** | - | - | **-** |

**Development Increment (Compared to No-Action)**

| **Use** | **Proposed Projects** | **Maximum Commercial Scenario** | **Maximum Residential Scenario** |
|---|---|---|---|
| Auto Dealership, sf | **-10,430** | **-210,180** | **-121,621** |
| Residential, DUs | **1,094** | **1,094** | **1,242** |
| Office, sf | **-** | **112,714** | **-** |
| Local Retail, sf | **-** | **38,410** | **-** |
| Destination Retail, sf | **-** | **48,626** | **-** |

Note: The Maximum Commercial Scenario was selected for the Transportation analysis to provide a conservative analysis.

# Principal Conclusions

The Proposed Actions would result in significant adverse impacts to transportation, including traffic and transit (buses) conditions.

## Traffic

The Proposed Actions would generate a net increase of 161 vehicles per hour (vph) (74 "ins" and 87 "outs") in the weekday AM peak hour, 139 vph (71 "ins" and 68 "outs") in the weekday PM peak hour, and 157 vph (83 "ins" and 74 "outs") in the Saturday peak hour. The Proposed Actions would result in significant adverse traffic impacts at one intersection—Twelfth Avenue/New York Route 9A and West 55th Street—during the Saturday peak hour; the Proposed Actions would not result significant traffic impacts during the weekday AM and PM peak hours. The identification and evaluation of traffic capacity improvements needed to mitigate the Saturday peak hour impact are presented in **Chapter 18, Mitigation**.

## Parking

The Proposed Actions are expected to generate a peak parking demand of 191 parking spaces during the weekday overnight period and 194 parking spaces during the Saturday overnight period. The area within a quarter-mile radius of the development sites (an approximately 5-minute walk) currently contains 2,531 off-street parking spaces. The With-Action condition analysis determined that there would be sufficient off-street parking availability to accommodate the increased parking demand.

## Subways

Subway station elements at the station located closest to the development sites—the 59th Street-Columbus Circle subway station—were analyzed during the commuter peak hours. In total, 15 stairs, one fare control and two escalators, located along the southern section of the subway station, were analyzed. The analysis determined that these subway station elements would operate at acceptable levels of service during both the weekday AM and PM commuter peak hours under the With-Action condition and the Proposed Actions would not result in significant subway impacts.

## Buses

Bus line haul analyses were conducted for three bus routes (the M12, M31, and M57) during the AM and PM peak hours. The With-Action condition analysis determined that there would be significant impacts due to projected service shortfalls on the M12 bus route in the northbound and southbound directions during the PM peak hour, and on the M57 bus route in the eastbound direction during the AM peak hour. There would be sufficient capacity for the M31 bus route during both peak hours, the M12 bus route in the AM peak hour and the M57 bus route in the westbound direction during the AM peak hour, and in both directions during the PM peak hour.

## Pedestrians

Pedestrian analyses were performed for ten sidewalk elements, eight crosswalk elements, and 14 corner elements at key intersections for the weekday AM, midday, PM, and Saturday peak hours. The Proposed Actions would not result in significant adverse impacts at any of the 32 pedestrian elements analyzed.

## Vehicular and Pedestrian Safety

Crash data were reviewed for the nine traffic and pedestrian analysis intersections comprising the traffic study area. One of these intersections (i.e., Eleventh Avenue at West 57th Street) was identified as a high-crash location according to the ~~*2021*~~*2025 CEQR Technical Manual* criteria. However, the increase in traffic volumes during the four analysis peak hours is generally considered modest and would not be expected to contribute materially to safety conditions at this intersection.

# Methodology

According to the *CEQR Technical Manual* procedures for transportation analysis, a two-tiered screening process is to be undertaken to determine whether a quantified analysis is necessary. The

first step, the Level 1 (Trip Generation) screening, determines whether the volume of peak hour person and vehicle trips generated by the Proposed Actions would remain below the minimum thresholds that would necessitate further study. These thresholds are:

- 50 peak hour vehicle trip ends;
- 200 peak hour subway/rail or bus transit riders;
- 50 peak hour ferry trips; and
- 200 peak hour pedestrian trips.

If the Proposed Actions under the Maximum Commercial Scenario or Maximum Residential Scenario result in increments that would exceed any of these thresholds, a Level 2 (Trip Assignment) screening assessment is typically performed. Under this assessment, project-generated trips (for each mode that exceeds the Level 1 thresholds listed above) are assigned to and from the site through their respective networks (streets, bus and subway lines, sidewalks, etc.) based on expected origin-destination patterns and travel routes.

## Level 1 Screening Assessment

The travel demand factors used to calculate the projected number of trips were obtained primarily from the *CEQR Technical Manual*, an auto dealership survey conducted by VHB in June 2025, information provided by the New York City Department of Transportation (NYCDOT), US Census data, and information from other New York City environmental impact studies such as the 2021 *Starrett-Lehigh and Terminal Warehouse FEIS*. **Table 10-2** provides the travel demand assumptions used for the weekday AM, midday, and PM peak hours, and **Table 10-3** provides the travel demand assumptions used for the Saturday peak hour.

**Table 10-2 Travel Demand Characteristics (Weekday)**

| Rates | Residential | Auto Dealership | Destination Retail | Local Retail | Office |
|---|---|---|---|---|---|
| **Weekday Person Trip Gen Rate** | 8.18[2] per DU | 3.3[1] per 1,000 SF | 78.2[2] per 1,000 SF | 329[2] per 1,000 SF | 18.0[2] per 1,000 SF |
| Linked Trip Credit | 0% | 0% | 0% | 50% | 0% |
| **Temporal Distribution** | | | | | |
| AM Peak Hour | 9.3%[2] | 9.2%[1] | 3%[2] | 4.8%[2] | 12.4%[2] |
| Midday Peak Hour | 5.6%[2] | 8.5%[1] | 9%[2] | 8.0%[2] | 11.0%[2] |
| PM Peak Hour | 8.5%[2] | 11.0%[1] | 9%[2] | 10.9%[2] | 10.5%[2] |
| **Modal Split** | **All Periods** | **AM/MD/PM** | **AM & PM / MD** | **All Periods** | **AM & PM / MD** |
| Auto | 7.1%[4] | 52.2%/60%/61.3%[1] | 9%/9%[6] | 4%[3] | 16.4%[5]/2%[6] |
| Taxi | 4.9%[4] | 4.3%/0%/3.2%[1] | 4%/4%[6] | 1%[3] | 1.2%[5]/3%[6] |
| Subway | 41.7%[4] | 39.1%/8%/16.1%[1] | 26.5%/20%[6] | 1%[3] | 52.9%[5]/6%[6] |
| Bus | 6.3%[4] | 0%/0%/0%[1] | 8%/8%[6] | 1%[3] | 11.7%[5]/6%[6] |
| Walk | 35.3%[4] | 4.3%/16%/9.7%[1] | 50.5%/59%[6] | 92%[3] | 7.8%[5]/83%[6] |
| Rail | 1.1%[4] | - | 2%/0%[6] | - | 8.8%[5]/0%[6] |
| Bicycle | 3.5%[4] | 0%/16%/9.7%[1] | - | 1%[3] | 0.8%[5]/0%[6] |
| Ferry | 0.1%[4] | - | - | - | 0.4%[5]/0%[6] |
| **Vehicle Occupancy** | | | | | |
| Auto | 1.12[4] | 1.18[1] | 1.40[6] | 1.65[6] | 1.13[5] |
| Taxi | 1.12[4] | 1.00[1] | 1.65[6] | 1.40[6] | 1.13[5] |
| **Directional Split (In/Out)** | | | | | |
| AM Peak Hour | 22%/78%[3] | 67%/33%[1] | 63%/37%[2] | 52%/48%[3] | 86%/14%[3] |
| Midday Peak Hour | 50%/50%[3] | 46%/54%[1] | 53%/47%[2] | 50%/50%[3] | 52%/48%[3] |
| PM Peak Hour | 62%/38%[3] | 37%/63%[1] | 49%/51%[2] | 50%/50%[3] | 16%/84%[3] |
| **Weekday Delivery Trip Gen Rate** | 0.06[2] per DU | 0.21[1] per 1,000 SF | 0.35[2] per 1,000 SF | 0.35[2] per 1,000 SF | 0.32[2] per 1,000 SF |
| **Delivery Temporal Distribution** | | | | | |
| AM Peak Hour | 12%[2] | 9.4%[1] | 8%[2] | 8%[2] | 10%[2] |
| Midday Peak Hour | 9%[2] | 21.9%[1] | 11%[2] | 11%[2] | 11%[2] |
| PM Peak Hour | 2%[2] | 9.4%[1] | 2%[2] | 2%[2] | 2%[2] |

Delivery trip directional distribution: 50% in / 50% out, except for Auto Dealership: 67%/33% (AM), 43%/57% (MD), 33%/67% (PM)
Source:

[1] Auto dealership surveys conducted by VHB at Development Site 1 in June 2025
[2] ~~2021~~*2025 City Environmental Quality Review Technical Manual*
[3] Information Provided by NYCDOT
[4] 2015-2019 American Community Survey five-year journey to work data for Manhattan census tracts 127, 129, 133, 135, 139, 145, 147 & 151
[5] 2012-2016 American Community Survey five-year reverse journey to work data for Manhattan census tracts 127, 129, 133, 135, 139, 145, 147 & 151
[6] 2021 *Starrett-Lehigh and Terminal Warehouse FEIS*

**Table 10-3 Travel Demand Characteristics (Saturday)**

| Rates | Residential | Auto Dealership | Destination Retail | Local Retail | Office |
|---|---|---|---|---|---|
| **Saturday Person Trip Gen Rate** | 9.08[2] per DU | 2.4[1] per 1,000 SF | 92.5[2] per 1,000 SF | 358[2] per 1,000 SF | 3.9[2] per 1,000 SF |
| Linked Trip Credit | 0% | 0% | 0% | 50% | 0% |
| **Temporal Distribution** | | | | | |
| Saturday Peak Hour | 8.4%[2] | 10.1%[1] | 11%[2] | 11.7%[2] | 14.1%[2] |
| **Modal Split** | | | | | |
| Auto | 7.1%[4] | 66.7%[1] | 9%[6] | 4%[6] | 16.4%[5] |
| Taxi | 4.9%[4] | 4.2%[1] | 4%[6] | 1%[6] | 1.2%[5] |
| Subway | 41.7%[4] | 4.2%[1] | 20%[6] | 1%[6] | 52.9%[5] |
| Bus | 6.3%[4] | 12.5%[1] | 8%[6] | 1%[6] | 11.7%[5] |
| Walk | 35.3%[4] | 12.5%[1] | 59%[6] | 92%[6] | 7.8%[5] |
| Rail | 1.1%[4] | - | - | - | 8.8%[5] |
| Bicycle | 3.5%[4] | - | - | 1%[6] | 0.8%[6] |
| Ferry | 0.1%[4] | - | - | - | 0.4%[5] |
| **Vehicle Occupancy** | | | | | |
| Auto | 1.12[4] | 1.25[1] | 1.72[6] | 1.65[6] | 1.13[5] |
| Taxi | 1.12[4] | 1.00[1] | 1.75[6] | 1.40[6] | 1.13[5] |
| **Directional Split (In/Out)** | | | | | |
| Saturday Peak Hour | 55%/45%[3] | 44%/56%[1] | 52%/48%[2] | 50%/50%[3] | 48%/52%[3] |
| **Saturday Delivery Trip Gen Rate** | 0.02[2] per DU | 0.04[1] per 1,000 SF | 0.04[2] per 1,000 SF | 0.04[2] per 1,000 SF | 0.01[2] per 1,000 SF |
| **Delivery Temporal Distribution** | | | | | |
| Saturday Peak Hour | 9%[2] | 0%[1] | 11%[2] | 11%[2] | 11%[2] |

Delivery trip directional distribution: 50% in / 50% out
Source:
[1] Auto dealership surveys conducted by VHB at Development Site 1 in June 2025
[2] ~~2021 *City Environmental Quality Review*~~ *2025 CEQR Technical Manual*
[3] Information Provided by NYCDOT
[4] 2015-2019 American Community Survey five-year journey to work data for Manhattan census tracts 127, 129, 133, 135, 139, 145, 147 and 151
[5] 2012-2016 American Community Survey five-year reverse journey to work data for Manhattan census tracts 127, 129, 133, 135, 139, 145, 147 and 151
[6] 2021 *Starrett-Lehigh and Terminal Warehouse FEIS*

## Residential

For the residential use, trip generation rates of 8.18 daily person trips per DU for weekday and 9.08 daily person trips per DU for Saturday, and temporal distributions of 9.3 percent, 5.6 percent, 8.5 percent, and 8.4 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were obtained from the ~~2021~~ *CEQR Technical Manual*. The modal splits, auto vehicle occupancy and taxi occupancy were based on the 2015-2019 American Community Survey (ACS) journey to work data for Manhattan census tracts 127, 129, 133, 135, 139, 145, 147 and 151. Modal splits used were 7.1 percent for auto, 4.9 percent for taxi, 41.7 percent for subway, 6.3 percent for bus, 35.3 percent for walking, 1.1 percent for rail, 3.5 percent for bicycle and 0.1 percent for ferry. The vehicle occupancy rate of 1.12 was used for autos and taxis. The directional distributions of 22 percent "in" for the weekday AM peak hour, 50 percent "in" for the weekday midday peak hour, 62 percent "in" for the weekday PM peak hour, and 55 percent "in" for the Saturday peak hour were based on information provided by NYCDOT's surveys of residential uses.

For residential delivery trips, trip generation rates of 0.06 and 0.02 daily delivery trips per DU for the weekday and Saturday peak hours, respectively, and temporal distributions of 12 percent, 9 percent, 2 percent, and 9 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were obtained from the ~~2021~~ *CEQR Technical Manual*.

## Auto Dealership

For auto dealership, the trip generation rate, temporal distribution, and directional distribution were based on surveys of the existing auto dealership at Development Site 1 conducted by VHB in June 2025. The survey combined pedestrian and vehicular video counts with intercept surveys to establish travel demand characteristics for the auto dealership use. The survey determined trip generation rates of 3.3 daily person trips per 1,000 sf for weekdays and 2.4 daily person trips per 1,000 sf for Saturday, and temporal distributions of 9.2 percent, 8.5 percent, 11.0 percent, and 10.1 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively. The Saturday peak hour occurs during the mid-afternoon period, consistent with the peak hour for the other project land uses and background traffic conditions. The auto dealership survey results can be found in **Appendix D**. Directional distributions of 67 percent "in" for the weekday AM peak hour, 46 percent "in" for the weekday midday peak hour, 37 percent "in" for the weekday PM peak hour, and 44 percent "in" for the Saturday peak hour were used. Modal splits used were:

- 52.2 percent by auto, 4.3 percent by taxi, 39.1 percent by subway, and 4.3 percent by walking during the weekday AM peak period;
- 60.0 percent by auto, 8.0 percent by subway, 16.0 percent by bike, and 16.0 percent by walking during the weekday midday peak period;
- 61.3 percent by auto, 3.2 percent by taxi, 16.1 percent by subway, 9.7 percent by bike, and 9.7 percent by walking during the weekday PM peak period; and
- 66.7 percent by auto, 4.2 percent by taxi, 12.5 percent by bus, 4.2 percent by subway, and 12.5 percent by walking during the Saturday peak period.

Vehicle occupancies of 1.18 persons per auto were used for the weekday peak hours and 1.25 persons per auto during the Saturday peak hour. A vehicle occupancy of 1.00 person per taxi was conservatively assumed.

For delivery trips, trip generation rate of 0.21 daily delivery trips per 1,000 sf for a weekday and 0.04 daily delivery trips per 1,000 sf for a Saturday were used. The delivery temporal distributions used for the peak hours were 9.4 percent, 21.9 percent, 9.4 percent, and 0.0 percent for weekday AM, midday, PM, and Saturday peak hours, respectively. Directional distributions for delivery trips of 67 percent "in" for the weekday AM peak hour, 43 percent "in" for the weekday midday peak hour, 33 percent "in" for the weekday PM peak hour, and 50 percent "in" for the Saturday peak hour were used.

## Destination Retail

For the destination retail use, trip generation rates of 78.2 daily person trips per 1,000 sf for weekday and 92.5 daily person trips per 1,000 sf for Saturday were obtained from the *CEQR Technical Manual*. The temporal distribution of 3 percent, 9 percent, 9 percent and 11 percent for the weekday AM, midday. PM, and Saturday peak hours, respectively, were also obtained from the *CEQR Technical Manual*. Modal splits of 9 percent by auto, 4 percent by taxi, 8 percent by bus, 26.5 percent by subway, 2 percent by commuter rail, and 50.5 percent by walk during the weekday AM and PM peak hours were based on the 2021 *Starrett-Lehigh and Terminal Warehouse FEIS*. Modal splits of 9 percent by auto, 4 percent by taxi, 8 percent by bus, 20 percent by subway, and 59 percent by walk during the weekday midday and Saturday peak hours were based on the 2021 *Starrett-Lehigh and Terminal Warehouse FEIS*. The auto and taxi vehicle occupancy rates of 1.40 and 1.65, respectively, for the weekday peak hours and the auto and taxi vehicle occupancy rates of 1.72 and 1.75, respectively, for the Saturday peak hour were based on the 2021 *Starrett-Lehigh and Terminal Warehouse FEIS*. The directional distributions of 63 percent "in" for the weekday AM peak hour, 53 percent "in" for the weekday midday peak hour, 49 percent "in" for the weekday PM peak hour, and 52 percent "in" for the Saturday peak hour were also based on the 2021 *Starrett-Lehigh and Terminal Warehouse FEIS*.

For destination retail delivery trips, trip generation rates of 0.35 and 0.04 daily delivery trip per 1,000 sf for weekday and Saturday, respectively, and temporal distribution rates of 8 percent, 11 percent, 2 percent, and 11 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*.

## Local Retail

For the local retail use, trip generation rates and temporal distributions were obtained from the *CEQR Technical Manual*. Trip generation rates of 329 daily person trips per 1,000 sf for the weekday and 358 daily person trips per 1,000 sf for Saturday were used. A linked trip credit of 50 percent was assumed to account for internal linked trips between the Development Site uses and for pass-by trips. The temporal distributions used were 4.8 percent, 8.0 percent, 10.9 percent, and 11.7 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively. The mode splits and directional distributions were based on information provided by NYCDOT. The modal splits of 4 percent by auto, 1 percent by taxi, 1 percent by subway, 1 percent by bus, 1 percent by bike and 92 percent by walking were used. The directional distributions used were 52 percent "in" for weekday AM and 50 percent "in" for midday, PM, and Saturday peak hours. The auto and taxi vehicle occupancy rates of 1.40 and 1.65, respectively, for the weekday peak hours and Saturday peak hour were provided by NYCDOT.

For local retail delivery trips, trip generation rates of 0.35 and 0.04 daily delivery trips per 1,000 sf for the weekday and Saturday peak hours, respectively, and a temporal distribution of 8 percent, 11 percent, 2 percent, and 11 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*.

### Office

For the office use, trip generation rates of 18.0 daily person trips per 1,000 sf for weekday and 3.9 daily person trips per 1,000 sf for Saturday were obtained from the *CEQR Technical Manual*. Temporal distributions of 12.4 percent, 11.0 percent, 10.5 percent and 14.1 percent for the weekday AM, midday, PM and Saturday peak hours, respectively, were also obtained from the *CEQR Technical Manual*. Modal splits of 16.4 percent by auto, 1.2 percent by taxi, 11.7 percent by bus, 52.9 percent by subway, 8.8 percent by commuter rail, 0.8 percent by bike, 0.4 percent by ferry and 7.8 percent by walk during the weekday AM, PM and Saturday peak hours were based on the reverse journey-to-work data derived from 2012-2016 American Community Survey data for Manhattan census tracts 127, 129, 133, 135, 139, 145, 147 and 151. Modal splits of 2 percent by auto, 3 percent by taxi, 6 percent by bus, 6 percent by subway, and 83 percent by walk during the weekday midday peak hour was based on the 2021 *Starrett-Lehigh and Terminal Warehouse FEIS*. For all peak hours, the auto and taxi vehicle occupancy rates of 1.13 persons per vehicle were based on the reverse journey-to-work data. The directional distributions of 86 percent "in" for the weekday AM peak hour, 52 percent "in" for the weekday midday peak hour, 16 percent "in" for the weekday PM peak hour, and 48 percent "in" for the Saturday peak hour were also based on the information provided by NYCDOT.

For office delivery trips, trip generation rates of 0.32 and 0.01 daily delivery trips per 1,000 sf for weekday and Saturday, respectively, and temporal distributions of 10 percent, 11 percent, 2 percent, and 11 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*.

## Level 1 Screening Results

### Transit and Pedestrians

The incremental number of pedestrian trips generated under the Maximum Commercial Scenario and the Maximum Residential Scenario are provided in **Table 10-4** and **Table 10-5**, respectively. Both scenarios would be expected to exceed the *CEQR Technical Manual* Level 1 screening thresholds for transit and pedestrian trips. The Maximum Commercial Scenario would generate more subway and pedestrian trips than the Maximum Residential Scenario; therefore, a Level 2 screening analysis was conducted for the Maximum Commercial Scenario for conservative analysis purposes.

**Table 10-4 Maximum Commercial Development Trip Generation Summary – Person Trips**

| | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mode** | **In** | **Out** | **Total** | **In** | **Out** | **Total** | **In** | **Out** | **Total** | **In** | **Out** | **Total** |
| **Auto** | 39 | 50 | 89 | 30 | 25 | 55 | 51 | 51 | 102 | 61 | 50 | 111 |
| **Taxi** | 15 | 34 | 49 | 25 | 24 | 49 | 32 | 25 | 57 | 36 | 30 | 66 |
| **Bus** | 46 | 49 | 95 | 41 | 39 | 80 | 50 | 56 | 106 | 54 | 46 | 100 |
| **Subway** | 194 | 294 | 488 | 148 | 144 | 292 | 258 | 257 | 515 | 261 | 223 | 484 |
| **Rail** | 22 | 11 | 33 | 3 | 3 | 6 | 11 | 22 | 33 | 8 | 7 | 15 |
| **Ferry** | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Bicycle** | 11 | 24 | 35 | 8 | 7 | 15 | 16 | 11 | 27 | 20 | 17 | 37 |
| **Walk-only** | 260 | 386 | 646 | 521 | 501 | 1,022 | 569 | 517 | 1,086 | 683 | 641 | 1,324 |
| **Total** | **588** | **848** | **1,436** | **776** | **743** | **1,519** | **987** | **939** | **1,926** | **1,123** | **1,014** | **2,137** |

Note: Bus-only trips are shown above. Due to the distance from the development sites and the closest subway and rail stations, subway and rail trips would also include a bus connection trip.

**Table 10-5 Maximum Residential Development Trip Generation Summary – Person Trips**

| | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mode** | **In** | **Out** | **Total** | **In** | **Out** | **Total** | **In** | **Out** | **Total** | **In** | **Out** | **Total** |
| **Auto** | 1 | 47 | 48 | 11 | 9 | 20 | 28 | 6 | 34 | 29 | 19 | 48 |
| **Taxi** | 9 | 36 | 45 | 14 | 14 | 28 | 26 | 15 | 41 | 25 | 20 | 45 |
| **Bus** | 13 | 46 | 59 | 18 | 18 | 36 | 34 | 21 | 55 | 32 | 25 | 57 |
| **Subway** | 77 | 302 | 379 | 118 | 118 | 236 | 221 | 132 | 353 | 218 | 176 | 394 |
| **Rail** | 2 | 9 | 11 | 3 | 3 | 6 | 6 | 4 | 10 | 5 | 5 | 10 |
| **Ferry** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Bicycle** | 7 | 26 | 33 | 8 | 8 | 16 | 18 | 9 | 27 | 18 | 14 | 32 |
| **Walk-only** | 72 | 260 | 332 | 99 | 99 | 198 | 188 | 113 | 301 | 183 | 149 | 332 |
| **Total** | **181** | **726** | **907** | **271** | **269** | **540** | **521** | **300** | **821** | **510** | **408** | **918** |

Note: Bus-only trips are shown above. Due to the distance from the development sites and the closest subway and rail stations, subway and rail trips would also include a bus connection trip.

Under the Maximum Commercial Scenario:

- During the weekday AM peak hour, the Maximum Commercial Scenario would generate 95 bus trips, 488 subway trips, 33 rail trips and 1,352 pedestrian trips (walk plus auto walk, bus, subway, rail, and ferry trips).
- During the weekday midday peak hour, the Maximum Commercial Scenario would generate 80 bus trips, 292 subway trips, 6 rail trips, and 1,455 pedestrian trips.
- During the weekday PM peak hour, the Maximum Commercial Scenario would generate 106 bus trips, 515 subway trips, 33 rail trips and 1,842 pedestrian trips.
- During the Saturday peak hour, the Maximum Commercial Scenario would generate 100 bus trips, 484 subway trips, 15 rail trips and 2,034 pedestrian trips.

Transit analyses generally examine conditions only during the commuter peak periods (weekday AM and PM peak hours) when overall transit demand and the potential for significant adverse impacts

are typically highest. Therefore, as the Maximum Commercial Scenario is expected to generate over 200 subway trips in the weekday AM and PM peak hours, Level 2 trip assignments are necessary to determine if detailed subway analyses are warranted per *CEQR Technical Manual* guidelines. Although the bus trips would not exceed the Level 1 screening thresholds for further analysis, the development sites are located over a half-mile away from the closest subway station (59th Street-Columbus Circle). Therefore, it was assumed that all subway trips would include a bus transfer component, and the combination of bus-only and bus-to-subway trips would exceed the Level 1 screening thresholds for buses.

Pedestrian trips include walk-only trips to and from the development sites plus walking connections between the development sites to and from bus stops, and off-street parking facilities expected to be used by those who choose to drive to the sites. As the increase in pedestrian trips are expected to exceed the CEQR threshold of 200 pedestrian trips per hour, a Level 2 trip assignment is necessary to determine if (and where) detailed pedestrian analyses are warranted per *CEQR Technical Manual* guidelines.

## Traffic and Parking

**Table 10-6** and **Table 10-7** summarize the incremental peak hour vehicular volumes ("ins" plus "outs") projected to be generated by the development sites under the With-Action condition. The hourly vehicle trips generated under the Maximum Commercial Development Scenario would be 161 vehicles per hour (vph) during the weekday AM peak hour, 100 vph in the weekday midday peak hour, 139 vph in weekday PM peak hour, and 157 vph in the Saturday peak hour. For the Maximum Residential Development Scenario, the number of vehicle trips generated would be 122 vehicles per hour (vph) during the weekday AM peak hour, 52 vph in the weekday midday peak hour, 77 vph in weekday PM peak hour, and 104 vph in the Saturday peak hour. As the Maximum Commercial Development Scenario would generate more vehicle trips than the Maximum Residential Development Scenario, the Level 2 screening analysis was conducted for this scenario.

**Table 10-6 Maximum Commercial Development Trip Generation Summary – Vehicle Trips**

| | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mode** | **In** | **Out** | **Total** | **In** | **Out** | **Total** | **In** | **Out** | **Total** | **In** | **Out** | **Total** |
| **Auto** | 32 | 43 | 75 | 22 | 18 | 40 | 40 | 39 | 79 | 45 | 36 | 81 |
| **Taxi** | 37 | 37 | 74 | 28 | 28 | 56 | 32 | 32 | 64 | 37 | 37 | 74 |
| **Truck** | 5 | 7 | 12 | 3 | 1 | 4 | -1 | -3 | -4 | 1 | 1 | 2 |
| **Total** | **74** | **87** | **161** | **53** | **47** | **100** | **71** | **68** | **139** | **83** | **74** | **157** |

**Table 10-7 Maximum Residential Development Trip Generation Summary – Vehicle Trips**

| | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mode** | **In** | **Out** | **Total** | **In** | **Out** | **Total** | **In** | **Out** | **Total** | **In** | **Out** | **Total** |
| **Auto** | 1 | 43 | 44 | 10 | 8 | 18 | 25 | 6 | 31 | 26 | 18 | 44 |
| **Taxi** | 35 | 35 | 70 | 17 | 17 | 34 | 24 | 24 | 48 | 29 | 29 | 58 |
| **Truck** | 4 | 4 | 8 | 1 | -1 | 0 | -1 | -1 | -2 | 1 | 1 | 2 |
| **Total** | **40** | **82** | **122** | **28** | **24** | **52** | **48** | **29** | **77** | **56** | **48** | **104** |

## Level 2 Screening Assessment

As shown above, the number of trips generated by the Proposed Actions would exceed the *CEQR Technical Manual* Level 1 screening thresholds for vehicle, subway, bus, and pedestrian trips during the peak hours analyzed. Project-generated trips were assigned through the surrounding street network based on expected routes to and from the development sites.

### Traffic

Project-generated vehicle trips shown in **Table 10-6** were assigned for analysis purposes through the surrounding street network based on expected routes to the development sites, the configuration of the street network, and the anticipated front-door entrances to the development sites. As the development sites would not provide parking on-site, auto trips were assigned to nearby parking facilities. Residential and office trips were assigned directly to the parking facilities, while retail and auto dealership "in" trips were assigned first to the development sites, then to nearby parking facilities, per *CEQR Technical Manual* guidance.

#### *Residential Auto Trips*

Residential auto trip assignments were based on the 2012 – 2016 American Community Survey journey to work data for New York County (Manhattan) Census Tracts 127, 129, 133, 135, 139, 145, 147, and 151. Approximately 34 percent of project-generated auto trips were assumed to be destined for other sections of Manhattan. Of the remaining trips, 24 percent were assumed to be destined to New Jersey, 14 percent to Long Island, 12 percent to Westchester and Upstate New York, 6 percent to the Bronx, 5 percent to Brooklyn, 3 percent to Connecticut, 1 percent to Queens, and 1 percent to Pennsylvania.

The majority of project-generated auto trips were assigned to the surrounding highway network. For Twelfth Avenue/NY 9A, approximately 42 percent of the trips were assigned to the north and 5 percent of trips to the south. Approximately 26 percent of the trips were assigned to Eleventh Avenue which is a two-way roadway north of West 57th Street and transitions to a one-way southbound roadway south of West 57th Street. Along the key local roadways in the study area—5 percent of the auto trips were assigned along Ninth Avenue to the south, 3 percent were assigned to the north along Eighth Avenue, 8 percent were assigned along West 57th Street to the east, 11 percent were assigned to the east along local streets such as West 50th Street and West 54th Street. Inbound trips along the one-way avenues were assumed to use the adjacent avenue roadway to travel outbound from the development sites; for example, a vehicle using Eleventh Avenue to access the Site was assumed to make its outbound trip using Tenth Avenue.

#### *Local Retail Auto Trips*

Auto trips generated by local retail uses were assumed to be local in nature and were assigned to the immediately surrounding areas. These auto trips were generally assigned based on the population densities within a one-mile radius of the development sites.

Approximately 30 percent of the local trips were assigned along Tenth Avenue traveling to the development sites from the south and along Eleventh Avenue leaving the development sites. Approximately 50 percent were assigned from the north along Ninth and Eleventh Avenues from the north (returning via Eighth and Tenth Avenues), and 20 percent were assigned to east-west roadways between West 51st Street and West 57th Street. One percent of trips were assigned along Twelfth Avenue/NY 9A from points north.

### *Destination Retail and Dealership Auto Trips*

Auto trips generated by destination retail and auto dealership uses were assumed to attract trips from a wider geographic area than local retail trips. These auto trips were assigned based on the population densities within a three-mile radius of the development sites.

Approximately 21 percent of the destination-type trips were assigned along Eighth Avenue and Tenth Avenue traveling to the development sites from the south and 35 percent along Ninth Avenue and Eleventh Avenue from the north. Leaving the development sites, these trips were assigned along adjacent avenue roadways between Eighth Avenue and Twelfth Avenue/NY 9A. Approximately 24 percent of destination-type trips were assigned to east-west roadways between West 50th Street and West 57th Street. Twenty percent of the auto trips were assigned to travel to the development sites from Twelfth Avenue/NY 9A.

### *Office Auto Trips*

Office auto trip assignments were based on the 2015 – 2019 American Community Survey reverse journey to work data for New York County (Manhattan) Census Tracts 127, 129, 133, 135, 139, 145, 147, and 151. Most trips would be expected to originate from Brooklyn (25 percent), Manhattan (23 percent) and Queens (21 percent). Of the remaining trips, 11 percent of the office trips were from Long Island and Staten Island, and 11 percent from Westchester and Upstate New York.

The majority of project-generated auto trips were assigned to the surrounding roadway network. For Twelfth Avenue/NY 9A, approximately 36 percent of the trips were assigned to the north and 16 percent of trips to the south. Approximately six percent of the trips were assigned to Ninth Avenue, five percent were assigned to Tenth Avenue, and one percent were assigned to Eleventh Avenue. Along the other key local roadways in the study area, 16 percent were assigned along West 57th Street and 20 percent were assigned to local east-west streets such as West 55th Street. Inbound trips along one-way avenue roadways would use the adjacent avenue roadway to travel outbound from the development sites.

### *Other Vehicle Trips*

Taxi trips were assumed to travel to and from the development sites following similar patterns as described above for auto trips. Delivery vehicles were assigned to travel along NYCDOT-designated truck routes to and from the development sites, such as West 57th Street, Eleventh Avenue, and Tenth Avenue.

Traffic volume increment maps for the weekday AM, midday, PM, and Saturday peak hours are shown in **Figure 10-2** through **Figure 10-5.**

**Figure 10-2 Project-Generated Vehicle Trips – Weekday AM Peak Hour**

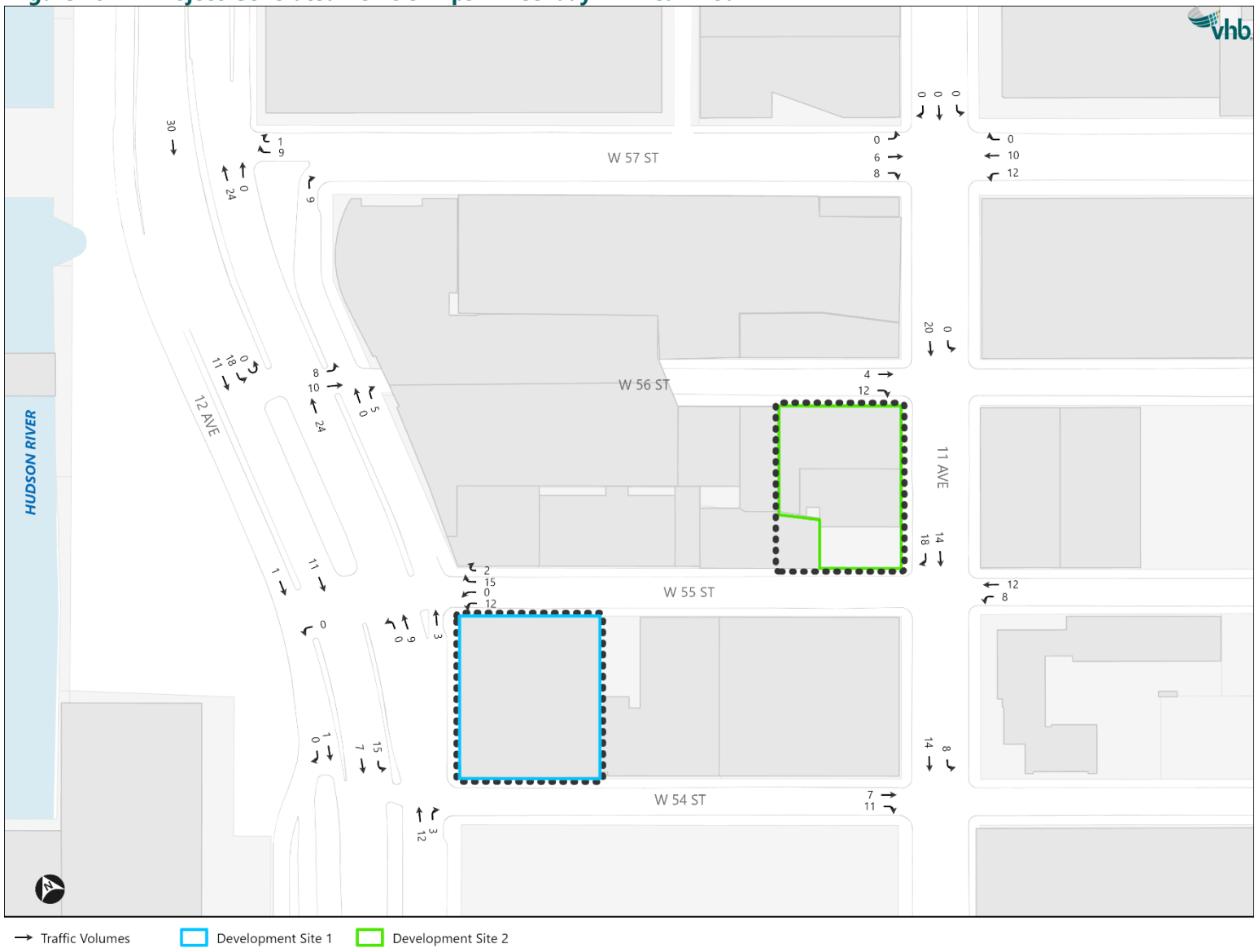
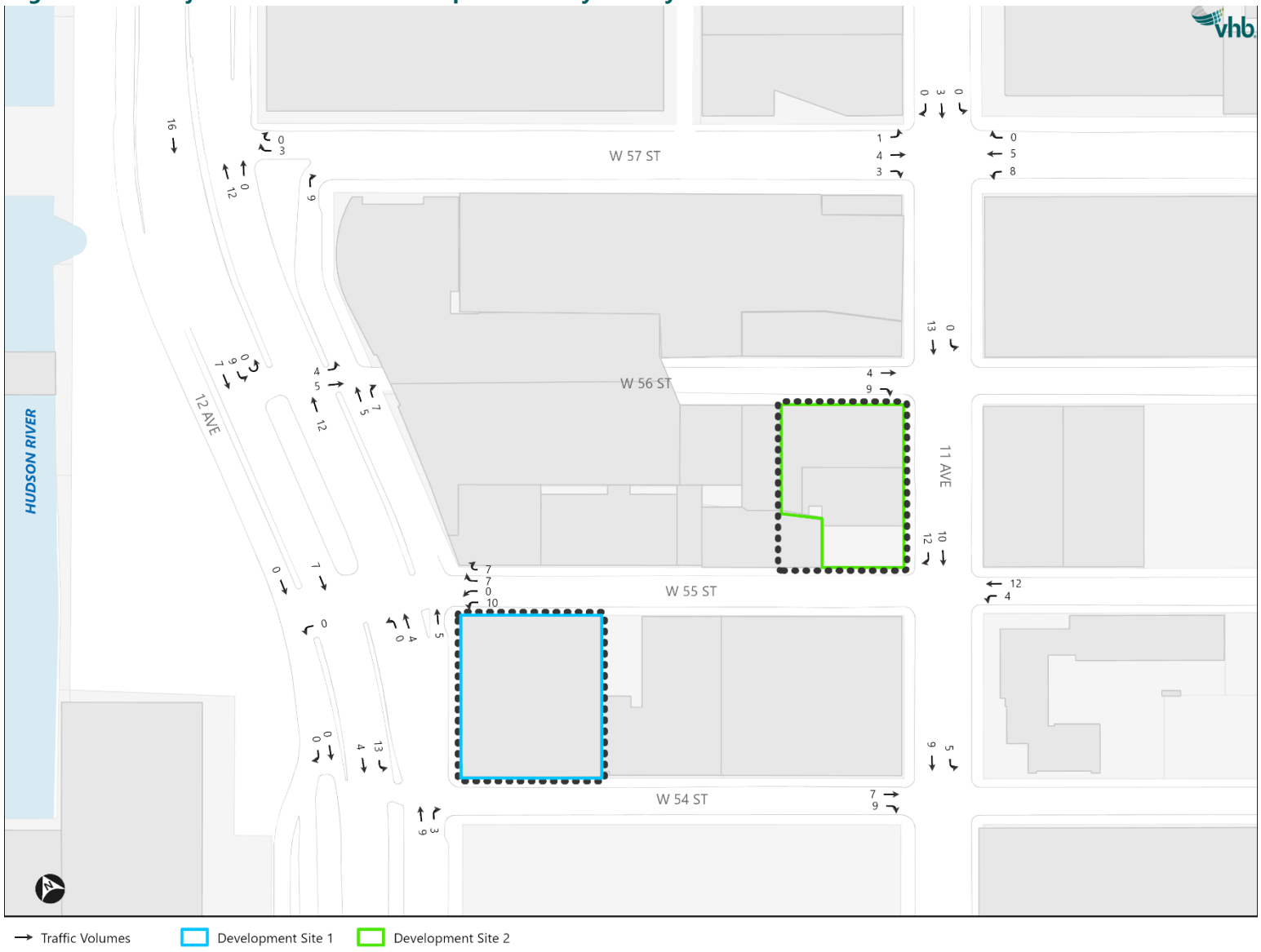


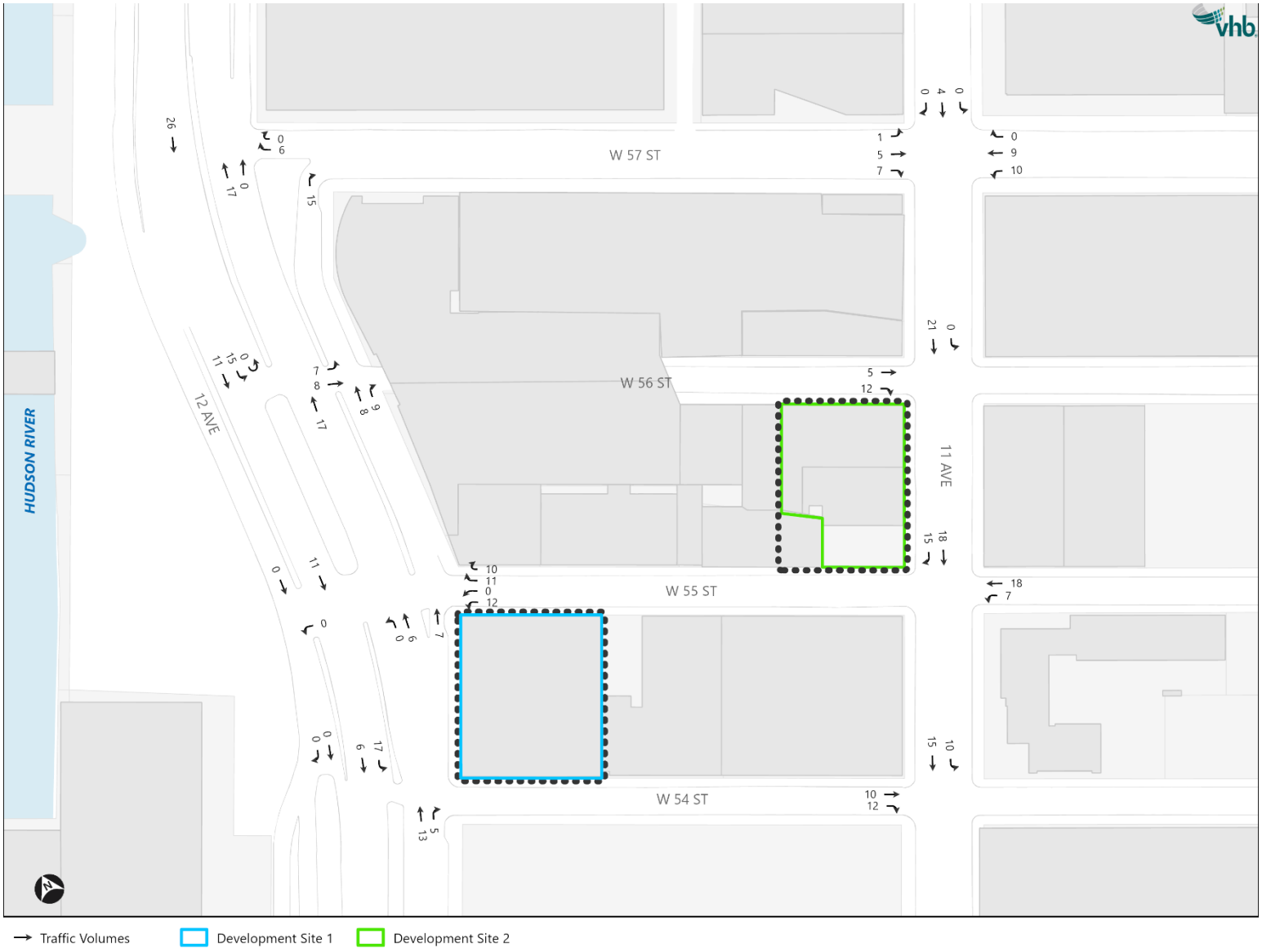
**Figure 10-3 Project-Generated Vehicle Trips – Weekday Midday Peak Hour**



## Figure 10-4 Project-Generated Vehicle Trips – Weekday PM Peak Hour



**Figure 10-5 Project-Generated Vehicle Trips – Saturday Peak Hour**



## Transit and Pedestrians

Subway trips were assigned to local bus routes for travel between the development sites and the closest subway stations. The majority of subway trips (65 percent) were assigned to the 59th Street-Columbus Circle station (A, B, C, D and No. 1 subway lines) via the M12, M31, and M57 bus routes. Approximately 20 percent of the subway trips were assigned for analysis purposes to the 57th Street-7th Avenue station (N, Q, R, and W subway lines) and 57th Street station (F subway line) via the M31 and M57 bus routes. The remaining subway trips were assigned to the 50th Street station (C and E subway lines, 10 percent), and the 72nd Street station (No. 1, 2 and 3 subway lines, 5 percent) via the M50 bus route and M57 bus routes, respectively. Rail trips were assigned to Penn Station and ferry trips were assigned to the West 39th Street ferry landing; both rail and ferry trips were assumed to connect to these services via the M11 bus route. Bus-only trips were assigned to nearby available bus routes—30 percent to the M12 bus route, 30 percent to the M57 bus route, 20 percent to the M11 bus route, and 20 percent to the M31 bus route.

Pedestrian trips were assigned to the pedestrian network based on their origins and destinations to/from bus stops and walk only trips to/from surrounding residential blocks outside of the development sites. As no on-site parking would be provided under the Maximum Commercial Scenario (similar to the Proposed Project and Maximum Residential Scenario), auto vehicle trips were assigned to park at the nearby parking garages where there is availability. Walk-only trips were distributed to the local pedestrian network to nearby residences and attractions.

Pedestrian volume increment maps for the weekday AM, midday, PM, and Saturday peak hours are shown in **Figure 10-6** through **Figure 10-9**.

## Figure 10-6 Project-Generated Pedestrian Trips – Weekday AM Peak Hour



## Figure 10-7 Project-Generated Pedestrian Trips – Weekday Midday Peak Hour



**Figure 10-8 Project-Generated Pedestrian Trips – Weekday PM Peak Hour**



## Figure 10-9 Project-Generated Pedestrian Trips – Saturday Peak Hour



# Level 2 Screening Results

## Traffic

Based on the vehicular trip assignments described above, traffic counts and detailed level of service analyses were conducted at the following intersections for the weekday AM, PM, and Saturday peak hours, shown in **Figure 10-10**. The vehicular trip assignments conducted for the weekday midday peak hour showed that this condition would not produce vehicle trips above the CEQR threshold of 50 trips per hour; therefore, the weekday midday peak hour does not have the potential to create significant adverse traffic impacts and does not require additional detailed analysis. **Table 10-8** summarizes the peak hour project-generated vehicle trips at the intersections along key routes to and from the development sites.

- Twelfth Avenue/NY 9A and West 55th Street
- Twelfth Avenue/NY 9A and West 56th Street
- Twelfth Avenue/NY 9A and West 57th Street
- Eleventh Avenue and West 55th Street

**Figure 10-10 Traffic Study Area**

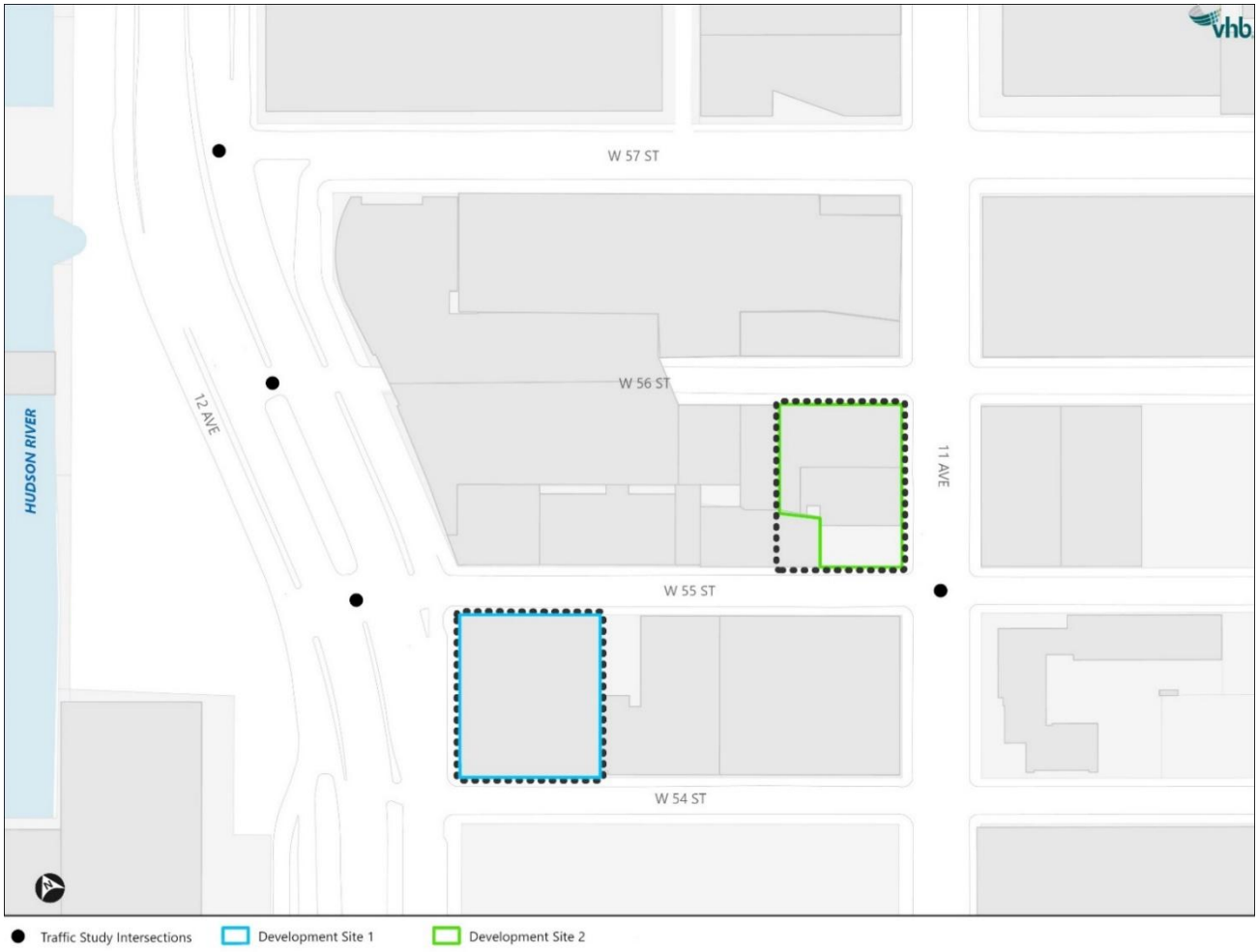


**Table 10-8 Level 2 Screening Assessment Results – Vehicle Trips**

| Intersection | AM Peak Hour | Midday Peak Hour | PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|---|
| Eleventh Avenue and West 54th Street | 40 | 30 | 38 | 48 |
| Eleventh Avenue and West 55th Street | 51 | 38 | 48 | 59 |
| Eleventh Avenue and West 56th Street | 36 | 26 | 31 | 38 |
| Eleventh Avenue and West 57th Street | 37 | 23 | 31 | 36 |
| Twelfth Avenue and West 54th Street | 41 | 34 | 42 | 48 |
| Twelfth Avenue and West 55th Street | 53 | 40 | 50 | 58 |
| Twelfth Avenue and West 56th Street | 59 | 39 | 54 | 60 |
| Twelfth Avenue and West 57th Street | 72 | 39 | 63 | 64 |

Denotes location that exceeds the CEQR threshold of 50 vehicle trips per hour

## Transit and Pedestrians

Due to the distance from the closest subway stations and rail and ferry service, MTA bus connections were assumed to be needed to access nearby transit modes. The combination of bus-only and bus connection trips exceeds the screening thresholds for the M12, M31 and M57 bus routes, necessitating bus line-haul analyses for these bus routes. **Table 10-9** summarizes the bus screening results.

**Table 10-9 Level 2 Screening Assessment Results – Bus Trips**

| Peak Hour | Route | Direction | Bus Only Increment | Bus-Subway Increment | Bus-Rail Increment | Total Bus Increment |
|---|---|---|---|---|---|---|
| AM | M11 | NB | 10 | 0 | 22 | 32 |
| | | SB | 10 | 0 | 11 | 21 |
| | M12 | NB | 0 | 44 | 0 | 44 |
| | | SB | 29 | 29 | 0 | 58 |
| | M31 | EB | 19 | 88 | 0 | 107 |
| | | WB | 0 | 78 | 0 | 78 |
| | M50 | EB | 0 | 29 | 0 | 29 |
| | | WB | 0 | 19 | 0 | 19 |
| | M57 | EB | 14 | 132 | 0 | 147 |
| | | WB | 14 | 68 | 0 | 82 |
| PM | M11 | NB | 11 | 0 | 11 | 22 |
| | | SB | 11 | 0 | 22 | 33 |
| | M12 | NB | 0 | 39 | 0 | 39 |
| | | SB | 32 | 39 | 0 | 71 |
| | M31 | EB | 21 | 77 | 0 | 98 |
| | | WB | 0 | 103 | 0 | 103 |
| | M50 | EB | 0 | 26 | 0 | 26 |
| | | WB | 0 | 26 | 0 | 26 |
| | M57 | EB | 16 | 116 | 0 | 132 |
| | | WB | 16 | 90 | 0 | 106 |

Denotes bus line that exceeds the CEQR screening thresholds of 50 bus trips in one direction per hour

The majority of subway trips were assigned to the 59th Street-Columbus Circle station and would exceed the Level 2 screening thresholds requiring detailed analyses at key subway elements at this station, as shown in **Table 10-10**. Once project-generated subway trips are distributed to available subway lines, the increase in subway ridership on a particular subway line would not be expected to exceed the thresholds necessitating subway line-haul analyses. Detailed subway and bus analyses were conducted for the weekday AM and PM commuter peak hours. **Figure 10-11** shows the subway and bus options within the vicinity of the development sites.

**Table 10-10 Level 2 Screening Assessment Results – Subway Trips**

| | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| **Subway Station (Subway Lines)** | **In** | **Out** | **Total** | **In** | **Out** | **Total** |
| 59th Street-Columbus Circle (A, B, C, D, 1) | 137 | 196 | 333 | 170 | 172 | 342 |
| 57th Street-7th Avenue (N, Q, R, W) | 21 | 30 | 51 | 26 | 27 | 53 |
| 57th Street (F) | 21 | 30 | 51 | 26 | 27 | 53 |
| 50th Street (C, E) | 21 | 30 | 51 | 26 | 27 | 53 |
| 72nd Street (1, 2, 3) | 11 | 0 | 2 | 0 | 7 | 0 |
| TOTAL | 211 | 302 | 513 | 262 | 265 | 527 |

Denotes subway station that exceeds the CEQR screening thresholds of 200 subway trips per hour

Based on the pedestrian trip assignments described above, pedestrian counts and detailed analyses were conducted at the 32 pedestrian elements (sidewalk, crosswalks, and corners) listed below during the weekday AM, midday, PM, and Saturday peak hours. **Table 10-11** summarizes the peak hour project-generated pedestrian trips along nearby intersections and key pedestrian walking routes to and from the development sites.

***Crosswalks and Corners***

- Eleventh Avenue and West 57th Street – east and west crosswalks, all four corners
- Eleventh Avenue and West 56th Street – east, west, and south crosswalks, all four corners
- Eleventh Avenue and West 55th Street – west crosswalk, northwest and southwest corners
- Eleventh Avenue and West 54th Street – west and south crosswalks, northwest, southwest and southeast corners
- Twelfth Avenue and West 55th Street – southeast corner

***Sidewalks***

- Eleventh Avenue east and west sidewalks between West 56th Street and West 57th Street
- Eleventh Avenue east and west sidewalks between West 55th Street and West 56th Street
- Eleventh Avenue west sidewalk between West 54th Street and West 55th Street
- Eleventh Avenue west sidewalk between West 53rd Street and West 54th Street
- West 55th Street south sidewalk between Eleventh Avenue and Twelfth Avenue
- West 54th Street north sidewalk west of Eleventh Avenue
- West 54th Street south sidewalk east of Eleventh Avenue
- Twelfth Avenue east sidewalk between West 54th Street and West 55th Street

These pedestrian analysis locations are shown in **Figure 10-12**.

**Table 10-11 Level 2 Screening Assessment Results – Pedestrian Trips**

| Intersection/Pedestrian Element | Weekday AM Peak Hour | Weekday Midday Peak Hour | Weekday PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|---|
| **Eleventh Avenue and West 57th Street** | | | | |
| North Crosswalk | 49 | 51 | 70 | 76 |
| East Crosswalk | 135 | 166 | 199 | 227 |
| South Crosswalk | 60 | 63 | 87 | 92 |
| West Crosswalk | 135 | 167 | 204 | 234 |
| Northeast Corner | 0 | 0 | 0 | 0 |
| Southeast Corner | 0 | 0 | 0 | 0 |
| Southwest Corner | 41 | 62 | 76 | 87 |
| Northwest Corner | 0 | 0 | 0 | 0 |
| **Eleventh Avenue and West 56th Street** | | | | |
| North Crosswalk | 38 | 46 | 68 | 63 |
| East Crosswalk | 249 | 236 | 298 | 321 |
| South Crosswalk | 216 | 195 | 273 | 281 |
| West Crosswalk | 315 | 367 | 487 | 529 |
| Northeast Corner | 0 | 0 | 0 | 0 |
| Southeast Corner | 4 | 10 | 9 | 12 |
| Southwest Corner | 0 | 0 | 0 | 0 |
| Northwest Corner | 0 | 0 | 0 | 0 |
| **Eleventh Avenue and West 55th Street** | | | | |
| North Crosswalk | 78 | 66 | 88 | 96 |
| East Crosswalk | 79 | 104 | 98 | 127 |
| South Crosswalk | 111 | 155 | 152 | 193 |
| West Crosswalk | 499 | 513 | 687 | 734 |
| Northeast Corner | 0 | 0 | 0 | 0 |
| Southeast Corner | 0 | 0 | 0 | 0 |
| Southwest Corner | 0 | 0 | 0 | 0 |
| Northwest Corner | 21 | 27 | 34 | 40 |
| **Eleventh Avenue and West 54th Street** | | | | |
| North Crosswalk | 130 | 114 | 162 | 170 |
| East Crosswalk | 97 | 63 | 108 | 104 |
| South Crosswalk | 203 | 219 | 284 | 311 |
| West Crosswalk | 344 | 375 | 480 | 529 |
| Northeast Corner | 0 | 0 | 0 | 0 |
| Southeast Corner | 0 | 0 | 0 | 0 |
| Southwest Corner | 0 | 0 | 0 | 0 |

**Table 10-11 Level 2 Screening Assessment Results – Pedestrian Trips**

| Intersection/Pedestrian Element | Weekday AM Peak Hour | Weekday Midday Peak Hour | Weekday PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|---|
| Northwest Corner | 0 | 0 | 0 | 0 |
| **Twelfth Avenue and West 55th Street** | | | | |
| North Crosswalk | 0 | 0 | 0 | 0 |
| East Crosswalk | 91 | 97 | 119 | 140 |
| Northeast Corner | 5 | 4 | 5 | 5 |
| Southeast Corner | 79 | 109 | 80 | 120 |
| **Twelfth Avenue and West 54th Street** | | | | |
| East Crosswalk | 64 | 100 | 97 | 123 |
| South Crosswalk | 0 | 0 | 0 | 0 |
| Northeast Corner | 0 | 0 | 0 | 0 |
| Southeast Corner | 0 | 0 | 0 | 0 |
| **North-South Street Sidewalks** | | | | |
| East Sidewalk of Twelfth Avenue between West 54th Street and 55th Street | 137 | 272 | 272 | 319 |
| East Sidewalk of Eleventh Avenue between West 57th Street and West 58th Street | 87 | 115 | 130 | 151 |
| West Sidewalk of Eleventh Avenue between West 57th Street and West 58th Street | 74 | 109 | 121 | 145 |
| East Sidewalk of Eleventh Avenue between West 56th Street and West 57th Street | 240 | 223 | 285 | 305 |
| West Sidewalk of Eleventh Avenue between West 56th Street and West 57th Street | 276 | 321 | 419 | 467 |
| East Sidewalk of Eleventh Avenue between West 55th Street and West 56th Street | 129 | 172 | 177 | 218 |
| West Sidewalk of Eleventh Avenue between West 55th Street and West 56th Street | 483 | 509 | 681 | 731 |
| East Sidewalk of Eleventh Avenue between West 54th Street and West 55th Street | 0 | 0 | 0 | 0 |
| West Sidewalk of Eleventh Avenue between West 54th Street and West 55th Street | 259 | 278 | 380 | 409 |
| West Sidewalk of Eleventh Avenue between West 53rd Street and West 54th Street | 141 | 156 | 195 | 218 |
| **East-West Street Sidewalks** | | | | |
| North Sidewalk of West 54th Street between Twelfth Avenue and Eleventh Avenue | 214 | 210 | 267 | 295 |
| South Sidewalk of West 54th Street between Twelfth Avenue and Eleventh Avenue | 0 | 0 | 0 | 0 |

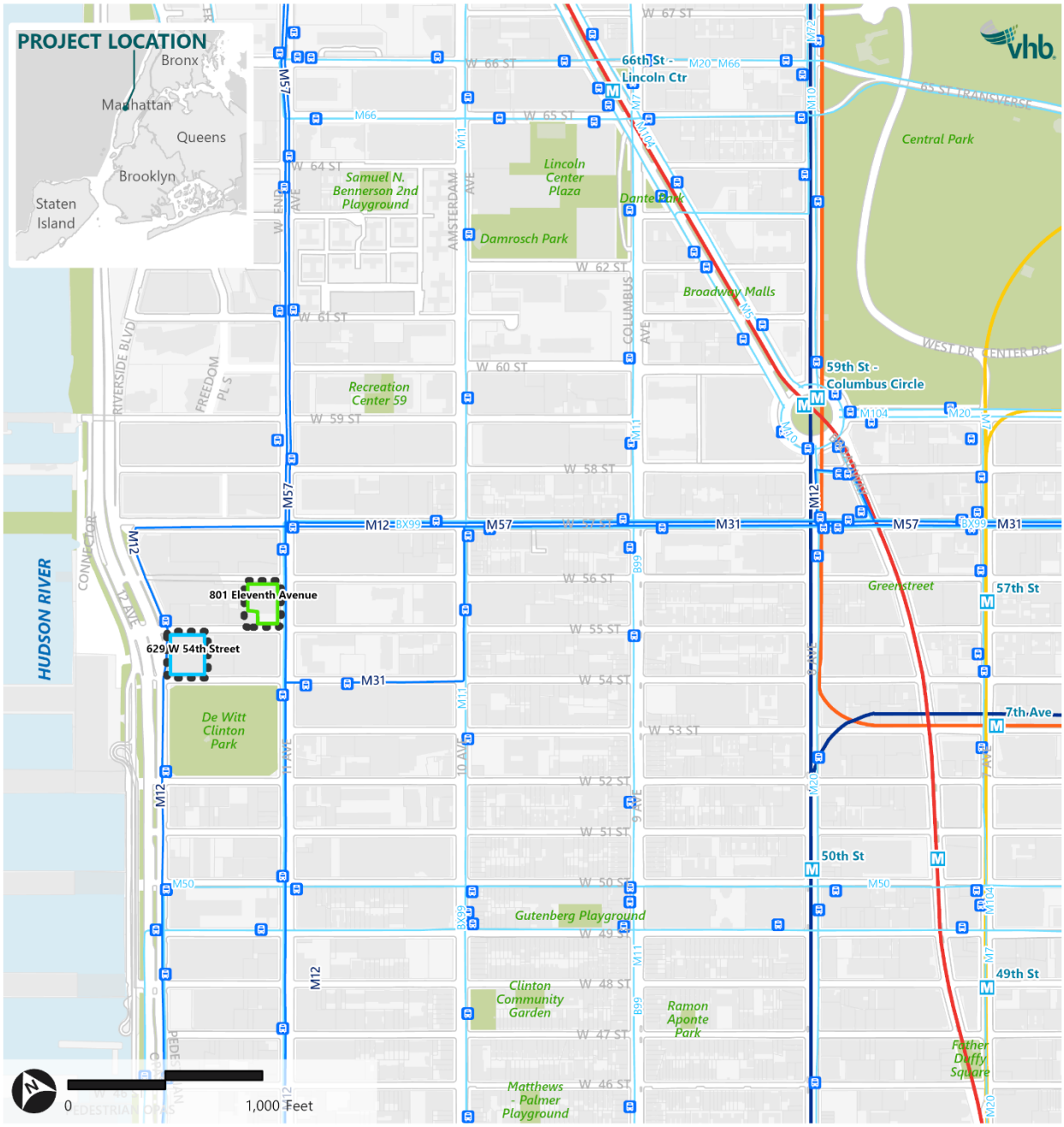
**Table 10-11 Level 2 Screening Assessment Results – Pedestrian Trips**

| Intersection/Pedestrian Element | Weekday AM Peak Hour | Weekday Midday Peak Hour | Weekday PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|---|
| North Sidewalk of West 54th Street between Eleventh Avenue and Tenth Avenue | 32 | 51 | 54 | 66 |
| South Sidewalk of West 54th Street between Eleventh Avenue and Tenth Avenue | 217 | 169 | 256 | 258 |
| North Sidewalk of West 55th Street between Twelfth Avenue and Eleventh Avenue | 97 | 81 | 93 | 103 |
| South Sidewalk of West 55th Street between Twelfth Avenue and Eleventh Avenue | 310 | 328 | 384 | 431 |
| North Sidewalk of West 55th Street between Eleventh Avenue and Tenth Avenue | 87 | 75 | 101 | 112 |
| South Sidewalk of West 55th Street between Eleventh Avenue and Tenth Avenue | 32 | 51 | 54 | 66 |
| North Sidewalk of West 56th Street between Eleventh Avenue and Tenth Avenue | 48 | 58 | 81 | 79 |
| South Sidewalk of West 56th Street between Eleventh Avenue and Tenth Avenue | 37 | 55 | 60 | 71 |
| North Sidewalk of West 57th Street between Twelfth Avenue and Eleventh Avenue | 15 | 10 | 19 | 22 |
| South Sidewalk of West 57th Street between Twelfth Avenue and Eleventh Avenue | 53 | 69 | 89 | 101 |
| North Sidewalk of West 57th Street between Eleventh Avenue and Tenth Avenue | 97 | 102 | 139 | 153 |
| South Sidewalk of West 57th Street between Eleventh Avenue and Tenth Avenue | 164 | 121 | 173 | 170 |

Denotes pedestrian analysis element due to exceedance of the CEQR thresholds of 200 pedestrian trips in a peak hour

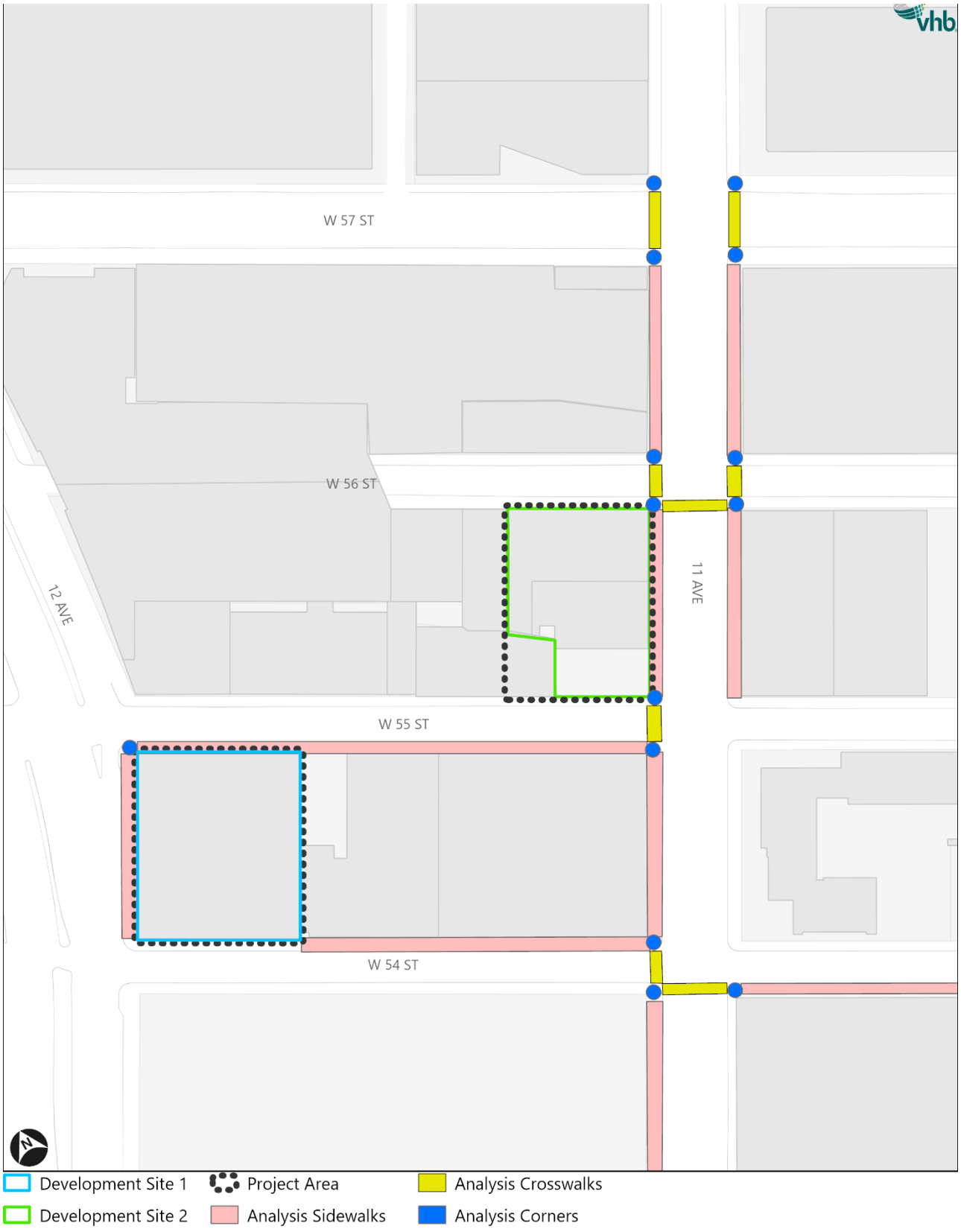
Note: Pedestrian volumes shown at the corner elements are only the corner turning volumes.

## Figure 10-11 Transit Study Area




*Source: NYC DCP, MapPLUTO; MTA*

**Figure 10-12 Pedestrian Study Area**



# Detailed Analysis Methodology

This section describes the methodology used for the detailed traffic, subway, and pedestrian analyses.

## Traffic

The operation of all signalized and unsignalized intersection analysis locations were assessed using Synchro software which are based on methodologies presented in the *Highway Capacity Manual (HCM)*. The HCM procedures evaluate the levels of service (LOS) for signalized and unsignalized intersections using average stop control delay, in seconds per vehicle, as described below.

- LOS A describes operations with very low delays, i.e., 10.0 seconds or less per vehicle. This occurs when signal progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
- LOS B describes operations with delays in excess of 10.0 seconds up to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.
- LOS C describes operations with delays in excess of 20.0 seconds up to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is noticeable at this level, although many still pass through the intersection without stopping.
- LOS D describes operations with delays in excess of 35.0 seconds up to 55.0 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (v/c) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines.
- LOS E describes operations with delays in excess of 55.0 seconds up to 80.0 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.
- LOS F describes operations with delays in excess of 80.0 seconds per vehicle. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios with cycle failures. Poor progression and long cycle lengths may also contribute to such delays. Often, vehicles do not pass through the intersection in one signal cycle.

Based on the *CEQR Technical Manual* guidelines, LOS A, B, and C are considered clearly acceptable conditions, LOS D is generally considered tolerably acceptable in dense urban environments, and LOS E and F indicate congestion and are considered "unacceptable" conditions. These guidelines are applicable to individual traffic movements and overall intersection levels of service.

For unsignalized intersections, delay is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line: LOS A describes operations with very low delay, i.e., 10.0 seconds or less per vehicle; LOS B describes operations with delays in excess of 10.0 seconds up to 15.0 seconds; LOS C has delays in excess of 15.0 seconds up to 25.0 seconds; LOS D, excess of 25.0 seconds up to 35.0 seconds per vehicle; and LOS E, excess of 35.0 seconds up to 50.0 seconds per vehicle. LOS F describes operation with delays in excess of 50.0 seconds per vehicle. This condition exists when there are insufficient gaps of suitable size in a major vehicular

traffic stream to allow side street traffic to cross safely. Based on *CEQR Technical Manual* guidelines, LOS A, B, C, and D are considered acceptable for unsignalized intersections.

### Significant Impact Criteria

The assessment of potential significant traffic impacts of a proposed project is based on significant impact criteria defined in the *CEQR Technical Manual*. If a lane group in the future With-Action condition is within acceptable LOS A, B, C, or D, the impact is not considered significant.

For a lane group at With-Action LOS E, an increase in projected delay of 5.0 or more seconds compared to the No-Action condition is considered a significant impact. For a lane group at With-Action LOS F, an increase in projected delay of 4.0 or more seconds compared to the No-Action condition is considered a significant impact. For unsignalized intersections, for the minor street to generate a significant impact, a total approach volume of 90 passenger car equivalents must be identified in the With-Action condition in any peak hour.

## Parking

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 additional demand generated by a proposed project. This analysis typically encompasses a study area within a quarter mile of the Development Site(s). If the analysis concludes that there would be a shortfall in parking within the quarter-mile study area, the study area may be extended to a half mile to identify additional parking supply.

For proposed projects located in Manhattan or other CBD areas,[1] the inability of a proposed project or the surrounding area (on-street and off-street) 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.

## Transit

The *CEQR Technical Manual* provides methodologies to assess several components of transit operations including the line-haul capacities of bus and subways lines, and the capacity of subway station circulation elements including stairways, escalators, passageway, and fare controls (turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles [HXTs]).

### Subway Station Elements

Subway station elements are assessed based on the ratio of passenger volume and the capacity of the element (the v/c ratio). The v/c ratio criteria are used to determine the levels of service which are shown in **Table 10-12**. LOS A and LOS B depict free flow and fluid flow conditions, respectively, at a subway station element. Station elements operating at LOS C still exhibit fluid flow but pedestrian activities begin to become somewhat restricted. When conditions become crowded and there is restriction to walking speeds, the station element is considered to be operating at LOS D. At LOS E the station element is considered to be congested. There is shuffling and frequent interactions

[1] Parking shortfalls in Zone 1 and Zone 2, as identified in the *CEQR Technical Manual*, are generally not considered to be significant. The development sites are located within Zone 1.

between pedestrians which result in some queueing. Severe congestion with constant queuing signifies that a station element is operating at LOS F.

**Table 10-12 Level of Service 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: *CEQR Technical Manual*

Stairways and passageways are analyzed based on the width of the station element and the 15-minute pedestrian flow passing through. These analyses also take into account pedestrian surging resulting from an arriving train or platooning volumes from a major attraction such as a stadium or school (the effect of surging can reduce capacity by up to 25 percent) and friction from pedestrian interactions (the effect of friction can reduce capacity by up to 10 percent). Other station elements including escalators and turnstiles are measured against the operational capacities designated by New York City Transit (NYCT).

### *Significant Impact Criteria*

Significant impacts to stairs and passageways are determined by the width increment threshold (WIT) between the No-Action and With-Action conditions for elements operating at v/c ratios greater than 1.0 in the With-Action condition. The WIT for significant impacts is detailed in **Table 10-13** below. If a stairway or passageway is significantly impacted, mitigation measures identified would need to restore the levels of service back to the No-Action levels of service or to a v/c ratio of 1.0. For escalators and turnstile elements, a With-Action v/c ratio of 1.0 or greater when the No-Action v/c ratio was less than 1.0 is considered a significant impact. For these elements where the No-Action v/c ratio is already in excess of 1.0, an incremental change in the v/c ratio of 0.01 would be considered a significant impact.

**Table 10-13 Significant Impact Guidance for Stairs and Passageways**

| No-Action v/c Ratio | Width Increment Threshold (WIT) for Significant Impacts (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 |

Source: CEQR Technical Manual

### Buses

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

#### *Significant Impact Criteria*

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

## Pedestrians

Pedestrian level of service standards are based on walking speed, pedestrian spacing, and probabilities of pedestrian and vehicular conflict, and are assessed based on the methodologies presented in the *2010 Highway Capacity Manual* and the *CEQR Technical Manual*. These standards are primarily based on the space needs of people involved in various activities and are widely used for planning and design of facilities for pedestrians. Analysis of crosswalks, street corners, and sidewalks along key walking paths to and from the Project Area will be performed to assess the adequacy of these pedestrian elements.

To evaluate sidewalks, the pedestrian flow per unit width (p/ft/min) is calculated based on the pedestrian flow and the effective walkway width.[2] The analysis of sidewalk conditions should consider "platoon" flow as is considered more representative of pedestrian activities within New York City. Platooning occurs when pedestrians move in groups or "platoons" as a result of pedestrian metering from a traffic signal, or from attractions such as subway stations or bus stops. The ratio of the walking speed over the pedestrian flow per unit width determines the average pedestrian space (sf/p).[3]

Crosswalk conditions are expressed as a measurement of the area available (the area consists of the crosswalk width multiplied by the crossing distance) and available pedestrian crossing time. The pedestrian flow is compared to the "time-space" available to determine the crosswalk level of service which is expressed as square feet per pedestrian (sf/p). This analysis also takes account of pedestrian conflicts in the crosswalk with turning vehicles.

Similar to crosswalks, street corners must provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the other street or passing around the corner). The analysis applies a measure of time and space availability based on the area of the

[2] The effective walkway width is the space along the walkway that pedestrians could use that is free of obstruction. This width also takes account of the "shy distance" (the space between pedestrians and the obstacle such as a wall or building façade).

[3] The typical average pedestrian walking speed specified in the *CEQR Technical Manual* is 4.4 feet per second (ft/s). For pedestrian elements located within the NYCDOT designated Senior Pedestrian Zone, an average pedestrian walking speed of 3.3 ft/s is used

corner reservoir, pedestrian crossing time available, and the estimated time used by circulating pedestrians.

The level of service standards for pedestrian elements are based on the time and space available per pedestrian during the analysis period. Level of service grades from A to F are assigned, with LOS A representative of free flow conditions without pedestrian conflicts and LOS F depicting significant capacity limitations and inconvenience. **Table 10-14** defines the level of service criteria for crosswalks, corner area, and sidewalk conditions, as per the *2010 HCM*. The *CEQR Technical Manual* identifies acceptable levels of service in Central Business District (CBD) areas (such as the area in this study) as mid-LOS D or better, or LOS C or better for non-CBD areas.

**Table 10-14 Level of Service Criteria for Pedestrian Elements**

| LOS | Sidewalks (Platoon Flow) | Corner Reservoirs and Crosswalks |
|---|---|---|
| **A** | > 530 sf/p | > 60 sf/p |
| **B** | > 90 and ≤ 530 sf/p | > 40 and ≤ 60 sf/p |
| **C** | > 40 and ≤ 90 sf/p | > 24 and ≤ 40 sf/p |
| **D** | > 23 and ≤ 40 sf/p | > 15 and ≤ 24 sf/p |
| **E** | > 11 and ≤ 23 sf/p | > 8 and ≤ 15 sf/p |
| **F** | ≤ 11 sf/p | ≤ 8 sf/p |

Source: *CEQR Technical Manual*

## Significant Impact Criteria

The identification of significant pedestrian impacts is dependent on the area type (CBD or non-CBD) and is determined by the decrease of time and space available for pedestrians between the No-Action and With-Action conditions. The Project Area and surrounding analysis locations are located in a CBD area. The *CEQR Technical Manual* identifies significant impacts for the pedestrian sidewalk, crosswalk, and corner elements on a sliding scale detailed below. With-Action pedestrian level of service that is considered acceptable (mid-LOS D or better in CBD areas, and LOS C or better in non-CBD areas) would not have a potential for significant impacts.

For sidewalks, the assessment of potential significant impacts is based on a sliding-scale formula provided in the *CEQR Technical Manual*. Consideration as to whether the sidewalk being analyzed is in a CBD or non-CBD condition is necessary. The formula used to determine the decrease in pedestrian space from the No-Action to With-Action condition that would trigger a significant impact is $Y \geq (X / 9.5) – 0.321$, where Y is the decrease in pedestrian space (sf/p) to be considered a potential significant impact and X is the No-Action pedestrian space (sf/p). If the decrease in pedestrian space is greater than Y and the With-Action level of service is considered to be unacceptable, the sidewalk is considered to be significantly impacted. **Table 10-15** provides a summary of the sliding-scale guidelines provided in the *CEQR Technical Manual*.

For corners and crosswalks, the assessment of potential significant impacts is also based on a sliding-scale formula provided in the *CEQR Technical Manual*. The formula used to determine the decrease in pedestrian space from the No-Action to With-Action condition that would trigger a significant impact is $Y \geq (X / 9.0) – 0.31$, where Y is the decrease in pedestrian space (sf/p) to be considered a potential significant impact and X is the No-Action pedestrian space (sf/p). If the decrease in pedestrian space is greater than Y and the With-Action level of service is considered to be

unacceptable, the corner or crosswalk is considered to be significantly impacted. **Table 10-16** provides a summary of the sliding-scale guidelines provided in the *CEQR Technical Manual*.

**Table 10-15 Significant Impact Criteria for Sidewalks – CBD Areas**

| No-Action Ped Space (sf/p) | With-Action Ped Space Reduction (sf/p) | No-Action Ped Space (sf/p) | With-Action Ped Space Reduction (sf/p) |
|---|---|---|---|
| ≥ 34.7 | With-Action Condition ≤31.4 | 19.7 to 20.6 | ≥ 1.8 |
| 34.0 to 34.6 | ≥ 3.3 | 18.8 to 19.6 | ≥ 1.7 |
| 33.0 to 33.9 | ≥ 3.2 | 17.8 to 18.7 | ≥ 1.6 |
| 32.1 to 32.9 | ≥ 3.1 | 16.9 to 17.7 | ≥ 1.5 |
| 31.1 to 32.0 | ≥ 3.0 | 15.9 to 16.8 | ≥ 1.4 |
| 30.2 to 31.0 | ≥ 2.9 | 15.0 to 15.8 | ≥ 1.3 |
| 29.2 to 30.1 | ≥ 2.8 | 14.0 to 14.9 | ≥ 1.2 |
| 28.3 to 29.1 | ≥ 2.7 | 13.1 to 13.9 | ≥ 1.1 |
| 27.3 to 28.2 | ≥ 2.6 | 12.1 to 13.0 | ≥ 1.0 |
| 26.4 to 27.2 | ≥ 2.5 | 11.2 to 12.0 | ≥ 0.9 |
| 25.4 to 26.3 | ≥ 2.4 | 10.1 to 11.1 | ≥ 0.8 |
| 24.5 to 25.3 | ≥ 2.3 | 9.3 to 10.1 | ≥ 0.7 |
| 23.5 to 24.4 | ≥ 2.2 | 8.3 to 9.2 | ≥ 0.6 |
| 22.6 to 23.4 | ≥ 2.1 | 7.4 to 8.2 | ≥ 0.5 |
| 21.6 to 22.5 | ≥ 2.0 | 6.4 to 7.3 | ≥ 0.4 |
| 20.7 to 21.5 | ≥ 1.9 | < 6.4 | ≥ 0.3 |

Source: ~~*2021*~~*2025 CEQR Technical Manual*

**Table 10-16 Significant Impact Criteria for Corners and Crosswalks**

| CBD Areas | |
|---|---|
| **No-Action Ped Space (sf/p)** | **With-Action Ped Space Reduction (sf/p)** |
| ≥ 21.5 | With-Action Condition ≤19.4 |
| 21.3 to 21.4 | ≥ 2.1 |
| 20.4 to 21.2 | ≥ 2.0 |
| 19.5 to 20.3 | ≥ 1.9 |
| 18.6 to 19.4 | ≥ 1.8 |
| 17.7 to 18.5 | ≥ 1.7 |
| 16.8 to 17.6 | ≥ 1.6 |
| 15.9 to 16.7 | ≥ 1.5 |
| 15.0 to 15.8 | ≥ 1.4 |
| 14.1 to 14.9 | ≥ 1.3 |
| 13.2 to 14.0 | ≥ 1.2 |
| 12.3 to 13.1 | ≥ 1.1 |
| 11.4 to 12.2 | ≥ 1.0 |
| 10.5 to 11.3 | ≥ 0.9 |
| 9.6 to 10.4 | ≥ 0.8 |
| 8.7 to 9.5 | ≥ 0.7 |
| 7.8 to 8.6 | ≥ 0.6 |
| 6.9 to 7.7 | ≥ 0.5 |
| 6.0 to 6.8 | ≥ 0.4 |
| 5.1 to 5.9 | ≥ 0.3 |
| ≤ 5.0 | ≥ 0.2 |

Source: ~~*2021*~~*2025 CEQR Technical Manual*

## Vehicle and Pedestrian Safety

An evaluation of vehicular and pedestrian safety was conducted for locations within the traffic study area. Consistent with *CEQR Technical Manual* guidelines this evaluation identifies high-crash locations, as locations that are Vision Zero Priority Intersections or where five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent three-year period for which data are available. Additionally, per NYCDOT's guidance, intersections located along a Vision Zero Priority Corridor are considered a high-crash location if three or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent three-year period for which data are available. For these locations, crash trends are identified to determine whether projected vehicular and pedestrian traffic could further impact safety at these locations. The determination of potential significant safety impacts depends on the type of area where a proposed project is located, traffic volumes, crash types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety are identified.

# Existing Conditions

## Traffic

### Roadway Network

Vehicular access to the development sites is provided by multiple arterial and collector roadways such as West 54th Street, West 55th Street, West 56th Street, West 57th Street, and Eleventh Avenue and is in close proximity to regional highways such as Route 9A/Twelfth Avenue to the north and south of the development sites.

West 54th Street is an east-west roadway along the south side of Development Site 1. Along the Development Site 1 frontage, West 54th Street generally consists of one travel lane in the eastbound direction with parking along the north side. A protected bike lane is provided along the south side of West 54th Street. The uses along West 54th Street generally consist of local retail, mid/high-rise apartment buildings, and DeWitt Clinton Park.

West 55th Street is an east-west roadway along the sides of Development Site 1 to the south and Development Site 2 to the north. Along the development sites frontages, West 55th Street generally consists of one travel lane in the westbound direction with parking on each side. A protected bike lane is provided along the south side of West 55th Street. The West 55th Street travel and parking lanes transition to a left-turn lane, a bike lane, and two right-turn lanes approaching the intersection with Twelfth Avenue. The uses along West 55th Street generally consist of commercial garages and mid/high-rise commercial and apartment buildings.

West 56th Street is an east-west roadway along the north side of Development Site 2. Along the Development Site 2 frontage, West 56th Street consists of three travel lanes in the eastbound direction. The uses along West 56th Street generally consist of high-rise commercial and apartment buildings, as well as a NYC Department of Sanitation facility.

West 57th Street is a key east-west roadway located north of the development sites. The roadway consists of two travel lanes with parking in each direction. The uses along West 57th Street generally consist of high-density commercial and retail, and high-rise apartment buildings. The M12, M31, and M57 bus routes travel along West 57th Street within the study area and are operated by the MTA.

Eleventh Avenue is a north-south roadway located east of the development sites. The roadway accommodates two-way traffic north of West 57th Street and one-way southbound traffic south of West 57th Street. The corridor consists of two travel lanes with parking in each direction north of West 57th Street and four travel lanes with parking on both sides south of 57th Street. The west curb along Eleventh Avenue, south of West 57th Street, features a protected southbound bike lane. Within the study area, the uses along the avenue generally consist of auto dealerships and high-rise commercial and apartment buildings. The M12 and M57 bus routes travel along Eleventh Avenue within the study area.

Route 9A/Twelfth Avenue is a major north-south roadway located along the west edge of the Project Area. Twelfth Avenue generally consists of four travel lanes in each direction within the study area, with one-lane service roads operating in the northbound direction between West 54th Street and West 57th Street, and in the southbound direction throughout the study area. This major arterial has a median separating northbound and southbound traffic within the study area; at specific

intersections, the median is narrowed to allow for left-turn lanes. The uses along the east side of Twelfth Avenue are a mix of high-density retail, commercial garages, and mid-/high-rise commercial and apartment buildings. The uses along the west side of Twelfth Avenue are a mix of industrial and commercial piers, the Clinton Cove at Hudson River Park, and the Empire State Trail. The M12 bus route travels along Twelfth Avenue within the study area.

## Traffic Volumes

To establish the existing conditions traffic network, traffic data for the weekday AM and PM peak periods were collected in November 2024, and supplemented by traffic counts conducted in June 2025, using manual intersection counts and 24-hour Automatic Traffic Recorder (ATR) machine counts. The 8 AM to 9 AM and 5 PM to 6 PM peak hours were selected in accordance with *CEQR Technical Manual* guidance for traffic analyses in Manhattan south of 110th Street; the Saturday peak hour was determined to be 2:45 PM to 3:45 PM based on the traffic count data.

Traffic volumes along northbound Twelfth Avenue between West 55th Street and West 57th Street range from approximately 2,275 vehicles per hour (vph) to 2,375 vph during the weekday AM peak hour. Traffic volumes are higher during the weekday PM and Saturday peak hours; northbound Twelfth Avenue volumes range from approximately 2,800 vph to 2,900 vph in the weekday PM peak hour and approximately 2,650 vph during the Saturday peak hour. Traffic volumes along the Twelfth Avenue Northbound Service Road range from approximately 280 vph to 630 vph during the weekday AM, PM, and Saturday peak hours.

Traffic volumes along southbound Twelfth Avenue north of West 56th Street are approximately 4,225 vph during the weekday AM peak hour, while between West 55th Street and West 56th Street they are approximately 3,075 vph. During the weekday PM peak hour, southbound Twelfth Avenue volumes north of West 56th Street are approximately 3,350, while between West 55th Street and West 56th Street they are approximately 2,775 vph. During the Saturday peak hour, southbound Twelfth Avenue volumes north of West 56th Street are approximately 2,900 vph, while between West 55th Street and West 56th Street they are approximately 2,275 vph. Traffic volumes along the Twelfth Avenue Southbound Service Road approaching West 55th Street are approximately 525 vph during the weekday AM and PM peak hours, and approximately 290 vph during the Saturday peak hour.

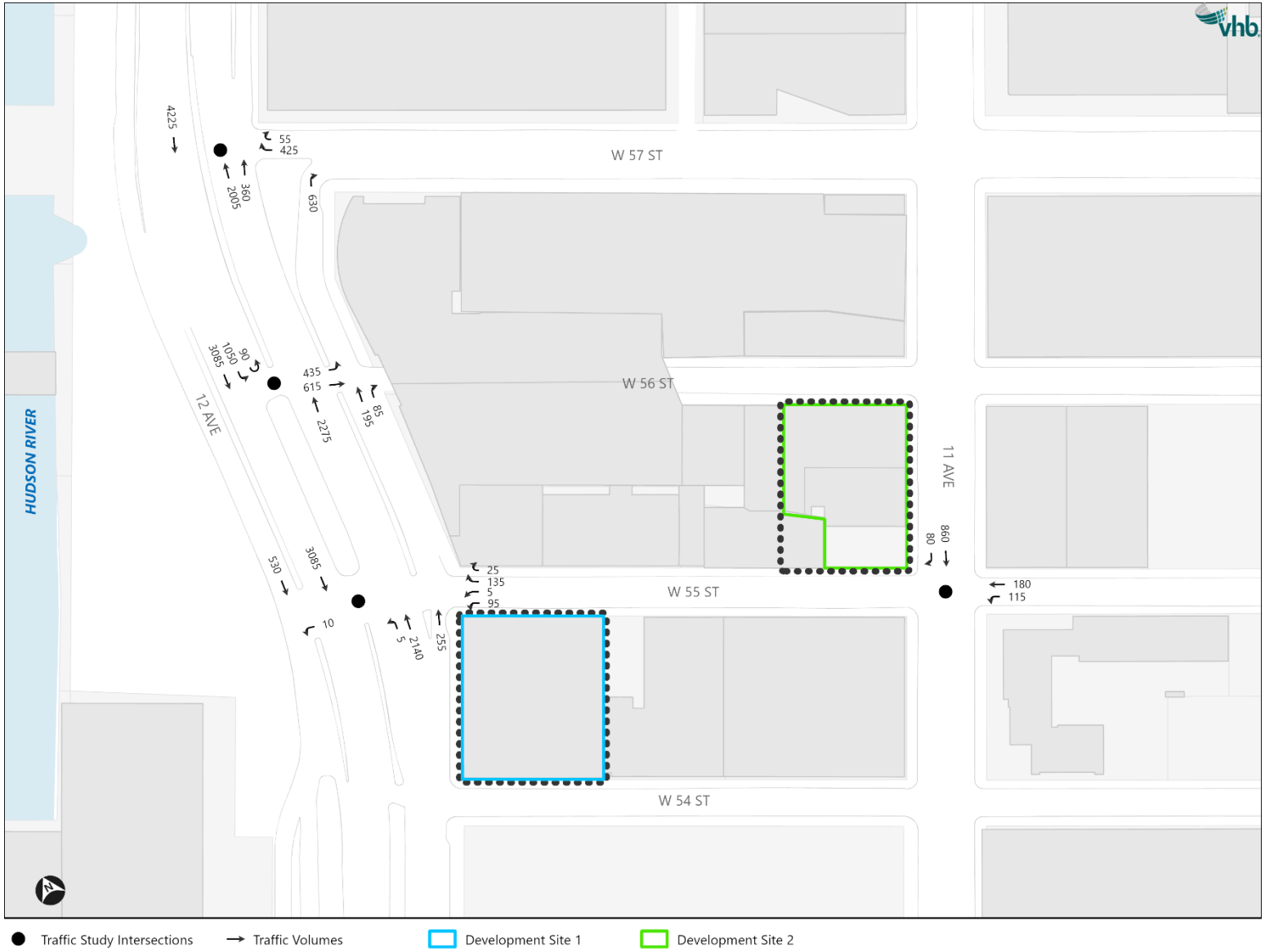
Traffic volumes along southbound Eleventh Avenue at West 55th Street range from approximately 920 vph to 975 vph during the weekday AM, PM, and Saturday peak hours.

Traffic volumes along West 55th Street range from approximately 260 vph to 345 vph during the weekday AM, PM, and Saturday peak hours. Traffic volumes along West 56th Street are approximately 700 vph during the weekday AM peak hour and range from approximately 400 vph to 490 vph during the weekday AM, PM, and Saturday peak hours.

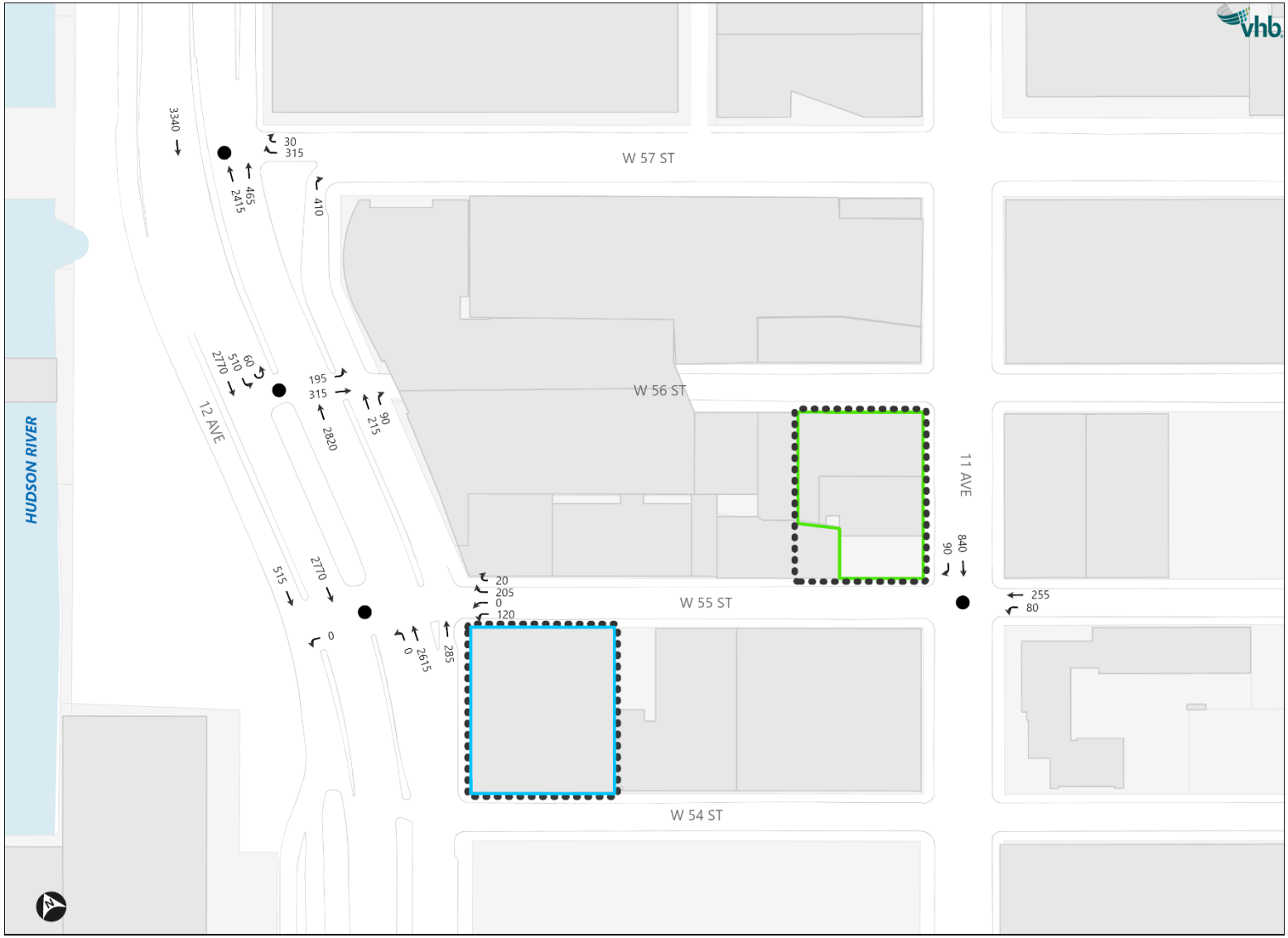
Traffic volumes along eastbound West 57th Street range from approximately 410 vph to 630 vph during the weekday AM, PM, and Saturday peak hours, and along westbound West 57th Street range from approximately 345 vph to 480 vph.

Existing traffic volumes are shown in **Figure 10-13** through **Figure 10-15**.

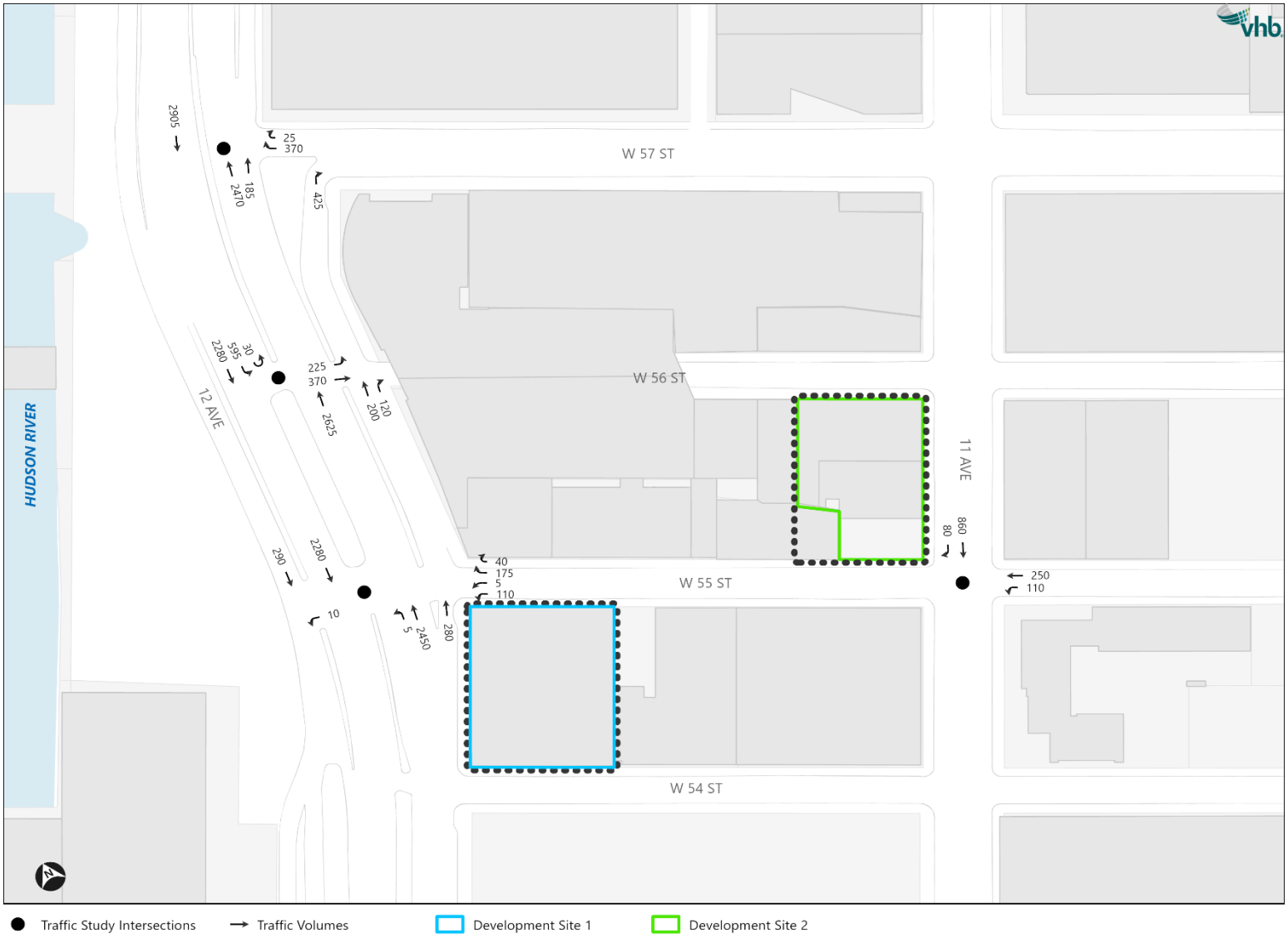
## Figure 10-13 Year 2024 Existing Traffic Volumes – Weekday AM Peak Hour



## Figure 10-14 Year 2024 Existing Traffic Volumes – Weekday PM Peak Hour



## Figure 10-15 Year 2024 Existing Traffic Volumes – Saturday Peak Hour



## Levels of Service

**Table 10-17** and **Table 10-18** provide an overview of the levels of service that characterize existing "overall" intersection conditions and individual traffic movements, respectively, during the weekday AM and PM peak hours. Detailed existing traffic levels of service are provided in **Table 10-19**.

**Table 10-17 Year 2024 Existing Traffic Level of Service Summary – Overall Intersections**

| | AM Peak Hour | PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|
| Intersections at Overall LOS A/B/C/D | 4 | 4 | 4 |
| Intersections at Overall LOS E | 0 | 0 | 0 |
| Intersections at Overall LOS F | 0 | 0 | 0 |

Note: All four intersections are signalized.

**Table 10-18 Year 2024 Existing Traffic Level of Service Summary – Traffic Movements**

| | AM Peak Hour | PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|
| Traffic Movements at LOS A/B/C/D | 19 | 19 | 21 |
| Traffic Movements at LOS E | 3 | 3 | 0 |
| Traffic Movements at LOS F | 0 | 0 | 1 |
| Number of Individual Traffic Movements | 22 | 22 | 22 |

**Table 10-19 Existing Traffic Level of Service**

| | | AM Peak Hour | | | | PM Peak Hour | | | | Saturday Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection & Approach | | Mvt | V/C | Ctrl Delay[1] | LOS | Mvt | V/C | Ctrl Delay[1] | LOS | Mvt | V/C | Ctrl Delay[1] | LOS |
| **Twelfth Avenue and West 57th Street** | | | | | | | | | | | | | |
| Twelfth Avenue | NB | T | 0.75 | 3.8 | A | T | 0.66 | 1.9 | A | T | 0.73 | 3.3 | A |
| | | R | 0.63 | 4.2 | A | R | 0.63 | 3.4 | A | R | 0.24 | 2.8 | A |
| | SB | T | 0.66 | 0.5 | A | T | 0.52 | 0.3 | A | T | 0.87 | 3.3 | A |
| West 57th Street | WB | R | 0.46 | 34.5 | C | R | 0.53 | 50.9 | D | R | 0.52 | 37.6 | D |
| Twelfth Avenue Northbound Service Road (stop-controlled) | NB | R | - | 16.2 | C | R | - | 12.0 | B | R | - | 13.0 | B |
| **Overall Intersection[2]** | | - | - | **5.1** | **A** | - | - | **4.5** | **A** | - | - | **6.4** | **A** |

**Table 10-19 Existing Traffic Level of Service**

| | | AM Peak Hour | | | | PM Peak Hour | | | | Saturday Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Intersection & Approach** | | **Mvt** | **V/C** | **Ctrl Delay[1]** | **LOS** | **Mvt** | **V/C** | **Ctrl Delay[1]** | **LOS** | **Mvt** | **V/C** | **Ctrl Delay[1]** | **LOS** |
| **Twelfth Avenue and West 56th Street** | | | | | | | | | | | | | |
| Twelfth Avenue | NB | T | 0.99 | 44.7 | D | T | 0.78 | 6.8 | A | T | 0.78 | 2.5 | A |
| | SB | UL | 0.94 | 50.4 | D | UL | 0.91 | 74.0 | E | UL | 0.89 | 52.1 | D |
| | | T | 0.57 | 0.3 | A | T | 0.51 | 0.3 | A | T | 0.42 | 0.1 | A |
| Twelfth Avenue Northbound Service Road | NB | TR | 0.47 | 24.9 | C | TR | 0.34 | 3.5 | A | TR | 0.35 | 3.7 | A |
| West 56th Street | EB | LT | 0.67 | 0.8 | A | LT | 0.67 | 7.6 | A | LT | 0.62 | 1.5 | A |
| **Overall Intersection[2]** | | - | - | **21.6** | **C** | - | - | **9.7** | **A** | - | - | **6.6** | **A** |
| **Twelfth Avenue and West 55th Street** | | | | | | | | | | | | | |
| Twelfth Avenue | NB | L | 0.10 | 71.7 | E | L | 0.00 | 0.0 | A | L | 0.05 | 52.4 | D |
| | | T | 0.62 | 14.6 | B | T | 0.73 | 16.9 | B | T | 0.79 | 22.5 | C |
| | | R | 0.33 | 11.3 | B | R | 0.34 | 11.3 | B | R | 0.34 | 15.1 | B |
| | SB | T | 0.97 | 39.1 | D | T | 0.89 | 31.8 | C | T | 0.97 | 43.6 | D |
| Twelfth Avenue Southbound Service Road | SB | T | 0.70 | 26.3 | C | T | 0.68 | 26.6 | C | T | 0.50 | 26.5 | C |
| West 55th Street | WB | LT | 0.46 | 59.2 | E | LT | 0.53 | 61.8 | E | LT | 0.39 | 41.4 | D |
| | | R | 0.55 | 60.3 | E | R | 0.69 | 66.6 | E | R | 1.05 | 116.3 | F |
| West 55th Street Service Road Access | WB | L | 0.03 | 1.1 | A | L | 0.00 | 0.0 | A | L | 0.01 | 0.3 | A |
| **Overall Intersection[2]** | | - | - | **29.4** | **C** | - | - | **26.3** | **C** | - | - | **35.2** | **D** |
| **Eleventh Avenue and West 55th Street** | | | | | | | | | | | | | |
| **Eleventh Avenue** | SB | T | 0.31 | 9.1 | A | T | 0.30 | 9.0 | A | T | 0.30 | 9.0 | A |
| | | R | 0.24 | 14.8 | B | R | 0.27 | 15.2 | B | R | 0.20 | 14.1 | B |
| **West 55th Street** | WB | L | 0.40 | 29.4 | C | L | 0.32 | 27.7 | C | L | 0.35 | 28.1 | C |
| | | T | 0.61 | 35.1 | D | T | 0.66 | 36.0 | D | T | 0.63 | 34.6 | C |
| **Overall Intersection[2]** | | - | - | **15.8** | **B** | - | - | **16.4** | **B** | - | - | **15.9** | **B** |

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

The summary overview of existing conditions indicates that:

› In the weekday AM peak hour, none of the intersections operate at overall LOS E or F. "Overall" LOS E or F means that serious congestion exists—either one specific traffic movement has severe delays or two or more specific traffic movements at the intersection are at LOS E or F with

significant delays (the overall intersection level of service is a weighted average of all individual traffic movements). Three individual traffic movements out of 22 movements analyzed operate at LOS E or F (e.g., left turns from one street to another, through traffic on one street passing through the intersection, etc.).

- In the weekday PM peak hour, none of the intersections operate at overall LOS E or F, and three out of 22 individual traffic movements operate at LOS E or F.
- In the Saturday peak hour, none of the intersections operate at overall LOS E or F, and one out of 22 individual traffic movements operates at LOS E or F.

Traffic movements operating at unacceptable levels of service are listed below.

- Twelfth Avenue and West 56th Street
  - Southbound Twelfth Avenue U-turn/left-turn movement (weekday PM)
- Twelfth Avenue and West 55th Street
  - Northbound Twelfth Avenue left-turn movement (weekday AM)
  - Westbound West 55th Street shared left-through movement (weekday AM and PM)
  - Westbound West 55th Street right-turn movement (weekday AM, PM, and Saturday)

## Parking

A detailed inventory of off-street parking facilities within a quarter-mile radius of the development sites was conducted for a typical weekday and Saturday. This quarter-mile distance is considered an acceptable walking distance to and from parking, per the *CEQR Technical Manual*. There are 15 public parking garages within or close to this quarter-mile area, as shown in **Figure 10-16**. **Table 10-20** presents the capacity and occupancy of the off-street parking facilities during the midday peak period and overnight period on a typical weekday, and the Saturday midday period. The total capacity of the off-street parking facilities is 2,531 parking spaces, and they are approximately 47 percent occupied during the weekday midday peak period, 28 percent occupied during the overnight period, and 31 percent during the Saturday midday peak hour.

## Figure 10-16 Off-Street Parking Inventory



### Table 10-20 Off-Street Parking Inventory

| Map No. | Location | Licensed Capacity | Peak Period Occupancy | | |
|---|---|---|---|---|---|
| | | | Midday | Overnight | Saturday Midday |
| 1 | 1 West End Avenue | 227 | 116 | 67 | 74 |
| | | | 51% | 29% | 33% |
| 2 | Waterline 3 | 85 | 51 | 43 | 60 |
| | 100 Freedom Place South | | 60% | 50% | 70% |
| 3 | Waterline 1<br>10 Riverside Boulevard | 90 | 27 | 18 | 32 |
| | | | 30% | 20% | 35% |
| 4 | 606 West 57th Street | 400 | 40 | 20 | 40 |
| | | | 10% | 5% | 10% |
| 5 | 601 West 57th Street | 100 | 30 | 25 | 30 |
| | | | 30% | 25% | 30% |
| 6 | 625 West 57th Street | 285 | 143 | 171 | 114 |
| | | | 50% | 60% | 40% |
| 7 | BMW Garage<br>838 Eleventh Avenue<br>(555 West 57th Street) | 84 | 76 | 67 | 59 |
| | | | 90% | 80% | 70% |
| 8 | 290 West 60th Street | 150 | 90 | 45 | 30 |
| | (10 West End Avenue) | | 60% | 30% | 20% |
| 9 | 513 West 59th Street | 265 | 136 | 78 | 87 |
| | (200 West 60th Street) | | 51% | 29% | 33% |
| 10 | 515 West 59th Street | 195 | 195 | 20 | 98 |
| | | | 100% | 10% | 50% |
| 11 | 435 West 57th Street | 55 | 55 | 50 | 50 |
| | | | 100% | 90% | 90% |
| 12 | The Watson<br>440 West 57th Street | 378 | 113 | 38 | 57 |
| | | | 30% | 10% | 15% |
| 13 | 509 West 55th Street | 86 | 44 | 25 | 28 |
| | | | 51% | 29% | 33% |
| 14 | 511 West 54th Street | 48 | 43 | 10 | 10 |
| | | | 90% | 20% | 20% |
| 15 | 515 West 52nd Street | 83 | 42 | 24 | 27 |
| | | | 51% | 29% | 33% |
| | **Total** | **2,531** | **1,201** | **701** | **796** |
| | | | **47%** | **28%** | **31%** |

## Subways

The closest subway station is the 59th Street-Columbus Circle subway station which is located approximately a half mile from the development sites and provides access to the A, B, C, D, and No. 1 subway lines. Based on the subway transit assignments, this station was identified for analysis during the weekday AM and PM commuter peak hours.

### Subway Station Elements

The A subway line provides express service between the Inwood-207th Street station in Manhattan and three terminal stations: Rockaway Park – Beach 116th Street; Far Rockaway – Mott Avenue; and Lefferts Boulevard, all of which are in Queens. The B subway line provides express service between the Bedford Park Boulevard station in the Bronx and the Brighton Beach station in Brooklyn. The C subway line provides local service between the 168th Street station in Manhattan and the Euclid Avenue station in Brooklyn. D subway line provides express service between the Norwood 205th Street station in the Bronx and the Coney Island-Stillwell Avenue station in Brooklyn. The No. 1 subway line provides local service between the Van Cortlandt Park-242nd Street station in the Bronx and the South Ferry station in Lower Manhattan.

The 59th Street-Columbus Circle station is an ADA accessible station. Station access is provided through surface stairs within the vicinity of Columbus Circle along Eight Avenue/Central Park West and Broadway between West 57th Street and West 60th Street. As project-generated trips would use bus service to connect to this subway station, the analysis locations were identified based on the locations of the bus stops. The surface stairways at the intersection of Eighth Avenue with West 57th Street and West 58th Street were identified for analysis (seven surface stairs plus eight intermediate stairs connecting the surface level with the mezzanine level). There is one fare control area that provides access between these stairs and the subway station, located to the south side of Columbus Circle, which was included for analysis. Two sets of surface escalators are provided at the northwest corner of the intersection of Eighth Avenue and West 58th Street; they were closed for rehabilitation during the existing conditions.

The fare control area underneath the south side of Columbus Circle contains a fare array with four high exit turnstiles and ten regular turnstiles. The fare control area serves all lines at the station in both uptown and downtown directions.

Pedestrian counts were conducted at the subway station elements identified above in January 2025 and validated with turnstile entry data provided by NYCT. To provide a conservative analysis, a year 2024 existing conditions was analyzed. **Table 10-21** shows the results of the level of service analyses at the analyzed fare control area. The fare control area operates at LOS A during the AM and PM peak hours. **Table 10-22** and **Table 10-23** show the results of level of service analyses at the analyzed stairways. In the AM and PM peak hours, one stair in the station operates at LOS B; all other stairs operate at LOS A.

### Table 10-21 Existing Subway Station Level of Service – Fare Control Areas

| Peak Hour | Control Element | Pedestrian Volume (15-min) In | Pedestrian Volume (15-min) Out | Surging Factor | Friction Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|---|---|
| AM | South Fare Control Area 4 High Exits, 10 Turnstiles | 433 | 1,036 | 0.80 | 0.90 | 0.28 | A |
| PM | South Fare Control Area 4 High Exits, 10 Turnstiles | 1,223 | 427 | 0.80 | 0.90 | 0.39 | A |

Note:
Methodology based on ~~2021~~2025 *CEQR Technical Manual* guidelines
Surging factors only apply to exiting volumes. The surge factor for entry volumes is 1.0.

### Table 10-22 Existing Subway Station Level of Service – Stairways – AM Peak Hour

| Stairway | Effective Width (ft.) | Pedestrian Volume (15-min) Down | Pedestrian Volume (15-min) Up | Surging Factor Down | Surging Factor Up | Friction Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|---|---|---|
| **Eighth Avenue and 57th Street Northeast Surface Stairway** | | | | | | | | |
| M3/M4 | 11.0 | 19 | 54 | 1.00 | 0.90 | 0.90 | 0.05 | A |
| S2 | 4.9 | 19 | 54 | 1.00 | 0.90 | 0.90 | 0.12 | A |
| **Eighth Avenue and 57th Street Southeast Surface Stairway** | | | | | | | | |
| M6/M5 | 12.5 | 31 | 193 | 1.00 | 0.90 | 0.90 | 0.15 | A |
| Intermediate Stair | 6.6 | 31 | 193 | 1.00 | 0.90 | 0.90 | 0.28 | A |
| Surface Stair | 6.6 | 31 | 193 | 1.00 | 0.90 | 0.90 | 0.28 | A |
| **Eighth Avenue and 57th Street Southwest Surface Stairway** | | | | | | | | |
| W. 57th St Surface Stair | 7.3 | 34 | 182 | 1.00 | 0.90 | 0.90 | 0.24 | A |
| Eighth Ave Surface Stair | 7.3 | 76 | 85 | 1.00 | 0.90 | 0.90 | 0.17 | A |
| M7 | 10.5 | 110 | 266 | 1.00 | 0.90 | 0.90 | 0.29 | A |
| **Eighth Avenue and 57th Street Northwest Surface Stairway** | | | | | | | | |
| M1/M2 | 7.0 | 19 | 15 | 1.00 | 0.90 | 0.90 | 0.04 | A |
| O-20 | 7.0 | 19 | 15 | 1.00 | 0.90 | 0.90 | 0.04 | A |
| O-21 | 6.8 | 19 | 15 | 1.00 | 0.90 | 0.90 | 0.04 | A |
| O-22 | 6.8 | 19 | 15 | 1.00 | 0.90 | 0.90 | 0.04 | A |
| **Eighth Avenue and 58th Street Northeast Surface Stairway** | | | | | | | | |
| M12/M11 | 6.6 | 34 | 124 | 1.00 | 0.90 | 0.90 | 0.19 | A |
| S4 | 3.3 | 34 | 124 | 1.00 | 0.90 | 0.90 | 0.39 | A |
| **Eighth Avenue and 58th Street Northwest Surface Stairway** | | | | | | | | |
| Surface Stair | 9.3 | 221 | 488 | 1.00 | 0.90 | 0.90 | 0.61 | B |

**Table 10-22 Existing Subway Station Level of Service – Stairways – AM Peak Hour**

| Stairway | Effective Width (ft.) | Pedestrian Volume (15-min) | | Surging Factor | | Friction Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|---|---|---|
| | | Down | Up | Down | Up | | | |

**Table 10-23 Existing Subway Station Level of Service – Stairways – PM Peak Hour**

| Stairway | Effective Width (ft.) | Pedestrian Volume (15-min) | | Surging Factor | | Friction Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|---|---|---|
| | | Down | Up | Down | Up | | | |
| **Eighth Avenue and 57th Street Northeast Surface Stairway** | | | | | | | | |
| M3/M4 | 11.0 | 118 | 24 | 1.00 | 0.90 | 0.90 | 0.10 | A |
| S2 | 4.9 | 118 | 24 | 1.00 | 0.90 | 0.90 | 0.22 | A |
| **Eighth Avenue and 57th Street Southeast Surface Stairway** | | | | | | | | |
| M6/M5 | 12.5 | 163 | 56 | 1.00 | 0.90 | 0.90 | 0.13 | A |
| Intermediate Stair | 6.6 | 163 | 56 | 1.00 | 0.90 | 0.90 | 0.25 | A |
| Surface Stair | 6.6 | 163 | 56 | 1.00 | 0.90 | 0.90 | 0.25 | A |
| **Eighth Avenue and 57th Street Southwest Surface Stairway** | | | | | | | | |
| W. 57th St Surface Stair | 7.3 | 159 | 39 | 1.00 | 0.90 | 0.90 | 0.21 | A |
| Eighth Ave Surface Stair | 7.3 | 68 | 68 | 1.00 | 0.90 | 0.90 | 0.15 | A |
| M7 | 10.5 | 227 | 107 | 1.00 | 0.90 | 0.90 | 0.24 | A |
| **Eighth Avenue and 57th Street Northwest Surface Stairway** | | | | | | | | |
| M1/M2 | 7.0 | 46 | 16 | 1.00 | 0.90 | 0.90 | 0.07 | A |
| O-20 | 7.0 | 46 | 16 | 1.00 | 0.90 | 0.90 | 0.07 | A |
| O-21 | 6.8 | 46 | 16 | 1.00 | 0.90 | 0.90 | 0.07 | A |
| O-22 | 6.8 | 46 | 16 | 1.00 | 0.90 | 0.90 | 0.07 | A |
| **Eighth Avenue and 58th Street Northeast Surface Stairway** | | | | | | | | |
| M12/M11 | 6.6 | 149 | 40 | 1.00 | 0.90 | 0.90 | 0.22 | A |
| S4 | 3.3 | 149 | 40 | 1.00 | 0.90 | 0.90 | 0.43 | A |
| **Eighth Avenue and 58th Street Northwest Surface Stairway** | | | | | | | | |
| Surface Stair | 9.3 | 504 | 245 | 1.00 | 0.90 | 0.90 | 0.62 | B |

## Buses

The immediate study area is served by several MTA-NYCT local bus routes—M11, M12, M31, and M57. Based on the projected trip assignments, three bus routes were identified for analysis—the M12, M31, and M57—during the AM and PM commuter peak hours.

The M12 bus route operates between the West Village (Eighth Avenue and West 12th Street) and Columbus Circle, operating along Eleventh Avenue, Twelfth Avenue, and West 57th Street near the development sites, and provides bus connections between the development sites and the 59th

Street-Columbus Circle subway station. The M31 bus route operates between Yorkville (York Avenue and East 91st Street) and Eleventh Avenue and West 57th Street, operating along Tenth Avenue, Eleventh Avenue, West 54th Street, and West 57th Street near the development sites, and provides bus connections between the Development Site and the 59th Street-Columbus Circle, and other subway stations located along 57th Street. The M57 bus route operates between the Upper West Side (Broadway and West 72nd Street) and East Midtown (First Avenue and East 55th Street), operating along West 57th Street near the development sites, and provides bus connections between the development sites and the 59th Street-Columbus Circle, and other subway stations located along 57th Street

Bus line data from May 2024 was provided by NYCT. **Table 10-24** shows the existing number of buses and ridership at the maximum load points in each direction for the M12, M31, and M57 bus routes in the AM and PM peak hours. The bus routes analyzed currently operate with available capacity at their maximum load points during the peak hours analyzed, with the exception of the M57 bus during the AM peak hour (there is a service shortfall of 20 riders at the maximum load point of 11th Avenue and West 57th Street).

**Table 10-24 Existing Local Bus Analysis**

| Peak Hour | Route | Direction | Maximum Load Point | Peak Hour Buses[1] | Peak Hour Passengers[1] | Average Passengers per Bus | Available Peak Hour Capacity[2] |
|---|---|---|---|---|---|---|---|
| AM | M12 | NB | W 57 St/10 Av | 2 | 23 | 12 | 85 |
| | | SB | 11 Av/W 54 St | 2 | 66 | 33 | 42 |
| | | | 11 Av/W 38 St | 2 | 60 | 30 | 48 |
| | M31 | EB | W 57 St/8 Av | 7 | 191 | 27 | 187 |
| | | WB | York Av/E 72 St | 10 | 260 | 26 | 280 |
| | | | E 57 St/1 Av | 8 | 286 | 36 | 146 |
| | M57 | EB | W 57 St/11 Av | 4 | 236 | 59 | -20 |
| | | | W 57 St/9 Av | 6 | 284 | 47 | 40 |
| | | WB | W 57 St/Broadway | 6 | 208 | 35 | 116 |
| PM | M12 | NB | W 57 St/10 Av | 2 | 36 | 18 | 72 |
| | | SB | 11 Av/W 42 St | 2 | 38 | 19 | 70 |
| | | | 11 Av/W 44 St | 2 | 38 | 19 | 70 |
| | M31 | EB | E 57 St/Madison Av | 7 | 174 | 25 | 204 |
| | | | York Av/E 69 St | 7 | 196 | 28 | 182 |
| | | WB | W 57 St/Avenue Of The Americas | 6 | 172 | 29 | 152 |
| | | | E 57 St/1 Av | 8 | 174 | 22 | 258 |
| | M57 | EB | W 57 St/10 Av | 6 | 207 | 35 | 117 |
| | | WB | W 57 St/7 Av | 6 | 210 | 35 | 114 |

Notes:
[1] Based on most currently available data from NYCT (May 2024)
[2] Available capacities based on NYCT loading guidelines of 54 passengers per standard bus.

## Pedestrians

The pedestrian analysis utilizes counts conducted in November 2024 and supplemented by additional counts in June 2025. The pedestrian peak hours of 8:00 AM to 9:00 AM, 12:30 PM to 1:30 PM, and 5:00 PM to 6:00 PM for weekday and 2:00 PM to 3:00 PM for Saturday were identified based on the count data.

As shown in **Table 10-25**, all sidewalk, crosswalk, and corner elements operate at acceptable LOS B or better during the weekday AM, midday, PM, and Saturday peak hours. The existing peak hour volumes and levels of service for each pedestrian element analyzed are presented in **Table 10-26** through **Table 10-28**.

**Table 10-25 Year 2024 Existing Pedestrian Levels of Service Summary**

| | AM Peak Hour | Midday Peak Hour | PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|---|
| **Sidewalk Elements** | | | | |
| Sidewalks at LOS A/B/C and Acceptable LOS D | 10 | 10 | 10 | 10 |
| Sidewalks at Unacceptable LOS D | 0 | 0 | 0 | 0 |
| Sidewalks at LOS E | 0 | 0 | 0 | 0 |
| Sidewalks at LOS F | 0 | 0 | 0 | 0 |
| **Crosswalk Elements** | | | | |
| Crosswalks at LOS A/B/C and Acceptable LOS D | 8 | 8 | 8 | 8 |
| Crosswalks at Unacceptable LOS D | 0 | 0 | 0 | 0 |
| Crosswalks at LOS E | 0 | 0 | 0 | 0 |
| Crosswalks at LOS F | 0 | 0 | 0 | 0 |
| **Corner Elements** | | | | |
| Corners at LOS A/B/C and Acceptable LOS D | 14 | 14 | 14 | 14 |
| Corners at Unacceptable LOS D | 0 | 0 | 0 | 0 |
| Corners at LOS E | 0 | 0 | 0 | 0 |
| Corners at LOS F | 0 | 0 | 0 | 0 |

Note: Includes ten sidewalk, eight crosswalk, and 14 corner analysis locations.

**Table 10-26 Year 2024 Existing Pedestrian Levels of Service – Sidewalks**

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sidewalk | Effective Width, ft | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS |
| 11th Avenue between West 53rd Street and West 54th Street (west side) | 9.5 | 145 | 874.8 | A | 182 | 683.9 | A | 213 | 587.7 | A | 159 | 783.7 | A |
| West 54th Street between Eleventh Avenue and Tenth Avenue (south side) | 2.5 | 136 | 224.8 | B | 129 | 201.8 | B | 170 | 206.0 | B | 214 | 126.5 | B |
| West 54th Street between Eleventh Avenue and Twelfth Avenue (north side) | 5.5 | 101 | 751.0 | A | 110 | 680.5 | A | 85 | 907.4 | A | 19 | 2178.0 | A |
| Eleventh Avenue between West 54th Street and West 55th Street (west side) | 5.5 | 147 | 531.1 | A | 192 | 362.9 | B | 179 | 410.8 | B | 163 | 453.6 | B |
| West 55th Street between Eleventh Avenue and Twelfth Avenue (south side) | 4.0 | 27 | 1440.0 | A | 28 | 1320.0 | A | 22 | 1760.0 | A | 14 | 3168.0 | A |
| Eleventh Avenue between West 55th Street and West 56th Street (west side) | 7.0 | 203 | 419.9 | B | 242 | 401.6 | B | 194 | 486.2 | B | 189 | 447.0 | B |
| Eleventh Avenue between West 55th Street and West 56th Street (east side) | 8.5 | 237 | 461.0 | B | 196 | 361.8 | B | 173 | 517.7 | B | 187 | 570.4 | A |
| Eleventh Avenue between West 56th Street and West 57th Street (west side) | 5.5 | 218 | 253.0 | B | 244 | 215.4 | B | 199 | 369.0 | B | 286 | 244.5 | B |

### Table 10-26 Year 2024 Existing Pedestrian Levels of Service – Sidewalks

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sidewalk | Effective Width, ft | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS |
| Eleventh Avenue between West 56th Street and West 57th Street (east side) | 8.0 | 287 | 355.8 | B | 295 | 416.7 | B | 239 | 400.9 | B | 158 | 674.0 | A |
| 12th Avenue between West 54th Street and West 55th Street (east side) | 7.5 | 26 | 3,712.5 | A | 44 | 1,980.0 | A | 61 | 1,650.0 | A | 47 | 1,747.0 | A |

### Table 10-27 Year 2024 Existing Pedestrian Levels of Service – Crosswalks

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | Crosswalk | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS |
| Eleventh Avenue at West 54th Street | South | 73 | 487.9 | A | 125 | 241.6 | A | 102 | 293.6 | A | 208 | 108.4 | A |
| | West | 171 | 375.1 | A | 207 | 216.4 | A | 181 | 284.8 | A | 176 | 247.9 | A |
| Eleventh Avenue at West 55th Street | West | 186 | 291.0 | A | 234 | 251.1 | A | 175 | 329.6 | A | 164 | 386.3 | A |
| Eleventh Avenue at West 56th Street | Sout | 46 | 498.2 | A | 42 | 715.3 | A | 30 | 893.1 | A | 25 | 999.6 | A |
| | East | 232 | 194.8 | A | 230 | 132.5 | A | 191 | 256.8 | A | 169 | 266.1 | A |
| | West | 209 | 248.1 | A | 251 | 197.4 | A | 165 | 306.5 | A | 208 | 238.1 | A |
| Eleventh Avenue at West 57th Street | East | 244 | 137.8 | A | 313 | 88.7 | A | 245 | 173.1 | A | 164 | 203.7 | A |
| | West | 454 | 69.7 | A | 440 | 72.2 | A | 369 | 102.0 | A | 363 | 87.0 | A |

**Table 10-28 Year 2024 Existing Pedestrian Levels of Service – Corners**

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | Corner | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS |
| Eleventh Avenue at West 54th Street | Southeast | 52 | 282.1 | A | 27 | 256.7 | A | 53 | 335.9 | A | 43 | 203.1 | A |
| | Southwest | 12 | 422.0 | A | 19 | 286.0 | A | 11 | 373.3 | A | 34 | 204.7 | A |
| | Northwest | 26 | 291.8 | A | 27 | 270.1 | A | 15 | 320.5 | A | 3 | 344.5 | A |
| Eleventh Avenue at West 55th Street | Southwest | 5 | 275.3 | A | 5 | 260.7 | A | 2 | 298.3 | A | 5 | 392.4 | A |
| | Northwest | 9 | 290.2 | A | 16 | 278.3 | A | 20 | 291.9 | A | 8 | 333.4 | A |
| Eleventh Avenue at West 56th Street | Northeast | 26 | 281.3 | A | 24 | 223.6 | A | 32 | 321.8 | A | 11 | 391.9 | A |
| | Southeast | 12 | 300.8 | A | 10 | 244.3 | A | 13 | 393.6 | A | 13 | 447.9 | A |
| | Southwest | 10 | 367.3 | A | 1 | 352.0 | A | 15 | 473.7 | A | 3 | 445.0 | A |
| | Northwest | 5 | 331.0 | A | 9 | 303.5 | A | 9 | 363.8 | A | 7 | 342.8 | A |
| Eleventh Avenue at West 57th Street | Northeast | 51 | 203.7 | A | 70 | 130.3 | A | 67 | 231.2 | A | 53 | 225.0 | A |
| | Southeast | 20 | 287.6 | A | 17 | 243.6 | A | 35 | 361.2 | A | 33 | 393.2 | A |
| | Southwest | 117 | 65.7 | A | 82 | 74.0 | A | 96 | 102.1 | A | 94 | 93.7 | A |
| | Northwest | 83 | 123.5 | A | 89 | 112.3 | A | 90 | 165.8 | A | 66 | 138.4 | A |
| 12th Avenue and West 55th Street | Southeast | 10 | 3,984.0 | A | 18 | 1,606.9 | A | 4 | 1,744.4 | A | 5 | 1,615.8 | A |

# No-Action Conditions

## Traffic

### Traffic Volumes

This section establishes the baseline (No-Action) condition against which potential impacts of the Proposed Actions can be identified. Future year conditions were analyzed for the year 2029. No-Action traffic, pedestrian, and transit volumes were established by applying a background growth rate of 0.25 percent per year (years 2024 to 2029) in accordance with the *CEQR Technical Manual* for Manhattan projects. This background growth is applied to existing traffic volumes and accounts for smaller projects and general increases in travel demand. As detailed in **Chapter 2, Land Use, Zoning, and Public Policy**, several developments are being planned and are expected to be developed by the year 2029 within the study area. Two projects were identified in to be incorporated in the 2029 No-Action condition analyses, totaling approximately 266,000 sf of film studio space, 44,290 sf of office space, and 224,275 sf of self-storage space; these projects are detailed in **Table**

**10-29**. Other planned developments within the study area would not contribute to a significant increase in traffic volumes and are accounted for within the background growth rate discussed above. It is also assumed that Development Site 2, which is vacant in the existing conditions, would be re-tenanted by an auto dealership in the No-Action condition. No-Action traffic volume maps for the AM, PM, and Saturday peak hours are provided in **Figure 10-17** through **Figure 10-19**.

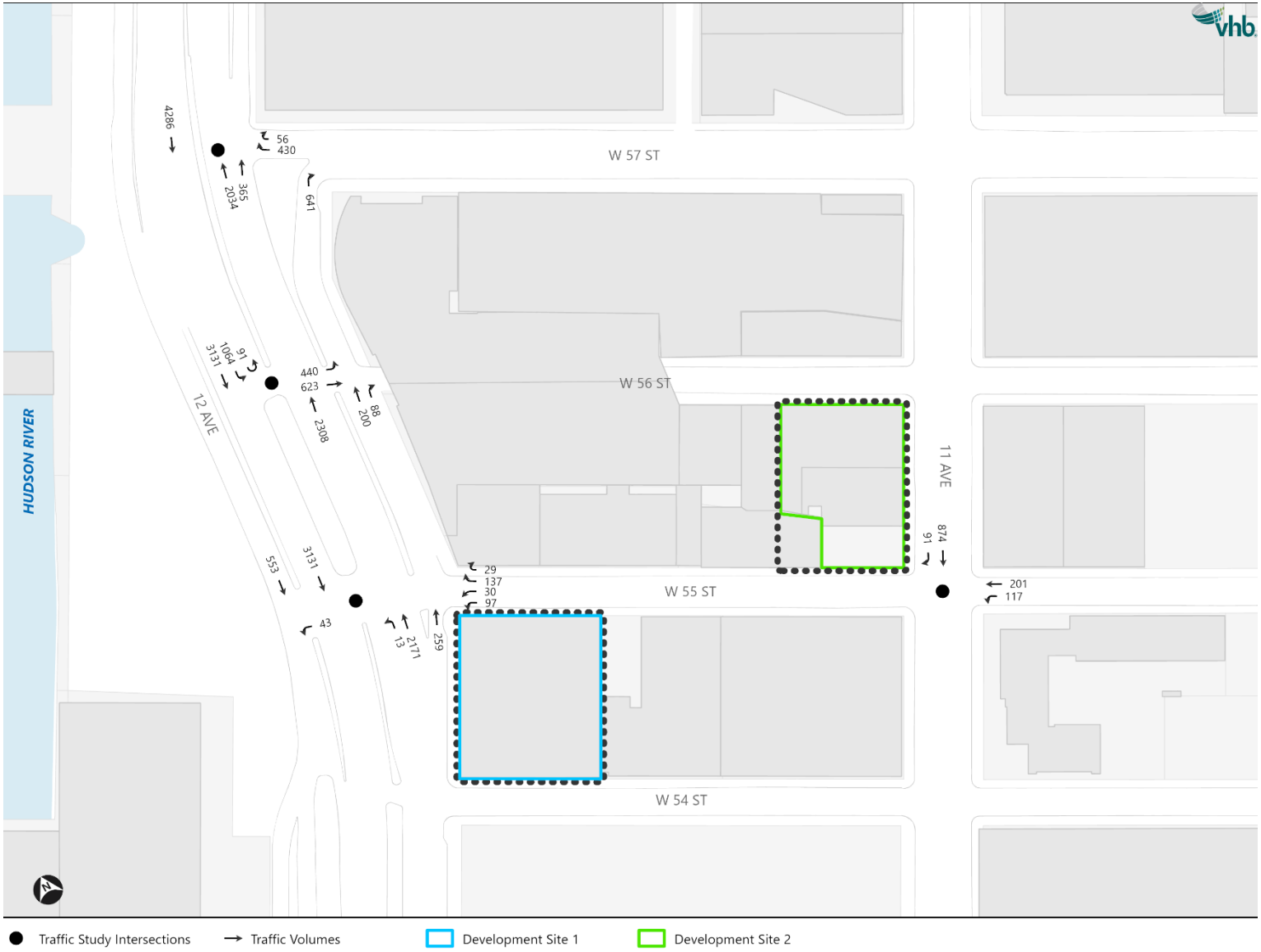
**Table 10-29 Background Development Projects**

| No. | Project Name/Address | Description | Projected Completion Date |
|---|---|---|---|
| 1 | 755 Twelfth Avenue | 266,000 sf film studio | 2025 |
| 2 | 648 West 48th Street | 44,290 sf office space<br>224,275 sf storage space | 2024 |

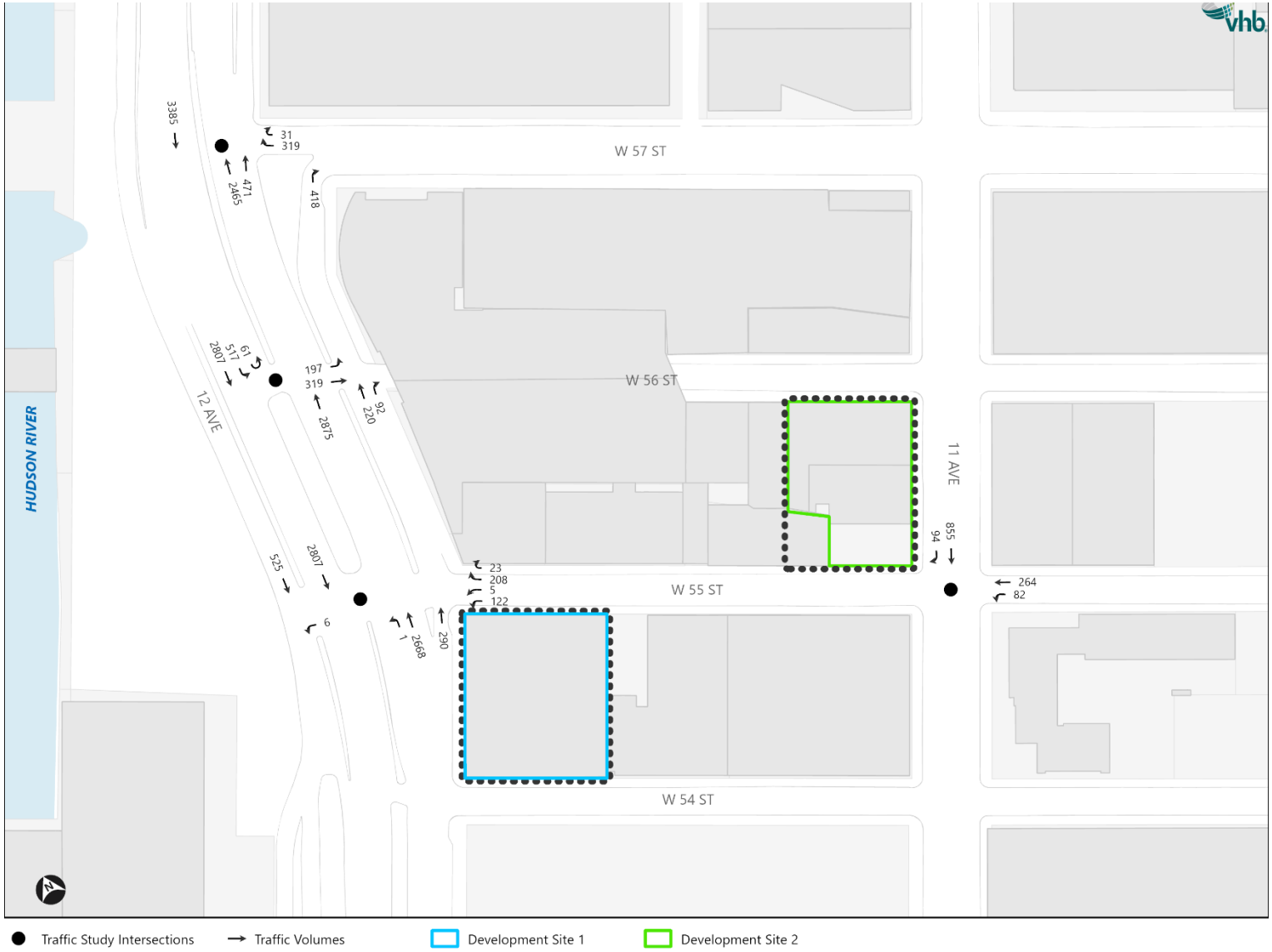
## Roadway Improvements

There are no known roadway improvement projects within the study that are expected to be completed by 2029. In July 2025, the New York City Economic Development Corporation (EDC) released the *Manhattan Cruise Terminal Community Traffic Mitigation Plan* which identified short- and long-term measures to improve traffic conditions during the arrival and disembarkation of Manhattan Cruise Terminal cruise ship passengers. The short-term measures identified include deployment of traffic enforcement agents along Twelfth Avenue and traffic managers along the cruise terminal frontage, and improved wayfinding. Other measures, such as signal timing modifications and turn prohibitions, were identified and will be explored by EDC in coordination with other agencies and stakeholders. As these measures are still in the initial planning stages, they were not incorporated into the transportation analyses.

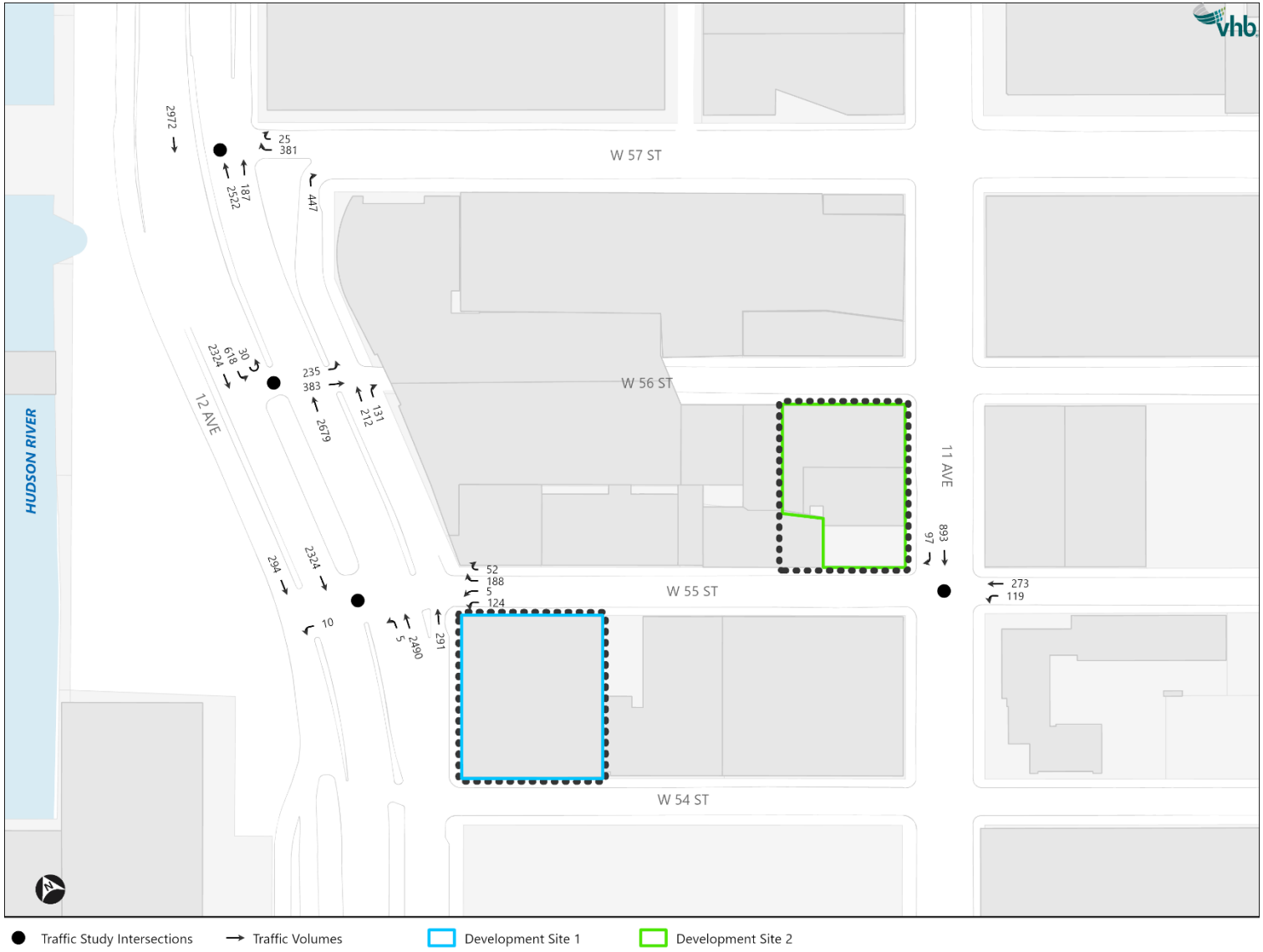
## Figure 10-17 Year 2029 No-Action Traffic Volumes – Weekday AM Peak Hour



## Figure 10-18 Year 2029 No-Action Traffic Volumes – Weekday PM Peak Hour



## Figure 10-19 Year 2029 No-Action Traffic Volumes – Saturday Peak Hour



## Levels of Service

Based on the traffic volume increases from the background development projects and sources identified above, the 2029 No-Action traffic levels of service were determined for the three analysis locations. **Table 10-30** and **Table 10-31** provide an overview of the levels of service that are projected to characterize the No-Action "overall" intersection conditions and individual traffic movements, respectively, during the weekday AM and PM peak hours. Detailed traffic levels of service are provided in **Table 10-32**.

**Table 10-30 Year 2029 No-Action Traffic Level of Service Summary – Overall Intersections**

| | Existing | | | No-Action | | |
|---|---|---|---|---|---|---|
| | AM Peak Hour | PM Peak Hour | Saturday Peak Hour | AM Peak Hour | PM Peak Hour | Saturday Peak Hour |
| Intersections at Overall LOS A/B/C/D | 4 | 4 | 4 | 4 | 4 | 4 |
| Intersections at Overall LOS E | 0 | 0 | 0 | 0 | 0 | 0 |
| Intersections at Overall LOS F | 0 | 0 | 0 | 0 | 0 | 0 |

Note: All four intersections are signalized.

**Table 10-31 Year 2029 No-Action Traffic Level of Service Summary – Traffic Movements**

| | Existing | | | No-Action | | |
|---|---|---|---|---|---|---|
| | AM Peak Hour | PM Peak Hour | Saturday Peak Hour | AM Peak Hour | PM Peak Hour | Saturday Peak Hour |
| Traffic Movements at LOS A/B/C/D | 19 | 19 | 21 | 19 | 18 | 21 |
| Traffic Movements at LOS E | 3 | 3 | 0 | 3 | 4 | 0 |
| Traffic Movements at LOS F | 0 | 0 | 1 | 0 | 0 | 1 |
| Number of Individual Traffic Movements | 22 | 22 | 22 | 22 | 22 | 22 |

**Table 10-32 Year 2029 No-Action Traffic Level of Service**

| | | AM Peak Hour | | | | PM Peak Hour | | | | Saturday Peak Hour | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Intersection & Approach** | | **Mvt** | **V/C** | **Ctrl Delay[1]** | **LOS** | **Mvt** | **V/C** | **Ctrl Delay[1]** | **LOS** | **Mvt** | **V/C** | **Ctrl Delay[1]** | **LOS** |
| **Twelfth Avenue and West 57th Street** | | | | | | | | | | | | | |
| Twelfth Avenue | NB | T | 0.76 | 3.9 | A | T | 0.68 | 2.0 | A | T | 0.74 | 3.3 | A |
| | | R | 0.64 | 4.2 | A | R | 0.64 | 3.4 | A | R | 0.24 | 2.8 | A |
| | SB | T | 0.67 | 0.6 | A | T | 0.53 | 0.3 | A | T | 0.88 | 3.7 | A |
| West 57th Street | WB | R | 0.47 | 34.6 | C | R | 0.53 | 51.1 | D | R | 0.53 | 37.8 | D |
| Twelfth Avenue Northbound Service Road (stop-controlled) | NB | R | - | 16.6 | C | R | - | 12.1 | B | R | - | 13.1 | B |
| **Overall Intersection[2]** | | - | - | **5.2** | **A** | - | - | **4.6** | **A** | - | - | **6.6** | **A** |
| **Twelfth Avenue and West 56th Street** | | | | | | | | | | | | | |
| Twelfth Avenue | NB | T | 1.00 | 47.9 | D | T | 0.80 | 7.0 | A | T | 0.79 | 2.6 | A |
| | SB | UL | 0.95 | 52.2 | D | UL | 0.92 | 75.6 | E | UL | 0.90 | 52.7 | D |
| | | T | 0.58 | 0.3 | A | T | 0.52 | 0.3 | A | T | 0.43 | 0.1 | A |
| Twelfth Avenue Northbound Service Road | NB | TR | 0.48 | 25.7 | C | TR | 0.35 | 3.9 | A | TR | 0.35 | 3.8 | A |
| West 56th Street | EB | LT | 0.68 | 0.7 | A | LT | 0.67 | 7.5 | A | LT | 0.62 | 1.5 | A |
| **Overall Intersection[2]** | | - | - | **22.8** | **C** | - | - | **9.9** | **A** | - | - | **6.7** | **A** |
| **Twelfth Avenue and West 55th Street** | | | | | | | | | | | | | |
| Twelfth Avenue | NB | L | 0.26 | 79.2 | E | L | 0.01 | 66.5 | E | L | 0.05 | 52.4 | D |
| | | T | 0.63 | 14.8 | B | T | 0.74 | 17.3 | B | T | 0.80 | 22.9 | C |
| | | R | 0.34 | 11.4 | B | R | 0.35 | 11.4 | B | R | 0.35 | 15.2 | B |
| | SB | T | 0.99 | 42.0 | D | T | 0.91 | 32.6 | C | T | 0.98 | 46.1 | D |
| Twelfth Avenue Southbound Service Road | SB | T | 0.73 | 27.6 | C | T | 0.70 | 27.2 | C | T | 0.51 | 26.7 | C |
| West 55th Street | WB | LT | 0.65 | 68.6 | E | LT | 0.55 | 62.8 | E | LT | 0.40 | 41.5 | D |
| | | R | 0.57 | 61.1 | E | R | 0.71 | 67.9 | E | R | 1.07 | 124.1 | F |
| West 55th Street Service Road Access | WB | L | 0.13 | 0.8 | A | L | 0.01 | 4.7 | A | L | 0.01 | 0.3 | A |
| **Overall Intersection[2]** | | - | - | **31.2** | **C** | - | - | **27.0** | **C** | - | - | **36.7** | **D** |

**Table 10-32 Year 2029 No-Action Traffic Level of Service**

| Intersection & Approach | | AM Peak Hour Mvt | AM Peak Hour V/C | AM Peak Hour Ctrl Delay[1] | AM Peak Hour LOS | PM Peak Hour Mvt | PM Peak Hour V/C | PM Peak Hour Ctrl Delay[1] | PM Peak Hour LOS | Saturday Peak Hour Mvt | Saturday Peak Hour V/C | Saturday Peak Hour Ctrl Delay[1] | Saturday Peak Hour LOS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Eleventh Avenue and West 55th Street** | | | | | | | | | | | | | |
| Eleventh Avenue | SB | T | 0.31 | 9.2 | A | T | 0.30 | 9.1 | A | T | 0.30 | 9.1 | A |
| | | R | 0.28 | 15.3 | B | R | 0.29 | 15.4 | B | R | 0.21 | 14.1 | B |
| West 55th Street | WB | L | 0.41 | 29.6 | C | L | 0.32 | 27.8 | C | L | 0.36 | 28.2 | C |
| | | T | 0.68 | 38.2 | D | T | 0.68 | 37.0 | D | T | 0.64 | 35.0 | C |
| **Overall Intersection[2]** | | - | - | **16.7** | **B** | - | - | **16.7** | **B** | | | **16.1** | **B** |

[1] Control delay is measured in seconds per vehicle.

[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

The summary overview of 2029 No-Action conditions indicates that:

- In the weekday AM peak hour, none of the intersections would operate at overall LOS E or F. Three individual traffic movements out of 22 movements analyzed would operate at LOS E or F.
- In the weekday PM peak hour, none of the intersections would operate at overall LOS E or F. Four individual traffic movements out of 22 movements analyzed would operate at LOS E or F.
- In the Saturday peak hour, none of the intersections would operate at overall LOS E or F. One individual traffic movement out of 22 movements analyzed would operate at LOS E or F.

Traffic movements expected to operate at unacceptable levels of service are listed below.

- Twelfth Avenue and West 56th Street
  - Southbound Twelfth Avenue U-turn/left-turn movement (weekday PM)
- Twelfth Avenue and West 55th Street
  - Northbound Twelfth Avenue left-turn movement (weekday AM and PM)
  - Westbound West 55th Street shared left-through movement (weekday AM and PM)
  - Westbound West 55th Street right-turn movement (weekday AM, PM, and Saturday)

## Parking

Between 2024 and 2029, demand for off-street parking is expected to increase due to background growth. The parking utilization in off-street parking facilities would be approximately 48 percent occupied in the weekday midday peak period (approximately 1,315 available parking spaces), 28 percent occupied during the overnight period (approximately 1,821 available parking spaces), and 32 percent occupied during the Saturday midday period (approximately 1,725 available parking spaces).

## Subways

### Subway Station Elements

Existing subway station volumes were increased based on the background growth rates recommended in the *CEQR Technical Manual*. Subway trips generated by background development

projects were routed through the study area and added to the No-Action condition subway volumes. It is expected that the two escalators located at the northwest corner of Eighth Avenue and West 58th Street would be reopened in the No-Action condition and the majority of the riders using the adjacent stairs would be diverted to the escalators. It is assumed that one escalator would operate in the up direction and the other escalator in the down direction during the AM and PM peak hours.

Under the No-Action condition, the south fare control area at the station would operate at LOS A. **Table 10-33** summarizes the 2029 No-Action condition AM and PM peak hour levels of service at the fare control areas.

**Table 10-33 No-Action Subway Station Level of Service – Fare Control Areas**

| Peak Hour | Control Element | Pedestrian Volume (15-min) | | Surging Factor | Friction Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|---|---|
| | | In | Out | | | | |
| AM | South Fare Control Area<br>4 High Exits, 10 Turnstiles | 441 | 1,071 | 0.80 | 0.90 | 0.29 | A |
| PM | South Fare Control Area<br>4 High Exits, 10 Turnstiles | 1,257 | 435 | 0.80 | 0.90 | 0.40 | A |

Note:
Methodology based on ~~2021~~2025 *CEQR Technical Manual* guidelines
Surging factors only apply to exiting volumes. The surge factor for entry volumes is 1.0.

**Table 10-34** and **Table 10-35** summarize the subway stairway levels of service under the No-Action condition. During the AM and PM peak hours, all analyzed stairs would operate at LOS B or better. Operations of the two analysis escalators under the No-Action condition is shown in **Table 10-36**; the escalators would operate at LOS C in the peak direction (up direction in the AM peak hour and down direction in the PM peak hour) and LOS A in the opposite direction.

**Table 10-34 No-Action Subway Station Level of Service – Stairways – AM Peak Hour**

| Stairway | Effective Width (ft.) | Pedestrian Volume (15-min) | | Surging Factor | | Friction Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|---|---|---|
| | | Down | Up | Down | Up | | | |
| **Eighth Avenue and 57th Street Northeast Surface Stairway** | | | | | | | | |
| M3/M4 | 11.0 | 19 | 55 | 1.00 | 0.90 | 0.90 | 0.05 | A |
| S2 | 4.9 | 19 | 55 | 1.00 | 0.90 | 0.90 | 0.12 | A |
| **Eighth Avenue and 57th Street Southeast Surface Stairway** | | | | | | | | |
| M6/M5 | 12.5 | 31 | 195 | 1.00 | 0.90 | 0.90 | 0.15 | A |
| Intermediate Stair | 6.6 | 31 | 195 | 1.00 | 0.90 | 0.90 | 0.28 | A |
| Surface Stair | 6.6 | 31 | 195 | 1.00 | 0.90 | 0.90 | 0.28 | A |
| **Eighth Avenue and 57th Street Southwest Surface Stairway** | | | | | | | | |
| W. 57th St Surface Stair | 7.3 | 34 | 184 | 1.00 | 0.90 | 0.90 | 0.24 | A |
| Eighth Ave Surface Stair | 7.3 | 77 | 86 | 1.00 | 0.90 | 0.90 | 0.18 | A |
| M7 | 10.5 | 111 | 270 | 1.00 | 0.90 | 0.90 | 0.29 | A |

**Table 10-34 No-Action Subway Station Level of Service – Stairways – AM Peak Hour**

| Stairway | Effective Width (ft.) | Pedestrian Volume (15-min) | | Surging Factor | | Friction Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|---|---|---|
| | | Down | Up | Down | Up | | | |
| **Eighth Avenue and 57th Street Northwest Surface Stairway** | | | | | | | | |
| M1/M2 | 7.0 | 19 | 15 | 1.00 | 0.90 | 0.90 | 0.04 | A |
| O-20 | 7.0 | 19 | 15 | 1.00 | 0.90 | 0.90 | 0.04 | A |
| O-21 | 6.8 | 19 | 15 | 1.00 | 0.90 | 0.90 | 0.04 | A |
| O-22 | 6.8 | 19 | 15 | 1.00 | 0.90 | 0.90 | 0.04 | A |
| **Eighth Avenue and 58th Street Northeast Surface Stairway** | | | | | | | | |
| M12/M11 | 6.6 | 37 | 148 | 1.00 | 0.90 | 0.90 | 0.23 | A |
| S4 | 3.3 | 37 | 148 | 1.00 | 0.90 | 0.90 | 0.45 | A |
| **Eighth Avenue and 58th Street Northwest Surface Stairway** | | | | | | | | |
| Surface Stair | 9.3 | 56 | 124 | 1.00 | 0.90 | 0.90 | 0.15 | A |

**Table 10-35 No-Action Subway Station Level of Service – Stairways – PM Peak Hour**

| Stairway | Effective Width (ft.) | Pedestrian Volume (15-min) | | Surging Factor | | Friction Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|---|---|---|
| | | Down | Up | Down | Up | | | |
| **Eighth Avenue and 57th Street Northeast Surface Stairway** | | | | | | | | |
| M3/M4 | 11.0 | 119 | 24 | 1.00 | 0.90 | 0.90 | 0.10 | A |
| S2 | 4.9 | 119 | 24 | 1.00 | 0.90 | 0.90 | 0.22 | A |
| **Eighth Avenue and 57th Street Southeast Surface Stairway** | | | | | | | | |
| M6/M5 | 12.5 | 165 | 57 | 1.00 | 0.90 | 0.90 | 0.14 | A |
| Intermediate Stair | 6.6 | 165 | 57 | 1.00 | 0.90 | 0.90 | 0.26 | A |
| Surface Stair | 6.6 | 165 | 57 | 1.00 | 0.90 | 0.90 | 0.26 | A |
| **Eighth Avenue and 57th Street Southwest Surface Stairway** | | | | | | | | |
| W. 57th St Surface Stair | 7.3 | 161 | 39 | 1.00 | 0.90 | 0.90 | 0.21 | A |
| Eighth Ave Surface Stair | 7.3 | 69 | 69 | 1.00 | 0.90 | 0.90 | 0.15 | A |
| M7 | 10.5 | 230 | 108 | 1.00 | 0.90 | 0.90 | 0.25 | A |
| **Eighth Avenue and 57th Street Northwest Surface Stairway** | | | | | | | | |
| M1/M2 | 7.0 | 47 | 16 | 1.00 | 0.90 | 0.90 | 0.07 | A |
| O-20 | 7.0 | 47 | 16 | 1.00 | 0.90 | 0.90 | 0.07 | A |
| O-21 | 6.8 | 47 | 16 | 1.00 | 0.90 | 0.90 | 0.07 | A |
| O-22 | 6.8 | 47 | 16 | 1.00 | 0.90 | 0.90 | 0.07 | A |

**Table 10-35 No-Action Subway Station Level of Service – Stairways – PM Peak Hour**

| Stairway | Effective Width (ft.) | Pedestrian Volume (15-min) | | Surging Factor | | Friction Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|---|---|---|
| | | Down | Up | Down | Up | | | |
| **Eighth Avenue and 58th Street Northeast Surface Stairway** | | | | | | | | |
| **M12/M11** | 6.6 | 170 | 44 | 1.00 | 0.90 | 0.90 | 0.25 | A |
| **S4** | 3.3 | 170 | 44 | 1.00 | 0.90 | 0.90 | 0.49 | B |
| **Eighth Avenue and 58th Street Northwest Surface Stairway** | | | | | | | | |
| **Surface Stair** | 9.3 | 128 | 62 | 1.00 | 0.90 | 0.90 | 0.16 | A |

**Table 10-36 No-Action Subway Station Level of Service – Escalators**

| Peak Hour | Direction | Pedestrian Volume (15-min) | Surging Factor | v/c Ratio | LOS |
|---|---|---|---|---|---|
| **Eighth Avenue and 58th Street Northwest Surface Escalator** | | | | | |
| **AM** | Up | 371 | 0.90 | 0.86 | C |
| | Down | 168 | 1.00 | 0.35 | A |
| **PM** | Up | 186 | 0.90 | 0.43 | A |
| | Down | 383 | 1.00 | 0.80 | C |

Note:
Methodology based on ~~2021~~2025 *CEQR Technical Manual* guidelines
Analysis assumed low-capacity escalators with 24-inch thread widths and 90 feet per minute operating speed

## Buses

Demand on the local bus routes operating near the development sites is expected to increase as a result of background growth as well as demand from new development in the vicinity of the Project Area. **Table 10-37** shows that in the 2029 No-Action condition, a capacity shortfall can be expected along the M12 bus route in the southbound direction and the M57 bus route in the eastbound direction in the AM peak hour (one additional bus would be needed to accommodate the projected No-Action demand for both routes). Existing levels of bus service would be sufficient to meet the projected peak direction demands on all analyzed routes in the PM peak hour.

As a general policy, MTA-NYCT provides additional bus service where demand warrants, considering financial and operational constraints. Based on ongoing passenger monitoring programs, comprehensive service plans would be generated to respond to specific, known needs with capital and/or operational improvements where fiscally and operationally practicable. The MTA's capital program is developed on a five-year cycle; through this program, expansion of bus service would be provided as needs are determined. It is therefore anticipated that in the No-Action condition, MTA-NYCT would increase service frequency on the M12 and M57 bus routes to address the AM peak hour capacity shortfalls.

**Table 10-37 No-Action Local Bus Analysis**

| Peak Hour | Route | Direction | Maximum Load Point | | Peak Hour Buses | Peak Hour Passengers[2] | Average Passengers per Bus | Available Peak Hour Capacity[3] |
|---|---|---|---|---|---|---|---|---|
| AM | M12 | NB | W 57 St/10 Av | | 2 | 34 | 17 | 74 |
| | | SB | 11 Av/ W 54 St | At existing service | 2 | 134 | 67 | -26 |
| | | | | At increased service1 | 3 | | 45 | 28 |
| | | | 11 Av/W 38 St | | 2 | 71 | 36 | 37 |
| | M31 | EB | W 57 St/8 Av | | 7 | 194 | 28 | 184 |
| | | WB | York Av/E 72 St | | 10 | 263 | 26 | 277 |
| | | | E 57 St/1 Av | | 8 | 290 | 36 | 142 |
| | M57 | EB | W 57 St/11 Av | At existing service | 4 | 240 | 60 | -24 |
| | | | | At increased service1 | 5 | | 48 | 30 |
| | | | W 57 St/9 Av | | 6 | 289 | 48 | 35 |
| | | WB | W 57 St/Broadway | | 6 | 212 | 35 | 112 |
| PM | M12 | NB | W 57 St/10 Av | | 2 | 104 | 52 | 4 |
| | | SB | 11 Av/W 42 St | | 2 | 101 | 51 | 7 |
| | | | 11 Av/W 44 St | | 2 | 101 | 51 | 7 |
| | M31 | EB | E 57 St/Madison Av | | 7 | 176 | 25 | 202 |
| | | | York Av/E 69 St | | 6 | 198 | 28 | 180 |
| | | WB | W 57 St/Avenue Of The Americas | | 6 | 174 | 29 | 150 |
| | | | E 57 St/1 Av | | 8 | 176 | 22 | 256 |
| | M57 | EB | W 57 St/10 Av | | 6 | 211 | 35 | 113 |
| | | WB | W 57 St/7 Av | | 6 | 213 | 36 | 111 |

Notes:
[1] Assumes service levels adjusted to address capacity shortfalls during the 2024 through 2029 period.
[2] No-Action passenger volumes are based on 0.25 percent per year background growth from 2024 through 2029 plus demand from No-Action developments expected by 2029.
[3] Available capacities based on NYCT loading guidelines of 54 passengers per standard bus.

## Pedestrians

The 2029 No-Action pedestrian volumes were developed by increasing existing volumes to reflect expected growth in overall travel through and within the study area. Planned developments within the study area would not contribute a significant increase in pedestrian volumes at the pedestrian analysis locations and are accounted for within the background growth rate discussed above.

The No-Action pedestrian levels of service were determined for the locations analyzed in the existing conditions. **Table 10-38** provides an overview of the pedestrian levels of service for the peak hours analyzed. Pedestrian volumes and levels of service are provided in **Table 10-39** through **Table 10-41**. The summary of the No-Action condition indicates that during the weekday AM, midday, PM, and Saturday peak hours, all sidewalks, crosswalks, and corners can be expected to operate at clearly acceptable level of service B or better, the same as in existing conditions.

**Table 10-38 Year 2029 No-Action Pedestrian Levels of Service Summary**

| | AM Peak Hour | Midday Peak Hour | PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|---|
| **Sidewalk Elements** | | | | |
| Sidewalks at LOS A/B/C and Acceptable LOS D | 10 | 10 | 10 | 10 |
| Sidewalks at Unacceptable LOS D | 0 | 0 | 0 | 0 |
| Sidewalks at LOS E | 0 | 0 | 0 | 0 |
| Sidewalks at LOS F | 0 | 0 | 0 | 0 |
| **Crosswalk Elements** | | | | |
| Crosswalks at LOS A/B/C and Acceptable LOS D | 8 | 8 | 8 | 8 |
| Crosswalks at Unacceptable LOS D | 0 | 0 | 0 | 0 |
| Crosswalks at LOS E | 0 | 0 | 0 | 0 |
| Crosswalks at LOS F | 0 | 0 | 0 | 0 |
| **Corner Elements** | | | | |
| Corners at LOS A/B/C and Acceptable LOS D | 14 | 14 | 14 | 14 |
| Corners at Unacceptable LOS D | 0 | 0 | 0 | 0 |
| Corners at LOS E | 0 | 0 | 0 | 0 |
| Corners at LOS F | 0 | 0 | 0 | 0 |

Note: Includes ten sidewalk, eight crosswalk, and 14 corner analysis locations

## Table 10-39 Year 2029 No-Action Pedestrian Levels of Service – Sidewalks

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sidewalk | Effective Width, ft | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS |
| 11th Avenue between West 55th Street and West 56th Street (west side) | 9.5 | 149 | 851.3 | A | 187 | 665.6 | A | 219 | 571.6 | A | 164 | 759.8 | A |
| West 54th Street between Eleventh Avenue and Tenth Avenue (south side) | 2.5 | 140 | 218.3 | B | 131 | 198.7 | B | 173 | 202.4 | B | 217 | 124.7 | B |
| West 54th Street between Eleventh Avenue and Twelfth Avenue (north side) | 5.5 | 102 | 743.6 | A | 112 | 668.4 | A | 86 | 896.9 | A | 19 | 2178.0 | A |
| Eleventh Avenue between West 54th Street and West 55th Street (west side) | 5.5 | 155 | 503.7 | B | 198 | 351.8 | B | 187 | 393.2 | B | 169 | 437.5 | B |
| West 55th Street between Eleventh Avenue and Twelfth Avenue (south side) | 4.0 | 27 | 1440.0 | A | 28 | 1320.0 | A | 22 | 1760.0 | A | 14 | 3168.0 | A |
| Eleventh Avenue between West 55th Street and West 56th Street (west side) | 7.0 | 210 | 405.9 | B | 249 | 390.3 | B | 202 | 466.9 | B | 195 | 433.2 | B |
| Eleventh Avenue between West 55th Street and West 56th Street (east side) | 8.5 | 240 | 455.2 | B | 199 | 356.3 | B | 176 | 508.9 | B | 189 | 564.4 | A |
| Eleventh Avenue between West 56th Street and West 57th Street (west side) | 5.5 | 229 | 240.9 | B | 253 | 207.7 | B | 210 | 349.7 | B | 295 | 237.0 | B |

### Table 10-39 Year 2029 No-Action Pedestrian Levels of Service – Sidewalks

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sidewalk | Effective Width, ft | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS |
| Eleventh Avenue between West 56th Street and West 57th Street (east side) | 13.5 | 290 | 594.4 | A | 299 | 693.9 | A | 242 | 668.2 | A | 160 | 1,123.2 | A |
| 12th Avenue between West 54th Street and West 55th Street (east side) | 7.5 | 26 | 3,712.5 | A | 44 | 1,980.0 | A | 61 | 1,650.0 | A | 48 | 1,710.6 | A |

### Table 10-40 Year 2029 No-Action Pedestrian Levels of Service – Crosswalks

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | Crosswalk | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS |
| Eleventh Avenue at West 54th Street | South | 76 | 468.0 | A | 127 | 237.6 | A | 105 | 284.9 | A | 211 | 106.5 | A |
| | West | 178 | 263.9 | A | 213 | 210.0 | A | 188 | 273.7 | A | 182 | 239.4 | A |
| Eleventh Avenue at West 55th Street | West | 194 | 277.3 | A | 241 | 243.5 | A | 183 | 314.5 | A | 169 | 374.2 | A |
| Eleventh Avenue at West 56th Street | South | 46 | 497.5 | A | 43 | 698.8 | A | 31 | 866.3 | A | 26 | 949.3 | A |
| | East | 235 | 192.3 | A | 233 | 130.7 | A | 194 | 252.8 | A | 171 | 262.7 | A |
| | West | 219 | 236.3 | A | 260 | 190.3 | A | 175 | 288.5 | A | 216 | 229.1 | A |
| Eleventh Avenue at West 57th Street | East | 248 | 135.5 | A | 318 | 87.2 | A | 249 | 170.1 | A | 166 | 201.0 | A |
| | West | 465 | 67.8 | A | 450 | 70.4 | A | 380 | 98.8 | A | 372 | 84.7 | A |

**Table 10-41 Year 2029 No-Action Pedestrian Levels of Service – Corners**

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | Corner | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS |
| Eleventh Avenue at West 54th Street | Southeast | 53 | 275.9 | A | 27 | 253.1 | A | 54 | 330.1 | A | 44 | 200.0 | A |
| | Southwest | 12 | 405.9 | A | 19 | 279.4 | A | 11 | 360.6 | A | 34 | 200.1 | A |
| | Northwest | 26 | 283.7 | A | 27 | 263.6 | A | 15 | 311.1 | A | 3 | 333.6 | A |
| Eleventh Avenue at West 55th Street | Southwest | 5 | 266.8 | A | 5 | 253.3 | A | 2 | 288.8 | A | 5 | 384.1 | A |
| | Northwest | 9 | 277.2 | A | 16 | 269.2 | A | 20 | 278.3 | A | 9 | 318.8 | A |
| Eleventh Avenue at West 56th Street | Northeast | 26 | 277.9 | A | 24 | 221.2 | A | 32 | 317.2 | A | 11 | 386.8 | A |
| | Southeast | 12 | 297.8 | A | 10 | 240.9 | A | 13 | 387.2 | A | 13 | 440.8 | A |
| | Southwest | 10 | 354.6 | A | 1 | 340.1 | A | 15 | 450.2 | A | 3 | 427.8 | A |
| | Northwest | 5 | 318.7 | A | 9 | 295.2 | A | 9 | 348.5 | A | 7 | 331.9 | A |
| Eleventh Avenue at West 57th Street | Northeast | 52 | 200.0 | A | 71 | 128.3 | A | 68 | 227.5 | A | 54 | 221.8 | A |
| | Southeast | 20 | 287.1 | A | 17 | 243.7 | A | 35 | 361.3 | A | 33 | 393.7 | A |
| | Southwest | 119 | 64.0 | A | 83 | 72.3 | A | 97 | 99.5 | A | 95 | 91.5 | A |
| | Northwest | 84 | 120.6 | A | 90 | 110.1 | A | 91 | 162.0 | A | 67 | 135.5 | A |
| 12th Avenue and West 55th Street | Southeast | 10 | 3,984.0 | A | 18 | 1,615.8 | A | 4 | 1,744.4 | A | 5 | 1,592.5 | A |

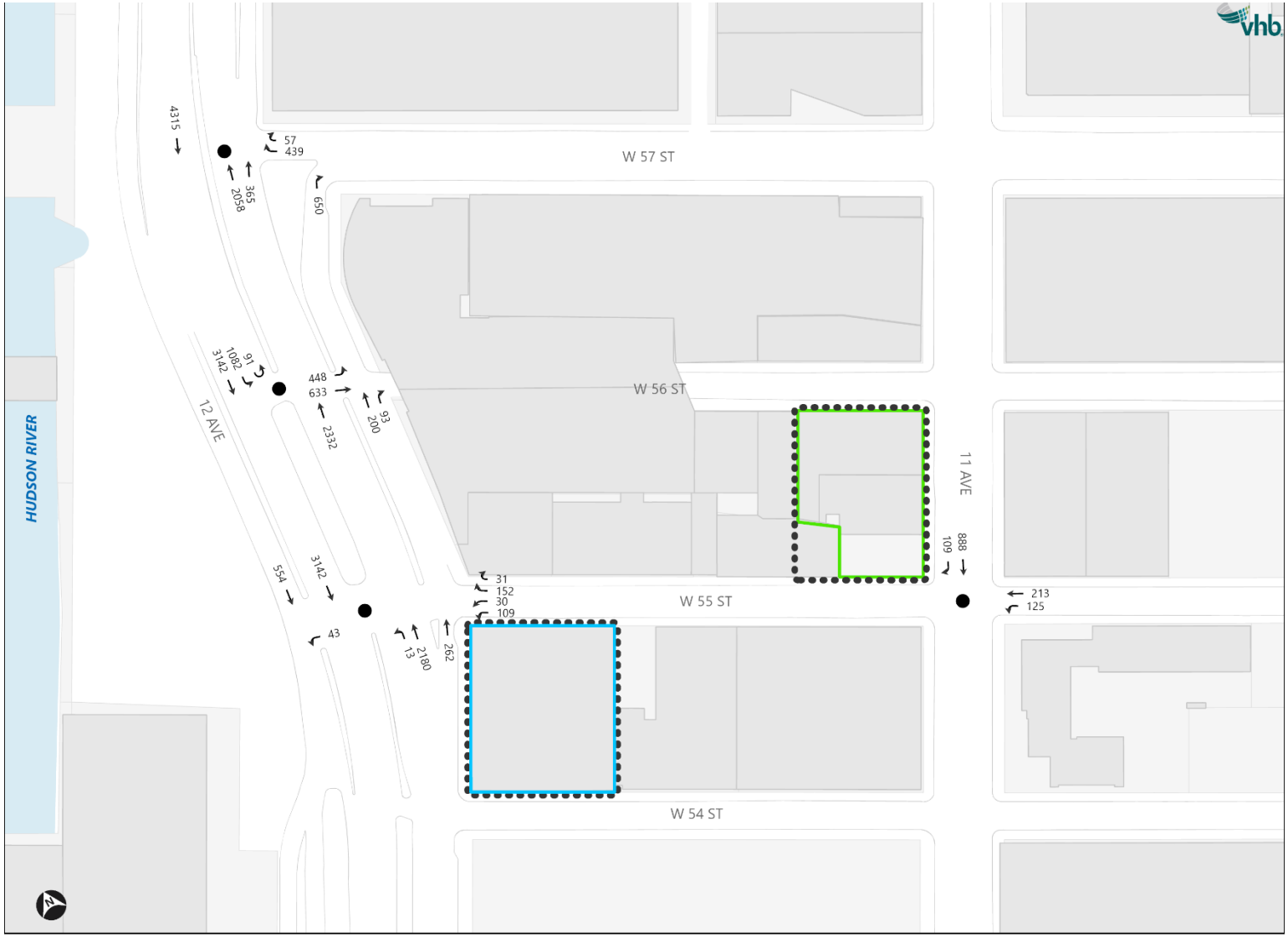
# With-Action Conditions

## Traffic

### Traffic Volumes

The Proposed Actions would generate a total of 161 vehicles per hour (vph) (74 "ins" and 87 "outs") in the weekday AM peak hour, 139 vph (71 "ins" and 68 "outs") in the weekday PM peak hour, and 157 vph (83 “ins” and 74 “outs”) in the Saturday peak hour. These vehicle trips were distributed as described in the Level 2 screening assessment. The With-Action traffic volumes for the weekday AM, PM, and Saturday peak hours are shown in **Figure 10-20** through **Figure 10-22**.

## Figure 10-20 Year 2029 With-Action Traffic Volumes – Weekday AM Peak Hour



## Figure 10-21 Year 2029 With-Action Traffic Volumes – Weekday PM Peak Hour



## Figure 10-22 Year 2029 With-Action Traffic Volumes – Saturday Peak Hour



## Levels of Service

Using the traffic volumes shown above, the year 2029 With-Action traffic levels of service were determined for the four analysis locations. **Table 10-42** and **Table 10-43** provide an overview of the levels of service that characterize 2029 With-Action "overall" intersection conditions and individual traffic movements during the analysis peak hours, respectively. Detailed traffic levels of service analyses, comparing the No-Action and With-Action conditions during each peak hour, are provided in **Table 10-44** through **Table 10-46**.

**Table 10-42 Year 2029 With-Action Traffic Level of Service Summary – Overall Intersections**

| | No-Action | | | With-Action | | |
|---|---|---|---|---|---|---|
| | AM Peak Hour | PM Peak Hour | Saturday Peak Hour | AM Peak Hour | PM Peak Hour | Saturday Peak Hour |
| Intersections at Overall LOS A/B/C/D | 4 | 4 | 4 | 4 | 4 | 4 |
| Intersections at Overall LOS E | 0 | 0 | 0 | 0 | 0 | 0 |
| Intersections at Overall LOS F | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of Significantly Impacted Intersections | 0 | 0 | 0 | 0 | 0 | 1 |

Note: All four intersections are signalized.

**Table 10-43 Year 2029 With-Action Traffic Level of Service Summary – Traffic Movements**

| | No-Action | | | With-Action | | |
|---|---|---|---|---|---|---|
| | AM Peak Hour | PM Peak Hour | Saturday Peak Hour | AM Peak Hour | PM Peak Hour | Saturday Peak Hour |
| Traffic Movements at LOS A/B/C/D | 19 | 18 | 21 | 19 | 18 | 21 |
| Traffic Movements at LOS E | 3 | 4 | 0 | 3 | 4 | 0 |
| Traffic Movements at LOS F | 0 | 0 | 1 | 0 | 0 | 1 |
| Number of Significantly Impacted Movements | - | - | - | 0 | 0 | 1 |
| Number of Individual Traffic Movements | 22 | 22 | 22 | 22 | 22 | 22 |

**Table 10-44 No-Action vs. With-Action Traffic Level of Service – Weekday AM Peak Hour**

| Intersection & Approach | | 2029 No-Action | | | | 2029 With-Action | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Mvt | V/C | Ctrl Delay[1] | LOS | Mvt | V/C | Ctrl Delay[1] | LOS |
| **Twelfth Avenue and West 57th Street** | | | | | | | | | |
| Twelfth Avenue | NB | T | 0.76 | 3.9 | A | T | 0.77 | 4.0 | A |
| | | R | 0.64 | 4.2 | A | R | 0.64 | 4.0 | A |
| | SB | T | 0.67 | 0.6 | A | T | 0.68 | 0.6 | A |
| West 57th Street | WB | R | 0.47 | 34.6 | C | R | 0.48 | 34.9 | C |
| Twelfth Avenue Northbound Service Road (stop-controlled) | NB | R | - | 16.6 | C | R | - | 17.0 | C |
| **Overall Intersection** | | - | - | **5.2** | **A** | - | - | **5.3** | **A** |
| **Twelfth Avenue and West 56th Street** | | | | | | | | | |
| Twelfth Avenue | NB | T | 1.00 | 47.9 | D | T | 1.01 | 50.9 | D |
| | SB | UL | 0.95 | 52.2 | D | UL | 0.96 | 54.5 | D |
| | | T | 0.58 | 0.3 | A | T | 0.58 | 0.3 | A |
| Twelfth Avenue Northbound Service Road | NB | TR | 0.48 | 25.7 | C | TR | 0.49 | 26.0 | C |
| West 56th Street | EB | LT | 0.68 | 0.7 | A | LT | 0.69 | 0.7 | A |
| **Overall Intersection** | | - | - | **22.8** | **C** | - | - | **24.1** | **C** |
| **Twelfth Avenue and West 55th Street** | | | | | | | | | |
| Twelfth Avenue | NB | L | 0.26 | 79.2 | E | L | 0.26 | 79.2 | E |
| | | T | 0.63 | 14.8 | B | T | 0.63 | 14.8 | B |
| | | R | 0.34 | 11.4 | B | R | 0.34 | 11.4 | B |
| | SB | T | 0.99 | 42.0 | D | T | 0.99 | 42.8 | D |
| Twelfth Avenue Southbound Service Road | SB | T | 0.73 | 27.6 | C | T | 0.73 | 27.7 | C |
| West 55th Street | WB | LT | 0.65 | 68.6 | E | LT | 0.71 | 72.3 | E |
| | | R | 0.57 | 61.1 | E | R | 0.62 | 63.3 | E |
| West 55th Street Service Road Access | WB | L | 0.13 | 0.8 | A | L | 0.13 | 0.8 | A |
| **Overall Intersection** | | - | - | **31.2** | **C** | - | - | **31.9** | **C** |

**Table 10-44 No-Action vs. With-Action Traffic Level of Service – Weekday AM Peak Hour**

| Intersection & Approach | | 2029 No-Action Mvt | V/C | Ctrl Delay[1] | LOS | 2029 With-Action Mvt | V/C | Ctrl Delay[1] | LOS |
|---|---|---|---|---|---|---|---|---|---|
| **Eleventh Avenue and West 55th Street** | | | | | | | | | |
| **Eleventh Avenue** | SB | **T** | 0.31 | 9.2 | A | T | 0.32 | 9.2 | A |
| | | **R** | 0.28 | 15.3 | B | R | 0.56 | 25.3 | C |
| **West 55th Street** | WB | **L** | 0.41 | 29.6 | C | L | 0.51 | 32.8 | C |
| | | **T** | 0.68 | 38.2 | D | T | 0.72 | 40.5 | D |
| **Overall Intersection** | | **-** | **-** | **16.7** | **B** | **-** | **-** | **18.6** | **B** |

[1] Control delay is measured in seconds per vehicle.
[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

**Table 10-45 No-Action vs. With-Action Traffic Level of Service – Weekday PM Peak Hour**

| Intersection & Approach | | 2029 No-Action Mvt | V/C | Ctrl Delay[1] | LOS | 2029 With-Action Mvt | V/C | Ctrl Delay[1] | LOS |
|---|---|---|---|---|---|---|---|---|---|
| **Twelfth Avenue and West 57th Street** | | | | | | | | | |
| Twelfth Avenue | NB | T | 0.68 | 2.0 | A | T | 0.68 | 1.9 | A |
| | | R | 0.64 | 3.4 | A | R | 0.64 | 3.3 | A |
| | SB | T | 0.53 | 0.3 | A | T | 0.54 | 0.3 | A |
| West 57th Street | WB | R | 0.53 | 51.1 | D | R | 0.55 | 51.4 | D |
| Twelfth Avenue Northbound Service Road (stop-controlled) | NB | R | - | 12.1 | B | R | - | 12.3 | B |
| **Overall Intersection** | | **-** | **-** | **4.6** | **A** | **-** | **-** | **4.6** | **A** |
| **Twelfth Avenue and West 56th Street** | | | | | | | | | |
| Twelfth Avenue | NB | T | 0.80 | 7.0 | A | T | 0.80 | 7.3 | A |
| | SB | UL | 0.92 | 75.6 | E | UL | 0.94 | 78.9 | E |
| | | T | 0.52 | 0.3 | A | T | 0.52 | 0.3 | A |
| Twelfth Avenue Northbound Service Road | NB | TR | 0.35 | 3.9 | A | TR | 0.36 | 4.5 | A |
| West 56th Street | EB | LT | 0.67 | 7.5 | A | LT | 0.69 | 7.7 | A |
| **Overall Intersection** | | **-** | **-** | **9.9** | **A** | **-** | **-** | **10.4** | **B** |

### Table 10-45 No-Action vs. With-Action Traffic Level of Service – Weekday PM Peak Hour

| Intersection & Approach | | 2029 No-Action Mvt | V/C | Ctrl Delay[1] | LOS | 2029 With-Action Mvt | V/C | Ctrl Delay[1] | LOS |
|---|---|---|---|---|---|---|---|---|---|
| **Twelfth Avenue and West 55th Street** | | | | | | | | | |
| Twelfth Avenue | NB | L | 0.01 | 66.5 | E | L | 0.01 | 66.5 | E |
| | | T | 0.74 | 17.3 | B | T | 0.74 | 17.4 | B |
| | | R | 0.35 | 11.4 | B | R | 0.35 | 11.5 | B |
| | SB | T | 0.91 | 32.6 | C | T | 0.91 | 32.9 | C |
| Twelfth Avenue Southbound Service Road | SB | T | 0.70 | 27.2 | C | T | 0.70 | 27.2 | C |
| West 55th Street | WB | LT | 0.55 | 62.8 | E | LT | 0.60 | 64.8 | E |
| | | R | 0.71 | 67.9 | E | R | 0.76 | 71.8 | E |
| West 55th Street Service Road Access | WB | L | 0.01 | 4.7 | A | L | 0.01 | 4.7 | A |
| **Overall Intersection** | | - | - | **27.0** | **C** | - | - | **27.5** | **C** |
| **Eleventh Avenue and West 55th Street** | | | | | | | | | |
| **Eleventh Avenue** | SB | **T** | **0.30** | **9.1** | **A** | **T** | **0.31** | **9.1** | **A** |
| | | **R** | **0.29** | **15.4** | **B** | **R** | **0.59** | **27.4** | **C** |
| **West 55th Street** | WB | **L** | **0.32** | **27.8** | **C** | **L** | **0.42** | **30.9** | **C** |
| | | **T** | **0.68** | **37.0** | **D** | **T** | **0.72** | **39.0** | **D** |
| **Overall Intersection** | | - | - | **16.7** | **B** | - | - | **18.7** | **B** |

[1] Control delay is measured in seconds per vehicle.
[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.

### Table 10-46 No-Action vs. With-Action Traffic Level of Service – Saturday Peak Hour

| Intersection & Approach | | 2029 No-Action Mvt | V/C | Ctrl Delay[1] | LOS | 2029 With-Action Mvt | V/C | Ctrl Delay[1] | LOS |
|---|---|---|---|---|---|---|---|---|---|
| **Twelfth Avenue and West 57th Street** | | | | | | | | | |
| Twelfth Avenue | NB | T | 0.74 | 3.3 | A | T | 0.74 | 3.3 | A |
| | | R | 0.24 | 2.8 | A | R | 0.24 | 2.8 | A |
| | SB | T | 0.88 | 3.7 | A | T | 0.89 | 4.0 | A |
| West 57th Street | WB | R | 0.53 | 37.8 | D | R | 0.53 | 37.9 | D |
| Twelfth Avenue Northbound Service Road (stop-controlled) | NB | R | - | 13.1 | B | R | - | 13.4 | B |
| **Overall Intersection** | | - | - | **6.6** | **A** | - | - | **6.8** | **A** |

**Table 10-46 No-Action vs. With-Action Traffic Level of Service – Saturday Peak Hour**

| Intersection & Approach | | 2029 No-Action Mvt | V/C | Ctrl Delay[1] | LOS | 2029 With-Action Mvt | V/C | Ctrl Delay[1] | LOS |
|---|---|---|---|---|---|---|---|---|---|
| **Twelfth Avenue and West 56th Street** | | | | | | | | | |
| Twelfth Avenue | NB | T | 0.79 | 2.6 | A | T | 0.80 | 2.6 | A |
| | SB | UL | 0.90 | 52.7 | D | UL | 0.92 | 54.7 | D |
| | | T | 0.43 | 0.1 | A | T | 0.43 | 0.1 | A |
| Twelfth Avenue Northbound Service Road | NB | TR | 0.35 | 3.8 | A | TR | 0.37 | 4.3 | A |
| West 56th Street | EB | LT | 0.62 | 1.5 | A | LT | 0.64 | 1.4 | A |
| **Overall Intersection** | | - | - | **6.7** | **A** | - | - | **7.0** | **A** |
| **Twelfth Avenue and West 55th Street** | | | | | | | | | |
| Twelfth Avenue | NB | L | 0.05 | 52.4 | D | L | 0.05 | 52.4 | D |
| | | T | 0.80 | 22.9 | C | T | 0.80 | 23.0 | C |
| | | R | 0.35 | 15.2 | B | R | 0.36 | 15.3 | B |
| | SB | T | 0.98 | 46.1 | D | T | 0.98 | 47.0 | D |
| Twelfth Avenue Southbound Service Road | SB | T | 0.51 | 26.7 | C | T | 0.51 | 26.7 | C |
| West 55th Street | WB | LT | 0.40 | 41.5 | D | LT | 0.44 | 42.5 | D |
| | | R | 1.07 | 124.1 | F | R | 1.18 | 161.8 | F |
| West 55th Street Service Road Access | WB | L | 0.01 | 0.3 | A | L | 0.01 | 0.3 | A |
| **Overall Intersection** | | - | - | **36.7** | **D** | - | - | **39.2** | **D** |
| **Eleventh Avenue and West 55th Street** | | | | | | | | | |
| **Eleventh Avenue** | SB | T | 0.30 | 9.1 | A | T | 0.31 | 9.1 | A |
| | | R | 0.21 | 14.1 | B | R | 0.46 | 21.3 | C |
| **West 55th Street** | WB | L | 0.36 | 28.2 | C | L | 0.48 | 32.4 | C |
| | | T | 0.64 | 35.0 | C | T | 0.68 | 36.9 | D |
| **Overall Intersection** | | - | - | **16.1** | **B** | - | - | **17.6** | **B** |

[1] Control delay is measured in seconds per vehicle.
[2] Overall intersection v/c ratio is the critical lane groups' v/c ratio.
Shading denotes a significantly impacted traffic movement

The summary overview of 2029 With-Action conditions indicates that:

- In the weekday AM peak hour, none of the intersections would operate at overall LOS E or F. Three individual traffic movements out of 22 movements analyzed would operate at LOS E or F.
- In the weekday PM peak hour, none of the intersections would operate at overall LOS E or F. Four individual traffic movements out of 22 movements analyzed would operate at LOS E or F.

› In the Saturday peak hour, none of the intersections would operate at overall LOS E or F. Two individual traffic movements out of 22 movements analyzed would operate at LOS E or F.

Traffic movements that would operate at unacceptable levels of service are listed below.

› Twelfth Avenue and West 56th Street
  - Southbound Twelfth Avenue U-turn/left-turn movement (weekday PM)

› Twelfth Avenue and West 55th Street
  - Northbound Twelfth Avenue left turn movement (weekday AM and PM)
  - Southbound Twelfth Avenue through movement (Saturday)
  - Westbound West 55th Street shared left-through movement (weekday AM and PM)
  - Westbound West 55th Street right-turn movement (weekday AM, PM, and Saturday)

The Proposed Actions would result in significant adverse traffic impact at one intersection—Twelfth Avenue and West 55th Street—during the Saturday peak hour. Specifically, the westbound right turn movement would be significantly impacted. The Proposed Actions would not result in significant adverse traffic impacts during the weekday AM and PM peak hours. The identification and evaluation of traffic capacity improvements needed to mitigate the significant traffic impact during the Saturday peak hour are presented in **Chapter 18, Mitigation.**

**Table 10-47 Projected Weekday Parking Demand**

| Hour | Residential | Local Retail | Destination Retail | Office | Auto Dealership | Weekday Total |
|---|---|---|---|---|---|---|
| 12 AM - 1 AM | 186 | 0 | 0 | 0 | 0 | 186 |
| 1 AM - 2 AM | 188 | 0 | 0 | 0 | 0 | 188 |
| 2 AM - 3 AM | 189 | 0 | 0 | 0 | 0 | 189 |
| 3 AM - 4 AM | 189 | 0 | 0 | 0 | 0 | 189 |
| 4 AM - 5 AM | 188 | 0 | 0 | 0 | -1 | 187 |
| 5 AM - 6 AM | 185 | 0 | 0 | 0 | -2 | 183 |
| 6 AM - 7 AM | 177 | 0 | 0 | 1 | -2 | 176 |
| 7 AM - 8 AM | 160 | 1 | 0 | 7 | -15 | 153 |
| 8 AM - 9 AM | 130 | 1 | 1 | 34 | -24 | 142 |
| 9 AM - 10 AM | 117 | 1 | 4 | 51 | -31 | 142 |
| 10 AM - 11 AM | 111 | 1 | 7 | 58 | -34 | 143 |
| 11 AM - 12 PM | 110 | 1 | 9 | 58 | -35 | 143 |
| 12 PM - 1 PM | 110 | 1 | 10 | 58 | -32 | 147 |
| 1 PM - 2 PM | 111 | 1 | 10 | 58 | -34 | 146 |
| 2 PM - 3 PM | 111 | 1 | 9 | 58 | -37 | 142 |
| 3 PM - 4 PM | 114 | 2 | 10 | 57 | -33 | 150 |
| 4 PM - 5 PM | 118 | 1 | 9 | 50 | -22 | 156 |
| 5 PM - 6 PM | 128 | 1 | 9 | 29 | -8 | 159 |
| 6 PM - 7 PM | 137 | 1 | 6 | 14 | -1 | 157 |
| 7 PM - 8 PM | 146 | 1 | 6 | 7 | 1 | 161 |
| 8 PM - 9 PM | 157 | 1 | 5 | 5 | 8 | 176 |
| 9 PM - 10 PM | 167 | 0 | 0 | 2 | 9 | 178 |
| 10 PM - 11 PM | 175 | 0 | 0 | 0 | 9 | 184 |
| 11 PM - 12 AM | 182 | 0 | 0 | 0 | 9 | 191 |

## Parking

On-site parking would not be provided at either of the two Development Sites; parking demand generated by the Proposed Actions would need to park in off-street parking facilities within the parking study area. **Table 10-47** and **Table 10-48** below show the Proposed Actions' hourly weekday and Saturday parking demands, respectively. The peak weekday project-generated parking demand was determined to be 191 parking spaces during the 11 PM to midnight overnight period. The peak Saturday project-generated parking demand was determined to be 194 parking spaces during the overnight period.

The project-generated parking demand could be accommodated by the approximately 1,315 available parking spaces during the weekday midday peak period, 1,821 available parking spaces during the overnight period and 1,725 available parking spaces during the Saturday midday period.

**Table 10-48 Projected Saturday Parking Demand**

| Hour | Residential | Local Retail | Destination Retail | Office | Auto Dealership | Saturday Total |
|---|---|---|---|---|---|---|
| 12 AM - 1 AM | 186 | 0 | 0 | 0 | 0 | 186 |
| 1 AM - 2 AM | 189 | 0 | 0 | 0 | 0 | 189 |
| 2 AM - 3 AM | 192 | 0 | 0 | 0 | 0 | 192 |
| 3 AM - 4 AM | 194 | 0 | 0 | 0 | 0 | 194 |
| 4 AM - 5 AM | 194 | 0 | 0 | 0 | 0 | 194 |
| 5 AM - 6 AM | 194 | 0 | 0 | 0 | 0 | 194 |
| 6 AM - 7 AM | 193 | 0 | 0 | 1 | 0 | 194 |
| 7 AM - 8 AM | 188 | 0 | 1 | 2 | -7 | 184 |
| 8 AM - 9 AM | 181 | 1 | 3 | 4 | -18 | 171 |
| 9 AM - 10 AM | 171 | 1 | 5 | 5 | -23 | 159 |
| 10 AM - 11 AM | 163 | 2 | 8 | 6 | -22 | 157 |
| 11 AM - 12 PM | 158 | 3 | 17 | 7 | -29 | 156 |
| 12 PM - 1 PM | 154 | 3 | 18 | 6 | -28 | 153 |
| 1 PM - 2 PM | 152 | 3 | 18 | 5 | -35 | 143 |
| 2 PM - 3 PM | 157 | 3 | 19 | 5 | -43 | 141 |
| 3 PM - 4 PM | 157 | 3 | 20 | 5 | -38 | 147 |
| 4 PM - 5 PM | 161 | 3 | 20 | 5 | -41 | 148 |
| 5 PM - 6 PM | 162 | 3 | 20 | 2 | -36 | 151 |
| 6 PM - 7 PM | 167 | 2 | 18 | 1 | -24 | 164 |
| 7 PM - 8 PM | 170 | 1 | 11 | 1 | -26 | 157 |
| 8 PM - 9 PM | 173 | 1 | 6 | 1 | -22 | 159 |
| 9 PM - 10 PM | 177 | 0 | 0 | 1 | -22 | 156 |
| 10 PM - 11 PM | 180 | 0 | 0 | 1 | -22 | 159 |
| 11 PM - 12 AM | 183 | 0 | 0 | 1 | -22 | 162 |

## Subways

The Proposed Actions would generate 488 subway trips (194 "ins" and 294 "outs") during the AM commuter peak hour and 515 subway trips (258 "ins" and 257 "outs") during the PM commuter peak hour. Approximately 65 percent of these trips were assigned to the 59th Street-Columbus Circle subway station. The analysis of subway station elements detailed below determined that the subway station elements that would be used by project-generated trips would operate at LOS C or better. Therefore, the Proposed Actions would not result in significant subway impacts.

### Subway Station Elements

**Table 10-49** shows the levels of service of the fare control elements in the With-Action condition compared to the No-Action condition in the AM and PM peak hours. At the 59th Street-Columbus

Circle subway station, the south fare control area would continue to operate at LOS A in the With-Action during the AM and PM peak hours similar to the No-Action condition.

**Table 10-50** and **Table 10-51** show the levels of service of the stairway elements in the With-Action condition compared to the No-Action condition in the AM and PM peak hours. The stairs analyzed would operate at LOS B or better, similar to the No-Action condition. As shown in **Table 10-52**, the escalators analyzed would operate at LOS C or better, similar to the No-Action condition.

**Table 10-49 No-Action vs. With-Action Subway Station Level of Service – Fare Control Areas**

| Peak Hour | Control Element | With-Action Pedestrian Volume (15-min) | | Surging Factor | Friction Factor | No-Action | | With-Action | |
|---|---|---|---|---|---|---|---|---|---|
| | | In | Out | | | v/c Ratio | LOS | v/c Ratio | LOS |
| AM | South Fare Control Area 4 High Exits, 10 Turnstiles | 501 | 1,111 | 0.80 | 0.90 | 0.29 | A | 0.31 | A |
| PM | South Fare Control Area 4 High Exits, 10 Turnstiles | 1,310 | 488 | 0.80 | 0.90 | 0.40 | A | 0.42 | A |

Note:
Methodology based on ~~2021~~2025 *CEQR Technical Manual* guidelines
Surging factors only apply to exiting volumes. The surge factor for entry volumes is 1.0.

**Table 10-50 No-Action vs. With-Action Subway Station Level of Service – Stairways – AM Peak Hour**

| Stairway | Effective Width (ft.) | Pedestrian Volume (15-min) | | Surging Factor | | Friction Factor | No-Action | | With-Action | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Down | Up | Down | Up | | v/c Ratio | LOS | v/c Ratio | LOS |
| **Eighth Avenue and 57th Street Northeast Surface Stairway** | | | | | | | | | | |
| M3/M4 | 11.0 | 33 | 59 | 1.00 | 0.90 | 0.90 | 0.05 | A | 0.07 | A |
| S2 | 4.9 | 33 | 59 | 1.00 | 0.90 | 0.90 | 0.12 | A | 0.15 | A |
| **Eighth Avenue and 57th Street Southeast Surface Stairway** | | | | | | | | | | |
| M6/M5 | 12.5 | 45 | 195 | 1.00 | 0.90 | 0.90 | 0.15 | A | 0.16 | A |
| Intermediate Stair | 6.6 | 45 | 195 | 1.00 | 0.90 | 0.90 | 0.28 | A | 0.29 | A |
| Surface Stair | 6.6 | 45 | 195 | 1.00 | 0.90 | 0.90 | 0.28 | A | 0.29 | A |
| **Eighth Avenue and 57th Street Southwest Surface Stairway** | | | | | | | | | | |
| W. 57th St Surface Stair | 7.3 | 34 | 184 | 1.00 | 0.90 | 0.90 | 0.24 | A | 0.24 | A |
| Eighth Ave Surface Stair | 7.3 | 77 | 86 | 1.00 | 0.90 | 0.90 | 0.18 | A | 0.18 | A |
| M7 | 10.5 | 111 | 270 | 1.00 | 0.90 | 0.90 | 0.29 | A | 0.29 | A |
| **Eighth Avenue and 57th Street Northwest Surface Stairway** | | | | | | | | | | |
| M1/M2 | 7.0 | 19 | 23 | 1.00 | 0.90 | 0.90 | 0.04 | A | 0.05 | A |
| O-20 | 7.0 | 19 | 23 | 1.00 | 0.90 | 0.90 | 0.04 | A | 0.05 | A |
| O-21 | 6.8 | 19 | 23 | 1.00 | 0.90 | 0.90 | 0.04 | A | 0.05 | A |
| O-22 | 6.8 | 19 | 23 | 1.00 | 0.90 | 0.90 | 0.04 | A | 0.05 | A |
| **Eighth Avenue and 58th Street Northeast Surface Stairway** | | | | | | | | | | |
| M12/M11 | 6.6 | 69 | 161 | 1.00 | 0.90 | 0.90 | 0.23 | A | 0.28 | A |
| S4 | 3.3 | 69 | 161 | 1.00 | 0.90 | 0.90 | 0.45 | A | 0.56 | B |
| **Eighth Avenue and 58th Street Northwest Surface Stairway** | | | | | | | | | | |
| Surface Stair | 9.3 | 56 | 124 | 1.00 | 0.90 | 0.90 | 0.15 | A | 0.15 | A |

**Table 10-51 No-Action vs. With-Action Subway Station Level of Service – Stairways – PM Peak Hour**

| Stairway | Effective Width (ft.) | Pedestrian Volume (15-min) | | Surging Factor | | Friction Factor | No-Action | | With-Action | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Down | Up | Down | Up | | v/c Ratio | LOS | v/c Ratio | LOS |
| **Eighth Avenue and 57th Street Northeast Surface Stairway** | | | | | | | | | | |
| M3/M4 | 11.0 | 132 | 29 | 1.00 | 0.90 | 0.90 | 0.10 | A | 0.11 | A |
| S2 | 4.9 | 132 | 29 | 1.00 | 0.90 | 0.90 | 0.22 | A | 0.25 | A |
| **Eighth Avenue and 57th Street Southeast Surface Stairway** | | | | | | | | | | |
| M6/M5 | 12.5 | 178 | 57 | 1.00 | 0.90 | 0.90 | 0.14 | A | 0.14 | A |
| Intermediate Stair | 6.6 | 178 | 57 | 1.00 | 0.90 | 0.90 | 0.26 | A | 0.27 | A |
| Surface Stair | 6.6 | 178 | 57 | 1.00 | 0.90 | 0.90 | 0.26 | A | 0.27 | A |
| **Eighth Avenue and 57th Street Southwest Surface Stairway** | | | | | | | | | | |
| W. 57th St Surface Stair | 7.3 | 161 | 39 | 1.00 | 0.90 | 0.90 | 0.21 | A | 0.21 | A |
| Eighth Ave Surface Stair | 7.3 | 69 | 69 | 1.00 | 0.90 | 0.90 | 0.15 | A | 0.15 | A |
| M7 | 10.5 | 230 | 108 | 1.00 | 0.90 | 0.90 | 0.25 | A | 0.25 | A |
| **Eighth Avenue and 57th Street Northwest Surface Stairway** | | | | | | | | | | |
| M1/M2 | 7.0 | 47 | 26 | 1.00 | 0.90 | 0.90 | 0.07 | A | 0.08 | A |
| O-20 | 7.0 | 47 | 26 | 1.00 | 0.90 | 0.90 | 0.07 | A | 0.08 | A |
| O-21 | 6.8 | 47 | 26 | 1.00 | 0.90 | 0.90 | 0.07 | A | 0.08 | A |
| O-22 | 6.8 | 47 | 26 | 1.00 | 0.90 | 0.90 | 0.07 | A | 0.08 | A |
| **Eighth Avenue and 58th Street Northeast Surface Stairway** | | | | | | | | | | |
| M12/M11 | 6.6 | 198 | 62 | 1.00 | 0.90 | 0.90 | 0.25 | A | 0.30 | A |
| S4 | 3.3 | 198 | 62 | 1.00 | 0.90 | 0.90 | 0.49 | B | 0.60 | B |
| **Eighth Avenue and 58th Street Northwest Surface Stairway** | | | | | | | | | | |
| Surface Stair | 9.3 | 128 | 62 | 1.00 | 0.90 | 0.90 | 0.16 | A | 0.16 | A |

**Table 10-52 No-Action vs With-Action Subway Station Level of Service – Escalators**

| Peak Hour | Direction | Pedestrian Volume (15-min) | Surging Factor | No-Action | | With-Action | |
|---|---|---|---|---|---|---|---|
| | | | | v/c Ratio | LOS | v/c Ratio | LOS |
| **Eighth Avenue and 58th Street Northwest Surface Escalator** | | | | | | | |
| **AM** | Up | 386 | 0.90 | 0.86 | C | 0.89 | C |
| | Down | 168 | 1.00 | 0.35 | A | 0.35 | A |
| **PM** | Up | 205 | 0.90 | 0.43 | A | 0.47 | B |
| | Down | 383 | 1.00 | 0.80 | C | 0.80 | C |

Note:
Methodology based on ~~2021~~2025 *CEQR Technical Manual* guidelines
Analysis assumed low-capacity escalators with 24-inch thread widths and 90 feet per minute operating speed

## Buses

The Proposed Actions would generate 95 bus trips (46 "ins" and 49 "outs") during the AM peak hour and 106 bus trips (50 "ins" and 56 "outs") during the PM peak hour. Because of the distance from the nearest subway stations, as well as rail and ferry service, it is also expected that these other transit trips would use bus service to connect the development sites and transit service. Bus-to-transit connections would generate an additional 513 bus trips in the AM peak hour and 527 bus trips in the PM peak hour.

The bus load and availability for the M12, M31 and M57 buses are shown in **Table 10-53**.

- For the M12 bus route, there would be sufficient bus service in both directions during the AM peak hour. During the PM peak hour there would be a shortfall of 35 seats in the northbound direction and a shortfall of one seat in the southbound direction.
- For the M31 bus route, there would be sufficient bus service to accommodate the Proposed Actions' demand in both the AM and PM peak hours.
- For the M57 bus route, there would be sufficient bus service in the westbound direction during the AM peak hour. In the eastbound direction, there would be a shortfall of up to 95 seats during the AM peak hour. During the PM peak hour, there would be sufficient service in both directions.

**Table 10-53 With-Action Bus Analysis**

| Peak Hour | Route | Direction | Maximum Load Point | Peak Hour Buses[1] | No-Action Available Capacity[2] | Project Increment | Available Capacity[2] |
|---|---|---|---|---|---|---|---|
| AM | M12 | NB | W 57 St/10 Av | 2 | 74 | 44 | 30 |
| | | SB | 11 Av/W 54 St | 3 | 28 | 15 | 13 |
| | | | 11 Av/W 38 St | 2 | 37 | 7 | 30 |
| | M31 | EB | W 57 St/8 Av | 7 | 184 | 98 | 86 |
| | | WB | York Av/E 72 St | 10 | 277 | 0 | 277 |
| | | | E 57 St/1 Av | 8 | 142 | 0 | 142 |
| | M57 | EB | W 57 St/11 Av | 5 | 30 | 125 | -95 |
| | | | W 57 St/9 Av | 6 | 35 | 125 | -90 |
| | | WB | W 57 St/Broadway | 6 | 112 | 26 | 86 |
| PM | M12 | NB | W 57 St/10 Av | 2 | 4 | 39 | -35 |
| | | SB | 11 Av/W 42 St | 2 | 7 | 8 | -1 |
| | | | 11 Av/W 44 St | 2 | 7 | 8 | -1 |
| | M31 | EB | E 57 St/Madison Av | 7 | 202 | 8 | 194 |
| | | | York Av/E 69 St | 6 | 180 | 3 | 177 |
| | | WB | W 57 St/Avenue Of The Americas | 6 | 150 | 8 | 142 |
| | | | E 57 St/1 Av | 8 | 256 | 5 | 251 |
| | M57 | EB | W 57 St/10 Av | 6 | 113 | 111 | 2 |
| | | WB | W 57 St/7 Av | 6 | 111 | 33 | 78 |

Notes:
[1] Assumes service levels adjusted to address capacity shortfalls in the No-Action condition.
[2] Available capacities based on NYCT loading guidelines of 54 passengers per standard bus.
Shading denotes a bus service shortfall and significant impact

## Pedestrians

The project-generated pedestrian volumes were distributed through the pedestrian network and added to the 2029 No-Action volumes to develop the 2029 With-Action pedestrian volumes. Pedestrian analyses were performed based on these volumes, and the With-Action pedestrian levels of service were determined for the analysis locations.

**Table 10-54** provides an overview of the pedestrian levels of service for the peak hours analyzed. Pedestrian volumes and levels of service are provided in **Table 10-55** through **Table 10-57**. The summary of the With-Action condition indicates that during the weekday AM, midday, PM, and Saturday peak hours, all sidewalks, crosswalks, and corners can be expected to operate at clearly acceptable levels of service (LOS A, B, or C), the same as in No-Action conditions.

The Proposed Actions would not result in significant impacts at any of the 32 pedestrian elements analyzed.

**Table 10-54 Year 2029 With-Action Pedestrian Levels of Service Summary**

| | AM Peak Hour | Midday Peak Hour | PM Peak Hour | Saturday Peak Hour |
|---|---|---|---|---|
| **Sidewalk Elements** | | | | |
| Sidewalks at LOS A/B/C and Acceptable LOS D | 10 | 10 | 10 | 10 |
| Sidewalks at Unacceptable LOS D | 0 | 0 | 0 | 0 |
| Sidewalks at LOS E | 0 | 0 | 0 | 0 |
| Sidewalks at LOS F | 0 | 0 | 0 | 0 |
| **Number of significantly impacted sidewalk elements** | **0** | **0** | **0** | **0** |
| **Crosswalk Elements** | | | | |
| Crosswalks at LOS A/B/C and Acceptable LOS D | 8 | 8 | 8 | 8 |
| Crosswalks at Unacceptable LOS D | 0 | 0 | 0 | 0 |
| Crosswalks at LOS E | 0 | 0 | 0 | 0 |
| Crosswalks at LOS F | 0 | 0 | 0 | 0 |
| **Number of significantly impacted crosswalk elements** | **0** | **0** | **0** | **0** |
| **Corner Elements** | | | | |
| Corners at LOS A/B/C and Acceptable LOS D | 14 | 14 | 14 | 14 |
| Corners at Unacceptable LOS D | 0 | 0 | 0 | 0 |
| Corners at LOS E | 0 | 0 | 0 | 0 |
| Corners at LOS F | 0 | 0 | 0 | 0 |
| **Number of significantly impacted corner elements** | **0** | **0** | **0** | **0** |

Note: Includes ten sidewalk, eight crosswalk, and 14 corner analysis locations

**Table 10-55 Year 2029 With-Action Pedestrian Levels of Service – Sidewalks**

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sidewalk | Effective Width, ft | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS |
| 11th Avenue between West 53rd Street and West 54th Street (west side) | 9.5 | 290 | 437.3 | B | 344 | 361.7 | B | 414 | 302.2 | B | 382 | 326.1 | B |
| West 54th Street between Eleventh Avenue and Tenth Avenue (south side) | 2.5 | 357 | 85.1 | C | 300 | 86.3 | C | 429 | 81.1 | C | 474 | 56.4 | C |
| West 54th Street between Eleventh Avenue and Twelfth Avenue (north side) | 5.5 | 315 | 240.6 | B | 323 | 231.6 | B | 354 | 217.7 | B | 314 | 131.4 | B |
| Eleventh Avenue between West 54th Street and West 55th Street (west side) | 5.5 | 414 | 188.3 | B | 477 | 145.7 | B | 567 | 129.3 | B | 578 | 127.5 | B |
| West 55th Street between Eleventh Avenue and Twelfth Avenue (south side) | 4.0 | 337 | 114.9 | B | 357 | 103.0 | B | 407 | 94.6 | B | 445 | 99.1 | B |
| Eleventh Avenue between West 55th Street and West 56th Street (west side) | 7.0 | 693 | 122.6 | B | 759 | 127.7 | B | 883 | 106.3 | B | 926 | 90.7 | B |
| Eleventh Avenue between West 55th Street and West 56th Street (east side) | 8.5 | 369 | 296.0 | B | 372 | 190.4 | B | 352 | 254.3 | B | 407 | 261.9 | B |
| Eleventh Avenue between West 56th Street and West 57th Street (west side) | 5.5 | 506 | 108.6 | B | 575 | 90.9 | B | 629 | 116.3 | B | 761 | 91.4 | B |

**Table 10-55 Year 2029 With-Action Pedestrian Levels of Service – Sidewalks**

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sidewalk | Effective Width, ft | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS | Volume, ped/hr | Avg Ped Space, SF/P | Platoon LOS |
| Eleventh Avenue between West 56th Street and West 57th Street (east side) | 13.5 | 530 | 325.1 | B | 522 | 397.4 | B | 528 | 306.1 | B | 464 | 387.2 | B |
| 12th Avenue between West 54th Street and West 55th Street (east side) | 7.5 | 164 | 588.5 | A | 319 | 272.9 | B | 333 | 302.1 | B | 366 | 224.1 | B |

**Table 10-56 Year 2029 With-Action Pedestrian Levels of Service – Crosswalks**

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | Crosswalk | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS |
| Eleventh Avenue at West 54th Street | South | 279 | 126.0 | A | 347 | 84.9 | A | 390 | 76.7 | A | 522 | 42.4 | B |
| | West | 522 | 84.9 | A | 590 | 70.3 | A | 668 | 71.5 | A | 711 | 54.1 | B |
| Eleventh Avenue at West 55th Street | West | 693 | 72.3 | A | 755 | 72.3 | A | 870 | 61.9 | A | 903 | 64.5 | A |
| Eleventh Avenue at West 56th Street | South | 262 | 83.1 | A | 238 | 123.3 | A | 304 | 85.8 | A | 307 | 67.6 | A |
| | East | 485 | 80.3 | A | 469 | 71.6 | A | 492 | 95.5 | A | 491 | 91.0 | A |
| | West | 533 | 92.3 | A | 628 | 71.6 | A | 662 | 70.9 | A | 745 | 60.6 | A |
| Eleventh Avenue at West 57th Street | East | 383 | 85.4 | A | 484 | 56.2 | B | 449 | 93.1 | A | 393 | 82.0 | A |
| | West | 600 | 51.7 | B | 618 | 50.2 | B | 584 | 62.7 | A | 607 | 50.2 | B |

**Table 10-57 Year 2029 With-Action Pedestrian Levels of Service – Corners**

| | | AM Peak Hour | | | Midday Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Intersection | Corner | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS | Volume, ped/hr | Avg Ped Space, SF/P | LOS |
| Eleventh Avenue at West 54th Street | Southeast | 53 | 160.5 | A | 27 | 141.0 | A | 54 | 151.5 | A | 44 | 99.2 | A |
| | Southwest | 12 | 128.1 | A | 19 | 97.1 | A | 11 | 96.6 | A | 34 | 59.0 | B |
| | Northwest | 26 | 106.0 | A | 27 | 101.8 | A | 15 | 97.5 | A | 3 | 82.4 | A |
| Eleventh Avenue at West 55th Street | Southwest | 5 | 79.1 | A | 5 | 76.9 | A | 2 | 66.0 | A | 5 | 66.5 | A |
| | Northwest | 30 | 75.6 | A | 43 | 80.8 | A | 54 | 62.8 | A | 49 | 63.1 | A |
| Eleventh Avenue at West 56th Street | Northeast | 26 | 137.3 | A | 24 | 122.5 | A | 32 | 137.7 | A | 11 | 150.1 | A |
| | Southeast | 16 | 100.2 | A | 21 | 104.2 | A | 22 | 107.2 | A | 25 | 101.0 | A |
| | Southwest | 10 | 110.4 | A | 1 | 108.4 | A | 15 | 93.4 | A | 3 | 81.6 | A |
| | Northwest | 5 | 141.7 | A | 9 | 120.6 | A | 9 | 104.3 | A | 7 | 100.6 | A |
| Eleventh Avenue at West 57th Street | Northeast | 52 | 143.5 | A | 71 | 92.5 | A | 68 | 147.8 | A | 54 | 126.5 | A |
| | Southeast | 20 | 205.4 | A | 17 | 172.6 | A | 35 | 227.7 | A | 33 | 212.0 | A |
| | Southwest | 160 | 48.8 | B | 145 | 51.2 | B | 173 | 63.3 | A | 182 | 55.1 | B |
| | Northwest | 84 | 95.7 | A | 90 | 85.4 | A | 91 | 111.9 | A | 67 | 88.2 | A |
| 12th Avenue and West 55th Street | Southeast | 89 | 562.2 | A | 128 | 360.5 | A | 84 | 356.9 | A | 123 | 272.1 | A |

## Vehicular and Pedestrian Safety

Crash data were obtained for the study area intersections from NYCDOT for 2018, 2019, and 2023, representing both pre- and post-pandemic conditions. These years were identified by NYCDOT. This information is based on data provided by the New York State Department of Transportation (NYSDOT), New York State Department of Motor Vehicles (NYSDMV), and New York City Police Department (NYPD).

The crash data detail reported crashes (crashes resulting in death, injury, or property damage in excess of $1,000), fatalities, injuries, and pedestrian and bicycle injuries annually. According to the *CEQR Technical Manual*, an intersection is considered a high-crash location if it is a Vision Zero Priority Intersection, or there were five or more pedestrian/bicyclist injury crashes in any consecutive 12 months during the most recent three-year period for which data are available. Per NYCDOT's guidance, an intersection along a Vision Zero Priority Corridor is considered a high-crash location when three or more pedestrian/bicyclist injury crashes occur in any 12 consecutive month period during the most recent three-year period for which data are available.

**Table 10-58** presents a summary of total crashes at the study area intersections during the three analysis years identified above (2018, 2019, and 2023) and also shows total fatalities, injuries, and pedestrian and bicycle crashes. There were no traffic-related fatalities within the study area during the study years analyzed. None of the analysis intersections are identified as a Vision Zero Priority Intersection and none are located along Vision Zero Priority Corridors. The intersection of Eleventh Avenue and West 57th Street was identified as a high-crash location due to having at least five pedestrian/bicyclist injury crashes within a consecutive 12-month period.

**Table 10-58 Vehicle and Pedestrian Crash Summary**

| Intersection | | Total Crashes | | | | | Pedestrian Crashes | | | Bicycle Crashes | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North-South Roadway | East-West Roadway | 2018 | 2019 | 2023 | Total Fatalities | Total Injuries | 2018 | 2019 | 2023 | 2018 | 2019 | 2023 |
| Twelfth Avenue | West 54th Street | 13 | 16 | 8 | 0 | 18 | 0 | 1 | 0 | 1 | 0 | 2 |
| Eleventh Avenue | West 54th Street | 18 | 13 | 5 | 0 | 15 | 0 | 2 | 0 | 0 | 0 | 0 |
| Eleventh Avenue | West 55th Street | 11 | 8 | 3 | 0 | 19 | 0 | 0 | 0 | 0 | 2 | 1 |
| Eleventh Avenue | West 56th Street | 21 | 13 | 1 | 0 | 15 | 2 | 2 | 0 | 1 | 1 | 0 |
| Eleventh Avenue | West 57th Street | 42 | 52 | 6 | 0 | 42 | 3 | 3 | 0 | 0 | 2 | 0 |
| Twelfth Avenue | West 54th Street | 13 | 16 | 8 | 0 | 18 | 0 | 1 | 0 | 1 | 0 | 2 |
| Twelfth Avenue | West 55th Street | 2 | 1 | 1 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 |
| Twelfth Avenue | West 56th Street | 9 | 6 | 5 | 0 | 65 | 1 | 0 | 1 | 0 | 0 | 0 |
| Twelfth Avenue | West 57th Street | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Shading denotes a high-crash location
Source: NYSDOT/NYSDMV (2018, 2019, 2023)

## Eleventh Avenue and West 57th Street

The intersection of Eleventh Avenue at West 57th Street was identified as a high-crash location. A total of 100 crashes during the three analysis years, including 42 injury crashes and eight injury crashes involving a bicyclist or pedestrian occurred at the intersection, six of which involved a pedestrian and two of which involved a bicyclist. Five of these eight crashes involved a vehicle turning, while three involved a vehicle moving straight ahead through the intersection. Three of the pedestrian-involved crashes occurred while a pedestrian was crossing either not at the marked crosswalk or while they did not have the signal.

The intersection of Eleventh Avenue and West 57th Street is signalized with a leading pedestrian interval. Eleventh Avenue is two-directional with three southbound through lanes, a southbound left turn pocket lane, and two northbound through lanes, with parking on the west side of the street, adjacent to the southbound traffic. South of the intersection, Eleventh Avenue has a shared bicycle lane marking which turns into a protected bike lane approximately 80 feet south of the crosswalk. West 57th Street is two-directional with two lanes of traffic in each direction in addition to left turn pocket lanes on both the eastbound and westbound approaches. There are high-visibility crosswalks

striped across each approach with pedestrian countdown clocks. Each approach has a dedicated left turn phase. The Proposed Actions would result in an increase in of 23 to 37 vehicle trips during the four analysis peak hours. This increase in traffic volumes is generally considered modest and would not be expected to contribute materially to safety conditions at this intersection.

In the summer of 2019, NYCDOT converted Eleventh Avenue south of West 57th Street from a two-way roadway to a one-way southbound roadway. Additional NYCDOT improvement measures adjacent to the intersection, such as pedestrian islands, bump-outs, and a protected bike lane along Eleventh Avenue, were designed to improve safety along this corridor. As indicated in Table 10-58, following these measures, crashes decreased from 42 in 2018 and 52 in 2019 to 6 in 2023.