

## Chapter 12: Transportation

### 12.1 Introduction

According to the 2014 *City Environmental Quality Review (CEQR) Technical Manual*, the objective of a transportation analysis is to determine if the proposed project may result in significant adverse impacts street users (private car, taxi cab, subway and rail, bus, ferry, bicycle and by foot) within their respective study areas near the project site, and to identify measures to mitigate significant impacts.

The proposed project would facilitate the redevelopment of the project site with a mixed-use, commercial and residential development. The project site, which is currently vacant, is bounded by Mill Pond Park to the north, Exterior Street and the elevated Major Deegan Expressway to the east, East 149th Street to the south, and the Harlem River to the west.

The Reasonable Worst Case Development Scenario (RWCDS) analyzed considers a mixed-use development that would include up to 1,045 residential dwelling units (of which approximately 700 units would be reserved as affordable), 50,000 square feet (sf) of retail space, 25,000 sf of food store<sup>1</sup>, 25,000 sf of medical office space, and 50,000 sf of office space. Retail would be located at the ground floor along Exterior Street, approximately 25,000 sf would be local retail space and approximately 25,000 sf would be destination retail space. Approximately three acres of open space (approximately 1.94 acres for passive uses and 1.02 acres for active uses) comprising a waterfront open space, an extension of Mill Pond Park, and a new plaza fronting along Exterior Street would also be created as part of the proposed project. The project is expected to be completed by 2023.

Technical Memorandum 001 was issued between the draft and final certification of the Generic Environmental Impact Statement (GEIS), and describes changes to the findings of the subway station analysis detailed in the draft GEIS due to a calculation error of the width increment threshold and considers whether the calculation error would result in any new or different significant adverse environmental impacts that were not already identified in the draft GEIS. Additional comments to the subway station analysis, received from New York City Transit (NYCT) between the draft and final GEIS, and the results of ongoing consultation with NYCT were also incorporated in the Technical Memorandum. The Technical Memorandum concluded that the changes to the calculation would not result in any new or different impacts at locations not previously identified; however, the previously impacted 149th Street-Grand Concourse subway station would incur significant impacts at two additional station elements not previously disclosed. The analysis findings documented in the Technical Memorandum are also incorporated into this final GEIS.

<sup>1</sup> FRESH incentives are not being sought as part of the proposed project. However, the project site is located in a FRESH designated area. Therefore, it is assumed for transportation analysis purposes only that a supermarket development would enroll in the FRESH program for FAR or tax incentives.

## Principal Conclusions

### Traffic

Overall, the proposed project would generate a total of 242 vehicles per hour (vph) (117 in and 125 out) during the weekday AM peak hour, 311 vph (157 in and 154 out) during the weekday midday peak hour, 397 vph (205 in and 192 out) during the weekday PM peak hour, and 337 vph (167 in and 170 out) during the Saturday peak hour. Although project-generated vehicle trips are moderate, there are a substantial number of background developments expected to be developed by the time the project would be completed which would significantly worsen background traffic conditions within the study area.

Of the eight intersections analyzed, the proposed project would result in significant adverse traffic impacts at ~~four three~~ intersections during the weekday AM and midday peak hours, ~~four intersections during the midday peak hour, five intersections during the weekday and~~ PM peak hours, and six intersections during the Saturday peak hour. The identification and evaluation of traffic capacity improvements needed to mitigate potential significant adverse traffic impacts created by the proposed project are presented in Chapter 20, "Mitigation."

### Parking

The peak weekday and Saturday project-generated parking demand of approximately 330 spaces would be expected to occur during nighttime or overnight hours with project residents parking overnight. Since the proposed project would not provide parking on-site, a survey of existing on- and off-street parking facilities was performed. The survey indicated that in the 2023 Build year, the project-generated parking demand could be accommodated by parking spaces available on-street and in nearby off-street parking facilities such as the Bronx Terminal Market (BTM) parking garage.

### Transit

Twelve subway station elements were analyzed based on the screening assessment and in consultation with New York City Transit (NYCT); however, subway and bus line-haul analyses would not be needed. The proposed project would result in significant transit impacts at the S3 and PL6 stairways during the weekday PM peak hour, and the ML1/ML3 stairway and R260 fare control area during the weekday AM and PM peak hours. Stairway labels at stairways ML1/ML3 and ML5/ML7 were found to be incorrectly labeled during the February 2017 counts. The stairway labels have been corrected at the station and in this final FGEIS to accurately reflect the counts and analysis.

### Pedestrians

Pedestrian analyses were performed for 10 sidewalk elements, nine crosswalk elements, and six corner elements for the weekday AM, midday, PM, and Saturday peak hours. Six additional pedestrian elements at the intersection of East 150th Street and Exterior Street (four crosswalks and two corners) were included as part of the With-Action analysis to assess pedestrian levels of service at the project's entrance.

Of the 31 pedestrian elements analyzed, the proposed project would result in significant adverse impacts at four pedestrian elements during the weekday AM peak hour, eight pedestrian elements

during the weekday midday peak hour, ten pedestrian elements during the weekday PM peak hour, and eight pedestrian elements during the Saturday peak hour. Mitigation measures that could be implemented to mitigate these potential significant adverse pedestrian impacts are discussed in the Chapter 20, "Mitigation."

#### Vehicular and Pedestrian Safety

Accident data were obtained for the study area intersections from the New York City Department of Transportation (NYCDOT) for the most recent three-year period in which data were available (2012 through 2014). During this three-year period, six pedestrian/bicycle-related accidents occurred at the East 149th Street and Grand Concourse intersection within 12 months, making it a high accident location for pedestrians and bicyclists.

The New York City Vision Zero Action Plan also identifies this intersection as a "Priority Intersection" and the two corridors within the study area (East 149th Street and the Grand Concourse) as "Priority Corridors". The *Vision Zero Bronx Pedestrian Safety Action Plan* identified strategies to improve pedestrian safety at these key locations including reducing the speed limit, increasing pedestrian crossing time, and improving lighting around key transit stops. The NYCDOT is currently in the planning stages on a traffic improvement project for the Grand Concourse corridor. None of the other analyzed intersections are considered high accident locations requiring further analysis.

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## 12.2 Methodology and Analytical Framework

According to the *CEQR Technical Manual* procedures for transportation analysis, a two-tiered screening process is to be undertaken to determine whether a detailed quantitative analysis is necessary. The first step, the Level 1 (Trip Generation) screening assessment, determines whether the number of peak hour person and vehicle trips generated by the proposed project would remain below the minimum thresholds for further study. These thresholds are:

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

If project-generated trips would exceed any of these thresholds, a Level 2 (Trip Assignment) screening assessment is usually performed. Under this assessment, project-generated trips 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. This determines the volume of peak hour vehicle traffic that would be added per intersection, the volume of riders that would be added per subway line or bus route, and the walk trips that would be added per individual pedestrian network element (crosswalk, corner reservoir area, etc.). If the Level 2 screening assessment determines that any specific traffic location, transit line or station element, or pedestrian network element would experience an increase of trips beyond the above thresholds for any peak hour, then a detailed analysis is typically warranted.

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### **Level 1 (Trip Generation) Screening Assessment**

The travel demand factors used to calculate the projected number of trips generated by the proposed project were obtained primarily from the *CEQR Technical Manual*, American Community Survey journey to work data, and previously approved New York City EISs and EASs such as the *Lower Concourse Rezoning FEIS* (2009) and *East New York Rezoning FEIS* (2016). Table 12-1 provides the travel demand assumptions used for the weekday AM, midday, PM, and Saturday peak hours.

Table 12-1A: Weekday Travel Demand Assumptions

	Residential 1,045 DUs	Local Retail 25,000 sf	Food Store 25,000 sf	Medical Office 25,000 sf	Office 50,000 sf	Destination Retail 25,000 sf	Passive Open Space 1.94 acres	Active Open Space 1.02 acres
<b>Person Trip Generation Rate</b>	<i>per dwelling unit</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per acre</i>	<i>per acre</i>
Weekday	8.075 <sup>1</sup>	205.0 <sup>1</sup>	175.0 <sup>1</sup>	127.0 <sup>6</sup>	18.0 <sup>1</sup>	78.2 <sup>1</sup>	44.0 <sup>1</sup>	139.0 <sup>1</sup>
<b>Linked Trip Credit</b>	0%	5%	5%	0%	0%	0%	25%	25%
<b>Temporal Distribution</b>								
AM Peak	10.0% <sup>1</sup>	3.0% <sup>1</sup>	5.0% <sup>1</sup>	4.0% <sup>6</sup>	12.0% <sup>1</sup>	3.0% <sup>1</sup>	3.0% <sup>1</sup>	3.0% <sup>1</sup>
Midday Peak	5.0% <sup>1</sup>	19.0% <sup>1</sup>	6.0% <sup>1</sup>	11.0% <sup>6</sup>	15.0% <sup>1</sup>	9.0% <sup>1</sup>	5.0% <sup>1</sup>	5.0% <sup>1</sup>
PM Peak	11.0% <sup>1</sup>	10.0% <sup>1</sup>	10.0% <sup>1</sup>	12.0% <sup>6</sup>	14.0% <sup>1</sup>	9.0% <sup>1</sup>	6.0% <sup>1</sup>	6.0% <sup>1</sup>
<b>Modal Split</b>								
<b>Weekday AM/PM Peaks</b>								
Auto	15.2% <sup>2</sup>	3.0% <sup>3</sup>	4.0% <sup>4</sup>	30.0% <sup>6</sup>	41.3% <sup>7</sup>	59.0% <sup>8</sup>	12.0% <sup>3</sup>	12.0% <sup>3</sup>
Taxi	0.8% <sup>2</sup>	2.0% <sup>3</sup>	3.0% <sup>4</sup>	2.0% <sup>6</sup>	1.0% <sup>7</sup>	3.0% <sup>8</sup>	0.0% <sup>3</sup>	0.0% <sup>3</sup>
Bus	21.0% <sup>2</sup>	10.0% <sup>3</sup>	5.0% <sup>4</sup>	18.0% <sup>6</sup>	19.0% <sup>7</sup>	18.0% <sup>8</sup>	5.0% <sup>3</sup>	5.0% <sup>3</sup>
Subway	53.1% <sup>2</sup>	5.0% <sup>3</sup>	5.0% <sup>4</sup>	33.0% <sup>6</sup>	30.1% <sup>7</sup>	15.0% <sup>8</sup>	5.0% <sup>3</sup>	5.0% <sup>3</sup>
Walk/Other	9.9% <sup>2</sup>	80.0% <sup>3</sup>	83.0% <sup>4</sup>	17.0% <sup>6</sup>	8.6% <sup>7</sup>	5.0% <sup>8</sup>	78.0% <sup>3</sup>	78.0% <sup>3</sup>
<b>Weekday Midday Peak</b>								
Auto	15.2% <sup>2</sup>	3.0% <sup>3</sup>	4.0% <sup>4</sup>	30.0% <sup>6</sup>	2.0% <sup>7</sup>	59.0% <sup>8</sup>	12.0% <sup>3</sup>	12.0% <sup>3</sup>
Taxi	0.8% <sup>2</sup>	2.0% <sup>3</sup>	3.0% <sup>4</sup>	2.0% <sup>6</sup>	3.0% <sup>7</sup>	3.0% <sup>8</sup>	0.0% <sup>3</sup>	0.0% <sup>3</sup>
Bus	21.0% <sup>2</sup>	10.0% <sup>3</sup>	5.0% <sup>4</sup>	18.0% <sup>6</sup>	6.0% <sup>7</sup>	18.0% <sup>8</sup>	5.0% <sup>3</sup>	5.0% <sup>3</sup>
Subway	53.1% <sup>2</sup>	5.0% <sup>3</sup>	5.0% <sup>4</sup>	33.0% <sup>6</sup>	6.0% <sup>7</sup>	15.0% <sup>8</sup>	5.0% <sup>3</sup>	5.0% <sup>3</sup>
Walk/Other	9.9% <sup>2</sup>	80.0% <sup>3</sup>	83.0% <sup>4</sup>	17.0% <sup>6</sup>	83.0% <sup>7</sup>	5.0% <sup>8</sup>	78.0% <sup>3</sup>	78.0% <sup>3</sup>
<b>Vehicle Occupancy</b>								
Auto	1.18 <sup>2</sup>	1.60 <sup>3</sup>	1.65 <sup>4</sup>	1.50 <sup>6</sup>	1.30 <sup>7</sup>	1.40 <sup>9</sup>	2.80 <sup>3</sup>	2.80 <sup>3</sup>
Taxi	1.18 <sup>2</sup>	1.20 <sup>3</sup>	1.40 <sup>4</sup>	2.60 <sup>6</sup>	1.30 <sup>7</sup>	1.65 <sup>9</sup>	2.80 <sup>3</sup>	2.80 <sup>3</sup>
<b>Directional Split (Ins)</b>								
AM Peak	15.0% <sup>3</sup>	50.0% <sup>3</sup>	57.0% <sup>5</sup>	89.0% <sup>6</sup>	96.0% <sup>5</sup>	82.0% <sup>8</sup>	50.0% <sup>3</sup>	50.0% <sup>3</sup>
Midday Peak	50.0% <sup>3</sup>	50.0% <sup>3</sup>	50.0% <sup>5</sup>	51.0% <sup>6</sup>	39.0% <sup>5</sup>	52.0% <sup>8</sup>	45.0% <sup>3</sup>	45.0% <sup>3</sup>
PM Peak	70.0% <sup>3</sup>	50.0% <sup>3</sup>	52.0% <sup>5</sup>	48.0% <sup>6</sup>	5.0% <sup>5</sup>	52.0% <sup>8</sup>	55.0% <sup>3</sup>	55.0% <sup>3</sup>
<b>Truck Trip Generation Rate</b>	<i>per dwelling unit</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per acre</i>	<i>per acre</i>
Weekday	0.06 <sup>1</sup>	0.35 <sup>1</sup>	0.35 <sup>5</sup>	0.29 <sup>6</sup>	0.32 <sup>1</sup>	0.35 <sup>1</sup>	0.0 <sup>3</sup>	0.0 <sup>3</sup>
<b>Truck Temporal Distribution</b>								
AM Peak	12.0% <sup>1</sup>	8.0% <sup>1</sup>	10.0% <sup>5</sup>	3.0% <sup>6</sup>	10.0% <sup>1</sup>	8.0% <sup>1</sup>	0.0% <sup>3</sup>	0.0% <sup>3</sup>
Midday Peak	9.0% <sup>1</sup>	11.0% <sup>1</sup>	8.0% <sup>5</sup>	11.0% <sup>6</sup>	11.0% <sup>1</sup>	11.0% <sup>1</sup>	0.0% <sup>3</sup>	0.0% <sup>3</sup>
PM Peak	2.0% <sup>1</sup>	2.0% <sup>1</sup>	5.0% <sup>5</sup>	1.0% <sup>6</sup>	2.0% <sup>1</sup>	2.0% <sup>1</sup>	0.0% <sup>3</sup>	0.0% <sup>3</sup>
<b>Notes:</b>								
1. CEQR Technical Manual								
2. American Community Survey 2009 – 2014, Bronx Census Tracts 51, 59.02, 61, and 63								
3. Lower Concourse Rezoning FEIS, 2009								
4. FRESH Text Amendment EAS, 2009, based on the 1331 Jerome Avenue site								
5. East New York Rezoning FEIS, 2016								
6. Rates from NYCDOT survey of medical office space								
7. NYCDCP Special Tabulation of American Community Survey 2006 – 2010 (CTPP Part 3 Table A302103), Bronx Census Tracts 51, 59.02, 61, and 63								
8. Gateway Center at Bronx Terminal Market FEIS, 2005								
9. Gateway Estates II FEIS, 2009								

Table 12-1B: Saturday Travel Demand Assumptions

	Residential 1,045 DUs	Local Retail 25,000 sf	Food Store 25,000 sf	Medical Office 25,000 sf	Office 50,000 sf	Destination Retail 25,000 sf	Passive Open Space 1.94 acres	Active Open Space 1.02 acres
Person Trip Generation Rate	<i>per dwelling unit</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per acre</i>	<i>per acre</i>
Saturday	9.6 <sup>1</sup>	240.0 <sup>1</sup>	231.0 <sup>1</sup>	127.0 <sup>6</sup>	3.9 <sup>1</sup>	92.5 <sup>1</sup>	62.0 <sup>1</sup>	196.0 <sup>1</sup>
<u>Linked Trip Credit</u>	0%	5%	5%	0%	0%	0%	25%	25%
<u>Temporal Distribution</u>								
Saturday Peak	8% <sup>1</sup>	10.0% <sup>1</sup>	9.0% <sup>1</sup>	11.0% <sup>6</sup>	17.0% <sup>1</sup>	11.0% <sup>1</sup>	6.0% <sup>1</sup>	6.0% <sup>1</sup>
<u>Modal Split</u>								
Auto	15.2% <sup>2</sup>	3.0% <sup>3</sup>	4.0% <sup>4</sup>	30.0% <sup>6</sup>	41.3% <sup>7</sup>	59.0% <sup>8</sup>	12.0% <sup>3</sup>	12.0% <sup>3</sup>
Taxi	0.8% <sup>2</sup>	2.0% <sup>3</sup>	3.0% <sup>4</sup>	2.0% <sup>6</sup>	1.0% <sup>7</sup>	5.0% <sup>8</sup>	0.0% <sup>3</sup>	0.0% <sup>3</sup>
Bus	21.0% <sup>2</sup>	10.0% <sup>3</sup>	5.0% <sup>4</sup>	18.0% <sup>6</sup>	19.0% <sup>7</sup>	18.0% <sup>8</sup>	5.0% <sup>3</sup>	5.0% <sup>3</sup>
Subway	53.1% <sup>2</sup>	5.0% <sup>3</sup>	5.0% <sup>4</sup>	33.0% <sup>6</sup>	30.1% <sup>7</sup>	13.0% <sup>8</sup>	5.0% <sup>3</sup>	5.0% <sup>3</sup>
Walk/Other	9.9% <sup>2</sup>	80.0% <sup>3</sup>	83.0% <sup>4</sup>	17.0% <sup>6</sup>	8.6% <sup>7</sup>	5.0% <sup>8</sup>	78.0% <sup>3</sup>	78.0% <sup>3</sup>
<u>Vehicle Occupancy</u>								
Auto	1.18 <sup>2</sup>	1.60 <sup>3</sup>	1.65 <sup>4</sup>	1.50 <sup>6</sup>	1.30 <sup>7</sup>	1.72 <sup>9</sup>	2.80 <sup>3</sup>	2.80 <sup>3</sup>
Taxi	1.18 <sup>2</sup>	1.20 <sup>3</sup>	1.40 <sup>4</sup>	2.60 <sup>6</sup>	1.30 <sup>7</sup>	1.75 <sup>9</sup>	2.80 <sup>3</sup>	2.80 <sup>3</sup>
<u>Directional Split (Ins)</u>								
Saturday Peak	50.0% <sup>3</sup>	50.0% <sup>3</sup>	52.0% <sup>5</sup>	41.0% <sup>6</sup>	60.0% <sup>5</sup>	51.0% <sup>8</sup>	55.0% <sup>3</sup>	55.0% <sup>3</sup>
Truck Trip Generation Rate	<i>per dwelling unit</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per 1,000 SF</i>	<i>per acre</i>	<i>per acre</i>
Saturday	0.02 <sup>1</sup>	0.04 <sup>1</sup>	0.04 <sup>1</sup>	0.29 <sup>6</sup>	0.01 <sup>1</sup>	0.04 <sup>1</sup>	0.0 <sup>3</sup>	0.0 <sup>3</sup>
<u>Truck Temporal Distribution</u>								
Saturday Peak	9% <sup>1</sup>	11.0% <sup>1</sup>	10.0% <sup>5</sup>	0.0% <sup>6</sup>	11.0% <sup>1</sup>	11.0% <sup>1</sup>	0.0% <sup>3</sup>	0.0% <sup>3</sup>
<b>Notes:</b>								
1. <i>CEQR Technical Manual</i>								
2. American Community Survey 2009 – 2014, Bronx Census Tracts 51, 59.02, 61, and 63								
3. <i>Lower Concourse Rezoning FEIS</i> , 2009								
4. <i>FRESH Text Amendment EAS</i> , 2009, based on the 1331 Jerome Avenue site								
5. <i>East New York Rezoning FEIS</i> , 2016								
6. Rates from NYCDOT survey of medical office space								
7. NYCDCP Special Tabulation of American Community Survey 2006 – 2010 (CTPP Part 3 Table A302103), Bronx Census Tracts 51, 59.02, 61, and 63								
8. <i>Gateway Center at Bronx Terminal Market FEIS</i> , 2005								
9. <i>Gateway Estates II FEIS</i> , 2009								

### Residential

The trip generation rates (8.075 daily trips per dwelling unit (DU) for weekdays and 9.6 daily person trips per DU for Saturdays) and temporal distribution (10 percent, 5 percent, 11 percent, and 8 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively) for the residential use were obtained from the *CEQR Technical Manual*. Directional distributions of 15 percent “in”, 50 percent “in”, 70 percent “in”, and 50 percent “in” for the weekday AM, midday, PM, and Saturday peak hours were obtained from the *Lower Concourse Rezoning FEIS* (2009). The modal split and vehicle occupancy were based on the American Community Survey 2009 – 2014 journey to work data for Bronx Census Tracts 51, 59.02, 61, and 63. Modal splits of 15.2 percent by auto, 0.8 percent by taxi, 21 percent by bus, 53.1 percent by subway, and 9.9 percent by walk or other modes, and vehicle occupancies of 1.18 persons per auto or taxi were used.

Similar to the daily person trip calculations, daily delivery trip rates were obtained from the *CEQR Technical Manual*. Trip generation rates of 0.06 daily trucks per DU for the weekday and 0.02 daily

trucks per DU for the Saturday, and temporal distribution of 12 percent, 9 percent, 2 percent, and 9 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were used for the analysis.

### Local Retail

For the local retail use, trip generation rates of 205 daily person trips per 1,000 sf for weekdays and 240 daily person trips per 1,000 sf for Saturdays were obtained from the *CEQR Technical Manual*, and a 5 percent credit was applied to account for linked trips between local retail and other (namely residential) uses on the project site. Vehicle occupancy, modal split, and directional distributions were obtained from the *Lower Concourse Rezoning FEIS* (2009) and the temporal distributions were obtained from the *CEQR Technical Manual*. The modal split assumed for the weekday AM, midday, PM, and Saturday peak hours are 3 percent by auto, 2 percent by taxi, 10 percent by bus, 5 percent by subway, and 80 percent by walk or other modes. Vehicle occupancies of 1.60 persons per auto and 1.20 persons per taxi were used for all peak analysis hours. The temporal distributions used were 3 percent, 19 percent, 10 percent, and 10 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, and the directional distribution used was 50 percent “in” for all peak analysis hours.

For local retail delivery trips, trip generation rates of 0.35 daily trucks per 1,000 sf for the weekday and 0.04 daily trucks per 1,000 sf for the Saturday, and temporal distributions 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*.

### Food Store

For the food store use, trip generation rates of 175 daily person trips per 1,000 sf for weekday and 231 daily person trips per 1,000 sf for Saturday were obtained from the *CEQR Technical Manual*, and a 5 percent credit was applied to account for linked trips between local retail and other (namely residential) uses on the project site. Temporal distributions of 5 percent, 6 percent, 10 percent, and 9 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*. The food store would be expected to capture a local draw and modal splits and vehicle occupancy rates from the 1331 Jerome Avenue site of the *FRESH Text Amendment EAS* (2009) were used. The modal splits assumed for the weekday AM, midday, PM, and Saturday peak hours were 4 percent by auto, 3 percent by taxi, 5 percent by bus, 5 percent by subway, and 83 percent by walk or other modes. Vehicle occupancies of 1.65 persons per auto and 1.40 persons per taxi were assumed for all peak hours analyzed. Vehicle occupancy of 1.38 persons per taxi was assumed for all peak hours. The directional distributions of 57 percent “in”, 50 percent “in”, 52 percent “in”, and 52 percent “in” were assumed for the weekday AM, midday, PM, and Saturday peak hours, respectively, and were obtained from the *East New York Rezoning FEIS* (2016).

For food store delivery trips, trip generation rates of 0.35 daily trucks per 1,000 sf for the weekday and 0.04 daily trucks per 1,000 sf for the Saturday, and temporal distributions of 10 percent, 8 percent, 5 percent, and 10 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were obtained from the *East New York Rezoning FEIS* (2016).

#### Medical Office

The trip generation rates, temporal distribution, modal split, vehicle occupancy, and directional distributions for the medical office use are based on surveys performed by NYCDOT. Trip generation rates of 127 daily person trips per 1,000 sf for weekdays and Saturdays, and temporal distributions of 4 percent, 11 percent, 12 percent, and 11 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were used for the medical office use. The modal splits of 30 percent by auto, 2 percent by taxi, 18 percent by bus, 33 percent by subway, and 17 percent by walk or other modes were assumed for all peak hours. Vehicle occupancies of 1.50 persons per auto and 2.60 persons per taxi and directional distributions of 89 percent "in", 51 percent "in", 48 percent "in", and 41 percent "in" for the weekday AM, midday, PM, and Saturday peak hours, respectively, were used.

Daily delivery trips rates were also based on the survey of medical office space performed by NYCDOT. Trip generation rates of 0.29 daily trucks per 1,000 sf for the weekday and Saturday, and temporal distribution of 3 percent, 11 percent, 1 percent, and 0 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were used for the analysis.

#### Office

For the office use, trip generation rates of 18 daily person trips per 1,000 sf for weekdays and 3.9 daily person trips per 1,000 sf for Saturdays, and temporal distributions of 12 percent, 15 percent, 14 percent, and 17 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*. Vehicle occupancies and weekday AM, PM, and Saturday peak hour modal splits were obtained from the New York City Department of City Planning's (NYCDCP) reverse journey to work data (Census Transportation Planning Products [CTPP] Part 3 Table A302103) for Bronx census tracts 51, 59.02, 61, and 63; the weekday midday vehicle occupancies were obtained from the *East New York Rezoning FEIS* (2016). The modal splits used for the weekday AM, PM, and Saturday peak hours are 41.3 percent by auto, 1.0 percent by taxi, 19.3 percent by bus, 30.1 percent by subway, and 8.6 percent by walk or other modes; and 2 percent by auto, 3 percent by taxi, 6 percent by bus, 6 percent by subway, and 83 percent by walk or other modes for the weekday midday peak hour. Vehicle occupancies of 1.30 persons per auto or taxi were used for all peak analysis hours, and the directional distributions, obtained from the *East New York Rezoning FEIS* (2016), used were 96 percent "in", 39 percent "in", 5 percent "in", and 60 percent "in" for the weekday AM, midday, PM, and Saturday peak hours, respectively.

For office delivery trips, trip generation rates of 0.32 daily truck trips per 1,000 sf for the weekday and 0.01 daily truck trips Saturday, 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*.

#### Destination Retail

For the destination retail use, trip generation rates of 78.2 daily person trips per 1,000 sf for weekdays and 92.5 daily person trips per 1,000 sf for Saturdays were obtained from the *CEQR Technical Manual*. Modal split and directional distributions were obtained from the *Gateway Center at Bronx Terminal Market FEIS* (2005), vehicle occupancies were obtained from the *Gateway Estates II FEIS* (2009), and the temporal distributions were obtained from the *CEQR Technical Manual*. The modal split assumed for the weekday peak hours are 59 percent by auto, 3 percent by taxi, 18 percent by bus, 15 percent by

subway, and 5 percent by walk or other modes, and 59 percent by auto, 5 percent by taxi, 18 percent by bus, 13 percent by subway, and 5 percent by walk or other modes during the Saturday peak hour. Vehicle occupancies of 1.40 persons per auto and 1.65 persons per taxi were used for the weekday peak analysis hours, and 1.72 persons per auto and 1.75 persons per taxi for the Saturday peak hour. The temporal distributions used were 3 percent, 9 percent, 9 percent, and 11 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, and the directional distribution used were 82 percent "in", 52 percent "in", 52 percent "in", and 51 percent "in" for the weekday AM, midday, PM, and Saturday peak hours.

For destination retail delivery trips, trip generation rates of 0.35 daily trucks per 1,000 sf for the weekday and 0.04 daily trucks per 1,000 sf for the Saturday, and temporal distributions 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*.

### Open Space

Trips generated from the open space use were classified as passive or active space. A trip generation rate of 44 daily person trips per acre for weekdays and 62 daily person trips per acre for Saturdays was assumed for the passive open space use, and 139 daily person trips per acre for weekdays and 196 daily person trips per acre for Saturdays were assumed for the active passive space. The trip generation rates and temporal distributions of 3 percent, 5 percent, 6 percent, and 6 percent for the weekday AM, midday, PM, and Saturday peak hours, respectively, were obtained from the *CEQR Technical Manual*. A 25 percent credit was applied to account for linked trips between other uses (namely residential) on the project site. The modal split, vehicle occupancy, and directional distributions for both open space components were based on the public open space use from the *Lower Concourse Rezoning FEIS* (2009).

Modal splits of 12 percent by auto, 5 percent by bus, 5 percent by subway, and 78 percent by walk or other modes, and vehicle occupancies of 2.80 persons per auto or taxi were used for all peak hours analyzed. The directional distributions of 50 percent "in", 45 percent "in", 55 percent "in", and 55 percent "in" were used for the weekday AM, midday, PM, and Saturday peak hours, respectively. Similar to the assumptions found in the *Lower Concourse Rezoning FEIS* (2009), it was assumed that there are no delivery trips associated with this use.

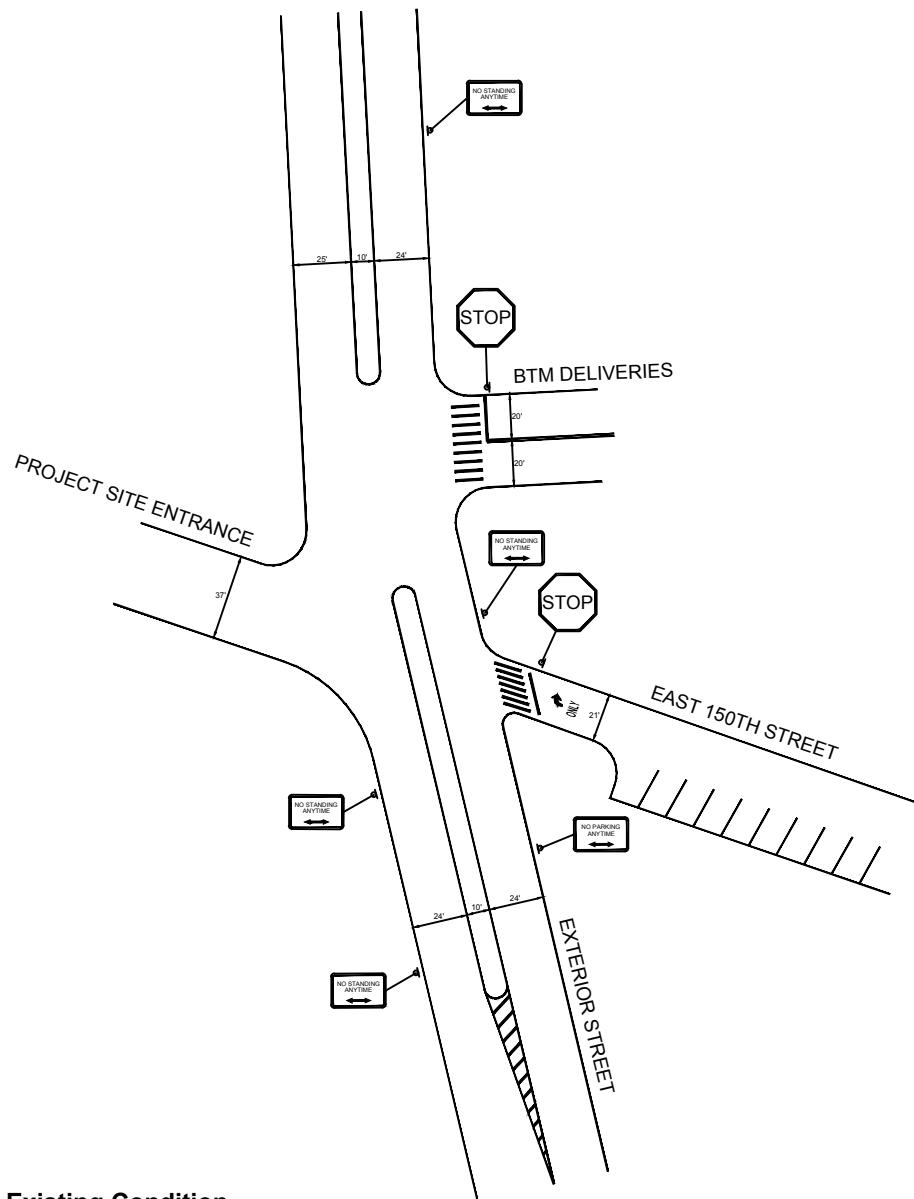
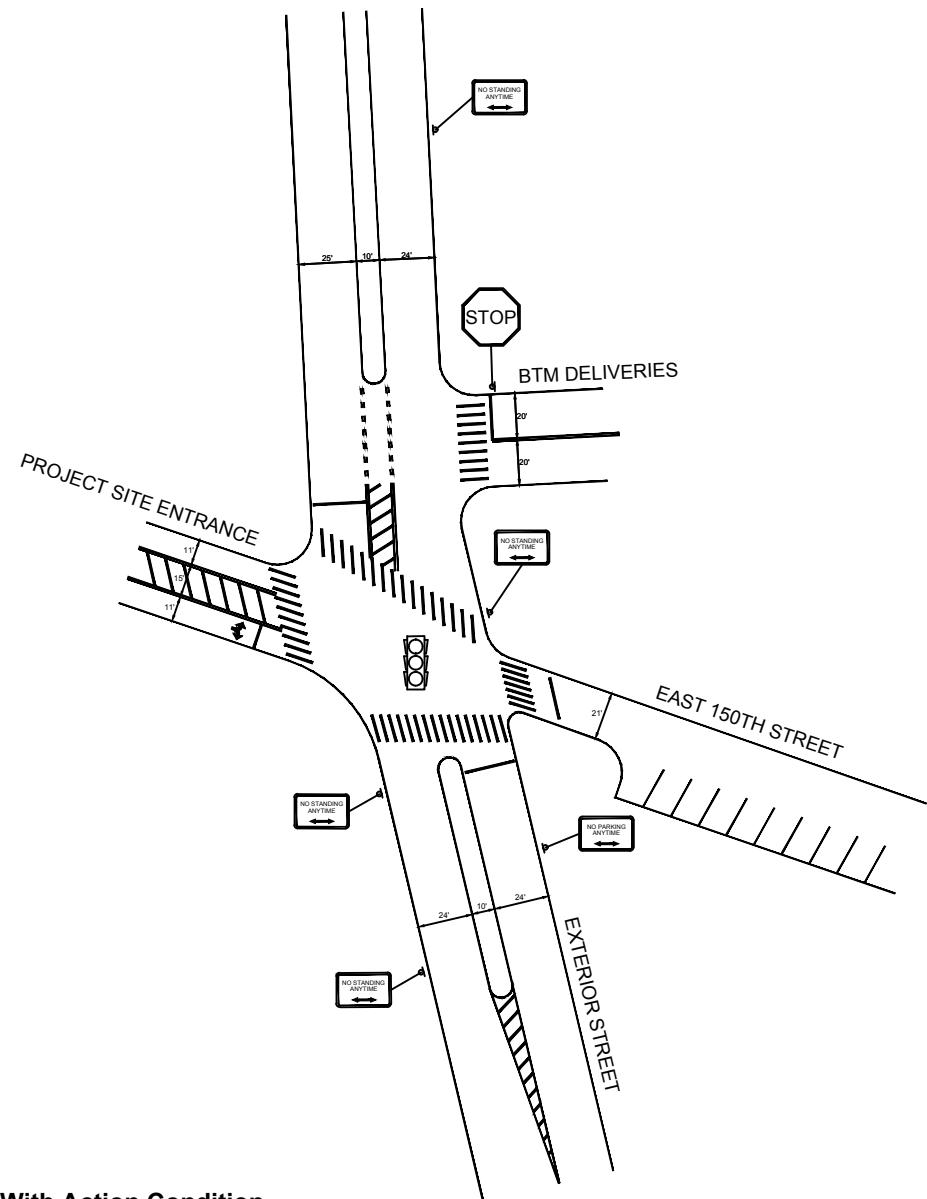
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## Level 1 Screening Results

### Traffic

Table 12-2 below summarizes the total peak hour vehicular volumes ("ins" plus "outs") that would be generated by the proposed project.

As shown in Table 12-2, the increase in vehicle trips would be 242 vehicles per hour (vph) during the weekday AM peak hour, 311 vph in the weekday midday peak hour, 397 vph in weekday PM peak hour, and 337 vph in the Saturday peak hour. Since the incremental volume of vehicle trips generated by the proposed development would exceed the 50 vehicle trip threshold during all peak hours analyzed, a Level 2 vehicle trip assignment and detailed analyses have been conducted within the GEIS.

**Existing Condition****With Action Condition**

Note: For illustrative purposes of improvement measures identified and evaluated in this study, only. Not to scale.  
Not intended for design or construction purposes.



Table 12-2: Trip Generation Summary – Vehicle Trips

Mode	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Auto	96	104	200	114	11	225	171	158	329	131	134	265
Taxi	16	16	32	39	39	78	33	33	66	36	36	72
Truck	5	5	10	4	4	8	1	1	2	0	0	0
<b>TOTAL</b>	<b>117</b>	<b>125</b>	<b>242</b>	<b>157</b>	<b>154</b>	<b>311</b>	<b>205</b>	<b>192</b>	<b>397</b>	<b>167</b>	<b>170</b>	<b>337</b>

### Transit and Pedestrians

Transit and pedestrian trips generated by the proposed project, would exceed the *CEQR Technical Manual* Level 1 screening thresholds for transit (bus or subway) and for pedestrians. As shown in Table 12-3 below, the increase in bus transit trips would be 806 257 person trips during the weekday AM peak hour, 726 294 person trips in the weekday midday peak hour, 1,115 387 person trips in the weekday PM peak hour, and 1,004 367 person trips in the Saturday peak hour. The increase in subway transit trips would be 549 person trips during the weekday AM peak hour, 432 person trips in the weekday midday peak hour, 728 person trips in the weekday PM peak hour, and 637 person trips in the Saturday peak hour. The net increase in pedestrian trips (walk plus transit) is expected to be 1,215 person trips during the weekday AM peak hour, 1,900 person trips during the weekday midday peak hour, 2,035 person trips during the weekday PM peak hour, and 2,035 person trips during the Saturday peak hour. Since the number of peak hour transit (bus or subway) trips and the number of peak hour pedestrian trips expected to be generated by the proposed project would exceed the *CEQR* thresholds of 200 transit rider trips per hour and 200 pedestrian trips per hour, respectively, a Level 2 trip assignment and detailed analyses has been conducted within the GEIS and shows that detailed subway station analysis was needed.

Table 12-3: Trip Generation Summary – Pedestrian Trips

Mode	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Auto	131	127	258	159	154	313	227	215	442	208	220	428
Taxi	10	10	20	24	23	47	23	21	44	26	26	52
Bus	89	168	257	147	147	294	221	166	387	179	188	367
Subway	152	397	549	217	215	432	444	284	728	310	327	637
Walk/Other	201	208	409	576	598	1,174	480	440	920	519	512	1,031
<b>TOTAL</b>	<b>583</b>	<b>910</b>	<b>1,493</b>	<b>1,123</b>	<b>1,137</b>	<b>2,260</b>	<b>1,395</b>	<b>1,126</b>	<b>2,521</b>	<b>1,242</b>	<b>1,273</b>	<b>2,515</b>

### Level 2 (Trip Assignment) Screening Assessment

As shown above, the number of trips generated by the proposed project would exceed the *CEQR Technical Manual* Level 1 screening thresholds for vehicle, transit, 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 project site. The project site is expected to have pedestrian entrances located along the west curb of Exterior Street. As shown in Figure 12-1, the proposed project aims to modify the intersection of East 150th Street and Exterior Street so that vehicular access (left turns from

northbound Exterior Street and the through movement from westbound East 150th Street) could be allowed. As the proposed project would not be providing parking on-site, auto trips would need to park at on- and off-street parking facilities within the project site vicinity. However, vehicle trips were assigned so that the vast majority of trips would touch the site before they find parking nearby.

#### Traffic

Vehicle trip increments shown in Table 12-2 were assigned through the surrounding street network based on expected routes to the project site and the configuration of the roadway network. Since the proposed project will not be providing parking on-site, vehicle trips were assumed to park on-street, or within off-street parking facilities located in the vicinity of the project site. Trip assignments for each land use are discussed below.

#### *Residential*

Residential auto assignments were based on the NYCDCP's journey to work data (CTPP Part 3 Table A302103) for Bronx census tracts 51, 59.02, 61, and 63. Approximately half of the project-generated vehicle trips (49 percent) would be destined for other sections of the Bronx. Of the remaining trips, approximately 25 percent of vehicle trips were assigned to Manhattan, 8 percent to New Jersey, 8 percent to Westchester and Upstate New York, 6 percent to Queens, and 4 percent to Long Island.

Vehicle trips destined for areas within the Bronx were assigned along key roadways such as the Grand Concourse (approximately 25 percent), East 149th Street (approximately 15 percent), Exterior Street (approximately 5 percent), and River Avenue (4 percent). Manhattan trips were assigned to travel through the Harlem River crossings (approximately 10 percent from the south via the Willis Avenue Bridge or Madison Avenue Bridge, 10 percent from the west via the 145th Street Bridge, and approximately 5 percent from the north via the Macombs Dam Bridge). Trips to New Jersey, Westchester, and Upstate New York would travel north along Exterior Street and utilize regional highways to reach their destinations. Queens and Long Island trips were assigned evenly north of the site to the Cross Bronx Expressway and south of the site to the Major Deegan Expressway. Reverse trips are expected to return along the same general routes on which they departed.

#### *Local Retail/ Food Store/Open Space*

The local retail, food store, and open space uses are expected to serve the immediately surrounding area. Therefore, auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas. Auto trips would access the site along roadways such as East 149th Street, the Grand Concourse, Exterior Street, Gerard Avenue, Walton Avenue, and River Avenue. Some trips were also expected to arrive from Manhattan via the 145th Street Bridge due to the proximity of the project site. Departing trips were assigned along the same routes as arrivals.

#### *Medical Office/Destination Retail*

The medical office and destination retail uses are expected to mostly serve visitors from within the Bronx. The majority of the trips would arrive to the project site using major roadways in the area such as East 149th Street (30 percent), the Grand Concourse (30 percent), and Exterior Street from the Major Deegan Expressway (15 percent). A modest amount of trips (5 percent) would be expected to arrive

from Manhattan utilizing the 145th Street Bridge. The remaining trips would utilize local roadways such as River Avenue, Gerard Avenue, and Walton Avenue to reach the project site. Departing trips were assigned along the same routes as arrivals.

*Office*

Office auto assignments were based on the NYCDCP's reverse journey to work data for Bronx census tracts 51, 59.02, 61, and 63. Most office trips would originate from within the Bronx (51 percent) or from Westchester and Upstate New York (20 percent). Of the remaining trips, approximately 8 percent were assigned from New Jersey, 6 percent from Manhattan, 6 percent from Queens, 4 percent from Long Island, 3 percent from Brooklyn, and 2 percent from Connecticut.

Office trips from the Bronx are largely expected to utilize the key thoroughfare within the Bronx including the Grand Concourse (24 percent) and East 149th Street (20 percent). The remaining Bronx trips would access the site using River Avenue and Exterior Street. Office trips from Westchester and Upstate New York would access the site from the north via the I-87 or I-95. New Jersey trips would be expected to travel to the project site using the George Washington Bridge to I-87, or through Manhattan reaching the site from the 145th Street Bridge. Manhattan trips would travel to the project site via one of the Harlem River crossings, including the Willis Avenue Bridge, Madison Avenue Bridge, 145th Street Bridge, and Macombs Dam Bridge. Queens, Long Island, and Brooklyn trips were assigned to the project site via the highway, and would travel through the Bronx via the RFK Bridge connecting to the Major Deegan Expressway from the south, or Throgs Neck Bridge or Whitestone Bridge connecting to the Cross Bronx Expressway and arriving to the site from the north. Trips from Connecticut are expected to travel to the site from the east via the Cross Bronx Expressway, which connects to the Major Deegan Expressway north of the site. Reverse trips are expected to depart along the same general routes along which they arrived.

Traffic volume increments are provided in Figures 12-2 through 12-5.

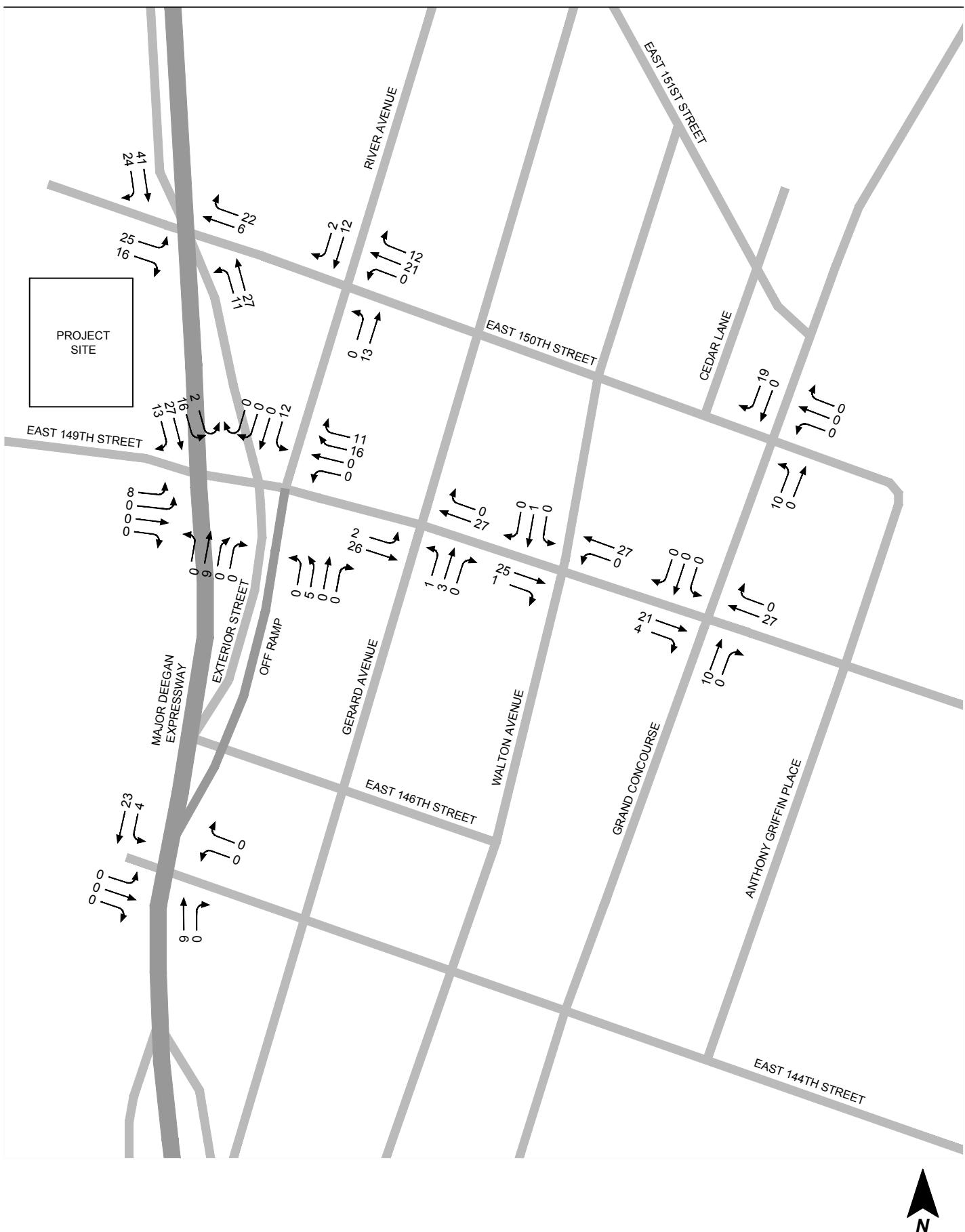
**Transit and Pedestrians**

Transit and pedestrian trips were assigned through the pedestrian network based on logical and direct travel routes to and from the project site from neighborhood attractions, subway stations and/or bus stops, to determine if the number of additional pedestrian trips generated by the proposed project would exceed 200 peak hour pedestrian trips at any single pedestrian element (e.g. crosswalk, sidewalk, corner reservoir area) approaching the site – the threshold for detailed pedestrian analysis.

Bus transit options within a quarter mile of the project site include the Bx13 bus route which operates along River Avenue, the Bx19 bus route which operates along East 149th Street, and the Bx1 and Bx2 which operates along the Grand Concourse. The closest subway station is the 149th Street-Grand Concourse station which provides service to the 2, 4, and 5 subway lines. Transit trips would be expected to walk along East 149th Street to reach the project site.

*Residential*

The vast majority of residential walk trips were assigned to the local commercial centers such as the BTM to the north of the project site (approximately 30 percent), and along the Grand Concourse and East 149th Street to the east (approximately 70 percent).









*Local Retail/ Food Store/Open Space*

The local retail, food store, and open space uses are expected to serve the immediate residential pockets within the study area. The vast majority of walk trips (approximately 80 percent) were distributed to residential areas east of the project site.

*Medical Office/Destination Retail*

Medical office and destination retail walk trips are expected to originate from residential areas near the site which are predominantly to the east (approximately 80 percent of trips). A modest number of walk trips (approximately 10 percent) was assumed to travel west from Manhattan, crossing the 145th Street Bridge.

*Office*

The vast majority of office walk trips would occur during the midday periods when office workers are leaving for lunch or are running errands. These trips were assigned to nearby commercial centers such as the BTM to the north of the project site, and along the Grand Concourse to the east.

Pedestrian volume increments are provided in Figures 12-6 through 12-9.

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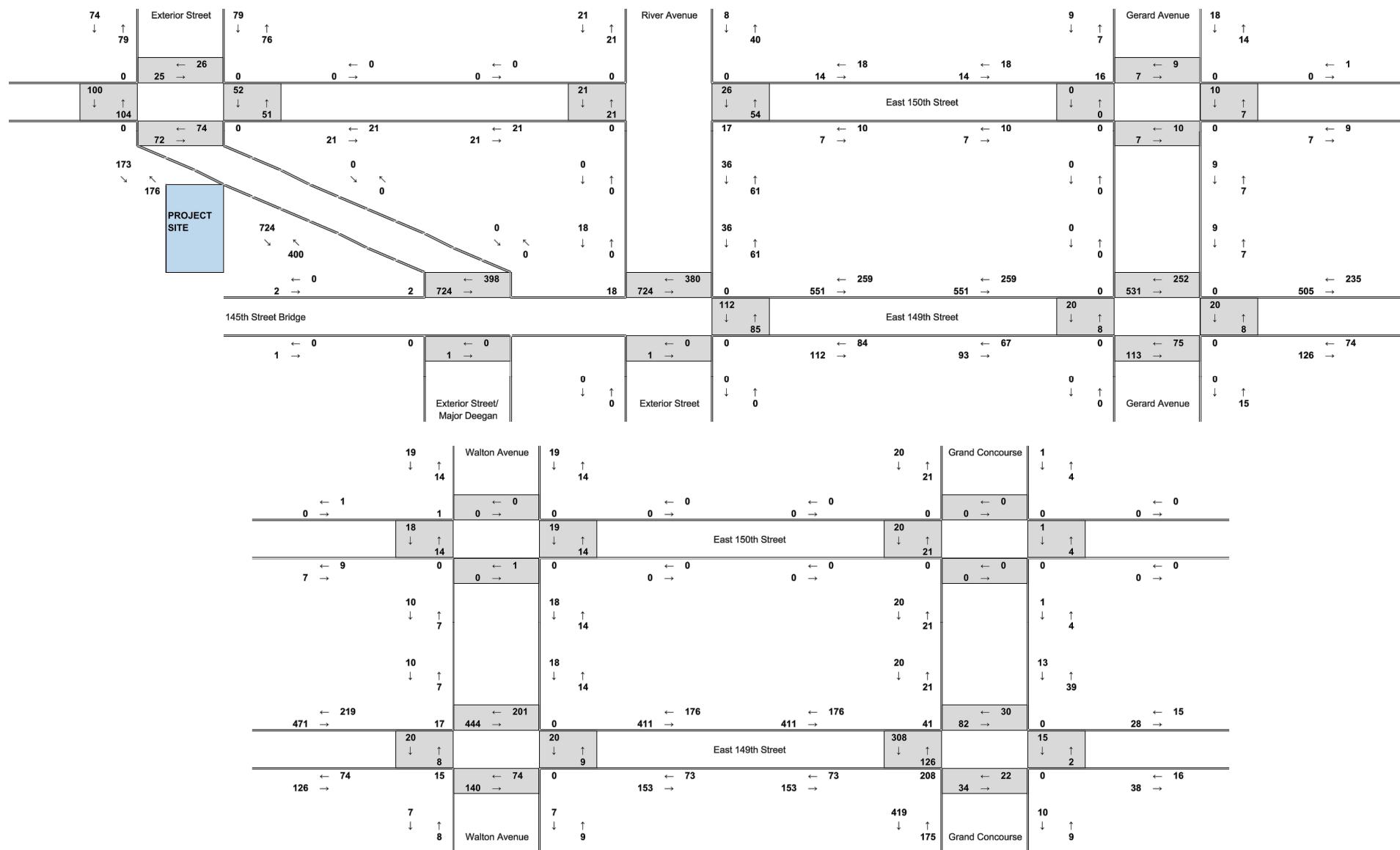
**Level 2 Screening Results****Traffic**

Eight intersections (five signalized and three unsignalized) within the vicinity of the project site were identified for study based on the trip assignments and are listed below and shown in Figure 12-10:

1. East 149th Street and Exterior Street/River Avenue
2. East 149th Street and Gerard Avenue
3. East 149th Street and Walton Avenue
4. East 149th Street and Grand Concourse
5. East 150th Street and Exterior Street (unsignalized)
6. East 150th Street and River Avenue (unsignalized)
7. East 150th Street and Grand Concourse
8. East 144th Street and Exterior Street (unsignalized)

**Transit***Subway Station*

Project-generated subway transit trips were all assigned to the northwest and southwest stairways at the 149th Street-Grand Concourse station, which is located at the southwest corner of the intersection of East 149th Street and Grand Concourse, and through the subway station elements. The following subway station elements were identified for detailed analysis based on the Level 2 screening results and in consultation with New York City Transit (NYCT):

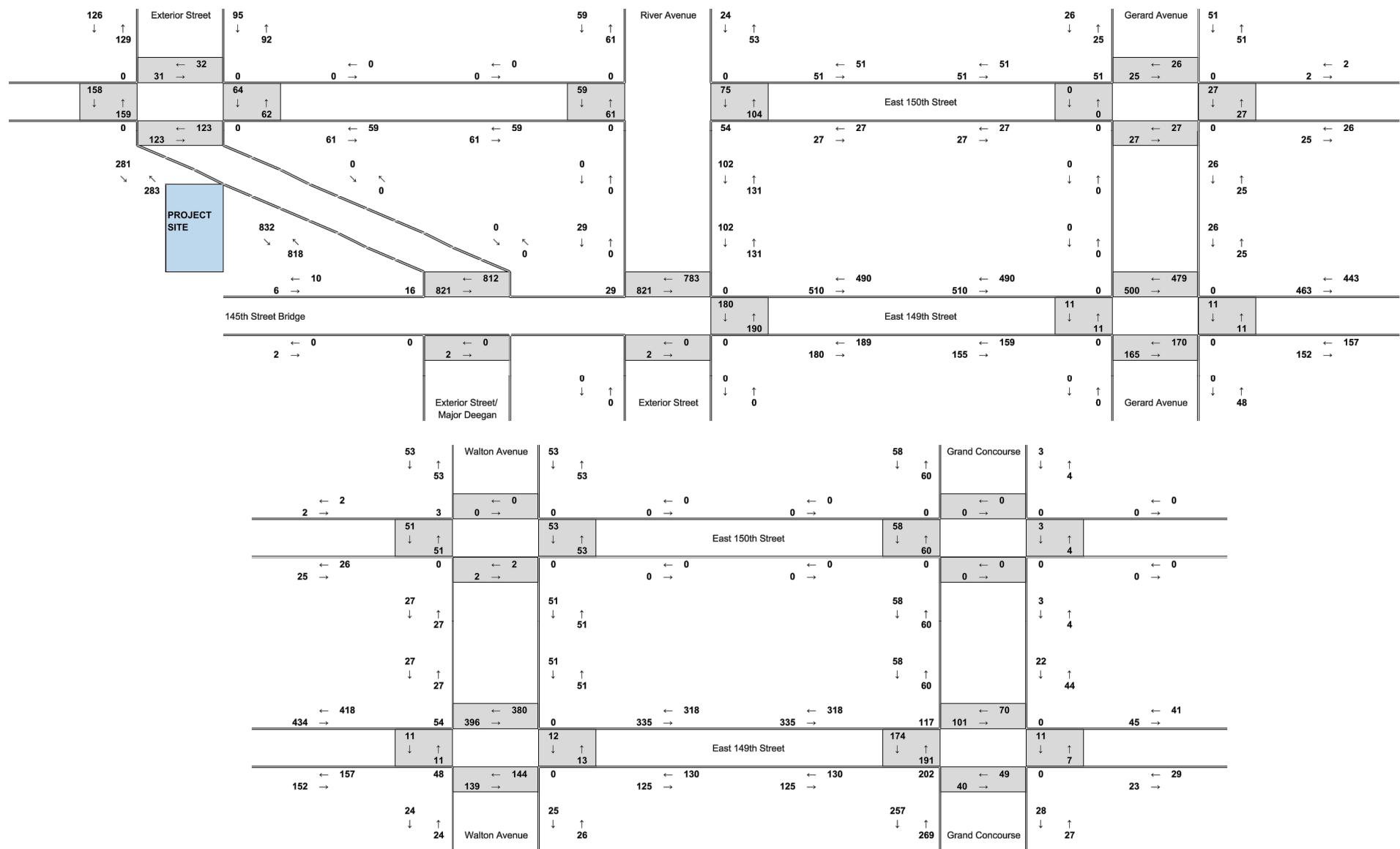


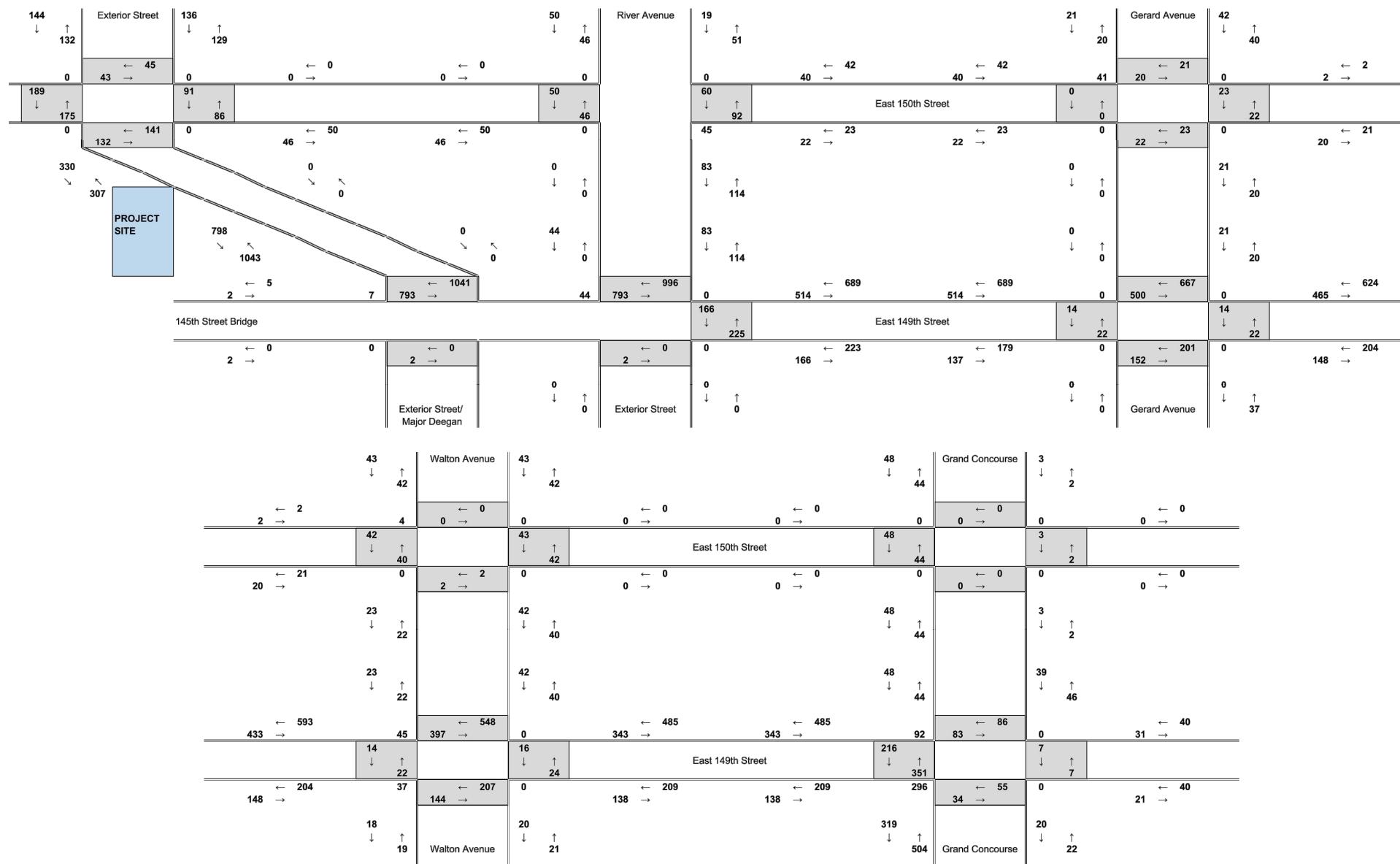
# **Lower Concourse North EIS**

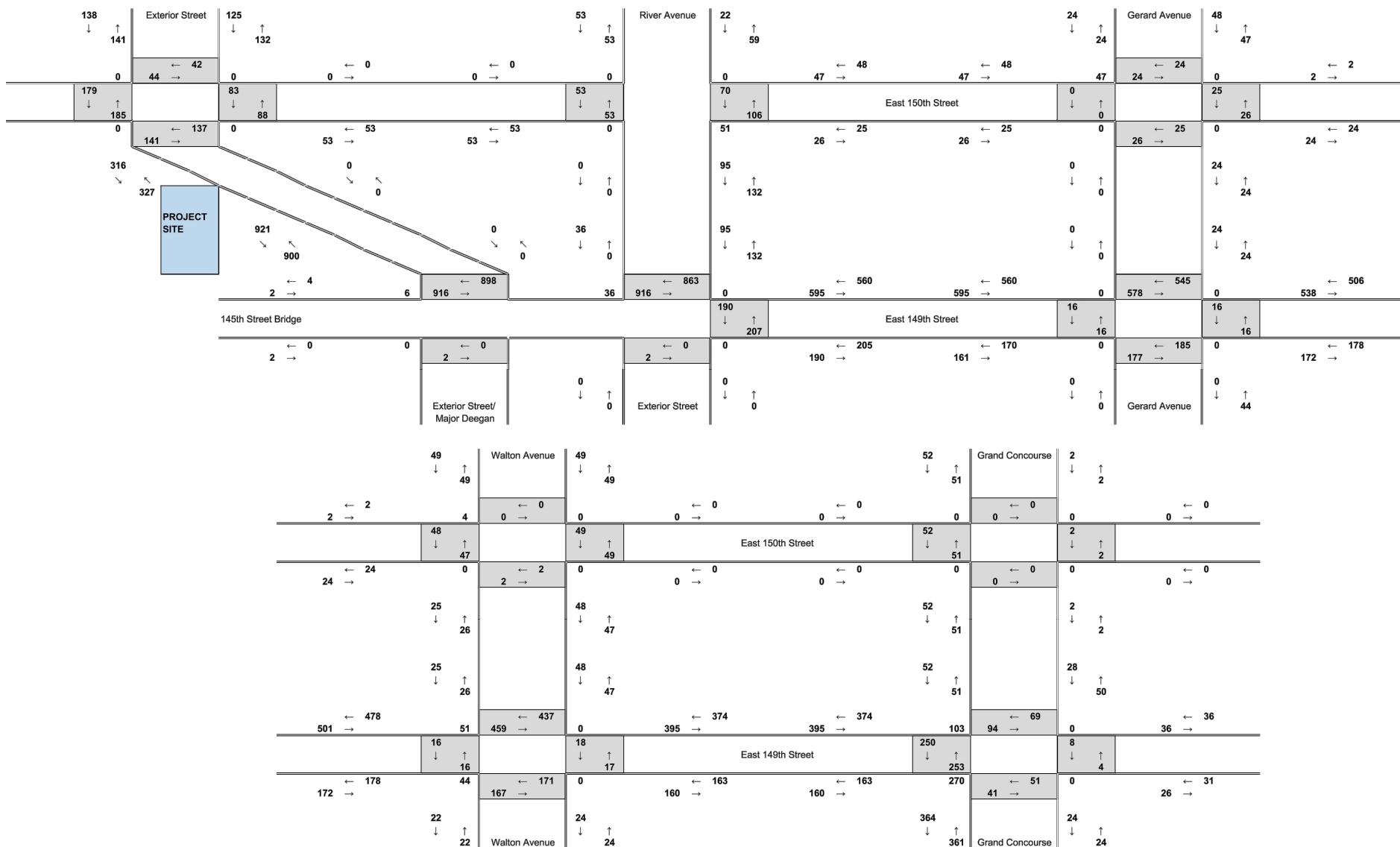
## **The Bronx, New York**

## **Project Generated Pedestrian Volume Increment Weekday AM Peak Hour**

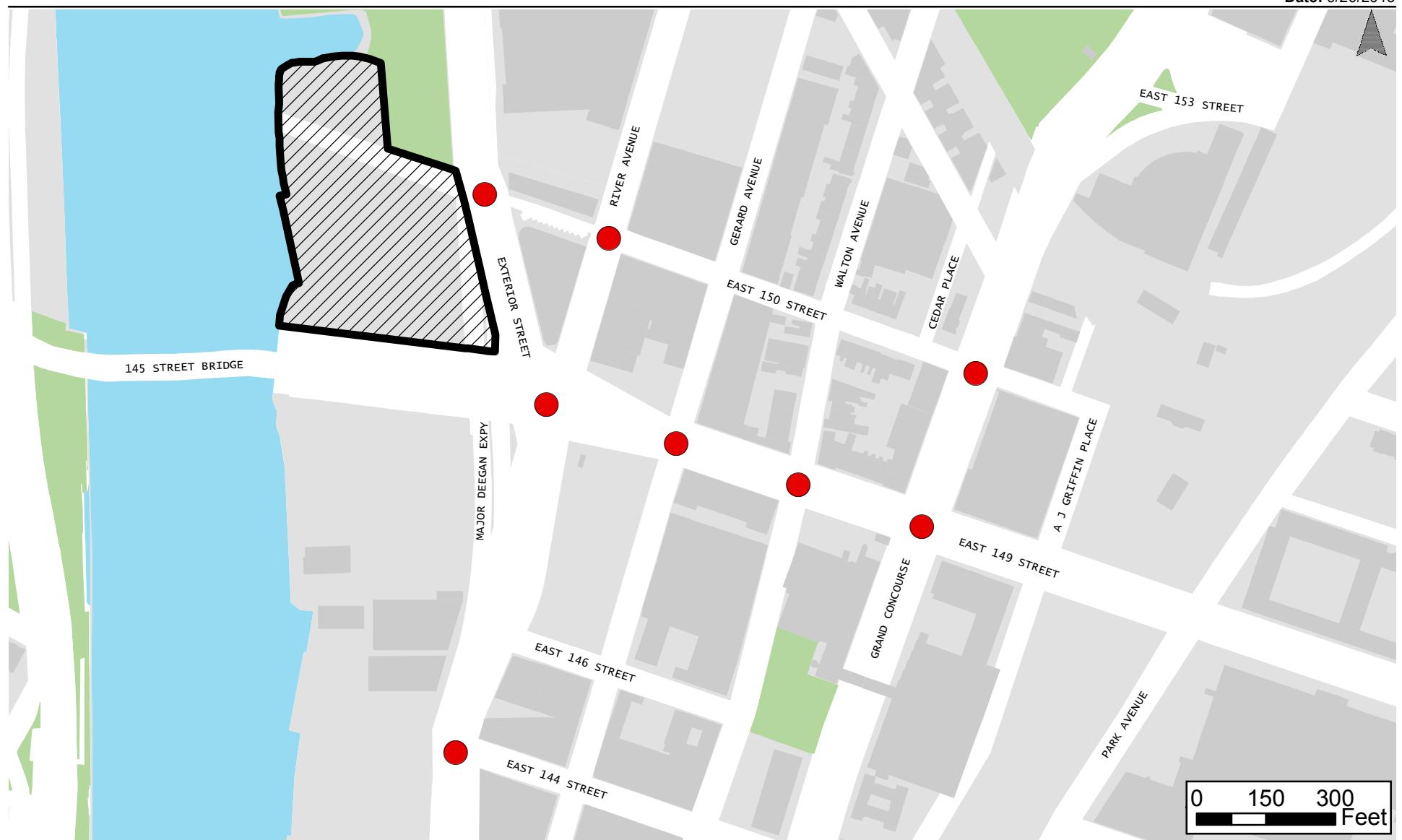
## Figure 12-6





Figure  
12-9

Date: 9/20/2016



Project Site

Traffic Analysis Locations

**Lower Concourse North**  
The Bronx, New York

**Traffic Study Area**

**Figure  
12-10**

1. The northwest stairway (S3) between the street level and upper mezzanine level
2. The west fare control (R260)
3. Two sets of passageway stairways on the upper mezzanine level (U1A/U1B and U3A/U3B)
4. Two stairways (P1 and P3) between the upper mezzanine level and the southbound number 4 subway line platform
5. Two sets of stairways (ML1/ML3 and ML5/ML7) between the southbound number 4 subway line platform and the lower mezzanine level
6. Two set of stairways (PL3 and PL5) between the lower mezzanine level and the southbound number 2 and 5 subway lines platform
7. Two set of stairways (PL6 and PL8) between the lower mezzanine level and the northbound number 2 and 5 subway lines platform

#### *Subway Line-Haul*

As per the *CEQR Technical Manual*, an incremental ridership increase of fewer than five riders per subway car is unlikely to result in the potential for a significant subway line-haul impact. The line-haul screening analysis, detailed below in Table 12-4, shows that each subway car would experience an increase of less than five riders during the weekday AM and PM peak hours, and therefore a subway line-haul analysis is not needed.

**Table 12-4: Subway Line-Haul Screening Analysis**

Peak Hour	Subway Line	Direction	Number of Cars Per Hour	Total Projected Number of Riders	Projected Riders per Car
AM	2	Southbound to Manhattan	127	127	1.00
	4	Southbound to Manhattan	145	95	0.66
	5	Southbound to Manhattan	131	95	0.73
PM	2	Northbound from Manhattan	111	71	0.64
	4	Northbound from Manhattan	117	107	0.91
	5	Northbound from Manhattan	126	107	0.85

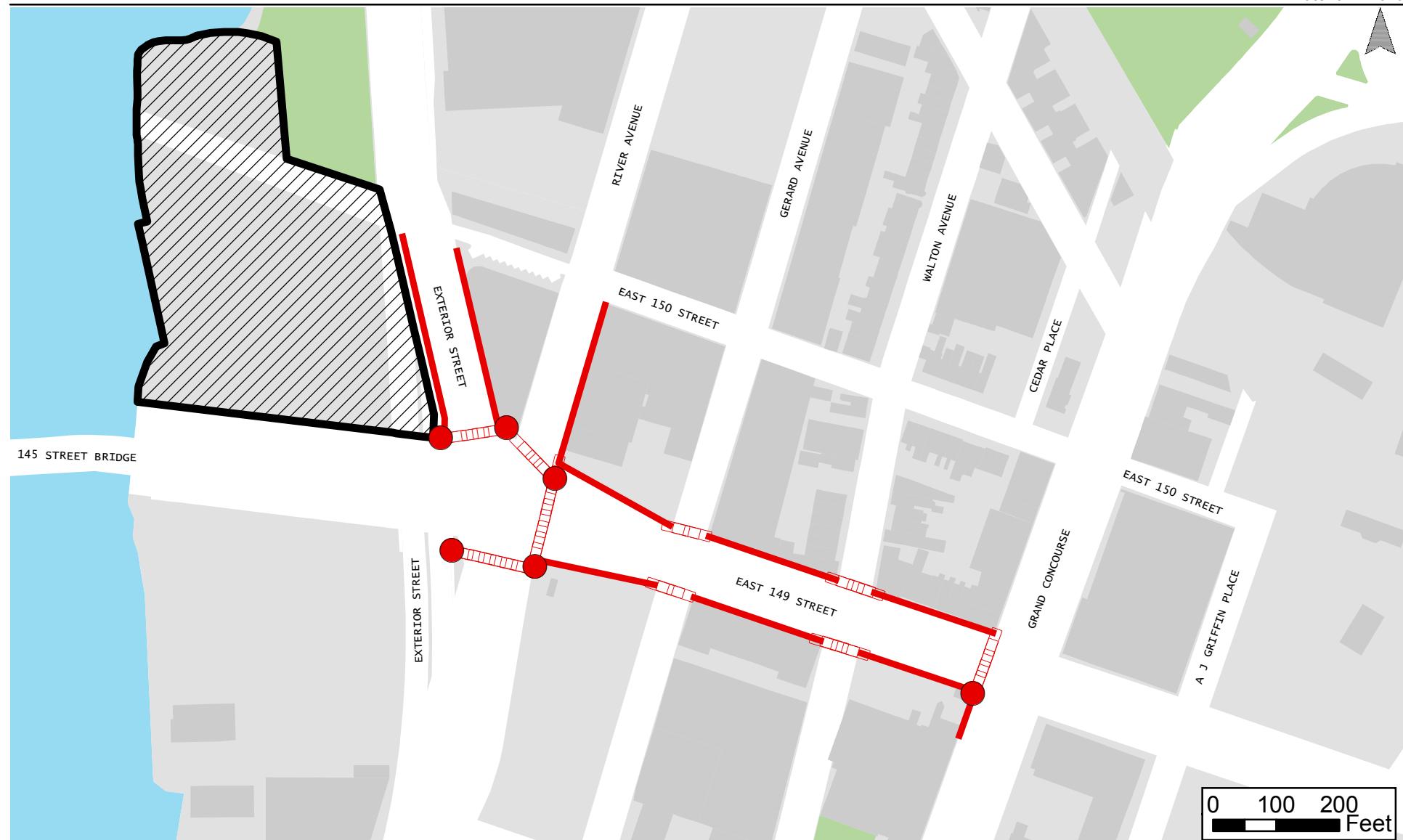
**Notes:**  
Number of cars per hours based on 2013-2014 ridership and train throughput data provided by NYCT

#### *Bus Line-Haul*

As per the *CEQR Technical Manual*, an incremental ridership increase of fewer than 50 riders per bus in a single direction is unlikely to result in the potential for a significant bus line-haul impact. Based on the distribution of bus trips through the four bus lines in the study area, each bus line is expected to experience an increase of less than 50 riders during the peak hours and a detailed line-haul analysis is not needed.

#### Pedestrians

Based on the pedestrian assignments detailed above, nine crosswalks, six corners, and 10 sidewalks were identified for detailed levels of service analyses. These pedestrian elements are listed in Table 12-5 and are shown in Figure 12-11.



- Project Site
- Corner Analysis Locations
- Sidewalk Analysis Locations
- Crosswalk Analysis Locations

**Table 12-5: Pedestrian Analysis Locations**

Intersection	Crosswalk Elements	Corner Elements	Sidewalk Elements
East 149th Street and Exterior Street/River Avenue	- Northwest crosswalk (along Exterior Street) - North crosswalk (along River Avenue) - East crosswalk - South crosswalk	- Northwest corner (with Exterior Street and 145th Street Bridge) - North corner (with Exterior Street and River Avenue) - Northeast corner - Southeast corner - Southwest corner	- East 149th Street north sidewalk to Gerard Avenue - East 149th Street south sidewalk to Gerard Avenue - Exterior Street east sidewalk to East 150th Street - Exterior Street west sidewalk to East 150th Street - River Avenue east sidewalk to East 150th Street
East 149th Street and Gerard Avenue	- North crosswalk - South crosswalk		- East 149th Street north sidewalk to Walton Avenue - East 149th Street south sidewalk to Walton Avenue
East 149th Street and Walton Avenue	- North crosswalk - South crosswalk		- East 149th Street north sidewalk to Grand Concourse - East 149th Street south sidewalk to Grand Concourse
East 149th Street and Grand Concourse	- West crosswalk	- Southwest corner	- Grand Concourse west sidewalk to northwest subway station stairway
Total Number of Elements	9	6	10

### 12.3 Transportation Analysis Methodologies

The Level 1 and Level 2 screening assessments show that detailed traffic, transit, and pedestrian analyses are needed. Further analyses were conducted using methodologies detailed in the *CEQR Technical Manual* and are described below.

#### Traffic

The operation of all of the signalized and unsignalized intersection analysis locations were assessed using methodologies presented in the *2000 Highway Capacity Manual* (*HCM*) using the *Highway Capacity Software* (*HCS+ 5.5*), which is the analysis methodology approved for use by NYC DOT. 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 is considered to be unacceptable to most drivers. 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 acceptable, LOS D is generally considered marginally acceptable up to mid-LOS D (45 seconds of delay for signalized intersections) and unacceptable above mid-LOS D, and LOS E and F indicate congestion. 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, which is considered to be the limit of acceptable delay. LOS F describes operation with delays in excess of 50.0 seconds per vehicle, which is considered unacceptable to most drivers. 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.

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## 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 the proposed project. This analysis typically encompasses a study area within a quarter-mile of the project site. 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<sup>2</sup>, the inability of the 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. For other areas in New York City, a parking shortfall

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<sup>2</sup> Parking shortfalls in Zone 1 and Zone 2, as identified in the *CEQR Technical Manual*, are generally not considered to be significant. The project site is located within Zone 2.

that exceeds more than half the available on-street and off-street parking spaces within a quarter-mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area and the patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall. If there is an adequate parking supply within a half-mile of the project site, the projected parking shortfall may not be considered significant.

## 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 [HETs], and high exit turnstiles [HETsHXTs]).

### 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 12-6. 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 between pedestrians which result in some queueing. Severe congestion with constant queueing signifies that a station element is operating at LOS F.

**Table 12-6: LOS Criteria for Subway Station Elements**

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

Source: *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 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 12-7 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 12-7: 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*

## Pedestrians

Pedestrian level of service standards are determined on the basis of walking speed, pedestrian spacing, and probabilities of pedestrian and vehicular conflict, and are assessed based on the methodologies presented in the *2010 HCM* 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 site will be performed to assess the adequacy of these pedestrian elements.

To evaluate sidewalks, the pedestrian flow per unit width ( $p/\text{ft}/\text{min}$ ) is calculated based on the pedestrian flow and the effective walkway width<sup>3</sup>. The analysis of sidewalk conditions should also consider if pedestrian flow is a “non-platoon” flow (pedestrian flow within the peak 15-minute period is relatively uniform) or “platoon” flow. 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<sup>4</sup> over the pedestrian flow per unit width determines the average pedestrian space ( $\text{sf}/p$ ).

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 ( $\text{sf}/p$ ). This analysis also takes account of pedestrian conflicts in the crosswalk with turning vehicles.

<sup>3</sup> 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).

<sup>4</sup> The typical average pedestrian walking speed specified in the *CEQR Technical Manual* is 3.5 feet per second ( $\text{ft}/\text{s}$ ). For intersections with school crosswalks or that are located within the Senior Pedestrian Focus Areas, an average pedestrian walking speed of 3.0  $\text{ft}/\text{s}$  is used.

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 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 12-8 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 non-Central Business District (CBD) areas (such as the area in this study) as LOS C or better, and mid-LOS D or better for CBD areas.

**Table 12-8: Level of Service Criteria for Pedestrian Elements**

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	> 60 sf/p	> 530 sf/p	> 60 sf/p
B	> 40 and ≤ 60 sf/p	> 90 and ≤ 530 sf/p	> 40 and ≤ 60 sf/p
C	> 24 and ≤ 40 sf/p	> 40 and ≤ 90 sf/p	> 24 and ≤ 40 sf/p
D	> 15 and ≤ 24 sf/p	> 23 and ≤ 40 sf/p	> 15 and ≤ 24 sf/p
E	> 8 and ≤ 15 sf/p	> 11 and ≤ 23 sf/p	> 8 and ≤ 15 sf/p
F	≤ 8 sf/p	≤ 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 *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 (LOS C or better in non-CBD areas, and mid-LOS D or better in 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 pedestrian flow along the sidewalk is platooning or non-platooning, and whether the sidewalk being analyzed is in a CBD or non-CBD condition is necessary.

For sidewalks with non-platoon pedestrian flow, 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 sidewalk is considered to be significantly impacted. For sidewalks with platoon pedestrian flow, the formula to determine if the decrease in pedestrian space would trigger a significant impact is  $Y \geq X / (9.5 - 0.321)$ . Table 12-9 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 *2014 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 12-10 provides a summary of the sliding scale guidelines provided in the *CEQR Technical Manual*.

Table 12-9: Significant Impact Criteria for Sidewalks

Non-Platoon Flow				Platoon Flow			
Non-CBD Areas		CBD Areas		Non-CBD Areas		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)	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)
>26.6	With-Action Condition < 24.0	>21.5	With-Action Condition < 19.5	>44.3	With-Action Condition < 40.0	>39.2	With-Action Condition < 31.5
25.8 to 26.6	≥ 2.6	21.3 to 21.5	≥ 2.1	43.5 to 44.3	≥ 4.3	38.7 to 39.2	≥ 3.8
24.9 to 25.7	≥ 2.5	20.4 to 21.2	≥ 2.0	42.5 to 43.4	≥ 4.2	37.8 to 38.6	≥ 3.7
24.0 to 24.8	≥ 2.4	19.5 to 20.3	≥ 1.9	41.6 to 42.4	≥ 4.1	36.8 to 37.7	≥ 3.6
23.1 to 23.9	≥ 2.3	18.6 to 19.4	≥ 1.8	40.6 to 41.5	≥ 4.0	35.9 to 36.7	≥ 3.5
22.2 to 23.0	≥ 2.2	17.7 to 18.5	≥ 1.7	39.7 to 40.5	≥ 3.9	34.9 to 35.8	≥ 3.4
21.3 to 22.1	≥ 2.1	16.8 to 17.6	≥ 1.6	38.7 to 39.6	≥ 3.8	34.0 to 34.8	≥ 3.3
20.4 to 21.2	≥ 2.0	15.9 to 16.7	≥ 1.5	37.8 to 38.6	≥ 3.7	33.0 to 33.9	≥ 3.2
19.5 to 20.3	≥ 1.9	15.0 to 15.8	≥ 1.4	36.8 to 37.7	≥ 3.6	32.1 to 32.9	≥ 3.1
18.6 to 19.4	≥ 1.8	14.1 to 14.9	≥ 1.3	35.9 to 36.7	≥ 3.5	31.1 to 32.0	≥ 3.0
17.7 to 18.5	≥ 1.7	13.2 to 14.0	≥ 1.2	34.9 to 35.8	≥ 3.4	30.2 to 31.0	≥ 2.9
16.8 to 17.6	≥ 1.6	12.3 to 13.1	≥ 1.1	34.0 to 34.8	≥ 3.3	29.2 to 30.1	≥ 2.8
15.9 to 16.7	≥ 1.5	11.4 to 12.2	≥ 1.0	33.0 to 33.9	≥ 3.2	28.3 to 29.1	≥ 2.7
15.0 to 15.8	≥ 1.4	10.5 to 11.3	≥ 0.9	32.1 to 32.9	≥ 3.1	27.3 to 28.2	≥ 2.6
14.1 to 14.9	≥ 1.3	9.6 to 10.4	≥ 0.8	31.1 to 32.0	≥ 3.0	26.4 to 27.2	≥ 2.5
13.2 to 14.0	≥ 1.2	8.7 to 9.5	≥ 0.7	30.2 to 31.0	≥ 2.9	25.4 to 26.3	≥ 2.4
12.3 to 13.1	≥ 1.1	7.8 to 8.6	≥ 0.6	29.2 to 30.1	≥ 2.8	24.5 to 25.3	≥ 2.3
11.4 to 12.2	≥ 1.0	6.9 to 7.7	≥ 0.5	28.3 to 29.1	≥ 2.7	23.5 to 24.4	≥ 2.2
10.5 to 11.3	≥ 0.9	6.0 to 6.8	≥ 0.4	27.3 to 28.2	≥ 2.6	22.6 to 23.4	≥ 2.1
9.6 to 10.4	≥ 0.8	5.1 to 5.9	≥ 0.3	26.4 to 27.2	≥ 2.5	21.6 to 22.5	≥ 2.0
8.7 to 9.5	≥ 0.7	< 5.1	≥ 0.2	25.4 to 26.3	≥ 2.4	20.7 to 21.5	≥ 1.9
7.8 to 8.6	≥ 0.6	–	–	24.5 to 25.3	≥ 2.3	19.7 to 20.6	≥ 1.8
6.9 to 7.7	≥ 0.5	–	–	23.5 to 24.4	≥ 2.2	18.8 to 19.6	≥ 1.7
6.0 to 6.8	≥ 0.4	–	–	22.6 to 23.4	≥ 2.1	17.8 to 18.7	≥ 1.6
5.1 to 5.9	≥ 0.3	–	–	21.6 to 22.5	≥ 2.0	16.9 to 17.7	≥ 1.5
< 5.1	≥ 0.2	–	–	20.7 to 21.5	≥ 1.9	15.9 to 16.8	≥ 1.4
		–	–	19.7 to 20.6	≥ 1.8	15.0 to 15.8	≥ 1.3
		–	–	18.8 to 19.6	≥ 1.7	14.0 to 14.9	≥ 1.2
		–	–	17.8 to 18.7	≥ 1.6	13.1 to 13.9	≥ 1.1
		–	–	16.9 to 17.7	≥ 1.5	12.1 to 13.0	≥ 1.0
		–	–	15.9 to 16.8	≥ 1.4	11.2 to 12.0	≥ 0.9
		–	–	15.0 to 15.8	≥ 1.3	10.2 to 11.1	≥ 0.8
		–	–	14.0 to 14.9	≥ 1.2	9.3 to 10.1	≥ 0.7
		–	–	13.1 to 13.9	≥ 1.1	8.3 to 9.2	≥ 0.6
		–	–	12.1 to 13.0	≥ 1.0	7.4 to 8.2	≥ 0.5
		–	–	11.2 to 12.0	≥ 0.9	6.4 to 7.3	≥ 0.4
		–	–	10.2 to 11.1	≥ 0.8	< 6.4	≥ 0.3
		–	–	9.3 to 10.1	≥ 0.7	–	–
		–	–	8.3 to 9.2	≥ 0.6	–	–
		–	–	7.4 to 8.2	≥ 0.5	–	–
		–	–	6.4 to 7.3	≥ 0.4	–	–
		–	–	< 6.4	≥ 0.3	–	–

Source: CEQR Technical Manual

Table 12-10: Significant Impact Criteria for Corners and Crosswalks

Non-CBD Areas		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)
>26.6	With-Action Condition < 24.0	>21.5	With-Action Condition <19.5
25.8 to 26.6	≥ 2.6	21.3 to 21.5	≥ 2.1
24.9 to 25.7	≥ 2.5	20.4 to 21.2	≥ 2.0
24.0 to 24.8	≥ 2.4	19.5 to 20.3	≥ 1.9
23.1 to 23.9	≥ 2.3	18.6 to 19.4	≥ 1.8
22.2 to 23.0	≥ 2.2	17.7 to 18.5	≥ 1.7
21.3 to 22.1	≥ 2.1	16.8 to 17.6	≥ 1.6
20.4 to 21.2	≥ 2.0	15.9 to 16.7	≥ 1.5
19.5 to 20.3	≥ 1.9	15.0 to 15.8	≥ 1.4
18.6 to 19.4	≥ 1.8	14.1 to 14.9	≥ 1.3
17.7 to 18.5	≥ 1.7	13.2 to 14.0	≥ 1.2
16.8 to 17.6	≥ 1.6	12.3 to 13.1	≥ 1.1
15.9 to 16.7	≥ 1.5	11.4 to 12.2	≥ 1.0
15.0 to 15.8	≥ 1.4	10.5 to 11.3	≥ 0.9
14.1 to 14.9	≥ 1.3	9.6 to 10.4	≥ 0.8
13.2 to 14.0	≥ 1.2	8.7 to 9.5	≥ 0.7
12.3 to 13.1	≥ 1.1	7.8 to 8.6	≥ 0.6
11.4 to 12.2	≥ 1.0	6.9 to 7.7	≥ 0.5
10.5 to 11.3	≥ 0.9	6.0 to 6.8	≥ 0.4
9.6 to 10.4	≥ 0.8	5.1 to 5.9	≥ 0.3
8.7 to 9.5	≥ 0.7	< 5.1	≥ 0.2
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		
< 5.1	≥ 0.2		

Source: CEQR Technical Manual.

### Vehicle and Pedestrian Safety

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

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## 12.4 Transportation Analysis

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### Existing Conditions – Year 2016

#### Traffic

##### *Roadway Network*

Vehicular access to the project site is provided along Exterior Street at its intersection with East 150th Street. The project site is within the vicinity of a network of highways, bridges, and arterials to reach Exterior Street. Project-generated trips will primarily come from East 149th Street, the Grand Concourse, and the Major Deegan Expressway. Descriptions of the major roadways within the study area are provided below.

##### **Exterior Street**

Within the study area, Exterior Street travels north-south underneath the Major Deegan Expressway. Exterior Street is primarily a two-way north-south street with two travel lanes in each direction. North of East 149th Street, Exterior Street is approximately 58 feet wide. The roadway width varies from approximately 60 feet to 86 feet wide south of East 149th Street due to the presence of the Major Deegan Expressway's support columns and ramps. On-street parking is not permitted along Exterior Street. There is no bus service along this roadway.

##### **East 149th Street**

East 149th Street is a major east-west roadway that provides a connection to Manhattan via the 145th Street Bridge on its west end. Within the study area, East 149th Street generally consists of two travel lanes and parking in each direction and is approximately 70 feet wide. Two bus lines, the Bx2 and B19, operate along East 149th Street within the study area. East 149th Street is a NYCDOT designated truck route, and is the primary connector between the project site and the neighborhood transit and commercial center at the Grand Concourse.

##### **Grand Concourse**

The Grand Concourse is an approximately 80 feet wide north-south arterial and generally has three travel lanes with parking in each direction. The Grand Concourse also provides access to the Major Deegan Expressway south of the study area. There are several local and express bus lines that utilize the Grand Concourse in both directions.

Traffic improvements were implemented along the Grand Concourse corridor in the summer of 2016, after existing traffic counts were conducted, and included the reduction in the number of travel lanes in the northbound and southbound directions from three travel lanes to two travel lanes, conversion of existing crosswalks to high-visibility crosswalks, and expansion of the concrete median at several intersections.

### **Major Deegan Expressway**

The Major Deegan Expressway provides regional highway access to and from the study area. It consists of three travel lanes in each direction. Access to the Major Deegan is provided north of the project site past the BTM, and at East 138th Street south of the project site. Additionally, there is a northbound off-ramp that feeds into the intersection of East 149th Street and Exterior Street. The Major Deegan Expressway is also a NYCDOT designated truck route.

#### *Traffic Volumes*

Existing traffic volume counts were conducted in June 2016 for the weekday AM, midday, PM, and Saturday peak periods using manual turning movement counts and 24-hour Automatic Traffic Recorder (ATR) machine counts. Traffic counts for the Saturday peak period were conducted for a Yankee Stadium event condition. These volumes were used along with observations of traffic conditions to determine the levels of service for the weekday peak hours of 7:45 to 8:45 AM, 1:00 to 2:00 PM, and 4:30 to 5:30 PM as well as the Saturday peak hour of 3:00 to 4:00 PM.

Traffic volumes along northbound Exterior Street in front of the project site typically range from 400 vehicles per hour (vph) to 600 vph in front of the project site during the peak hours analyzed. Southbound Exterior Street traffic volumes are highest during the weekday AM and Saturday peak hours carrying approximately 600 vph, and are lower during the weekday midday and PM peak hours (approximately 375 vph).

Between Exterior Street and the Grand Concourse, traffic volumes along East 149th Street range from approximately 750 vph to 950 vph during the weekday AM, PM, and Saturday peak hours in each direction. Traffic volumes are lower during the weekday midday peak hour, ranging from approximately 575 vph to 675 vph.

The 145th Street Bridge carries approximately 1,000 to 1,350 vph in the Bronx from Manhattan during the weekday AM, PM, and Saturday peak hours. In the opposite direction, traffic volumes along the bridge typically range from approximately 800 vph to 1,100 vph during those times. Traffic volumes are lower during the weekday midday peak hour with approximately 700 vph in each direction.

The Grand Concourse carries approximately 850 vph to 1,150 vph in the northbound direction during the peak hours analyzed. Traffic volumes along the southbound Grand Concourse ranges from approximately 650 vph to 900 vph during the weekday peak hours, and carries approximately 950 vph to 1,100 vph during the Saturday peak hour.

Other streets such as River Avenue, Gerard Avenue, Walton Avenue, and East 150th Street generally carry lower traffic volumes. For all peak hours analyzed, East 150th Street carries approximately 50 vph to 175 vph, River Avenue carries approximately 200 vph to 400 vph in each direction, and Gerard Avenue and Walton Avenue each carry approximately 150 vph to 250 vph.

Existing traffic volumes are shown in Figures 12-12 through 12-15.

#### *Levels of Service*

Tables 12-11 and 12-12 provide an overview of levels of service that characterize existing “overall” intersection conditions and individual traffic movements, respectively, during the weekday AM,









midday, and PM peak hours. Detailed descriptions of the existing condition traffic levels of services are provided in Table 12-13.

Table 12-11: 2016 Existing Traffic Levels of Service – Overall Intersections

	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Intersections at Overall LOS A/B/C	7	7	6	7
Intersections at Overall LOS D	1	1	1	0
Intersections at Overall LOS E	0	0	1	1
Intersections at Overall LOS F	0	0	0	0
Notes: Includes eight intersections (five signalized and three unsignalized)				

Table 12-12: 2016 Existing Traffic Levels of Service – Traffic Movements

	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Traffic Movements at LOS A/B/C or acceptable LOS D	34	38	31	32
Traffic Movements at Unacceptable LOS D	3	2	5	3
Traffic Movements at LOS E	4	2	3	3
Traffic Movements at LOS F	1	0	3	4
Number of individual traffic movements	42	42	42	42
Notes: The number of movements may vary between peak hours due to turn prohibitions, parking regulations, and the presence of de facto left turn movements. Per the <i>CEOR Technical Manual</i> , a signalized movement operating with delays greater than 45 seconds, or an unsignalized movement operating with delays greater than 30 seconds, is considered unacceptable.				

The summary overview of existing conditions indicates that:

- During the weekday AM peak hour, none of the eight intersections are operating at overall LOS E or F. “Overall” LOS E or F mean that serious congestion exists—either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersections are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all the individual traffic movements). Five individual traffic movements out of approximately 42 such movements analyzed are at LOS E or F (e.g., left turns from one street to another, through traffic passing through the intersections, etc.).
- In the weekday midday peak hour, all intersections are operating at overall acceptable levels of service. Two individual movements operate at LOS E or F.
- In the weekday PM peak hour, one intersection is operating at overall LOS E. Six individual movements operate at LOS E or F.
- In the Saturday peak hour, one intersection is operating at overall LOS E. Seven individual movements operate at LOS E or F.

The three unsignalized intersections that were studied all operate at overall LOS A during all peak hours.

**TABLE 12-13**  
**LOWER CONCOURSE NORTH REZONING EIS**  
**2016 EXISTING CONDITION**

INTERSECTION & APPROACH	Weekday AM Peak Hour				Weekday Midday Peak Hour				Weekday PM Peak Hour				Saturday MD Peak Hour					
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		
<b>SIGNALIZED INTERSECTIONS</b>																		
<b>East 149th Street and Exterior Street/River Avenue</b>																		
145th Street Bridge																		
EB	L	0.99	79.5	E	L	0.62	30.4	C	L	1.02	80.4	F	L	0.96	67.7	E		
	TR	0.71	37.1	D	TR	0.62	34.5	C	TR	1.04	79.1	E	TR	0.88	45.9	D		
East 149th Street																		
WB	L	0.68	100.3	F	L	0.43	44.2	D	L	0.72	102.3	F	L	0.85	109.0	F		
	TR	0.83	69.2	E	TR	0.64	37.9	D	TR	0.70	54.3	D	TR	0.85	44.3	D		
Major Deegan Expressway Off-Ramp																		
NB	LT	0.44	43.8	D	LT	0.43	43.4	D	LT	0.21	39.0	D	LT	0.25	39.6	D		
	TR	0.14	38.0	D	TR	0.14	38.0	D	TR	0.05	36.6	D	TR	0.08	37.1	D		
Exterior Street																		
SB	L	0.77	55.3	E	L	0.67	49.6	D	L	0.67	50.9	D	L	0.89	71.3	E		
	T	0.42	43.6	D	T	0.30	40.9	D	T	0.31	41.2	D	T	0.34	41.3	D		
NB	R	0.56	39.5	D	R	0.32	33.6	C	R	0.25	32.3	C	R	0.47	36.8	D		
	L	0.51	44.4	D	L	0.72	60.3	E	L	1.05	115.7	F	L	1.04	117.5	F		
River Avenue																		
SB	LT	0.66	55.5	E	LT	0.73	59.1	E	LT	0.79	65.2	E	LT	1.04	114.4	F		
	R	0.34	41.9	D	R	0.30	41.0	D	R	0.28	40.6	D	R	0.61	50.3	D		
<b>Overall Intersection</b>		-	<b>0.84</b>	<b>53.5</b>	<b>D</b>	-	<b>0.73</b>	<b>40.6</b>	<b>D</b>	-	<b>1.03</b>	<b>68.5</b>	<b>E</b>	-	<b>1.03</b>	<b>58.3</b>	<b>E</b>	
<b>East 149th Street and Gerard Avenue</b>																		
East 149th Street		EB	LT	0.56	10.9	B	LT	0.51	10.2	B	LT	0.77	14.5	B	LT	0.84	17.8	B
		WB	TR	0.43	9.1	A	TR	0.35	8.3	A	TR	0.45	9.3	A	TR	0.50	9.9	A
Gerard Avenue		NB	LTR	0.46	43.5	D	LTR	0.47	43.8	D	LTR	0.64	49.5	D	LTR	0.62	49.8	D
<b>Overall Intersection</b>		-	<b>0.54</b>	<b>12.9</b>	<b>B</b>	-	<b>0.50</b>	<b>13.0</b>	<b>B</b>	-	<b>0.74</b>	<b>16.2</b>	<b>B</b>	-	<b>0.78</b>	<b>17.0</b>	<b>B</b>	
<b>East 149th Street and Walton Avenue</b>																		
East 149th Street		EB	TR	0.40	8.7	A	TR	0.32	8.1	A	TR	0.42	8.8	A	TR	0.40	8.5	A
		WB	LT	0.46	9.3	A	LT	0.36	8.4	A	LT	0.48	9.5	A	LT	0.44	9.1	A
Walton Avenue		SB	LTR	0.69	54.2	D	LTR	0.70	54.6	D	LTR	0.69	54.1	D	LTR	0.97	92.4	F
<b>Overall Intersection</b>		-	<b>0.52</b>	<b>14.1</b>	<b>B</b>	-	<b>0.45</b>	<b>14.5</b>	<b>B</b>	-	<b>0.53</b>	<b>14.1</b>	<b>B</b>	-	<b>0.57</b>	<b>19.5</b>	<b>B</b>	
<b>East 149th Street and Grand Concourse</b>																		
East 149th Street		EB	TR	0.91	54.7	D	TR	0.70	38.7	D	TR	0.99	67.8	E	TR	0.88	47.3	D
		WB	T	0.77	44.4	D	T	0.56	34.8	C	T	0.74	43.0	D	T	0.71	38.8	D
Grand Concourse		RB	0.67	47.4	D	R	0.39	34.3	C	R	0.42	38.6	D	R	0.64	42.8	D	
		NB	TR	0.49	21.2	C	TR	0.47	23.2	C	TR	0.58	22.8	C	TR	0.58	25.2	C
		SB	LTR	0.52	17.9	B	LTR	0.38	18.0	B	LTR	0.49	17.4	B	LTR	0.67	22.9	C
<b>Overall Intersection</b>		-	<b>0.66</b>	<b>33.5</b>	<b>C</b>	-	<b>0.52</b>	<b>28.2</b>	<b>C</b>	-	<b>0.68</b>	<b>35.8</b>	<b>D</b>	-	<b>0.75</b>	<b>32.4</b>	<b>C</b>	
<b>East 150th Street and Grand Concourse</b>																		
East 150th Street		WB	LTR	0.04	29.9	C	LTR	0.21	27.0	C	LTR	0.61	42.7	D	LTR	0.14	25.9	C
		NB	L	0.35	15.5	B	L	0.38	19.8	B	L	0.33	14.9	B	T	0.60	33.7	C
		T	0.53	14.6	B	T	0.52	18.7	B	T	0.60	15.8	B	T	0.68	21.9	C	
		SB	TR	0.38	12.3	B	TR	0.33	15.8	B	TR	0.40	12.6	B	TR	0.53	18.5	B
<b>Overall Intersection</b>		-	<b>0.37</b>	<b>13.6</b>	<b>B</b>	-	<b>0.40</b>	<b>18.0</b>	<b>B</b>	-	<b>0.61</b>	<b>17.1</b>	<b>B</b>	-	<b>0.46</b>	<b>20.7</b>	<b>C</b>	
<b>UN SIGNALIZED INTERSECTIONS</b>																		
<b>East 150th Street and Exterior Street</b>																		
East 150th Street		WB	R	-	10.1	B	R	-	11.5	B	R	-	11.6	B	R	-	14.7	B
		NB	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A
		SB	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A
<b>Overall Intersection</b>		-	-	<b>0.6</b>	<b>A</b>	-	-	<b>1.3</b>	<b>A</b>	-	-	<b>1.5</b>	<b>A</b>	-	-	-	<b>2.1</b>	<b>A</b>
<b>East 150th Street and River Avenue</b>																		
East 150th Street		WB	LTR	-	13.2	B	LTR	-	19.5	C	LTR	-	34.1	D	LTR	-	43.6	E
		NB	L	-	7.8	A	L	-	7.9	A	L	-	7.9	A	L	-	8.6	A
River Avenue		T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	
		SB	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A
		R	-	0.0	A	R	-	0.0	A	R	-	0.0	A	R	-	0.0	A	
<b>Overall Intersection</b>		-	-	<b>2.2</b>	<b>A</b>	-	-	<b>2.8</b>	<b>A</b>	-	-	<b>6.9</b>	<b>A</b>	-	-	-	<b>8.8</b>	<b>A</b>
<b>East 144th Street and Exterior Street</b>																		
East 144th Street		EB	LTR	-	15.7	C	LTR	-	15.8	C	LTR	-	20.3	C	LTR	-	0.0	A
		WB	LTR	-	12.6	B	LTR	-	9.9	A	LTR	-	10.7	B	LTR	-	11.4	B
Exterior Street		NB	TR	-	0.0	A	TR	-	0.0	A	TR	-	0.0	A	TR	-	0.0	A
		SB	L	-	7.8	A	L	-	7.6	A	L	-	8.1	A	L	-	7.8	A
		T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	
<b>Overall Intersection</b>		-	-	<b>3.9</b>	<b>A</b>	-	-	<b>2.7</b>	<b>A</b>	-	-	<b>2.4</b>	<b>A</b>	-	-	-	<b>1.4</b>	<b>A</b>

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

(3) Synchro 9 was used to model the intersection of East 149th Street and Exterior Street/River Avenue

Four of the five signalized intersections and one unsignalized intersection have at least one movement operating at unacceptable levels of service (unacceptable LOS D, LOS E, or LOS F) during at least one peak hour and are listed below:

**East 149th Street and Exterior Street/River Avenue**

- Eastbound left turn movement (weekday AM, PM, and Saturday peak hours)
- Eastbound shared through-right movement (weekday PM and Saturday peak hours)
- Westbound left turn movement (weekday AM, PM, and Saturday peak hours)
- Westbound shared through-right movement (weekday AM and PM peak hours)
- Southbound Exterior Street left turn movement (weekday AM, midday, PM, and Saturday peak hours)
- Northbound Exterior Street left turn movement (weekday midday, PM, and Saturday peak hours)
- Southbound River Avenue shared left-through movement (weekday AM, midday, PM, and Saturday peak hours)

**East 149th Street and Gerard Avenue**

- Northbound approach (weekday PM, and Saturday peak hours)

**East 149th Street and Walton Avenue**

- Southbound approach (weekday AM, midday, PM, and Saturday peak hours)

**East 149th Street and Grand Concourse**

- Eastbound approach (weekday AM, PM, and Saturday peak hours)
- Westbound right turn movement (weekday AM peak hour)

**East 150th Street and River Avenue**

- Westbound approach (weekday PM and Saturday peak hours)

Within the study area, East 149th Street is generally characterized by heavy vehicular volumes, congestion at key intersections, and poor traffic progression. During the peak commuter periods, motorists experience long queues and delays along East 149th Street at the intersections of Exterior Street and the Grand Concourse. This is due to the increase in street elevation approaching the Grand Concourse and poor signal coordination with the traffic signals at Gerard Avenue and Walton Avenue leading to dense volumes and slow speeds along this corridor. The queues generally extend to the next intersection, and are worsened during the weekday PM peak period. During this period, eastbound vehicle trips arriving from Manhattan via the 145th Street Bridge experience long queues extending past the midpoint of the bridge, and also experience additional delays due to high left turn volumes at Gerard Avenue to the car wash located between River Avenue and Gerard Avenue.

Long queues and delays were also observed for the Saturday peak hour which was analyzed for the departure period of a Yankee Stadium event. A substantial increase in traffic volumes was observed

along the southbound River Avenue and Walton Avenue corridors and resulted in queues extending from East 149th Street past East 151st Street. The southbound River Avenue and Walton Avenue approaches at East 149th Street both operate at LOS F during this peak hour).

### Parking

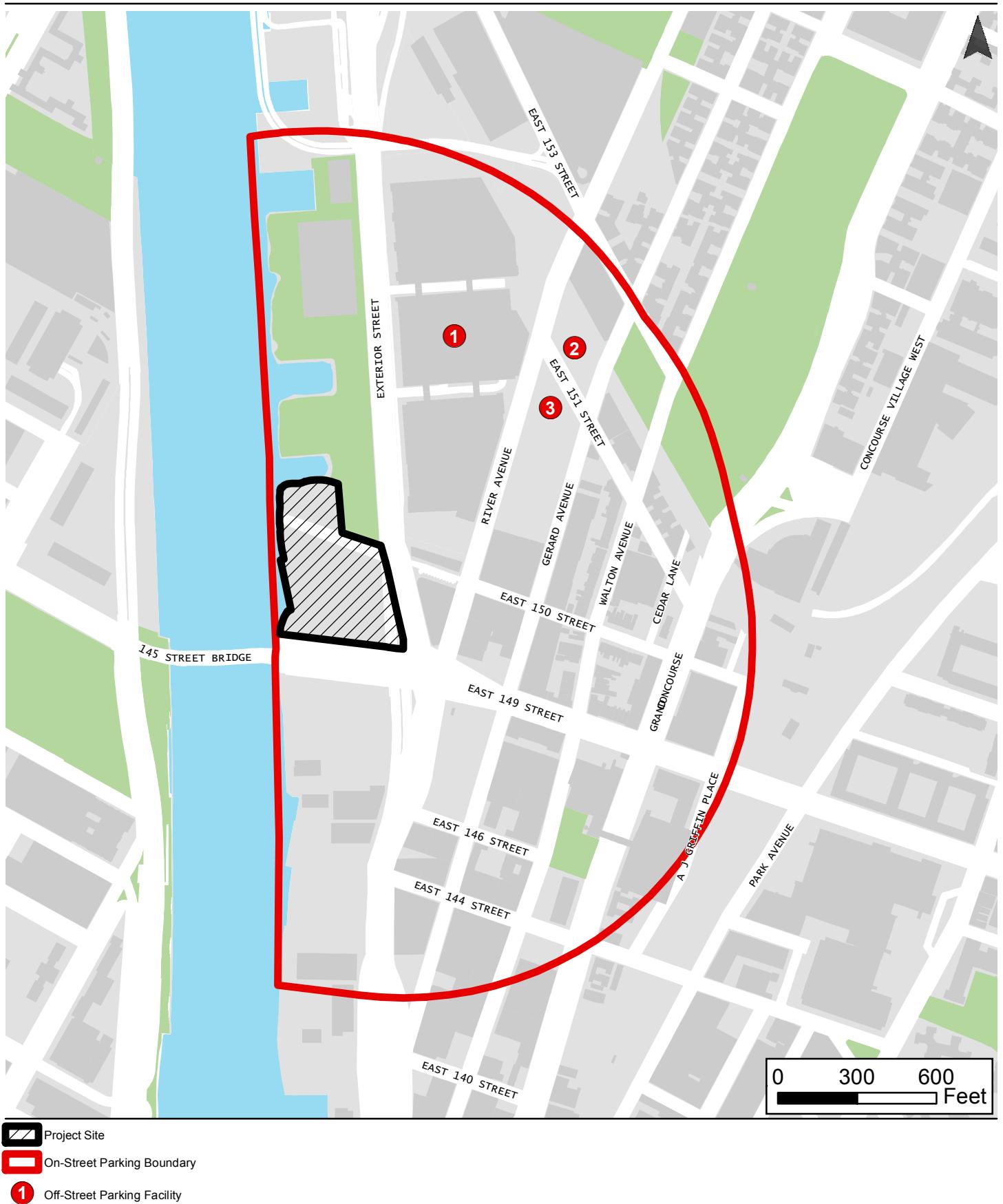
A detailed inventory of on-street parking and off-street public parking lots and garages within approximately a quarter-mile of the project site was conducted on a typical weekday and Saturday in June 2016. This quarter-mile distance is considered an acceptable walking distance to and from parking, per the *CEQR Technical Manual*. There are three public parking lots or garages within or close to this quarter-mile area; Figure 12-16 shows the locations these parking facilities.

Table 12-14 presents the capacity and occupancy of the off-street parking facilities during the weekday AM (7 AM to 9:30 AM), midday (11 AM to 2 PM), PM (4 PM to 6:30 PM), and Saturday (noon to 4 PM) peak periods. Two of the three off-street parking facilities were not in operation during the count period; they are open only during Yankee games and are unlikely to be available for residential overnight parking. The third parking facility, the parking garage at the BTM, has a capacity of 2,332 parking spaces and is approximately 16 percent occupied during the weekday AM peak period, 40 percent during the weekday midday peak period, 46 percent during the weekday PM peak period, and 47 percent during the Saturday peak period. Monthly parking is available at this parking garage.

**Table 12-14: 2016 Existing Off-Street Parking Occupancy**

	Capacity	Weekday			Saturday Peak
		AM Peak	Midday Peak	PM Peak	
BTM Parking Garage Between Exterior Street and River Avenue	2,332	380 16%	924 40%	1,062 46%	1,089 47%
151st Street North Lot 151st Street between Gerard Ave and River Avenue	90	Parking facility is available only during Yankee baseball games and was closed during the count periods			
151st Street South Lot 151st Street between Gerard Ave and River Avenue	176	Parking facility is available only during Yankee baseball games and was closed during the count periods			

On-street parking regulations, capacities, and occupancies were also inventoried for the same quarter-mile radius on a block-by-block basis. The majority of streets within the study area have “No Parking” restrictions at certain times due to street cleaning restrictions. Metered spaces are found primarily along the Grand Concourse commercial corridor (one hour and six-hour metered parking spaces) and along Walton Street and East 149th Street near the Hostos Community College (six hour metered parking spaces). There is no parking available along Exterior Street and sections of River Avenue within the study area. There are a total of 730 legal on-street parking spaces within the entire parking study area. On weekdays, approximately 77 percent of on-street parking spaces (562 spaces) are occupied during the weekday AM peak period, 88 percent (645 spaces) during the weekday midday peak period, and 93 percent (681 spaces) during the weekday PM peak period. On-street parking occupancy during the Saturday peak period is approximately 83 percent (609 spaces).



Lower Concourse North  
The Bronx, New York

Parking Study Area

Figure  
12-16

### Transit

There are three subway lines and five bus routes serving the project site, as shown in Figure 12-17. A detailed analysis of transit operations during the critical weekday AM and PM commuter periods are presented below. During other time periods, background transit ridership and station utilization, as well as project trip generation, are much lower.

The 2, 4, and 5 subway lines at the 149th-Grand Concourse Street station are the closest to the project site and are located within a quarter-mile of the project site. The 2 line operates between the Flatbush Avenue-Brooklyn College station in Brooklyn and the Wakefield-241st Street station in the Bronx, and runs express local service through sections of the Bronx. The 4 line operates between the New Lots Avenue station in Brooklyn and the Woodlawn station in the Bronx, and the 5 line operates between the Flatbush Avenue-Brooklyn College station in Brooklyn and the Eastchester-Dyre Avenue station in the Bronx (an additional branch of the 5 line runs peak direction express service to/from Nereid Avenue) ~~with service between the 180th Street station and Nereid Avenue station in the Bronx during rush hours~~; these two lines run local express within Brooklyn.

There are five bus routes that make stops in the study area; Table 12-15 provides a summary of these routes and their peak period schedules. Most of these routes operate articulated buses with a guideline capacity of 85 passengers per bus, the Bx13 route operates with standard buses with a guideline capacity of 54 passengers per bus. There are five express bus routes operating along the Grand Concourse and the Major Deegan Expressway through the study area but none of these buses make stops in the study area.

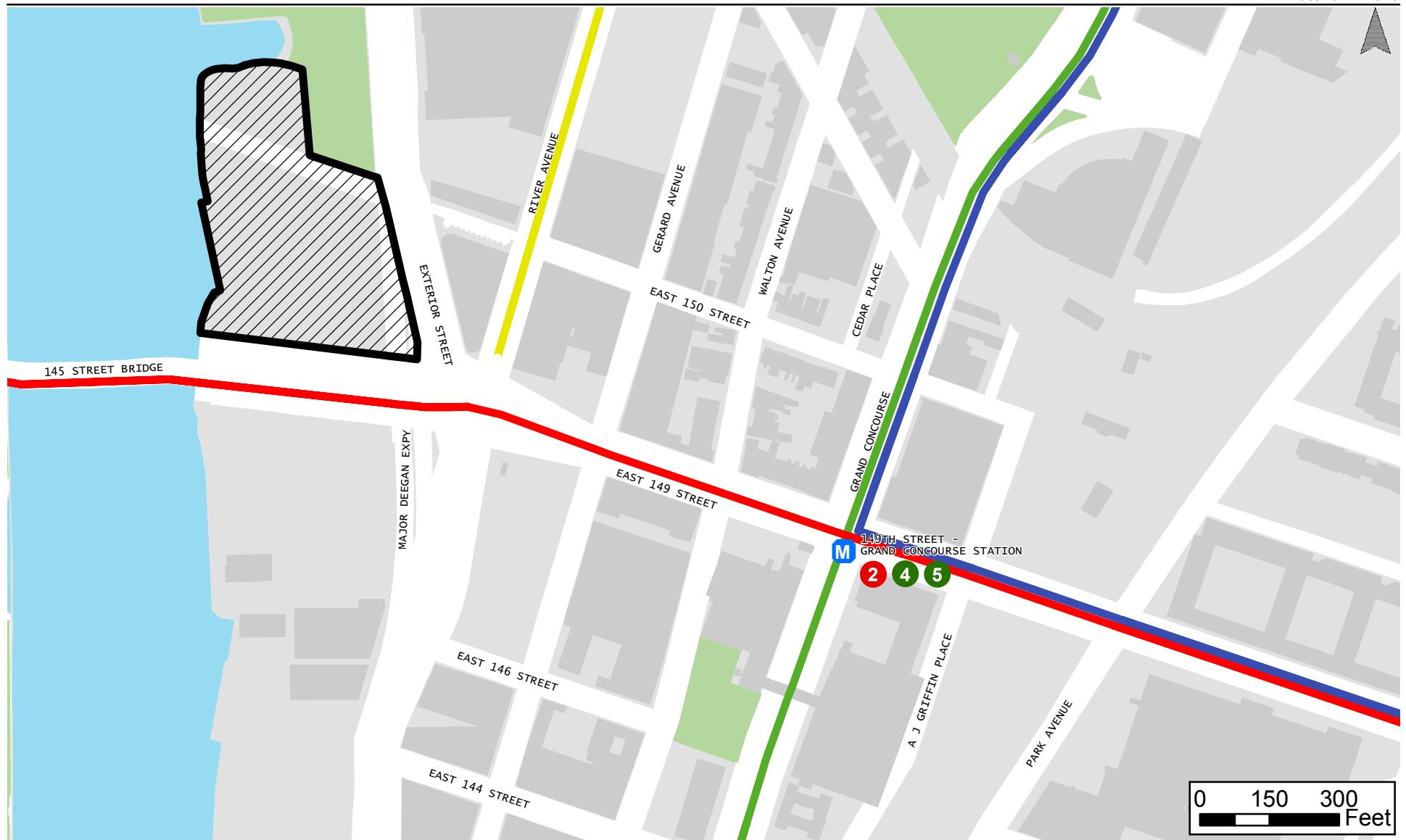
Table 12-15: Bus Routes Serving the Study Area

Bus Route	Route Extents	Study Area Route	Headway (minutes)			
			Weekday AM	Weekday Noon	Weekday PM	Saturday PM
Bx1	Riverdale Avenue – Lincoln Avenue	Grand Concourse	8	-	-	-
Bx1 LTD	Riverdale Avenue – Lincoln Avenue	Grand Concourse	8	10	9	14
Bx2	Riverdale – George Washington Bridge	Grand Concourse, East 149th Street	6	8	7	7
Bx13	George Washington Bridge – Gateway Mall	River Avenue	5	10	5	8
Bx19	Botanical Garden-Riverbank Park	East 149th Street	6	8	6	8

Source: MTA NYCT Bronx Bus Service Timetables (2016)

### Subway Station

As discussed in the Level 1 screening assessment, the proposed project is expected to generate approximately 549 subway trips (152 “in” trips and 397 “out” trips) during the weekday AM peak hour and 728 subway trips (444 “in” trips and 284 “out” trips) during the weekday PM peak hour. These trips were assigned to the 149th Street-Grand Concourse subway station through the northwest (S3) and southwest (S1) stairways, located on the southwest corner of the intersection of the Grand Concourse and East 149th Street, and through the subway station elements. Eleven stairways and one fare entry area were identified for analysis.



Project Site

Subway

Subway Stations

**Bus Routes** BX13

BX1

BX19

BX2

Existing stairway and fare control counts were conducted in June 2016 for the weekday AM (7 AM to 9:30 AM) and PM (4 PM to 6:30 PM) peak periods to develop existing volumes for the subway stairway analysis. Additional stairway counts for the rest of the station were conducted in February 2017~~as requested by NYCT~~. Of the 11 stairways analyzed, nine stairways operate at acceptable levels of service during both the weekday AM and PM peak hour. Stairway ~~ML5/ML7~~ ML1/ML3<sup>5</sup> operates at over-capacity during the weekday AM peak hour (v/c ratio of 1.01) and stairway PL6 operates at over-capacity during both the weekday AM (v/c ratio of ~~1.32~~ 1.05) and PM (v/c ratio of ~~1.38~~ 1.43) peak hours. The west fare control area (R260) consists of two HEETs and one HXT, and operates at acceptable LOS A during the weekday AM (v/c ratio of ~~0.25~~ 0.22) and PM (v/c ratio of ~~0.25~~ 0.31) peak hours. Detailed descriptions of the subway station element levels of service are provided in Tables 12-16 and 12-17.

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<sup>5</sup> Stairway ML1/ML3 was incorrectly labeled as ML5/ML7, and stairway ML5/ML7 was incorrectly labeled as ML1/ML3 during the counts conducted in February 2017. The stairway labels have been corrected between the draft and final certification of the GEIS.

Table 12-16: 2016 Existing Subway Station Levels of Service—Stairways

Peak Hour	Effective Width	Pedestrian Volume Up (15 minutes)	Pedestrian Volume Down (15 minutes)	Friction Factors	Surging Factor (Up/Down)	v/c ratio	LOS
<b>Northwest stairway (S3) between street and upper mezzanine levels</b>							
Weekday AM	48 inches	60	55	0.90	1.00/0.90	0.23	A
Weekday PM	48 inches	92	91	0.90	1.00/0.90	0.36	A
<b>Upper mezzanine passageway stairway (U1A/U1B)</b>							
Weekday AM	155 inches	216	104	0.90	0.80/1.00	0.21	A
Weekday PM	155 inches	168	155	0.90	0.80/1.00	0.21	A
<b>Upper mezzanine passageway stairway (U3A/U3B)</b>							
Weekday AM	146 inches	256	225	0.90	0.80/1.00	0.33	A
Weekday PM	146 inches	132	288	0.90	0.80/1.00	0.28	A
<b>Stairway (P1) between upper mezzanine level and southbound number 4 subway line platform</b>							
Weekday AM	87 inches	253	95	0.90	0.75/1.00	0.44	A
Weekday PM	87 inches	112	114	0.90	0.75/1.00	0.27	A
<b>Stairway (P3) between upper mezzanine level and southbound number 4 subway line platform</b>							
Weekday AM	87 inches	261	164	0.90	0.75/1.00	0.52	B
Weekday PM	87 inches	128	267	0.90	0.75/1.00	0.44	A
<b>Stairway (ML1/ML3) between southbound number 4 subway line platform and lower mezzanine level</b>							
Weekday AM	64 inches	50	150	0.90	0.80/0.75	0.37	A
Weekday PM	64 inches	20	66	0.90	0.80/0.75	0.16	A
<b>Stairway (ML5/ML7) between southbound number 4 subway line platform and lower mezzanine level</b>							
Weekday AM	66 inches	194	380	0.90	0.80/0.75	1.01	D
Weekday PM	66 inches	126	348	0.90	0.80/0.75	0.84	C
<b>Stairway (PL3) between lower mezzanine level and southbound number 2 and 5 subway lines platform</b>							
Weekday AM	48 inches	245	140	0.90	0.75/0.80	0.93	C
Weekday PM	48 inches	184	121	0.90	0.75/0.80	0.73	C
<b>Stairway (PL5) between lower mezzanine level and southbound number 2 and 5 subway lines platform</b>							
Weekday AM	46 inches	95	114	0.90	0.75/0.80	0.52	B
Weekday PM	46 inches	48	89	0.90	0.75/0.80	0.34	A
<b>Stairway (PL6) between lower mezzanine level and northbound number 2 and 5 subway lines platform</b>							
Weekday AM	48 inches	206	351	0.90	0.75/0.80	1.32	D
Weekday PM	48 inches	264	316	0.90	0.75/0.80	1.38	E
<b>Stairway (PL8) between lower mezzanine level and northbound number 2 and 5 subway lines platform</b>							
Weekday AM	48 inches	63	133	0.90	0.75/0.80	0.46	B
Weekday PM	48 inches	111	172	0.90	0.80/0.90	0.67	B

Table 12-16: 2016 Existing Subway Station Levels of Service – Stairways

<u>Peak Hour</u>	<u>Effective Width</u>	<u>Pedestrian Volume Up (15-minutes)</u>	<u>Pedestrian Volume Down (15-minutes)</u>	<u>Friction Factors</u>	<u>Surging Factor (Up/Down)</u>	<u>v/c ratio</u>	<u>LOS</u>
<u>Northwest stairway (S3) between street and upper mezzanine levels</u>							
<u>Weekday AM</u>	<u>48 inches</u>	<u>60</u>	<u>64</u>	<u>0.90</u>	<u>0.90/1.00</u>	<u>0.24</u>	<u>A</u>
<u>Weekday PM</u>	<u>48 inches</u>	<u>89</u>	<u>70</u>	<u>0.90</u>	<u>0.90/1.00</u>	<u>0.31</u>	<u>A</u>
<u>Upper mezzanine passageway stairway (U1A/U1B)</u>							
<u>Weekday AM</u>	<u>155 inches</u>	<u>161</u>	<u>108</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.18</u>	<u>A</u>
<u>Weekday PM</u>	<u>155 inches</u>	<u>170</u>	<u>187</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.23</u>	<u>A</u>
<u>Upper mezzanine passageway stairway (U3A/U3B)</u>							
<u>Weekday AM</u>	<u>146 inches</u>	<u>278</u>	<u>213</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.34</u>	<u>A</u>
<u>Weekday PM</u>	<u>146 inches</u>	<u>154</u>	<u>266</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.28</u>	<u>A</u>
<u>Stairway (P1) between upper mezzanine level and southbound number 4 subway line platform</u>							
<u>Weekday AM</u>	<u>87 inches</u>	<u>300</u>	<u>98</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.51</u>	<u>B</u>
<u>Weekday PM</u>	<u>87 inches</u>	<u>111</u>	<u>108</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.26</u>	<u>A</u>
<u>Stairway (P3) between upper mezzanine level and southbound number 4 subway line platform</u>							
<u>Weekday AM</u>	<u>87 inches</u>	<u>260</u>	<u>193</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.55</u>	<u>B</u>
<u>Weekday PM</u>	<u>87 inches</u>	<u>139</u>	<u>242</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.43</u>	<u>A</u>
<u>Stairway (ML1/ML3) between southbound number 4 subway line platform and lower mezzanine level</u>							
<u>Weekday AM</u>	<u>66 inches</u>	<u>151</u>	<u>422</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>1.01</u>	<u>D</u>
<u>Weekday PM</u>	<u>66 inches</u>	<u>147</u>	<u>346</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>0.87</u>	<u>C</u>
<u>Stairway (ML5/ML7) between southbound number 4 subway line platform and lower mezzanine level</u>							
<u>Weekday AM</u>	<u>64 inches</u>	<u>50</u>	<u>150</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>0.37</u>	<u>A</u>
<u>Weekday PM</u>	<u>64 inches</u>	<u>20</u>	<u>66</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>0.16</u>	<u>A</u>
<u>Stairway (PL3) between lower mezzanine level and southbound number 2 and 5 subway lines platform</u>							
<u>Weekday AM</u>	<u>48 Inches</u>	<u>207</u>	<u>148</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.85</u>	<u>C</u>
<u>Weekday PM</u>	<u>48 inches</u>	<u>155</u>	<u>133</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.69</u>	<u>B</u>
<u>Stairway (PL5) between lower mezzanine level and southbound number 2 and 5 subway lines platform</u>							
<u>Weekday AM</u>	<u>46 inches</u>	<u>78</u>	<u>109</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.47</u>	<u>B</u>
<u>Weekday PM</u>	<u>46 inches</u>	<u>38</u>	<u>97</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.34</u>	<u>A</u>
<u>Stairway (PL6) between lower mezzanine level and northbound number 2 and 5 subway lines platform</u>							
<u>Weekday AM</u>	<u>48 inches</u>	<u>140</u>	<u>305</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>1.05</u>	<u>D</u>
<u>Weekday PM</u>	<u>48 inches</u>	<u>254</u>	<u>348</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>1.43</u>	<u>E</u>
<u>Stairway (PL8) between lower mezzanine level and northbound number 2 and 5 subway lines platform</u>							
<u>Weekday AM</u>	<u>48 inches</u>	<u>59</u>	<u>144</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.48</u>	<u>B</u>
<u>Weekday PM</u>	<u>48 inches</u>	<u>74</u>	<u>196</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.64</u>	<u>B</u>

**Table 12-17: 2016 Existing Subway Station Levels of Service – Fare Control**

<u>Peak Hour</u>	<u>Control Elements</u>	<u>Pedestrian Volume In (15-minutes)</u>	<u>Pedestrian Volume Out (15-minutes)</u>	<u>Friction Factors</u>	<u>Surging Factor (Out Trips)</u>	<u>v/c ratio</u>	<u>LOS</u>
<b>West Fare Control (R260)</b>							
<u>Weekday AM</u>	<u>2 HEETs 1 HXT</u>	<u>77</u>	<u>65</u>	<u>0.90</u>	<u>0.90</u>	<u>0.22</u>	<u>A</u>
<u>Weekday PM</u>	<u>2 HEETs 1 HXT</u>	<u>97</u>	<u>128</u>	<u>0.90</u>	<u>0.90</u>	<u>0.31</u>	<u>A</u>

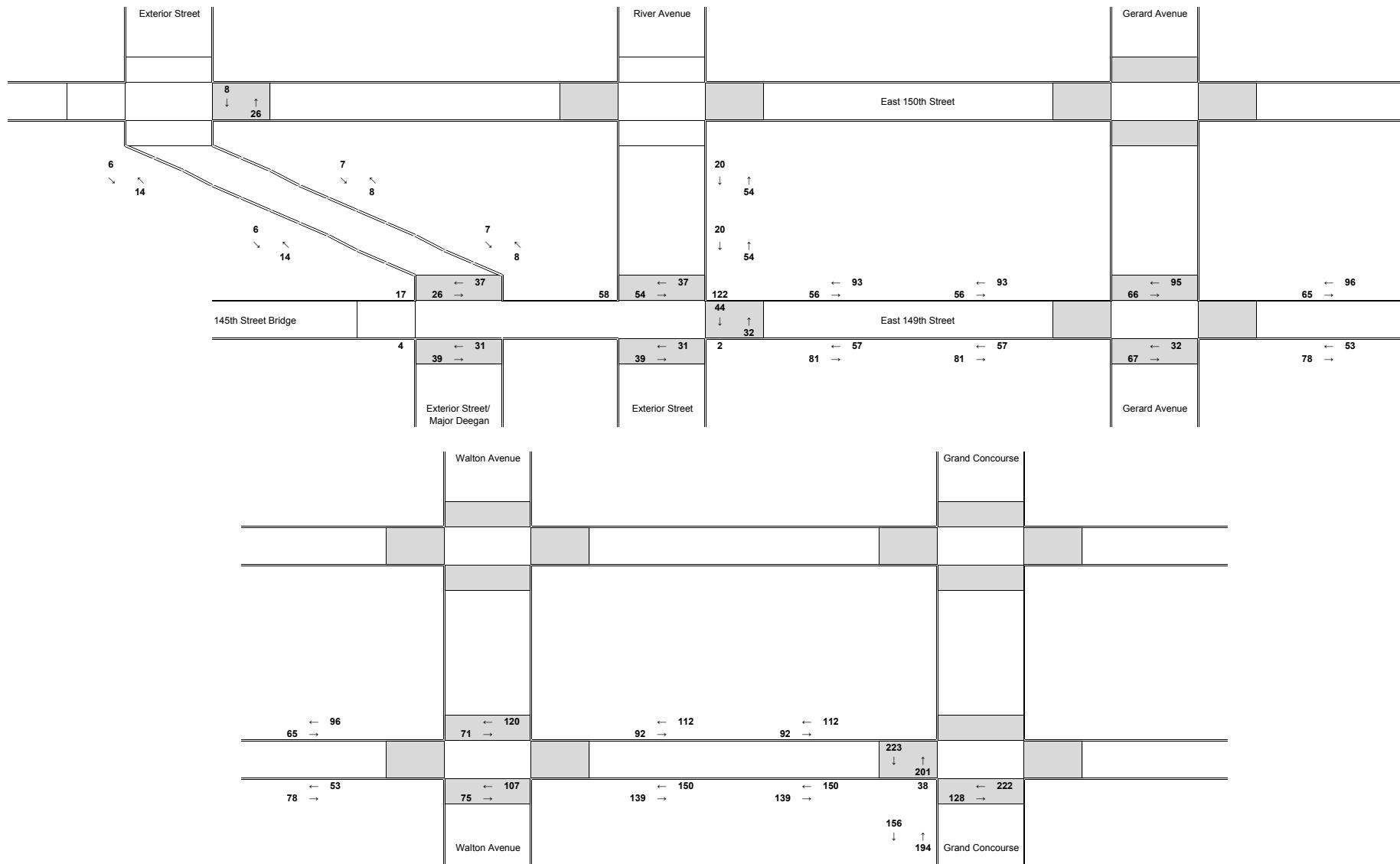
**Pedestrian**

Pedestrian counts were conducted at key locations near the project site for the weekday AM, midday, PM, and Saturday peak periods for two typical weekdays and two Saturdays in June 2016 (when NYC public schools were in session). The weekday peak hours of 8:30 AM to 9:30 AM, 12:00 PM to 1:00 PM, and 4:15 PM to 5:15 PM and Saturday peak hour of 3:00 PM to 4:00 PM were selected for analysis. The existing peak hour weekday AM, midday, PM and Saturday midday pedestrian volumes are presented in Figures 12-18 through 12-21.

As shown in Table 12-1718, all pedestrian elements analyzed operate at acceptable LOS B or better during all peak hours. Detailed descriptions of the levels of service for all pedestrian elements are provided in Tables 12-1819 through 12-2021.

**Table 12-1718: 2016 Existing Pedestrian Levels of Service Summary**

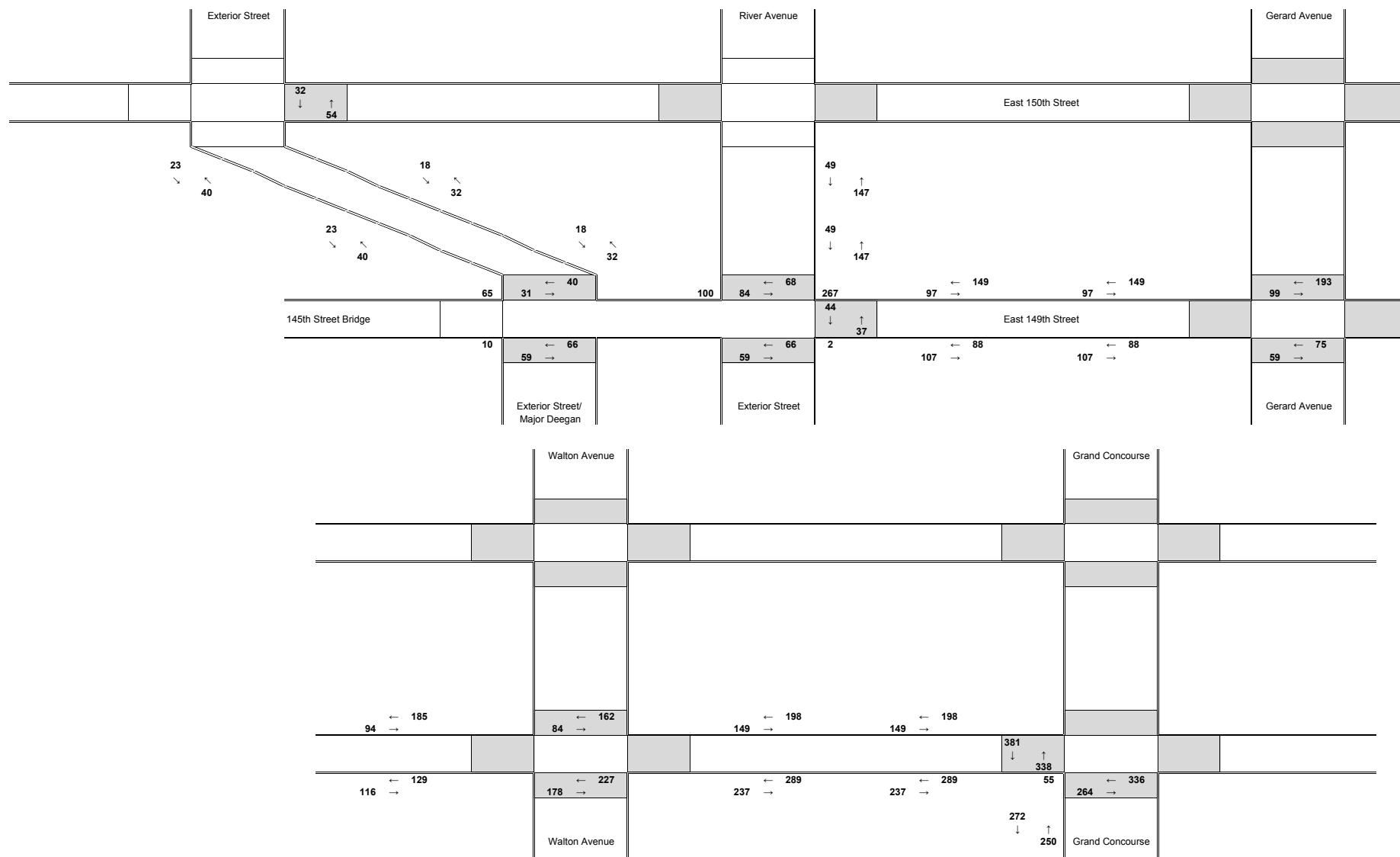
	Weekday			Saturday Peak Hour
	AM Peak Hour	Midday Peak Hour	PM Peak Hour	
<b>Sidewalk Elements</b>				
Sidewalks at LOS A/B/C	10	10	10	10
Sidewalks at LOS D	0	0	0	0
Sidewalks at LOS E	0	0	0	0
Sidewalks at LOS F	0	0	0	0
<b>Crosswalk Elements</b>				
Crosswalks at LOS A/B/C	9	9	9	9
Crosswalks at LOS D	0	0	0	0
Crosswalks at LOS E	0	0	0	0
Crosswalks at LOS F	0	0	0	0
<b>Corner Elements</b>				
Corners at LOS A/B/C	6	6	6	6
Corners at LOS D	0	0	0	0
Corners at LOS E	0	0	0	0
Corners at LOS F	0	0	0	0
<b>Notes:</b> Includes 10 sidewalk, nine crosswalks, and six corner analysis locations				



**Lower Concourse North**  
The Bronx, New York

**Existing Pedestrian Volumes**  
**Weekday AM Peak Hour**

Figure  
**12-18**

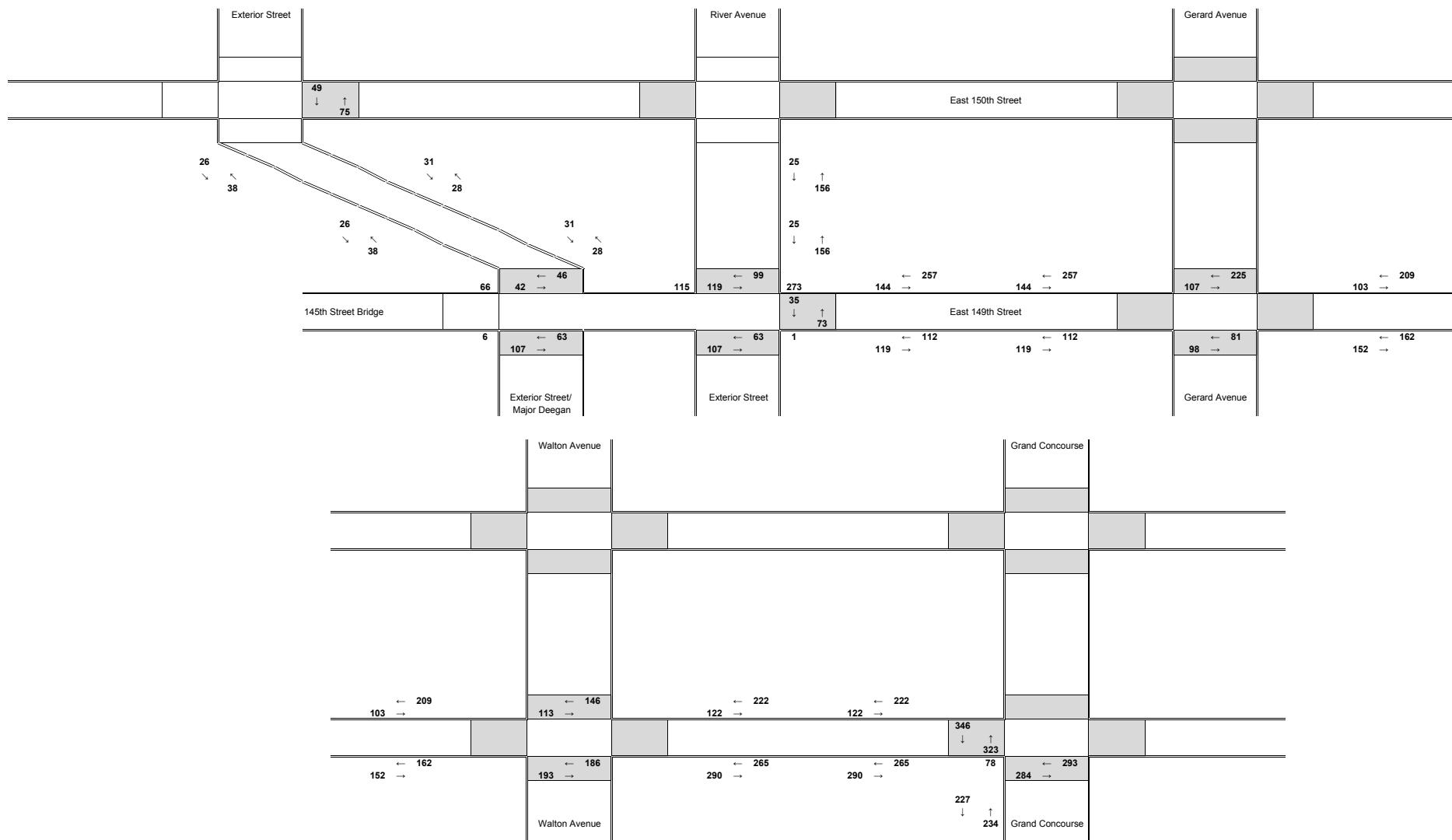


## **Lower Concourse North**

**The Bronx, New York**

## Existing Pedestrian Volumes Weekday Midday Peak Hour

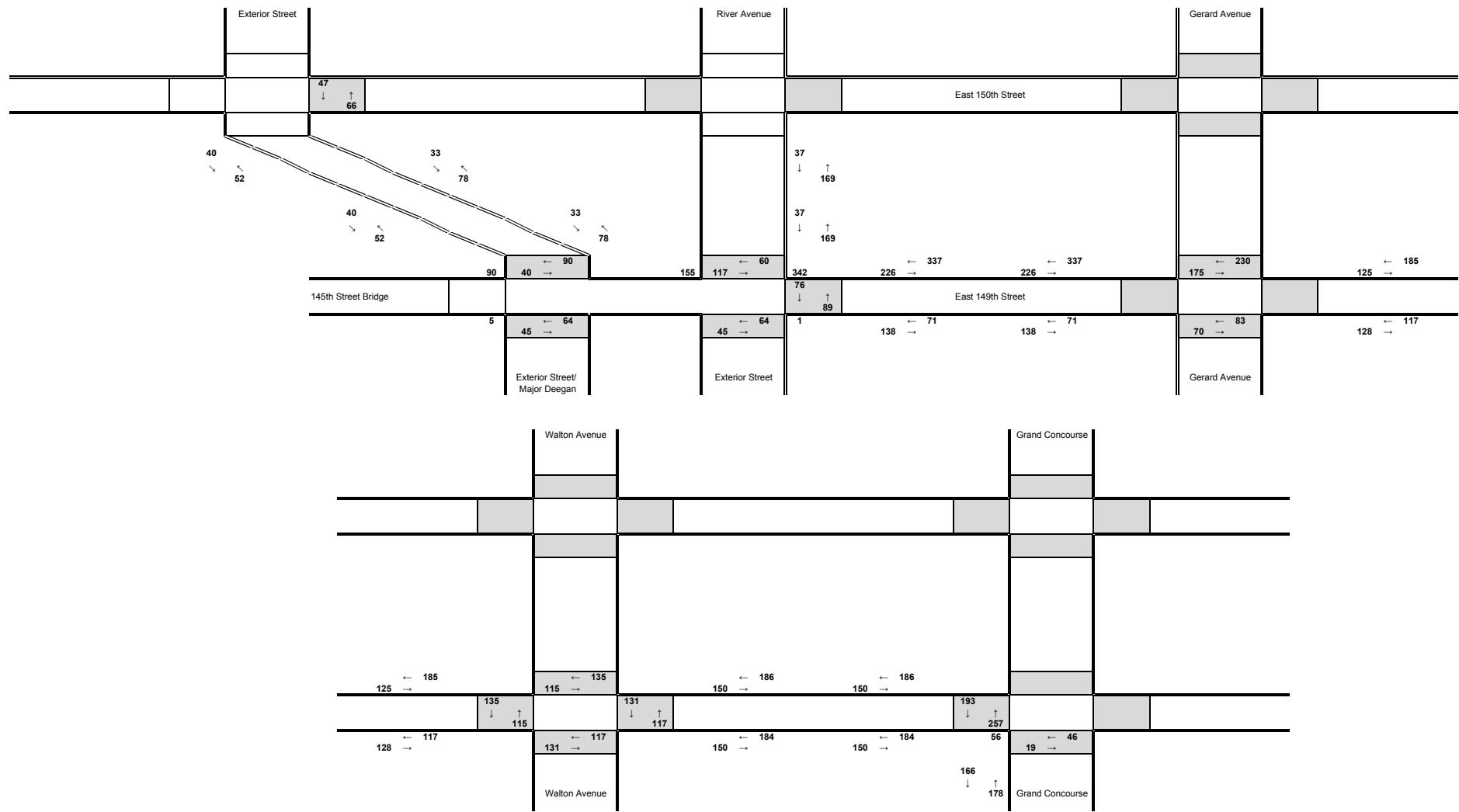
**Figure  
12-19**



**Lower Concourse North**  
The Bronx, New York

**Existing Pedestrian Volumes**  
**Weekday PM Peak Hour**

Figure  
**12-20**



**Lower Concourse North**  
The Bronx, New York

**Existing Pedestrian Volumes  
Saturday Peak Hour**

**Figure  
12-21**

Table 12-1819: 2016 Existing Pedestrian Levels of Service – Sidewalk

Sidewalk	Effective Width, ft	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		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
Exterior Street between East 149th and East 150th Street (east side)	10.6	15	5,598.9	A	50	2,079.6	A	59	1,762.4	A	111	948.7	A
Exterior Street between East 149th and East 150th Street (west side)	12.7	20	5,667.3	A	63	1,723.1	A	64	1,895.7	A	92	1,474.9	A
River Avenue between East 149th and East 150th Street (east side)	9.6	74	1,256.0	A	196	560.4	A	181	540.1	A	206	462.8	A
East 149th Street between River Avenue and Gerard Avenue (north side)	10.5	149	754.7	A	246	392.5	A	401	244.0	A	563	218.4	A
East 149th Street between River Avenue and Gerard Avenue (south side)	5.5	138	422.5	A	195	334.6	A	231	225.3	A	209	298.8	A
East 149th Street between Gerard Avenue and Walton Avenue (north side)	4.8	161	332.5	A	279	194.0	A	312	150.0	A	310	164.7	A
East 149th Street between Gerard Avenue and Walton Avenue (south side)	3.3	131	256.1	A	245	145.3	A	314	113.3	A	245	145.3	A
East 149th Street between Walton Avenue and Grand Concourse (north side)	5.3	204	262.5	A	347	184.7	A	344	161.3	A	336	173.1	A
East 149th Street between Walton Avenue and Grand Concourse (south side)	6.7	289	247.0	A	526	138.8	A	555	148.2	A	334	193.6	A
Grand Concourse between East 149th Street and the northwest subway station stairway (west side)	6.8	350	183.2	A	522	126.9	A	461	142.1	A	344	169.4	A

Table 12-1920: 2016 Existing Pedestrian Levels of Service – Crosswalks

Intersection	Crosswalk	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		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
East 149th Street and Exterior Street/River Avenue	Northwest	63	100.0	A	71	111.7	A	88	74.2	A	130	58.6	B
	North	91	91.6	A	152	62.8	A	218	33.3	C	177	54.6	B
	East	76	130.8	A	81	117.3	A	108	89.7	A	165	58.6	B
	South	70	249.0	A	125	175.9	A	170	96.4	A	109	171.9	A
East 149th Street and Gerard Avenue	North	161	321.5	A	292	214.4	A	332	176.7	A	405	128.1	A
	South	99	490.9	A	134	478.7	A	179	307.4	A	153	398.3	A
East 149th Street and Walton Avenue	North	191	270.8	A	246	226.5	A	259	193.2	A	250	177.3	A
	South	182	328.4	A	405	127.5	A	379	132.6	A	248	218.5	A
East 149th Street and Grand Concourse	West	424	80.7	A	719	48.4	B	669	49.9	B	450	70.5	A

Table 12-2021: 2016 Existing Pedestrian Levels of Service – Corners

Intersection	Corner	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		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
East 149th Street and Exterior Street/River Avenue	Northwest	17	1946.2	A	65	1254.6	A	66	1097.1	A	90	905.5	A
	North	58	692.1	A	100	557.1	A	115	363.1	A	155	390.7	A
	Northeast	0	391.2	A	0	295.0	A	0	184.5	A	0	199.3	A
	Southeast	2	878.0	A	2	670.5	A	1	449.8	A	1	483.3	A
	Southwest	4	8434.9	A	10	5736.0	A	6	3592.5	A	5	6001.8	A
East 149th Street and Grand Concourse	Southwest	38	136.1	A	55	81.2	A	78	75.8	A	56	143.2	A

### Future No-Action Condition – Year 2023

This section establishes the baseline (No-Action) condition against which potential impacts of the project can be identified. Future year conditions were analyzed for the year 2023. No-Action traffic, pedestrian, and transit volumes were established by applying a background growth of 0.25 percent per year for the first five years (years 2017 to 2021) and 0.125 percent per year for the remaining years (years 2022 to 2023) in accordance with *CEQR Technical Manual* guidelines for Bronx projects. A substantial number of development projects, 33 in total, were identified in coordination with the New York City Department of City Planning that are being planned for the study area. However, many of these planned projects are modest in size and would be modest traffic generators, or only a modest number of trips would be assumed to pass through the study area analysis locations. After reviewing the

development programs for each of the planned and projected projects, it was determined that background growth will address the increase in traffic and pedestrian volumes for 16 of the small-to-moderate-sized projects in the study area. Person and vehicle trips generated by the remaining 17 projects were then determined and incorporated in the 2023 No-Action traffic analysis. These projects are detailed in Table 12-2422 and are shown in Figure 12-22.

There are two traffic improvement projects identified within the study area including NYCDOT's improvement plans for the Grand Concourse corridor, and NYCEDC's improvement plans for the Exterior Street corridor.

Traffic improvements were implemented along the Grand Concourse corridor in the summer of 2016, after existing traffic counts were conducted, and included the reduction in the number of travel lanes in the northbound and southbound directions from three travel lanes to two travel lanes, conversion of crosswalks from school crosswalks to high-visibility crosswalks, and expansion of the concrete median at several intersections including at East 149th and East 150th Streets. At the intersection of East 149th Street and Grand Concourse, the width of the north crosswalk increased from 14 feet to 19 feet and a bus only left turn pocket lane has been implemented along the southbound approach. At the intersection of East 150th Street and Grand Concourse, the existing northbound left pocket turn remains as part of the new redesigned Grand Concourse corridor.

The Exterior Street improvement plans have not been finalized at this point and, therefore, are not incorporated as part of the No-Action analysis. Also, traffic improvements that were proposed in previous studies within the study area such as the *Lower Concourse Rezoning FEIS* (2009) and the *Gateway Center at Bronx Terminal Market FEIS* (2005) are not incorporated. Traffic improvements identified as part of the development of the BTM have either already been implemented and are incorporated as part of the existing conditions analysis, or have not been implemented yet and would not likely be implemented since the project has already been completed. Traffic improvements identified as part of the rezoning project at the intersection of East 149th Street and Gerard Avenue, which includes the prohibition of parking for 200 feet along the west side of Gerald Avenue to provide a left turn lane, were incorporated as part of the No-Action analyses. It is also expected that crosswalks crossing Exterior Street and a traffic control would be implemented at the intersection with East 144th Street to provide pedestrian crossing opportunities to the Lower Concourse Rezoning projected sites to be developed along the waterfront. Traffic improvements have also been identified as part of the 425 Grand Concourse EAS after the publication of the Draft GEIS, and includes signal timing modifications to the intersection of East 149th Street and Grand Concourse. These improvements have been incorporated as part of the No Action condition analysis.

Table 12-2122: No-Action Development Projects

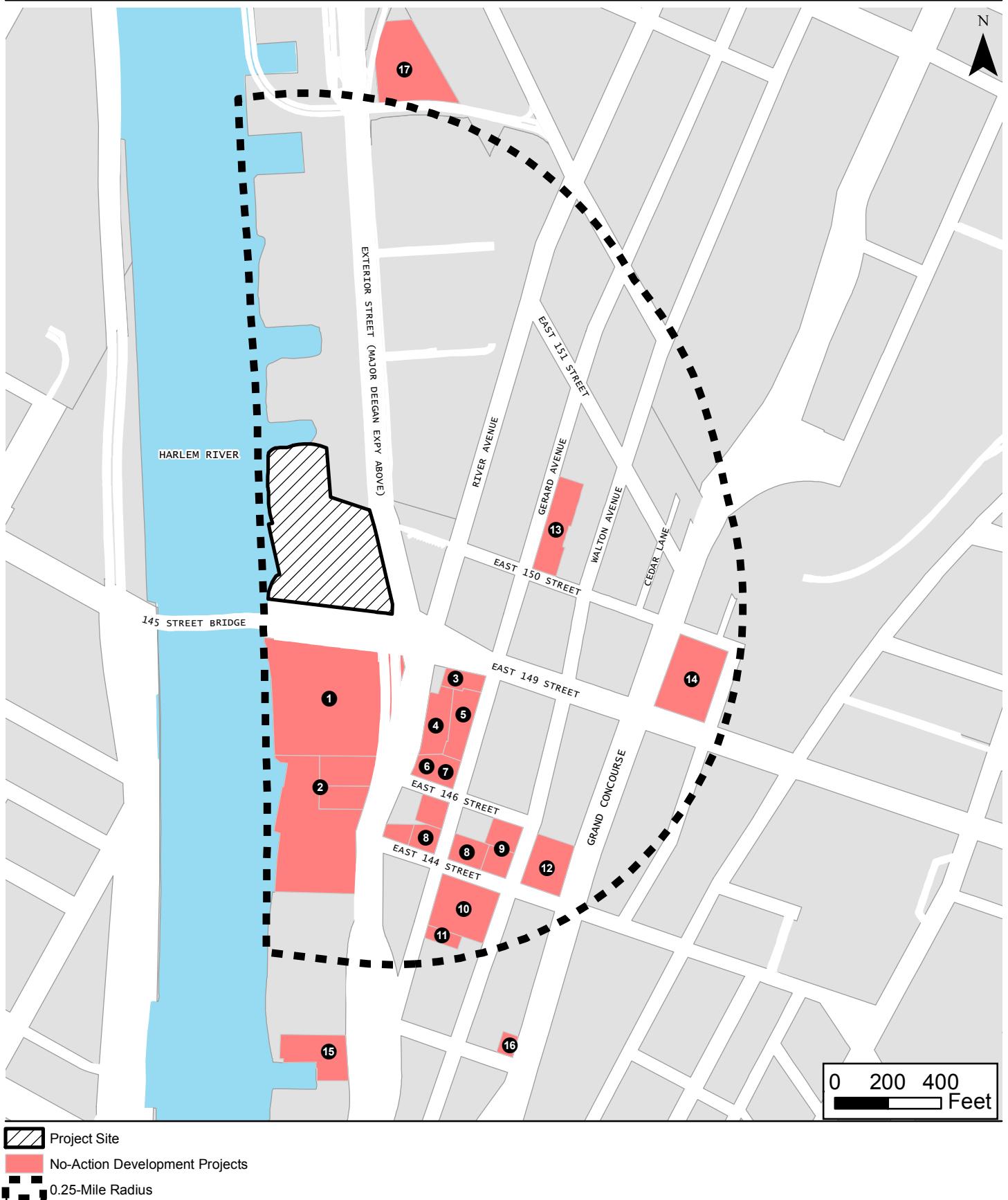
Map ID	Address <sup>1</sup>	Description	Completion Date
1	Lower Concourse Projected Site (LC-PS) <sup>1</sup>	Residential (621 DUs) Local Retail (143,250 sf)	2023
2	LC-PS2 <sup>2</sup>	Residential (260 DUs) Local Retail (60,000 sf)	2023
3	110 East 149th Street	Hotel (152 rooms)	To be completed by 2023
4	530 Exterior Street	Residential (157 DUs) 10 Parking Spaces	Permits filed
5	491 Gerard Avenue	Residential (136 DUs) 10 Parking Spaces	To be completed by 2023
6	500 Exterior Street	Hotel (85 rooms) 9 Parking Spaces	Permits filed
7	477 Gerard Avenue	Residential (66 DUs) 26 Parking Spaces	To be completed by 2023
8	LC-PS6	Residential (243 DUs) Local Retail (32,568 sf)	2023
9	LC-PS7	Academic (141,765 sf)	2023
10	LC-PS9	Residential (283 DUs) Local Retail (37,860 sf)	2023
11	370 Gerard Avenue	School (346 seats)	To be completed by 2023
12	425 Grand Concourse <sup>3</sup>	Residential (275 DUs) Community Facility (8,200 sf) School (358 seats) Food Store Retail (12,600 sf)	2020
13	580 Gerard Avenue	Residential (124 DUs) Local Retail (24,900 sf) 89 Parking Spaces	To be completed by 2023
14	560 Grand Concourse	Office (104,809 sf) Destination Retail (70,507 sf) 46 Parking Spaces	Under construction
15	LC-PS4	Residential (177 DUs) Local Retail (40,907 sf)	2023
16	335 Grand Concourse	Hotel (75 rooms)	Permits filed
17	BTM Ice Rink	Ice Skating Rink (28,657 sf)	2017

**Notes:**

<sup>1</sup> "LC-PS" indicates that the site was a projected site in the Lower Concourse Rezoning and gives the number of the projected site indicated in the FEIS; it is anticipated that the Lower Concourse Rezoning would result in the development of 1,147 accessory parking spaces

<sup>2</sup> Projected Site 2 includes the 2.26-acre Lower Concourse Park

<sup>3</sup> The development program for the 425 Grand Concourse project is being modified at the time of after the Draft GEIS publication; the analysis will be revised between the draft and final certification of the GEIS to be consistent with the 425 Grand Concourse project analysis if the new program is expected to generate more trips than the program being analyzed in the Draft EIS



**Lower Concourse North**  
The Bronx, New York

**No-Action Development Projects**

**Figure  
12-22**

## Traffic

### *Traffic Volumes*

As a result of the No-Action developments (excluding the projects that are considered part of the annual background growth rate), 939 949 (466 471 “ins” and 473 478 “outs”) vehicle trips, 1,138 1,137 (604 600 “ins” and 537 “outs”) vehicle trips, 1,209 1,229 (667 671 “ins” and 542 558 “outs”) vehicle trips, and 960 1,017 (482 509 “ins” and 478 508 “outs”) vehicle trips are projected to be added to the street network during the weekday AM, midday and PM, and Saturday peak hours, respectively. Additional traffic generated by the No-Action developments are considered to be substantial; vehicle trips generated by these projects are three to four times higher than those generated by the proposed project. No-Action project-generated trips were assigned to the roadway network and, together with the background traffic growth, constitute the 2023 No-Action traffic volume baseline. No-Action project-generated auto trips were assigned to park on-site, if on-site parking is available, or on-street within the vicinity of the site. The No-Action traffic volumes for the weekday AM, midday, and PM, and Saturday peak hours are shown in Figures 12-23 through 12-26.

### *Levels of Service*

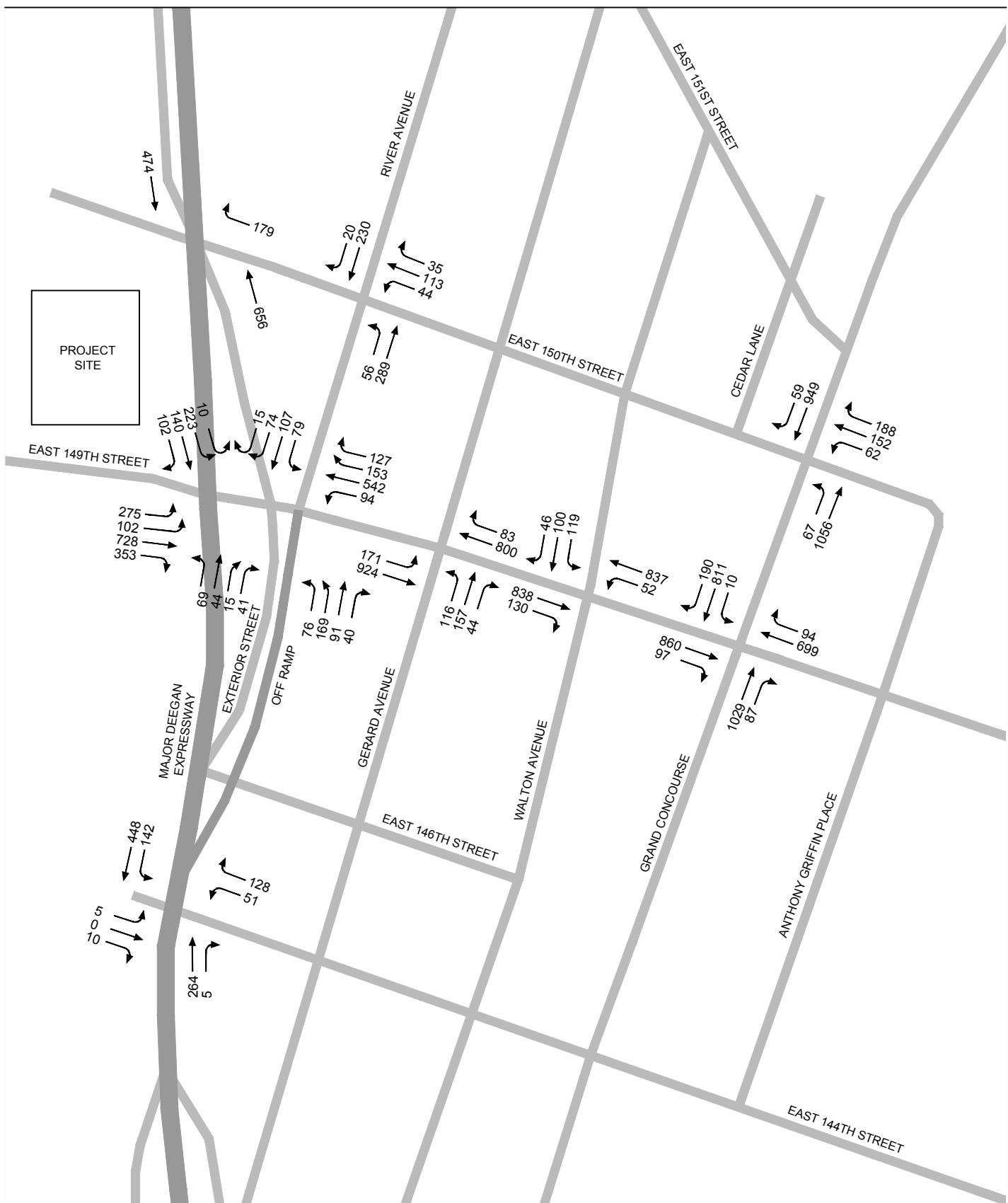
Based on the traffic increases mentioned above, the 2023 No-Action traffic levels of service were determined for the eight analysis locations. Tables 12-2223 and 12-2324 provide an overview of the levels of service that characterize No-Action “overall” intersection conditions and individual traffic movements, respectively, during the weekday AM, midday, PM, and Saturday peak hours. Detailed traffic levels of service are provided in Table 12-2425.

Table 12-2223: 2016 Existing vs. 2023 No-Action Traffic Levels of Service – Overall Intersections

	Existing				2023 No-Action			
	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Intersections at Overall LOS A/B/C	7	7	6	7	6	4	4	4
Intersections at Overall LOS D	1	1	1	0	<u>01</u>	2	1	1
Intersections at Overall LOS E	0	0	1	1	<u>21</u>	0	1	1
Intersections at Overall LOS F	0	0	0	0	0	2	2	2
Notes: Includes eight intersections (five signalized and three unsignalized)								







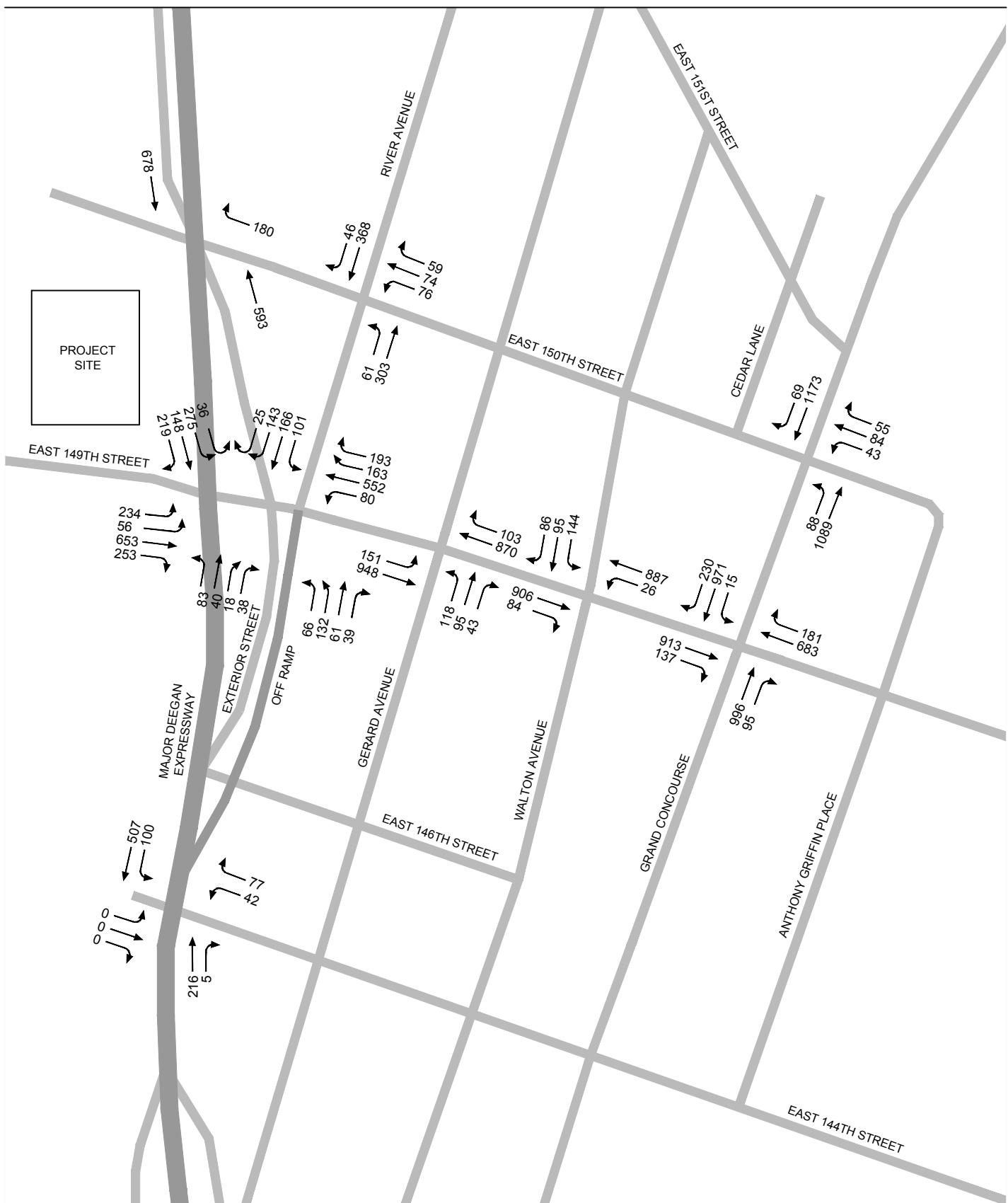


Table 12-~~2324~~4: 2016 Existing vs. 2023 No-Action Traffic Levels of Service – Traffic Movements

	Existing				2023 No-Action			
	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Traffic Movements at LOS A/B/C or acceptable LOS D	34	38	31	32	<del>31</del> <ins>30</ins>	32	27	<del>28</del> <ins>27</ins>
Traffic Movements at Unacceptable LOS D	3	2	5	3	<del>5</del> <ins>6</ins>	3	6	4
Traffic Movements at LOS E	4	2	3	3	3	4	1	<del>4</del> <ins>2</ins>
Traffic Movements at LOS F	1	0	3	4	6	6	11	12
Number of individual traffic	42	42	42	42	45	45	45	45
<b>Notes:</b> The number of movements may vary between peak hours due to turn prohibitions, parking regulations, and the presence of de facto left turn movements. Per the <i>CEQR Technical Manual</i> , a signalized movement operating with delays greater than 45 seconds, or an unsignalized movement operating with delays greater 30 seconds, is considered unacceptable								

Due to the substantial increase in traffic volumes resulting from the No-Action projects, traffic conditions within the study area will be significantly worsened. A number of traffic movements would be operating at LOS F which typically denotes that traffic volumes exceed the capacity. The summary overview of the 2023 No-Action condition indicates that:

- During the weekday AM peak hour, ~~two intersections~~one intersection would operate at overall LOS E; none of the intersections analyzed operated at LOS E or F in the existing conditions. Nine individual traffic movements out of the approximately 45 movements analyzed would operate at LOS E or F, compared to five movements under existing conditions.
- In the weekday midday peak hour, two intersections would operate at overall LOS F; none of the intersections analyzed operated LOS E or F in the existing conditions. Ten individual movements would operate at LOS E or F as compared to two movements under existing conditions.
- In the weekday PM peak hour, three intersections would operate at overall LOS E or F compared to one in the existing conditions. Twelve individual movements would operate at LOS E or F as compared to six movements under existing conditions.
- In the Saturday peak hour, three intersections would operate at overall LOS E or F compared to one in the existing conditions. ~~Thirteen~~Fourteen individual movements would operate at LOS E or F as compared to seven movements under existing conditions.

Based on the analysis results, the majority of traffic movements would continue to operate at acceptable levels of services however seven of the eight intersections would have at least one movement operating at unacceptable levels of service during at least one peak hour. Traffic movements expected to operate at unacceptable levels of service (unacceptable LOS D, LOS E, or LOS F) are listed below:

TABLE 12-25  
LOWER CONCOURSE NORTH EIS  
2023 NO ACTION

INTERSECTION & APPROACH	Weekday AM Peak Hour				Weekday Midday Peak Hour				Weekday PM Peak Hour				Saturday MD Peak Hour				
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
<b>SIGNALIZED INTERSECTIONS</b>																	
<b>East 149th Street and Exterior Street/River Avenue</b>																	
145th Street Bridge	EB	L	1.10	120.8	F	L	0.70	34.8	C	L	1.12	110.5	F	L	1.04	93.6	F
		TR	0.94	55.3	E	TR	0.92	54.0	D	TR	1.51	273.0	F	TR	1.23	151.5	F
East 149th Street	WB	L	1.52	372.8	F	L	1.85	478.4	F	L	2.00+	500+	F	L	1.85	478.3	F
		TR	0.93	73.8	E	TR	0.72	42.5	D	TR	0.78	53.4	D	TR	0.92	52.6	D
R	-	27.9	C	R	-	500+	F	R	-	500+	F	R	-	500+	F		
Major Deegan Expressway Off-Ramp	NB	LT	0.63	50.0	D	LT	0.60	48.6	D	LT	0.37	42.1	D	LT	0.36	41.8	D
		TR	0.31	41.1	D	TR	0.29	40.6	D	TR	0.18	38.5	D	TR	0.18	38.6	D
Exterior Street	SB	L	0.99	88.3	F	L	0.89	70.7	E	L	0.85	66.6	E	L	1.04	106.0	F
		T	0.50	45.7	D	T	0.40	43.2	D	T	0.52	46.4	D	T	0.43	43.3	D
		R	0.57	39.8	D	R	0.33	33.8	C	R	0.25	32.3	C	R	0.48	37.0	D
	NB	L	0.57	47.8	D	L	0.82	74.9	E	L	1.20	169.9	F	L	1.19	171.9	F
		TR	0.26	40.6	D	TR	0.33	41.7	D	TR	0.50	46.0	D	TR	0.38	42.6	D
River Avenue	SB	LT	1.07	135.0	F	LT	1.51	307.8	F	LT	1.56	330.2	F	LT	1.80	431.8	F
		R	0.38	42.9	D	R	0.36	42.3	D	R	0.33	41.6	D	R	0.66	52.8	D
Overall Intersection	-	1.27	74.8	E	-	1.42	500+	F	-	1.55	500+	F	-	1.58	500+	F	
<b>East 149th Street and Gerard Avenue</b>																	
East 149th Street	EB	LT	0.74	14.6	B	LT	0.71	14.3	B	LT	0.96	26.7	C	LT	1.00	38.6	D
	WB	TR	0.45	9.4	A	TR	0.40	8.9	A	TR	0.51	10.0	A	TR	0.55	10.5	B
Gerard Avenue	NB	L	0.61	50.8	D	L	0.65	55.4	E	L	0.58	50.8	D	L	0.72	61.7	E
		TR	0.48	45.1	D	TR	0.49	45.6	D	TR	0.70	53.8	D	TR	0.56	47.9	D
Overall Intersection	-	0.70	17.0	B	-	0.69	17.2	B	-	0.90	23.5	C	-	0.93	28.8	C	
<b>East 149th Street and Walton Avenue</b>																	
East 149th Street	EB	TR	0.54	10.4	B	TR	0.46	9.5	A	TR	0.55	10.3	B	TR	0.51	9.6	A
	WB	LT	0.64	12.0	B	LT	0.43	9.1	A	LT	0.59	11.0	B	LT	0.49	9.6	A
Walton Avenue	SB	LTR	0.97	90.3	F	LTR	1.23	180.2	F	LTR	1.21	170.5	F	LTR	1.39	243.8	F
Overall Intersection	-	0.72	20.8	C	-	0.66	36.1	D	-	0.75	32.7	C	-	0.73	44.5	D	
<b>East 149th Street and Grand Concourse</b>																	
East 149th Street	EB	TR	1.12	109.7	F	TR	0.97	61.8	E	TR	1.25	163.7	F	TR	1.08	91.3	F
	WB	T	0.82	46.2	D	T	0.60	35.9	D	T	0.78	44.0	D	T	0.71	37.4	D
		R	0.79	58.8	E	R	0.45	36.8	D	R	0.46	39.5	D	R	0.69	44.7	D
Grand Concourse	NB	TR	0.83	32.8	C	TR	0.79	33.0	C	TR	0.96	46.6	D	TR	1.00	58.0	E
	SB	L	0.09	27.7	C	L	0.09	28.2	C	L	0.10	36.3	D	L	0.16	43.1	D
		TR	0.77	25.5	C	TR	0.59	22.0	C	TR	0.76	24.9	C	TR	1.01	53.3	D
Overall Intersection	-	0.91	53.2	D	-	0.80	38.4	D	-	1.00	69.8	E	-	1.04	60.3	E	
<b>East 150th Street and Grand Concourse</b>																	
East 150th Street	WB	LTR	0.10	30.9	C	LTR	0.46	31.9	C	LTR	1.14	129.5	F	LTR	0.47	32.2	C
Grand Concourse	NB	L	0.45	19.4	B	L	0.53	26.1	C	L	0.46	20.0	B	L	1.07	137.4	F
	T	0.56	15.1	B	T	0.56	19.5	B	T	0.63	16.4	B	T	0.72	23.0	C	
	SB	TR	0.61	16.2	B	TR	0.58	20.0	B	TR	0.67	17.5	B	TR	0.86	29.6	C
Overall Intersection	-	0.44	16.1	B	-	0.53	21.5	C	-	0.82	35.7	D	-	0.82	30.5	C	
<b>UNSIGNALIZED INTERSECTIONS</b>																	
<b>East 150th Street and Exterior Street</b>																	
East 150th Street	WB	R	-	13.8	B	R	-	110.4	F	R	-	84.7	F	R	-	60.9	F
Exterior Street	NB	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A
	SB	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A
Overall Intersection	-	-	0.6	A	-	-	12.6	B	-	-	12.4	B	-	-	-	8.9	A
<b>East 150th Street and River Avenue</b>																	
East 150th Street	WB	LTR	-	21.0	C	LTR	-	500+	F	LTR	-	500+	F	LTR	-	500+	F
River Avenue	NB	L	-	7.8	A	L	-	8.0	A	L	-	8.0	A	L	-	8.7	A
	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	
	SB	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A	T	-	0.0	A
		R	-	0.0	A	R	-	0.0	A	R	-	0.0	A	R	-	0.0	A
Overall Intersection	-	-	3.7	A	-	-	124.8	F	-	-	173.8	F	-	-	-	122.9	F
<b>East 144th Street and Exterior Street</b>																	
East 144th Street	EB	LTR	-	9.7	A	LTR	-	9.6	A	LTR	-	10.6	B	LTR	-	10.0	B
	WB	LTR	-	9.6	A	LTR	-	9.6	A	LTR	-	10.6	B	LTR	-	10.1	B
Exterior Street	NB	T	-	13.0	B	T	-	11.8	B	T	-	14.9	B	T	-	14.2	B
		TR	-	12.5	B	TR	-	11.3	B	TR	-	13.7	B	TR	-	13.6	B
	SB	LTR	-	9.6	A	LTR	-	10.5	B	LTR	-	9.2	A	LTR	-	9.2	A
		T	-	10.6	B	T	-	10.1	B	T	-	11.1	B	T	-	10.1	B
Overall Intersection	-	-	10.4	B	-	-	10.4	B	-	-	11.3	B	-	-	-	10.7	B

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

(3) Synchro 9 was used to model the intersection of East 149th Street and Exterior Street/River Avenue.

**East 149th Street and Exterior Street/River Avenue**

- Eastbound left turn movement (weekday AM, PM, and Saturday peak hours)
- Eastbound shared through-right movement (weekday AM, midday, PM, and Saturday peak hours)
- Westbound left turn movement (weekday AM, midday, PM, and Saturday peak hours)
- Westbound shared through-right movement (weekday AM, PM, and Saturday peak hours)
- Westbound channelized right turn movement (weekday midday, PM, and Saturday peak hours)
- Northbound Major Deegan Expressway off-ramp shared left-through movement (weekday AM and midday peak hours)
- Southbound Exterior Street left turn movement (weekday AM, midday, PM, and Saturday peak hours)
- Southbound Exterior Street through movement (weekday AM and PM peak hours)
- Northbound Exterior Street left turn movement (weekday AM, midday, PM, and Saturday peak hours)
- Northbound Exterior Street shared through-right movement (weekday PM peak hour)
- Southbound River Avenue shared left-through movement (weekday AM, midday, PM, and Saturday peak hours)
- Southbound River Avenue shared through-right movement (Saturday peak hour)

**East 149th Street and Gerard Avenue**

- Northbound left turn movement (weekday AM, midday, PM, and Saturday peak hours)
- Northbound shared through-right movement (weekday AM, midday, and PM, and Saturday peak hours)

**East 149th Street and Walton Avenue**

- Southbound approach (weekday AM, midday, PM, and Saturday peak hours)

**East 149th Street and Grand Concourse**

- Eastbound approach (weekday AM, midday, PM, and Saturday peak hours)
- Westbound through movement (weekday AM and PM peak hours)
- Westbound right turn movement (weekday AM and Saturday peak hours)
- Northbound approach (weekday PM and Saturday peak hours)
- Southbound shared through-right movement (Saturday peak hour)

#### **East 150th Street and Grand Concourse**

- Westbound approach (weekday PM peak hour)
- Northbound left turn movement (Saturday peak hour)

#### **East 150th Street and Exterior Street**

- Westbound approach (weekday midday, PM, and Saturday peak hours)

#### **East 150th Street and River Avenue**

- Westbound approach (weekday midday, PM, and Saturday peak hours)

Existing queues and delays along East 149th Street during all peak hours, and along southbound River Avenue and Walton Avenue during the Saturday peak hour would worsen during the 2023 No-Action condition due to the substantial increase in traffic volumes resulting from the No-Action projects. Several additional movements would operate at v/c ratios greater than 1.00 during at least one of the peak hours analyzed as a result of the increase in traffic volumes; long queues and congestion are expected to occur at these locations as a result. Congestion would potentially occur at the southbound River Avenue approach and northbound Exterior Street approach at the intersection of East 149th Street and Exterior Street/River Avenue, the southbound approach of Walton Avenue at East 149th Street, and the westbound approach of East 150th Street at River Avenue.

#### **Parking**

In order to estimate future parking conditions, existing occupancies for public off-street parking facilities and on-street parking were increased by the background traffic growth rate recommended by the *CEQR Technical Manual*. Vehicle trips generated by No-Action project sites within the study area would park on-site, where parking is provided, or were otherwise assumed to park on-street.

Available on- and off-street parking are expected to decrease slightly under the No-Action condition due to the projected increase of traffic in the area. Under the No-Action condition, approximately 78 percent of the on-street parking is expected to be occupied during the weekday AM peak parking period (160 spaces available). The on-street occupancy would increase to approximately 90 percent during the weekday midday parking period (75 spaces available) and approximately 95 percent during the weekday PM peak parking periods (39 spaces available), and would reach 85 percent during the Saturday peak period (112 spaces available).

Parking occupancy at the BTM parking garage would increase slightly due to the background growth and parking demand from the BTM Ice Skating Rink. It is also assumed that a portion of the overnight parking demand shortfall projected in the *Lower Concourse Rezoning FEIS* (approximately 785 parking spaces) would be expected to use this garage for overnight parking; a portion of the projected developments are located within a  $\frac{1}{4}$ -mile to  $\frac{1}{2}$ -mile away from this garage. The occupancy would increase from approximately 16 percent to 17 percent during the weekday AM peak period (1,937 spaces available), from approximately 40 percent to 41 percent during the weekday midday peak period (1,376 spaces available), and from approximately 46 percent to 51 percent during the weekday PM peak period (1,180 spaces available). The occupancy during the Saturday peak period remains at 47 percent with approximately 1,227 spaces available. Table 12-~~25~~<sup>26</sup> provides a comparison of the 2023 No-Action off-street parking occupancies with the existing conditions.

Table 12-2526: 2016 Existing vs. 2023 No-Action Off-Street Parking Occupancy

	Capacity	Occupancy	Weekday			Saturday Peak
			AM Peak	Midday Peak	PM Peak	
<b>BTM Parking Garage</b> Between Exterior Street and River Avenue	2,332	Existing	380 16%	924 40%	1,062 46%	1,089 47%
		No-Action	395 17%	956 41%	1,180 51%	1,105 47%
151st Street North Lot 151st Street between Gerard Ave and River Avenue	90		Parking facility is available only during Yankee baseball games and was closed during the count periods			
151st Street South Lot 151st Street between Gerard Ave and River Avenue	176		Parking facility is available only during Yankee baseball games and was closed during the count periods			

## Transit

### Subway Station

Existing transit volumes were increased based on the background growth rates recommended in the *CEQR Technical Manual*. These background volumes incorporated transit trips associated with the No-Action projects to develop the No-Action transit volumes. As shown in Table 12-2627, the eight of the 11 stairways analyzed would continue to operate at acceptable levels of service (~~compared to nine in similar to~~ the existing conditions). Stairways ~~ML5/ML7 ML1/ML3~~ and PL6 would operate at over-capacity during the weekday AM and PM peak hours, and ~~stairway PL3 would operate at over-capacity during the AM peak hour.~~ Fare control area R260 operates at LOS B C during the weekday AM (v/c ratio of ~~0.82~~ 0.79) and PM (v/c ratio of ~~0.82~~ 0.7778) peak hour. Detailed descriptions of the subway station fare control element levels of service is provided in Table 12-28.

Table 12-26: 2023 No Action Subway Station Levels of Service – Stairways

Peak Hour	Effective Width	Pedestrian Volume Up (15 minutes)	Pedestrian Volume Down (15 minutes)	Friction Factors	Surging Factor (Up/Down)	w/c ratio	LOS
<b>Northwest stairway (S3) between street and upper mezzanine levels</b>							
Weekday AM	48 inches	160	181	0.90	0.90/1.00	0.66	C
Weekday PM	48 inches	247	171	0.90	0.90/1.00	0.82	C
<b>Upper mezzanine passageway stairway (U1A/U1B)</b>							
Weekday AM	155 inches	346	322	0.90	0.80/1.00	0.43	A
Weekday PM	155 inches	418	283	0.90	0.80/1.00	0.46	B
<b>Upper mezzanine passageway stairway (U3A/U3B)</b>							
Weekday AM	146 inches	283	260	0.90	0.80/1.00	0.37	A
Weekday PM	146 inches	156	366	0.90	0.80/1.00	0.34	A
<b>Stairway (P1) between upper mezzanine level and southbound number 4 subway line platform</b>							
Weekday AM	87 inches	262	140	0.90	0.75/1.00	0.50	B
Weekday PM	87 inches	122	148	0.90	0.75/1.00	0.32	A
<b>Stairway (P3) between upper mezzanine level and southbound number 4 subway line platform</b>							
Weekday AM	87 inches	358	318	0.90	0.75/1.00	0.81	C
Weekday PM	87 inches	311	366	0.90	0.75/1.00	0.79	C
<b>Stairway (ML1/ML3) between southbound number 4 subway line platform and lower mezzanine level</b>							
Weekday AM	64 inches	60	163	0.90	0.80/0.75	0.41	A
Weekday PM	64 inches	37	73	0.90	0.80/0.75	0.20	A
<b>Stairway (ML5/ML7) between southbound number 4 subway line platform and lower mezzanine level</b>							
Weekday AM	66 inches	277	483	0.90	0.80/0.75	1.33	D
Weekday PM	66 inches	284	410	0.90	0.80/0.75	1.21	D
<b>Stairway (PL3) between lower mezzanine level and southbound number 2 and 5 subway lines platform</b>							
Weekday AM	48 inches	256	177	0.90	0.75/0.80	1.04	D
Weekday PM	48 inches	200	148	0.90	0.75/0.80	0.84	C
<b>Stairway (PL5) between lower mezzanine level and southbound number 2 and 5 subway lines platform</b>							
Weekday AM	46 inches	104	159	0.90	0.75/0.80	0.66	B
Weekday PM	46 inches	62	123	0.90	0.75/0.80	0.46	B
<b>Stairway (PL6) between lower mezzanine level and northbound number 2 and 5 subway lines platform</b>							
Weekday AM	48 inches	239	365	0.90	0.75/0.80	1.44	E
Weekday PM	48 inches	319	327	0.90	0.75/0.80	1.54	E
<b>Stairway (PL8) between lower mezzanine level and northbound number 2 and 5 subway lines platform</b>							
Weekday AM	48 inches	94	146	0.90	0.75/0.80	0.57	B
Weekday PM	48 inches	164	183	0.90	0.75/0.80	0.83	C

Table 12-27: 2023 No-Action Subway Station Levels of Service – Stairways

<u>Peak Hour</u>	<u>Effective Width</u>	<u>Pedestrian Volume Up (15-minutes)</u>	<u>Pedestrian Volume Down (15-minutes)</u>	<u>Friction Factors</u>	<u>Surging Factor (Up/Down)</u>	<u>v/c ratio</u>	<u>LOS</u>
<u>Northwest stairway (S3) between street and upper mezzanine levels</u>							
<u>Weekday AM</u>	<u>48 inches</u>	<u>160</u>	<u>190</u>	<u>0.90</u>	<u>0.90/1.00</u>	<u>0.68</u>	<u>B</u>
<u>Weekday PM</u>	<u>48 inches</u>	<u>244</u>	<u>149</u>	<u>0.90</u>	<u>0.90/1.00</u>	<u>0.78</u>	<u>C</u>
<u>Upper mezzanine passageway stairway (U1A/U1B)</u>							
<u>Weekday AM</u>	<u>155 inches</u>	<u>326327</u>	<u>290289</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.40</u>	<u>A</u>
<u>Weekday PM</u>	<u>155 inches</u>	<u>420</u>	<u>316318</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.48</u>	<u>B</u>
<u>Upper mezzanine passageway stairway (U3A/U3B)</u>							
<u>Weekday AM</u>	<u>146 inches</u>	<u>305306</u>	<u>247</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.38</u>	<u>A</u>
<u>Weekday PM</u>	<u>146 inches</u>	<u>179</u>	<u>343</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.34</u>	<u>A</u>
<u>Stairway (P1) between upper mezzanine level and southbound number 4 subway line platform</u>							
<u>Weekday AM</u>	<u>87 inches</u>	<u>309</u>	<u>143144</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.56</u>	<u>B</u>
<u>Weekday PM</u>	<u>87 inches</u>	<u>142</u>	<u>120</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.31</u>	<u>A</u>
<u>Stairway (P3) between upper mezzanine level and southbound number 4 subway line platform</u>							
<u>Weekday AM</u>	<u>87 inches</u>	<u>357356</u>	<u>347349</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.84</u>	<u>C</u>
<u>Weekday PM</u>	<u>87 inches</u>	<u>322</u>	<u>341342</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.78</u>	<u>C</u>
<u>Stairway (ML1/ML3) between southbound number 4 subway line platform and lower mezzanine level</u>							
<u>Weekday AM</u>	<u>66 inches</u>	<u>233232</u>	<u>526</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>1.34</u>	<u>E</u>
<u>Weekday PM</u>	<u>66 inches</u>	<u>305</u>	<u>408409</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>1.25</u>	<u>D</u>
<u>Stairway (ML5/ML7) between southbound number 4 subway line platform and lower mezzanine level</u>							
<u>Weekday AM</u>	<u>64 inches</u>	<u>41</u>	<u>152</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>0.35</u>	<u>A</u>
<u>Weekday PM</u>	<u>64 inches</u>	<u>3435</u>	<u>84</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>0.22</u>	<u>A</u>
<u>Stairway (PL3) between lower mezzanine level and southbound number 2 and 5 subway lines platform</u>							
<u>Weekday AM</u>	<u>48 inches</u>	<u>218</u>	<u>185</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.97</u>	<u>C</u>
<u>Weekday PM</u>	<u>48 inches</u>	<u>170</u>	<u>161</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.79</u>	<u>C</u>
<u>Stairway (PL5) between lower mezzanine level and southbound number 2 and 5 subway lines platform</u>							
<u>Weekday AM</u>	<u>46 inches</u>	<u>87</u>	<u>154155</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.60</u>	<u>B</u>
<u>Weekday PM</u>	<u>46 inches</u>	<u>51</u>	<u>131</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.45</u>	<u>A</u>
<u>Stairway (PL6) between lower mezzanine level and northbound number 2 and 5 subway lines platform</u>							
<u>Weekday AM</u>	<u>48 inches</u>	<u>172</u>	<u>318</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>1.16</u>	<u>D</u>
<u>Weekday PM</u>	<u>48 inches</u>	<u>309</u>	<u>360</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>1.60</u>	<u>E</u>
<u>Stairway (PL8) between lower mezzanine level and northbound number 2 and 5 subway lines platform</u>							
<u>Weekday AM</u>	<u>48 inches</u>	<u>90</u>	<u>157</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.59</u>	<u>B</u>
<u>Weekday PM</u>	<u>48 inches</u>	<u>126</u>	<u>207</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.79</u>	<u>C</u>

**Table 12-28: 2023 No-Action Subway Station Levels of Service – Fare Control**

<u>Peak Hour</u>	<u>Control Elements</u>	<u>Pedestrian Volume In (15-minutes)</u>	<u>Pedestrian Volume Out (15-minutes)</u>	<u>Friction Factors</u>	<u>Surging Factor (Out Trips)</u>	<u>v/c ratio</u>	<u>LOS</u>
<u>West Fare Control (R260)</u>							
<u>Weekday AM</u>	<u>2 HEETs 1 HXT</u>	<u>294296</u>	<u>192</u>	<u>0.90</u>	<u>0.90</u>	<u>0.79</u>	<u>C</u>
<u>Weekday PM</u>	<u>2 HEETs 1 HXT</u>	<u>224226</u>	<u>377378</u>	<u>0.90</u>	<u>0.90</u>	<u>0.7778</u>	<u>C</u>

**Pedestrians**

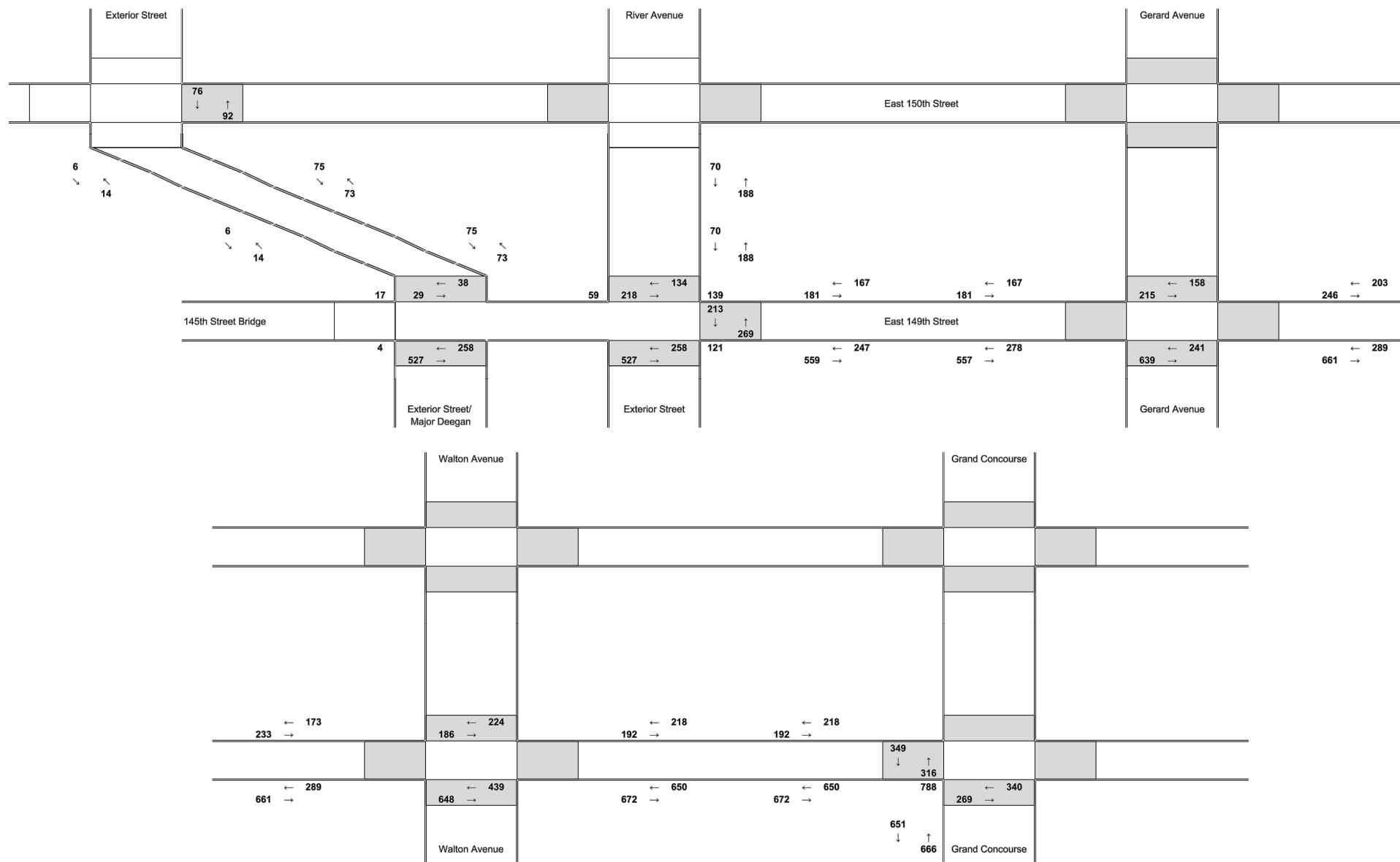
The 2023 No-Action pedestrian volumes were developed by increasing existing pedestrian volumes to reflect expected growth in overall travel through and within the study area, and incorporating pedestrian volumes from projects expected to be completed. No-Action pedestrian volume maps for the weekday AM, midday, PM, and Saturday peak hours are provided in Figures 12-27 through 12-30.

The No-Action pedestrian levels of service were determined for the 25 pedestrian elements. Table 12-27-29 provides an overview of the pedestrian levels of service for the peak hours analyzed. Detailed pedestrian levels of service are provided in Tables 12-28-30 through 12-30-32. The summary of the No-Action conditions indicates that:

- During the weekday AM peak hour, three of the 25 pedestrian elements analyzed would operate at unacceptable levels of service (LOS D or worse). This includes three crosswalk elements.
- During the weekday midday peak hour, five pedestrian elements would operate at unacceptable levels of service including three crosswalk elements and two corner elements.
- During the weekday PM peak hour, five pedestrian elements would operate at unacceptable levels of service including three crosswalk elements and two corner elements.
- During the Saturday peak hour, four pedestrian elements would operate at unacceptable levels of service including three crosswalk elements and one corner element.

Pedestrian elements operating at unacceptable levels of service during at least one peak hour are listed below:

- The north, east, and south crosswalks at the intersection of East 149th Street and Exterior Street/River Avenue during the weekday AM, midday, PM, and Saturday peak hours.
- The northeast corner of the intersection of East 149th Street and Exterior Street/River Avenue during the weekday midday, PM, and Saturday peak hours.
- The southeast corner of the intersection of East 149th Street and Exterior Street/River Avenue during the weekday midday and PM peak hours.



N

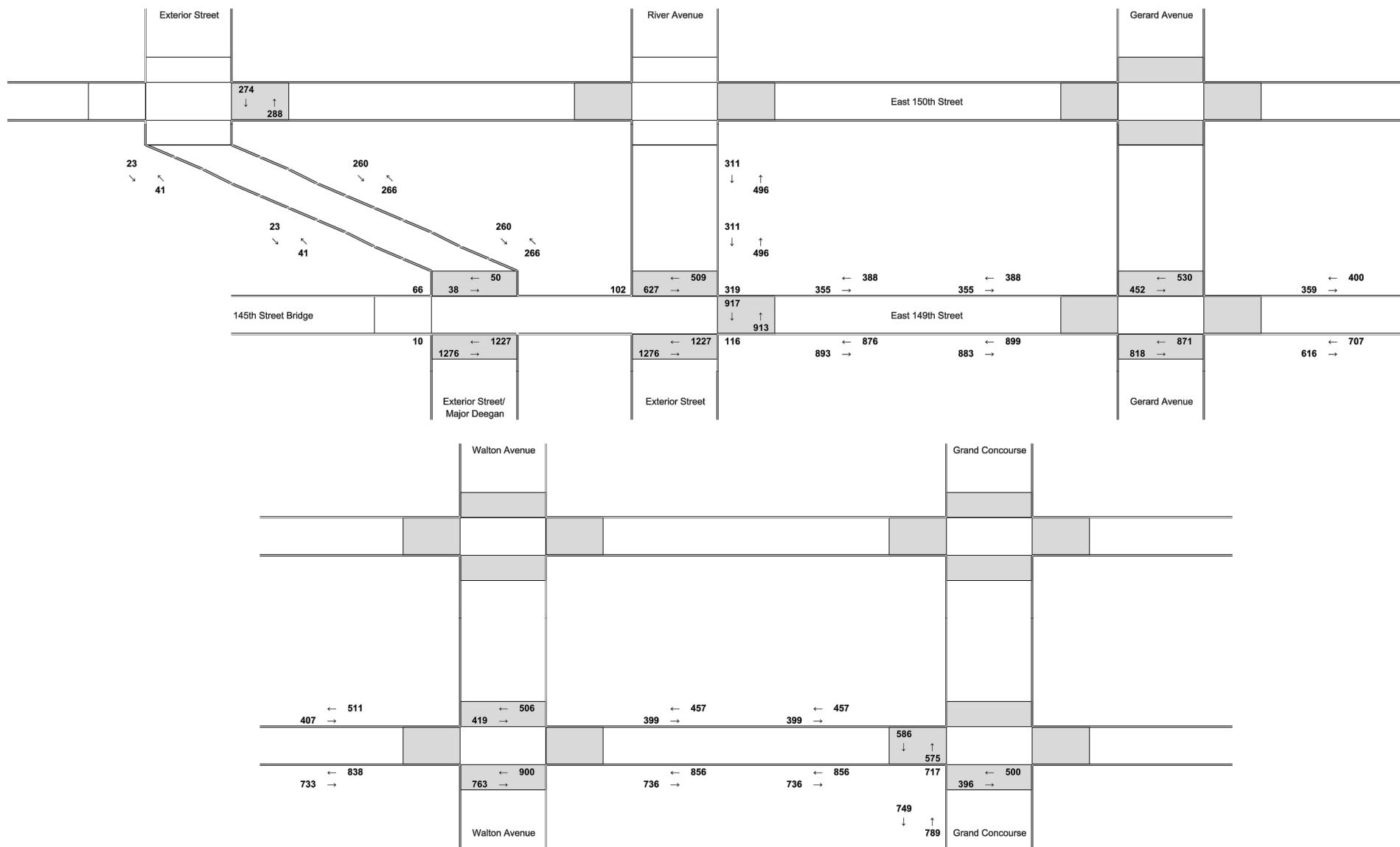


Figure  
**12-28**

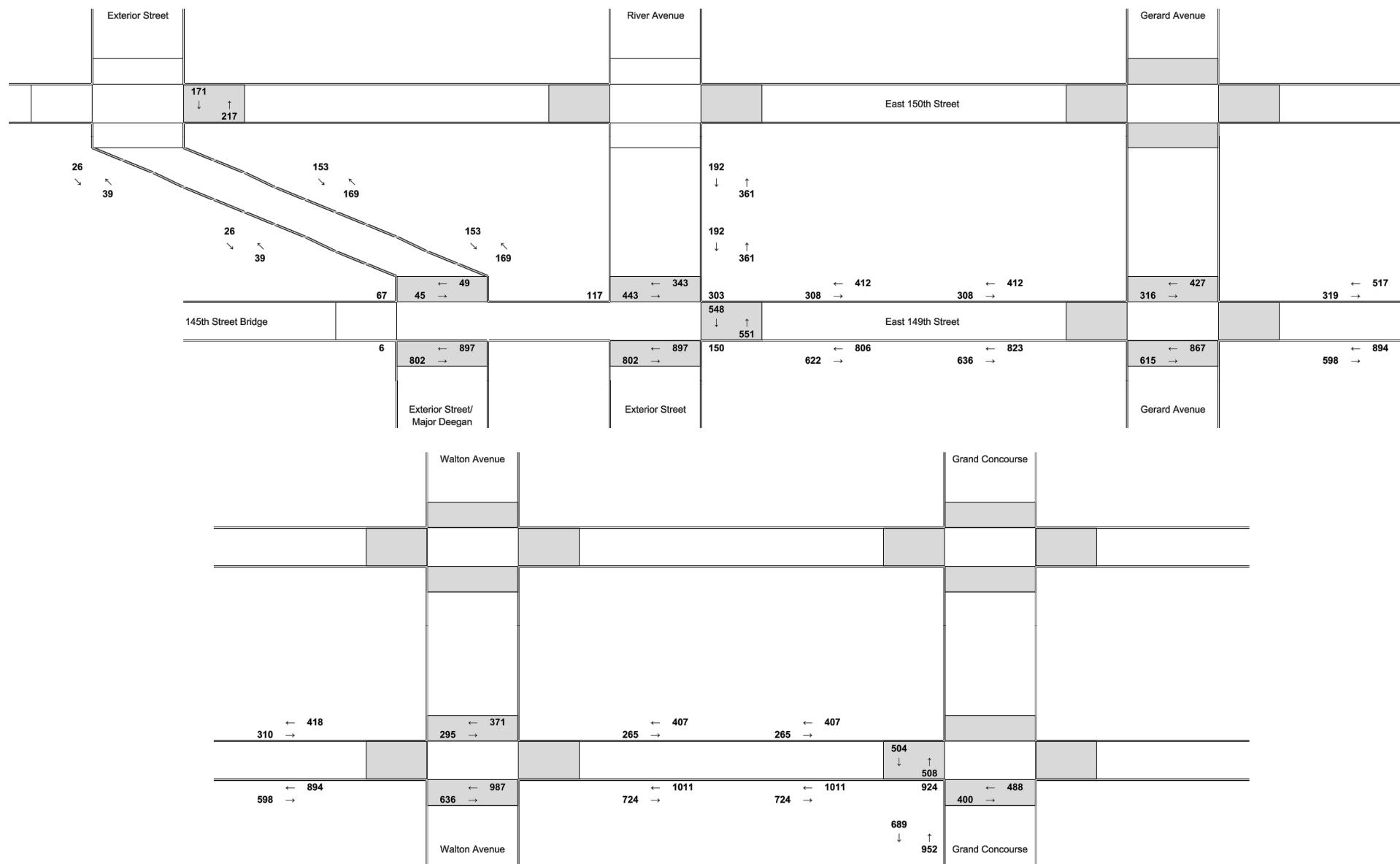


Figure  
**12-29**

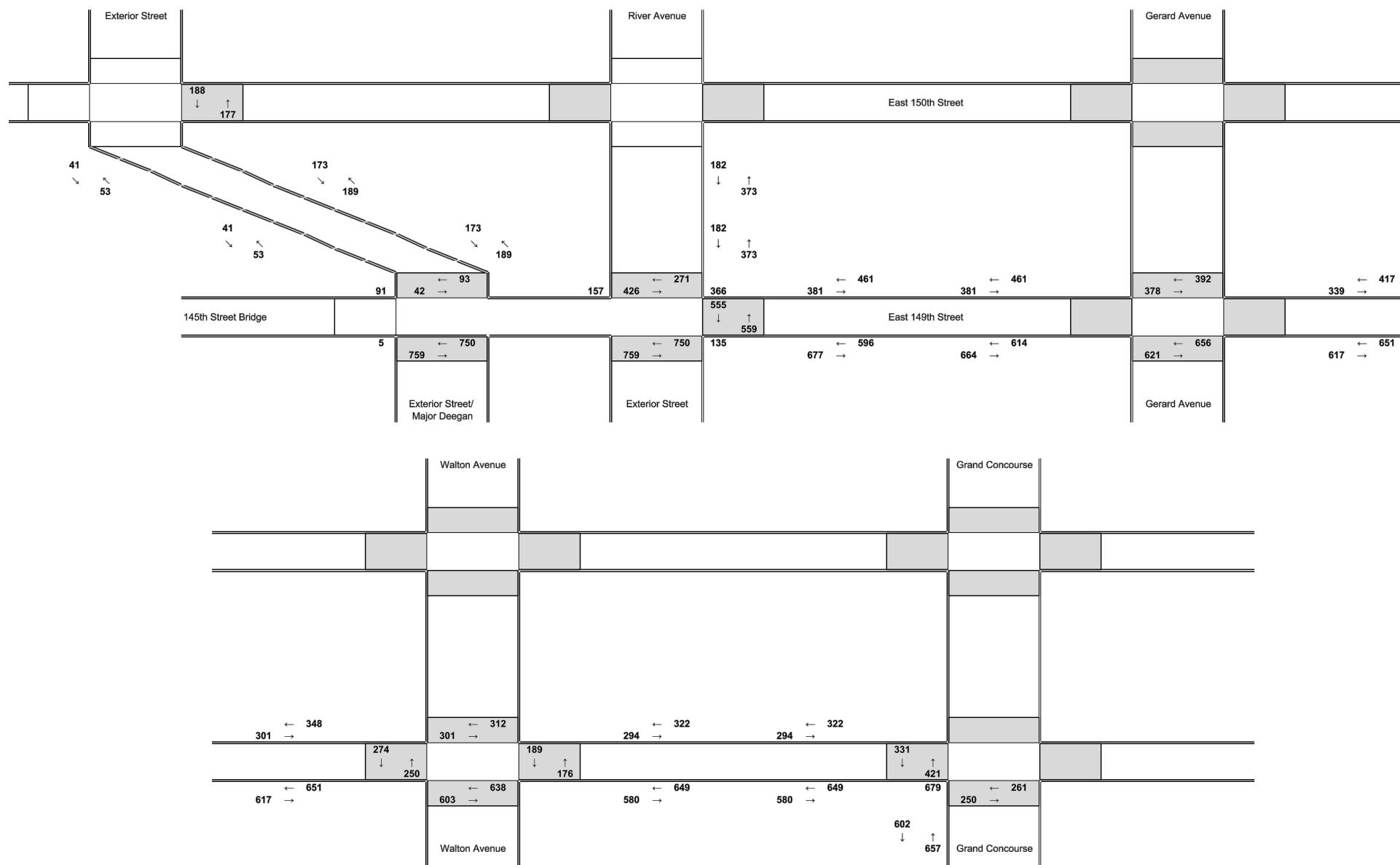


Table 12-2729: 2016 Existing vs. 2023 No-Action Pedestrian Levels of Service Summary

	Existing				2023 No-Action			
	Weekday			Saturday Peak Hour	Weekday			Saturday Peak Hour
	AM Peak Hour	Midday Peak Hour	PM Peak Hour		AM Peak Hour	Midday Peak Hour	PM Peak Hour	
Sidewalk Elements								
Sidewalks at LOS A/B/C	10	10	10	10	10	10	10	10
Sidewalks at LOS D	0	0	0	0	0	0	0	0
Sidewalks at LOS E	0	0	0	0	0	0	0	0
Sidewalks at LOS F	0	0	0	0	0	0	0	0
Crosswalk Elements								
Crosswalks at LOS A/B/C	9	9	9	9	6	6	6	6
Crosswalks at LOS D	0	0	0	0	3	0	0	0
Crosswalks at LOS E	0	0	0	0	0	0	0	2
Crosswalks at LOS F	0	0	0	0	0	3	3	1
Corner Elements								
Corners at LOS A/B/C	6	6	6	6	6	4	4	5
Corners at LOS D	0	0	0	0	0	0	1	0
Corners at LOS E	0	0	0	0	0	0	1	1
Corners at LOS F	0	0	0	0	0	2	0	0
Notes: Includes 10 sidewalk, nine crosswalks, and six corner analysis locations								

Table 12-2830: 2023 No-Action Pedestrian Levels of Service – Sidewalks

Sidewalk	Effective Width, ft	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		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
Exterior Street between East 149th and East 150th Street (east side)	10.6	148	567.4	A	526	197.5	A	322	322.8	A	362	290.8	A
Exterior Street between East 149th and East 150th Street (west side)	12.7	20	5,667.3	A	64	1,696.2	A	65	1,866.6	A	94	1,443.5	A
River Avenue between East 149th and East 150th Street (east side)	9.6	258	360.2	A	805 <u>807</u>	136.2 <u>135.9</u>	A	551 <sup>3</sup> <u>553</u>	177.3 <u>176.6</u>	A	552 <u>555</u>	172.6 <u>171.6</u>	A
East 149th Street between River Avenue and Gerard Avenue (north side)	10.5	348	323.0	A	743	129.7	A	720	135.7	A	840 <sup>2</sup> <u>842</u>	146.2 <u>145.9</u>	A
East 149th Street between River Avenue and Gerard Avenue (south side)	5.5	818 <sup>25</sup> <u>835</u>	70.8 <u>69.3</u>	A	1,780 <u>1,782</u>	35.7	C	1,456 <u>1,459</u>	34.8 <sup>7</sup> <u>34.7</u>	C	1,275 <u>1,278</u>	48.3 <sup>2</sup> <u>48.2</u>	B
East 149th Street between Gerard Avenue and Walton Avenue (north side)	4.8	4480 <u>4496</u>	119.3 <u>13119.6</u> 0	A	1,042 <u>918</u>	51.3	B	835 <u>72883</u> 6	55.5 <u>63.855</u> 4	B A	753 <u>64975</u> 6	67.4 <u>78.367</u> 1	A
East 149th Street between Gerard Avenue and Walton Avenue (south side)	7.3	934 <u>950</u>	78.7 <u>77.3</u>	A	1,570 <u>1,571</u>	49.3	B	1,488 <u>1,492</u> 92	52.1 <sup>0</sup> <u>52.0</u>	B	1,264 <u>1,268</u>	61.6.0 <sup>4</sup> <u>61.4</u>	A
East 149th Street between Walton Avenue and Grand Concourse (north side)	5.3	400 <u>410</u>	133.7 <u>130.4</u>	A	854 <u>856</u>	74.7 <sup>5</sup> <u>74.5</u>	A	670 <sup>2</sup> <u>672</u>	82.5 <sup>3</sup> <u>82.3</u>	A	621 <sup>1</sup> <u>616</u>	93.4 <u>94.1</u>	A
East 149th Street between Walton Avenue and Grand Concourse (south side)	6.7	1,325 <u>1,322</u>	53.3 <sup>4</sup> <u>53.4</u>	B	1,590 <u>1,592</u>	45.2	B	1,723 <u>1,735</u> 2	47.1 <u>46.7</u>	B	1,247 <u>1,229</u> 2	51.2 <u>52.0</u>	B
Grand Concourse between East 149th Street and the northwest subway station stairway (west side)	6.8	1,351 <u>1,317</u>	47.0 <u>48.2</u>	B	1,523 <u>1,538</u> 3	43.0 <u>42.5</u> 4	B	1,628 <u>1,641</u> 4	39.7 <u>39.3</u>	C	1,304 <u>1,259</u> 2	44.2 <u>45.8</u>	B

Table 12-2931: 2023 No-Action Pedestrian Levels of Service – Crosswalks

Intersection	Crosswalk	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		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
East 149th Street and Exterior Street/River Avenue	Northwest	67	86.6	A	88	86.8	A	94	66.0 65.6	A	135	54.19 54.0	B
	North	352	21.6	D	1,135 6 1,136	6.5	F	7856 786	7.7	F	6957 697	12.10 12.0	E
	East	482	17.8	D	1,829 3 1,830	3.6	F	1,097 9 1,099	7.3	F	1,112 4 1,114	7.0	F
	South	785	19.8	D	2,503	6.2	F	1,699	7.4	F	1,509	9.7	E
East 149th Street and Gerard Avenue	North	373	136.0	A	9812 982	59.10 59.0	B	7413 743	74.31 74.1	A	768 770	64.7 64.6	A
	South	865 880	51.3 50.4	B	1,687 9 1,689	33.3	C	1,478 8 1,482	34.65 34.5	C	1,273 1 1,277	43.21 43.1	B
East 149th Street and Walton Avenue	North	4261 4109	120.8 125.2	A	924 925	56.76 56.6	B	666	71.78 71.8	A	6113 613	69.1 68.8	A
	South	1,070 8 1,087	46.6 45.7	B	1,662 3 1,663	26.5	C	1,619 2 1,623	26.7	C	1,252 4 1,241	38.4 38.9	C
East 149th Street and Grand Concourse	West	665	49.76 49.6	B	1,155 6 1,161	28.31 28.1	C	1,009 1,012	31.21 31.1	C	7805 752	38.6 40.1	C B

Table 12-3032: 2023 No-Action Pedestrian Levels of Service – Corners

Intersection	Corner	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		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
East 149th Street and Exterior Street/River Avenue	Northwest	17	1843.7	A	66	1101.6	A	67	1041.4	A	91	874.3	A
	North	59	308.5	A	102	118.7	A	117	135.3 135.1	A	157	170.1 169.6	A
	Northeast	0	59.4	B	0	*	F	0	10.87 10.7	E	0	12.6	E
	Southeast	121	74.7	A	116	7.76 7.6	F	150	21.98 21.8	D	135	28.0	C
	Southwest	4	806.7	A	10	288.2	A	6	367.6	A	5	434.0	A
East 149th Street and Grand Concourse	Southwest	800 788	49.16 49.6	B	715 717	35.2 34.9	C	916 924	33.1 32.8	C	6977 679	51.7 52.9	B

## Notes:

\* The available corner area would not be sufficient to accommodate all pedestrians; some pedestrians would need to wait on the adjacent sidewalk area instead of the corner reservoir to cross the street

### Future With-Action Conditions – Year 2023

The proposed projects would facilitate the redevelopment of a vacant lot with a new mixed-use residential and commercial facility. Pedestrian access to the project site would be provided along Exterior Street and vehicular access to the project site would be provided via a driveway provided at the intersection of East 150th Street and Exterior Street. The proposed project would modify the intersection of East 150th Street and Exterior Street so that vehicular access (for pick-ups and drop-offs and delivery vehicles) from northbound Exterior Street and westbound East 150th Street could be allowed. A traffic signal would be needed at this intersection to facilitate pedestrian and vehicular traffic to the site, and pedestrian crosswalks would be installed along each approach. Parking would not be provided on-site; motorists would be expected to park on-street or at nearby off-street parking facilities such as the parking garage at the BTM.

#### Traffic

Overall, the proposed project would generate a total of 242 vehicles per hour (vph) (117 in and 125 out) during the weekday AM peak hour, 311 vph (157 in and 154 out) during the weekday midday peak hour, 397 vph (205 in and 192 out) during the weekday PM peak hour, and 337 vph (167 in and 170 out) during the Saturday peak hour. These vehicle trips were distributed as described in the Level 2 screening assessment, and the resulting 2023 traffic volume increases and impacts on levels of service are presented below. The With-Action traffic volumes for the weekday AM, midday, and PM, and Saturday peak hours are shown in Figures 12-31 through 12-34.

#### *Traffic Volume Increments*

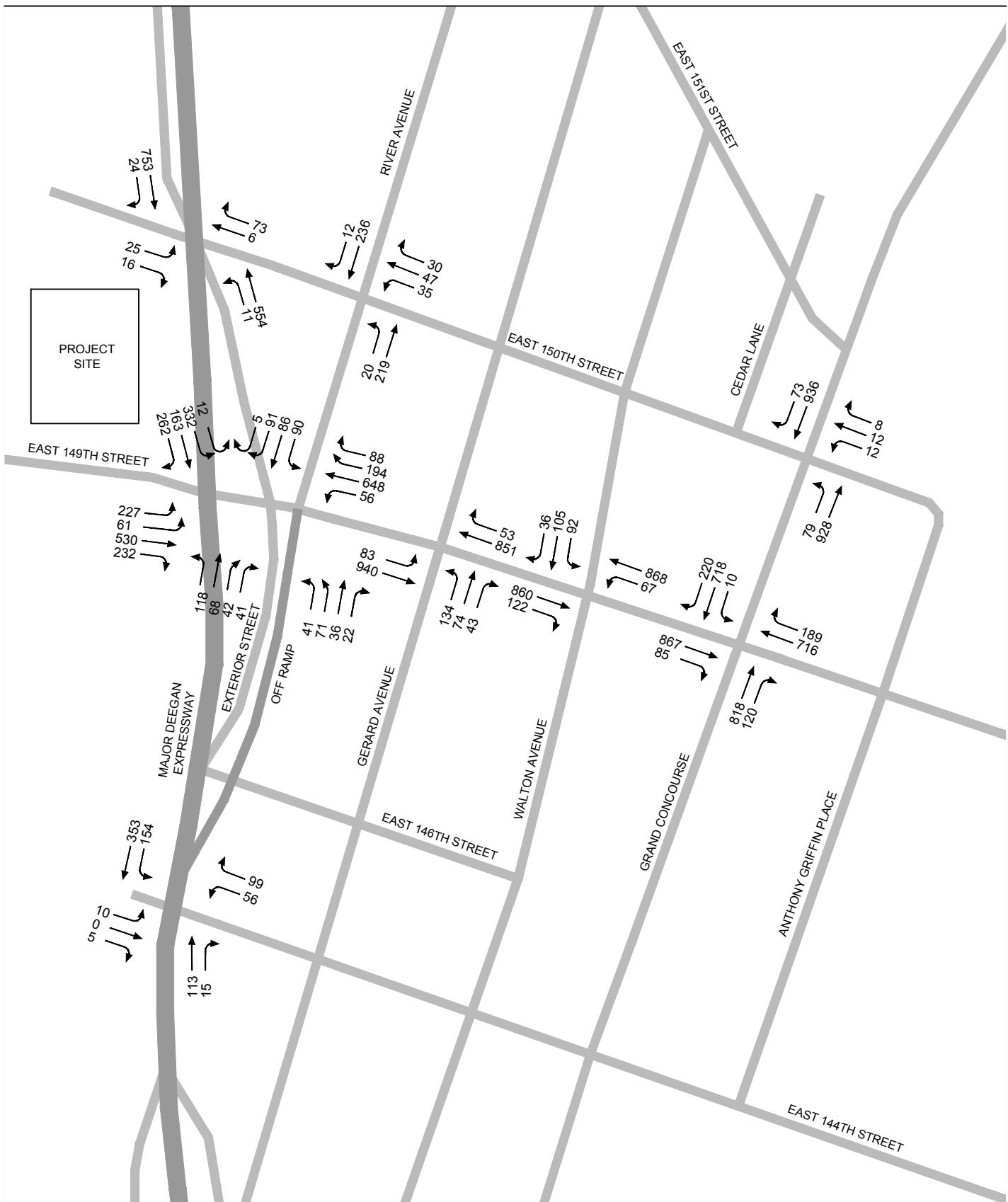
Project-generated trips were assigned to the project site along Exterior Street via the area's roadway network.

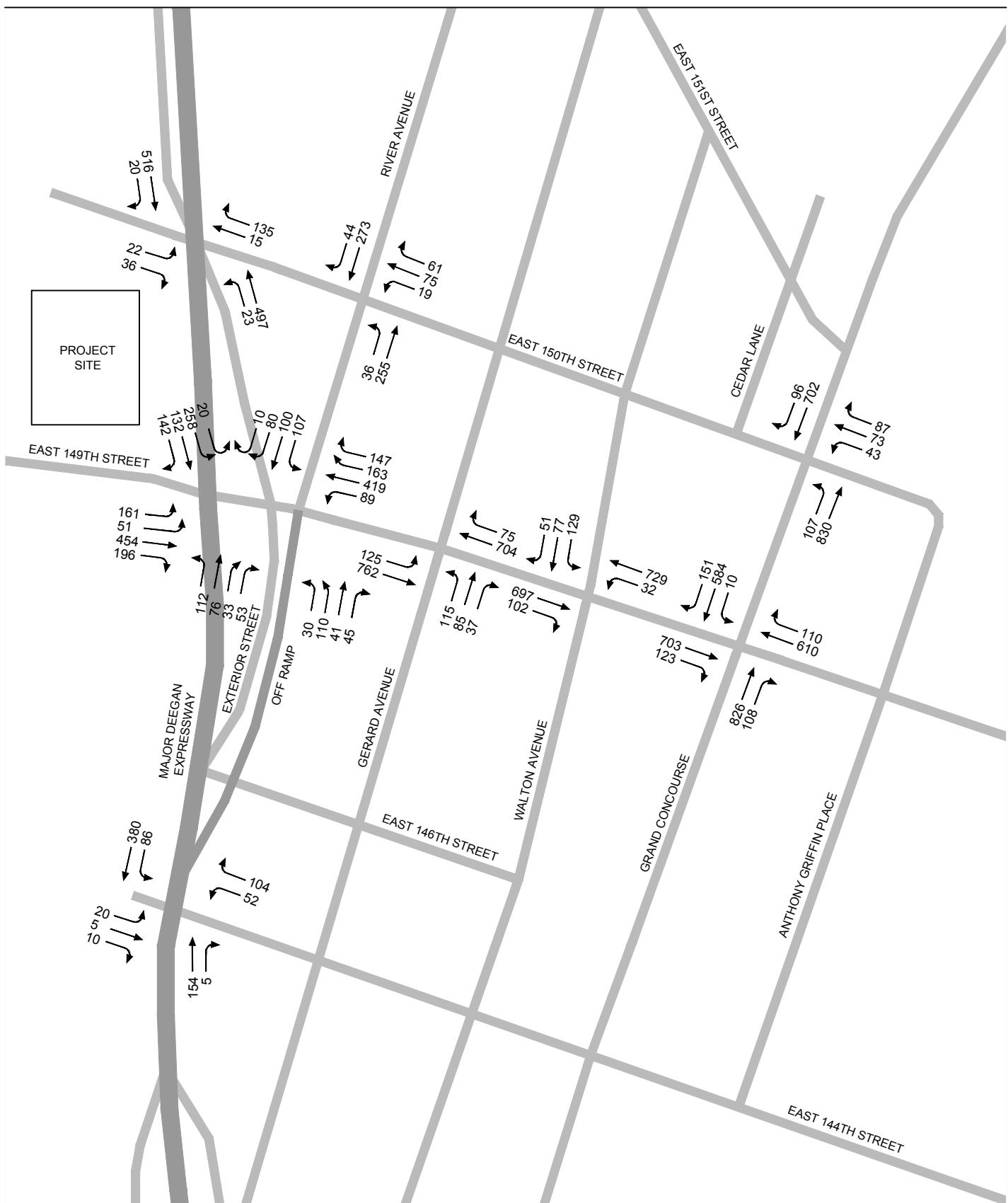
Traffic volumes along northbound Exterior Street in front of the project site would increase by approximately 35 vph to 70 vph during the peak hours analyzed. In the southbound direction, Exterior Street traffic volumes would increase by 55 vph to 80 vph.

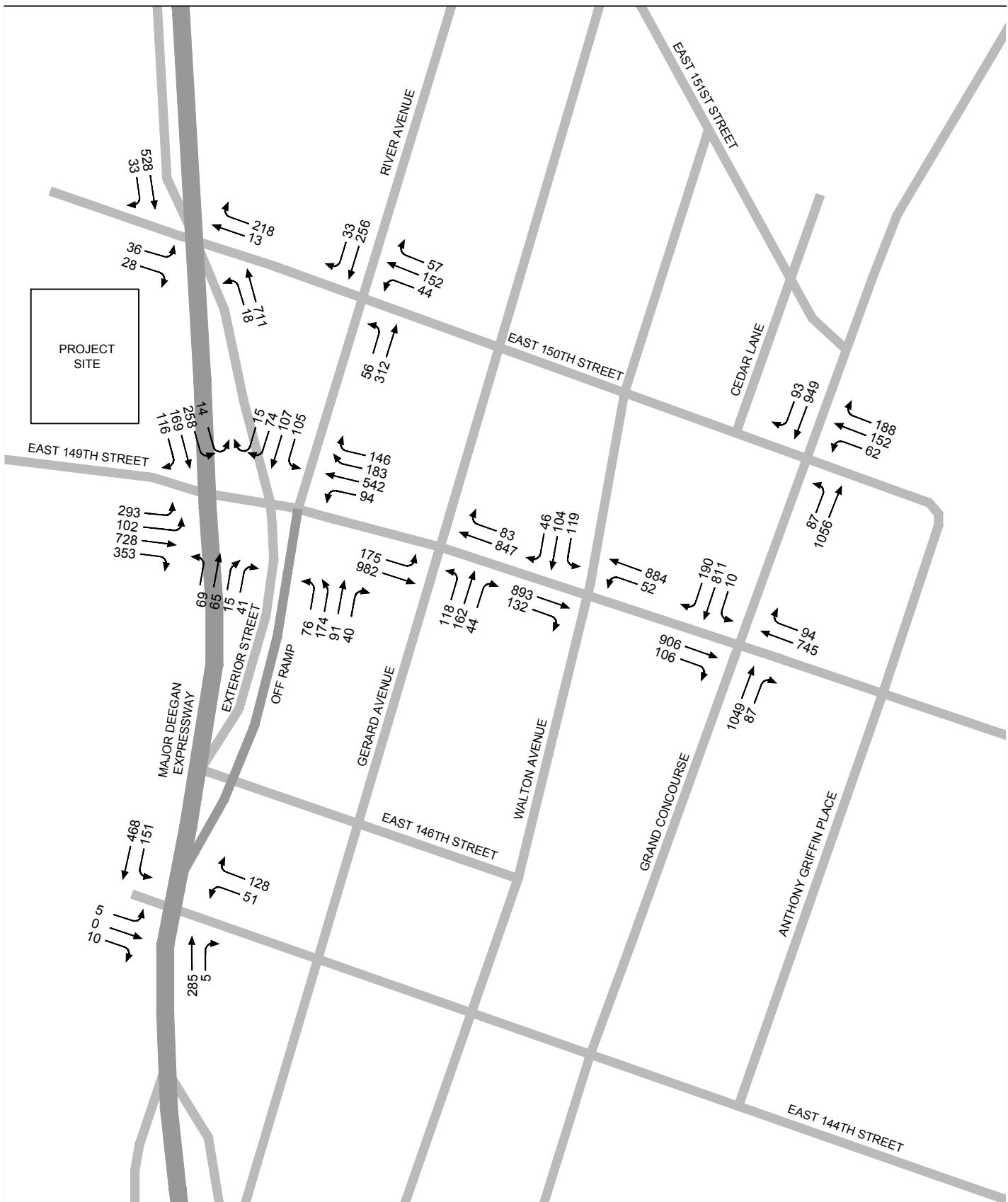
Along East 149th Street between Exterior Street and the Grand Concourse, traffic volumes would increase by approximately 40 vph to 60 vph during the weekday midday, PM, and Saturday peak hours in each direction. During the weekday AM peak hour, the increase in traffic volumes would be approximately 30 vph.

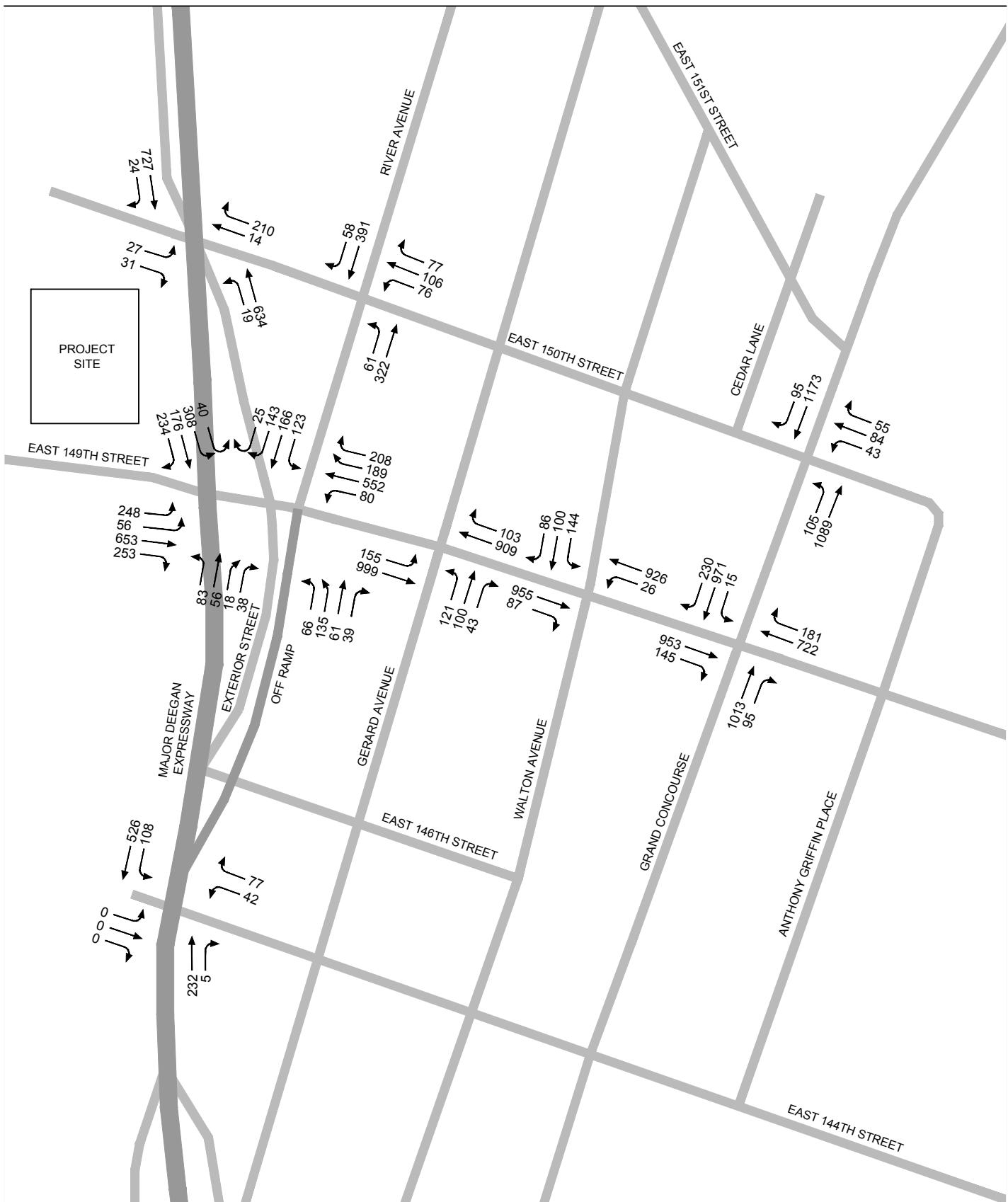
Project-generated volumes along the 145th Street Bridge would not exceed 20 vph in either direction. The increase in traffic volumes along the Grand Concourse would also not exceed 20 vph in each direction.

Other streets such as River Avenue, Gerard Avenue, Walton Avenue, and East 150th Street generally carry lower traffic volumes; however, some project-generated trips would utilize these streets. During all peak hours analyzed, traffic volumes along East 150th Street would increase by up to 30 vph, River Avenue volumes would increase by approximately 15 vph to 30 vph in each direction, and Gerard Avenue and Walton Avenue traffic volumes would increase by less than 10 vph for each street.









*Levels of Service*

Based on the traffic increments described above, the 2023 With-Action traffic levels of service were determined for the eight analysis locations. Tables 12-3133 and 12-3234 provide an overview of the levels of service that characterize 2023 With-Action “overall” intersection conditions and individual traffic movements during the weekday AM, midday, PM, and Saturday peak hours, respectively. Detailed traffic levels of service are provided in Table 12-3335.

Table 12-3133: 2023 No-Action vs. 2023 With-Action Traffic Levels of Service – Overall Intersections

	2023 No-Action				2023 With-Action			
	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Intersections at Overall LOS A/B/C	6	4	4	4	6	4	4	2
Intersections at Overall LOS D	<u>01</u>	2	1	1	0	2	1	3
Intersections at Overall LOS E	<u>21</u>	0	1	1	1	0	0	1
Intersections at Overall LOS F	0	2	2	2	1	2	3	2
Number of significantly impacted intersections	-	-	-	-	<u>34</u>	4	<u>45</u>	6
Notes: Includes eight intersections (six signalized and two unsignalized)								

Table 12-3234: 2023 No-Action vs. 2023 With-Action Traffic Levels of Service – Traffic Movements

	2023 No-Action				2023 With-Action			
	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Traffic Movements at LOS A/B/C or acceptable LOS D	<u>310</u>	32	27	<u>2827</u>	<u>3029</u>	32	<u>2827</u>	<u>2726</u>
Traffic Movements at Unacceptable LOS D	<u>56</u>	3	6	4	<u>67</u>	4	<u>67</u>	<u>54</u>
Traffic Movements at LOS E	3	4	1	<u>12</u>	2	3	0	<u>24</u>
Traffic Movements at LOS F	6	6	11	12	8	7	12	12
Number of significantly impacted movements	-	-	-	-	8	8	<u>1011</u>	<u>1112</u>
Number of individual traffic movements	45	45	45	45	46	46	46	46
<b>Notes:</b> The number of movements may vary between peak hours due to turn prohibitions, parking regulations, and the presence of de facto left turn movements. Per the CEQR Technical Manual, a signalized movement operating with delays greater than 45 seconds, or an unsignalized movement operating with delays greater 30 seconds, is considered unacceptable.								

The summary overview of the 2023 With-Action condition indicates that:

- During the weekday AM peak hour, two of the eight intersections analyzed would operate at overall LOS E or F under the With-Action condition (similar compared to one in the No-Action conditions). Eleven Ten individual traffic movements out of the approximately 45 movements analyzed would operate at LOS E or F, compared to nine movements under the No-Action conditions. Overall, three four of the eight intersections would have significant impacts.
- In the weekday midday peak hour, two intersections would operate at overall LOS E or F (similar to the No-Action conditions). Ten individual movements would operate at LOS E or F as compared to nine movements under (similar to) the No-Action conditions. Overall, four of the eight intersections would have significant impacts.
- In the weekday PM peak hour, three intersections would operate at overall LOS E or F (similar to the No-Action conditions). Twelve individual movements would operate at LOS E or F (similar to the No-Action conditions). Overall, four five of the eight intersections would have significant impacts.
- In the Saturday peak hour, three intersections would operate at overall LOS E or F (similar to the No-Action conditions). Fourteen Sixteen individual movements would operate at LOS E or F as compared to thirteen fourteen movements under the No-Action conditions. Overall, six of the eight intersections would have significant impacts.

**TABLE 12-35A**  
**LOWER CONCOURSE NORTH REZONING EIS**  
**NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY AM PEAK HOUR**

INTERSECTION & APPROACH	2023 No-Action						With-Action					
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
<b>SIGNALIZED INTERSECTIONS</b>												
<b>East 149th Street and Exterior Street</b>												
145th Street Bridge	EB	L	1.10	120.8	F		L	1.14	134.4	F		
		TR	0.94	55.3	E		TR	0.94	55.3	E		
East 149th Street	WB	L	1.52	372.8	F		L	1.52	372.0	F		
		TR	0.93	73.8	E		TR	1.18	153.9	F		
Major Deegan Expressway Ramp	NB	DefL	0.63	50.0	D		R	-	111.1	F		
		TR	0.31	41.1	D		DefL	0.66	51.4	D		
Exterior Street	SB	L	0.99	88.3	F		T	0.50	45.7	D		
		T	0.50	45.7	D		R	0.57	39.8	D		
	NB	L	0.57	47.8	D		L	0.62	51.3	D		
		LTR	0.26	40.6	D		LTR	0.26	40.6	D		
River Avenue	SB	LT	1.07	135.0	F		LT	1.26	202.5	F		
		R	0.38	42.9	D		R	0.38	42.9	D		
	<b>Overall Intersection</b>			<b>-</b>	<b>1.27</b>	<b>74.8</b>	<b>E</b>	<b>-</b>	<b>1.34</b>	<b>100.4</b>	<b>F</b>	
<b>East 149th Street and Gerard Avenue</b>												
East 149th Street	EB	LT	0.74	14.6	B		LT	0.77	15.8	B		
	WB	TR	0.45	9.4	A		TR	0.48	9.6	A		
Gerard Avenue	NB	L	0.61	50.8	D		L	0.64	52.9	D		
		TR	0.48	45.1	D		TR	0.49	45.4	D		
	<b>Overall Intersection</b>			<b>-</b>	<b>0.70</b>	<b>17.0</b>	<b>B</b>	<b>-</b>	<b>0.74</b>	<b>17.7</b>	<b>B</b>	
<b>East 149th Street and Walton Avenue</b>												
East 149th Street	EB	TR	0.54	10.4	B		TR	0.55	10.6	B		
	WB	LT	0.64	12.0	B		LT	0.66	12.4	B		
Walton Avenue	SB	LTR	0.97	90.3	F		LTR	0.99	96.6	F		
	<b>Overall Intersection</b>			<b>-</b>	<b>0.72</b>	<b>20.8</b>	<b>C</b>	<b>-</b>	<b>0.74</b>	<b>21.7</b>	<b>C</b>	
<b>East 149th Street and Grand Concourse</b>												
East 149th Street	EB	TR	1.12	109.7	F		TR	1.16	123.2	F		
	WB	T	0.82	46.2	D		T	0.85	48.5	D		
		R	0.79	58.8	E		R	0.82	62.2	E		
Grand Concourse	NB	TR	0.83	32.8	C		TR	0.84	33.4	C		
	SB	TR	0.77	25.5	C		TR	0.78	26.0	C		
	<b>Overall Intersection</b>			<b>-</b>	<b>0.91</b>	<b>53.2</b>	<b>D</b>	<b>-</b>	<b>0.92</b>	<b>57.6</b>	<b>E</b>	
<b>East 150th Street and Grand Concourse</b>												
East 150th Street	WB	LTR	0.10	30.9	C		LTR	0.10	30.9	C		
Grand Concourse	NB	L	0.45	19.4	B		L	0.53	23.3	C		
		T	0.56	15.1	B		T	0.56	15.1	B		
	SB	TR	0.61	16.2	B		TR	0.63	16.7	B		
	<b>Overall Intersection</b>			<b>-</b>	<b>0.44</b>	<b>16.1</b>	<b>B</b>	<b>-</b>	<b>0.46</b>	<b>16.5</b>	<b>B</b>	
<b>UNSIGNALIZED INTERSECTIONS</b>												
<b>East 150th Street and Exterior Street</b>												
East 150th Street	EB	-	-	-	-		LR	0.11	13.6	B		
	WB	R	-	13.8	B		LTR	0.19	14.3	B		
Exterior Street	NB	T	-	0.0	A		TL	0.45	11.2	B		
	SB	T	-	0.0	A		TR	0.52	11.8	B		
	<b>Overall Intersection</b>			<b>-</b>	<b>-</b>	<b>0.6</b>	<b>A</b>	<b>-</b>	<b>0.38</b>	<b>11.8</b>	<b>B</b>	
<b>East 150th Street and River Avenue</b>												
East 150th Street	WB	LTR	-	21.0	C			<b>(SIGNALIZED)</b>				
River Avenue	NB	L	-	7.8	A		LTR	-	34.6	D		
		T	-	0.0	A		L	-	7.9	A		
	SB	T	-	0.0	A		T	-	0.0	A		
		R	-	0.0	A		T	-	0.0	A		
	<b>Overall Intersection</b>			<b>-</b>	<b>-</b>	<b>3.7</b>	<b>A</b>	<b>-</b>	<b>-</b>	<b>7.4</b>	<b>A</b>	
<b>East 144th Street and Exterior Street</b>												
East 144th Street	EB	LTR	-	9.7	A		LTR	-	9.9	A		
	WB	LTR	-	9.6	A		LTR	-	9.7	A		
Exterior Street	NB	TR	-	13.0	B		TR	-	13.4	B		
	SB	L	-	9.6	A		L	-	9.7	A		
		T	-	10.6	B		T	-	10.7	B		
	<b>Overall Intersection</b>			<b>-</b>	<b>-</b>	<b>10.4</b>	<b>B</b>	<b>-</b>	<b>-</b>	<b>7.1</b>	<b>A</b>	

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

(3) Synchro 9 was used to model the intersection of East 149th Street and Exterior Street/River Avenue

■ Denotes significantly impacted movement

**TABLE 12-35B**  
**LOWER CONCOURSE NORTH REZONING EIS**  
**NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY AM PEAK HOUR**

INTERSECTION & APPROACH	2023 No-Action				With-Action					
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		
<b>SIGNALIZED INTERSECTIONS</b>										
<b>East 149th Street and Exterior Street</b>										
145th Street Bridge	EB	L	0.70	34.8	C	L	0.76	39.4	D	
	TR	0.92	54.0	D	TR	0.92	54.0	D		
East 149th Street	WB	L	1.85	478.4	F	L	1.85	477.5	F	
	TR	0.72	42.5	D	TR	0.98	70.2	E		
Major Deegan Expressway Ramp	NB	DefL	0.60	48.6	D	R	-	500+	F	
	TR	0.29	40.6	D	DefL	0.64	50.4	D		
Exterior Street	SB	L	0.89	70.7	E	TR	0.29	40.6	D	
	T	0.40	43.2	D	L	1.03	102.4	F		
	R	0.33	33.8	C	T	0.49	45.6	D		
	NB	L	0.82	74.9	E	R	0.37	34.5	C	
	LTR	0.33	41.7	D	L	0.93	98.0	F		
River Avenue	SB	LT	1.51	307.8	F	LTR	0.33	41.7	D	
	R	0.36	42.3	D	LT	1.73	399.9	F		
	<b>Overall Intersection</b>		-	1.42	500+	F	-	1.52	500+	F
<b>East 149th Street and Gerard Avenue</b>										
East 149th Street	EB	LT	0.71	14.3	B	LT	0.77	16.4	B	
	WB	TR	0.40	8.9	A	TR	0.43	9.1	A	
Gerard Avenue	NB	L	0.65	55.4	E	L	0.67	57.2	E	
	TR	0.49	45.6	D	TR	0.51	46.1	D		
	<b>Overall Intersection</b>		-	0.69	17.2	B	-	0.75	18.4	B
<b>East 149th Street and Walton Avenue</b>										
East 149th Street	EB	TR	0.46	9.5	A	TR	0.49	9.8	A	
	WB	LT	0.43	9.1	A	LT	0.45	9.4	A	
Walton Avenue	SB	LTR	1.23	180.2	F	LTR	1.25	187.5	F	
	<b>Overall Intersection</b>		-	0.66	36.1	D	-	0.68	36.7	D
<b>East 149th Street and Grand Concourse</b>										
East 149th Street	EB	TR	0.97	61.8	E	TR	1.03	76.7	E	
	WB	T	0.60	35.9	D	T	0.65	37.0	D	
		R	0.45	36.8	D	R	0.48	37.9	D	
Grand Concourse	NB	TR	0.79	33.0	C	TR	0.81	33.6	C	
	SB	TR	0.59	22.0	C	TR	0.60	22.2	C	
	<b>Overall Intersection</b>		-	0.80	38.4	D	-	0.84	43.1	D
<b>East 150th Street and Grand Concourse</b>										
East 150th Street	WB	LTR	0.46	31.9	C	LTR	0.46	31.9	C	
Grand Concourse	NB	L	0.53	26.1	C	L	0.67	34.7	C	
	T	0.56	19.5	B	T	0.56	19.5	B		
	SB	TR	0.58	20.0	B	TR	0.61	20.8	C	
	<b>Overall Intersection</b>		-	0.53	21.5	C	-	0.58	22.3	C
<b>UNSIGNALIZED INTERSECTIONS</b>										
<b>East 150th Street and Exterior Street</b>										
East 150th Street	EB	-	-	-	-	LR	0.16	14.2	B	
	WB	R	-	110.4	F	LTR	0.33	15.9	C	
Exterior Street	NB	T	-	0.0	A	LT	0.41	15.9	B	
	SB	T	-	0.0	A	TR	0.38	10.6	B	
	<b>Overall Intersection</b>		-	-	12.6	B	-	0.38	11.6	B
<b>East 150th Street and River Avenue</b>										
East 150th Street	WB	LTR	-	500+	F	LTR	-	500+	F	
River Avenue	NB	L	-	8.0	A	L	-	8.1	A	
	T	-	0.0	A	T	-	0.0	A		
	SB	T	-	0.0	A	T	-	0.0	A	
	R	-	0.0	A	R	-	0.0	A		
	<b>Overall Intersection</b>		-	-	124.8	F	-	-	870.4	F
<b>East 144th Street and Exterior Street</b>										
East 144th Street	EB	LTR	-	9.6	A	LTR	-	9.8	A	
	WB	LTR	-	9.6	A	LTR	-	9.8	A	
Exterior Street	NB	TR	-	11.8	B	TR	-	12.3	B	
	SB	L	-	10.5	B	L	-	10.6	B	
	T	-	10.1	B	T	-	10.3	B		
	<b>Overall Intersection</b>		-	-	10.4	B	-	-	10.6	B

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

(3) Synchro 9 was used to model the intersection of East 149th Street and Exterior Street/River Avenue

■ Denotes significantly impacted movement

**TABLE 12-35C**  
**LOWER CONCOURSE NORTH REZONING EIS**  
**NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY AM PEAK HOUR**

INTERSECTION & APPROACH	2023 No-Action				With-Action					
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		
<b>SIGNALIZED INTERSECTIONS</b>										
<b>East 149th Street and Exterior Street</b>										
145th Street Bridge	EB	L	1.12	110.5	F	L	1.21	145.7	F	
		TR	1.51	273.0	F	TR	1.57	301.8	F	
East 149th Street	WB	L	2.00+	500+	F	L	2.00+	500+	F	
		TR	0.78	53.4	D	TR	1.02	86.9	F	
Major Deegan Expressway Ramp	NB	R	-	500+	F	R	-	500+	F	
		LT	0.37	42.1	D	LT	0.45	44.0	D	
		TR	0.18	38.5	D	TR	0.18	38.5	D	
Exterior Street	SB	L	0.85	66.6	E	L	0.99	94.7	F	
		T	0.52	46.4	D	T	0.62	50.4	D	
		R	0.25	32.3	C	R	0.29	32.9	C	
	NB	L	1.20	169.9	F	L	1.39	249.2	F	
		LTR	0.50	46.0	D	LTR	0.50	46.0	D	
River Avenue	SB	LT	1.56	330.2	F	LT	1.85	456.0	F	
		R	0.33	41.6	D	R	0.33	41.6	D	
	<b>Overall Intersection</b>		<b>-</b>	<b>1.55</b>	<b>500+</b>	<b>F</b>	<b>-</b>	<b>1.68</b>	<b>500+</b>	<b>F</b>
<b>East 149th Street and Gerard Avenue</b>										
East 149th Street	EB	LT	0.96	26.7	C	LT	1.04	45.6	D	
	WB	TR	0.51	10.0	A	TR	0.54	10.4	B	
Gerard Avenue	NB	L	0.58	50.8	D	L	0.60	52.0	D	
		TR	0.70	53.8	D	TR	0.72	55.0	D	
	<b>Overall Intersection</b>		<b>-</b>	<b>0.90</b>	<b>23.5</b>	<b>C</b>	<b>-</b>	<b>0.96</b>	<b>32.4</b>	<b>C</b>
<b>East 149th Street and Walton Avenue</b>										
East 149th Street	EB	TR	0.55	10.3	B	TR	0.59	10.8	B	
	WB	LT	0.59	11.0	B	LT	0.62	11.7	B	
Walton Avenue	SB	LTR	1.21	170.5	F	LTR	1.25	187.0	F	
	<b>Overall Intersection</b>		<b>-</b>	<b>0.75</b>	<b>32.7</b>	<b>C</b>	<b>-</b>	<b>0.78</b>	<b>34.7</b>	<b>C</b>
<b>East 149th Street and Grand Concourse</b>										
East 149th Street	EB	TR	1.25	163.7	F	TR	1.33	197.1	F	
	WB	T	0.78	44.0	D	T	0.84	46.9	D	
		R	0.46	39.5	D	R	0.49	40.8	D	
Grand Concourse	NB	TR	0.96	46.6	D	TR	0.98	49.8	D	
	SB	TR	0.76	24.9	C	TR	0.77	25.4	C	
	<b>Overall Intersection</b>		<b>-</b>	<b>1.00</b>	<b>69.8</b>	<b>E</b>	<b>-</b>	<b>1.04</b>	<b>80.9</b>	<b>F</b>
<b>East 150th Street and Grand Concourse</b>										
East 150th Street	WB	LTR	1.14	129.5	F	LTR	1.14	129.5	F	
Grand Concourse	NB	L	0.46	20.0	B	L	0.63	29.8	C	
		T	0.63	16.4	B	T	0.63	16.4	B	
	SB	TR	0.67	17.5	B	TR	0.71	18.7	B	
	<b>Overall Intersection</b>		<b>-</b>	<b>0.82</b>	<b>35.7</b>	<b>D</b>	<b>-</b>	<b>0.85</b>	<b>36.1</b>	<b>D</b>
<b>UNSIGNALIZED INTERSECTIONS</b>										
<b>East 150th Street and Exterior Street</b>										
East 150th Street	EB	-	-	-	-	LR	0.20	14.7	B	
	WB	R	-	84.7	F	LTR	0.52	19.1	C	
Exterior Street	NB	T	-	0.0	A	LT	0.54	19.1	B	
	SB	T	-	0.0	A	TR	0.40	10.7	B	
	<b>Overall Intersection</b>		<b>-</b>	<b>-</b>	<b>12.4</b>	<b>B</b>	<b>-</b>	<b>0.53</b>	<b>12.8</b>	<b>B</b>
<b>East 150th Street and River Avenue</b>										
East 150th Street	WB	LTR	-	500+	F	LTR	-	500+	F	
River Avenue	NB	L	-	8.0	A	L	-	8.2	A	
		T	-	0.0	A	T	-	0.0	A	
	SB	T	-	0.0	A	T	-	0.0	A	
		R	-	0.0	A	R	-	0.0	A	
	<b>Overall Intersection</b>		<b>-</b>	<b>-</b>	<b>173.8</b>	<b>F</b>	<b>-</b>	<b>-</b>	<b>634.5</b>	<b>F</b>
<b>East 144th Street and Exterior Street</b>										
East 144th Street	EB	LTR	-	10.6	B	LTR	-	10.8	B	
	WB	LTR	-	10.6	B	LTR	-	10.9	B	
Exterior Street	NB	TR	-	14.9	B	TR	-	15.8	C	
		L	-	9.2	A	L	-	9.3	A	
	SB	T	-	11.1	B	T	-	11.3	B	
	<b>Overall Intersection</b>		<b>-</b>	<b>-</b>	<b>11.3</b>	<b>B</b>	<b>-</b>	<b>-</b>	<b>11.6</b>	<b>B</b>

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

(3) Synchro 9 was used to model the intersection of East 149th Street and Exterior Street/River Avenue

■ Denotes significantly impacted movement

TABLE 12-35D  
LOWER CONCOURSE NORTH REZONING EIS  
NO-ACTION VS WITH-ACTION TRAFFIC LEVELS OF SERVICE COMPARISON - WEEKDAY AM PEAK HOUR

INTERSECTION & APPROACH	2023 No-Action						With-Action					
	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
<b>SIGNALIZED INTERSECTIONS</b>												
<b>East 149th Street and Exterior Street</b>												
145th Street Bridge	EB	L	1.04	93.6	F		L	1.13	124.0	F		
		TR	1.23	151.5	F		TR	1.23	151.5	F		
East 149th Street	WB	L	1.85	478.3	F		L	1.85	476.5	F		
		TR	0.92	52.6	D		TR	1.17	126.2	F		
Major Deegan Expressway Ramp	NB	R	-	500+	F		R	-	500+	F		
		LT	0.36	41.8	D		LT	0.41	42.9	D		
		TR	0.18	38.6	D		TR	0.18	38.6	D		
Exterior Street	SB	L	1.04	106.0	F		L	1.17	149.0	F		
		T	0.43	43.3	D		T	0.51	45.4	D		
		R	0.48	37.0	D		R	0.51	37.8	D		
	NB	L	1.19	171.9	F		L	1.37	246.2	F		
		LTR	0.38	42.6	D		LTR	0.38	42.6	D		
River Avenue	SB	LT	1.80	431.8	F		LT	2.00+	500+	F		
		R	0.66	52.8	D		R	0.66	52.8	D		
	<b>Overall Intersection</b>			<b>-</b>	<b>1.58</b>	<b>500+</b>	<b>F</b>	<b>-</b>	<b>1.69</b>	<b>500+</b>	<b>F</b>	
<b>East 149th Street and Gerard Avenue</b>												
East 149th Street	EB	LT	1.00	38.6	D		LT	1.07	60.1	E		
	WB	TR	0.55	10.5	B		TR	0.58	11.0	B		
Gerard Avenue	NB	L	0.72	61.7	E		L	0.75	64.8	E		
		TR	0.56	47.9	D		TR	0.58	48.6	D		
	<b>Overall Intersection</b>			<b>-</b>	<b>0.93</b>	<b>28.8</b>	<b>C</b>	<b>-</b>	<b>0.99</b>	<b>39.3</b>	<b>D</b>	
<b>East 149th Street and Walton Avenue</b>												
East 149th Street	EB	TR	0.51	9.6	A		TR	0.54	9.9	A		
	WB	LT	0.49	9.6	A		LT	0.51	9.9	A		
Walton Avenue	SB	LTR	1.39	243.8	F		LTR	1.42	256.2	F		
	<b>Overall Intersection</b>			<b>-</b>	<b>0.73</b>	<b>44.5</b>	<b>D</b>	<b>-</b>	<b>0.76</b>	<b>45.7</b>	<b>D</b>	
<b>East 149th Street and Grand Concourse</b>												
East 149th Street	EB	TR	1.08	91.3	F		TR	1.14	112.3	F		
	WB	T	0.71	37.4	D		T	0.75	38.8	D		
		R	0.69	44.7	D		R	0.72	47.2	D		
Grand Concourse	NB	TR	1.00	58.0	E		TR	1.01	62.2	E		
	SB	TR	1.01	53.3	D		TR	1.02	56.9	E		
	<b>Overall Intersection</b>			<b>-</b>	<b>1.04</b>	<b>60.3</b>	<b>E</b>	<b>-</b>	<b>1.07</b>	<b>67.8</b>	<b>E</b>	
<b>East 150th Street and Grand Concourse</b>												
East 150th Street	WB	LTR	0.47	32.2	C		LTR	0.47	32.2	C		
Grand Concourse	NB	L	1.07	137.4	F		L	1.39	255.5	F		
		T	0.72	23.0	C		T	0.72	23.0	C		
	SB	TR	0.86	29.6	C		TR	0.89	32.6	C		
	<b>Overall Intersection</b>			<b>-</b>	<b>0.82</b>	<b>30.5</b>	<b>C</b>	<b>-</b>	<b>1.02</b>	<b>37.0</b>	<b>D</b>	
<b>UNSIGNALIZED INTERSECTIONS</b>												
<b>East 150th Street and Exterior Street</b>												
East 150th Street	EB	-	-	-	-		LR	0.18	14.5	B		
	WB	R	-	60.9	F		LTR	0.53	19.2	C		
Exterior Street	NB	T	-	0.0	A		LT	0.45	19.2	B		
	SB	T	-	0.0	A		TR	0.49	11.5	B		
	<b>Overall Intersection</b>			<b>-</b>	<b>-</b>	<b>8.9</b>	<b>A</b>	<b>-</b>	<b>0.50</b>	<b>12.6</b>	<b>B</b>	
<b>East 150th Street and River Avenue</b>												
East 150th Street	WB	LTR	-	500+	F		LTR	-	500+	F		
River Avenue	NB	L	-	8.7	A		L	-	8.8	A		
		T	-	0.0	A		T	-	0.0	A		
	SB	T	-	0.0	A		T	-	0.0	A		
		R	-	0.0	A		R	-	0.0	A		
	<b>Overall Intersection</b>			<b>-</b>	<b>-</b>	<b>122.9</b>	<b>F</b>	<b>-</b>	<b>-</b>	<b>443.4</b>	<b>F</b>	
<b>East 144th Street and Exterior Street</b>												
East 144th Street	EB	LTR	-	10.0	B		LTR	-	10.3	B		
	WB	LTR	-	10.1	B		LTR	-	10.3	B		
Exterior Street	NB	TR	-	14.2	B		TR	-	15.1	C		
	SB	L	-	9.2	A		L	-	9.3	A		
		T	-	10.1	B		T	-	10.3	B		
	<b>Overall Intersection</b>			<b>-</b>	<b>-</b>	<b>10.7</b>	<b>B</b>	<b>-</b>	<b>-</b>	<b>11.1</b>	<b>B</b>	

(1) Control delay is measured in seconds per vehicle.

(2) Overall intersection V/C ratio is the critical lane groups' V/C ratio.

(3) Synchro 9 was used to model the intersection of East 149th Street and Exterior Street/River Avenue

■ Denotes significantly impacted movement

Based on the analysis results, the majority of traffic movements would continue to operate at acceptable levels of services; six intersections would have at least one movement operating at unacceptable levels of service during at least one peak hour. Traffic movements that operate at unacceptable levels of service under the No-Action conditions would continue to do so under the With-Action conditions; additional movements that would be expected to operate at unacceptable levels of service as a result of the proposed project are listed below:

#### **East 149th Street and Exterior Street/River Avenue/Major Deegan Off-Ramp**

- Westbound shared through-right movement (weekday midday peak hour)
- Westbound channelized right turn movement (weekday AM peak hour)
- Southbound Exterior Street through movement (weekday midday and Saturday peak hours)

#### **East 149th Street and Gerard Avenue**

- Eastbound shared left-through movement (weekday PM and Saturday peak hours)

#### **East 149th Street and Grand Concourse**

- ~~Northbound approach (weekday PM peak hour)~~
- ~~Southbound shared through right movement (Saturday peak hour)~~
- ~~Westbound through movement (weekday PM peak hour)~~
- ~~Westbound right turn movement (Saturday peak hour)~~

#### **East 150th Street and River Avenue**

- Westbound approach (weekday AM peak hour)

The westbound approach at the intersection of East 150th Street and Exterior Street, which operates at unacceptable LOS F under the No-Action condition during the weekday midday, PM, and Saturday peak hours, would operate at acceptable levels of service under the With-Action condition due to traffic improvements discussed above.

Of the eight intersections analyzed, the proposed project would result in significant adverse traffic impacts at ~~three~~ ~~four~~ intersections during the weekday AM and midday peak hour, ~~four~~ ~~five~~ intersections during the weekday midday PM peak hour, and PM peak hours, and six intersections during the Saturday peak hour. The significantly impacted traffic movements are identified below:

#### **East 149th Street and Exterior Street/River Avenue/Major Deegan Off-Ramp**

- Eastbound left turn movement (weekday AM, PM, and Saturday peak hours)
- Eastbound through-right movement (weekday PM peak hour)
- Westbound through-right movement (weekday AM, midday, PM, and Saturday peak hours)
- Westbound channelized right turn movement (weekday AM, midday, PM, and Saturday peak hours)

- Southbound Exterior Street left turn movement (weekday AM, midday, PM, and Saturday peak hours)
- Northbound Exterior Street left turn movement (weekday midday, PM, and Saturday peak hours)
- Southbound River Avenue shared left-through movement (weekday AM, midday, PM, and Saturday peak hours)

**East 149th Street and Gerard Avenue**

- Eastbound approach (PM and Saturday peak hour)

**East 149th Street and Walton Avenue**

- Southbound approach (weekday AM, midday, PM, and Saturday peak hours)

**East 149th Street and Grand Concourse**

- Eastbound approach (weekday AM, midday, PM, and Saturday peak hours)
- ~~• Westbound right turn movement (AM peak hour)~~
- Northbound approach (Saturday peak hour)

**East 150th Street and Grand Concourse**

- Northbound left turn movement (Saturday peak hour)

**East 150th Street and River Avenue**

- Westbound approach (weekday AM, midday, PM, and Saturday peak hours)

The identification and evaluation of traffic capacity improvements needed to mitigate potential significant adverse traffic impacts created by the proposed project are presented in Chapter 20, “Mitigation.”

**Parking**

Both the weekday and Saturday peak parking demands would occur during the nighttime and overnight hours when residents of the proposed project would park and leave their cars overnight. The weekday peak parking demand of 330 spaces would be expected to occur between 8 PM and 9 PM. During a typical Saturday, the peak demand of 328 spaces would occur between 5 AM and 7 AM. Table 12-3436 provide the projected hourly parking accumulation for weekday and Saturday conditions. Since the proposed project would not provide parking on-site, project-generated parking demand would be accommodated by parking spaces available on-street and in nearby off-street parking facilities such as the BTM parking garage. It is expected that overnight on-street parking would be available for residents along the Grand Concourse commercial corridor (which has one-hour and six-hour metered parking spaces) and around the Hostos Community College along Walton Avenue and East 149th Street (which has six-hour metered parking spaces).

Table 12-3436: Project Parking Demand

Time	Weekday Parking Demand				Saturday Parking Demand			
	Autos In	Autos Out	Total Autos	Demand	Autos In	Autos Out	Total Autos	Demand
12 AM - 01 AM	8	8	16	326	10	10	20	326
01 AM - 02 AM	4	4	8	326	5	5	10	326
02 AM - 03 AM	2	2	4	326	3	3	6	326
03 AM - 04 AM	2	2	4	326	2	2	4	326
04 AM - 05 AM	2	2	4	326	2	2	4	326
05 AM - 06 AM	2	0	2	328	2	0	2	328
06 AM - 07 AM	3	3	6	328	4	4	8	328
07 AM - 08 AM	12	43	55	298	8	48	56	288
08 AM - 09 AM	96	104	200	293	45	109	154	225
09 AM - 10 AM	102	86	188	311	59	84	143	202
10 AM - 11 AM	76	82	158	305	61	77	138	186
11 AM - 12 PM	99	101	200	303	85	79	164	191
12 PM - 01 PM	114	111	225	305	115	83	198	223
01 PM - 02 PM	94	96	190	303	112	84	196	251
02 PM - 03 PM	98	104	202	296	131	134	265	248
03 PM - 04 PM	112	111	223	297	101	110	211	238
04 PM - 05 PM	125	137	262	284	121	113	234	246
05 PM - 06 PM	171	158	329	296	116	114	230	248
06 PM - 07 PM	117	110	227	303	134	100	234	282
07 PM - 08 PM	103	77	180	328	121	78	199	325
08 PM - 09 PM	51	48	99	330	58	58	116	324
09 PM - 10 PM	30	36	66	324	32	39	71	317
10 PM - 11 PM	20	23	43	321	24	21	45	320
11 PM - 12 AM	16	11	27	326	17	11	28	326

### Transit

Technical Memorandum 001 was issued on June 9, 2017, between the draft and final certification of the GEIS, and describes changes to the findings of the subway station analysis detailed in the draft GEIS due to a calculation error of the width increment threshold and considers whether the calculation error would result in any new or different significant adverse environmental impacts that were not already identified in the draft GEIS. Additional comments to the subway station analysis, received from New York City Transit (NYCT) between the draft and final GEIS, and the results of ongoing consultation with NYCT were also incorporated in the Technical Memorandum. The technical memorandum concluded that the changes to the calculation would not result in any new or different impacts at locations not previously identified; however, the previously impacted 149th Street-Grand Concourse subway station would incur significant impacts at two additional station elements not previously disclosed. The analysis findings documented in the technical memorandum are also incorporated into this final GEIS.

### *Subway Station*

The proposed project would generate a total of 549 subway trips per hour (152 in and 397 out) during the weekday AM peak hour and 728 subway trips per hour (444 in and 284 out) during the weekday PM peak hour. These trips were assigned to the northwest and southwest stairways of the 149th Street-Grand Concourse subway station, primarily to the northwest stairway, since it is the most direct route for project-generated subway trips, assigned through the subway station elements.

As shown in Table 12-3537, the seven of the 11 subway station stairways analyzed would operate at acceptable levels of service during the weekday AM and PM peak hours (as compared to ~~eight nine~~ in the No Action condition). Stairways ~~ML5/ML7~~ ML1/ML3 and PL6 would be at over-capacity during the weekday AM and PM peak hours, and stairways S3 and PL3 would operate at over-capacity during the weekday PM peak hour and weekday AM peak hour, respectively.

- During the weekday PM peak hour, stairway S3 would operate at LOS D with a v/c ratio of ~~1.23~~ 1.18 and a calculated width increment threshold (WIT) of ~~11.05~~ 8.80 which exceeds the WIT criteria for significant impacts.
- During the weekday AM peak hour, stairway ~~ML5/ML7~~ ML1/ML3 would operate at LOS E with a v/c ratio of 1.48 and a calculated WIT of ~~0.62~~ 7.49, and during the weekday PM peak hour would operate at LOS E with a v/c ratio of ~~1.44~~ 1.47 and a calculated WIT of ~~1.01~~ 11.8. The WIT is below which exceeds the WIT criteria for significant impacts during both peak hours.
- During the weekday AM peak hour, stairway PL3 would operate at LOS D with a v/c ratio of ~~1.11~~ 1.04 and a calculated WIT of ~~1.11~~ 1.75 which is below the WIT criteria for significant impacts.
- During the weekday AM peak hour, stairway PL6 would operate at LOS E with a v/c ratio of ~~1.45~~ 1.18 and a calculated WIT of ~~0.05~~ 0.69, and during the weekday PM peak hour would operate at LOS E with a v/c ratio of ~~1.65~~ 1.70 and a calculated WIT of ~~0.27~~ 3.16. The WIT is below exceeds the WIT criteria for significant impacts during both the weekday PM peak hours.

Fare control area R260 would be at over-capacity and operate at LOS D during the weekday AM (v/c ratio of ~~1.12~~ 1.10) and PM (v/c ratio of ~~1.12~~ 1.08) peak hours. The fare control area would be significantly impacted during both peak hours. Detailed descriptions of the subway station fare control element levels of service is provided in Table 12-38.

Table 12-35: 2023 With Action Subway Station Levels of Service—Stairways

Peak Hour	Effective Width	Pedestrian Volume Up (15 minutes)	Pedestrian Volume Down (15 minutes)	Friction Factors	Surging Factor (Up/Down)	v/c ratio	LOS
<b>Northwest stairway (S3) between street and upper mezzanine levels</b>							
Weekday AM	48 inches	203	293	0.90	0.90/1.00	0.96	C
Weekday PM	48 inches	372	251	0.90	0.90/1.00	1.23	D
<b>Upper mezzanine passageway stairway (U1A/U1B)</b>							
Weekday AM	155 inches	394	446	0.90	0.80/1.00	0.54	B
Weekday PM	155 inches	557	372	0.90	0.80/1.00	0.61	B
<b>Upper mezzanine passageway stairway (U3A/U3B)</b>							
Weekday AM	146 inches	286	273	0.90	0.80/1.00	0.38	A
Weekday PM	146 inches	190	402	0.90	0.80/1.00	0.39	A
<b>Stairway (P1) between upper mezzanine level and southbound number 4 subway line platform</b>							
Weekday AM	87 inches	287	146	0.90	0.75/1.00	0.54	B
Weekday PM	87 inches	126	152	0.90	0.75/1.00	0.32	A
<b>Stairway (P3) between upper mezzanine level and southbound number 4 subway line platform</b>							
Weekday AM	87 inches	445	357	0.90	0.75/1.00	0.96	C
Weekday PM	87 inches	360	468	0.90	0.75/1.00	0.96	C
<b>Stairway (ML1/ML3) between southbound number 4 subway line platform and lower mezzanine level</b>							
Weekday AM	64 inches	66	166	0.90	0.80/0.75	0.42	A
Weekday PM	64 inches	41	83	0.90	0.80/0.75	0.23	A
<b>Stairway (ML5/ML7) between southbound number 4 subway line platform and lower mezzanine level</b>							
Weekday AM	66 inches	333	513	0.90	0.80/0.75	1.48	E
Weekday PM	66 inches	324	498	0.90	0.80/0.75	1.44	E
<b>Stairway (PL3) between lower mezzanine level and southbound number 2 and 5 subway lines platform</b>							
Weekday AM	48 inches	274	188	0.90	0.75/0.80	1.11	D
Weekday PM	48 inches	203	156	0.90	0.75/0.80	0.86	C
<b>Stairway (PL5) between lower mezzanine level and southbound number 2 and 5 subway lines platform</b>							
Weekday AM	46 inches	122	172	0.90	0.75/0.80	0.74	C
Weekday PM	46 inches	65	133	0.90	0.75/0.80	0.49	B
<b>Stairway (PL6) between lower mezzanine level and northbound number 2 and 5 subway lines platform</b>							
Weekday AM	48 inches	243	368	0.90	0.75/0.80	1.45	E
Weekday PM	48 inches	332	358	0.90	0.75/0.80	1.65	E
<b>Stairway (PL8) between lower mezzanine level and northbound number 2 and 5 subway lines platform</b>							
Weekday AM	48 inches	98	149	0.90	0.75/0.80	0.59	B
Weekday PM	48 inches	177	222	0.90	0.75/0.80	0.95	C

Table 12-37: 2023 With-Action Subway Station Levels of Service – Stairways

Peak Hour	<u>Effective Width</u>	<u>Pedestrian Volume Up</u> (15-minutes)	<u>Pedestrian Volume Down</u> (15-minutes)	<u>Friction Factors</u>	<u>Surging Factor</u> (Up/Down)	<u>v/c ratio</u>	<u>LOS</u>
<b>Northwest stairway (S3) between street and upper mezzanine levels</b>							
Weekday AM	<u>48 inches</u>	<u>203</u>	<u>302</u>	<u>0.90</u>	<u>0.90/1.00</u>	<u>0.98</u>	<u>C</u>
Weekday PM	<u>48 inches</u>	<u>369</u>	<u>229</u>	<u>0.90</u>	<u>0.90/1.00</u>	<u>1.18</u>	<u>D</u>
<b>Upper mezzanine passageway stairway (U1A/U1B)</b>							
Weekday AM	<u>155 inches</u>	<u>338337</u>	<u>450451</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.50</u>	<u>B</u>
Weekday PM	<u>155 inches</u>	<u>559</u>	<u>405407</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.63</u>	<u>B</u>
<b>Upper mezzanine passageway stairway (U3A/U3B)</b>							
Weekday AM	<u>146 inches</u>	<u>308309</u>	<u>260</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.39</u>	<u>A</u>
Weekday PM	<u>146 inches</u>	<u>379</u>	<u>213</u>	<u>0.90</u>	<u>0.80/1.00</u>	<u>0.39</u>	<u>A</u>
<b>Stairway (P1) between upper mezzanine level and southbound number 4 subway line platform</b>							
Weekday AM	<u>87 inches</u>	<u>334</u>	<u>149150</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.60</u>	<u>B</u>
Weekday PM	<u>87 inches</u>	<u>124</u>	<u>146</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.32</u>	<u>A</u>
<b>Stairway (P3) between upper mezzanine level and southbound number 4 subway line platform</b>							
Weekday AM	<u>87 inches</u>	<u>444443</u>	<u>386388</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.99</u>	<u>C</u>
Weekday PM	<u>87 inches</u>	<u>371</u>	<u>443444</u>	<u>0.90</u>	<u>0.75/1.00</u>	<u>0.95</u>	<u>C</u>
<b>Stairway (ML1/ML3) between southbound number 4 subway line platform and lower mezzanine level</b>							
Weekday AM	<u>66 inches</u>	<u>289288</u>	<u>556</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>1.48</u>	<u>E</u>
Weekday PM	<u>66 inches</u>	<u>345</u>	<u>496497</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>1.47</u>	<u>E</u>
<b>Stairway (ML5/ML7) between southbound number 4 subway line platform and lower mezzanine level</b>							
Weekday AM	<u>64 inches</u>	<u>47</u>	<u>155</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>0.37</u>	<u>A</u>
Weekday PM	<u>64 inches</u>	<u>3839</u>	<u>94</u>	<u>0.90</u>	<u>0.80/0.75</u>	<u>0.24</u>	<u>A</u>
<b>Stairway (PL3) between lower mezzanine level and southbound number 2 and 5 subway lines platform</b>							
Weekday AM	<u>48 inches</u>	<u>236</u>	<u>196</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>1.04</u>	<u>D</u>
Weekday PM	<u>48 inches</u>	<u>173</u>	<u>169</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.82</u>	<u>C</u>
<b>Stairway (PL5) between lower mezzanine level and southbound number 2 and 5 subway lines platform</b>							
Weekday AM	<u>46 inches</u>	<u>105</u>	<u>167168</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.68</u>	<u>B</u>
Weekday PM	<u>46 inches</u>	<u>54</u>	<u>141</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.48</u>	<u>B</u>
<b>Stairway (PL6) between lower mezzanine level and northbound number 2 and 5 subway lines platform</b>							
Weekday AM	<u>48 inches</u>	<u>176</u>	<u>321</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>1.18</u>	<u>D</u>
Weekday PM	<u>48 inches</u>	<u>322</u>	<u>391</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>1.70</u>	<u>F</u>
<b>Stairway (PL8) between lower mezzanine level and northbound number 2 and 5 subway lines platform</b>							
Weekday AM	<u>48 inches</u>	<u>94</u>	<u>160</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.60</u>	<u>B</u>
Weekday PM	<u>48 inches</u>	<u>139</u>	<u>246</u>	<u>0.90</u>	<u>0.75/0.80</u>	<u>0.91</u>	<u>C</u>

**Table 12-38: 2023 With-Action Subway Station Levels of Service – Fare Control**

<u>Peak Hour</u>	<u>Control Elements</u>	<u>Pedestrian Volume In (15-minutes)</u>	<u>Pedestrian Volume Out (15-minutes)</u>	<u>Friction Factors</u>	<u>Surging Factor (Out Trips)</u>	<u>v/c ratio</u>	<u>LOS</u>
<u>West Fare Control (R260)</u>							
<u>Weekday AM</u>	<u>2 HEETs 1 HXT</u>	<u>418420</u>	<u>240</u>	<u>0.90</u>	<u>0.90</u>	<u>1.0910</u>	<u>D</u>
<u>Weekday PM</u>	<u>2 HEETs 1 HXT</u>	<u>313315</u>	<u>516517</u>	<u>0.90</u>	<u>0.90</u>	<u>1.0708</u>	<u>D</u>

### Pedestrian

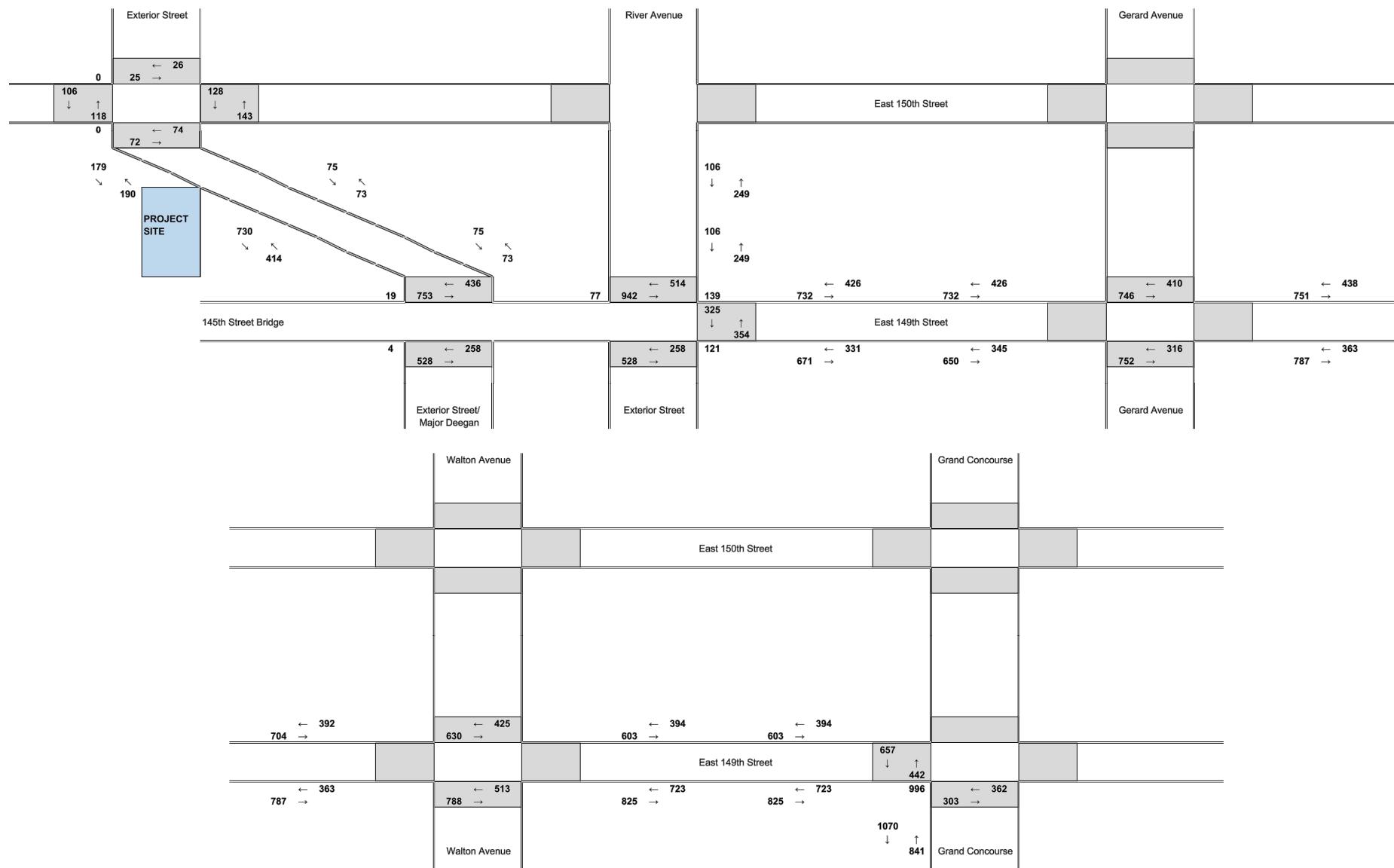
The project-generated pedestrian volumes were distributed through the pedestrian network and added to the 2023 No-Action volumes to develop the 2023 With-Action pedestrian volumes. The With-Action pedestrian volumes are provided in Figures 12-35 through 12-38.

Pedestrian analyses were performed based on these volumes and the With-Action pedestrian levels of services were determined for the analysis locations. Six additional pedestrian elements at the intersection of East 150th Street and Exterior Street (four crosswalks and two corners) were included as part of the analysis to assess pedestrian levels of service at the project's entrance. Table 12-36-39 provides an overview of the levels of service, detailed pedestrian levels of service are provided in Table 12-37-40 through 12-39-42. The summary of the With-Action conditions indicates that:

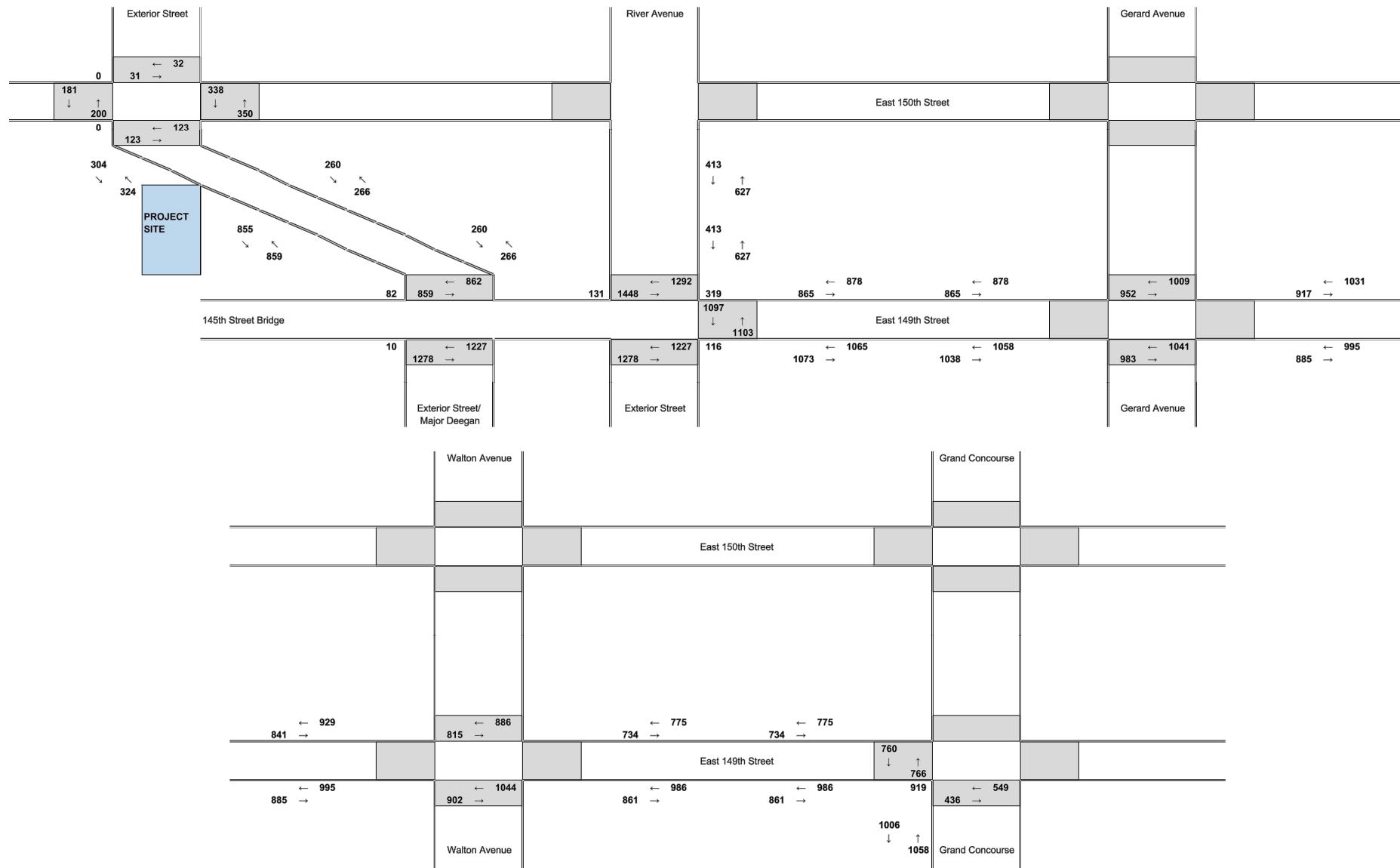
- During the weekday AM peak hour, five of the 31 pedestrian elements analyzed would operate at unacceptable levels of service (LOS D or worse). This includes four crosswalk elements and one corner element.
- During the weekday midday peak hour, nine pedestrian elements would operate at unacceptable levels of service including, six crosswalk elements and three corner elements.
- During the weekday PM peak hour, 11 pedestrian elements would operate at unacceptable levels of service including one sidewalk element, six crosswalk elements, and four corner elements.
- During the Saturday peak hour, nine pedestrian elements would operate at unacceptable levels of service including six crosswalk elements and three corner elements.

Pedestrian elements that operate at unacceptable levels of service under the No-Action condition would continue to do so under the With-Action condition; additional pedestrian elements that would be expected to operate at unacceptable levels of service as a result of the proposed project are listed below:

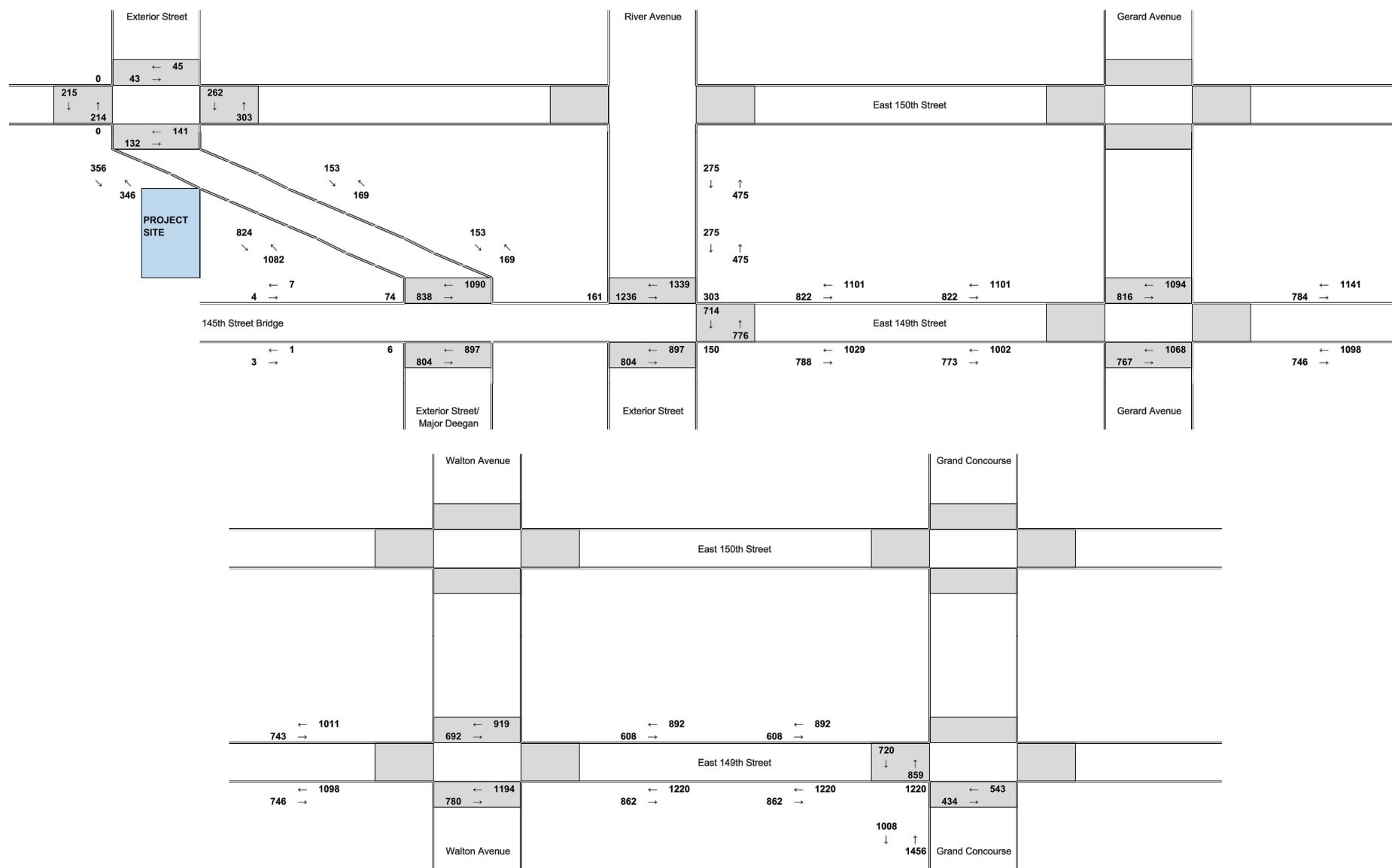
- The north sidewalk along East 149th Street between Gerard Avenue and Walton Avenue during the weekday PM peak hour.
- The northwest crosswalk at the intersection of East 149th Street and Exterior Street/River Avenue during the weekday AM, midday, PM, and Saturday peak hours.
- The north crosswalk at the intersection of East 149th Street and Gerard Avenue during the Saturday peak hour.



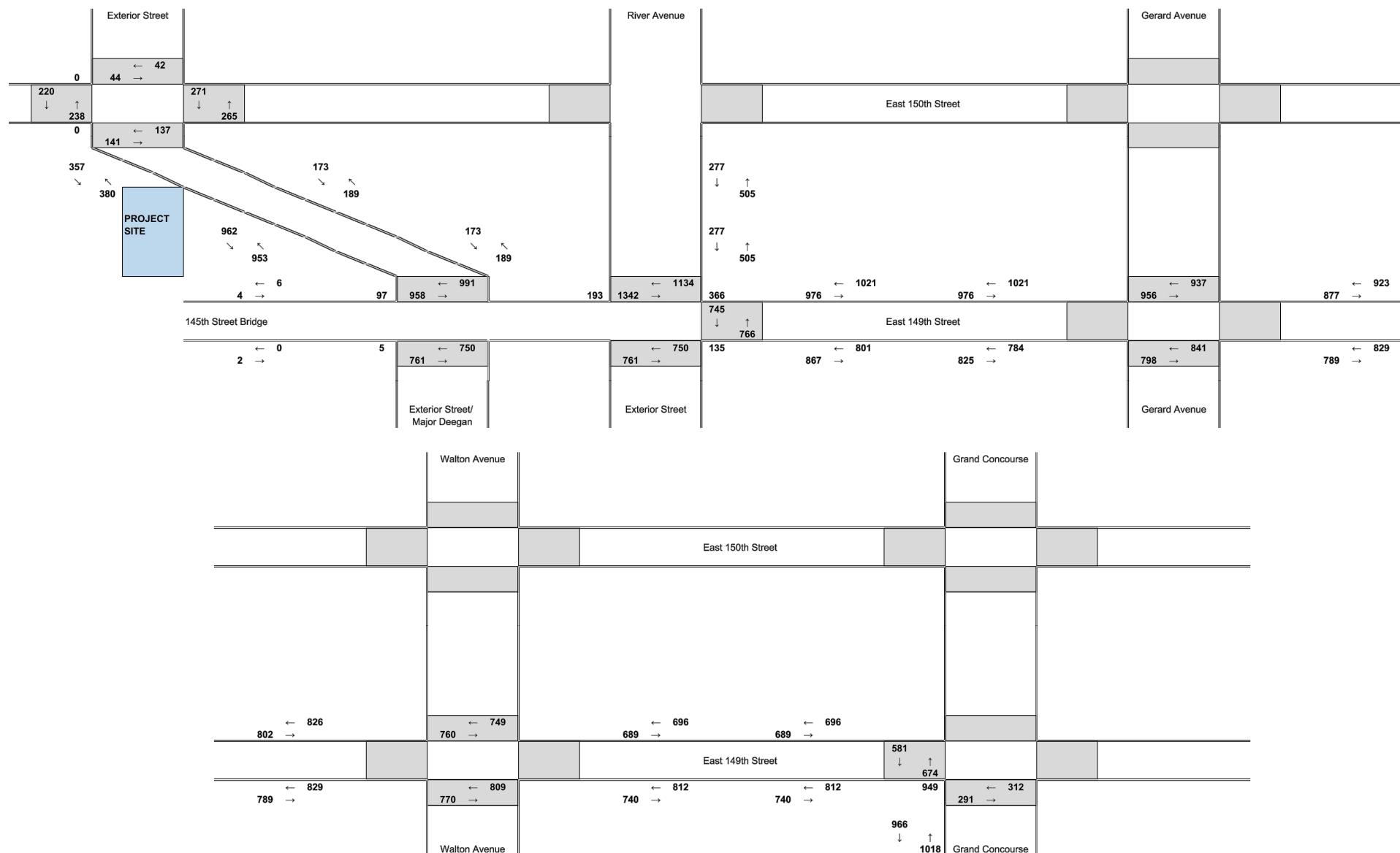
N



N



N



- The south crosswalk at the intersection of East 149th Street and Walton Avenue during the weekday midday and PM peak hours.
- The west crosswalk at the intersection of East 149th Street and Grand Concourse during the weekday midday, PM, and Saturday peak hours.
- The north corner at the intersection of East 149th Street and Exterior Street/River Avenue during the weekday midday, PM, and Saturday peak hours.
- The northeast corner at the intersection of East 149th Street and Exterior Street/River Avenue during the weekday AM peak hour.
- The southeast corner of the intersection of East 149th Street and Exterior Street/River Avenue during the Saturday peak hour.
- The southwest corner at the intersection of East 149th Street and Grand Concourse during the weekday PM peak hour.

Of the 31 pedestrian elements analyzed, the proposed project would result in significant adverse impacts at four pedestrian elements during the weekday AM peak hour, eight pedestrian elements during the weekday midday peak hour, ten pedestrian elements during the weekday PM peak hour, and eight pedestrian elements during the Saturday peak hour. Mitigation measures that could be implemented to mitigate these potential significant adverse pedestrian impacts are discussed in the Chapter 20, "Mitigation." The impacted pedestrian elements are identified below:

- The north sidewalk along East 149th Street between Gerard Avenue and Walton Avenue during the weekday PM peak hour.
- The northwest, north, and east crosswalks at the intersection of East 149th Street and Exterior Street/River Avenue during the weekday AM, midday, PM, and Saturday peak hours.
- The north crosswalk at the intersection of East 149th Street and Gerard Avenue during the Saturday peak hour.
- The south crosswalk at the intersection of East 149th Street and Walton Avenue during the weekday midday and PM peak hours.
- The west crosswalk at the intersection of East 149th Street and Grand Concourse during the weekday midday, PM, and Saturday peak hours.
- The north corner at the intersection of East 149th and Exterior Street/River Avenue during the weekday midday, PM, and Saturday peak hours.
- The northeast corner at the intersection of East 149th and Exterior Street/River Avenue during the weekday AM, midday, PM, and Saturday peak hours.
- The southeast corner at the intersection of East 149th and Exterior Street/River Avenue during the weekday midday, PM, and Saturday peak hours.
- The southwest corner of the intersection of East 149th Street and Grand Concourse during the weekday PM peak hour.

Table 12-3639: 2023 No-Action vs. 2023 With-Action Pedestrian Levels of Service Summary

	2023 No-Action				2023 With-Action			
	Weekday			Saturday Peak Hour	Weekday			Saturday Peak Hour
	AM Peak Hour	Midday Peak Hour	PM Peak Hour		AM Peak Hour	Midday Peak Hour	PM Peak Hour	
<b>Sidewalk Elements</b>								
Sidewalks at LOS A/B/C	10	10	10	9	10	10	9	10
Sidewalks at LOS D	0	0	0	1	0	0	1	0
Sidewalks at LOS E	0	0	0	0	0	0	0	0
Sidewalks at LOS F	0	0	0	0	0	0	0	0
Number of significantly impacted sidewalk elements	-	-	-	-	0	0	1	0
<b>Crosswalk Elements</b>								
Crosswalks at LOS A/B/C	6	6	6	6	9	7	7	7
Crosswalks at LOS D	3	0	0	0	1	2	2	2
Crosswalks at LOS E	0	0	0	2	1	0	0	<u>01</u>
Crosswalks at LOS F	0	3	3	1	2	4	4	3
Number of significantly impacted crosswalk elements	-	-	-	-	3	5	5	5
<b>Corner Elements</b>								
Corners at LOS A/B/C	6	4	4	5	7	5	4	5
Corners at LOS D	0	0	1	0	0	0	<u>42</u>	<u>01</u>
Corners at LOS E	0	0	1	1	1	1	0	<u>21</u>
Corners at LOS F	0	2	0	0	0	2	<u>32</u>	1
Number of significantly impacted corner elements	-	-	-	-	1	3	4	3
<b>Notes:</b> Includes 10 sidewalk, 13 crosswalks, and eight corner analysis locations in the With-Action condition.								

Table 12-3740: 2023 With-Action Pedestrian Levels of Service – Sidewalks

Sidewalk	Effective Width, ft	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		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
Exterior Street between East 149th and East 150th Street (east side)	10.6	148	567.4	A	526	197.5	A	322	322.8	A	362	290.8	A
Exterior Street between East 149th and East 150th Street (west side)	12.7	1,144	98.7	A	1,714	62.8	A	1,906	63.1	A	1,915	70.4	A
River Avenue between East 149th and East 150th Street (east side)	9.6	355	261.7	A	1,038 <u>4</u> 1,040	105.53 <u>105.3</u>	A	7485 <u>750</u>	130.5 <u>130.1</u>	A	7798 <u>782</u>	122.11 <u>121.7</u>	A
East 149th Street between River Avenue and Gerard Avenue (north side)	10.5	1,158	96.8	A	1,743	54.8	B	1,833	52.8	B	1,995 <u>7</u> 1,997	61.1	A
East 149th Street between River Avenue and Gerard Avenue (south side)	5.5	1,001 <u>2</u> 1,002	57.76 <u>57.6</u>	B	2,137 <u>8</u> 2,138	29.4	C	1,815 <u>7</u> 1,817	27.5	C	1,664 <u>6</u> 1,668	36.65 <u>36.5</u>	C
East 149th Street between Gerard Avenue and Walton Avenue (north side)	4.8	1,188 <u>1096</u> 189	44.3	B	1,948	26.6	C	1,924 <u>7</u> 1,925 <u>54</u>	22.9	D	1,797 <u>6</u> 1,800 <u>28</u>	27.2	C
East 149th Street between Gerard Avenue and Walton Avenue (south side)	7.3	1,134 <u>5</u> 1,150	64.6 <u>63.7</u>	A	1,879 <u>8</u> 1,880	41.0 <u>40.9</u>	B	1,840 <u>4</u> 1,844	41.98 <u>41.8</u>	B	1,614 <u>1618</u>	47.98 <u>47.8</u>	B
East 149th Street between Walton Avenue and Grand Concourse (north side)	5.3	987 <u>997</u>	53.71 <u>53.1</u>	B	1,507 <u>9</u> 1,509	41.87 <u>41.7</u>	B	1,498 <u>5</u> 1,500	36.21 <u>36.1</u>	C	1,390 <u>8</u> 1,385	41.12 <u>41.2</u>	B
East 149th Street between Walton Avenue and Grand Concourse (south side)	6.7	1,554 <u>4</u> 1,548	45.3 <u>45.4</u>	B	1,845 <u>7</u> 1,847	38.87 <u>38.7</u>	C	2,070 <u>8</u> 2,082	38.97 <u>38.7</u>	C	1,570 <u>5</u> 1,552	40.4 <u>40.9</u>	B
Grand Concourse between East 149th Street and the northwest subway station stairway (west side)	6.8	1,945 <u>1911</u>	32.28 <u>32.8</u>	C	2,049 <u>6</u> 2,064	31.64 <u>31.4</u>	C	2,451 <u>6</u> 2,464	25.87 <u>25.7</u>	C	2,029 <u>1984</u>	27.9 <u>28.5</u>	C

Denotes significantly impacted pedestrian element

Table 12-3841: 2023 With-Action Pedestrian Levels of Service – Crosswalks

Intersection	Crosswalk	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		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
East 149th Street and Exterior Street/River Avenue	Northwest	1,189	3.6	F	1,721	2.9	F	1,928	1.9	F	1,949	2.5	F
	North	1,456	3.8	F	2,739 4 2,740	1.9	F	2,574 7 2,575	1.5	F	2,474 7 2,476	2.4 2.2	F
	East	679	12.2	E	2,199 2,200	2.7	F	1,488 9 1,490	4.9	F	1,509 1,511	4.7	F
	South	786	19.7	D	2,505	6.2	F	1,701	7.4	F	1,511	9.6	E
East 149th Street and Gerard Avenue	North	1,156	40.6	B	1,960 1	27.4	C	1,908 10	26.32	C	1,894 3	23.9	D
	South	1,053 6 1,068	41.2 40.6	B	2,022 4 2,024	27.1	C	1,831 5 1,835	27.0	C	1,635 9 1,639	32.65 32.5	C
East 149th Street and Walton Avenue	North	1,071 5 1,055	46.29 46.9	B	1,700 1,701	28.7	C	1,611	26.8	C	1,507 9 1,509	25.21 25.1	C
	South	1,284 3 1,301	37.9 37.3	C	1,945 6 1,946	22.0	D	1,970 4 1,974	21.2	D	1,590 7 1,579	29.36 29.6	C
East 149th Street and Grand Concourse	West	1,099	28.6	C	1,520 6 1,526	20.76 20.6	D	1,576 9 1,579	18.65 18.5	D	1,283 5 1,255	22.28 22.8	D
East 150th Street and Exterior Street	North	51	546.1	A	63	426.5	A	88	287.0	A	86	296.9	A
	East	271	57.4	B	688	24.0	C	565	29.6	C	536	34.1	C
	South	146	198.1	A	246	115.2	A	273	104.0	A	278	105.7	A
	West	224	74.7	A	381	39.2	C	429	27.6	C	458	38.2	C

Denotes significantly impacted pedestrian element

Table 12-3942: 2023 With-Action Pedestrian Levels of Service – Corners

Intersection	Corner	Weekday AM Peak Hour			Weekday Midday Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
		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
East 149th Street and Exterior Street/River Avenue	Northwest	19	102.8	A	82	73.9	A	74	66.1	A	97	71.8	A
	North	77	31.8	C	131	13.3	E	161	5.4	F	193	14.5	E
	Northeast	0	10.9	E	0	*	F	0	*	F	0	*	F
	Southeast	121	62.3	A	116	4.21	F	150	15.54 15.4	D	135	21.4	D
	Southwest	4	805.7	A	10	287.9	A	6	367.1	A	5	433.3	A
East 149th Street and Grand Concourse	Southwest	1,008 996	35.1 35.3	C	917 919	26.52 26.3	C	1,212 2 1,220	21.76 21.6	D	9674 949	32.9 33.5	C
East 150th Street and Exterior Street	Northwest	0	725.7	A	0	414.6	A	0	297.5	A	0	386.3	A
	Southwest	0	845.0	A	0	469.7	A	0	365.6	A	0	448.7	A
Notes:													
* The available corner area would not be sufficient to accommodate all pedestrians; some pedestrians would need to wait on the adjacent sidewalk area instead of the corner reservoir to cross the street													
		Denotes significantly impacted pedestrian element											

## 12.5 Vehicular and Pedestrian Safety

Accident data were obtained for the study area intersections from NYCDOT for the most recent three-year period in which data were available (2012 through 2014). 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).

These accident 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, a location is considered a high-accident location when there are 48 or more total reportable and non-reportable crashes, or five or more pedestrian/bicyclist injury crashes in any consecutive 12 months during the most recent three-year period for which data are available.

Table 12-4043 presents a summary of total accidents at the study area intersections during the three-year period of 2012 through 2014, and also shows total fatalities, injuries, and pedestrian and bicycle accidents. One of the eight intersections analyzed – East 149th Street and Grand Concourse – is considered a high-accident location for pedestrians.

During the three-year period mentioned above, six pedestrian/bicycle-related accidents occurred at the East 149th Street and Grand Concourse intersection within 12 months, making it a high accident location for pedestrians and bicyclists. About half of these accidents appear to be due to pedestrian error or confusion. The intersection is signalized with school crosswalks striped along each approach. The Grand Concourse is a two-way roadway divided by a concrete median and East 149th Street is a two-way roadway that is divided west of the Grand Concourse. There are no bike lanes or bike routes at this intersection. Measures to potentially improve pedestrian safety at this intersection could include

the installation of “LOOK!” pavement markings on crosswalks and “Turning Vehicles Yield to Pedestrians” signage.

The New York City Vision Zero Action Plan also identifies this intersection as a “Priority Intersection” and the two corridors within the study area (East 149th Street and the Grand Concourse) as “Priority Corridors.” The *Vision Zero Bronx Pedestrian Safety Action Plan* identified strategies to improve pedestrian safety at these key locations including reducing the speed limit, increasing pedestrian crossing time, and improving lighting around key transit stops. Traffic improvements were implemented along the Grand Concourse corridor in the summer of 2016, after existing traffic counts were conducted, and included the reduction in the number of travel lanes in the northbound and southbound directions from three travel lanes to two travel lanes, conversion of crosswalks from school crosswalks to high-visibility crosswalks, increasing the width of the north crosswalk from 14 feet to 19 feet, and expansion of the concrete median along both the northbound and southbound approaches. As a result of these changes, the overall level of pedestrian safety should improve at this intersection. None of the other analyzed intersections are considered high accident locations requiring further analysis.

**Table 12-4043: Accident Summary**

Intersection	Total Accidents by Year					Pedestrian and Bicycle Accidents Year		
	2012	2013	2014	Total Fatalities	Total Injuries	2012	2013	2014
East 144th Street and Exterior Street	1	0	2	0	7	0	0	0
East 149th Street and Exterior Street/River Avenue	8	7	15	0	33	0	1	3
East 150th Street and Exterior Street	1	3	3	0	4	0	0	0
East 150th Street and River Avenue	0	4	2	0	11	0	0	0
East 149th Street and Gerard Avenue	2	4	7	0	13	0	2	1
East 149th Street and Walton Avenue	1	2	2	0	7	1	0	2
East 149th Street and Grand Concourse	8	15	9	1	40	3	6	2
East 150th Street and Grand Concourse	3	1	3	0	12	0	2	0
	Denotes a high accident location							