Chapter 13: Transportation

13.1 Introduction

This chapter describes the transportation characteristics and potential impacts associated with the Proposed Actions. As described in Chapter 1, "Project Description," the Jerome Avenue Rezoning consists of a series of land use actions (collectively, the "Proposed Actions") intended to facilitate the implementation of the objectives of the Jerome Avenue Neighborhood Plan (the "Plan"). The affected area comprises an approximately 92-block area primarily along Jerome Avenue and its east west commercial corridors in Bronx Community Districts (CDs) 4, 5, and 7 (the "rezoning area"). The rezoning area is generally bounded by 184th Street to the north and East 165th Street to the south, and also includes portions of 183rd Street, Burnside Avenue, Tremont Avenue, Mount Eden Avenue, 170th Street, Edward L. Grant Highway, and East 167th Street.

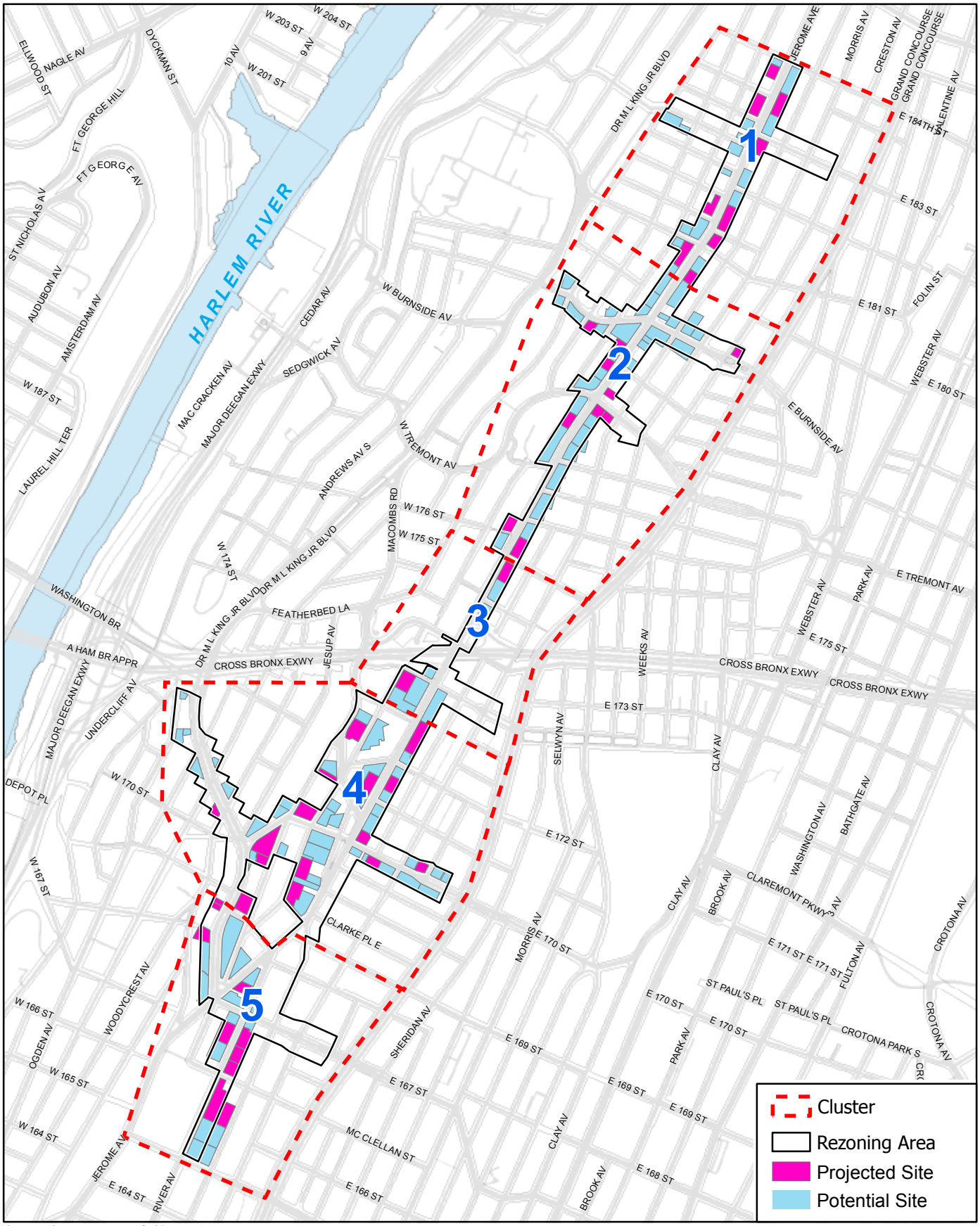
In order to assess the potential effects of the Proposed Actions, a Reasonable Worst-Case Development Scenario (RWCDS)[1] for both the future without the Proposed Actions (No-Action) and the future with the Proposed Actions (With-Action) conditions are analyzed for an analysis year of 2026. To develop a reasonable estimate of future growth that would occur in the future with the Proposed Actions, likely development sites were identified in the RWCDS and divided into two categories: projected development sites and potential development sites. The projected development sites are those most likely to be developed by the 2026 analysis year, while the potential development sites are considered less likely to be developed over the same period.

The New York City Department of City Planning (DCP) identified and considered a total of 45 projected development sites for the purposes of the transportation analyses of the RWCDS (see Figure 13-1, "Traffic Study Areas"). Table 13-1, "RWCDS No-Action and With-Action Land Uses," lists the total anticipated No-Action and With-Action land uses on projected development sites in 2026 in the RWCDS. As listed in Table 13-1, in the RWCDS, the Proposed Actions would facilitate the incremental development of up to approximately 3,250 dwelling units (DUs); 35,575 square feet (sf) of commercial uses; and 72,272 sf of

[1] The transportation analyses prepared for the Proposed Actions are based on the RWCDS published August 29, 2016 in the Draft Scope of Work for the DEIS. However, the RWCDS was subsequently updated with minor numerical corrections (refer to the detailed RWCDS presented Appendix B1), though after the majority of the transportation analyses were completed for this DEIS. While these RWCDS assumptions for the transportation analyses differ from those supporting the other analyses in this DEIS, they lead to more conservative traffic analysis findings.

community facility uses (including 53,896 sf for a community center and 21,083 sf for a day care center); as well as a net reduction of 47,795 sf of industrial uses and 99 accessory parking spaces.

This chapter describes the existing transportation conditions in proximity to the rezoning area. Future conditions in the year 2026 with and without the Proposed Actions are described. The increase in travel demand resulting from the Proposed Actions is projected and added to the No-Action conditions to develop the 2026 With-Action conditions. Significant adverse impacts from project-generated trips are then identified and described. Chapter 21, "Mitigation," addresses practicable measures to address identified impacts.



Source: STV Incorporated, 2017.

Figure 13-1

TRAFFIC STUDY AREAS

Table 13-1: RWCDS No-Action and With-Action Land Uses

Land Use	No-Action Condition	With-Action Condition	No-Action to With-Action Increment
Residential			
Total Residential	***894,761 sf (780 DU)***	***4,162,049 sf (4,030 DU)***	***+ 3,267,288 sf (+ 3,250 DU)***
Commercial			
Local Retail	207,719 sf	415,799 sf	+ 208,080 sf
Regional Retail	0 sf	42,826 sf	+ 42,826 sf
FRESH Supermarket	28,405 sf	51,562 sf	+ 23,157 sf
Restaurant	2,260 sf	13,891 sf	+ 11,631 sf
Auto Repair	86,784 sf	0 sf	- 86,784 sf
Auto Dealership	11,218 sf	0 sf	- 11,218 sf
Office	4,818 sf	44,105 sf	+ 39,287 sf
Warehouse	168,650 sf	0 sf	- 168,650 sf
Garage	22,154 sf	0 sf	- 22,154 sf
Gas Station	600 sf	0 sf	- 600 sf
Total Commercial	***532,608 sf***	***568,183 sf***	***+ 35,575 sf***
Community Facility			
Medical Office	6,000 sf	8,500 sf	+ 2,500 sf
House of Worship	36,120 sf	53,896 sf	+ 17,776 sf
Day Care Center	2,016 sf	23,099 sf	+ 21,083 sf
Pre-K School	15,800 sf	15,800 sf	0 sf
Community Center	0 sf	53,896 sf	+ 53,896 sf
Transitional Housing	22,983 sf	0 sf	-22,983 sf
Total Community Facility	***82,919 sf***	***155,191 sf***	***+ 72,272 sf***
Other Uses			
Light Industrial	47,795 sf	0 sf	- 47,795 sf
Total Floor Area	**1,558,083 sf**	**4,885,423 sf**	**+3,327,340 sf**
Parking			
Parking Spaces	99	0	-99

Source: NYC Department of City Planning, 2017; STV Incorporated, 2017.

13.2 Principal Conclusions

TRAFFIC

The detailed traffic analysis conducted indicates that several intersections would be significantly impacted by the Proposed Actions. Traffic conditions were evaluated for the weekday 7:30-8:30 AM, 1-2 PM, and 5-6 PM and Saturday 3:45-4:45 PM peak hours at 36 intersections in the traffic study area where additional traffic resulting from the Proposed Actions would be most heavily concentrated. As summarized in Table 13-2, "Number of Impacted Intersections and Lane Groups by Peak Hour," and Table 13-3, "Summary of Significantly Impacted Intersections," the traffic impact analysis indicates the potential for significant adverse impacts at 22 intersections during one or more analyzed peak hours. The identification of significant adverse traffic impacts at analyzed intersections is based on criteria presented in the *CEQR Technical Manual*. Significant adverse impacts were identified to 16 lane groups at 14 intersections during the weekday AM peak hour, 19 lane groups at 15 intersections in the weekday midday peak hour, 32 lane groups at 21 intersections in the weekday PM peak hour, and 30 lane groups at 19 intersections during the Saturday midday peak hour. Chapter 21, "Mitigation," discusses potential measures to mitigate these significant adverse traffic impacts.

Table 13-2: Number of Impacted Intersections and Lane Groups by Peak Hour

	Peak Hour			
	Weekday AM	**Weekday Midday**	**Weekday PM**	**Saturday Midday**
Impacted Lane Groups	16	19	32	30
Impacted Intersections	14	15	21	19

Source: STV Incorporated, 2017.

Table 13-3: Summary of Significantly Impacted Intersections

Signalized Intersection	Peak Hour			
	Weekday AM	Weekday Midday	Weekday PM	Saturday Midday
Jerome Avenue and Kingsbridge Road		X	X	X
Jerome Avenue and Fordham Road	X	X	X	X
Jerome Avenue and Burnside Avenue		X	X	X
Jerome Avenue and Tremont Avenue	X	X	X	X
Jerome Avenue and SB I-95 Ramps			X	X
Jerome Avenue and Featherbed Lane	X	X	X	X
Jerome Avenue and NB I-95 Ramps	X	X	X	X
Jerome Avenue and Macombs Dam Bridge	X	X	X	
Jerome Avenue and 170th Street	X	X	X	X
Jerome Avenue and 167th Street	X	X	X	X
River Avenue and 167th Street		X	X	X
Jerome Avenue and E. 165th Street	X		X	
Grand Concourse and 176th Street	X	X	X	
Grand Concourse and Burnside Avenue			X	X
Grand Concourse and Tremont Avenue	X		X	X
Grand Concourse and Mt. Eden Avenue		X	X	X
Grand Concourse and 170th Street			X	X
Grand Concourse and 167th Street	X	X	X	X
Edward L. Grant Highway and W. 170th Street	X	X	X	X
Inwood Avenue and W. 170th Street	X	X	X	X
Cromwell Avenue and W. 170th Street				X
University Avenue and Washington Bridge Off-Ramps	X		X	X
Total Impacted Intersections	**14**	**15**	**21**	**19**

Source: STV Incorporated, 2017.

TRANSIT

The detailed analyses on the Proposed Actions' impact on transit show that they would cause no significant adverse impacts to the subway service, but would cause significant adverse impacts to the bus system in the area.

Subway

Subway Stations

The Proposed Actions would generate a net increment of approximately 1,382 and 1,748 new subway trips during the weekday AM and PM commuter peak hours. The analysis of subway station conditions focuses on a total of four New York City Transit (NYCT) subway stations in proximity to the rezoning area where incremental demand from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or both peak hours. These include the 183rd Street, Burnside Avenue, 170th Street, and 167th Street stations on the Jerome Avenue No. 4 line.

The results of the analysis show that all analyzed stairs and fare arrays are projected to operate at an acceptable LOS C or better in both the AM and PM peak hours. Therefore, incremental demand from the Proposed Actions are not expected to result in significant adverse subway station impacts based on *CEQR Technical Manual* criteria.

Subway Line Hail

Line haul is the volume of transit riders passing a defined point on a given transit route. Line haul is typically measured in the peak direction at the point where the trains carry the greatest number of passengers during the peak hour (the maximum load point) on each subway route. The rezoning area is served by three NYCT subway routes, including the 4, B, and D lines. The Proposed Actions are expected to generate 200 or more new subway trips in both directions in each peak hour on the No. 4 Jerome Avenue line. The peak direction of travel on the No. 4 line is southbound (Manhattan-bound) in the AM peak hour and northbound (Bronx-bound) in the PM peak hour.

Incremental demand on the No. 4 line as a result of the Proposed Actions would increase ridership by an average of 3.4 northbound trips per car in the AM and 3.3 southbound trips in the PM. Although No. 4 line trains are projected to operate over guideline in the peak direction in each peak hour, they would not be considered significantly adversely impacted based on *CEQR Technical Manual* impact criteria.

Bus

The rezoning area is served by a total of nine MTA local bus routes—the Bx1, Bx2, Bx11, Bx18, Bx32, Bx35, Bx36, Bx40, and Bx42. The Proposed Actions would generate a total of approximately 555 and 935 incremental bus trips on these routes during the weekday AM and PM peak hours, respectively. A

preliminary screening assessment concluded that new demand from the Proposed Actions would exceed the 50-trip *CEQR Technical Manual* analysis threshold in the AM and/or PM peak hour at the maximum load points along the Bx11, Bx32, and Bx35 routes.

Based on projected levels of bus service in the No-Action condition, the Proposed Actions would result in a capacity shortfall on east and westbound Bx11, southbound Bx32, and eastbound Bx35 in the AM peak hour and on westbound Bx11, north and southbound Bx32, and east and westbound Bx35 in the PM peak hour. Therefore, these three bus lines would be significantly adversely impacted based on *CEQR Technical Manual* criteria (see Table 13-4, "Summary of Significant Local Bus Impacts"). The significant impacts to bus service could be mitigated by increasing the number of buses in each peak hour to meet the incremental demand. The general policy of the MTA is to provide additional bus service where demand warrants, taking into account financial and operational constraints.

Table 13-4: Summary of Significant Local Bus Impacts

Peak Hour	Route	Direction	Additional Peak Hour Buses Needed
AM	Bx11	Eastbound	2
	Bx11	Westbound	1
	Bx32	Southbound	1
	Bx35	Eastbound	1
PM	Bx11	Westbound	2
	Bx32	Northbound	1
	Bx32	Southbound	1
	Bx35	Eastbound	1
	Bx35	Westbound	1

Source: STV Incorporated, 2017.

PEDESTRIANS

The Proposed Actions would generate a net increment of approximately 1,607 walk-only trips in the weekday AM peak hour, 6,772 in the midday peak hour, 4,143 in the PM peak hour, and 4,787 in the Saturday midday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 1,937, 2,173, 2,683, and 2,634 additional pedestrian trips to rezoning area sidewalks and crosswalks during these same periods, respectively. Weekday peak period pedestrian conditions were evaluated at a total of 111 representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These elements—33 sidewalks, 37 corner reservoir areas, and 41 crosswalks —are primarily located in the vicinity of major projected development sites and corridors connecting these sites to area subway station entrances and bus routes. As shown in Table 13-5, "Summary of Significant Pedestrian Impacts," based on *CEQR Technical Manual*

criteria, a total of three pedestrian elements would be significantly adversely impacted by the Proposed Actions, specifically one corner and one crosswalk during the weekday PM and Saturday midday peak hours, and one sidewalk during the Saturday midday peak hour. As discussed in Chapter 21, "Mitigation," the significant adverse impacts to two of these pedestrian elements could be mitigated through standard pedestrian mitigation measures.

Table 13-5: Summary of Significant Pedestrian Impacts

Corridor/Intersection	Impacted Element	Peak Hour			
		Weekday AM	Weekday Midday	Weekday PM	Saturday Midday
West 170th Street, Edward L. Grant Highway to Cromwell Avenue	South sidewalk				X
East 167th Street and Jerome Avenue	South crosswalk			X	X
East 167th Street and Jerome Avenue	Northeast corner			X	X

Source: STV Incorporated, 2017.

VEHICULAR AND PEDESTRIAN SAFETY

Portions of the Jerome Avenue Rezoning traffic study area are identified in the *Vision Zero Bronx Pedestrian Safety Action Plan* as Priority Areas where safety issues were found to occur systematically at an area-wide level. Study area roadways identified as Priority Corridors include the following:

- Edward L. Grant Highway / University Avenue
- Grand Concourse
- Tremont Avenue
- 170th Street

In addition, four study area intersections are identified as Priority Intersections:

- Grand Concourse and East Fordham Road
- Grand Concourse and East Burnside Avenue
- Grand Concourse and Monroe Avenue
- Grand Concourse and East 170th Street

Crash data for the traffic and pedestrian study area intersections were obtained from the New York City Department of Transportation for the three-year reporting period between January 1, 2012, and December 31, 2014. During this period, a total of 1,103 crashes, seven fatalities, and 311 pedestrian/bicyclist-related injury crashes occurred at study area intersections. A review of the crash data

identified nine intersections as high crash locations (defined as those with 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurring in any consecutive twelve months of the most recent three-year period for which data are available). These intersections are listed in Table 13-6, "Summary of High Crash Locations 2012 – 2014."

Table 13-6: Summary of High Crash Locations 2012 – 2014

Intersection	Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
Grand Concourse / Monroe Av	2	6	3	2	1	0	15	17	14
Grand Concourse / E 176 St	1	3	5	0	1	1	3	5	10
Grand Concourse / Mount Eden	0	2	5	0	2	0	5	8	13
Grand Concourse / E 170 St	2	1	6	0	0	1	5	3	14
Burnside Av / Walton Av	5	1	2	0	0	1	6	3	8
Jerome Ave / E Fordham Rd	4	5	5	0	0	1	12	12	10
Jerome Ave / W Burnside Av	7	4	6	0	1	0	12	12	12
Jerome Ave / W 170 St	1	3	11	0	0	0	3	7	16
Jerome Ave / Marcy Pl	0	5	0	0	0	0	0	7	1

Source: STV Incorporated, 2017.

PARKING

Detailed parking analyses indicate that the Proposed Actions would have no significant adverse impacts on parking in the study area. The parking analyses document changes in the parking supply and utilization in the rezoning area and within a ¼-mile radius of the rezoning area for both No-Action and With-Action conditions. Given the large size of this parking study area, parking conditions are also assessed within a sub-area encompassing a ¼-mile radius around the three largest projected development sites—sites 30, 32, and 33—to identify the potential for a localized parking shortfall where project-generated parking demand is expected to be most concentrated. There are a total of 47 public parking facilities within ¼-mile of the rezoning area, including eight that are located on projected development sites in the future build condition.

In the Proposed Actions there would be sufficient parking capacity within a ¼-mile radius of the study area to accommodate projected demand during the weekday midday, weekday overnight, and Saturday midday periods. There is projected to be a parking shortfall within the parking sub-area ¼-mile of projected development sites 30, 32, and 33 during the weekday midday and weekday overnight periods.

Overall, the study area has a parking surplus. Some drivers destined for the projected development sites 30, 32, and 33 would potentially have to travel a greater distance (e.g., between ¼ and ½ mile) to find available parking in the weekday midday and overnight periods. The parking shortfall for the projected development sites 30, 32, and 33 would not be considered a significant adverse impact, based on *CEQR Technical Manual* criteria, due to the availability of sufficient parking outside the ¼-mile radius within the overall study area and the magnitude of available alternative modes of transportation. Therefore, the Proposed Actions are not expected to result in significant adverse parking impacts.

13.3 Preliminary Analysis Methodology

The *City Environmental Quality Review (CEQR) Technical Manual* prescribes a two-level screening procedure for the preparation of a "preliminary analysis," which determines whether quantified operational analyses of transportation conditions would be warranted. The preliminary analysis begins with a Level 1 trip generation screening assessment to estimate the number of person- and vehicle-trips attributable to the Proposed Actions.

According to the *CEQR Technical Manual*, if the Proposed Actions would be expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses would not be warranted. When these thresholds are exceeded, a Level 2 screening assessment is performed, including detailed trip assignments to estimate the incremental trips that could be incurred for specific transportation elements and to identify potential locations for further analyses. If the trip assignments indicate that the Proposed Actions would generate 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a sidewalk, corner area or crosswalk, then further quantified operational analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

13.4 Level 1 Screening Assessment

A Level 1 trip generation screening assessment is conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Actions during the weekday AM, midday, PM, and Saturday midday peak hours for the RWCDS. These estimates are compared to the *CEQR Technical Manual* analysis thresholds to determine if a Level 2 screening and/or quantified operational analyses may be warranted. The travel demand assumptions used for the assessment are described in the following sections along with a summary of the travel demand that would be generated by the RWCDS. A detailed travel demand forecast is also provided for the RWCDS.

BACKGROUND

The rezoning area encompasses an approximately 92-block area and includes a total of 45 projected development sites (see Figure 13-1; see also Chapter 1, "Project Description," and Appendix B for summary and detailed information describing the projected development sites). As listed in Table 13-1, "RWCDS No-Action and With-Action Land Uses ," in the RWCDS, the Proposed Actions would facilitate the incremental development of 3,250 DUs; 35,575 sf of commercial uses; and 72,272 sf of community facility

uses (including 53,896 sf for a community center and 21,083 sf for a day care center); as well as a net reduction of 47,795 sf of industrial uses and 99 accessory parking spaces.

For analysis purposes, the 45 projected development sites are grouped into a total of five "clusters" for travel demand forecasting and trip assignment purposes. These clusters are defined based on the rezoning area roadway network characteristics and the likely travel routes of vehicle trips to and from the development sites. The location of each cluster is shown on Figure 13-1 and the projected development sites included in each cluster are listed in Table 13-7, "Transportation Analysis Development Clusters."

Table 13-7: Transportation Analysis Development Clusters

Cluster	Projected Development Sites
1	1-9
2	10-19
3	20-21
4	22-36
5	37-45

Source: STV Incorporated, 2017.

TRANSPORTATION PLANNING FACTORS

The transportation planning factors used to forecast travel demand for the RWCDS land uses are summarized in Table 13-8, "Transportation Planning Factors." The trip generation rates, temporal distributions, modal splits, vehicle occupancies, and truck trip factors for each of the land uses were primarily based on those cited in the *CEQR Technical Manual*, factors developed for recent environmental reviews, 2010-2014 American Community Survey (ACS) journey-to-work data, 2006-2010 ACS reverse-journey-to-work data, data provided by the New York City Departments of Transportation (DOT) and DCP, and data from other standard professional references. Factors are shown for the weekday AM and PM peak hours (typical peak periods for commuter travel demand) and the weekday midday and Saturday midday peak hours (typical peak periods for retail demand). Additional details on the transportation planning factors used for the travel demand forecast are presented in the *Transportation Planning Factors* technical memorandum provided in Appendix E, "Transportation."

Table 13-8: Transportation Planning Factors

Land Use	Local Retail	Regional Retail	Office	Residential	Restaurant (sit-down)	Light Industrial	Auto Repair	Auto Dealership	Warehouse
Trip Generation	(1)	(1)	(1)	(1)	(17)	(10, 11)	(2)	(18)	(19)
Weekday	205	78.2	18	8.075	173	11.5	19.42	45.6	4.9
Saturday	240	92.5	3.9	9.6	181	1.7	19.42	28.8	1.7
	per 1,000 sf	per 1,000 sf	per 1,000 sf	per DU	per 1,000 sf	per 1,000 sf	per 1,000 sf	per 1,000 sf	per 1,000 sf
Temporal Distribution	(1)	(1)	(1)	(1)	(17)	(10, 12)	(2)	(7,18)	(9,19)
AM	3.0%	3.0%	12.0%	10.0%	0.9%	13.0%	13.2%	6.1%	8.4%
MD	19.0%	9.0%	15.0%	5.0%	6.2%	10.0%	11.0%	12.0%	14.0%
PM	10.0%	9.0%	14.0%	11.0%	8.3%	14.0%	14.2%	7.8%	8.9%
Sat MD	10.0%	11.0%	17.0%	8.0%	11.0%	10.0%	11.0%	14.1%	10.6%
Modal Splits	(2)	(4)	(4)	(5)	(17)	(4)	(2)	(7)	(4)
Auto	3.0%	37.0%	37.0%	19.3%	25.0%	37.0%	85.0%	100.0%	37.0%
Taxi	2.0%	2.0%	2.0%	1.8%	20.0%	2.0%	5.0%	0.0%	2.0%
Bus	10.0%	21.0%	21.0%	15.4%	5.0%	21.0%	1.0%	0.0%	21.0%
Subway	5.0%	21.0%	21.0%	49.2%	30.0%	21.0%	1.0%	0.0%	21.0%
Railroad	0.0%	1.0%	1.0%	2.9%	0.0%	1.0%	0.0%	0.0%	1.0%
Walk/Other	80.0%	18.0%	18.0%	11.4%	20.0%	18.0%	8.0%	0.0%	18.0%
	(2)	(3)	(2)	(2)	(2,17)	(10, 12)	(2)	(7,18)	(9,19)
In/Out Splits	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out
AM	50% 50%	52% 48%	96% 4%	15% 85%	94% 6%	88% 12%	65% 35%	74% 26%	79% 21%
MD	50% 50%	52% 48%	39% 61%	50% 50%	50% 50%	50% 50%	50% 50%	50% 50%	50% 50%
PM	50% 50%	52% 48%	5% 95%	70% 30%	67% 33%	12% 88%	50% 50%	39% 61%	25% 75%
Sat MD	50% 50%	52% 48%	60% 40%	50% 50%	50% 50%	50% 50%	50% 50%	51% 49%	64% 36%
				(2, 5, 6)					
Vehicle Occupancy	(2)	(3)	(2,4)	AM/PM MD/Sat	(17)	(10)	(2)	(7)	(9,19)
Auto	1.60	2.20	1.13	1.21 1.69	2.20	1.65	1.30	1.30	1.30
Taxi	1.20	2.00	1.40	1.4 1.4	2.30	1.40	1.30	1.50	2.00
Truck Trip Generation	(1)	(3)	(1)	(1)	(17)	(10, 13)	(2)	(7)	(9)
Weekday	0.35	0.35	0.32	0.06	3.60	0.52	0.89	0.15	0.67
Saturday	0.04	0.35	0.01	0.02	3.60	0.03	0.05	0.15	0.03
Temporal Distribution	(1)	(3)	(1)	(1)	(2,17)	(10, 12)	(2)	(7)	(9)
AM	8.0%	8.0%	10.0%	12.0%	6.0%	12.0%	14.0%	9.6%	14.0%
MD	11.0%	11.0%	11.0%	9.0%	6.0%	9.0%	9.0%	11.0%	9.0%
PM	2.0%	2.0%	2.0%	2.0%	1.0%	2.0%	1.0%	1.0%	1.0%
Saturday	11.0%	11.0%	11.0%	9.0%	6.0%	9.0%	9.0%	11.0%	9.0%
In/Out Splits	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out
AM/MD/PM/Sat	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%

Table 13-8 (continued): Transportation Planning Factors

Land Use	FRESH (Supermarket)	Pre-K (Student)	Pre-K (Staff)	Pre-K (Parent)	Day Care Center	Community Center	Medical Office (Clinic)	Gas Station (With Store)	Transitional Housing (Shelter)	House of Worship
Trip Generation	(7)	(7)	(7)	(7)	(7)	(2)	(7)	(9)	(15, 16)	(7)
Weekday	205	2	2	4	33	48	127	90	4.75	19.18
Saturday	271	0	0	0	2	19	127	90	5.65	21.83
	per 1,000 sf	per student	per staff	per parent	per 1,000 sf	per 1,000 sf	per 1,000 sf	per 1,000 sf	per 1,000 sf	per 1,000 sf
Temporal Distribution	(7)	(7)	(7)	(7)	(7)	(2)	(7)	(9)	(15, 16)	(7)
AM	3.0%	50.0%	50.0%	50.0%	16.0%	7.1%	4.0%	6.2%	7.0%	7.9%
MD	12.0%	0.0%	0.0%	0.0%	5.0%	10.0%	11.0%	5.5%	3.0%	4.0%
PM	10.0%	5.0%	5.0%	5.0%	19.0%	7.2%	12.0%	8.2%	10.0%	7.2%
Sat MD	12.0%	0.0%	0.0%	0.0%	12.0%	14.2%	11.0%	5.5%	4.8%	15.8%
Modal Splits	(7)	(5)	(4)	(5)	(7)	(2)	(7)	(9)	(15)	(7)
Auto	4.0%	18.6%	37.0%	18.6%	5.0%	5.0%	30.0%	100.0%	2.0%	5.0%
Taxi	3.0%	1.6%	2.0%	1.6%	1.0%	1.0%	2.0%	0.0%	1.0%	1.0%
Bus	5.0%	15.3%	21.0%	15.3%	6.0%	6.0%	18.0%	0.0%	1.0%	3.0%
Subway	5.0%	50.7%	21.0%	50.7%	3.0%	3.0%	33.0%	0.0%	2.0%	6.0%
Railroad	0.0%	2.5%	1.0%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Walk/Other	83.0%	11.3%	18.0%	11.3%	85.0%	85.0%	17.0%	0.0%	94.0%	85.0%
	(7)	(7)	(7)	(7)	(7)	(2)	(7)	(9)	(15)	(7)
In/Out Splits	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out
AM	45% 55%	100% 0%	100% 0%	50% 50%	53% 47%	61% 39%	89% 11%	50% 50%	15% 85%	54% 46%
MD	46% 54%	0% 0%	0% 0%	0% 0%	50% 50%	55% 45%	51% 49%	50% 50%	50% 50%	50% 50%
PM	47% 53%	0% 100%	0% 100%	50% 50%	47% 53%	29% 71%	48% 52%	50% 50%	70% 30%	52% 48%
Sat MD	46% 54%	0% 0%	0% 0%	0% 0%	47% 53%	49% 51%	41% 59%	50% 50%	50% 50%	71% 29%
							(7)	(9)	(9)	(7)
Vehicle Occupancy	(7)	(5, 7)	(4, 7)		(7)	(2)	Weekday Sat	Weekday Sat	Weekday Sat	Weekday Sat
Auto	1.65	1.22	1.13	N/A	1.65	1.65	1.50 1.50	1.00 1.00	1.50 1.50	1.65 1.65
Taxi	1.40	1.30	1.40	N/A	1.40	1.40	1.50 1.50	1.00 1.00	1.50 1.50	1.40 1.40
Truck Trip Generation	(7)	(7)			(7)	(2)	(7)	(9)	(9)	(7)
Weekday	0.35	0.03	N/A	N/A	0.07	0.29	0.29	0.35	0.06	0.29
Saturday	0.04	0.03	N/A	N/A	0.00	0.01	0.29	0.02	0	0.29
Temporal Distribution	(7)	(7)			(7)	(2)	(7)	(9)	(9)	(7)
AM	10.0%	9.6%	N/A	N/A	9.6%	9.6%	3.0%	7.7%	12.2%	9.6%
MD	8.0%	11.0%	N/A	N/A	11.0%	11.0%	11.0%	11.0%	8.7%	11.0%
PM	5.0%	1.0%	N/A	N/A	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Saturday	10.0%	0.0%	N/A	N/A	0.0%	11.0%	0.0%	11.0%	0.0%	0.0%
In/Out Splits	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out	In Out
AM/MD/PM/Sat	50.0% 50.0%	50.0% 50.0%	N/A N/A	N/A N/A	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%	50.0% 50.0%

Notes:

(1) Based on data from *City Environmental Quality Review (CEQR) Technical Manual*.
(2) Based on data from *Webster Avenue Rezoning EIS*, 2011.
(3) Based on data from *East Fordham Road Rezoning EIS*, 2013.
(4) RJTW based on CTTP 2006-2010 data for census tracts 197, 199, 209, 211, 213.02, 217, 219, 221.01, 223, 227.01, 227.02, 233.01, 239, 241, 243, and 251.
(5) JTW based on CTTP 2010-2014 data for census tracts 197, 199, 209, 211, 213.02, 217, 219, 221.01, 223, 227.01, 227.02, 233.01, 239, 241, 243, and 251.
(6) Midday and Saturday auto occupancy determined by applying a multiplier (1.4) to the AM/PM rate based on *East New York Rezoning EIS*, 2015.
(7) Based on data from *East New York Rezoning EIS*, 2015.
(8) Based on ITE's *Trip Generation Manual* rate for High-Turnover (Sit-Down) Restaurant (932) & Fast-Food Restaurant with Drive-Through (934).
(9) Based on data from *Lower Concourse Rezoning EIS*, 2009.
(10) *Crotona Park East / West Farms Rezoning EIS*, 2011.
(11) Saturday rate based on ITE's *Trip Generation Manual* (8th Edition) average rate proportion between weekday and
(12) Assumes weekday midday temporal distribution and in/out splits for Saturday
(13) Assumes 5 percent of weekday truck trip generation rate (consistent with Lower Concourse Rezoning EIS assumptions for Manufacturing and Warehousing land
(14) Assumed to be the same as Restaurant land use for *Webster Avenue Rezoning EIS*, 2011.
(15) Based on data for Covenant House from *NYCT - Number 7 Extension Project EIS*, 2003.
(16) Saturday trip rate based on ration between Saturday and weekday rates for Residential lane use. Similarly, Saturday temporal distribution based on weekday versus Saturday midday Residential proportion.
(17) Based on data from *Pier 57 Redevelopment Project EIS*, 2013.
(18) Based on ITE's *Trip Generation Manual* rate for Auto Dealership (841).
(19) Based on ITE's *Trip Generation Manual* rate for Warehousing (150).

Source: STV Incorporated, 2017.

TRAVEL DEMAND FORECAST

The net incremental change in person and vehicle trips expected to result from the Proposed Actions by the 2026 analysis year is derived based on the net change in land uses shown in Table 13-1, "RWCDS No-Action and With-Action Land Uses," and the transportation planning factors listed in Table 13-8, "Transportation Planning Factors." Table 13-9, "RWCDS Travel Demand Forecast," shows an estimate of the net incremental change in peak hour person and vehicle trips, respectively, (compared to the No-Action conditions) that would occur in 2026 with implementation of the Proposed Actions. As listed in Table 13-9, in the RWCDS, the Proposed Actions would generate a net increase of approximately 4,055 person trips in the weekday AM peak hour, 9,600 person trips in the weekday midday, 7,675 person trips in the weekday PM peak hour, and 8,354 person trips in the Saturday midday peak hour. These person trips can be translated into modal trip "types" for the entire study area as follows:

- Peak hour vehicle trips (including auto, truck, and taxi trips balanced to reflect that some taxis arrive or depart empty) would be expected to result in additional trips – approximately 405, 524, 671, and 617 vehicle trips ("in" and "out" trips, combined) in the weekday AM, midday, PM, and Saturday midday peak hours, respectively.
- Peak hour subway trips would increase by a net total of approximately 1,382, 1,136, 1,748, and 1,649 in the weekday AM, midday, PM, and Saturday midday peak hours, respectively.
- Peak hour bus trips would increase by a net total of approximately 555, 1,037, 935, and 985 in the weekday AM, midday, PM, and Saturday midday peak hours, respectively.
- Walk trips would increase by approximately 1,607, 6,772, 4,143, and 4,787 trips during the respective weekday AM, midday, PM, and Saturday midday peak hours.

The Proposed Actions are not expected to generate substantial numbers of trips by Metro-North Railroad (MNR). MNR's Morris Heights station is located more than ½-mile from the project corridor and the projected development sites (and therefore not within a convenient walking distance). Commuter rail trips generated by the Proposed Actions would likely start or end as on another mode of transit (i.e., subway or bus) and are assumed to be reflected in the forecast for these modes. A qualitative discussion of commuter rail service at MNR's Morris Heights station is provided in this EIS.

Table 13-9: RWCDS Travel Demand Forecast

Land Use	Local Retail[1]		Regional Retail		Office		Residential		Restaurant[2] (sit-down)		Light Industrial		Auto Repair		Auto Dealership		Warehouse		Fresh (Supermarket)	
Size/Units	208.1	ksf	42.8	ksf	39.3	ksf	3,250.0	DU	11.6	ksf	-47.8	ksf	-86.8	ksf	-11.2	ksf	-168.7	ksf	23.2	ksf
Peak Hour Trips:																				
AM	1152		100		85		2624		14		-71		-222		-31		-69		142	
MD	7294		301		106		1312		94		-55		-185		-61		-115		570	
PM	3839		301		99		2887		126		-77		-239		-40		-73		475	
Sat MD	4495		436		26		2496		174		-8		-185		-46		-30		753	
Person Trips:																				
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	17	17	19	18	30	1	76	431	3	0	-23	-3	-123	-66	-23	-8	-20	-5	3	3
Taxi	12	12	1	1	2	0	7	40	3	0	-1	0	-7	-4	0	0	-1	0	2	2
Bus	58	58	11	10	17	1	61	344	1	0	-13	-2	-1	-1	0	0	-11	-3	3	4
Subway	29	29	11	10	17	1	194	1,098	4	0	-13	-2	-1	-1	0	0	-11	-3	3	4
Railroad	0	0	1	0	1	0	11	65	0	0	-1	0	0	0	0	0	-1	0	0	0
Walk/Other	461	461	9	9	15	1	45	254	3	0	-11	-2	-12	-6	0	0	-10	-3	53	65
Total	**576**	**576**	**52**	**48**	**81**	**3**	**394**	**2,231**	**13**	**1**	**-63**	**-9**	**-145**	**-78**	**-23**	**-8**	**-54**	**-14**	**64**	**78**
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	109	109	58	54	15	24	127	127	12	12	-10	-10	-79	-79	-31	-31	-21	-21	10	12
Taxi	73	73	3	3	1	1	12	12	9	9	-1	-1	-5	-5	0	0	-1	-1	8	9
Bus	365	365	33	30	9	14	101	101	2	2	-6	-6	-1	-1	0	0	-12	-12	13	15
Subway	182	182	33	30	9	14	323	323	14	14	-6	-6	-1	-1	0	0	-12	-12	13	15
Railroad	0	0	2	1	0	1	19	19	0	0	0	0	0	0	0	0	-1	-1	0	0
Walk/Other	2,918	2,918	28	26	7	12	75	75	9	9	-5	-5	-7	-7	0	0	-10	-10	217	255
Total	**3,647**	**3,647**	**157**	**145**	**41**	**65**	**656**	**656**	**47**	**47**	**-27**	**-27**	**-93**	**-93**	**-31**	**-31**	**-58**	**-58**	**262**	**308**
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	58	58	58	54	2	35	390	167	21	10	-3	-25	-102	-102	-16	-24	-7	-20	9	10
Taxi	38	38	3	3	0	2	36	16	17	8	0	-1	-6	-6	0	0	0	-1	7	8
Bus	192	192	33	30	1	20	311	133	4	2	-2	-14	-1	-1	0	0	-4	-12	11	13
Subway	96	96	33	30	1	20	994	426	25	12	-2	-14	-1	-1	0	0	-4	-12	11	13
Railroad	0	0	2	1	0	1	59	25	0	0	0	-1	0	0	0	0	0	-1	0	0
Walk/Other	1,536	1,536	28	26	1	17	230	99	17	8	-2	-12	-10	-10	0	0	-3	-10	185	209
Total	**1,920**	**1,920**	**157**	**145**	**5**	**94**	**2,021**	**866**	**84**	**41**	**-9**	**-68**	**-120**	**-120**	**-16**	**-24**	**-18**	**-55**	**223**	**252**
Saturday	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	67	67	84	77	6	4	241	241	22	22	-2	-2	-79	-79	-23	-22	-7	-4	14	16
Taxi	45	45	5	4	0	0	22	22	17	17	0	0	-5	-5	0	0	0	0	10	12
Bus	225	225	48	44	3	2	192	192	4	4	-1	-1	-1	-1	0	0	-4	-2	17	20
Subway	112	112	48	44	3	2	614	614	26	26	-1	-1	-1	-1	0	0	-4	-2	17	20
Railroad	0	0	2	2	0	0	36	36	0	0	0	0	0	0	0	0	0	0	0	0
Walk/Other	1,798	1,798	41	38	3	2	142	142	17	17	-1	-1	-7	-7	0	0	-3	-2	288	338
Total	**2,247**	**2,247**	**227**	**209**	**16**	**10**	**1,248**	**1,248**	**87**	**87**	**-4**	**-4**	**-93**	**-93**	**-23**	**-22**	**-19**	**-11**	**346**	**407**
Vehicle Trips:																				
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	11	11	9	8	27	1	63	356	1	0	-14	-2	-95	-51	-18	-6	-15	-4	2	2
Taxi	10	10	1	0	1	0	5	29	1	0	-1	0	-6	-3	0	0	-1	0	1	2
Taxi Balanced	19	19	1	1	1	1	34	34	1	1	-1	-1	-9	-9	0	0	-1	-1	3	3
Truck	3	3	1	1	1	1	12	12	1	1	-1	-1	-5	-5	0	0	-8	-8	0	0
Total	**33**	**33**	**10**	**10**	**29**	**3**	**108**	**401**	**4**	**3**	**-17**	**-4**	**-109**	**-65**	**-18**	**-6**	**-24**	**-13**	**5**	**5**
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	68	68	26	24	14	21	75	75	5	5	-6	-6	-61	-61	-24	-24	-16	-16	6	7
Taxi	61	61	2	1	1	1	8	8	4	4	0	0	-4	-4	0	0	-1	-1	6	7
Taxi Balanced	122	122	3	3	2	2	17	17	8	8	-1	-1	-7	-7	0	0	-1	-1	12	12
Truck	4	4	1	1	1	1	9	9	1	1	-1	-1	-3	-3	0	0	-5	-5	0	0
Total	**194**	**194**	**30**	**28**	**16**	**23**	**100**	**100**	**15**	**15**	**-8**	**-8**	**-71**	**-71**	**-24**	**-24**	**-23**	**-23**	**19**	**20**
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	36	36	26	24	2	31	322	138	10	5	-2	-15	-78	-78	-12	-19	-5	-16	5	6
Taxi	32	32	2	1	0	1	26	11	7	4	0	-1	-5	-5	0	0	0	-1	5	5
Taxi Balanced	64	64	3	3	1	1	37	37	11	11	-1	-1	-9	-9	0	0	-1	-1	10	10
Truck	1	1	0	0	0	0	2	2	0	0	0	0	0	0	0	0	-1	-1	0	0
Total	**101**	**101**	**30**	**27**	**3**	**32**	**361**	**177**	**21**	**16**	**-3**	**-17**	**-88**	**-88**	**-12**	**-19**	**-7**	**-17**	**16**	**16**
Saturday	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	42	42	38	35	5	3	142	142	10	10	-1	-1	-61	-61	-18	-17	-5	-3	8	10
Taxi	37	37	2	2	0	0	16	16	8	8	0	0	-4	-4	0	0	0	0	7	9
Taxi Balanced	75	75	4	4	0	0	32	32	15	15	0	0	-7	-7	0	0	0	0	16	16
Truck	0	0	1	1	0	0	3	3	1	1	0	0	0	0	0	0	0	0	0	0
Total	**118**	**118**	**43**	**40**	**6**	**4**	**177**	**177**	**26**	**26**	**-1**	**-1**	**-68**	**-68**	**-18**	**-17**	**-6**	**-4**	**25**	**26**

Notes:

(1) Ten-percent linked trips for local retail.

(2) Twenty-five-percent linked trips for restaurant

.

Table 13-9 (continued): RWCDS Travel Demand Forecast

Land Use	Pre-K (Student)		Pre-K (Staff)		Pre-K (Parent)		Day Care Center		Community Center		Medical Office (Clinic)		Gas Station (With Store)		Transitional Housing (Shelter)		House of Worship		Total	
Size/Units	0.0	students	0.0	staff	0.0	parents	21.1	ksf	53.9	ksf	2.5	ksf	-0.6	ksf	-80.0	beds	17.8	ksf		
Peak Hour Trips:																				
AM	0		0		0		111		184		13		-3		-27		27			
MD	0		0		0		35		259		35		-3		-11		14			
PM	0		0		0		132		186		38		-4		-38		25			
Sat MD	0		0		0		5		145		35		-3		-22		61			
Person Trips:																				
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	0	0	0	0	3	3	6	4	3	0	-2	-2	0	0	1	1	-30	393
Taxi	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	18	52
Bus	0	0	0	0	0	0	4	3	7	4	2	0	0	0	0	0	0	0	137	418
Subway	0	0	0	0	0	0	2	2	3	2	4	0	0	0	0	0	1	1	241	1,141
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	65
Walk/Other	0	0	0	0	0	0	50	44	95	61	2	0	0	0	-4	-21	12	11	712	895
Total	**0**	**0**	**0**	**0**	**0**	**0**	**59**	**52**	**112**	**72**	**11**	**1**	**-2**	**-2**	**-4**	**-23**	**15**	**12**	**1,091**	**2,964**
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	0	0	0	0	1	1	7	6	5	5	-1	-1	0	0	0	0	203	207
Taxi	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	102	103
Bus	0	0	0	0	0	0	1	1	9	7	3	3	0	0	0	0	0	0	517	520
Subway	0	0	0	0	0	0	1	1	4	3	6	6	0	0	0	0	0	0	566	570
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	20
Walk/Other	0	0	0	0	0	0	15	15	121	99	3	3	0	0	-5	-5	6	6	3,377	3,395
Total	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**17**	**142**	**116**	**18**	**17**	**-1**	**-1**	**-6**	**-6**	**7**	**7**	**4,785**	**4,815**
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	0	0	0	0	3	4	3	7	5	6	-2	-2	-1	0	1	1	420	177
Taxi	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	97	69
Bus	0	0	0	0	0	0	4	4	3	8	3	4	0	0	0	0	0	0	556	379
Subway	0	0	0	0	0	0	2	2	2	4	6	7	0	0	-1	0	1	1	1,164	584
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	26
Walk/Other	0	0	0	0	0	0	53	60	46	112	3	3	0	0	-25	-11	11	10	2,095	2,048
Total	**0**	**0**	**0**	**0**	**0**	**0**	**62**	**70**	**54**	**132**	**18**	**20**	**-2**	**-2**	**-27**	**-11**	**13**	**12**	**4,392**	**3,283**
Saturday	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	0	0	0	0	0	0	4	4	4	6	-1	-1	0	0	2	1	331	330
Taxi	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	96	98
Bus	0	0	0	0	0	0	0	0	4	4	3	4	0	0	0	0	1	1	492	493
Subway	0	0	0	0	0	0	0	0	2	2	5	7	0	0	0	0	3	1	824	825
Railroad	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38
Walk/Other	0	0	0	0	0	0	2	2	61	63	2	4	0	0	-10	-10	37	15	2,379	2,408
Total	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**71**	**74**	**14**	**21**	**-1**	**-1**	**-11**	**-11**	**44**	**18**	**4,162**	**4,192**
Vehicle Trips:																				
AM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	0	0	N/A	N/A	2	2	3	2	2	0	-2	-2	0	0	0	0	-24	317
Taxi	0	0	0	0	N/A	N/A	0	0	1	1	0	0	0	0	0	0	0	0	13	38
Taxi Balanced	0	0	0	0	N/A	N/A	1	1	1	1	0	0	0	0	0	0	0	0	52	52
Truck	0	0	N/A	N/A	N/A	N/A	0	0	1	1	0	0	0	0	0	0	0	0	4	4
Total	**0**	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**3**	**2**	**5**	**4**	**2**	**0**	**-2**	**-2**	**-1**	**-1**	**1**	**1**	**32**	**373**
MD	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	0	0	N/A	N/A	1	1	4	4	4	3	-1	-1	0	0	0	0	95	101
Taxi	0	0	0	0	N/A	N/A	0	0	1	1	0	0	0	0	0	0	0	0	78	79
Taxi Balanced	0	0	0	0	N/A	N/A	0	0	2	2	0	0	0	0	0	0	0	0	157	157
Truck	0	0	N/A	N/A	N/A	N/A	0	0	1	1	0	0	0	0	0	0	0	0	7	7
Total	**0**	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**1**	**1**	**7**	**6**	**4**	**4**	**-1**	**-1**	**0**	**0**	**1**	**1**	**259**	**265**
PM	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	0	0	N/A	N/A	2	2	2	4	4	4	-2	-2	0	0	0	0	309	121
Taxi	0	0	0	0	N/A	N/A	0	1	0	1	0	0	0	0	0	0	0	0	68	51
Taxi Balanced	0	0	0	0	N/A	N/A	1	1	1	1	1	1	0	0	0	0	0	0	119	119
Truck	0	0	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	**0**	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**3**	**3**	**3**	**5**	**4**	**4**	**-2**	**-2**	**-1**	**0**	**1**	**1**	**430**	**241**
Saturday	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Auto	0	0	0	0	N/A	N/A	0	0	2	2	3	4	-1	-1	0	0	1	1	166	166
Taxi	0	0	0	0	N/A	N/A	0	0	1	1	0	0	0	0	0	0	0	0	68	69
Taxi Balanced	0	0	0	0	N/A	N/A	0	0	1	1	0	0	0	0	0	0	0	0	137	137
Truck	0	0	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	0	0	0	0	5	5
Total	**0**	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**0**	**0**	**3**	**3**	**3**	**5**	**-1**	**-1**	**0**	**0**	**2**	**1**	**308**	**309**

Source: STV Incorporated, 2017.

Table 13-10, "RWCDS Net Incremental Vehicle Trips by Cluster," presents the net incremental change in peak hour vehicle trips (auto, taxi, and truck) that would be generated by five identified development clusters during the weekday AM, midday, PM, and Saturday midday peak hours. As shown in Table 13-10, Cluster 4, the projected developments centered around 170th Street, would account for approximately 40 percent of the total vehicle tips generated in all peak hours.

Table 13-10: RWCDS Net Incremental Vehicle Trips by Cluster

Cluster	Weekday			Saturday Midday
	AM	Midday	PM	
1	49	77	101	100
2	93	131	154	140
3	5	-11	7	1
4	187	199	294	269
5	71	128	114	106
Total	***405***	***524***	***671***	***617***

Source: STV Incorporated, 2017.

Table 13-11, "Summary of Net Incremental Trips Generated in the RWCDS," summarizes the number of additional trips that would be generated by the Proposed Actions during the weekday AM, midday, PM, and Saturday midday peak hours by various modes of travel. Because these numbers of peak hour trips would exceed the *CEQR Technical Manual* analysis thresholds for vehicular traffic, transit, and pedestrians, a Level 2 screening assessment is appropriate to identify specific locations where additional detailed analyses may be warranted.

Table 13-11: Summary of Net Incremental Trips Generated in the RWCDS

Mode/Description	Trip Type	Weekday AM	Weekday Midday	Weekday PM	Saturday Midday
Auto / Taxi / Truck	Vehicle	405	524	671	617
Subway / Railroad	Person	1,459	1,176	1,834	1,725
Local Bus	Person	555	1,037	935	985
Walk / Other	Person	1,607	6,772	4,143	4,787

Source: STV Incorporated, 2017.

13.5 Level 2 Screening Assessment

A Level 2 screening assessment involves the assignment of project-generated trips to the study area street network, pedestrian elements and transit facilities, and the identification of specific locations where the incremental increase in demand may potentially exceed *CEQR Technical Manual* analysis thresholds and therefore require a quantitative analysis.

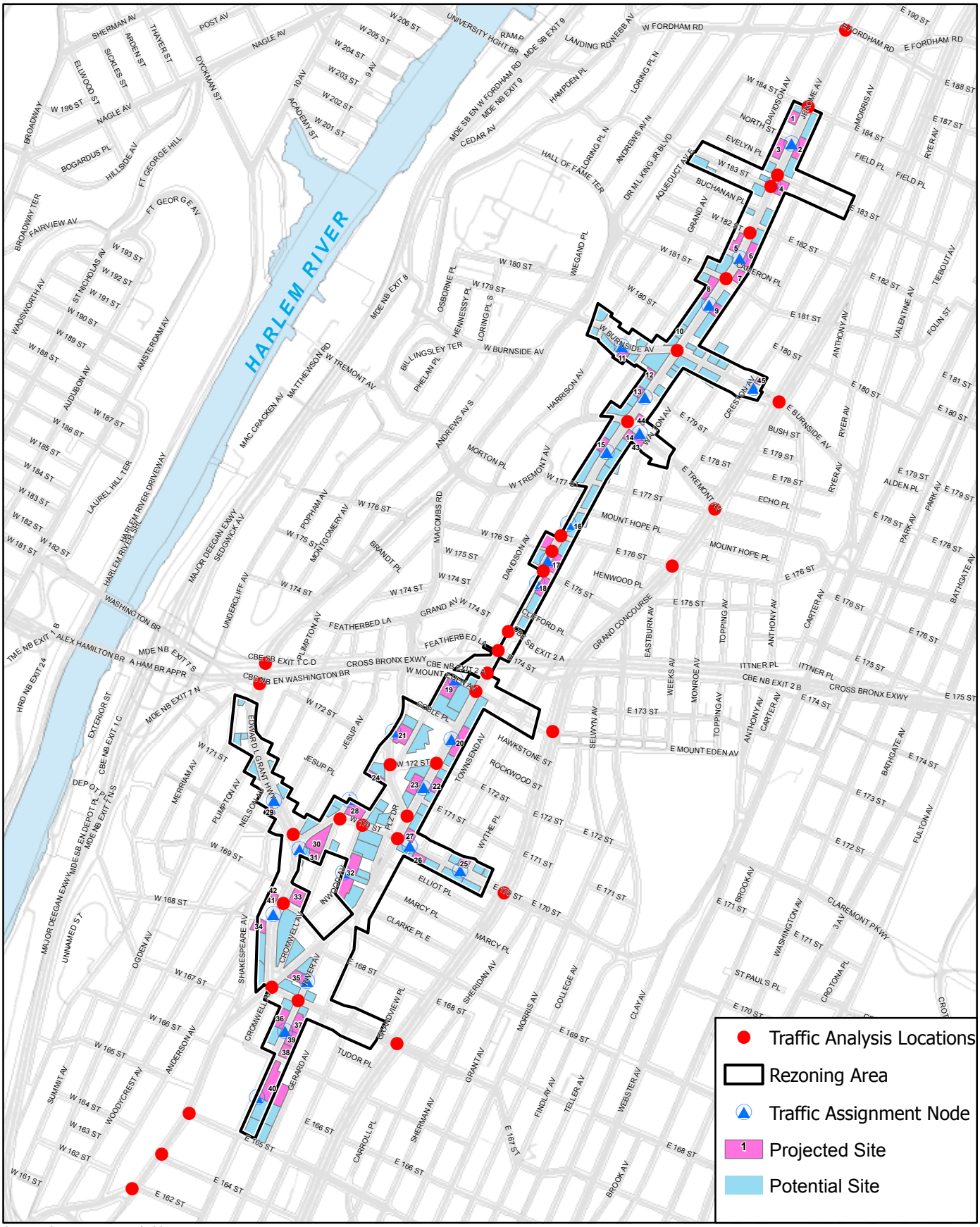
VEHICULAR TRAFFIC

The Proposed Actions would be expected to generate a net increase of 405 vehicle trips during the weekday AM peak hour, 524 vehicle trips during the weekday midday peak hour, 671 vehicle trips during the weekday PM peak hour, and 617 vehicle trips during the Saturday midday peak hour. As these traffic volumes would exceed 50 trips in each peak hour (the *CEQR Technical Manual* Level 1 screening threshold for a detailed analysis), a preliminary assignment of net increment traffic volumes is prepared to identify critical intersections that would potentially exceed 50 trips per hour (a Level 2 screening assessment).

The *CEQR Technical Manual* Level 2 screening threshold for detailed analysis is also 50 vehicles, but this threshold applies to individual intersections during the peak hours (rather than total trips generated). A preliminary assignment of peak hour traffic volumes is performed for the weekday AM, midday, PM, and Saturday midday periods (the periods of highest overall demand) to identify the intersections that would potentially exceed the 50-trip threshold during these periods. In consultation with DCP and DOT, representative intersections most likely to be used by concentrations of action-generated vehicles traveling to and from the projected development sites are then selected for detailed analysis. Existing bottleneck locations and prevailing travel patterns in the study area are taken into consideration. Figure 13-2, "Traffic Analysis Locations," shows the locations of the 36 intersections selected for detailed analysis.

TRANSIT

According to the general thresholds used by the MTA and specified in the *CEQR Technical Manual,* detailed transit analyses are required if a proposed action is projected to result in greater than 200 peak hour rail or bus transit riders. If a proposed action would result in 50 or more bus passengers being assigned to a single bus line (in one direction), or if it would result in an increase of 200 or more passengers at a single subway station or on a single subway line, a detailed bus or subway analysis would be warranted.



Source: STV Incorporated, 2017.

N

0 0.25 0.5 Miles

Figure 13-2

TRAFFIC ANALYSIS LOCATIONS

Subway

Subway Stations

Eleven NYCT subway stations are located within, or in close proximity to, the rezoning area. These stations are presented on Figure 13-3, "NYCT Subway Lines in the Rezoning Area," along with the subway routes serving each facility. The No. 4 line operating along Jerome Avenue serves six elevated stations above Jerome Avenue within the rezoning area, including 183rd Street, Burnside Avenue, 176th Street, Mount Eden Avenue, 170th Street, and 167th Street. The B/D subway lines operating on Grand Concourse, to the east of the rezoning area, serve five underground stations including 182nd-183rd Streets, Tremont Avenue, 174th-175th Streets, 170th Street, and 167th Street. Nearly all the projected development sites are closer to the Jerome Avenue No. 4 line stations than the Grand Concourse B/D stations; consequently, all subway trips were assigned to Jerome Avenue stations except for one projected development site that is closer to the 170th Street B/D station.

As listed in Table 13-12, "RWCDS Net Incremental Peak Hour Subway Trips by Station," the Proposed Actions would generate a net increment of approximately 1,382 and 1,748 subway trips during the weekday AM and PM commuter peak hours, respectively. Trips from each development cluster or outlier site are assigned to the individual stations serving the rezoning area based on proximity to projected development sites. Table 13-12 lists the estimated net incremental subway trips generated by the Proposed Actions during the weekday AM and PM peak hours at each of the subway stations serving the rezoning area. As listed in Table 13-12, the highest number of peak hour subway trips are expected to occur at the 170th Street station on the Jerome Avenue No. 4 line, which would experience approximately 613 incremental trips (in and out combined) in the AM peak hour and 728 in the PM peak hour.

The analysis of subway station conditions focuses on a total of four subway stations at which incremental demand from the Proposed Actions would exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or both peak hours. As lsited in Table 13-12, these subway stations include:

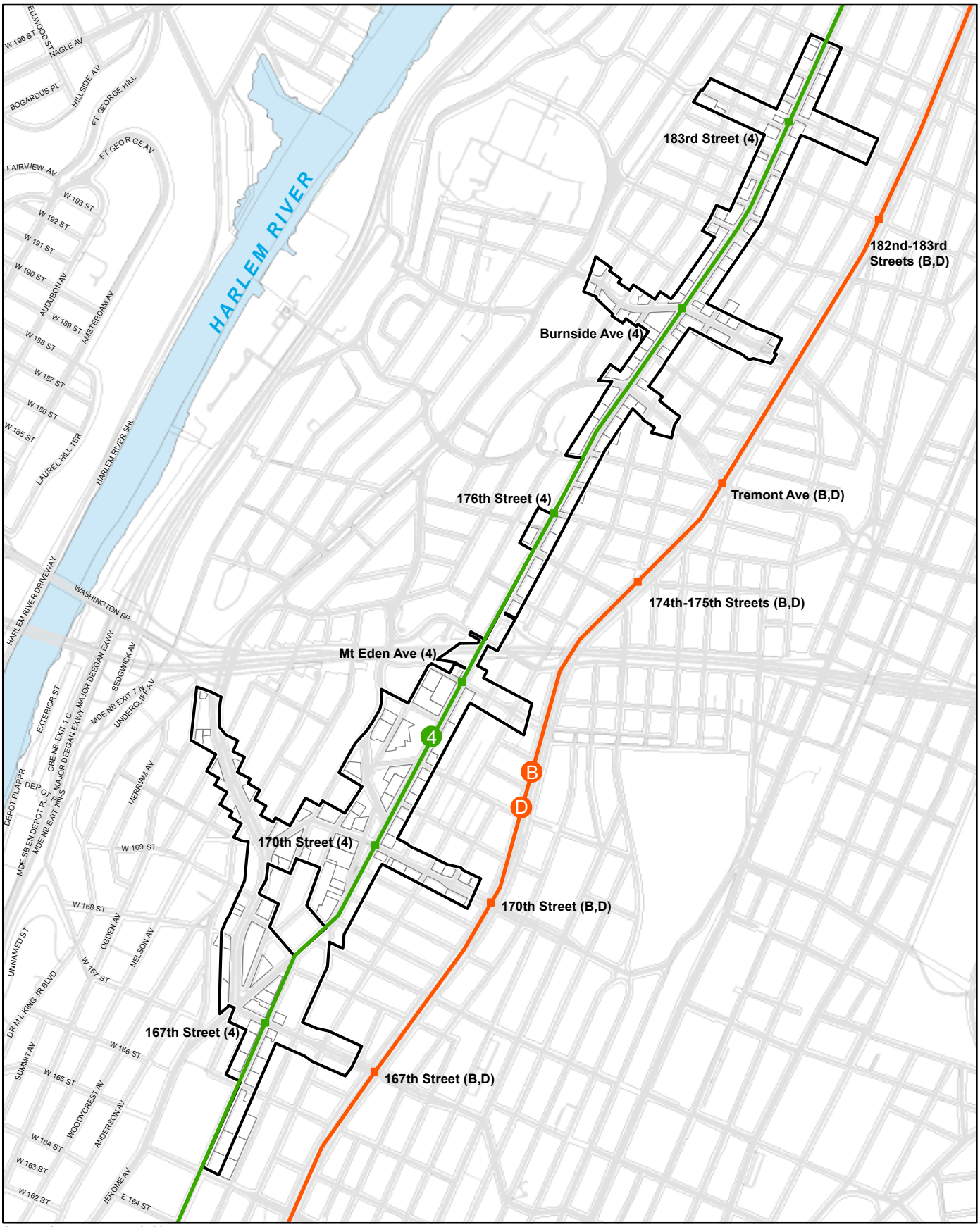
- 183rd Street (No. 4 line)
- Burnside Avenue (No. 4 line)
- 170th Street (No. 4 line)
- 167th Street (No. 4 line)

For each of these facilities, key circulation elements (e.g., street stairs and fare control arrays [turnstiles]) expected to be affected by the Proposed Actions are analyzed.

Subway Line Haul

As discussed above, the rezoning area is served by three NYCT subway routes, including the 4, B, and D lines. As the Proposed Actions are expected to generate 200 or more new subway trips in one direction on one or more of these routes, an analysis of subway line haul conditions is included in the EIS. Line haul is the volume of transit riders passing a defined point on a given transit route. The analysis uses existing

maximum load point subway service and ridership data provided by NYCT to assess existing, future No-Action, and future With-Action conditions at the peak load points of the respective subway lines during the weekday AM and PM peak hours.



Source: STV Incorporated, 2017.

N

0 0.25 0.5 Miles

Figure 13-3

NYCT SUBWAY LINES IN THE REZONING AREA

Table 13-12: RWCDS Net Incremental Peak Hour Subway Trips by Station

Subway Station (Line)	AM Peak Hour Trips			PM Peak Hour Trips		
	Boarding	Alighting	Total	Boarding	Alighting	Total
183rd Street (4)	154	30	184	72	157	**229**
Burnside Avenue (4)	115	49	164	98	136	**234**
176th Street (4)	118	22	140	62	124	186
Mount Eden Avenue (4)	72	15	87	38	72	110
170th Street (4)	522	91	**613**	228	500	**728**
167th Street (4)	143	30	173	78	150	**228**
170th Street (B, D)	17	3	20	7	25	32
Total Increment	1,141	240	1,382	583	1,164	1,748

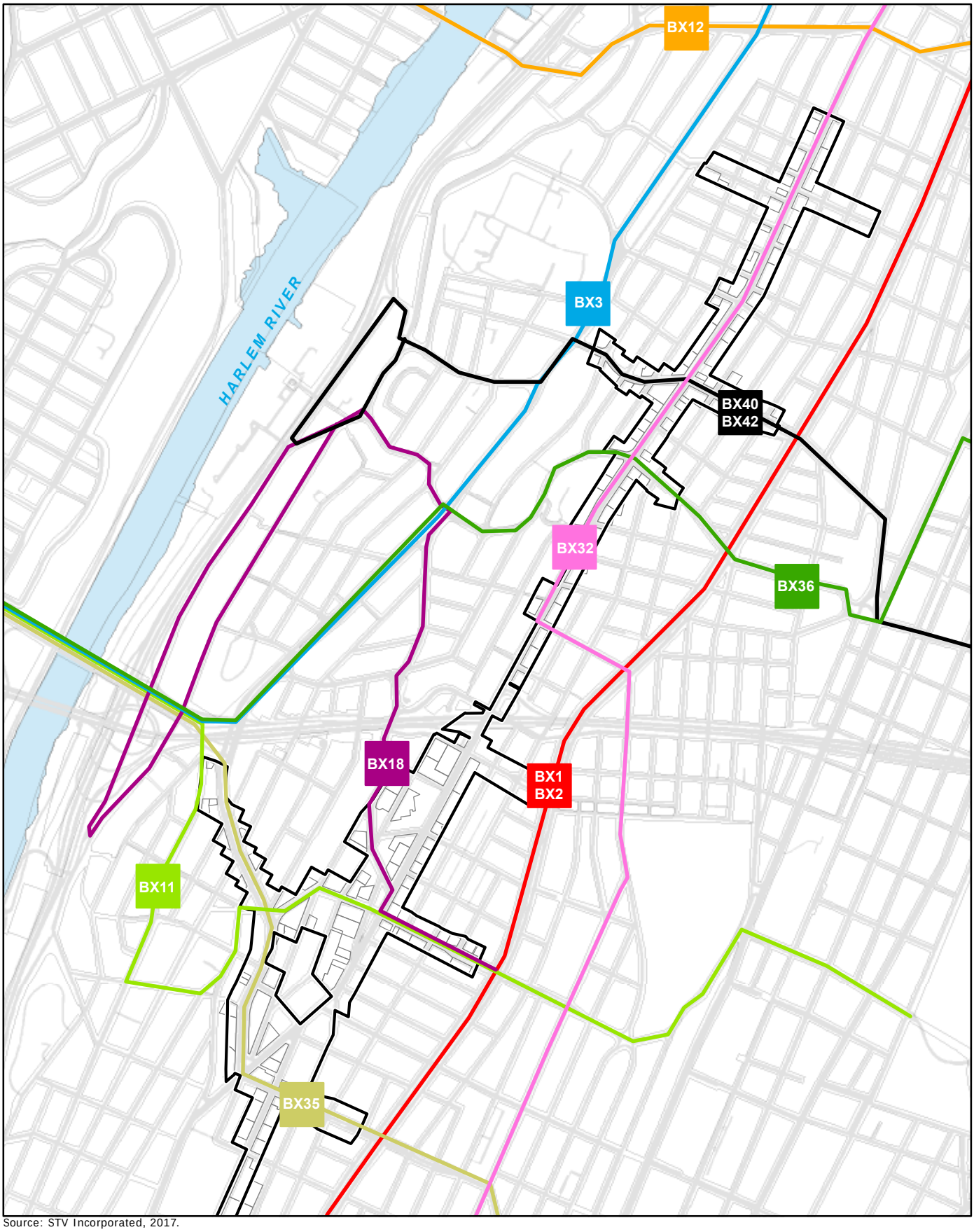
Note:
Bold – denotes greater than 200 increment trips.

Source: STV Incorporated, 2017.

Bus

The rezoning area is served by the following nine local NYCT bus routes (see Figure 13-4, "NYCT Bus Routes in the Rezoning Area"):

- Bx1 connects Riverdale to Mott Haven along Grand Concourse adjacent to the site
- Bx2 connects Kingsbridge to Mott Haven along Grand Concourse adjacent to the site
- Bx11 operates between Longwood in the Bronx and the George Washington Bridge Bus Terminal in Manhattan via Claremont Parkway and 170th Street
- Bx18 operates between Morris Heights and Morrisania via Macombs Road. The Bx18 primarily serves as a connection between the Morris Heights neighborhood and the No. 4 line station at Jerome Avenue and 170th Street within the rezoning area. The Bx18 has the lowest peak hour ridership and service frequency of the bus routes within the rezoning area and would not likely be used by new bus trips generated by the rezoning project; therefore, no new trips were assigned to this route.
- Bx32 operates between the Bronx VA Medical Center and Mott Haven via Morris and Jerome avenues
- Bx35 connects Hunts Point in the Bronx to Washington Heights via East 167th and West 181st streets
- Bx36 connects Soundview in the Bronx to Washington Heights in Manhattan via East 174th and East 180th streets
- Bx40 operates between Morris Heights and Fort Schuyler via East Tremont Avenue
- Bx42 operates between Morris Heights and Throgs Neck via East Tremont Avenue



Source: STV Incorporated, 2017.

N

0 0.25 0.5 Miles

Figure 13-4

NYCT BUS ROUTES IN THE REZONING AREA

As presented in Table 13-13, "RWCDS Net Incremental Peak Hour Bus Trips by Route and Direction," the projected development sites are expected to generate a net total of approximately 555 and 935 incremental trips by bus during the weekday AM and PM peak hours, respectively. These local bus trips were assigned to each route based on proximity to individual projected development sites or clusters and current ridership patterns. Table 13-13 presents the anticipated number of new riders expected on each bus route in the AM and PM peak hours. According to the general thresholds used by the MTA and specified in the *CEQR Technical Manual,* a detailed analysis of bus conditions is generally not required if a proposed action is projected to result in fewer than 50 peak hour trips being assigned to a single bus route (in one direction), as this level of new demand is considered unlikely to result in significant adverse impacts. As indicated in Table 13-13, several of these bus routes are expected to carry 50 or more new trips in one direction in at least one peak hour and will be analyzed in the EIS.

Table 13-13: RWCDS Net Incremental Peak Hour Bus Trips by Route and Direction

Route	Direction	AM Peak Hour			PM Peak Hour		
		Alighting	Boarding	Total	Alighting	Boarding	Total
BX1	NB	2	0	2	-3	0	-3
	SB	2	1	3	-2	-1	-3
BX2	NB	2	0	2	-3	0	-3
	SB	1	0	1	-1	0	-1
BX11	EB	22	**93**	115	**114**	**69**	183
	WB	22	**93**	115	**114**	**69**	183
BX32	NB	26	36	62	**108**	34	142
	SB	12	**72**	84	**50**	**69**	119
BX35	EB	15	41	56	**61**	45	106
	WB	15	41	56	**61**	45	106
BX36	EB	1	1	2	1	2	3
	WB	0	11	11	8	0	8
BX40	EB	9	1	10	3	21	24
	WB	1	13	14	24	2	26
BX42	EB	9	1	10	3	21	24
	WB	1	13	14	24	2	26
Total		140	417	557	562	378	940

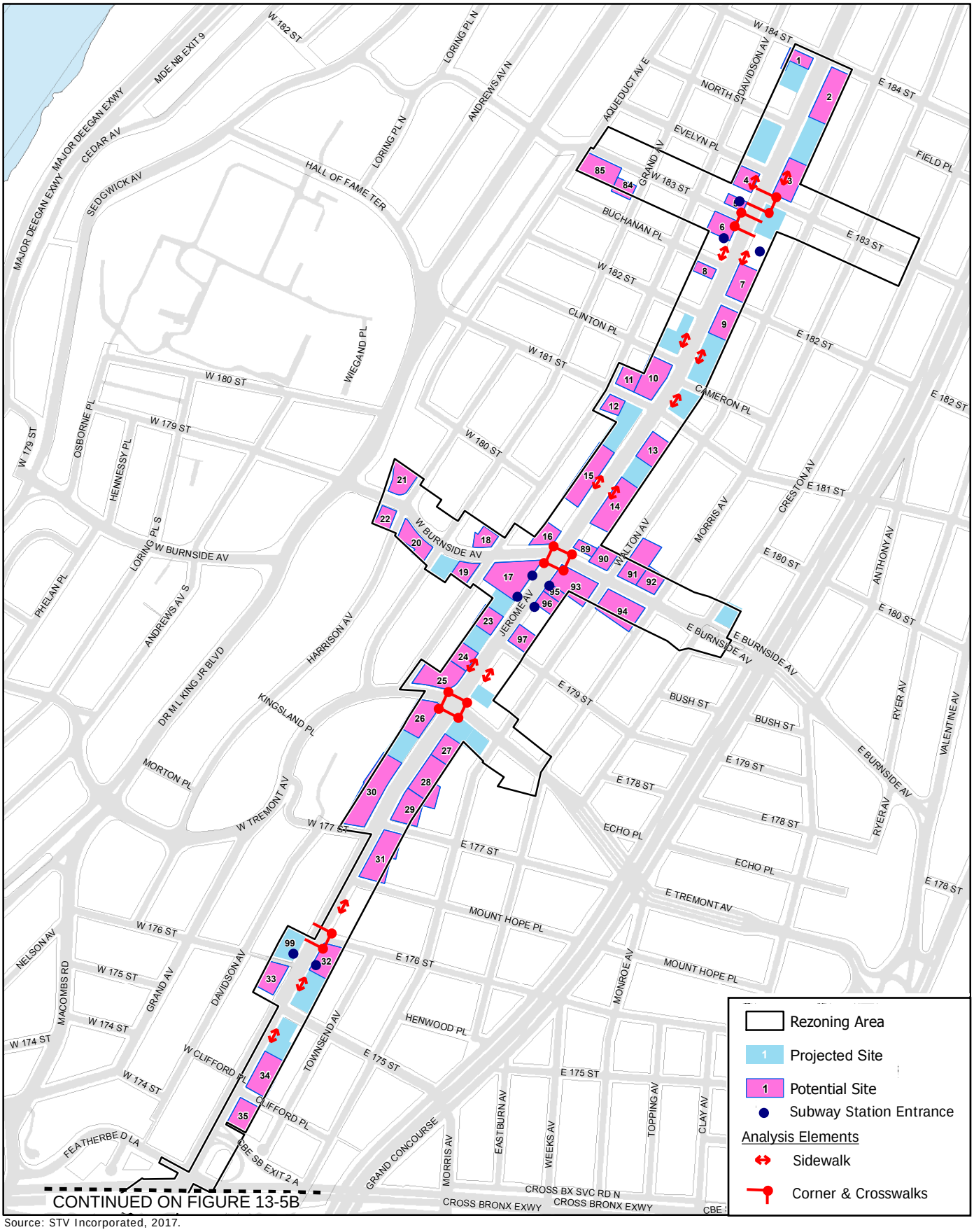
Notes:
Bold - denotes greater than 50 incremental trips per direction

Source: STV Incorporated, 2017.

PEDESTRIANS

Per the *CEQR Technical Manual*, detailed pedestrian analyses are generally warranted if a proposed action is projected to result in 200 or more new peak hour pedestrians at any sidewalk, corner reservoir area, or crosswalk. As listed previously in Table 13-9, "RWCDS Travel Demand Forecast," the proposed project is expected to generate approximately 1,607 walk-only trips in the weekday AM peak hour, 6,772 in the midday peak hour, 4,143 in the PM peak hour, and 4,787 in the Saturday midday peak hour. Persons en route to and from subway station entrances and bus stops would add approximately 1,937, 2,173, 2,683, and 2,634 additional pedestrian trips to rezoning area sidewalks and crosswalks during these same periods, respectively.

The analysis will focus on sidewalks, corner areas, and crosswalks where new pedestrian demand would be most concentrated and most likely to result in significant adverse impacts. It is expected that during the AM and PM peak periods, pedestrian trips attributable to the Proposed Actions would be concentrated on sidewalks and crosswalks adjacent to the development sites within the rezoning area and along routes to and from the bus stops and subway stations. During the midday period, pedestrian trips would be expected to be dispersed, as people travel throughout the area for lunch, shopping, or errands. As shown on Figure 13-5A, "Pedestrian Analysis Locations – North," and Figure 13-5B, "Pedestrian Analysis Locations – South," the analysis locations include a total of 33 sidewalks, 37 corner reservoir areas, and 41 crosswalks.



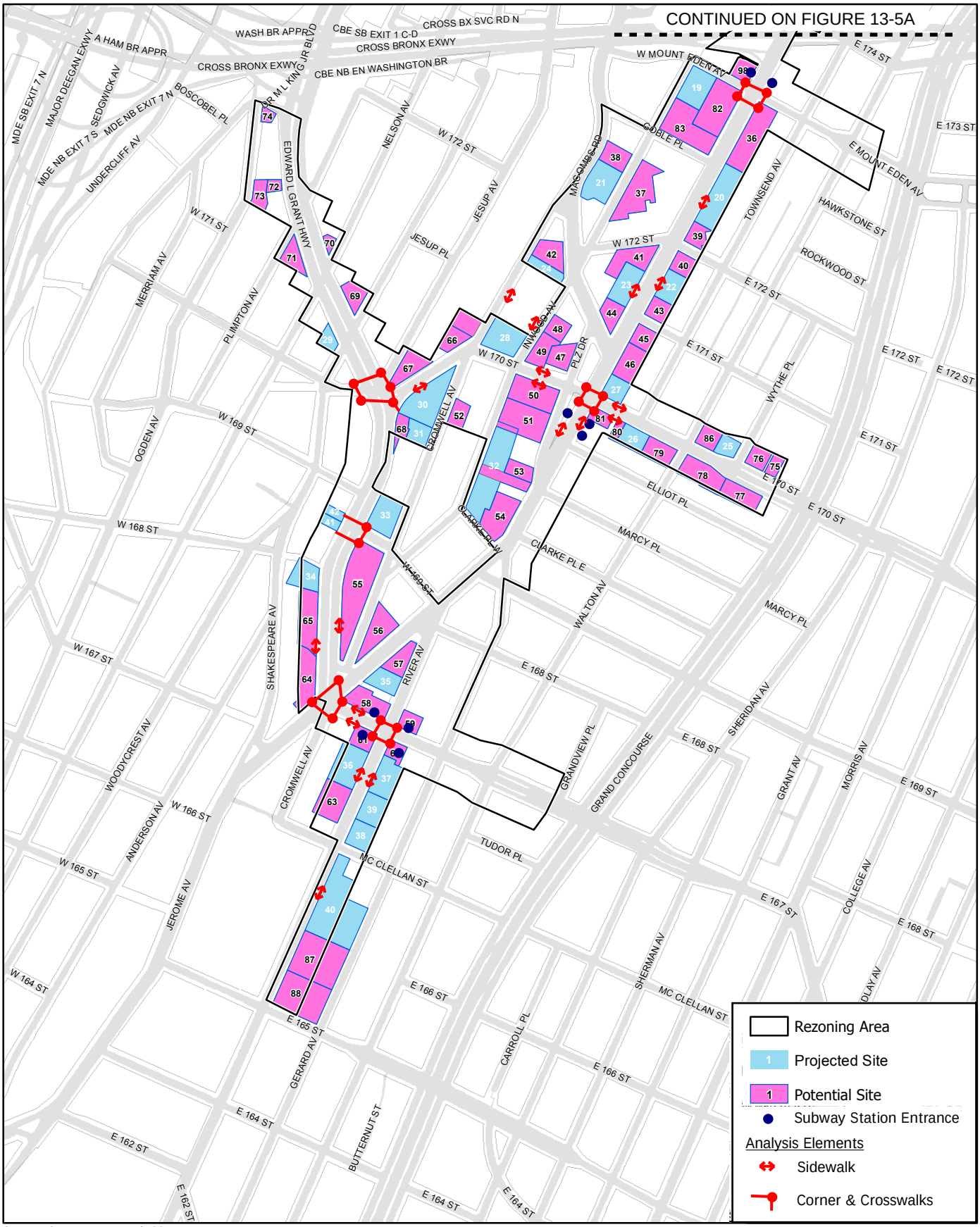
Source: STV Incorporated, 2017.

N

0 0.1 0.2 Miles

Figure 13-5A

PEDESTRIAN ANALYSIS LOCATIONS - NORTH



Source: STV Incorporated, 2017.

Figure 13-5B

PEDESTRIAN ANALYSIS LOCATIONS - SOUTH

PARKING

Peak parking demand from commercial and retail uses typically occurs in the weekday midday period and declines during the afternoon and evening. In contrast, peak parking demand associated with residential uses typically occurs during the overnight period.

On- and off-street parking inventory and utilization surveys have been conducted for the weekday overnight period (between 10 PM and 5 AM when residential parking demand typically peaks), the weekday midday period (between 11 AM and 3 PM when parking in a business area is frequently at peak occupancy), and the Saturday midday 11 AM to 3 PM peak period to document the existing supply and demand for each period. The parking analyses document the parking supply and utilization within a quarter-mile radius (an acceptable walking distance) of the rezoning area, both with and without the Proposed Actions. Given the large size of the parking study area, localized parking conditions during the weekday midday, overnight, and Saturday midday periods are also assessed for a sub-area encompassing a ¼-mile radius around the three largest project development sites (sites 30, 32, and 33).

Parking demand generated by the residential component of the Proposed Actions is forecasted based on 2010-2014 five-year ACS data on average vehicles per household. Parking demand generated from all other uses is derived from the forecasts of daily auto trips from these uses. The forecast of new parking supply with the Proposed Actions is based on the net change in parking spaces on projected development sites.

13.6 Transportation Analyses Methodologies

TRAFFIC

Analysis Methodology

The traffic analysis examines conditions in the weekday AM, midday, PM, and Saturday midday peak hours when the increased travel demand attributable to the Proposed Actions is expected to be the greatest. The weekday peak hours selected for analysis are 7:30-8:30 AM, 1-2 PM, and 5-6 PM, and the Saturday peak hour is 3:45-4:45 PM. These peak hours were selected based on existing traffic volumes in the study area reflected in the ATR and count data.

The capacity analyses at intersections are based on the methodology presented in the *2000 Highway Capacity Manual* (HCM) and software HCS+ Version 5.5. Traffic data required for these analyses include hourly volumes at each approach, turning movements, percentages of trucks and buses, and pedestrian

volumes at crosswalks. Field inventories are also necessary to document the physical layout and street widths, lane markings, curbside parking regulations, and other relevant characteristics needed for the analysis.

The HCM methodology produces a volume-to-capacity (v/c) ratio, delay, and level-of-service (LOS) for each signalized intersection approach and lane group. The v/c ratio represents the ratio of traffic volume on an approach to the approach's carrying capacity. A v/c ratio of less than 0.90 is generally considered indicative of non−congested conditions in dense urban areas; when higher than this value, the ratio reflects increasing congestion. At a v/c ratio between 0.95 and 1.0, near-capacity conditions are reached and delays can become substantial. Ratios of greater than 1.0 indicate saturated conditions with queuing. The LOS is based on the amount of delay that a driver typically experiences at an intersection. Levels of service range from A, representing minimal delay (ten seconds or less per vehicle), to F, which represents long delays (greater than 80 seconds per vehicle).

For unsignalized intersections, the HCM methodology generally assumes that traffic on major streets is not affected by traffic flows on minor streets. Left turns from a major street are assumed to be affected by the opposing, or oncoming, traffic flow on that major street. Traffic on minor streets is affected by all conflicting movements. Similar to signalized intersections, the HCM methodology expresses the quality of traffic flow at unsignalized intersections in terms of LOS based on the amount of delay that a driver experiences. Level of service definitions used to characterize traffic flows at unsignalized intersections differ somewhat from those used for signalized intersections, primarily because drivers anticipate different levels of performance from the two different kinds of intersections. For unsignalized intersections, LOS ranges from A, representing minimal delay (10 seconds or less per vehicle), to F, which represents long delays (greater than 50 seconds per vehicle).

Table 13-14, "Intersection Level of Service Criteria," lists the LOS/delay relationship for signalized and unsignalized intersections using the HCM methodology. Levels of service A, B, and C generally represent highly favorable to fair levels of traffic flow. At LOS D, the influence of congestion becomes noticeable. LOS E is considered to be the limit of acceptable delay, and LOS F is considered to be unacceptable to most drivers. In these traffic impact analyses, a signalized lane grouping operating at LOS E or F or a v/c ratio of 0.90 or more is identified as congested. For unsignalized intersections, a movement with LOS E or F is also identified as congested.

Table 13-14: Intersection Level of Service Criteria

LOS	Description	Average Delay per Vehicle (seconds)	
		Signalized Intersections	Unsignalized Intersections
A	Satisfactory – Little/No Delay	Less than 10.1	Less than 10.1
B	Satisfactory – Minor Delay	10.1 to 20.0	10.1 to 15.0
C	Satisfactory – With Some Delay	20.1 to 35.0	15.1 to 25.0
D	Borderline Congestion	35.1 to 55.0	25.1 to 35.0
E	Marginally Acceptable Congestion	55.1 to 80.0	35.1 to 50.0
F	Unsatisfactory – Highly Congested	Greater than 80.0	Greater than 50.0

Source: 2000 *Highway Capacity Manual*

Significant Impact Criteria

The identification of significant adverse traffic impacts at analyzed intersections is based on criteria presented in the *CEQR Technical Manual*. If a lane group in the With-Action condition would be LOS A, B, or C, or marginally acceptable LOS D (i.e., delay less than or equal to 45.0 seconds/vehicle for signalized intersections and 30.0 seconds/vehicle for unsignalized intersections), the impact is not considered significant. If the lane group LOS deteriorates from LOS A, B, or C in the No-Action condition to worse than mid-LOS D or to LOS E or F in the With-Action condition, a significant traffic impact is identified. For a lane group that would operate at LOS D in the No-Action condition, an increase in delay of 5.0 or more seconds in the With-Action condition is considered a significant impact if the With-Action delay would exceed mid-LOS D. For a lane group that would operate at LOS E in the No-Action condition, a projected With-Action increase in delay of 4.0 or more seconds is considered a significant impact. For a lane group that would operate at LOS F in the No-Action condition, a projected With-Action increase in delay of 3.0 or more seconds is considered a significant impact.

The same criteria apply to signalized and unsignalized intersections. However, for traffic on a minor street at an unsignalized intersection to result in a significant impact, 90 passenger car equivalents (PCEs) must be projected in the future With-Action condition in any peak hour.

TRANSIT

Analysis Methodology

Subway Stations

Subway ridership data were collected at analysis subway stations in May 2016 to determine existing conditions at analyzed subway station elements. The methodology for assessing subway station pedestrian circulation elements (stairs, escalators, passageways) and fare control elements (turnstiles)

compares existing and projected pedestrian volumes with the element's design capacity to yield a volume-to-capacity (v/c) ratio. All analyses examine pedestrian flow volumes during a peak 15-minute interval within the peak hours. The peak hours selected for subway station analysis conditions are 7:30 to 8:30 AM and 5:15 to 6:15 PM based on existing pedestrian volumes at area subway station. (As noted previously, transit analyses typically focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway and bus system is usually highest.)

The capacity of a stairway or passageway is determined based on four factors: the NYCT guideline capacity, the effective width, and surging and counter-flow factors, if applicable, as per *CEQR Technical Manual* guidelines. NYCT guideline capacity is ten passengers per minute per foot width (pmf) for stairs and 15 pmf for passageways. The effective width of a stair or passageway is the actual width adjusted to reflect pedestrian avoidance of sidewalls and center handrails, if present. A surging factor is applied to existing pedestrian volumes to reflect conditions where pedestrian flows tend to be concentrated (or surged) during shorter periods within the 15-minute analysis interval. This factor, which is based on the size of the station and the proximity of the pedestrian element to the station platforms, can reduce the calculated capacity by up to 25 percent. Lastly, a friction (or counter-flow) factor reducing calculated capacity by 10 percent is applied where opposing pedestrian flows use the same stair or passageway. No friction factor is applied if the flow is all in one direction.

The capacity of an escalator or turnstile is determined based on only two factors: the NYCT guideline capacity for a 15-minute interval and a surging factor of up to 25 percent as per *CEQR Technical Manual* guidelines. Table 13-15, "Level of Service Criteria for Subway Station Stairs and Passageways," presents the CEQR Technical Manual level of service criteria for all subway station elements. Six levels of service are defined in Table 13-15 with letters A through F. LOS A is representative of free flow conditions without pedestrian conflicts and LOS F depicts severe congestion and queuing.

Table 13-15: Level of Service Criteria for Subway Station Stairs and Passageways

LOS	Description	V/C Ratio
A	Free Flow	0.00 to 0.45
B	Free Flow	0.45 to 0.70
C	Fluid, somewhat restricted	0.70 to 1.00
D	Crowded, walking speed restricted	1.00 to 1.33
E	Congested, some shuffling and queuing	1.33 o 1.67
F	Severely congested, queued	> 1.67

Source: *CEQR Technical Manual*

Subway Line Haul

Line haul capacity is based on the guideline capacity per subway car multiplied by the number of subway cars crossing the maximum load point in the peak hour. (Maximum guideline capacities established by NYCT for each car class are 110 passengers/car for a 51-foot subway car, 145 passengers/car for a 60-foot car, and 175 passengers/car for a 75-foot car.) The volume-to-capacity (v/c) ratio is determined by

dividing the number of peak hour passengers traveling through the maximum load point by the line haul capacity. Maximum load point subway service and ridership data were provided by NYCT. The subway line haul analysis focuses on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the subway system is usually highest.

Bus

The operating conditions for bus service are measured in terms of the number of passengers carried per bus at the maximum load point for each route. This is determined by dividing the peak hour passenger count by the number of buses during that hour. The bus load levels are compared with the NYCT loading guidelines of 54 passengers for a 40-foot standard bus and 85 passengers for a 60-foot articulated bus. The bus analyses focus on the weekday AM and PM commuter peak hours as it is during these periods that overall demand on the bus system is usually highest. Based on existing ridership patterns, the peak hour for bus demand is 7:30-8:30 AM and 4-5 PM.

Significant Impact Criteria

Subway Stations

The *CEQR Technical Manual* identifies a significant impact for stairways and passageways in terms of the minimum width increment threshold (WIT) based on the minimum amount of additional capacity that would be required to restore conditions to either their No-Action v/c ratio or to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Stairways that are substantially degraded in level of service or which experience the formation of extensive queues are classified as significantly impacted. Significant adverse stairway or passageway impacts are typically considered to have occurred once the thresholds listed in Table 13-16, "Significant Impact Thresholds for Stairways and Passageways," are reached or exceeded.

For turnstiles, escalators, and high-wheel exit gates, the *CEQR Technical Manual* defines a significant impact as an increase from a No-Action v/c ratio of below 1.00 to a v/c ratio of 1.00 or greater. Where a facility is already at a v/c ratio of 1.00 or greater, a 0.01 change in v/c ratio is also considered significant.

Table 13-16: Significant Impact Thresholds for Stairways and Passageways

With-Action V/C Ratio	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00-1.09	8	13
1.10-1.19	7	11.5
1.20-1.29	6	10
1.30-1.39	5	8.5
1.40-1.49	4	6
1.50-1.59	3	4.5
≥ 1.60	2	3

Source: *CEQR Technical Manual*

Subway Line Haul

For subway line haul conditions, *CEQR Technical Manual* criteria specify that any increases in load levels that remain within practical capacity limits are generally not considered significant. However, significant adverse subway line haul impacts can occur if a proposed action is expected generate an incremental increase averaging five or more riders per subway car on lines projected to carry loads exceeding guideline capacity. This is based on the general assumption that when subways are at or above practical capacity, the addition of even five or more riders per car is perceptible.

Bus

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

PEDESTRIANS

Analysis Methodology

Data on peak period pedestrian flow volumes were collected along analyzed sidewalks, corner areas, and crosswalks in the vicinity of the rezoning area in May and June 2016. Peak hours were determined by comparing rolling hourly averages, and the highest 15-minute volumes within the selected peak hours were used for analysis. Based on existing peak pedestrian volumes along major corridors in the study area, the peak hours selected for analysis include the weekday 7:30-8:30 AM, 1-2 PM, and 5:15-6:15 PM periods and the Saturday 1:15-2:15 PM hour.

Peak 15-minute pedestrian flow conditions during the weekday AM, midday, PM, and Saturday midday peak hours are analyzed using the *2000 Highway Capacity Manual* methodology and procedures outlined in the *CEQR Technical Manual*. The congestion level of pedestrian facilities is determined by considering pedestrian volume, measuring the sidewalk or crosswalk width, determining the available pedestrian capacity and developing a ratio of volume flows to capacity conditions. The resulting ratio is then compared with LOS standards for pedestrian flow, which define a qualitative relationship at a certain pedestrian volume concentration level. The evaluation of street crosswalks and corners is more complicated as these spaces cannot be treated as corridors due to the time incurred waiting for traffic lights. A "time-space" analysis methodology is employed to effectively evaluate these facilities, which takes into consideration the traffic light cycle at intersections.

LOS standards are based on the average area available per pedestrian during the analysis period, typically expressed as a 15-minute peak period. LOS 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 13-17, "Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions," defines the LOS criteria for pedestrian crosswalk/corner area and sidewalk conditions, as based on the *Highway Capacity Manual* methodology.

Table 13-17: Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

LOS	Crosswalk/Corner Condition	Crosswalk/Corner Area Criteria (sf/ped)	Non-Platoon Sidewalk Criteria (sf/ped)	Platoon Sidewalk Criteria (sf/ped)
A	Unrestricted	> 60	> 60	> 530
B	Slightly Restricted	> 40 to 60	> 40 to 60	> 90 to 530
C	Restricted but fluid	> 24 to 40	> 24 to 40	> 40 to 90
D	Restricted, necessary to continuously alter walking stride and direction	> 15 to 24	> 15 to 24	> 23 to 40
E	Severely restricted	> 8 to 15	> 8 to 15	> 11 to 23
F	Forward progress only by shuffling, no reverse movement possible	≤ 8	≤ 8	≤ 11
Notes: Based on average conditions for 15 minutes sf/ped = square feet of area per pedestrian				

Source: *CEQR Technical Manual*

The analysis of sidewalk conditions includes a "platoon" factor in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. "Platooning" is the tendency of pedestrians to move in bunched groups or "platoons" once they cross a street where cross traffic required them to wait. Platooning generally results in a level of service one level poorer than that determined for average flow rates.

Significant Impact Criteria

Sidewalks

The *CEQR Technical Manual* impact criteria for a non-CBD location are used to identify significant adverse impacts due to the proposed rezoning. These criteria define a significant adverse sidewalk impact to have occurred under platoon conditions if the average pedestrian space in the No-Action condition is greater than 44.3 square feet per pedestrian (sf/ped), and the average pedestrian space in the With-Action condition is 40.0 sf/ped or less (LOS D or worse). If the average pedestrian space in the With-Action condition is greater than 40.0 sf/ped (LOS C or better), the impact should not be considered significant. If the No-Action pedestrian space is between 6.4 and 44.3 sf/ped, a reduction in pedestrian space in the With-Action condition should be considered significant based on Table 13-18, "Significant Impact Criteria for Sidewalks with Platooned Flow in a Non-CBD Location," which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given pedestrian space value in

the No-Action condition. If the reduction in pedestrian space is less than the value in Table 13-18, the impact is not considered significant. If the average pedestrian space in the No-Action condition is less than 6.4 sf/ped, then a reduction in pedestrian space greater than or equal to 0.3 sf/ped in the With-Action condition, should be considered significant.

Table 13-18: Significant Impact Criteria for Sidewalks with Platooned Flow in a Non-CBD Location

No-Action Condition Pedestrian Flow (sf/ped)	With-Action Condition Pedestrian Flow Increment to be Considered a Significant Impact (sf/ped)
Free Flow	With-Action Condition ≤ 40.0
43.5 to 44.3	Reduction ≥ 4.3
42.5 to 43.4	Reduction ≥ 4.2
41.6 to 42.4	Reduction ≥ 4.1
40.6 to 41.5	Reduction ≥ 4.0
39.7 to 40.5	Reduction ≥ 3.9
38.7 to 39.6	Reduction ≥ 3.8
37.8 to 38.6	Reduction ≥ 3.7
36.8 to 37.7	Reduction ≥ 3.6
35.9 to 36.7	Reduction ≥ 3.5
34.9 to 35.8	Reduction ≥ 3.4
34.0 to 34.8	Reduction ≥ 3.3
33.0 to 33.9	Reduction ≥ 3.2
32.1 to 32.9	Reduction ≥ 3.1
31.1 to 32.0	Reduction ≥ 3.0
30.2 to 31.0	Reduction ≥ 2.9
29.2 to 30.1	Reduction ≥ 2.8
28.3 to 29.1	Reduction ≥ 2.7

Table 13-18 (continued): Significant Impact Criteria for Sidewalks with Platooned Flow in a Non-CBD Location

No-Action Condition Pedestrian Flow (sf/ped)	With-Action Condition Pedestrian Flow Increment to be Considered a Significant Impact (sf/ped)
Free Flow	With-Action Condition ≤ 40.0
27.3 to 28.2	Reduction ≥ 2.6
26.4 to 27.2	Reduction ≥ 2.5
25.4 to 26.3	Reduction ≥ 2.4
24.5 to 25.3	Reduction ≥ 2.3
23.5 to 24.4	Reduction ≥ 2.2
22.6 to 23.4	Reduction ≥ 2.1
21.6 to 22.5	Reduction ≥ 2.0
20.7 to 21.5	Reduction ≥ 1.9
19.7 to 20.6	Reduction ≥ 1.8
18.8 to 19.6	Reduction ≥ 1.7
17.8 to 18.7	Reduction ≥ 1.6
16.9 to 17.7	Reduction ≥ 1.5
15.9 to 16.8	Reduction ≥ 1.4
15.0 to 15.8	Reduction ≥ 1.3
14.0 to 14.9	Reduction ≥ 1.2
13.1 to 13.9	Reduction ≥ 1.1
12.1 to 13.0	Reduction ≥ 1.0
11.2 to 12.0	Reduction ≥ 0.9
10.2 to 11.1	Reduction ≥ 0.8
9.3 to 10.1	Reduction ≥ 0.7
8.3 to 9.2	Reduction ≥ 0.6
7.4 to 8.2	Reduction ≥ 0.5
6.4 to 7.3	Reduction ≥ 0.9
< 6.4	Reduction ≥ 0.3

Source: *CEQR Technical Manual*.

Corner Areas and Crosswalks

The *CEQR Technical Manual* significant impact criteria for corners and crosswalks in non-CBD locations is used to determine whether significant adverse impacts are projected to occur due to the rezoning. Generally, if average square feet per pedestrian deteriorates to a value within the acceptable LOS range (C or better) in the With-Action condition, there is no significant impact. If the pedestrian space deteriorates to LOS D or worse, a sliding scale is used to determine whether the impact is considered significant. Table 13-19, "Significant Impact Criteria for Corners and Crosswalks in a Non-CBD Location," details the significant impact criteria for corners and crosswalks in non-CBD locations.

Table 13-19: Significant Impact Criteria for Corners and Crosswalks in a Non-CBD Location

No-Action Condition Pedestrian (Ped) Space (sf/ped)	With-Action Condition Ped Space Reduction to be Considered Significant Impact (sf/ped)
>26.6	With-Action Condition ≤ 24.0
25.8 to 26.6	Reduction ≥ 2.6
24.9 to 25.7	Reduction ≥ 2.5
24.0 to 24.8	Reduction ≥ 2.4
23.1 to 23.9	Reduction ≥ 2.3
22.2 to 23.0	Reduction ≥ 2.2
21.3 to 22.1	Reduction ≥ 2.1
20.4 to 21.2	Reduction ≥ 2.0
19.5 to 20.3	Reduction ≥ 1.9
18.6 to 19.4	Reduction ≥ 1.8
17.7 to 18.5	Reduction ≥ 1.7
16.8 to 17.6	Reduction ≥ 1.6
15.9 to 16.7	Reduction ≥ 1.5
15.0 to 15.8	Reduction ≥ 1.4
14.1 to 14.9	Reduction ≥ 1.3
13.2 to 14.0	Reduction ≥ 1.2
12.3 to 13.1	Reduction ≥ 1.1
11.4 to 12.2	Reduction ≥ 1.0
10.5 to 11.3	Reduction ≥ 0.9
9.6 to 10.4	Reduction ≥ 0.8
8.7 to 9.5	Reduction ≥ 0.7
7.8 to 8.6	Reduction ≥ 0.6
6.9 to 7.7	Reduction ≥ 0.5
6.0 to 6.8	Reduction ≥ 0.4
5.1 to 5.9	Reduction ≥ 0.3
< 5.1	Reduction ≥ 0.2

Source: *CEQR Technical Manual*

Vehicular and Pedestrian Safety Evaluation

An evaluation of vehicular and pedestrian safety is needed for locations within the traffic and pedestrian study areas that have been identified as high crash locations as per *CEQR Technical Manual* guidelines. These are defined as locations with 48 or more total reportable and non-reportable crashes or where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive twelve months of the most recent three-year period for which data are available. For these locations, crash trends would be identified to determine whether project vehicular and pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic and pedestrian volumes, crash types, and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety would be identified and coordinate with DOT.

PARKING

Analysis Methodology

The parking analysis identifies the supply of on-street and off-street public parking near a proposed project and determines the extent to which the supply is utilized in existing conditions and in the future without and with a proposed action. The analysis considers anticipated changes in the study area's parking supply and demand, and compares project-generated parking demand with future parking availability to determine if a parking shortfall is likely to result. The displacement of existing parking capacity attributable to the proposed action or project is also considered. Typically, the analysis encompasses the parking facilities – public parking lots and garages and on-street curb spaces – that vehicular traffic destined to the project site or area would likely utilize. According to the *CEQR Technical Manual*, a ¼-mile radius around a project site is generally assumed as the distance that someone driving to the site would be willing to walk. The parking analyses will document changes in the parking supply and utilization within a quarter-mile radius (an acceptable walking distance) of the rezoning area, both with and without the Proposed Actions. Given the large size of the parking study area, localized parking conditions during the weekday midday, overnight, and Saturday midday periods are also assessed for a sub-area encompassing a ¼-mile radius around the three largest project development sites (sites 30, 32, and 33).

Parking demand generated by the residential component of the Proposed Actions would be forecasted based on 2010-2014 five-year ACS data on average vehicles per household. Parking demand generated from all other uses will be derived from the forecasts of daily auto trips from these uses. The forecast of new parking supply with the Proposed Actions will be based on the net change in parking spaces on projected development sites.

Significant Impact Criteria

Should a proposed action generate the need for more parking than it provides, a shortfall of spaces may be considered significant. The availability of off-street and on-street parking spaces within a convenient walking distance (about ¼-mile) as well as the availability of alternative modes of transportation are considered in making this determination.

Different criteria for determining significance are applied based on whether or not a proposed project is located in residential or commercial areas designated as parking Zones 1 and 2 as shown on the Map 16-2 (CEQR Parking Zones) in the *CEQR Technical Manual*. As the rezoning area is not located within these two zones, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within ¼-mile of the site can be considered significant. Additional factors that can be considered when determining whether such a shortfall is significant include: the availability and extent of transit in the area; the proximity of the project to such transit; any features of the project that are considered trip reduction or travel demand management (TDM) measures; travel modes of customers of area commercial

businesses; and patterns of automobile usage by area residents. The sufficiency of parking with ½-mile (rather than ¼-mile) of the project site to accommodate the projected shortfall may also be considered.

13.7 Traffic

EXISTING CONDITIONS

Study Area Street Network

As previously shown on Figure 13-1, the rezoning area is an irregular grid system. Some of the primary streets providing access to the rezoning area include Jerome Avenue, Tremont Avenue, Burnside Avenue, Grand Concourse, East 167th Street, and Fordham Road. Regional Access is provided by I-95 (Cross-Bronx Expressway) and I-87 (Major Deegan Expressway).

The primary arterial within the rezoning area is Jerome Avenue, which runs north-south within the Bronx from Van Cortlandt Park to the north to the Macombs Dam Bridge at the south end. The rezoning area is generally bounded by 184th Street to the north and East 165th Street to the south, and includes portions of East 183rd Street, Burnside Avenue, Tremont Avenue, Mount Eden Avenue, East 170th Street, and Edward L. Grant Highway. I-95 (Cross-Bronx Expressway) bisects the area, with exit and entrance ramps at Jerome Avenue adjacent to Featherbed Lane and Mount Eden Avenue. I-87 (Major Deegan Expressway) runs parallel to the site and is approximately half a mile to the west.

Primary East-West Corridors

Fordham Road is a principal arterial road that connects Manhattan and the Bronx via the University Heights Bridge and runs east-west through the Bronx until it reaches the Bronx River Parkway, where it transitions to Pelham Parkway. In the vicinity of Jerome Avenue, Fordham Road has two travel lanes and one bus lane per direction. There is no curbside parking while the bus-only lane restrictions are in effect. Fordham Road is a DOT-designated local truck route.

Burnside Avenue is a minor arterial that runs east-west from University Avenue to the west to Valentine Avenue east of Grand Concourse. In the project vicinity, Burnside Avenue is a DOT-designated local truck route, has one travel lane in each direction, with curbside parking on both sides of the street.

Tremont Avenue is a principal arterial that runs east-west, originating at Sedgwick Avenue to the west and spans the borough to the Throgs Neck section in the southeast corner of the Bronx. In the project vicinity, Tremont Avenue has one travel lane in each direction and curbside parking on both sides.

The Cross-Bronx Expressway (I-95) spans the Bronx, originating at I-295 (Throgs Neck) to the east and continuing west across the George Washington Bridge to the New Jersey Turnpike. The expressway has three travel lanes in each direction, provides connections to the Bruckner Expressway (I-278), Hutchinson River Parkway, (I-678), New England Thruway, Sheridan Expressway (I-895), Major Deegan Expressway (I-87), Harlem River Drive, and Henry Hudson Parkway. There are two exits – Exit 2, Jerome Avenue, and Exit 3, Webster Avenue, in the vicinity of the rezoning area. The Cross-Bronx Expressway is a DOT-designated through truck route (i.e., a through route for trucks who do not have a trip origin or destination within the Bronx).

170th Street is a minor arterial within the rezoning area. The arterial runs east-west with one travel lane in each direction and curbside parking on both sides. No left turns are permitted from or to 170th Street at Jerome Avenue. In the vicinity of Grand Concourse, the 170th Street configuration changes to a bi-level street where the upper-level street provides local access to businesses and residential properties with angled street parking provided within the center of street. The lower-level street runs from Wythe Place to Morris Avenue allowing through traffic and commercial vehicles to bypass this area without stopping.

East 167th Street is a major collector that runs east-west through the Bronx, starting at Edward L. Grant Highway to the west, and provides connections to Grand Concourse, Webster and Third avenues, and Edward A. Stevenson Boulevard to the east. In the project vicinity, there is one travel lane in each direction, bike lanes, and curbside parking on both sides of the road. The segment of East 167th Street between River Avenue and Edward L. Grant Highway is a DOT-designated local truck route.

Primary North-South Corridors

Jerome Avenue is a north-south arterial through the Bronx within the rezoning area. The elevated NYCT 4 subway line runs above Jerome Avenue from East 168th Street to the north end of the study corridor at East 184th Street. Within the project limits, Jerome Avenue has one travel lane in each direction in the center of the roadway between the subway support columns. Along most of the corridor's length, an auxiliary travel lane is provided in each direction between the subway support columns and curbside parking. At some locations, such as at the Burnside Avenue station, the curbside parking and travel lanes are closed for pedestrian safety purposes. Jerome Avenue is a designated DOT local truck route.

Grand Concourse is a major arterial that runs north-south through the Bronx and generally provides two mainline travel lanes, one service road lane, and one bike lane within the service roadways in each direction. The mainline roadway is separated from the service roadway by a raised median and curbside parking is provided along the service road.

Bounding the study area to the west is Dr. Martin Luther King Jr. Boulevard, which is also signed as University Avenue in the vicinity of the Bronx Community College and Edward L. Grant Highway below West 174th Street. The boulevard is a principal arterial roadway that has two moving lanes and a curbside lane in each direction and runs approximately parallel to Jerome Avenue for its length. South of Tremont

Avenue, a raised median divides the travel directions. University Avenue is a DOT-designated local truck route and provides a combination of bike lanes and shared bike lanes.

The Major Deegan Expressway (I-87) is an interstate highway that parallels the Harlem River on the west side of the Bronx. The expressway is a DOT-designated through truck route and connects the Bruckner Expressway in the southeastern portion of the Bronx to Westchester and destinations north and west. The expressway has five access points within the vicinity of the rezoning area: (1) Exit 5 - East 161st Street; (2) Exit 6 - East 153rd Street; (3) Exit 7 - I-95 to the Cross Bronx Expressway and George Washington Bridge; (4) Exit 8 - West 179th Street; and (5) Exit 9 - West Fordham Road.

Other Transportation Infrastructure

The rezoning area parallels the Harlem River and the following three local bridges (from north to south) provide connections between the rezoning area and Manhattan.

- The University Heights Bridge is a principal arterial located in the northwestern portion of the rezoning area. The bridge carries two east and westbound lanes of traffic and a sidewalk on the south side of the bridge. The bridge provides access to the University Heights train station on the Hudson Line of Metro-North Railroad and serves the Bx12 Select Bus Service along Fordham Road in the Bronx.

- The Washington Bridge is a minor arterial located just north of the Alexander Hamilton Bridge and Cross Bronx Expressway. The Washington Bridge carries three east and westbound travel lanes and sidewalks on both sides. The bridge serves as a local truck route and NYCT bus routes Bx3, Bx11, Bx13, Bx35, and Bx36.

- The Macombs Dam Bridge is a principal arterial, located at the southwestern portion of the rezoning area and just west of Yankee Stadium. The bridge carries two east and westbound travel lanes and sidewalks on both sides. The bridge is a local truck route and serves NYCT's Bx6 bus route.

Metro-North Railroad's (MNR) Hudson and Harlem/New Haven lines operate approximately ½-mile east and west of the rezoning area, respectively. Hudson line stations near the rezoning area include Morris Heights and University Heights. Harlem line station near the rezoning area include Tremont and Fordham.

Bus Routes

MTA-NYCT local bus routes operate along portions of the following study area corridors:

- Jerome Avenue (Bx32)

- Grand Concourse (Bx1 and Bx2)

- Edward L. Grant Highway (Bx35)

- University Avenue (Bx3)
- Macombs Road (Bx18)
- Tremont Avenue (Bx36)
- 170th Street (Bx11)
- Burnside Avenue (Bx40 and Bx42)

The bus routes are described in more detail below in Section 13.8, "Transit."

Truck Routes

The City has established local and through truck routes to manage the flow of trucks and improve the quality of neighborhoods. The City defines a truck as "a vehicle which is designed for transportation of property, which has either of the following characteristics: two axles and six tires or three or more axles." Through trucks are defined as having neither an origin nor a destination within the Bronx Borough. In proximity to the rezoning area, through truck routes are not designated within area. The Cross Bronx Expressway and Major Deegan Expressway are through truck routes in the vicinity of the rezoning area.

Local truck routes are designated routes for trucks that are intended for the purpose of delivery, loading, or providing service within the Bronx. Generally, trucks must travel on local truck routes to reach the intersection nearest their destinations. Designated local truck routes in the study area include:

- Jerome Avenue (between Kingsbridge Road and Macombs Dam Bridge)
- University Avenue (between Edward L. Grant Highway and Fordham Road)
- Edward L. Grant Highway (between University Avenue and Jerome Avenue)
- Fordham Road (between University Heights Bridge and Pelham Parkway)
- Burnside Avenue (between University Avenue and Valentine Avenue)
- 167th Street (between Edward L. Grant Highway and River Avenue)
- River Avenue (between Jerome Avenue and 149th Street)

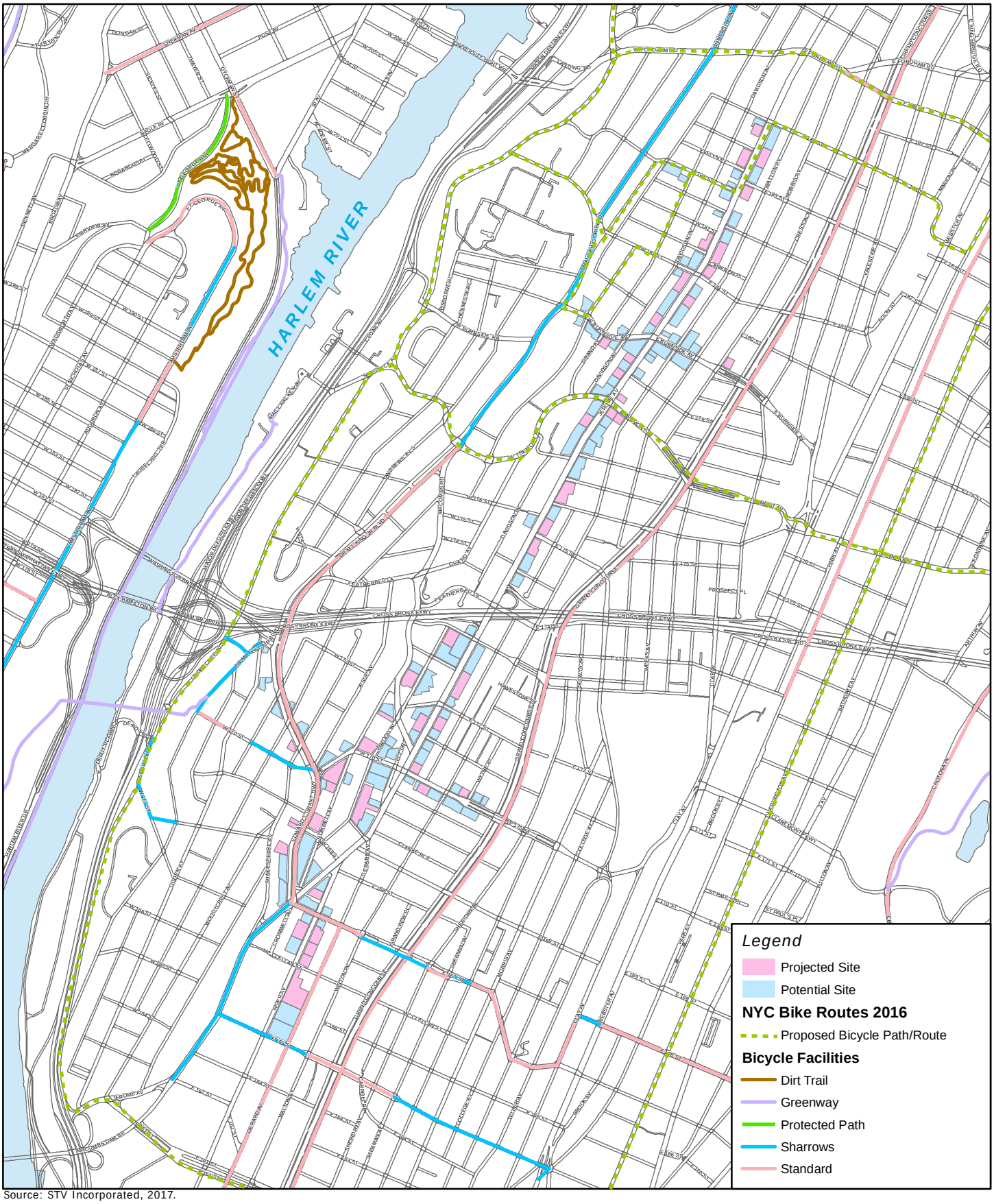
Bicycle Lanes

As shown on Figure 13−6, "Study Area Bicycle Routes," within the study area, bike routes are located along the following roadways:

- Jerome Avenue (shared bike lanes south of Edward L. Grant Highway to Yankee Stadium and then signed bike route to Macombs Dam Bridge)

- Grand Concourse (bike lanes through the rezoning area)
- Edward L. Grant Highway (bike lanes through the rezoning area)
- University Avenue (bike lanes and shared bike lanes through the rezoning area)
- Macombs Road (signed bike route through the rezoning area)
- 170th Street (shared bike lanes west of Edward L. Grant Highway)
- 167th Street (combination of bike lanes and shared bike lanes through rezoning area)
- Gerard Avenue south of 167th Street (bike lanes)
- Walton Avenue south of 167th Street (bike lanes)

Potential future bicycle paths are identified along Tremont Avenue, West 183rd Street, West 184th Street, and Fordham Road.



Source: STV Incorporated, 2017.

N

0 0.3 0.6 Miles

Figure 13-6

STUDY AREA BICYCLE ROUTES

Traffic Conditions

To establish the Existing Conditions traffic network, an extensive traffic data collection program -- including automatic traffic recorder (ATR) counts, turning movement counts, vehicle classification counts, and travel time and delay surveys — was undertaken in May and June 2016. Physical inventory data needed for operational analysis — e.g., the number of traffic lanes, lane widths, pavement markings, turn prohibitions, bus stops, and typical parking regulations — were collected in May 2016. Signal timing plans for signalized intersections within the study area were obtained from DOT. Figure 13−7, "Existing Weekday AM Peak Hour Traffic Volumes," through Figure 13−10, "Existing Saturday Midday Peak Hour Traffic Volumes," show existing traffic volumes during weekday AM, midday, and PM and Saturday midday peak hours.



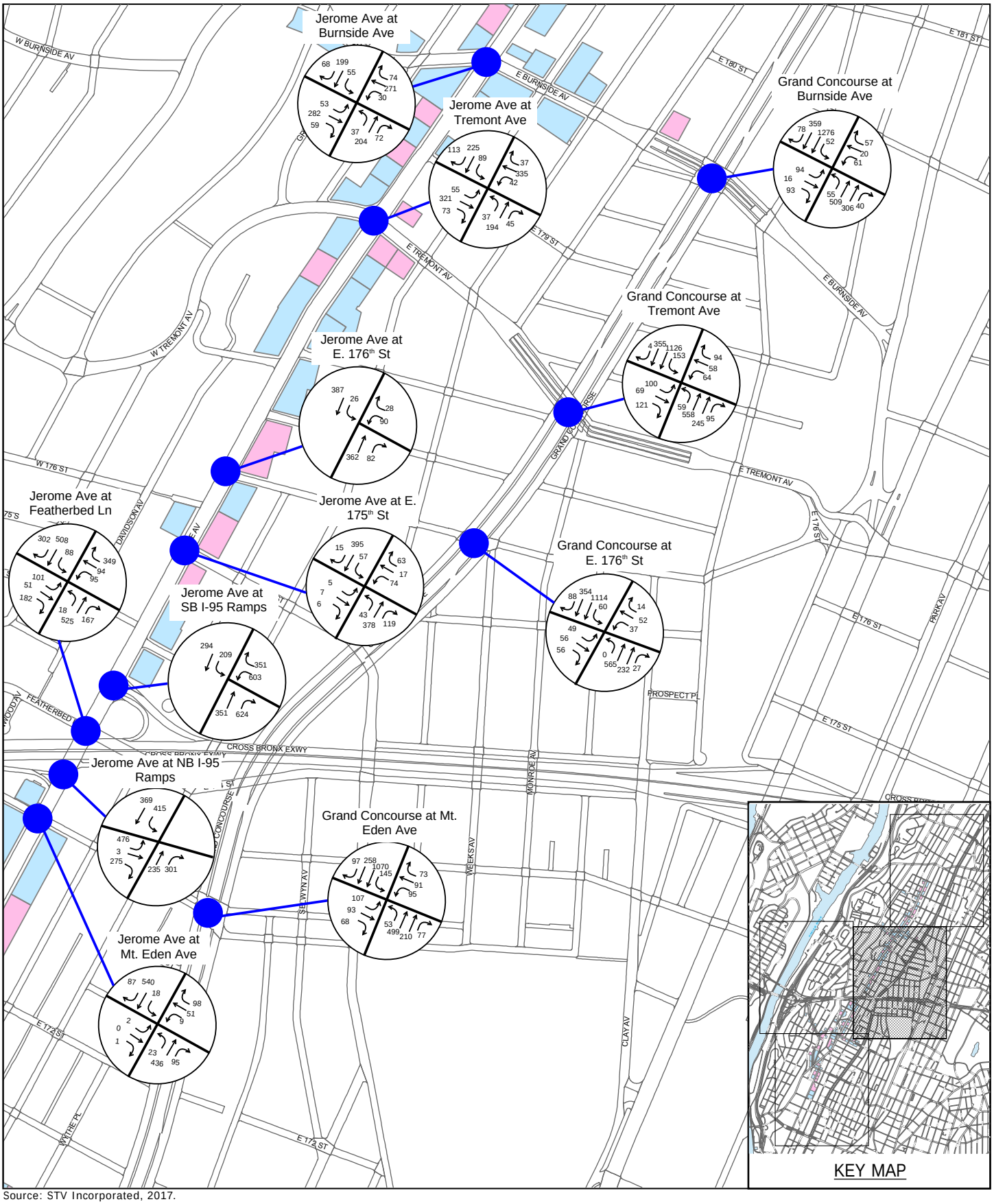
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-7A

EXISTING WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



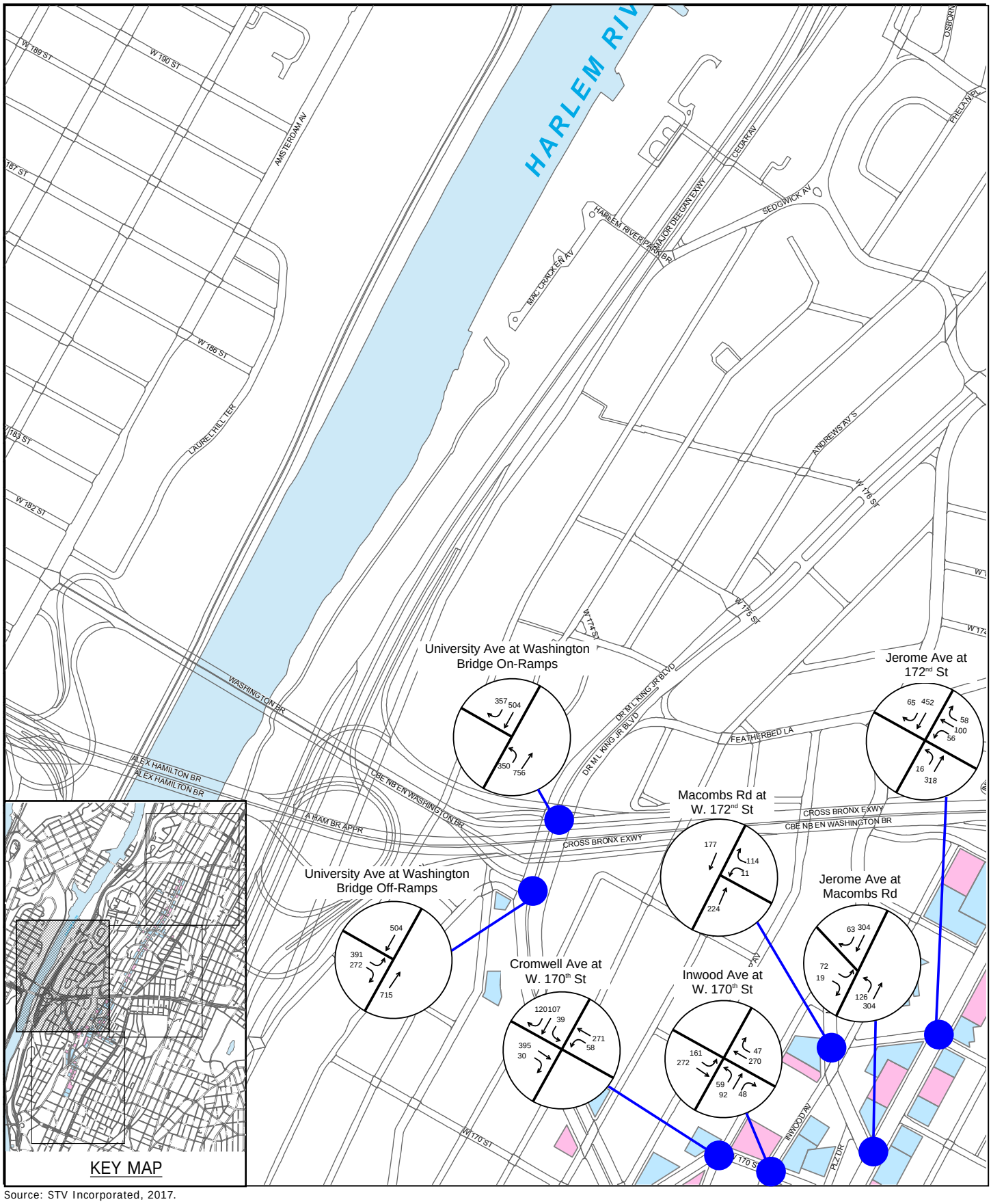
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-7B

EXISTING WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



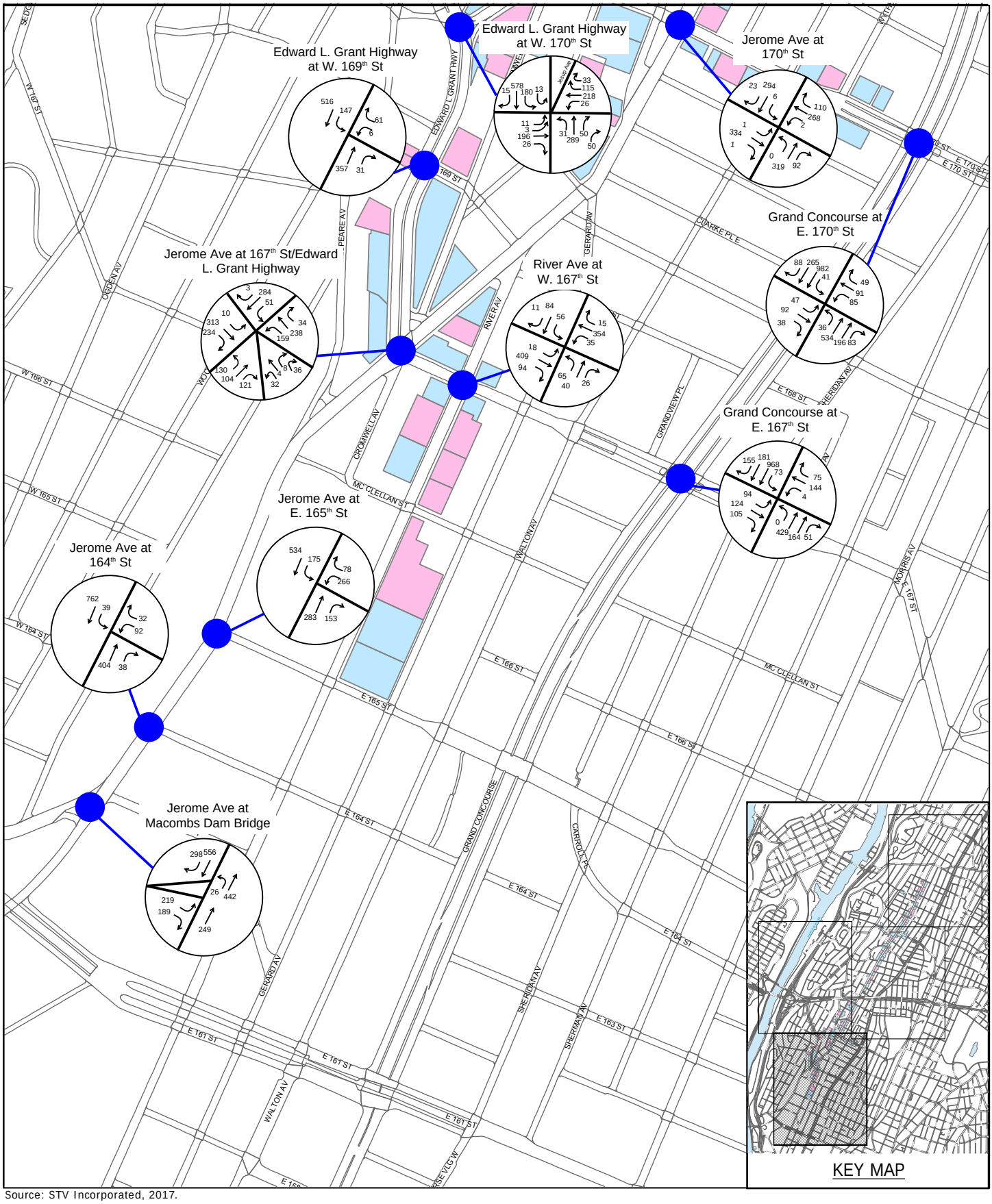
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-7C

EXISTING WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-7D

EXISTING WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



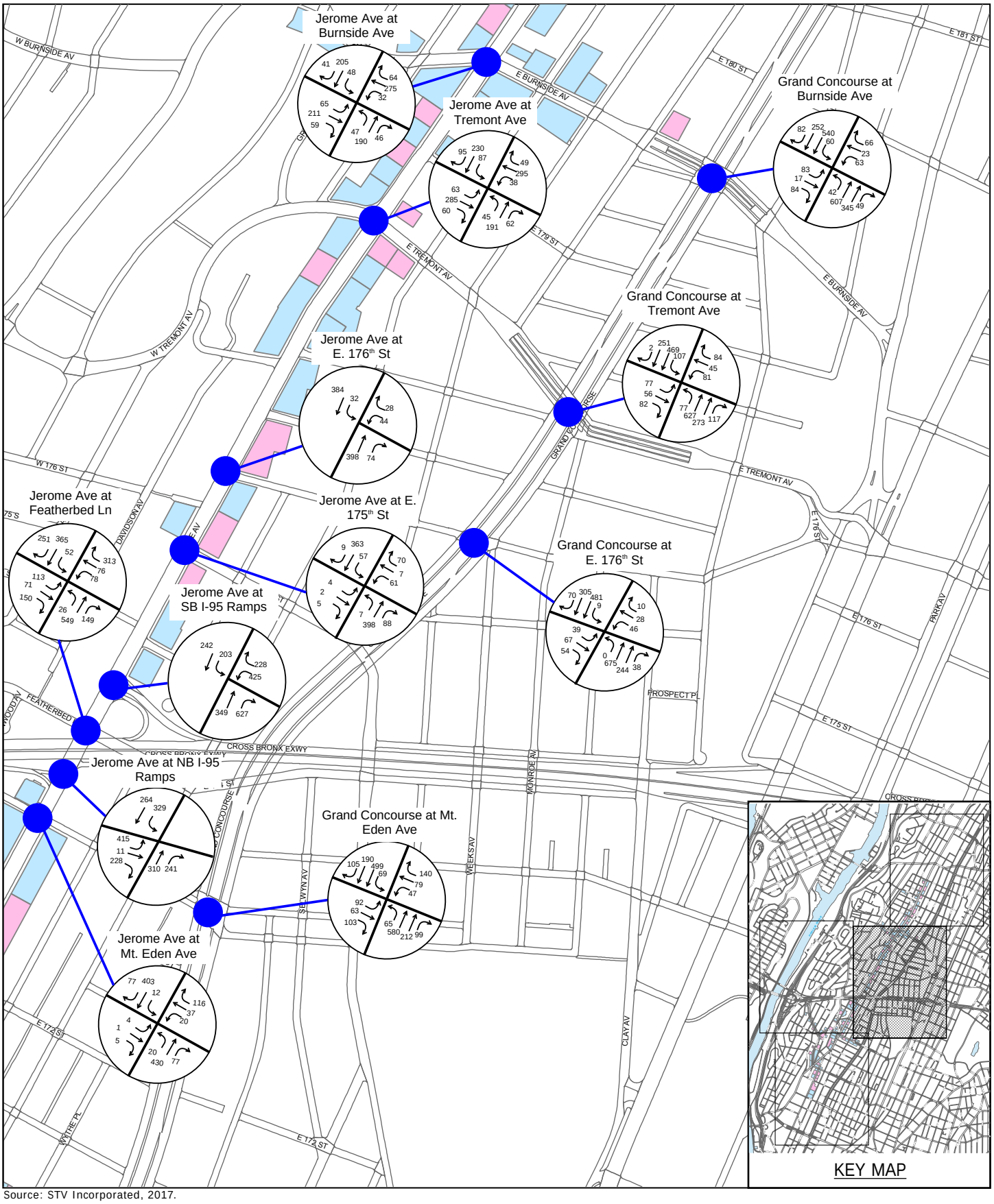
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-8A

EXISTING WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



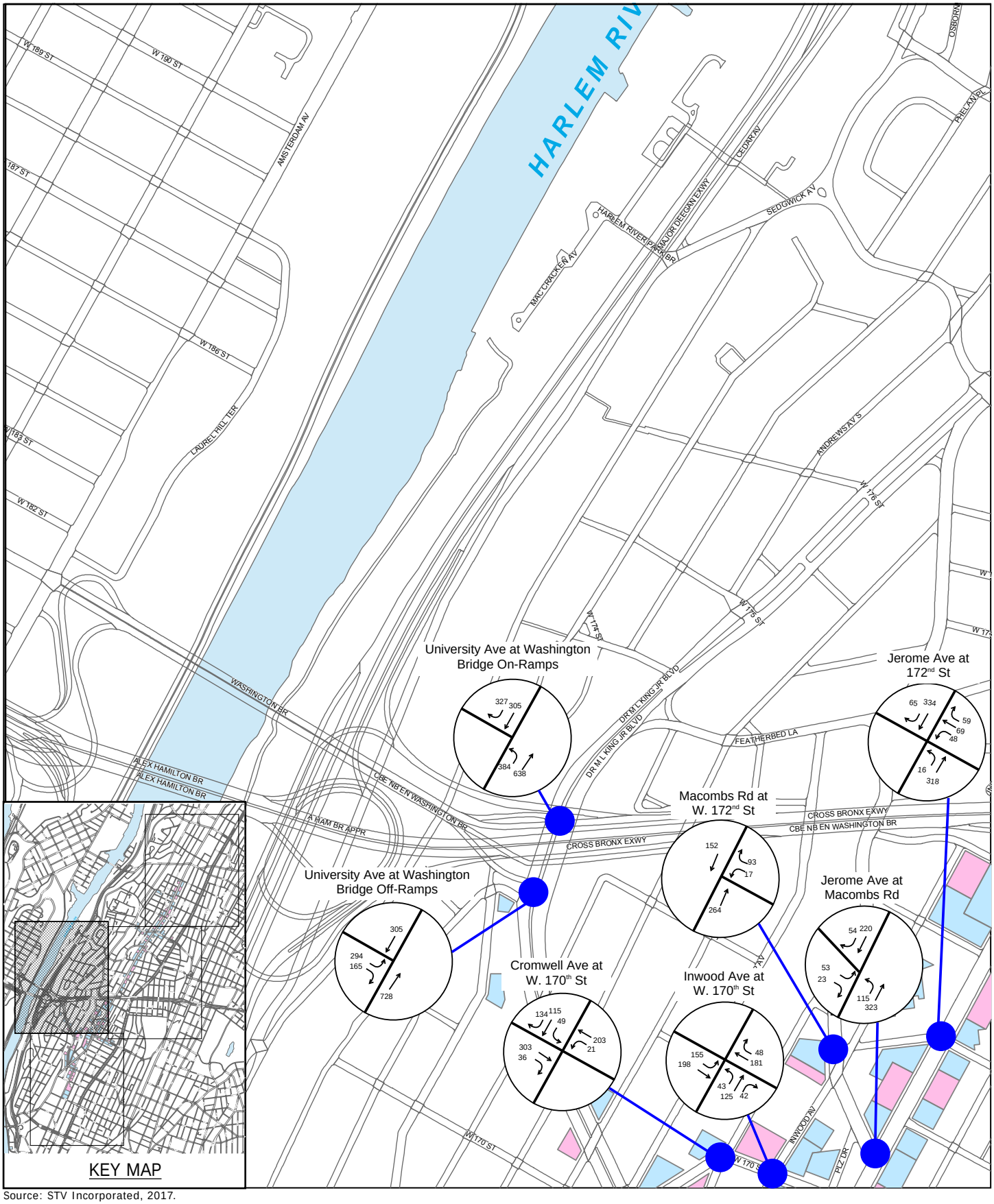
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-8B

EXISTING WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



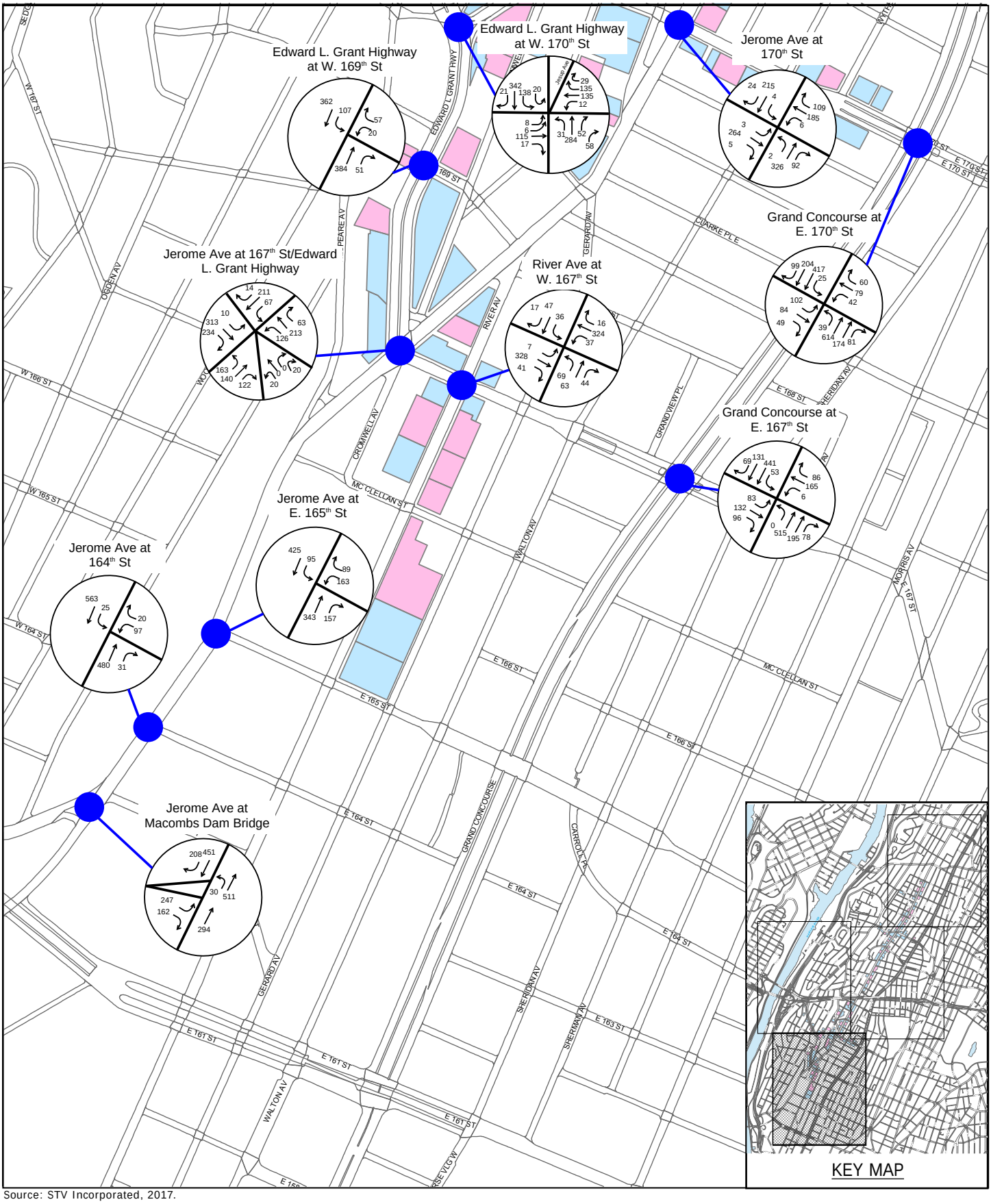
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-8C

EXISTING WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-8D

EXISTING WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



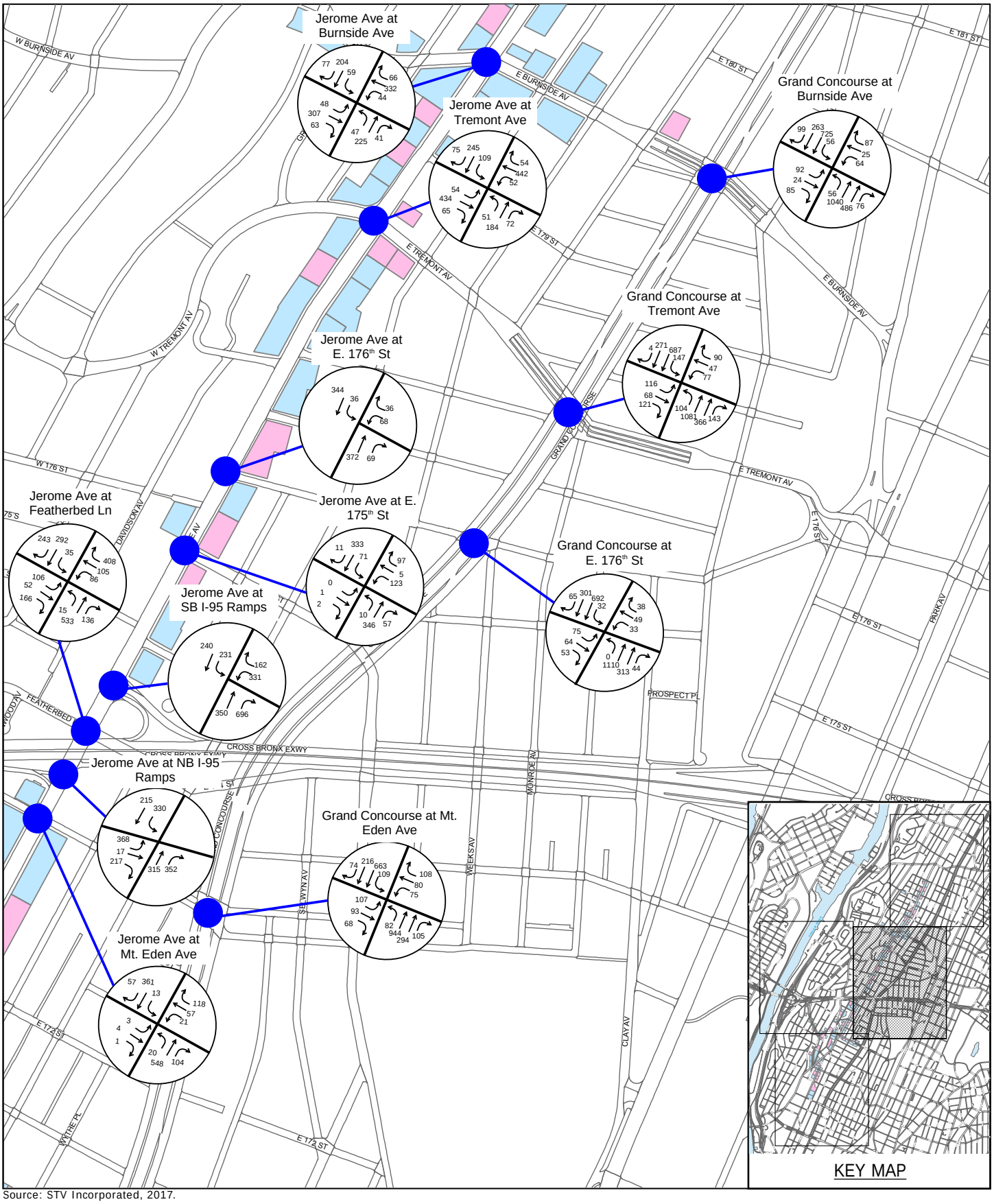
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-9A

EXISTING WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



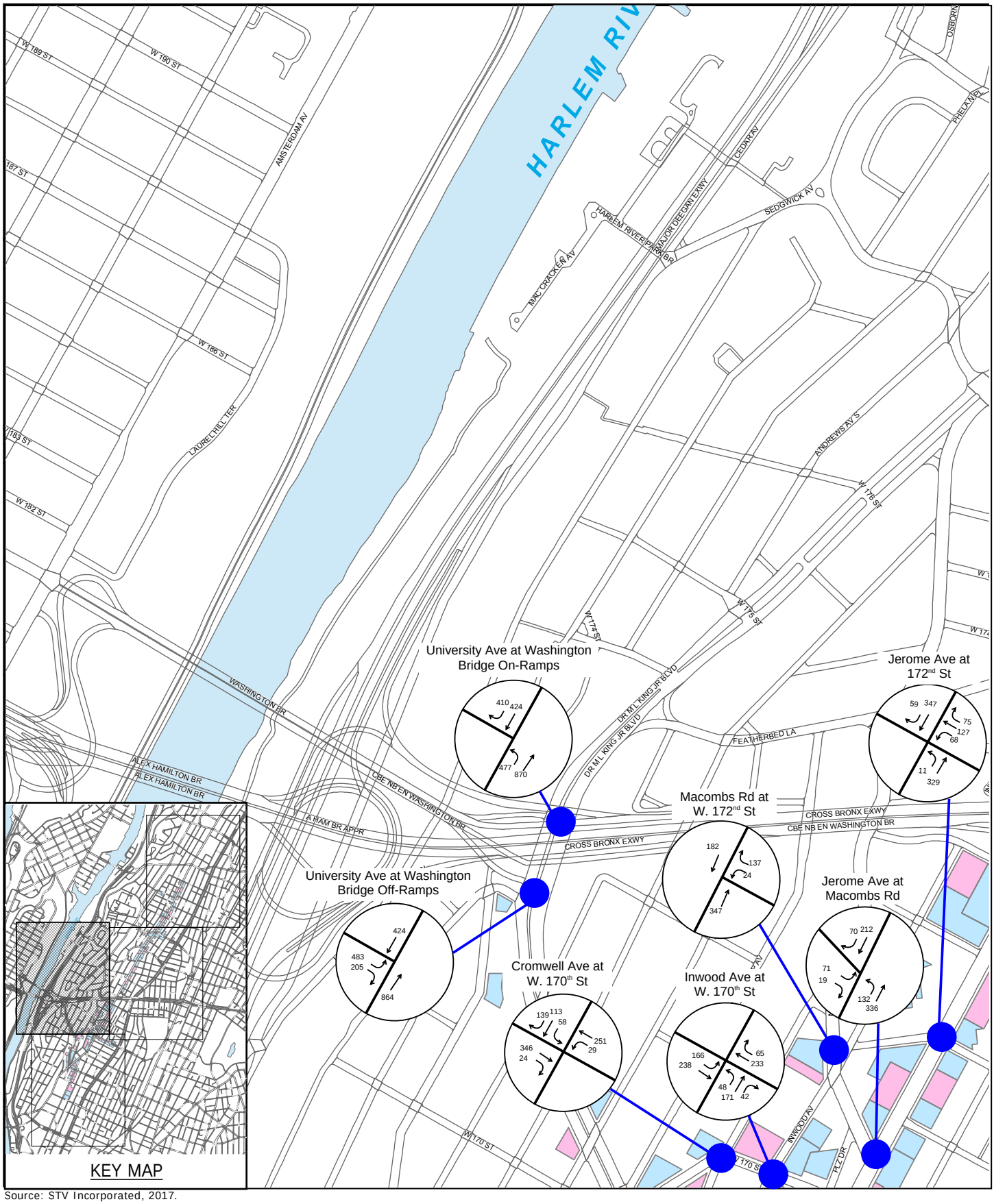
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-9B

EXISTING WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



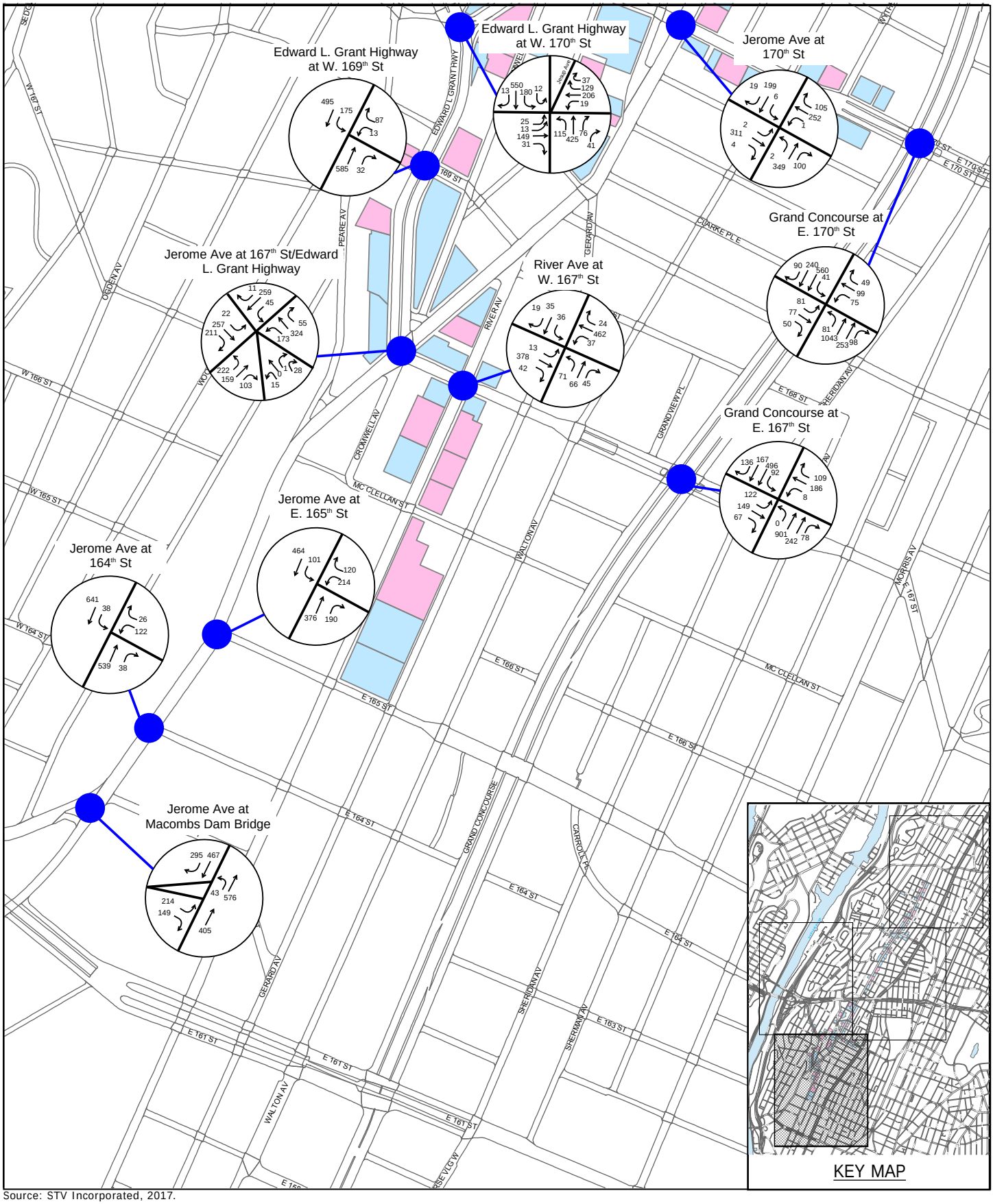
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-9C

EXISTING WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-9D

EXISTING WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



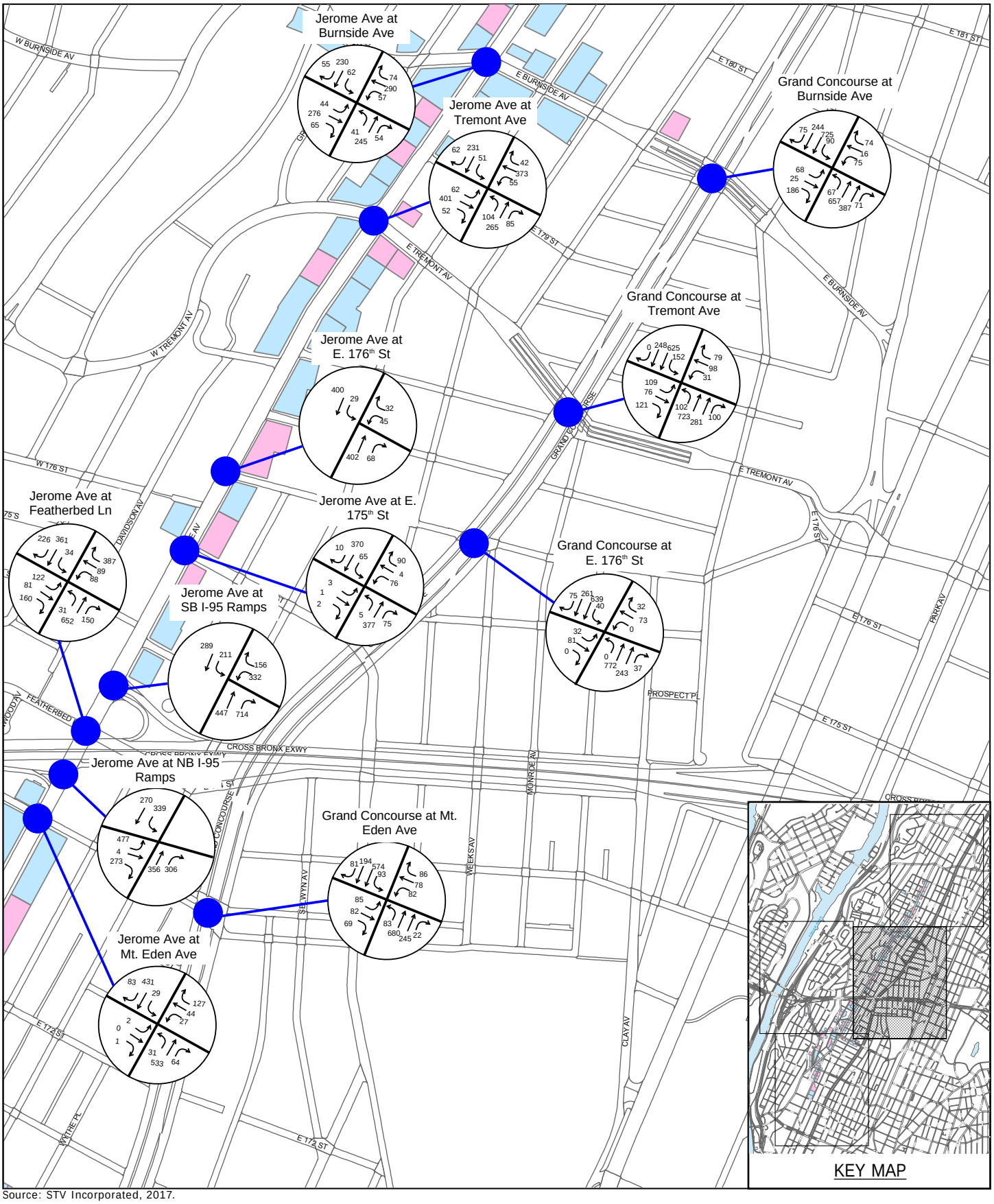
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-10A

EXISTING SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



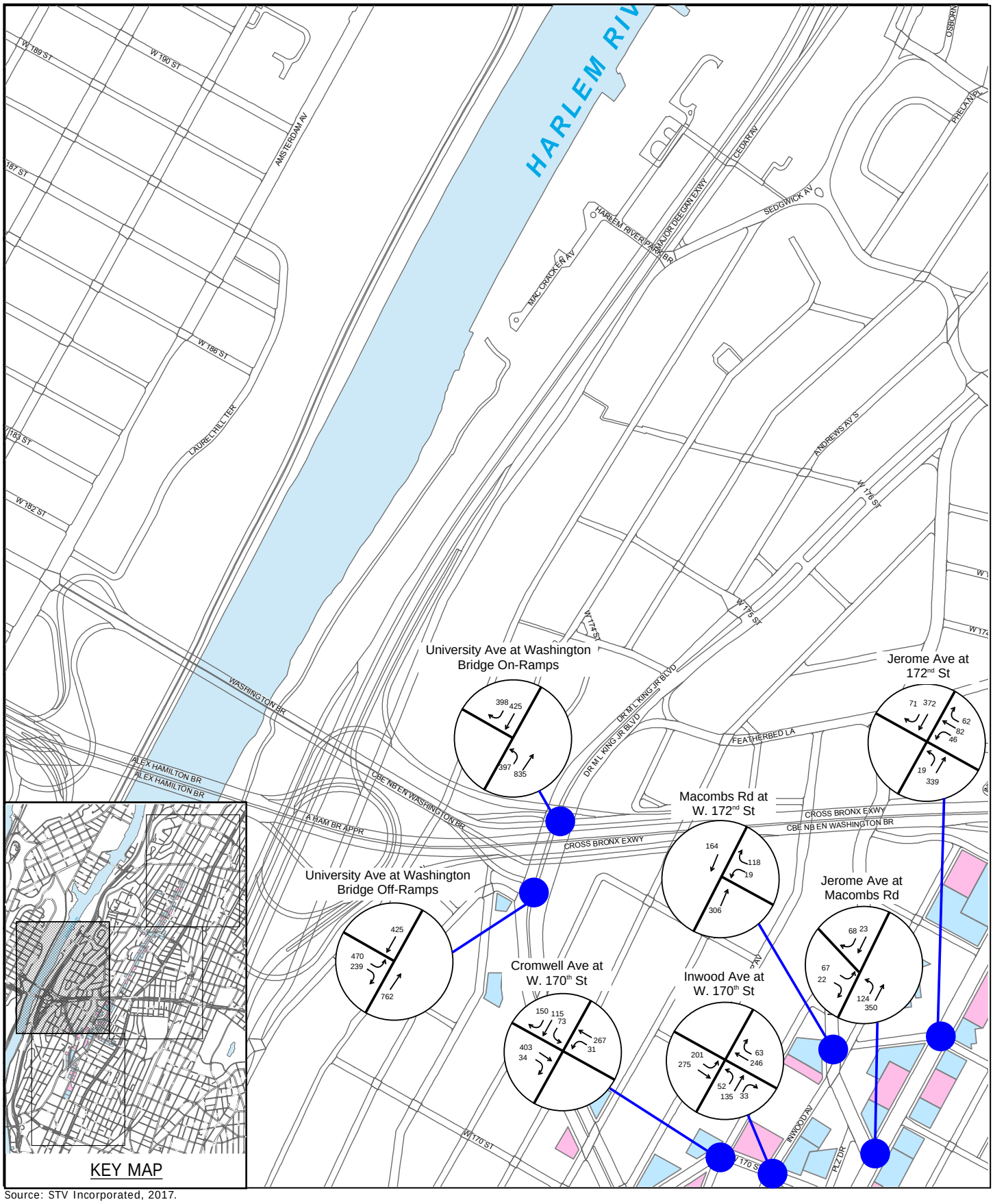
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-10B

EXISTING SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



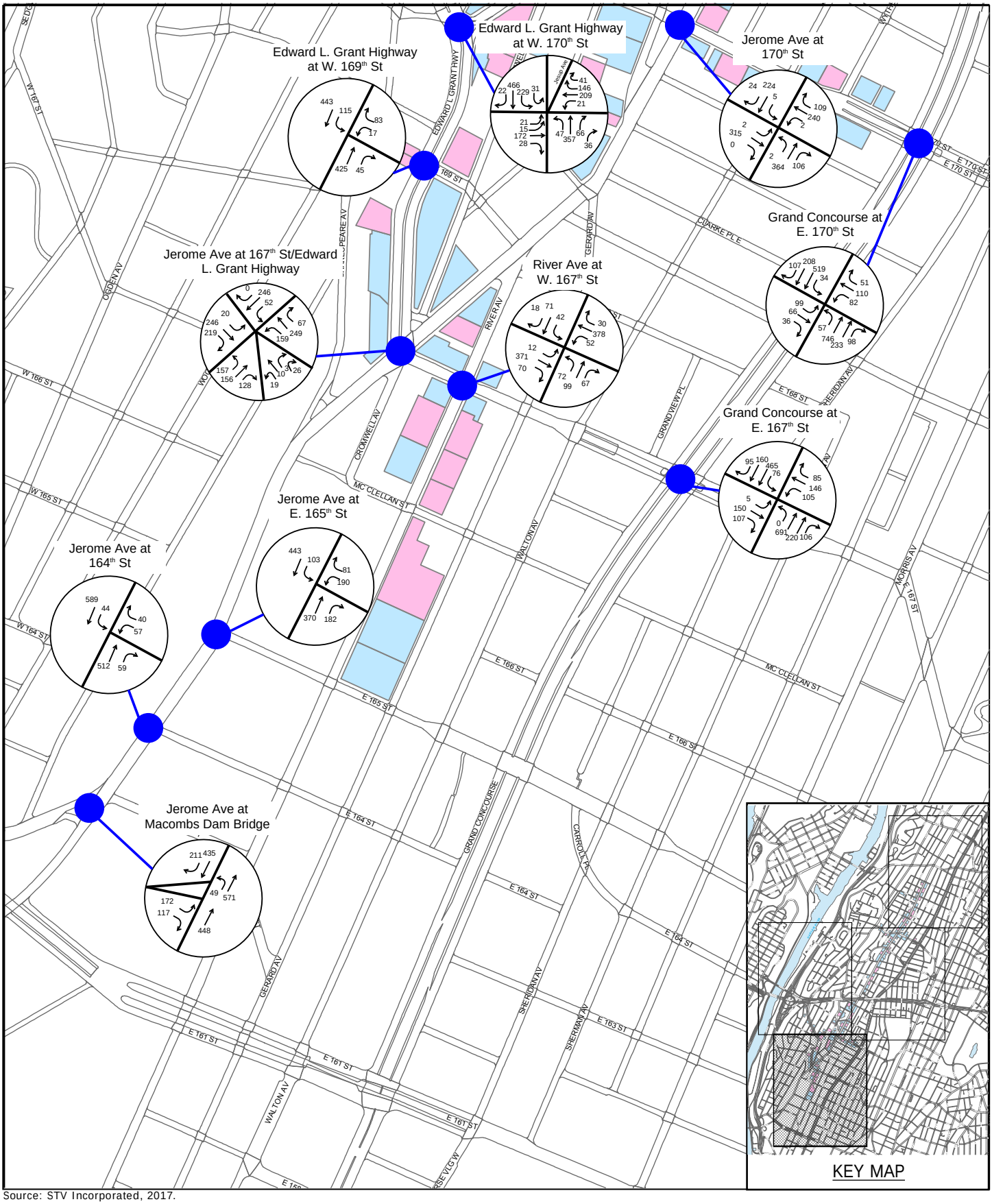
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-10C

EXISTING SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-10D

EXISTING SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES

Intersection Capacity Analysis

The volume-to-capacity ratios, delays and levels of service for those individual lane groups experiencing congestion in one or more peak hours in Existing Conditions are listed in Table 13-20, "Congested Lane Groups at Analyzed Intersections for Existing Conditions." A lane group is considered congested and is included in Table 13-20 if it operates at LOS E or F and/or with a v/c ratio of 0.90 or above. A v/c ratio of 1.00 or above reflects capacity conditions. As listed in Table 13-20, a total of 18 intersections currently have at least one congested lane group in one or more peak hours. Jerome Avenue has the greatest number of congested locations (nine intersections), followed by Grand Concourse (five intersections). A total of five intersections currently have one or more lane groups operating at capacity (v/c ratio > 1.0) in the weekday AM peak hour, one in the midday, six in the PM, and four in the Saturday midday peak hour. Overall, the data in Table 13-20 indicate that congestion at analyzed intersections is most evident during the weekday AM and PM commuter peak periods and Saturday midday, and least evident during the weekday midday period. V/c ratios, delays and levels of service for all lane groups at all analyzed intersections in all peak periods in existing conditions are provided in Appendix E, "Transportation."

Table 13-20: Congested Lane Groups at Analyzed Intersections for Existing Conditions

INTERSECTION & APPROACH		Mvt.	AM Peak Hour			Midday Peak Hour			PM Peak Hour			Saturday Midday Peak Hour		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS	V/C	Control Delay	LOS	V/C	Control Delay	LOS
Jerome Avenue and Kingsbridge Road														
Jerome Avenue	NB	LTR							1.03	89.5	F			
Jerome Avenue and Fordham Road														
Jerome Avenue	NB	LTR	0.80	58.0	E				0.95	83.6	F	0.81	55.5	E
	SB	LTR	0.92	76.3	E				1.05	114.1	F			
Jerome Avenue and Tremont Avenue														
Tremont Avenue	EB	LTR	0.92	55.1	E				1.04	83.1	F	0.93	55.5	E
	WB	LTR							1.02	77.6	E			
Jerome Avenue and Featherbed Lane														
Featherbed Lane	EB	DefL	0.95	103.2	F	0.86	77.5	E	1.05	130.6	F	1.04	120.7	F
		TR	0.86	58.4	E									
	WB	LTR	1.05	81.8	F	1.04	83.6	F	1.04	77.9	E	0.91	49.7	D
Jerome Avenue and NB I-95 Ramps														
Jerome Avenue	SB	DefL	0.96	64.2	E				0.94	64.1	E	0.93	62.2	E
Jerome Avenue and Macombs Dam Bridge														
Jerome Avenue	EB	L	0.86	63.0	E	0.90	70.0	E						
		R	0.83	61.2	E									
Jerome Avenue and 170th Street														
170th Street	WB	LTR	1.05	87.5	F				0.96	66.9	E	0.96	67.6	E
Jerome Avenue and 167th Street														
Edward L. Grant Highway	EB	R	0.89	68.4	E				0.99	100.1	F	1.02	103.9	F
Jerome Avenue	NB	DefL	0.81	57.8	E				0.99	86.3	F			
River Avenue and 167th Street														
River Avenue	NB	LTR										0.87	58.3	E
Jerome Avenue and E. 165th Street														
E. 165th Street	WB	LR	0.93	58.4	E				0.97	66.3	E			
Grand Concourse and Burnside Avenue														
Burnside Avenue	EB	LTR	0.84	62.6	E									
Grand Concourse Mainline	NB	L	0.44	61.1	E	0.33	57.0	E	0.42	60.1	E	0.52	64.2	E
	SB	L	0.41	59.6	E	0.45	61.7	E	0.43	60.4	E	0.67	73.8	E
		T	0.90	37.6	D									
Grand Concourse Service Road	NB	TR							1.01	71.5	E			
Grand Concourse and Tremont Avenue														
Tremont Avenue	EB	TR	1.00	100.2	F									
	WB	TR	0.75	59.2	E									
Grand Concourse Mainline	NB	L	0.46	62.1	E	0.58	68.3	E	0.78	85.4	F	0.72	78.6	E
	SB	L	1.02	128.3	F	0.67	70.9	E	0.95	109.0	F	0.94	106.2	F
Grand Concourse Service Road	NB	TR							0.97	61.7	E			
Grand Concourse and Mt. Eden Avenue														
Mt. Eden Avenue	WB	LTR	0.93	73.2	E	0.88	62.6	E	0.92	71.4	E			
Grand Concourse Mainline	NB	L	0.46	63.9	E	0.53	67.1	E	0.70	79.9	E	0.64	74.0	E
	SB	L	1.05	139.3	F	0.47	60.9	E	0.75	79.1	E	0.64	69.4	E
Grand Concourse and 170th Street														
Grand Concourse Mainline	NB	L	0.29	57.4	E	0.32	58.2	E	0.66	75.8	E	0.47	63.6	E
	SB	L	0.35	58.9	E				0.34	58.5	E	0.27	56.6	E
Grand Concourse and 167th Street														
167th Street	EB	L							0.78	61.8	E			
		TR	0.84	59.0	E									
	WB	TR				0.87	59.1	E	0.91	65.2	E			
Grand Concourse Mainline	SB	L	0.59	70.2	E	0.42	61.7	E	0.99	139.9	F	0.83	106.5	F
Edward L. Grant Highway and W. 170th Street														
W. 170th Street	WB	LTR	0.95	73.7	E				0.86	58.2	E	0.97	76.2	E
Inwood Avenue and W. 170th Street														
W. 170th Street	EB	LT	0.98	60.6	E	0.91	49.3	D	0.99	62.9	E	1.04	76.0	E
University Avenue and Washington Bridge Off-Ramps														
Washington Bridge Off-Ramps	EB	L	0.92	62.0	E				1.05	94.7	F	1.00	80.4	F
		R	1.01	79.9	E				0.98	73.1	E	1.04	88.5	F

Source: STV Incorporated, 2017.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION CONDITION)

Future No-Action Traffic Growth

Between 2016 and 2026, traffic demand in the study area is expected to increase due to background growth, development that could occur pursuant to existing zoning (i.e., as-of-right-development), and development projects likely to occur within and in the vicinity of the study area in the No-Action condition. Development on projected development sites is expected to add a net total of approximately 674 dwelling units, 61,100 sf of commercial uses, and 36,120 sf of community facility uses.

Development on projected development sites and other developments described in Chapter 2, "Land Use, Zoning, Public Policy," were considered in order to forecast future traffic conditions without the Proposed Actions (the No-Action condition). The No-Action traffic volumes also reflect annual background growth rates of 0.25 percent per year for the 2016 through 2021 period and 0.125 percent for the 2021 through 2026 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in the Bronx, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-4, "Development Projects in the Future without the Proposed Actions," and general increases in travel demand not attributable to specific development projects. Figures 13-11 through Figure 13-14 show total No-Action traffic volumes during weekday AM, midday, and PM, and Saturday midday peak hours.

Changes to Study Area Street Network

The 2016 through 2026 period will see the implementation of a number of physical and operational changes to the study area street system associated with DOT's Grand Concourse Capital Project and mitigation for the planned Kingsbridge Armory National Ice Center. Planned physical and operational changes that are reflected in the No-Action traffic network are discussed below.

Grand Concourse Capital Project

The New York City Department of Design and Construction and DOT are developing a capital project on Grand Concourse between 161st Street and Fordham Road as part of Mayor de Blasio's Vision Zero Great Streets initiative. The project aims to enhance safety and quality of life for all roadway users through the reduction of traffic speeds, widening and greening of the medians, re-configuration of bike lanes, and other traffic calming elements. The roadway cross section will be reconfigured to allow for one ten-foot and one eleven-foot travel lane in the mainline and one eleven-foot travel lane in the service road. A bike lane will be provided between the parking lane and travel lane of the service road and the left-turn bay on the mainline will be widened to eleven feet. In addition, signal timing adjustments have been made at the Grand Concourse intersections of 167th Street, 176th Street, East Tremont, and Mount Eden Avenue to provide a new seven-second leading pedestrian interval phase across the Grand Concourse.



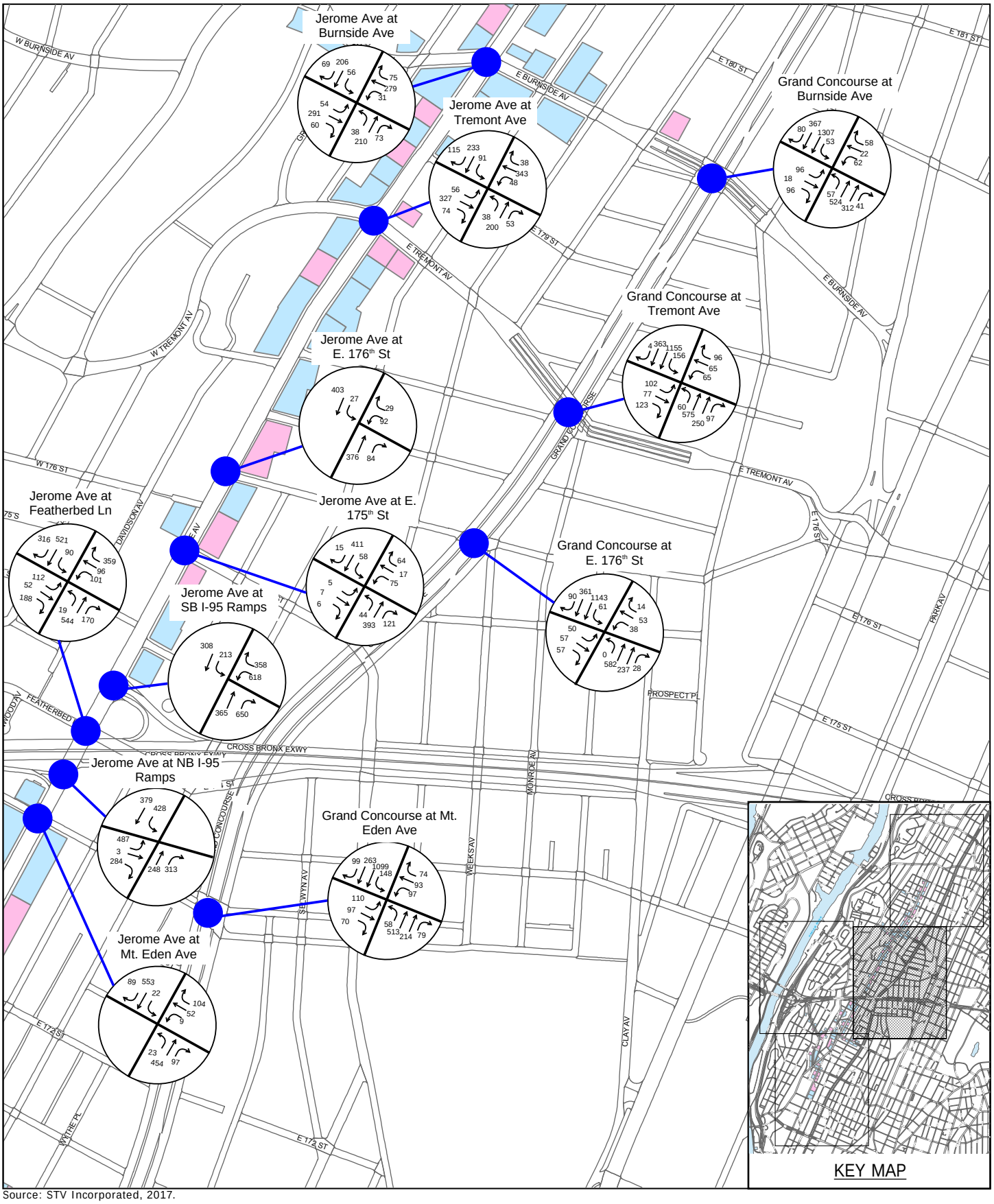
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-11A

NO ACTION WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



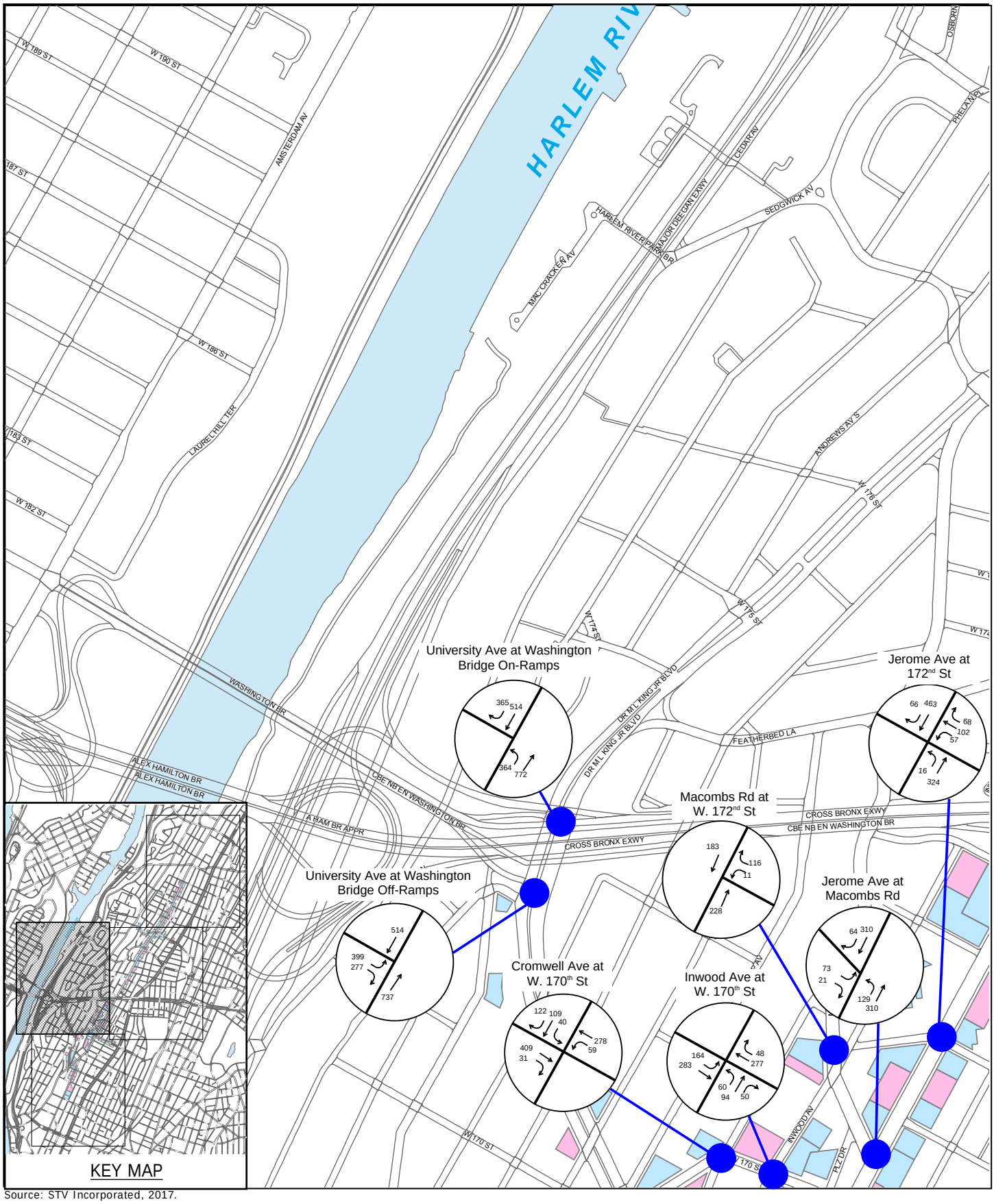
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-11B

NO ACTION WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



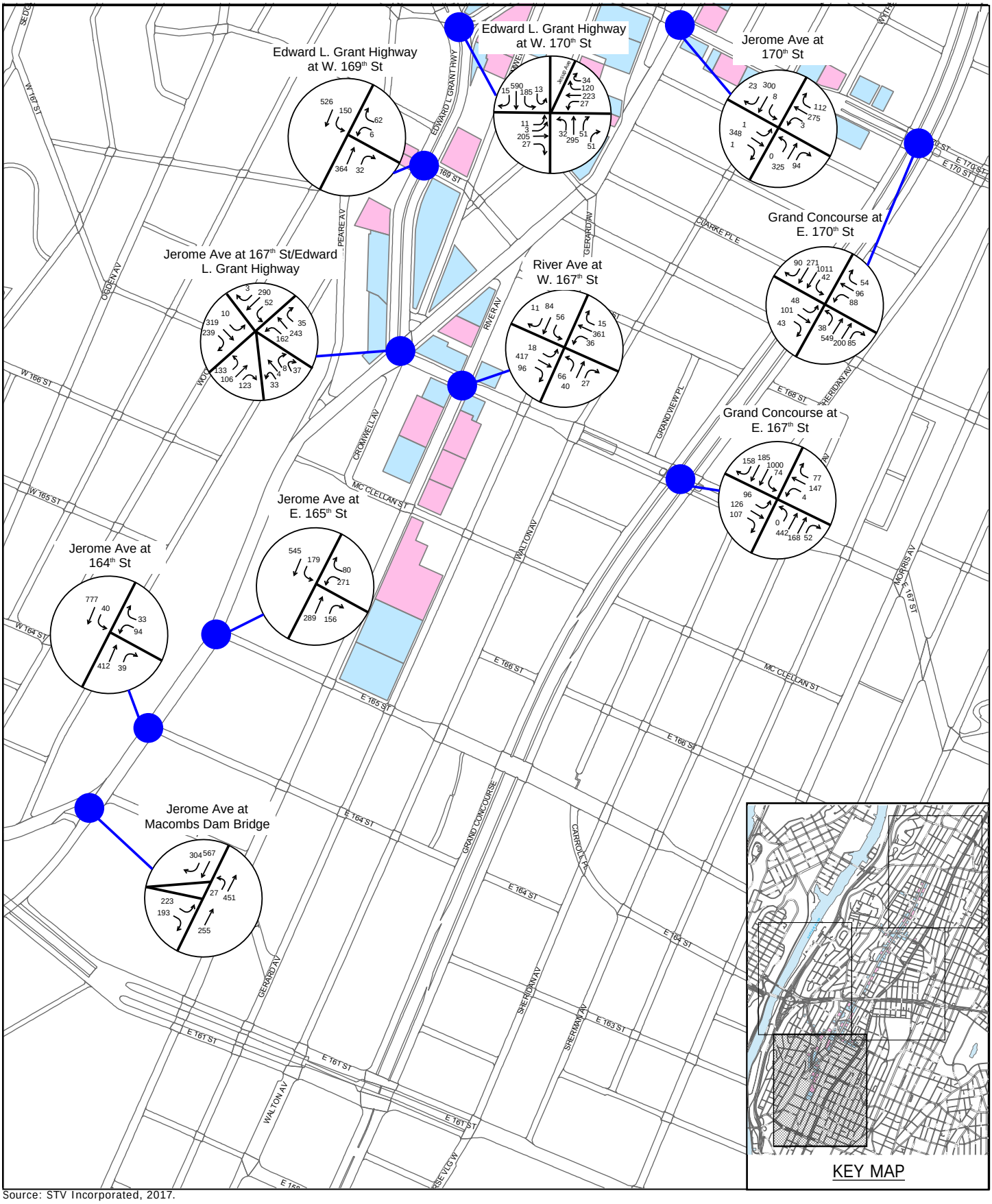
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-11C

NO ACTION WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-11D

NO ACTION WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



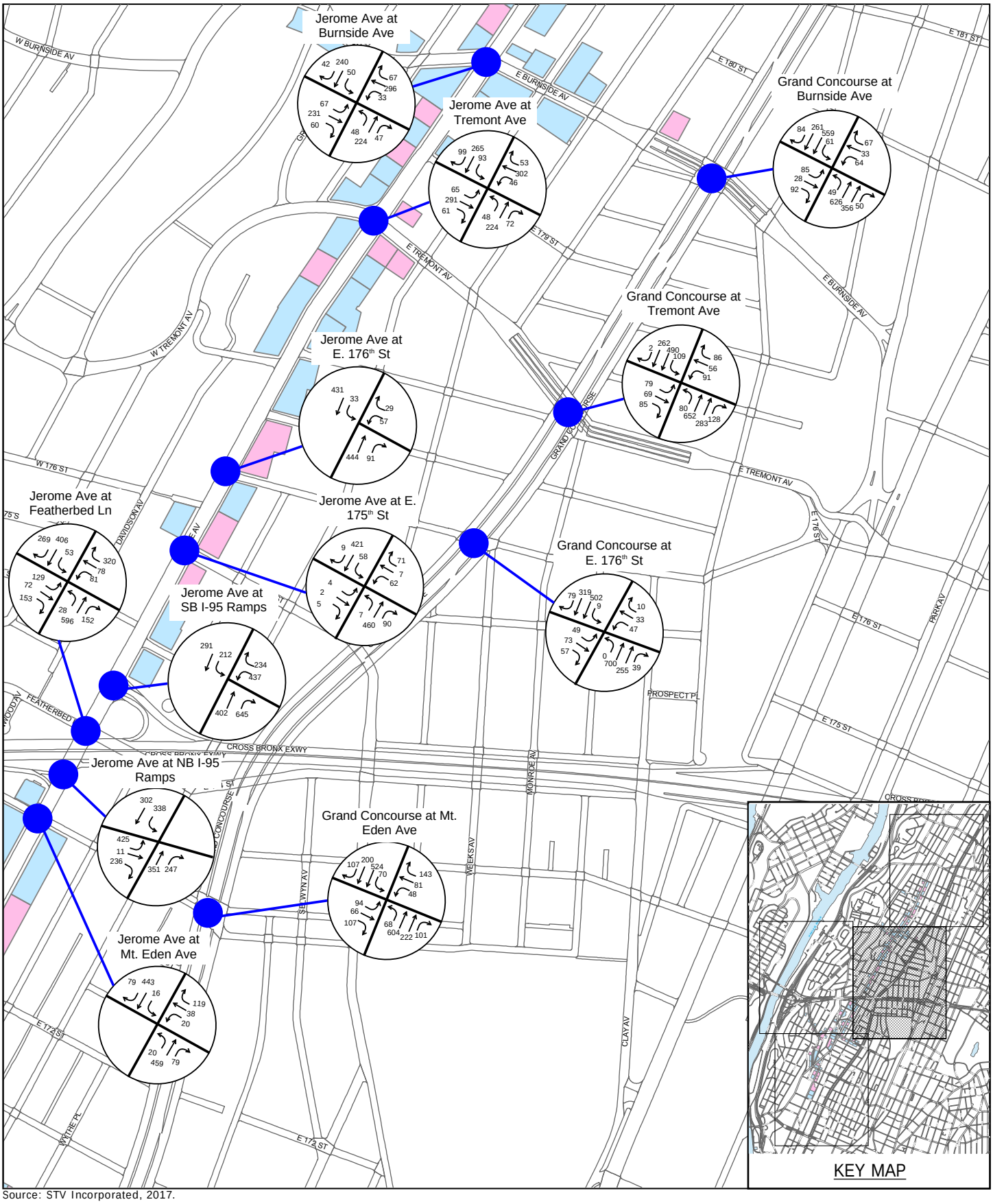
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-12A

NO ACTION WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



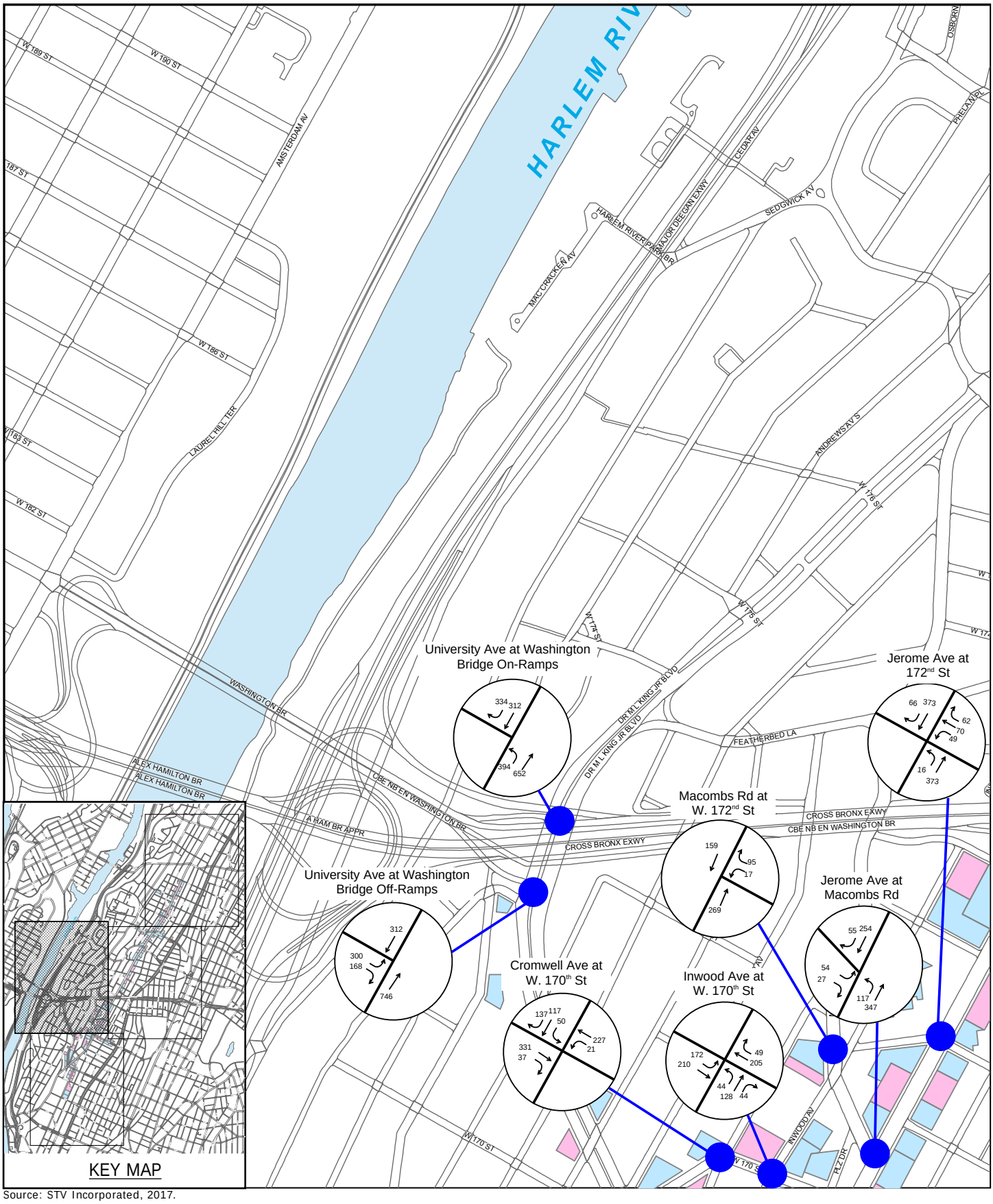
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-12B

NO ACTION WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



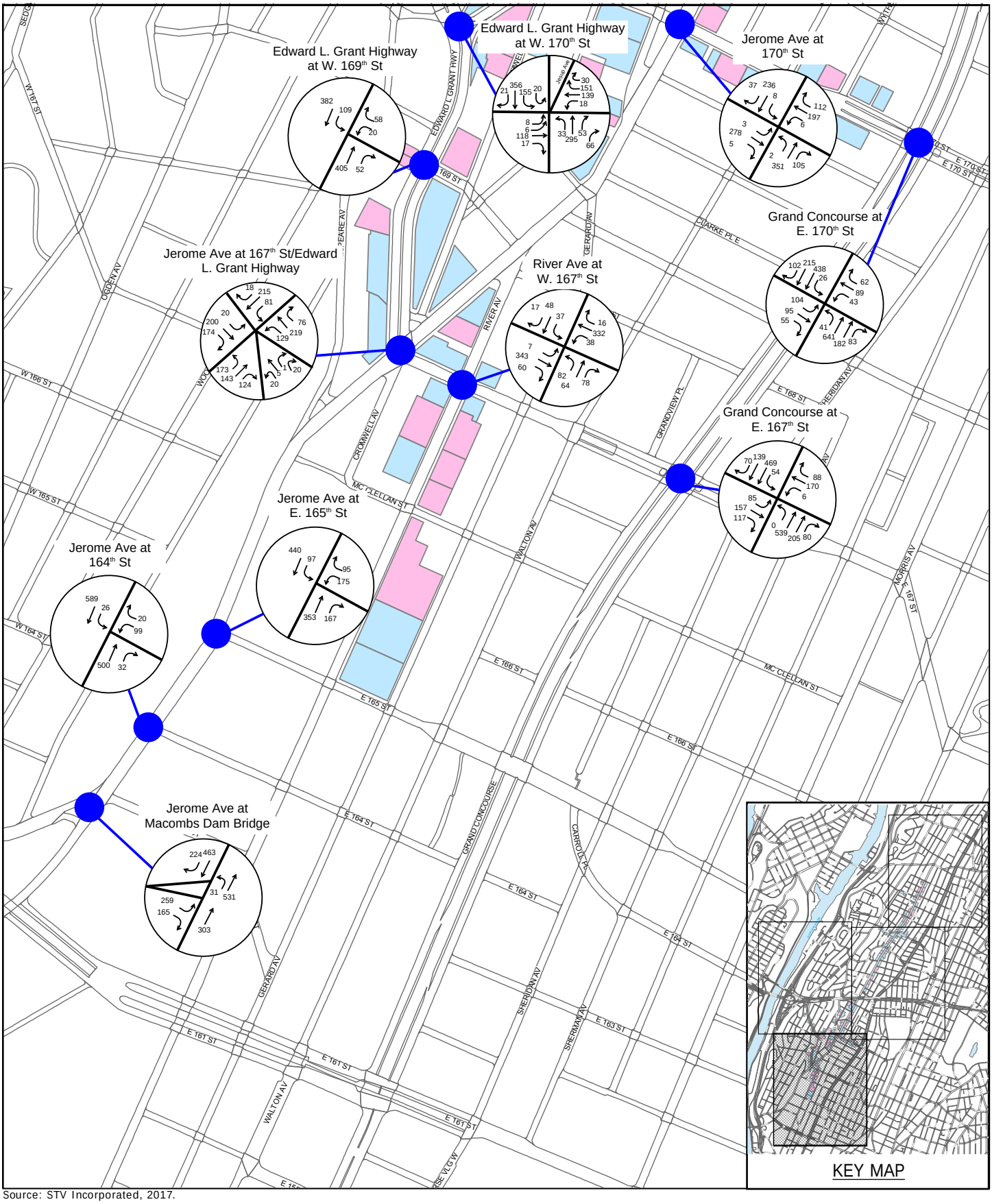
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-12C

NO ACTION WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-12D

NO ACTION WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



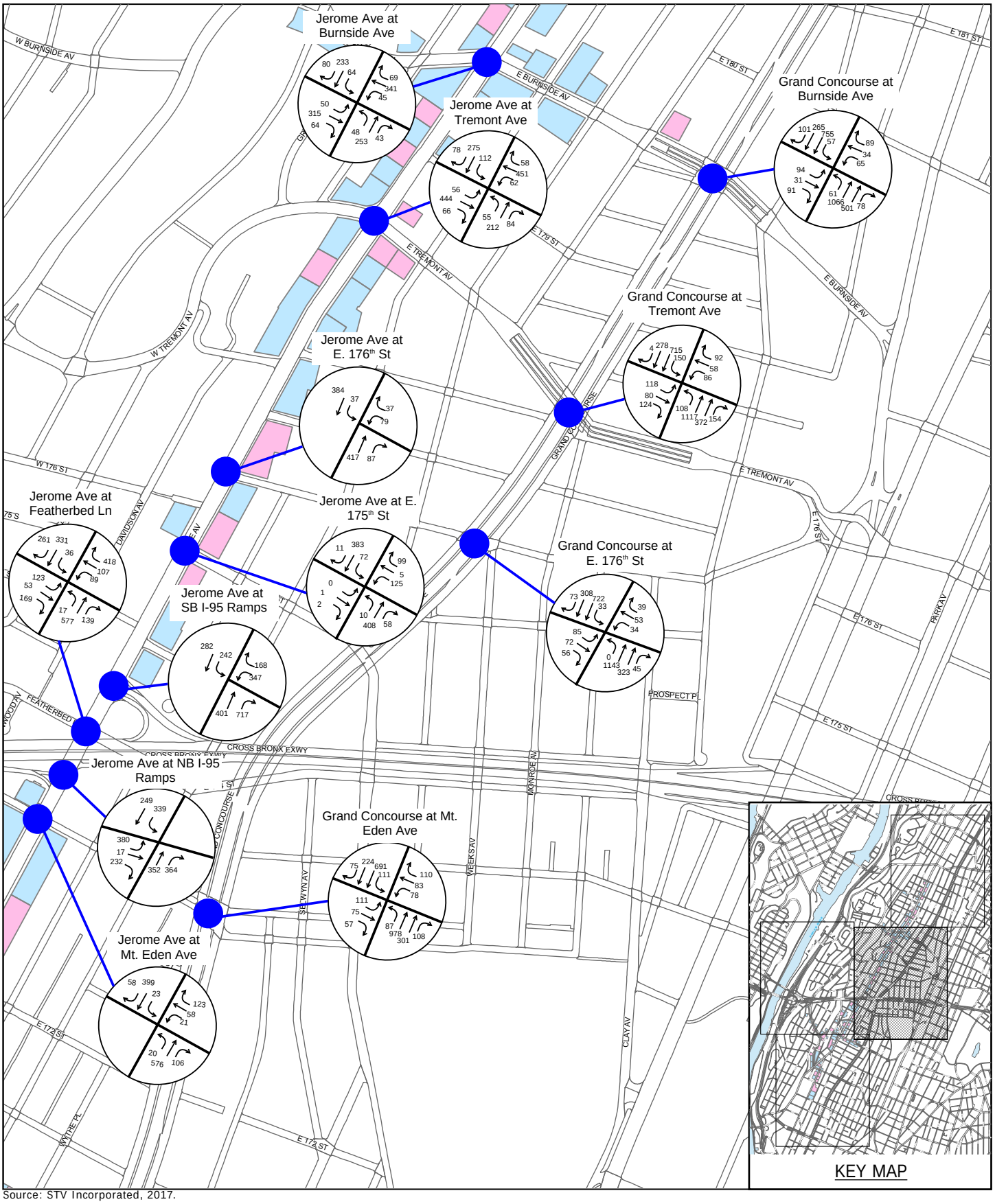
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-13A

NO ACTION WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



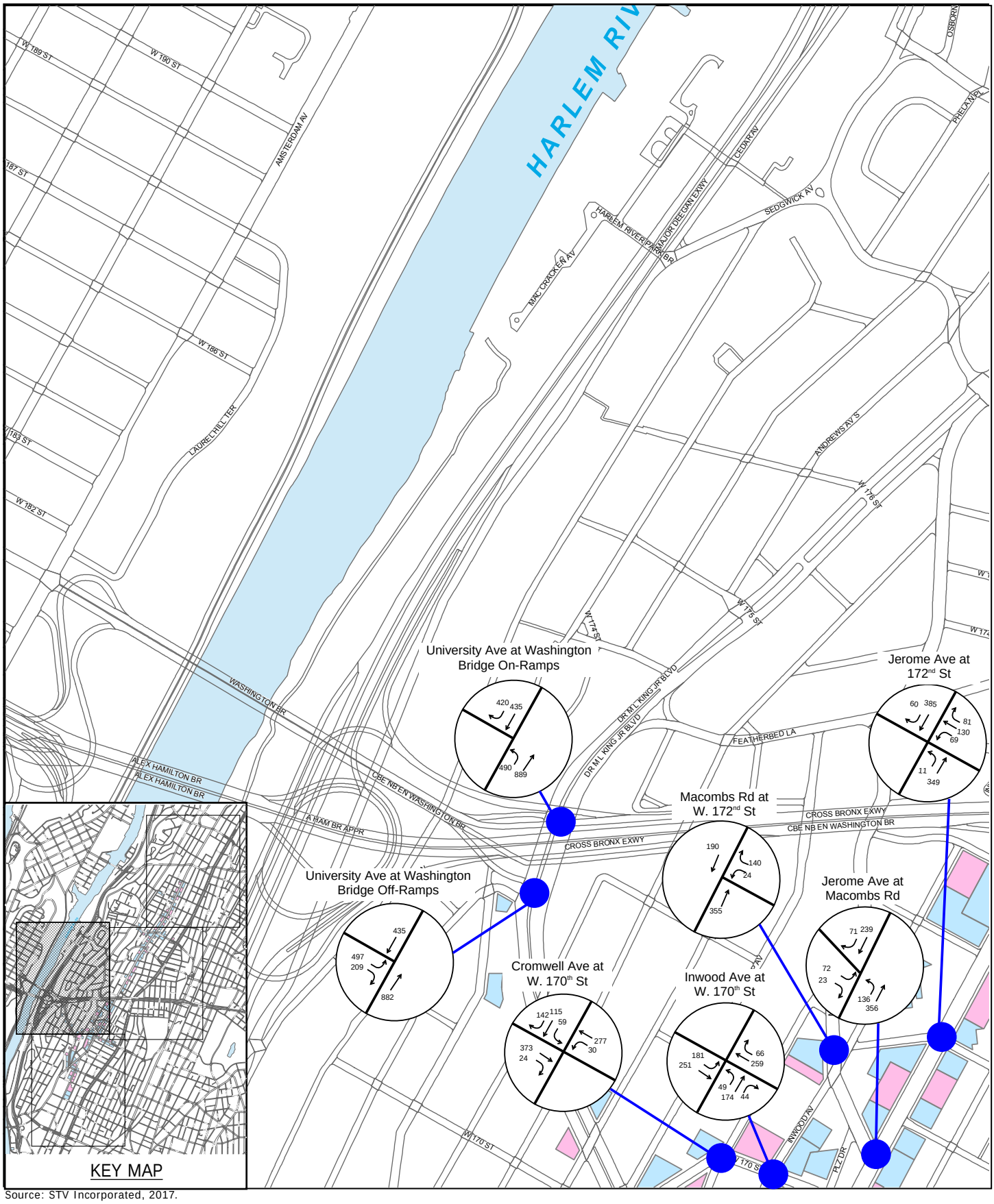
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-13B

NO ACTION WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



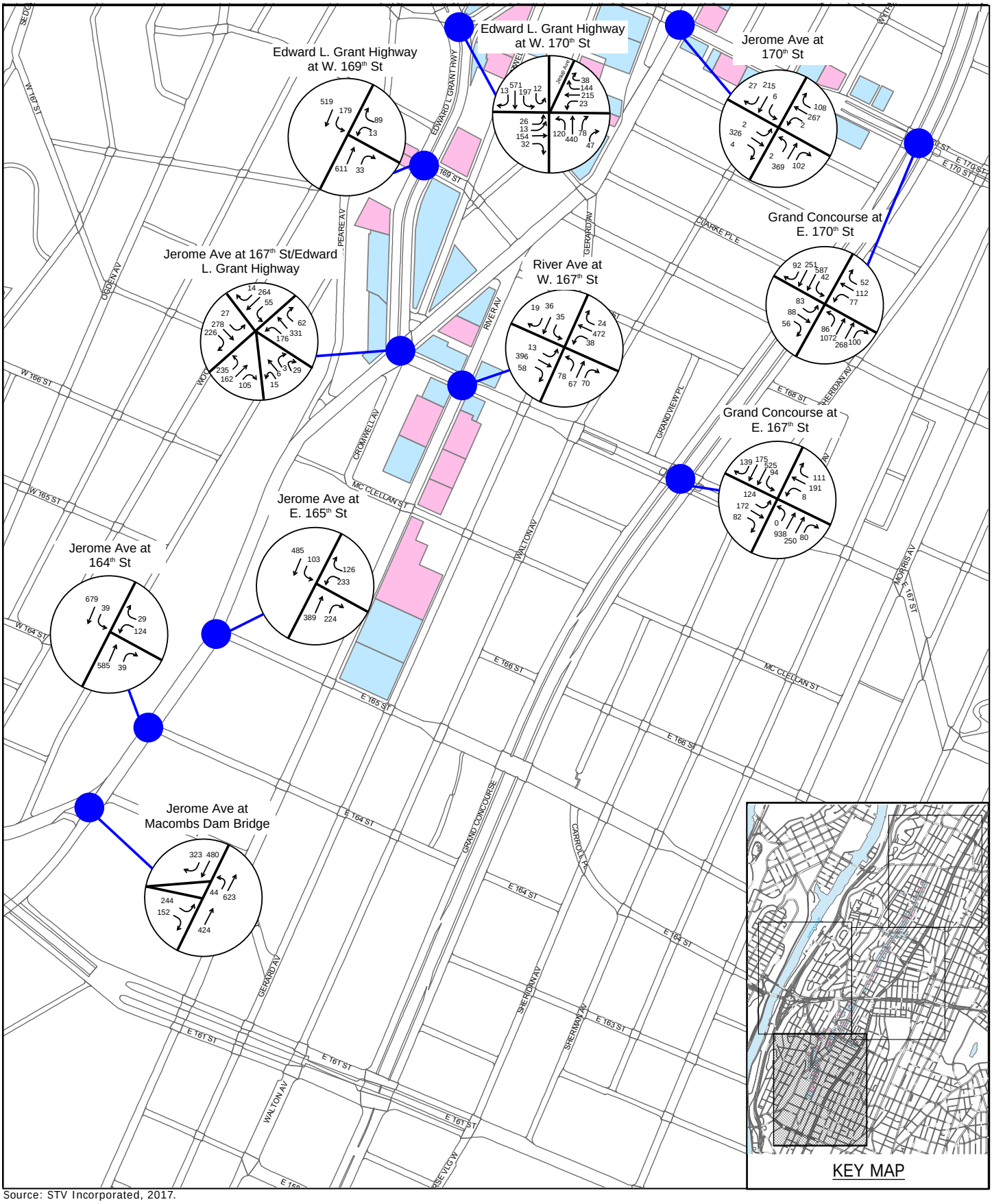
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-13C

NO ACTION WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-13D

NO ACTION WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



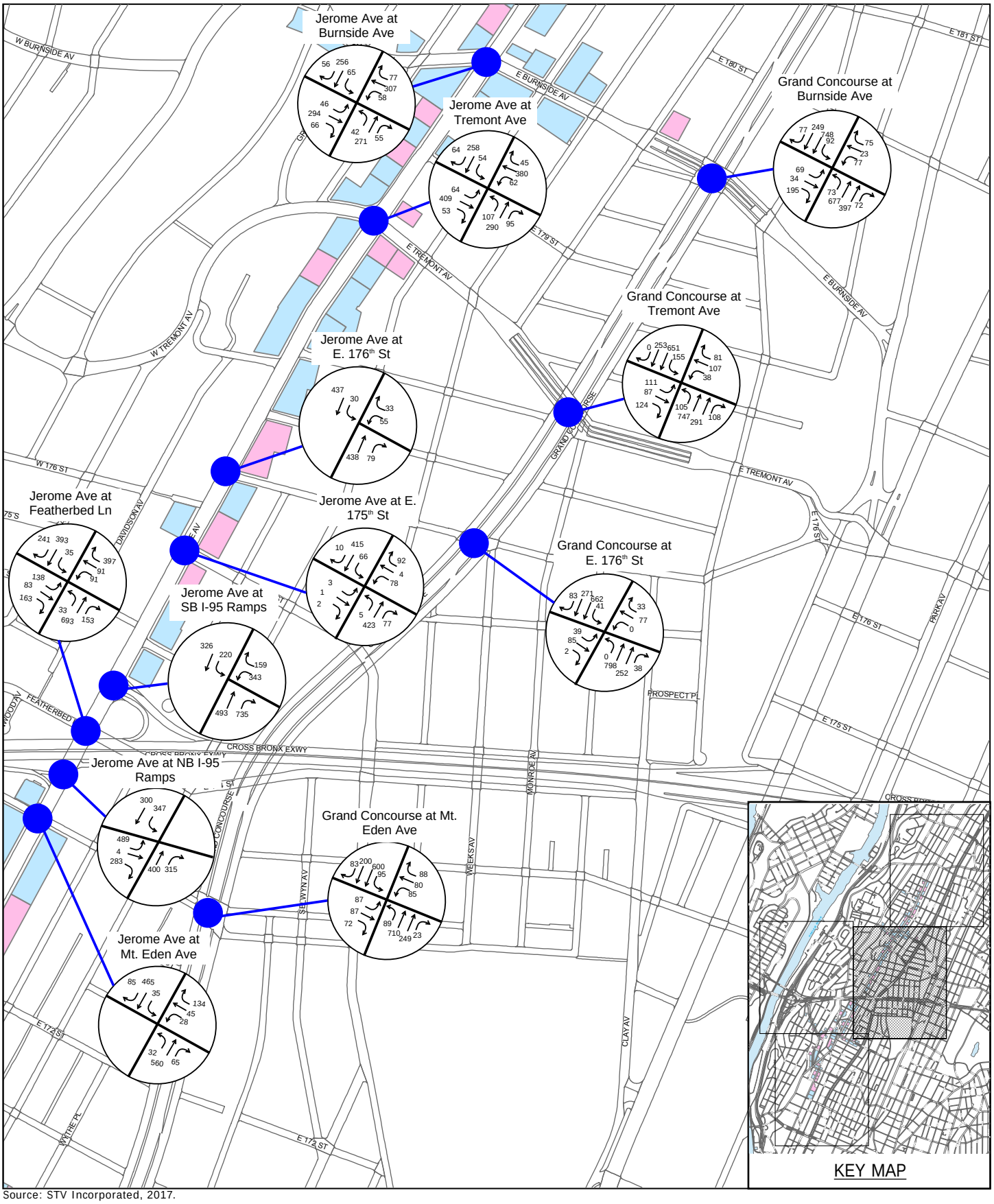
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-14A

NO ACTION SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



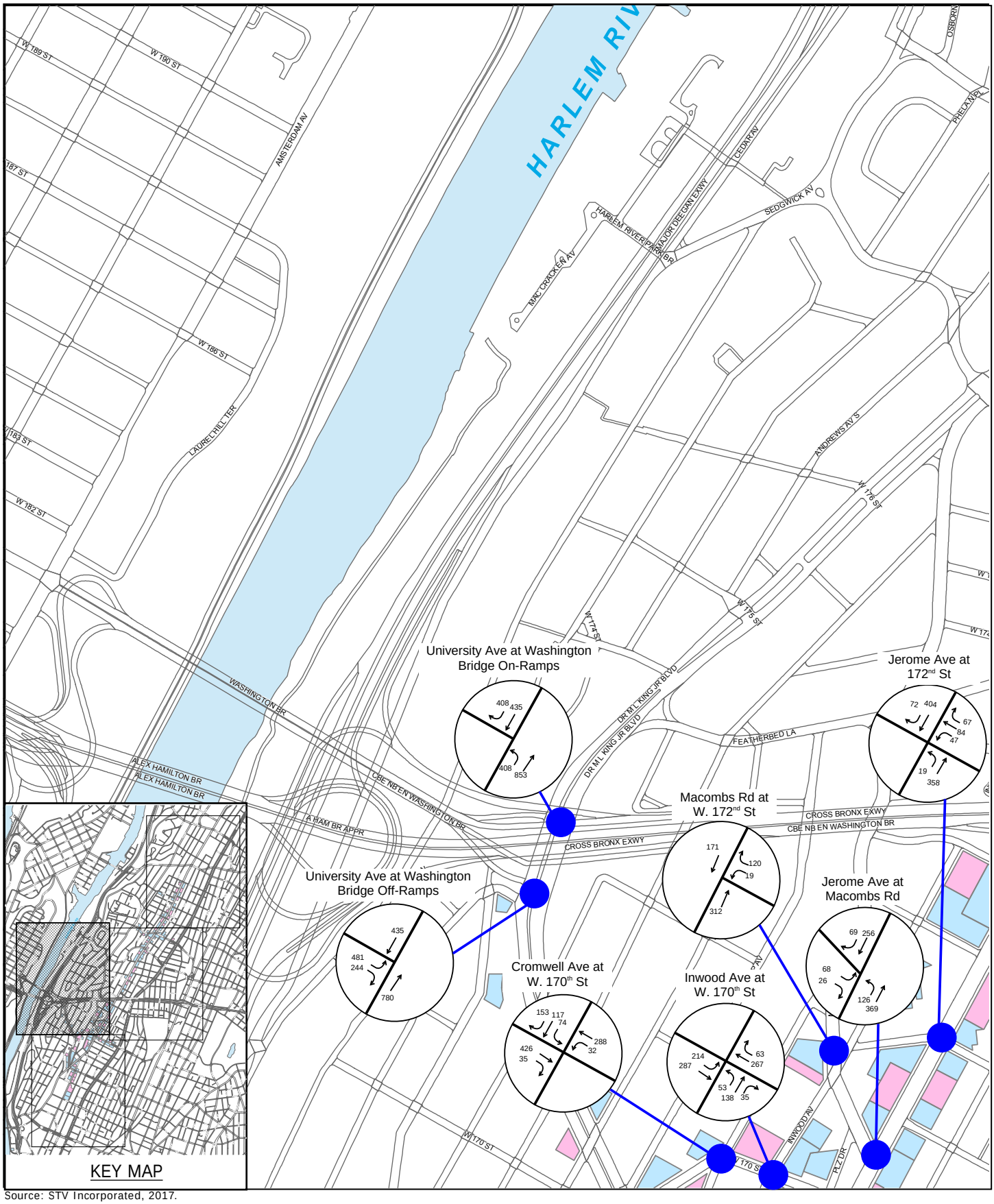
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-14B

NO ACTION SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



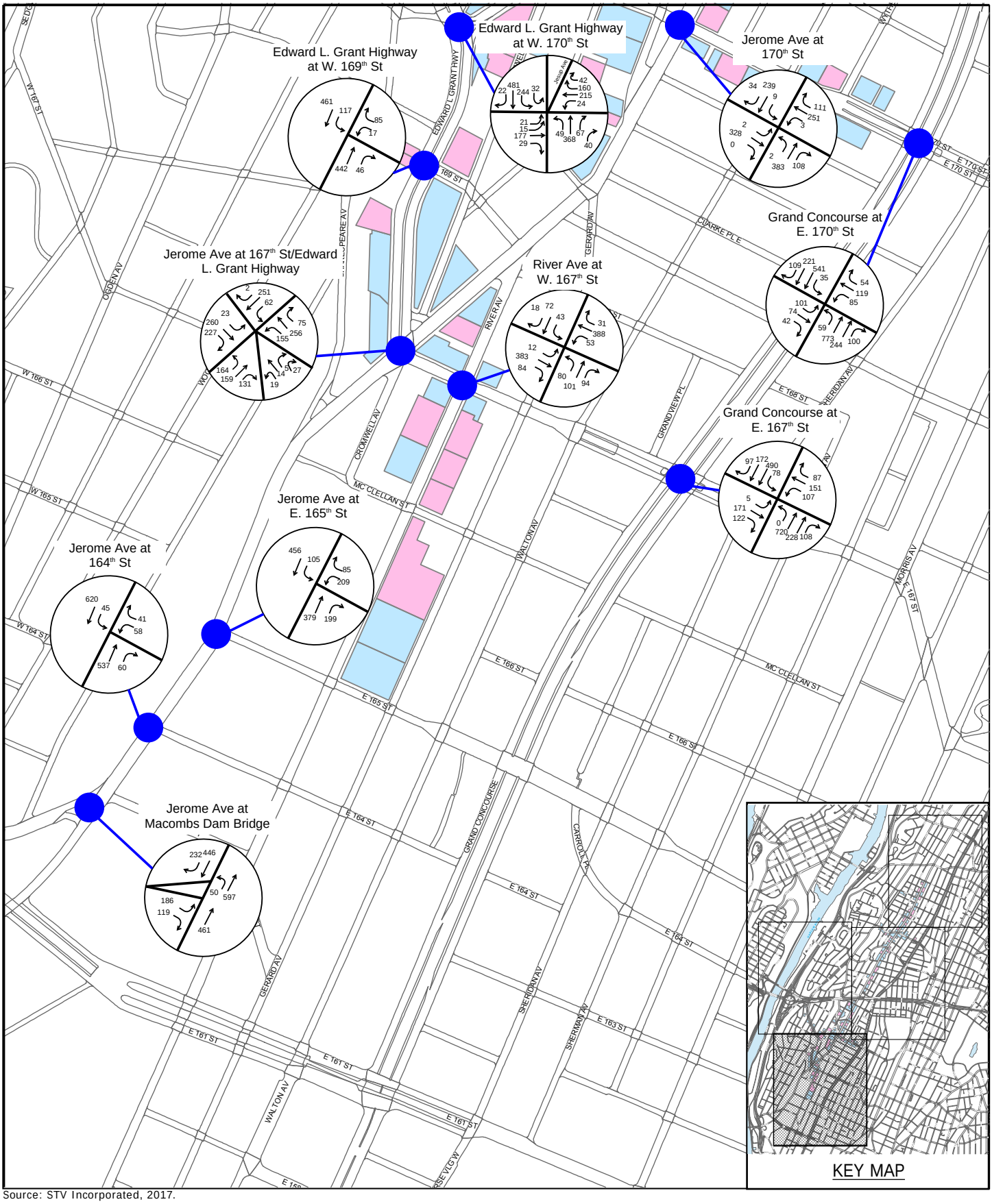
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-14C

NO ACTION SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-14D

NO ACTION SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES

Kingsbridge Armory National Ice Center FEIS

Signal timing and geometry adjustments are planned for the intersection of Jerome Avenue and Fordham Road to provide additional capacity to the north and southbound movements during the weekday midday and PM and Saturday midday peak periods. The centerline of Fordham Road would be shifted west of Jerome Avenue one foot to the north. The eastbound approach would be restriped to two 10.5-foot travel lanes and one ten-foot bus lane. One second of green time would be shifted to the north and southbound phase from the east and westbound phase in the weekday and Saturday midday peak periods; two seconds of green time would be shifted to the north and southbound phase during the weekday PM peak period.

Intersection Capacity Analysis

The volume-to-capacity ratios, delays, and levels of service for those individual lane groups experiencing congestion in one or more peak hours in No-Action conditions are listed in Tables 13-21 through 13-24. As listed in Tables 13-21 through 13-24, a total of 19 intersections (all signalized) will have at least one congested lane group in one or more peak hours in the No-Action condition, the same intersections with congested lane groups in the Existing condition. A total of twelve intersections would have one or more lane groups operating at or over capacity (v/c > 1.0) in the weekday AM peak hour, eight in the midday, 16 in the PM and ten in the Saturday midday peak hour. This compares to five, one, six, and four intersections operating at capacity during these same periods, respectively, in Existing conditions. V/c ratios, delays, and levels of service for all lane groups at all analyzed intersections in all peak periods in No-Action conditions are provided in Appendix E, “Transportation.”

Table 13-21: Congested Lane Groups at Analyzed Intersections for No-Action Conditions (Weekday AM Peak Hour)

INTERSECTION & APPROACH		Mvt.	Weekday AM Existing			Weekday AM No-Action		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS
Jerome Avenue and Kingsbridge Road								
Kingsbridge Road	EB	LTR	0.88	45.9	D	0.95	56.2	E
Jerome Avenue and Fordham Road								
Jerome Avenue	NB	LTR	0.80	58.0	E	0.88	67.6	E
	SB	LTR	0.92	76.3	E	1.11	127.5	F
Jerome Avenue and Tremont Avenue								
Tremont Avenue	EB	LTR	0.92	55.1	E	1.07	95.4	F
	WB	LTR	0.83	43.9	D	1.00	75.8	E
Jerome Avenue and Featherbed Lane								
Featherbed Lane	EB	DefL	0.95	103.2	F	1.11	152.9	F
		TR	0.86	58.4	E	0.89	62.1	E
	WB	LTR	1.05	81.8	F	1.10	99.2	F
Jerome Avenue and NB I-95 Ramps								
Jerome Avenue	SB	DefL	0.96	64.2	E	1.02	78.0	E
Jerome Avenue and Macombs Dam Bridge								
Jerome Avenue	EB	L	0.86	63.0	E	0.88	64.9	E
		R	0.83	61.2	E	0.85	63.1	E
Jerome Avenue and 170th Street								
170th Street	WB	LTR	1.05	87.5	F	1.07	96.4	F
Jerome Avenue and 167th Street								
Edward L. Grant Highway	EB	R	0.89	68.4	E	1.18	154.9	F
Jerome Avenue	NB	DefL	0.81	57.8	E	0.84	63.6	E
Jerome Avenue and E. 165th Street								
E. 165th Street	WB	LR	0.93	58.4	E	0.94	61.8	E
Grand Concourse and Burnside Avenue								
Burnside Avenue	EB	LTR	0.84	62.6	E	0.87	66.6	E
Grand Concourse Mainline	NB	L	0.44	61.1	E	0.44	60.8	E
	SB	L	0.41	59.6	E	0.41	59.2	E
		T	0.90	37.6	D	0.96	45.1	D
Grand Concourse and Tremont Avenue								
Tremont Avenue	EB	L	0.68	54.7	D	0.92	101.6	F
		TR	1.00	100.2	F	1.38	247.1	F
	WB	L	0.44	42.2	D	0.64	66.3	E
		TR	0.75	59.2	D	0.99	110.8	F
Grand Concourse Mainline	NB	L	0.46	62.1	E	0.45	61.1	E
	SB	L	1.02	128.3	F	1.00	120.8	F
Grand Concourse and Mt. Eden Avenue								
Mt. Eden Avenue	EB	LTR	0.80	50.8	D	1.02	100.3	F
	WB	LTR	0.93	73.2	E	1.19	160.7	F
Grand Concourse Mainline	NB	L	0.46	63.9	E	0.48	64.7	E
	SB	L	1.05	139.3	F	1.03	132.3	F
		T	0.86	37.8	D	0.91	42.6	D
Grand Concourse and 170th Street								
Grand Concourse Mainline	NB	L	0.29	57.4	E	0.30	57.3	E
	SB	L	0.35	58.9	E	0.34	58.6	E
Grand Concourse and 167th Street								
167th Street	EB	L	0.50	38.5	D	0.71	62.3	E
		TR	0.84	59.0	E	1.04	110.4	F
	WB	TR	0.79	51.9	D	1.00	98.1	F
Grand Concourse Mainline	SB	L	0.59	70.2	E	0.59	70.7	E
Edward L. Grant Highway and W. 170th Street								
W. 170th Street	WB	LTR	0.95	73.7	E	1.00	84.7	F
Inwood Avenue and W. 170th Street								
W. 170th Street	EB	LT	0.98	60.6	E	1.02	71.6	E
University Avenue and Washington Bridge Off-Ramps								
Washington Bridge Off-Ramps	EB	L	0.92	62.0	E	0.93	65.1	E
		R	1.01	79.9	E	1.03	84.6	F

Source: STV Incorporated, 2017.

Table 13-22: Congested Lane Groups at Analyzed Intersections for No-Action Conditions (Weekday Midday Peak Hour)

INTERSECTION & APPROACH		Mvt.	Weekday Midday Existing			Weekday Midday No-Action		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS
Jerome Avenue and Kingsbridge Road								
Jerome Avenue	NB	LTR	0.87	50.8	D	1.09	104.5	F
Jerome Avenue and Fordham Road								
Jerome Avenue	NB	LTR	0.79	43.3	D	0.99	75.0	E
	SB	LTR	0.79	42.5	D	0.95	65.5	E
Jerome Avenue and Tremont Avenue								
Tremont Avenue	EB	LTR	0.88	50.1	D	1.05	91.0	F
Jerome Avenue and Featherbed Lane								
Featherbed Lane	EB	DefL	0.86	77.5	E	1.02	116.7	F
	WB	LTR	1.04	83.6	F	1.07	91.9	F
Jerome Avenue and 167th Street								
Edward L. Grant Highway	EB	R	0.70	47.0	D	1.01	104.8	F
Jerome Avenue	NB	LTR	0.84	43.7	D			
		DefL				0.82	57.4	E
River Avenue and 167th Street								
River Avenue	NB	LTR	0.62	36.8	D	1.07	112.6	F
Grand Concourse and 176th Street								
176th Street	EB	LTR	0.52	34.8	C	0.77	56.7	E
Grand Concourse and Burnside Avenue								
Grand Concourse Mainline	NB	L	0.33	57.0	E	0.37	58.0	E
	SB	L	0.45	61.7	E	0.45	61.0	E
Grand Concourse and Tremont Avenue								
Tremont Avenue	EB	TR	0.54	41.1	D	0.76	61.4	E
	WB	TR	0.49	39.8	D	0.68	56.5	E
Grand Concourse Mainline	NB	L	0.58	68.3	E	0.58	67.9	E
	SB	L	0.67	70.9	E	0.66	69.5	E
Grand Concourse and Mt. Eden Avenue								
Mt. Eden Avenue	EB	LTR	0.79	51.6	D	1.09	123.2	F
	WB	LTR	0.88	62.6	E	1.14	141.2	F
Grand Concourse Mainline	NB	L	0.53	67.1	E	0.53	66.7	E
	SB	L	0.47	60.9	E	0.47	60.3	E
Grand Concourse and 170th Street								
Grand Concourse Mainline	NB	L	0.32	58.2	E	0.33	58.3	E
Grand Concourse and 167th Street								
167th Street	EB	L	0.48	37.3	D	0.71	62.6	E
		TR	0.80	51.9	D	1.15	144.4	F
	WB	TR	0.87	59.1	E	1.10	121.9	F
Grand Concourse Mainline	SB	L	0.42	61.7	E	0.42	62.0	E
Inwood Avenue and W. 170th Street								
W. 170th Street	EB	LT	0.91	49.3	D	1.04	78.8	E

Source: STV Incorporated, 2017.

Table 13-23: Congested Lane Groups at Analyzed Intersections for No-Action Conditions (Weekday PM Peak Hour)

INTERSECTION & APPROACH		Mvt.	Weekday PM Existing			Weekday PM No-Action		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS
Jerome Avenue and Kingsbridge Road								
Kingsbridge Road	EB	LTR	0.88	44.9	D	1.00	66.5	E
Jerome Avenue	NB	LTR	1.03	89.5	F	1.34	206.1	F
Jerome Avenue and Fordham Road								
Jerome Avenue	NB	LTR	0.95	83.6	F	1.21	163.1	F
	SB	LTR	1.05	114.1	F	1.34	222.4	F
Jerome Avenue and Tremont Avenue								
Tremont Avenue	EB	LTR	1.04	83.1	F	1.23	154.6	F
	WB	LTR	1.02	77.6	E	1.27	173.2	F
Jerome Avenue and Featherbed Lane								
Featherbed Lane	EB	DefL	1.05	130.6	F	1.15	161.6	F
	WB	LTR	1.04	77.9	E	1.07	86.8	F
Jerome Avenue and NB I-95 Ramps								
Jerome Avenue	SB	DefL	0.94	64.1	E	1.01	81.4	F
Jerome Avenue and 170th Street								
170th Street	WB	LTR	0.96	66.9	E	1.01	78.8	E
Jerome Avenue and 167th Street								
Edward L. Grant Highway	EB	R	0.99	100.1	F	1.34	228.3	F
Jerome Avenue	NB	DefL	0.99	86.3	F	1.28	191.3	F
River Avenue and 167th Street								
E. 167th Street	WB	LTR	0.88	34.6	C	0.90	37.4	D
River Avenue	NB	LTR	0.66	39.0	D	1.00	90.5	F
Jerome Avenue and E. 165th Street								
E. 165th Street	WB	LR	0.97	66.3	E	1.04	84.0	F
Grand Concourse and 176th Street								
176th Street	EB	LTR	0.69	46.8	D	1.05	116.6	F
Grand Concourse and Burnside Avenue								
Grand Concourse Mainline	NB	L	0.42	60.1	E	0.44	60.8	E
	SB	L	0.43	60.4	E	0.42	59.2	E
Grand Concourse Service Road	NB	TR	1.01	71.5	E	1.05	80.7	F
Grand Concourse and Tremont Avenue								
Tremont Avenue	EB	L	0.55	42.3	D	0.77	67.1	E
		TR	0.77	55	D	1.06	119.1	F
	WB	L	0.42	38.9	D	0.70	66.1	E
		TR	0.54	41.6	D	0.74	61.2	E
Grand Concourse Mainline	NB	L	0.78	85.4	F	0.78	84.7	F
	SB	L	0.95	109.0	F	0.94	105.8	F
Grand Concourse Service Road	NB	TR	0.97	61.7	E	1.01	70.8	E
Grand Concourse and Mt. Eden Avenue								
Mt. Eden Avenue	EB	LTR	0.77	49.3	D	1.03	103.6	F
	WB	LTR	0.92	71.4	E	1.20	163.5	F
Grand Concourse Mainline	NB	L	0.70	79.9	E	0.72	80.9	F
	SB	L	0.75	79.1	E	0.73	76.8	E
Grand Concourse and 170th Street								
Grand Concourse Mainline	NB	L	0.66	75.8	E	0.67	76.1	E
	SB	L	0.34	58.5	E	0.33	58.1	E
Grand Concourse and 167th Street								
167th Street	EB	L	0.78	61.8	E	1.16	172.6	F
		TR	0.69	42.9	D	1.00	95.3	F
	WB	TR	0.91	65.2	E	1.15	142.2	F
Grand Concourse Mainline	SB	L	0.99	139.9	F	0.95	126.0	F
Edward L. Grant Highway and W. 170th Street								
W. 170th Street	WB	LTR	0.86	58.2	E	0.95	72.0	E
Inwood Avenue and W. 170th Street								
W. 170th Street	EB	LT	0.99	62.9	E	1.13	109.4	F
University Avenue and Washington Bridge Off-Ramps								
Washington Bridge Off-Ramps	EB	L	1.05	94.7	F	1.08	103.9	F
		R	0.98	73.1	E	1.00	78.8	E

Source: STV Incorporated, 2017.

Table 13-24: Congested Lane Groups at Analyzed Intersections for No-Action Conditions (Saturday Midday Peak Hour)

INTERSECTION & APPROACH		Mvt.	Saturday Midday Existing			Saturday Midday No-Action		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS
Jerome Avenue and Kingsbridge Road								
Kingsbridge Road	EB	LTR	0.85	36.1	D	0.95	50.8	D
Jerome Avenue and Fordham Road								
Jerome Avenue	NB	LTR	0.81	55.5	E	0.99	84.9	F
	SB	LTR	0.77	51.2	D	0.91	68.3	E
Jerome Avenue and Tremont Avenue								
Tremont Avenue	EB	LTR	0.93	55.5	E	1.09	102.7	F
	WB	LTR	0.84	44.1	D	1.03	83.2	F
Jerome Avenue and Featherbed Lane								
Featherbed Lane	EB	DefL	1.04	120.7	F	1.21	180.4	F
	WB	LTR	0.91	49.7	D	0.94	54.8	D
Jerome Avenue and NB I-95 Ramps								
Jerome Avenue	SB	DefL	0.93	62.2	E	0.99	78.3	E
Jerome Avenue and 167th Street								
Edward L. Grant Highway	EB	R	1.02	103.9	F	1.34	221.9	F
Jerome Avenue and 170th Street								
170th Street	WB	LTR	0.96	67.6	E	1.00	77.2	E
River Avenue and 167th Street								
River Avenue	NB	LTR	0.87	58.3	E	1.14	130.4	F
Grand Concourse and Burnside Avenue								
Burnside Avenue	EB	LTR	0.78	53.0	D	0.83	57.4	E
Grand Concourse Mainline	NB	L	0.52	64.2	E	0.55	65.3	E
	SB	L	0.67	73.8	E	0.65	72.0	E
Grand Concourse and Tremont Avenue								
Tremont Avenue	EB	L	0.51	41.7	D	0.74	67.5	E
		TR	0.70	48.8	D	0.94	88.5	F
	WB	TR	0.65	45.4	D	0.86	72.3	E
Grand Concourse Mainline	NB	L	0.72	78.6	E	0.72	78.1	E
	SB	L	0.94	106.2	F	0.92	102.1	F
Grand Concourse and Mt. Eden Avenue								
Mt. Eden Avenue	EB	LTR	0.65	40.1	D	0.86	65.2	E
	WB	LTR	0.80	53.6	D	1.06	114.1	F
Grand Concourse Mainline	NB	L	0.64	74.0	E	0.66	75.6	E
	SB	L	0.64	69.4	E	0.63	68.5	E
Grand Concourse and 170th Street								
Grand Concourse Mainline	NB	L	0.47	63.6	E	0.47	63.4	E
	SB	L	0.27	56.6	E	0.27	56.3	E
Grand Concourse and 167th Street								
167th Street	EB	TR	0.74	45.6	D	1.04	104.4	F
	WB	L	0.51	37.6	D	0.76	67.3	E
		TR	0.66	40.9	D	0.84	62.9	E
Grand Concourse Mainline	SB	L	0.83	106.5	F	0.83	106.4	F
Edward L. Grant Highway and W. 170th Street								
W. 170th Street	WB	LTR	0.97	76.2	E	1.05	98.3	F
Inwood Avenue and W. 170th Street								
W. 170th Street	EB	LT	1.04	76.0	E	1.16	116.7	F
University Avenue and Washington Bridge Off-Ramps								
Washington Bridge Off-Ramps	EB	L	1.00	80.4	F	1.03	86.9	F
		R	1.04	88.5	F	1.06	94.4	F

Source: STV Incorporated, 2017.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION CONDITION)

Future With-Action Traffic Growth

As shown in Table 13-10, "RWCDS Net Incremental Vehicle Trips by Cluster," based on projected development associated with the Proposed Actions, there would be a total of approximately 405, 524, 671, and 617 additional vehicle (auto, taxi, truck and school bus) trips during the weekday AM, midday, and PM, and Saturday midday peak hours, respectively. Auto and taxi trips were first assigned to various portals on the periphery of the rezoning area based on the locations of each projected development site cluster and outlier site and the anticipated origins and destinations of vehicle trips associated with the different uses projected for each site (e.g., commercial, residential, etc.). The origins/destinations of residential and non-retail commercial trips used for the assignments are based on 2006-2010 US Census journey-to-work and reverse journey-to-work data, respectively. Retail trip origins/destinations are based on population density in proximity to the rezoning area. Auto and taxi trips were then assigned via the most direct routes between the portals and trip nodes located within each cluster or in proximity to an outlier development site. (Additional auto and taxi trip distribution data are provided in the Jerome Avenue Rezoning Transportation Planning Factors and Travel Demand Forecast Technical Memorandum included in Appendix E, "Transportation.")

Figures 13-15 through 13-18 show the assignment of incremental vehicle trips (auto, taxi, truck and school bus) generated during the weekday AM, midday, and PM, and Saturday midday peak hours in the Proposed Actions. Figures 13-19 through 13-22 show the total weekday AM, midday, and PM, and Saturday midday traffic volumes in the 2026 future with the Proposed Actions. The volumes shown are the combination of the net incremental traffic generated by the Proposed Actions and the No-Action volumes.



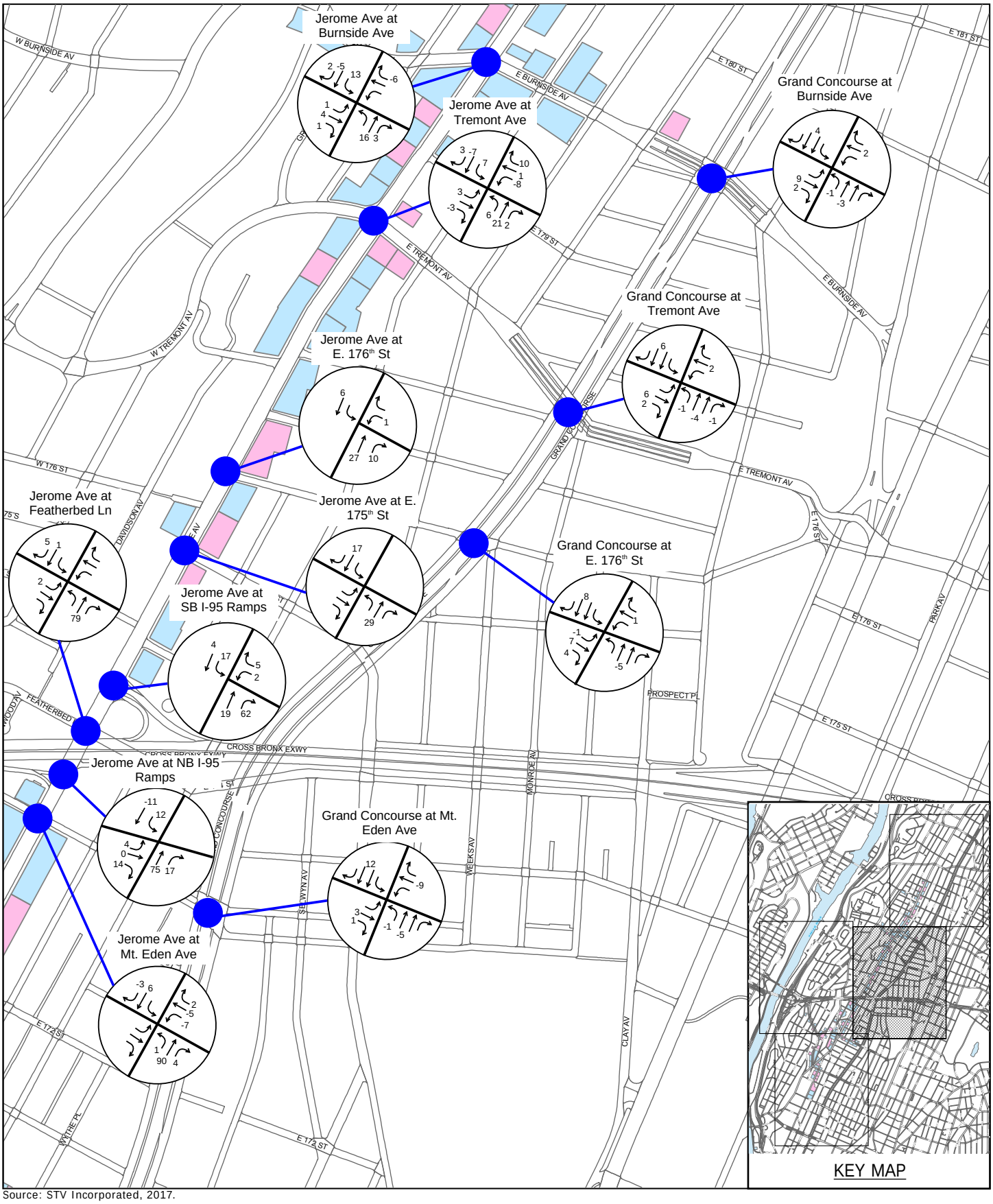
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-15A

INCREMENTAL WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



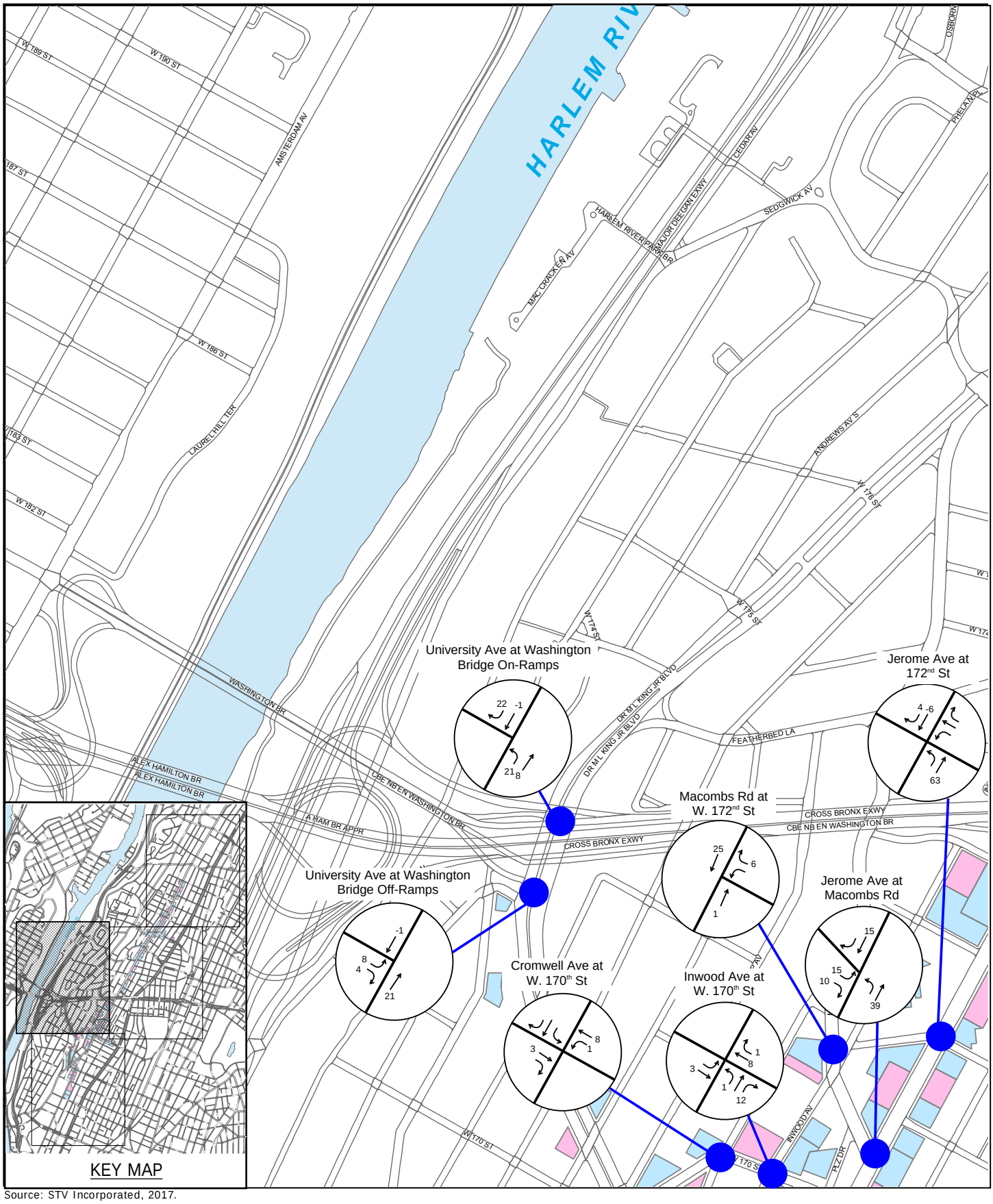
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13 - 15B

INCREMENTAL WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



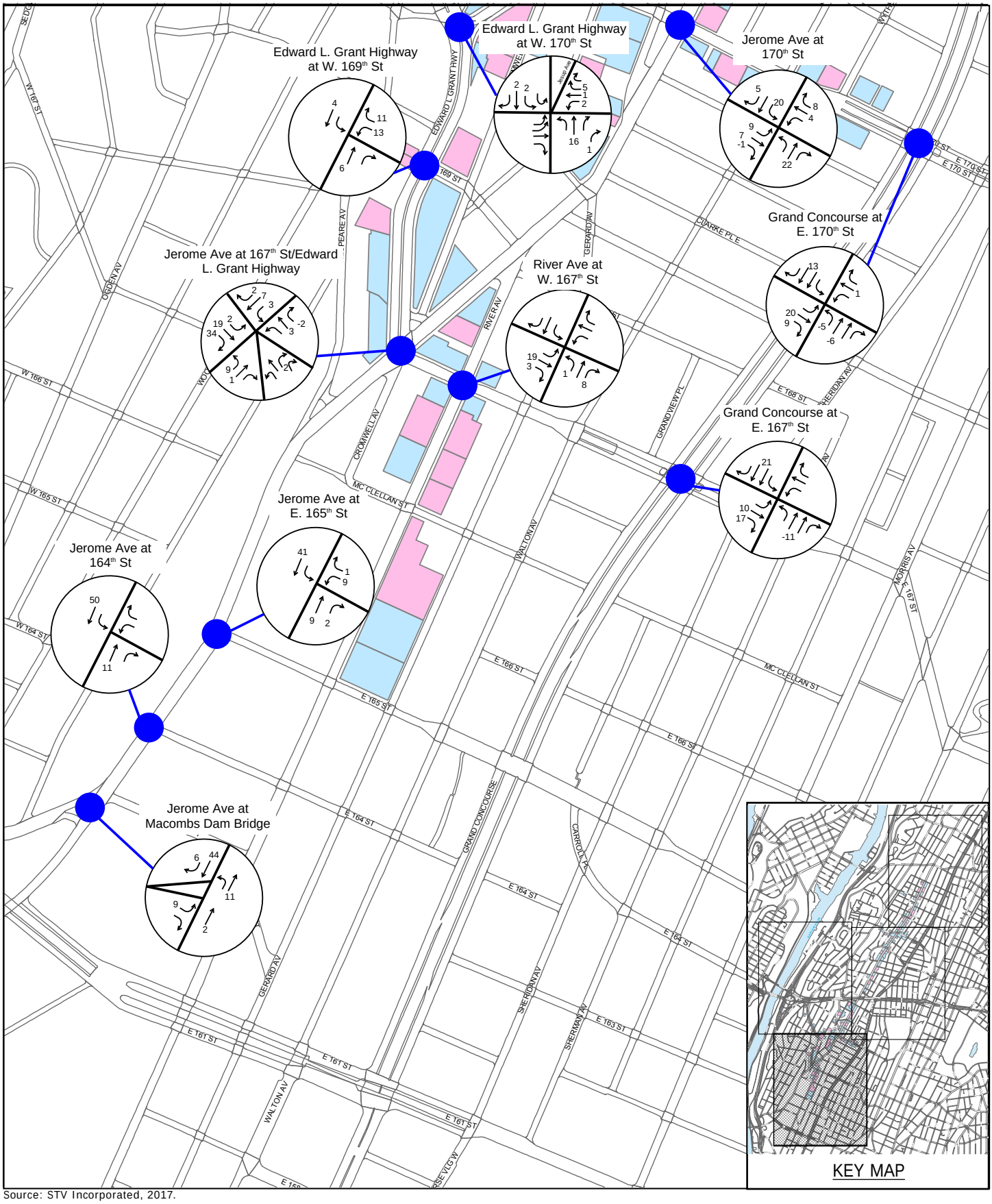
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-15C

INCREMENTAL WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-15D

INCREMENTAL WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



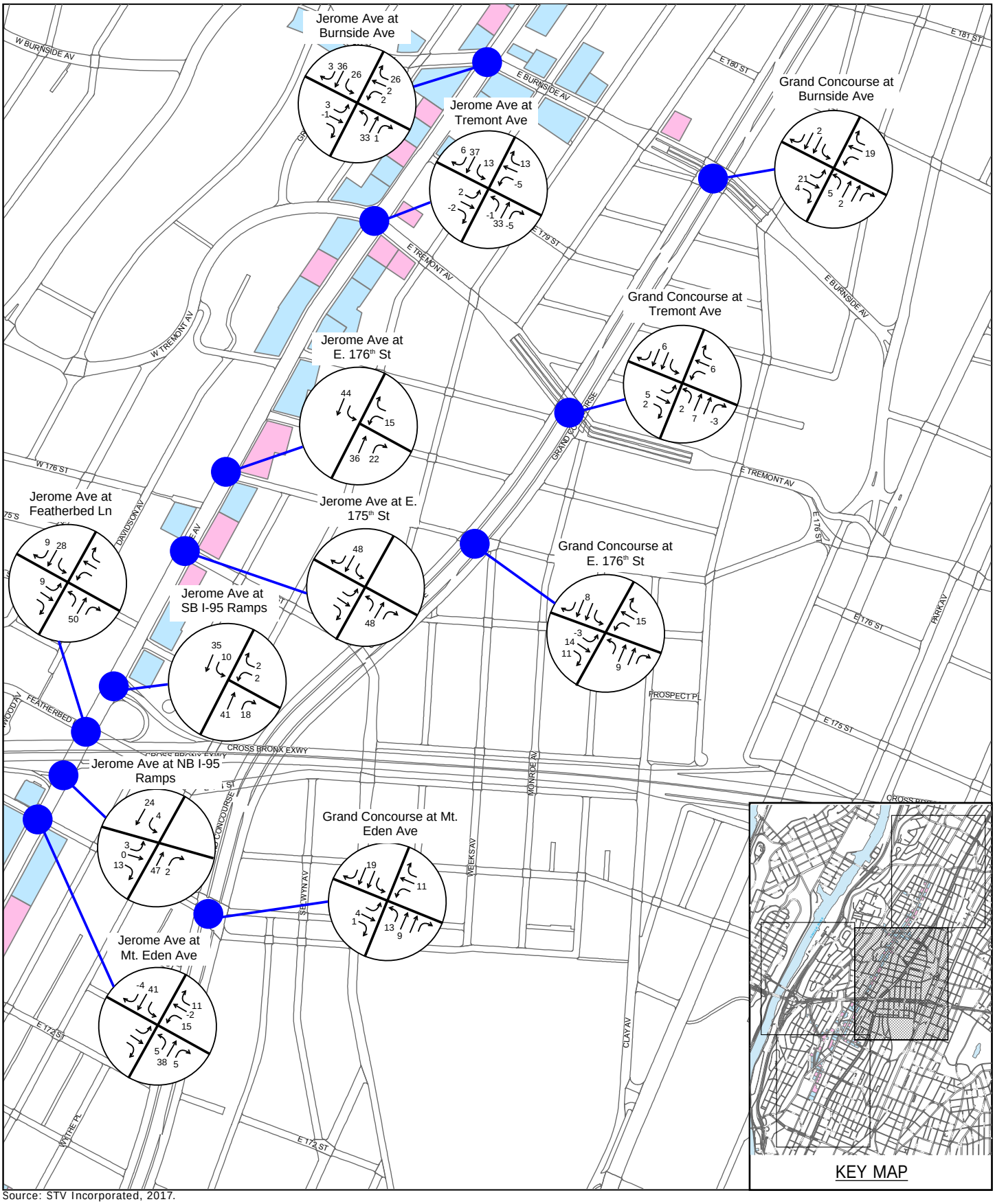
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-16A

INCREMENTAL WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



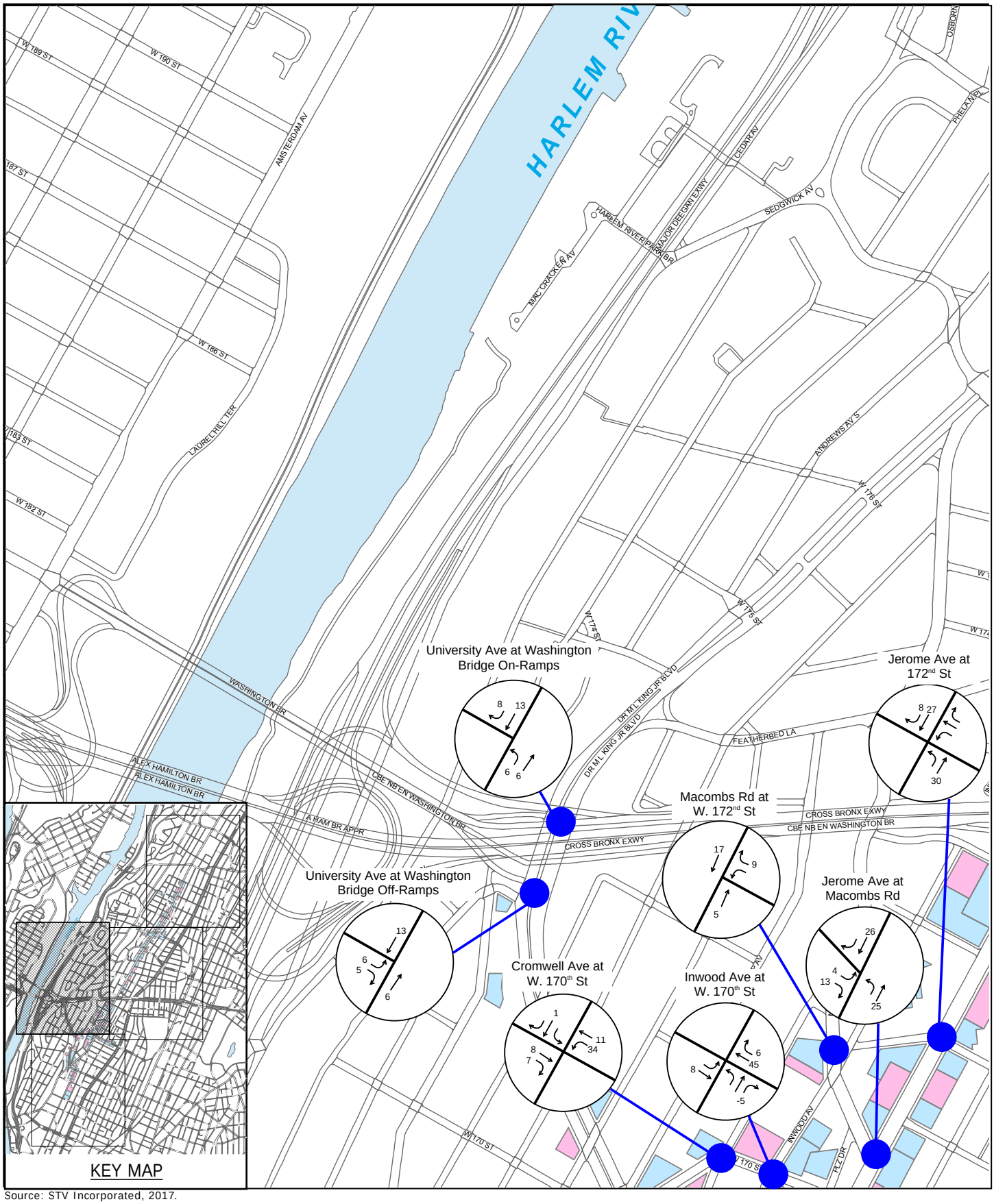
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-16B

INCREMENTAL WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



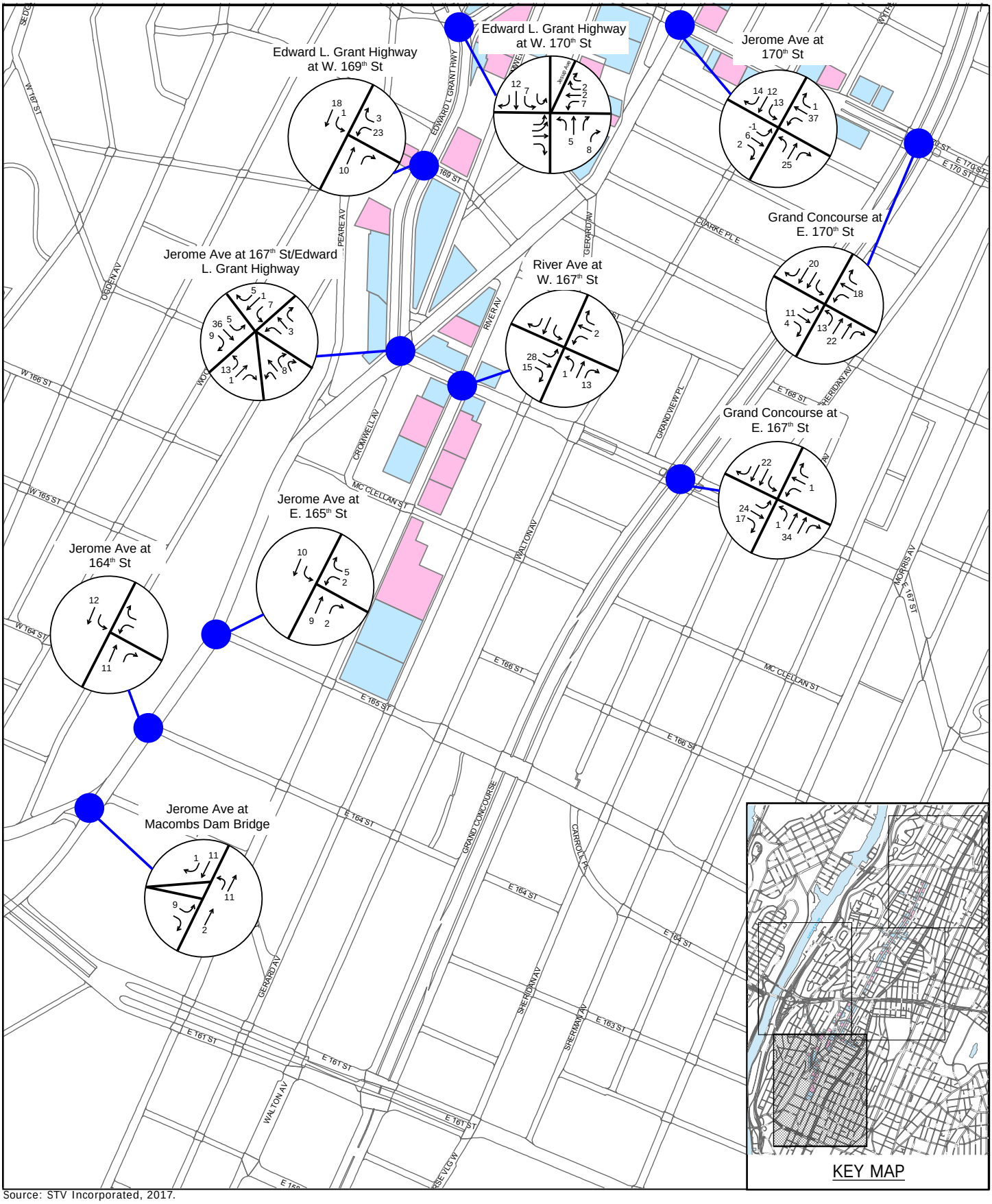
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-16C

INCREMENTAL WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-16D

INCREMENTAL WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



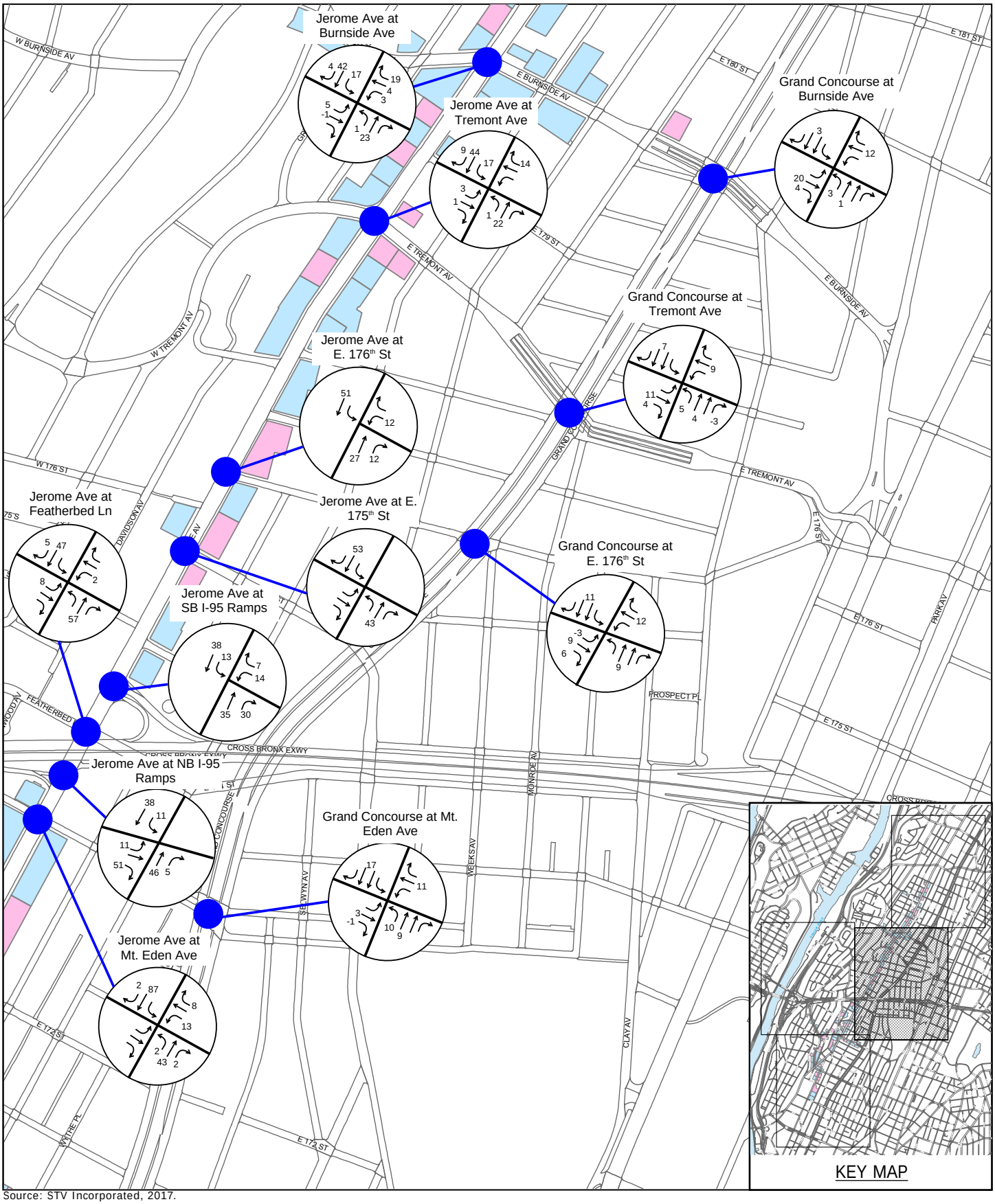
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-17A

INCREMENTAL WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



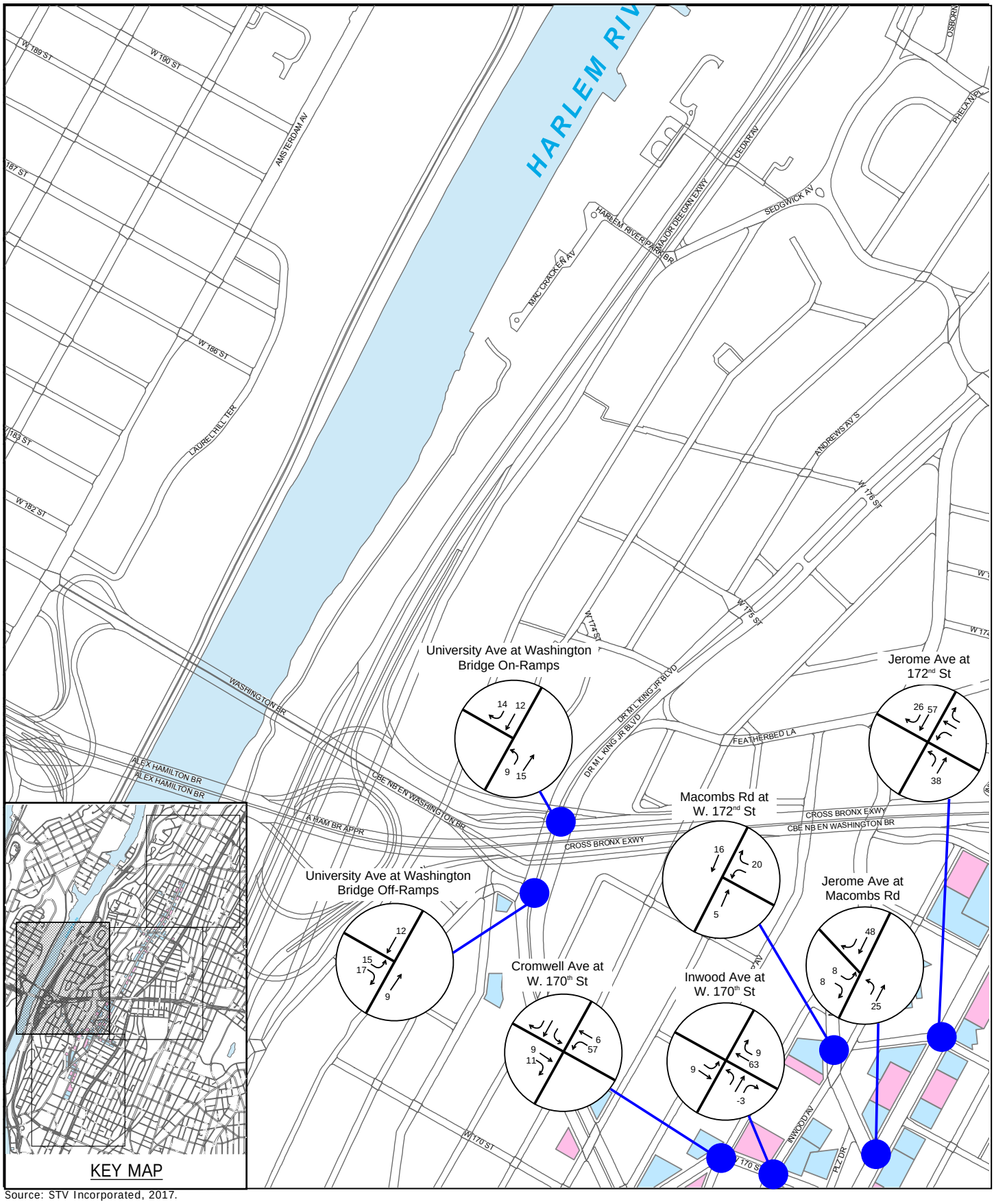
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-17B

INCREMENTAL WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



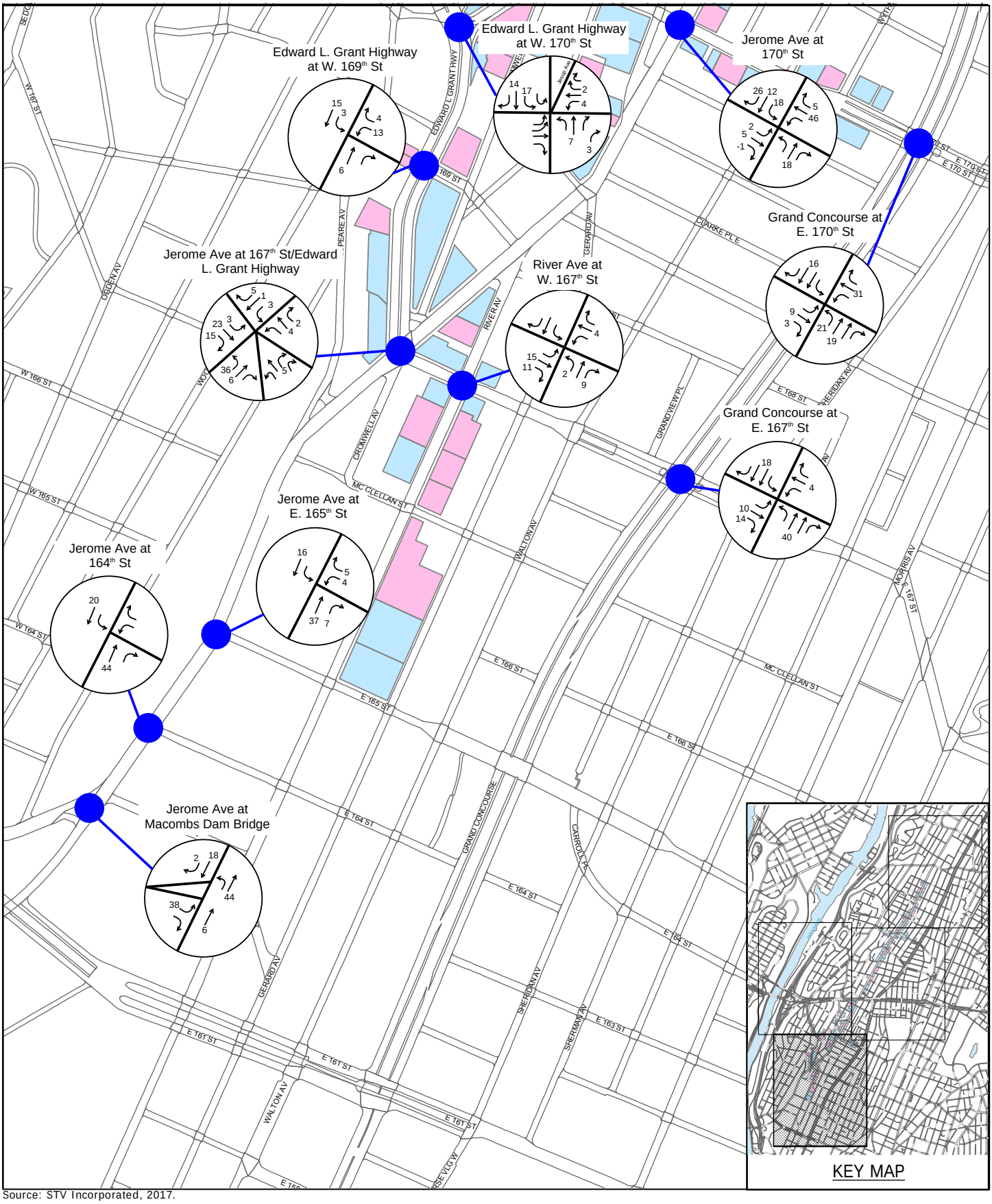
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-17C

INCREMENTAL WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-17D

INCREMENTAL WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



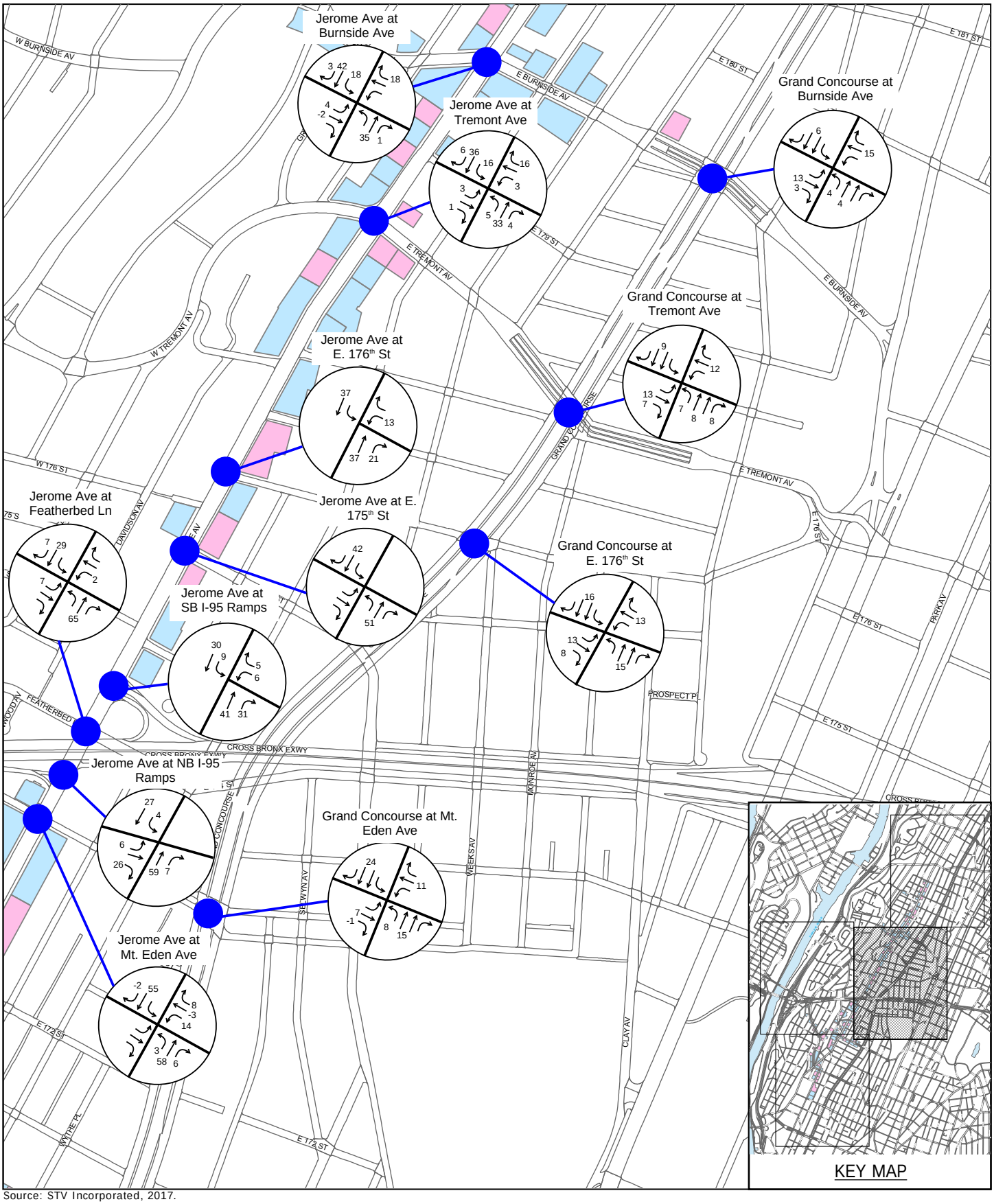
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-18A

INCREMENTAL SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



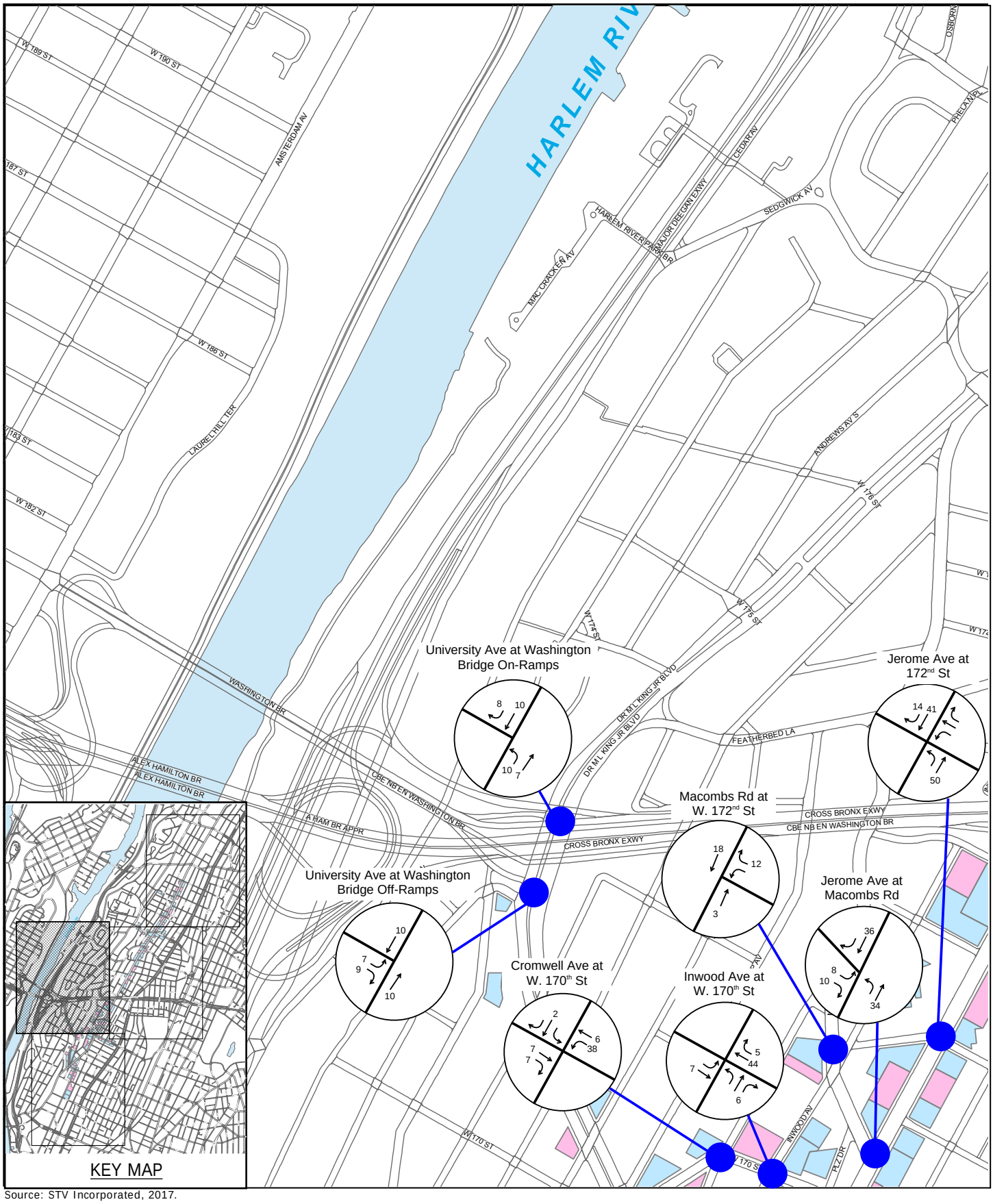
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-18B

INCREMENTAL SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



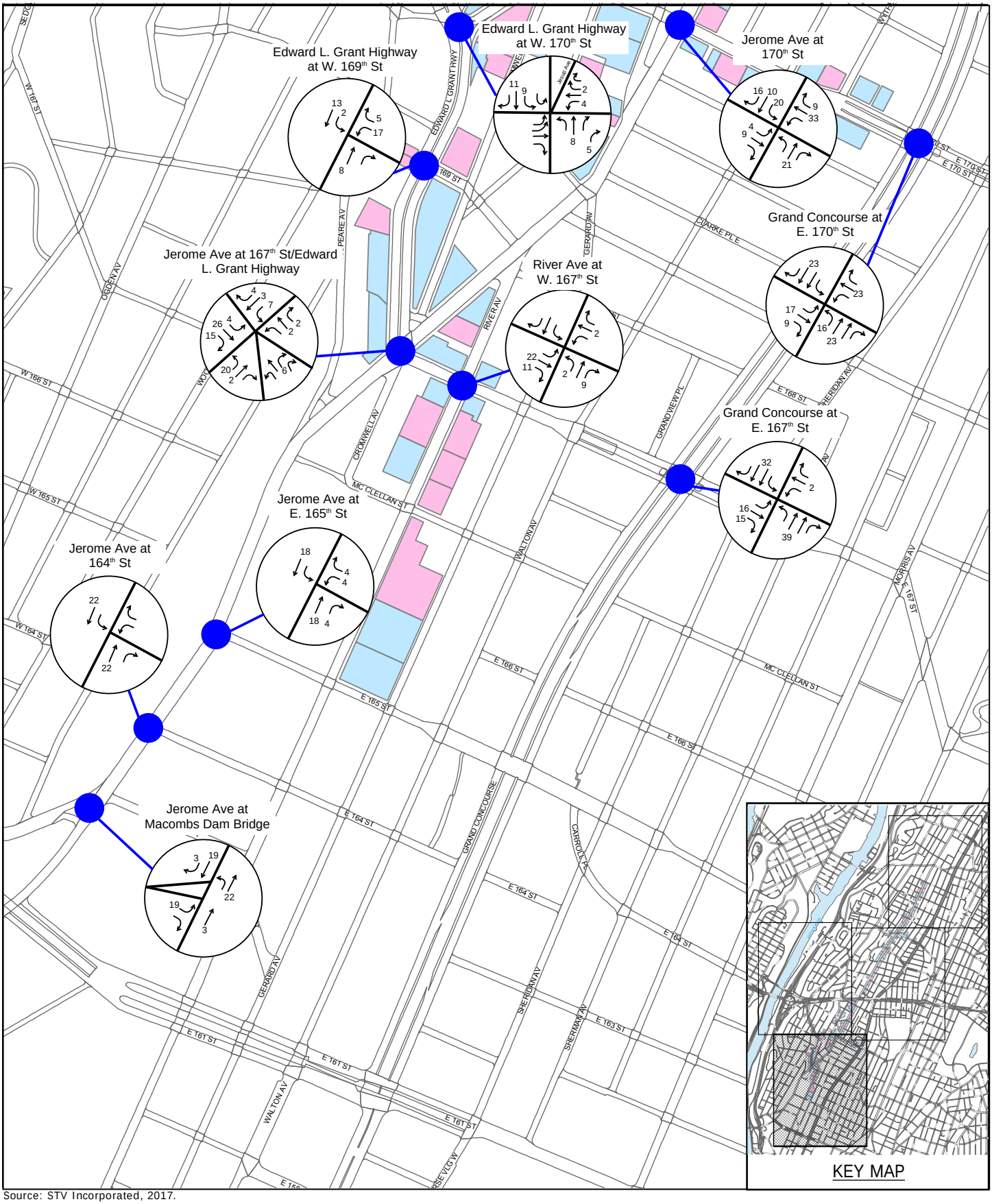
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-18C

INCREMENTAL SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-18D

INCREMENTAL SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



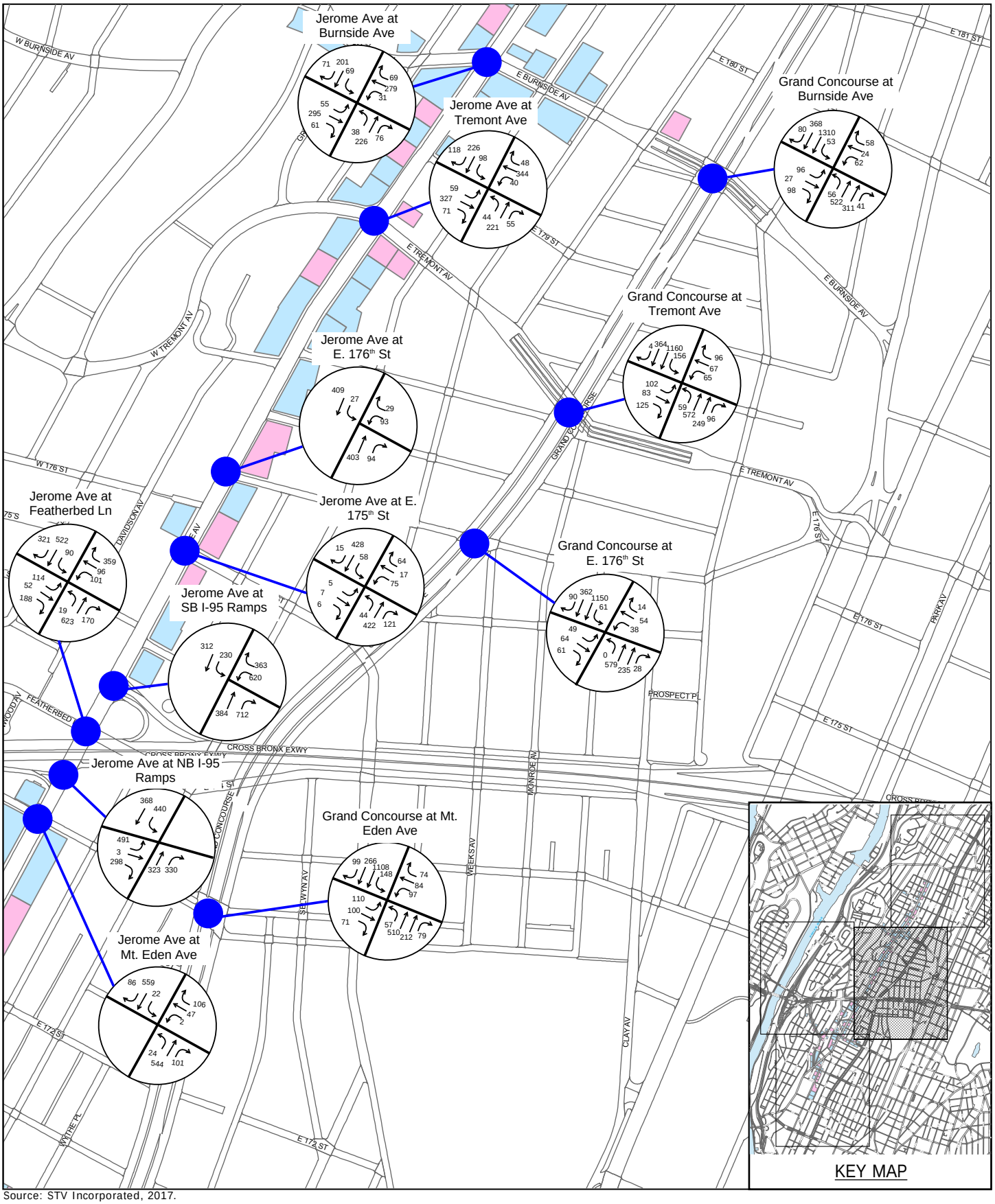
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-19A

WITH-ACTION WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



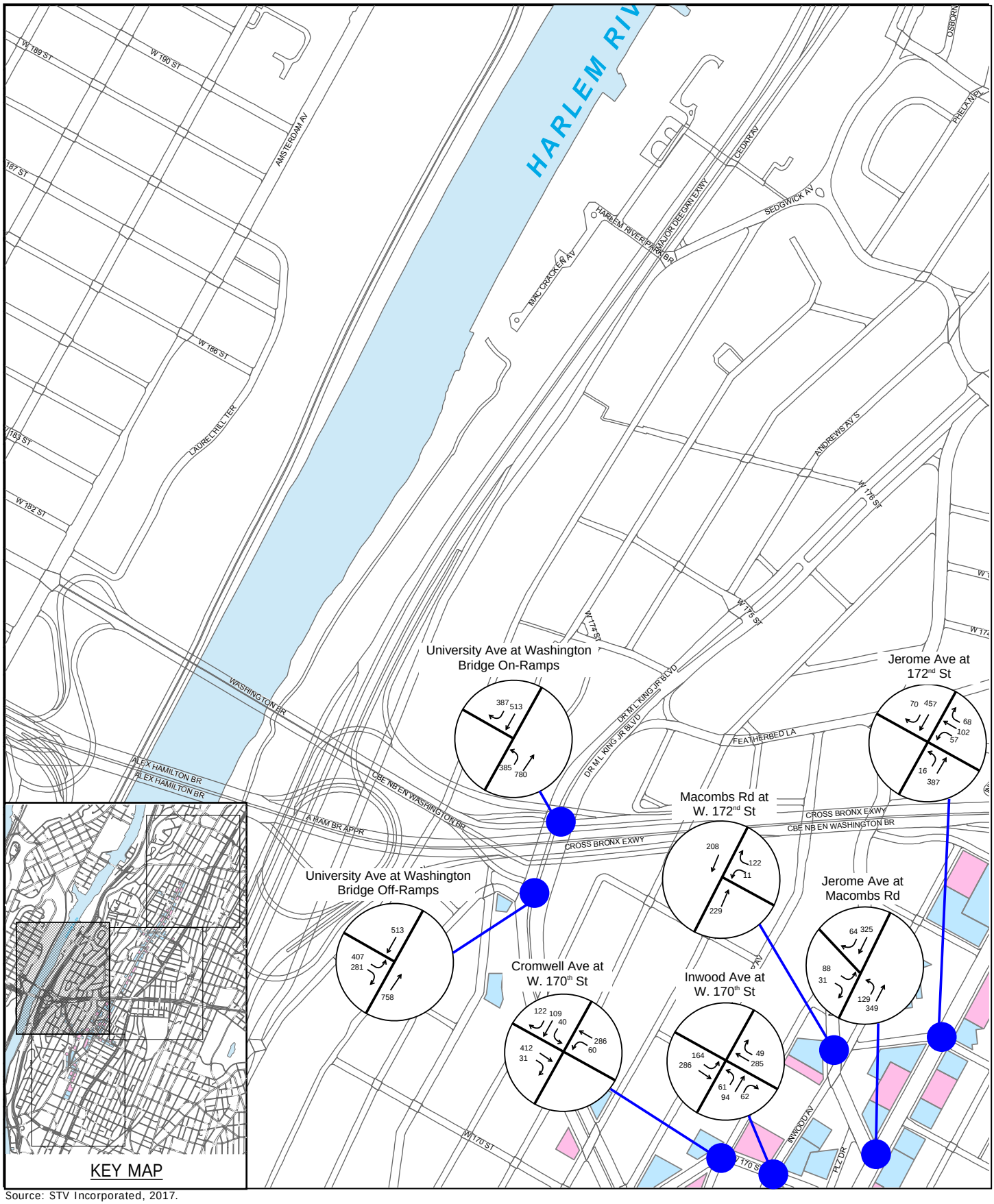
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-19B

WITH-ACTION WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



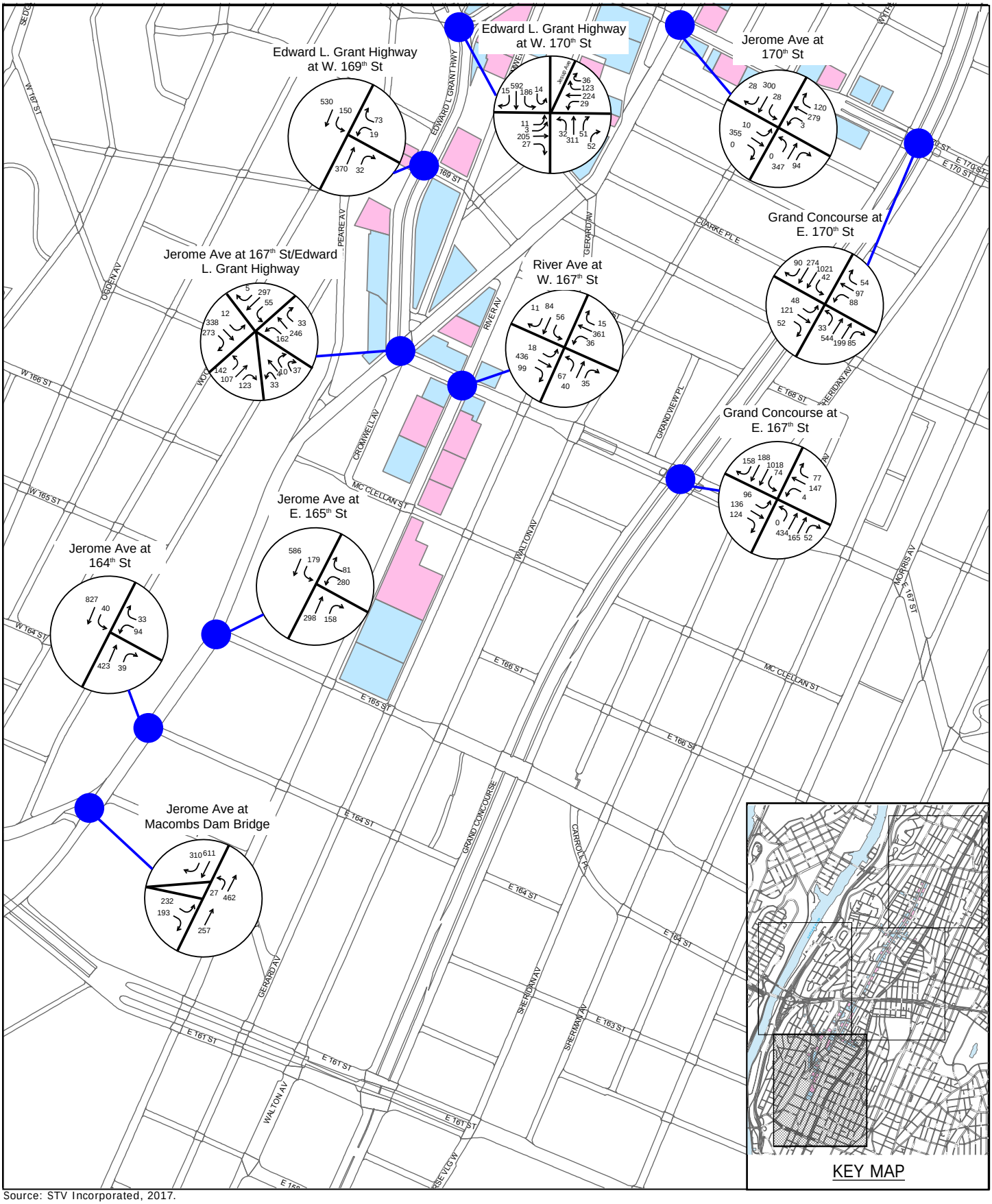
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-19C

WITH-ACTION WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-19D

WITH-ACTION WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES



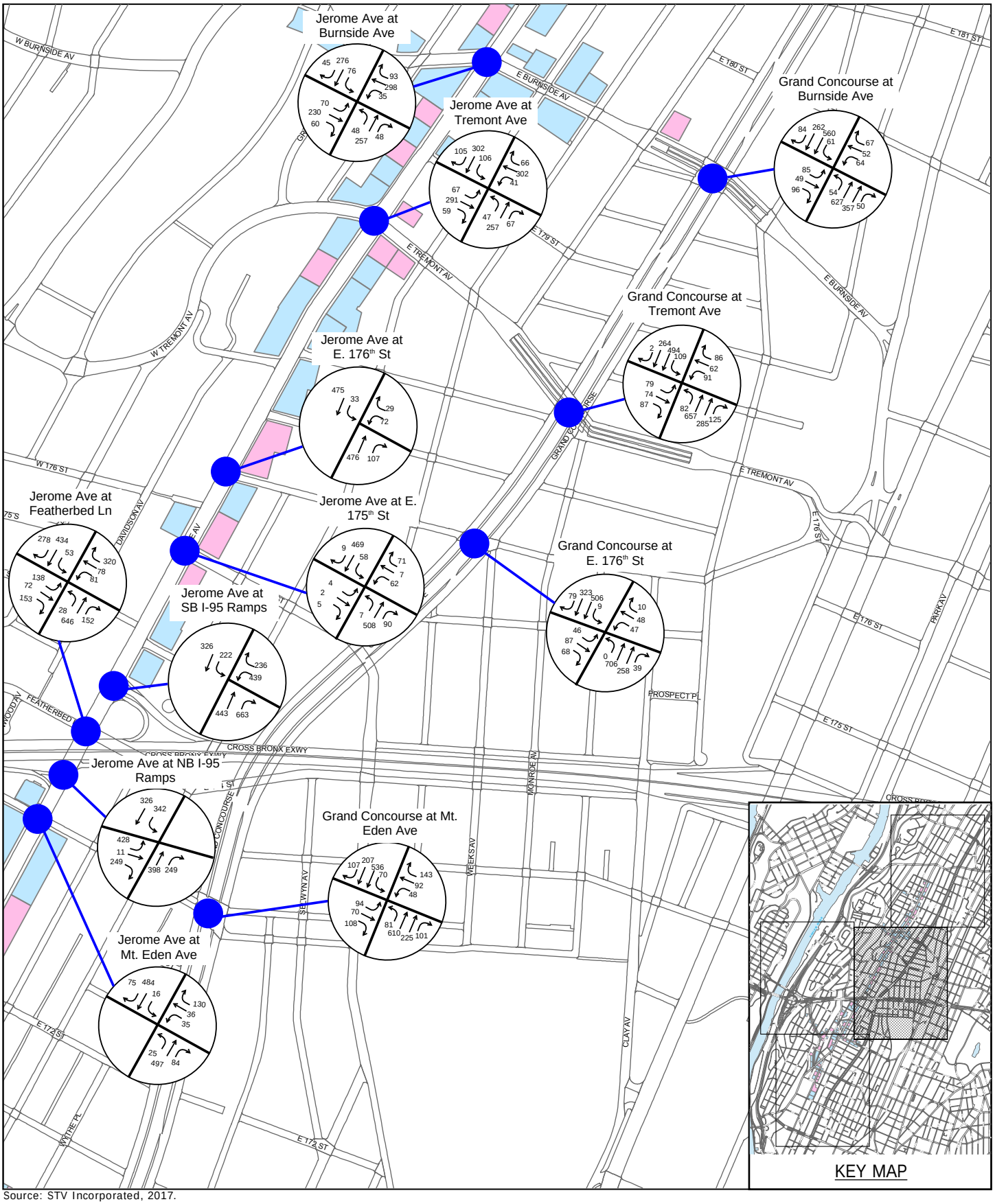
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-20A

WITH-ACTION WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



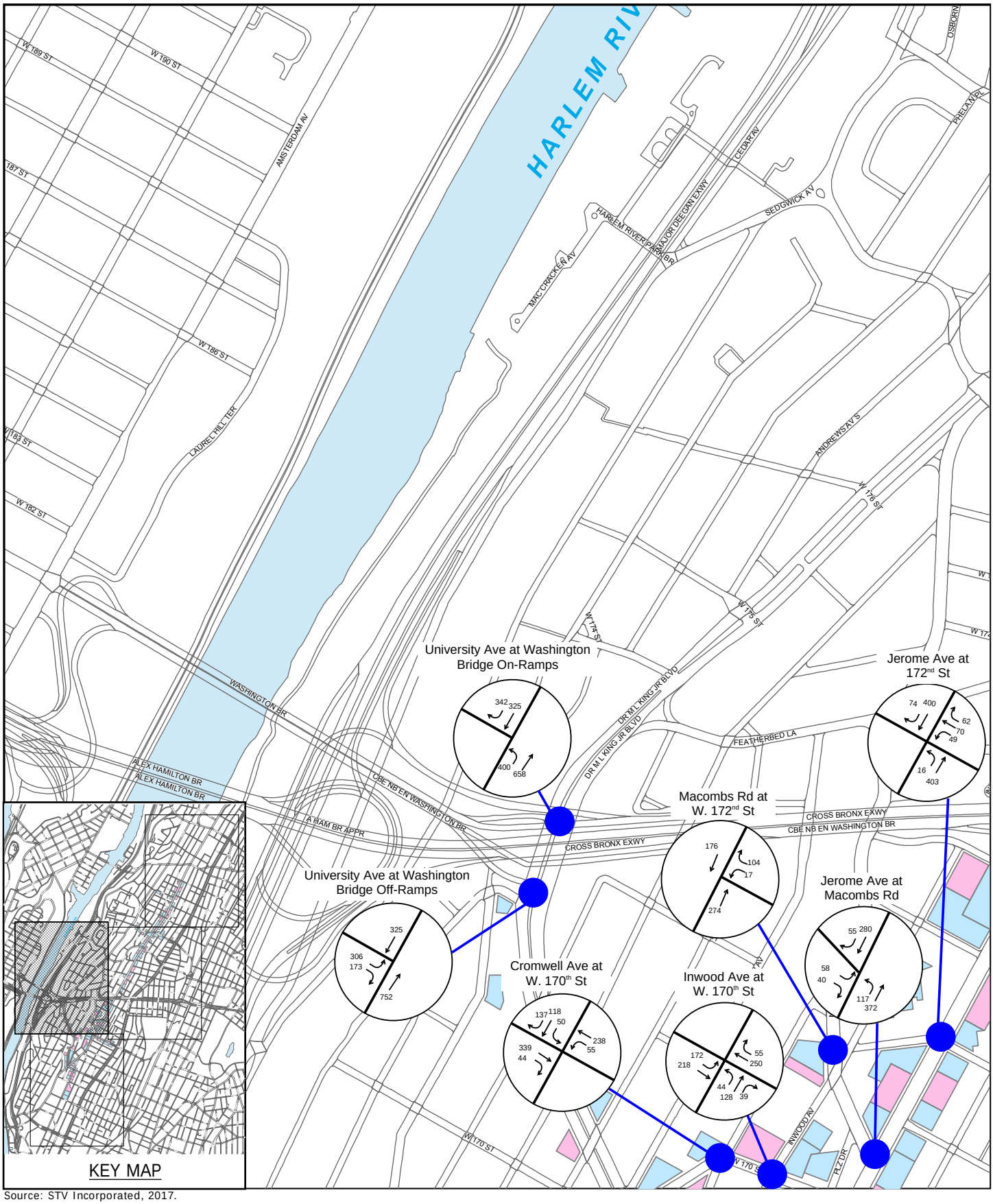
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-20B

WITH-ACTION WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



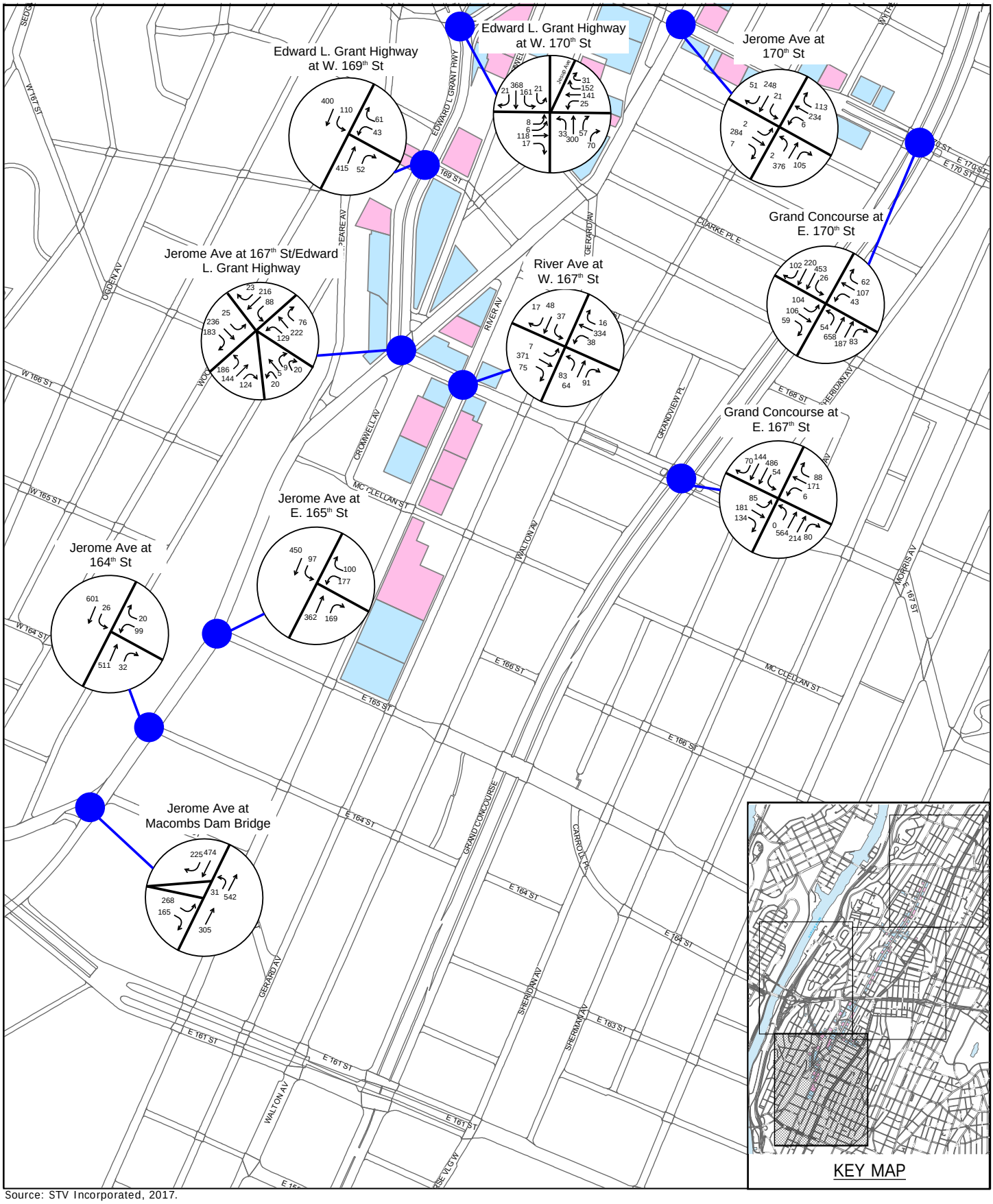
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-20C

WITH-ACTION WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-20D

WITH-ACTION WEEKDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



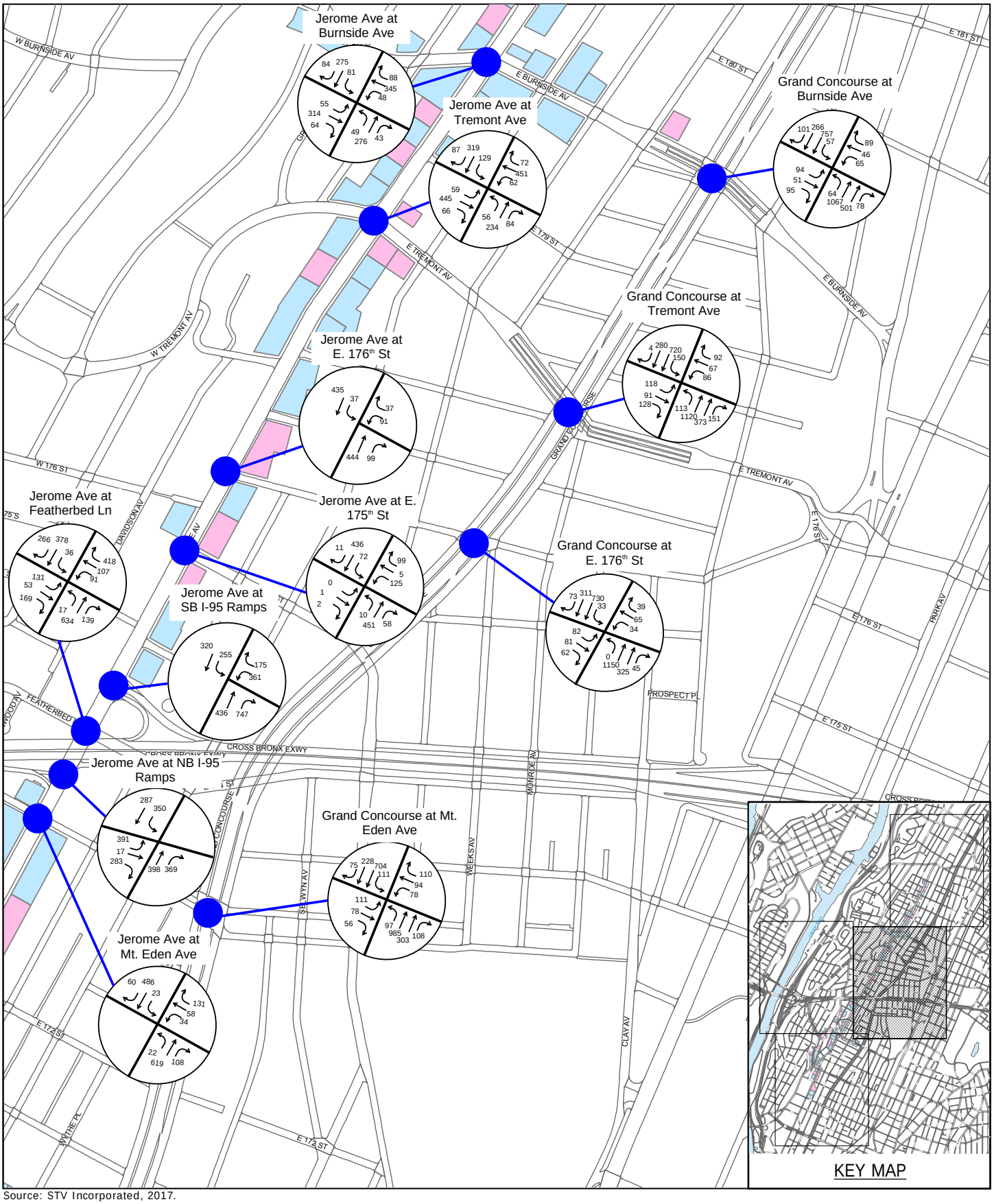
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-21A

WITH-ACTION WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

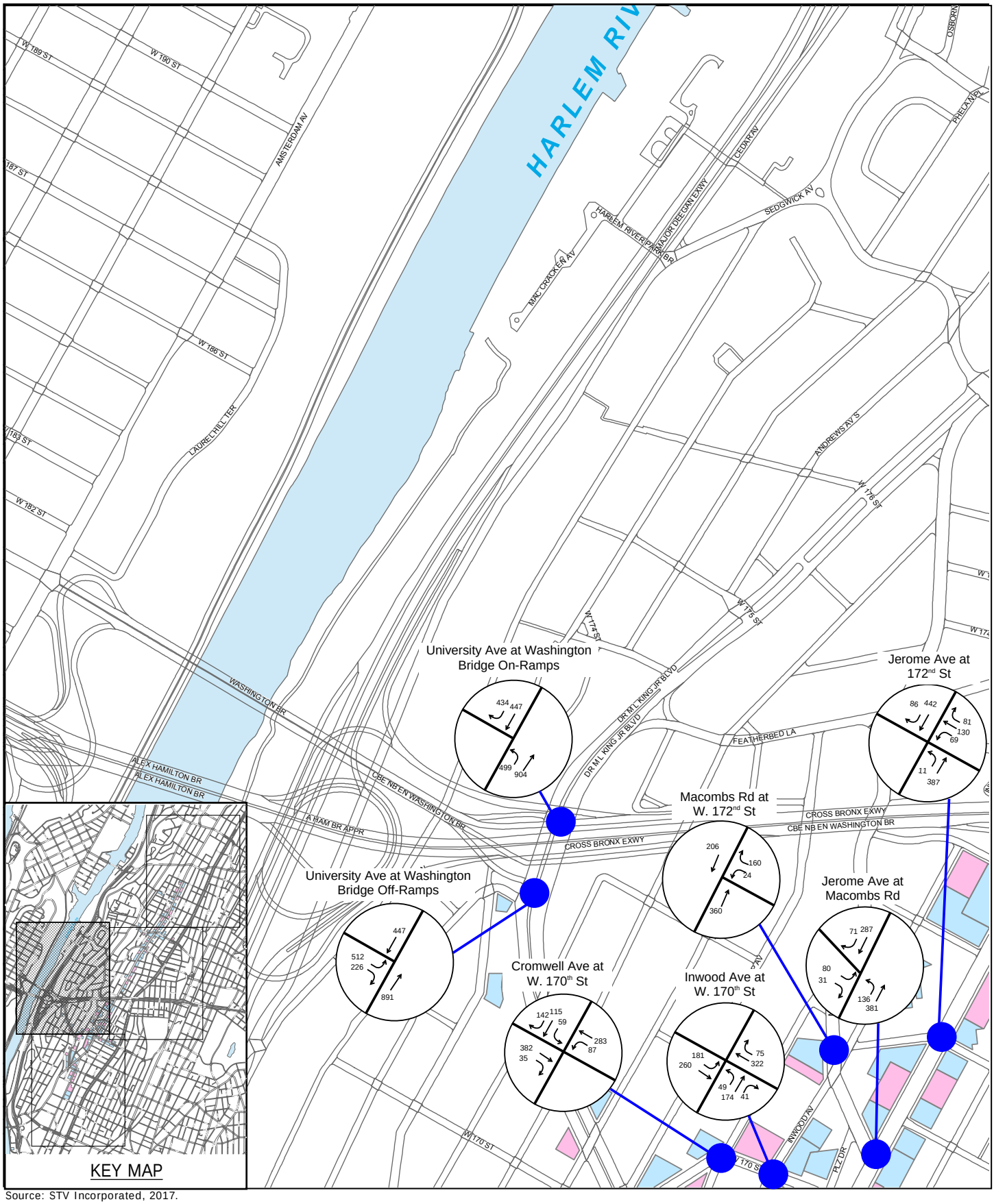
N

0 0.12 0.24 Miles

Figure 13-21B

WITH-ACTION WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES

Jerome Avenue Rezoning



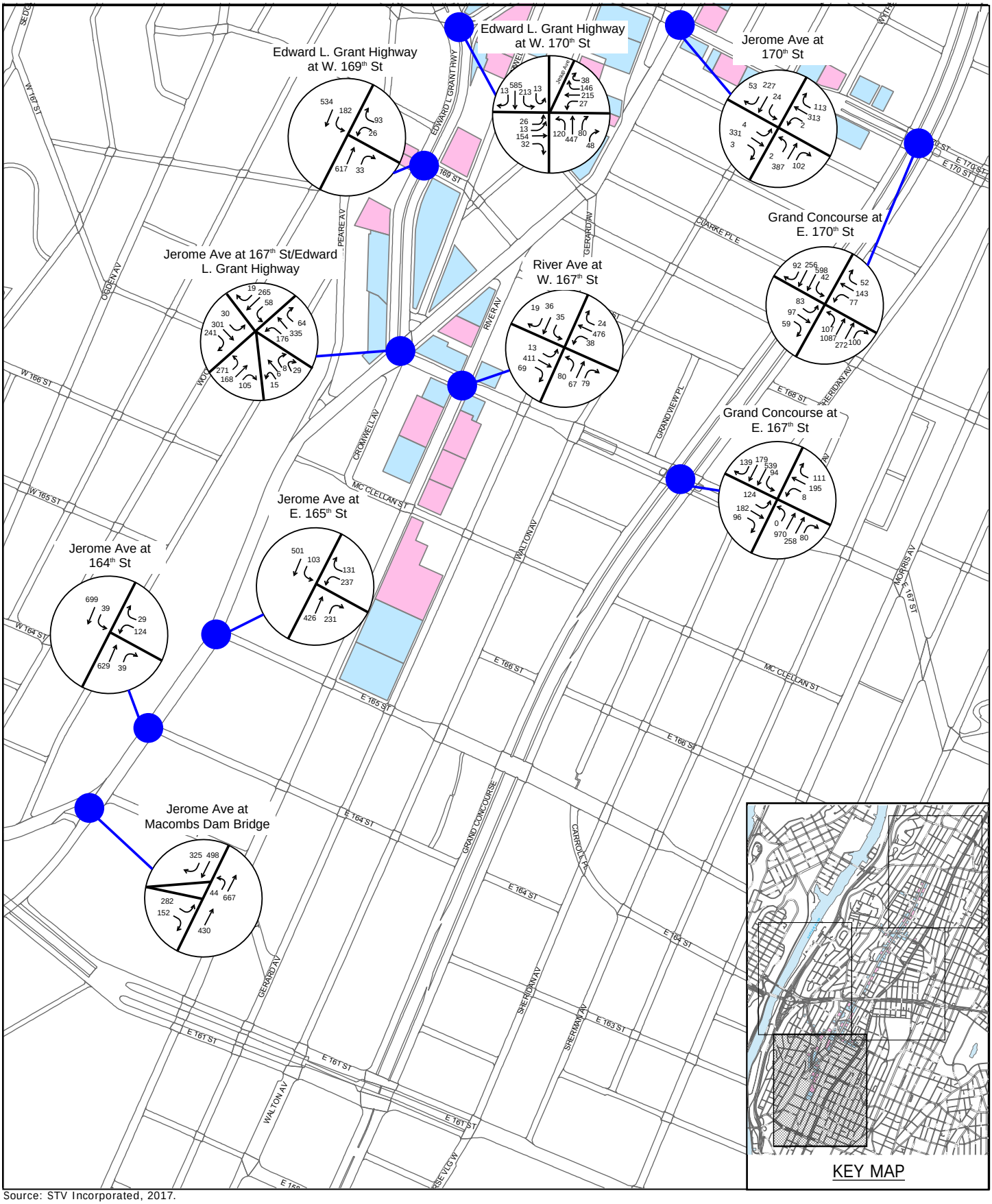
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-21C

WITH-ACTION WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-21D

WITH-ACTION WEEKDAY PM PEAK HOUR TRAFFIC VOLUMES



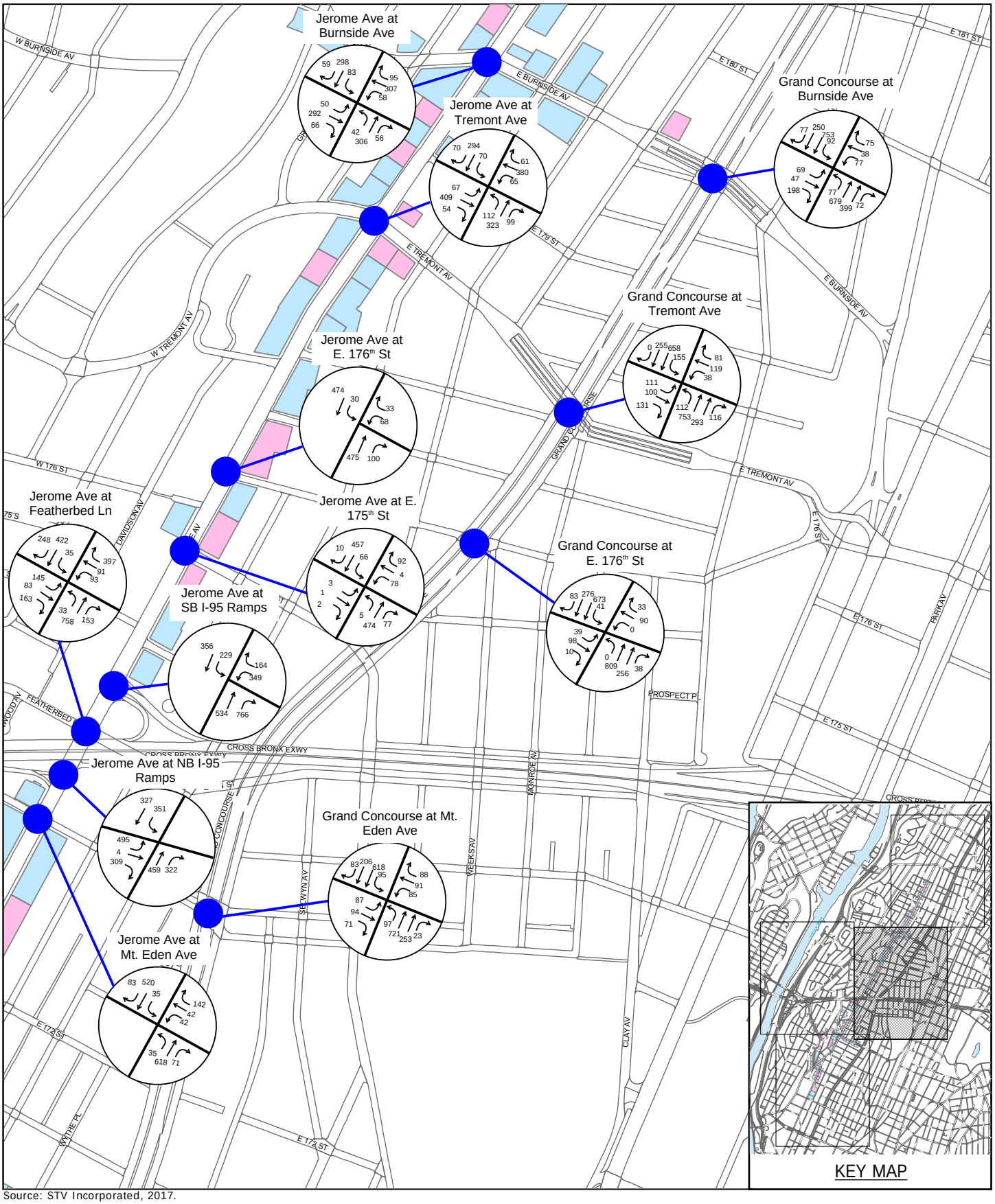
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-22A

WITH-ACTION SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



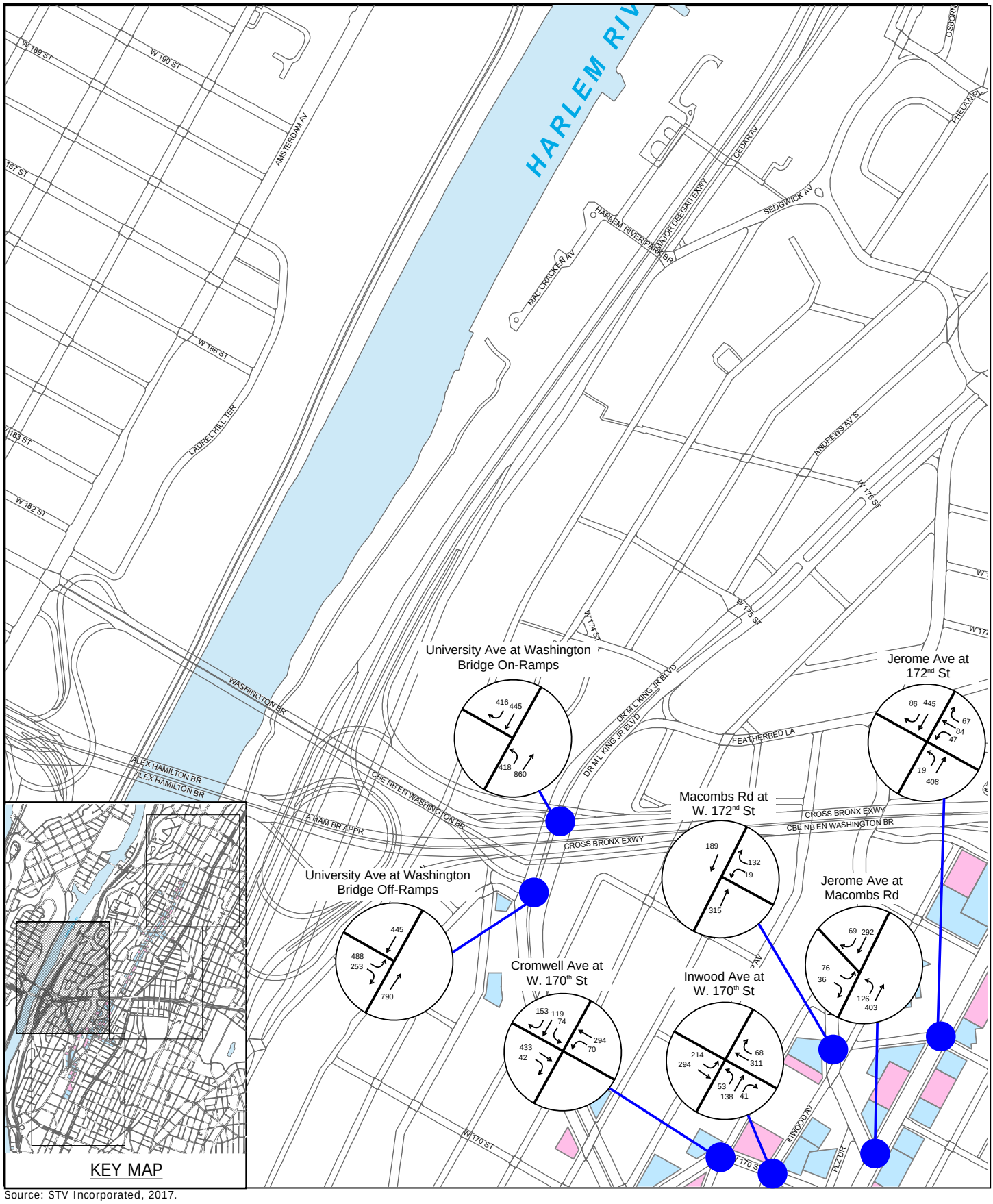
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-22B

WITH-ACTION SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



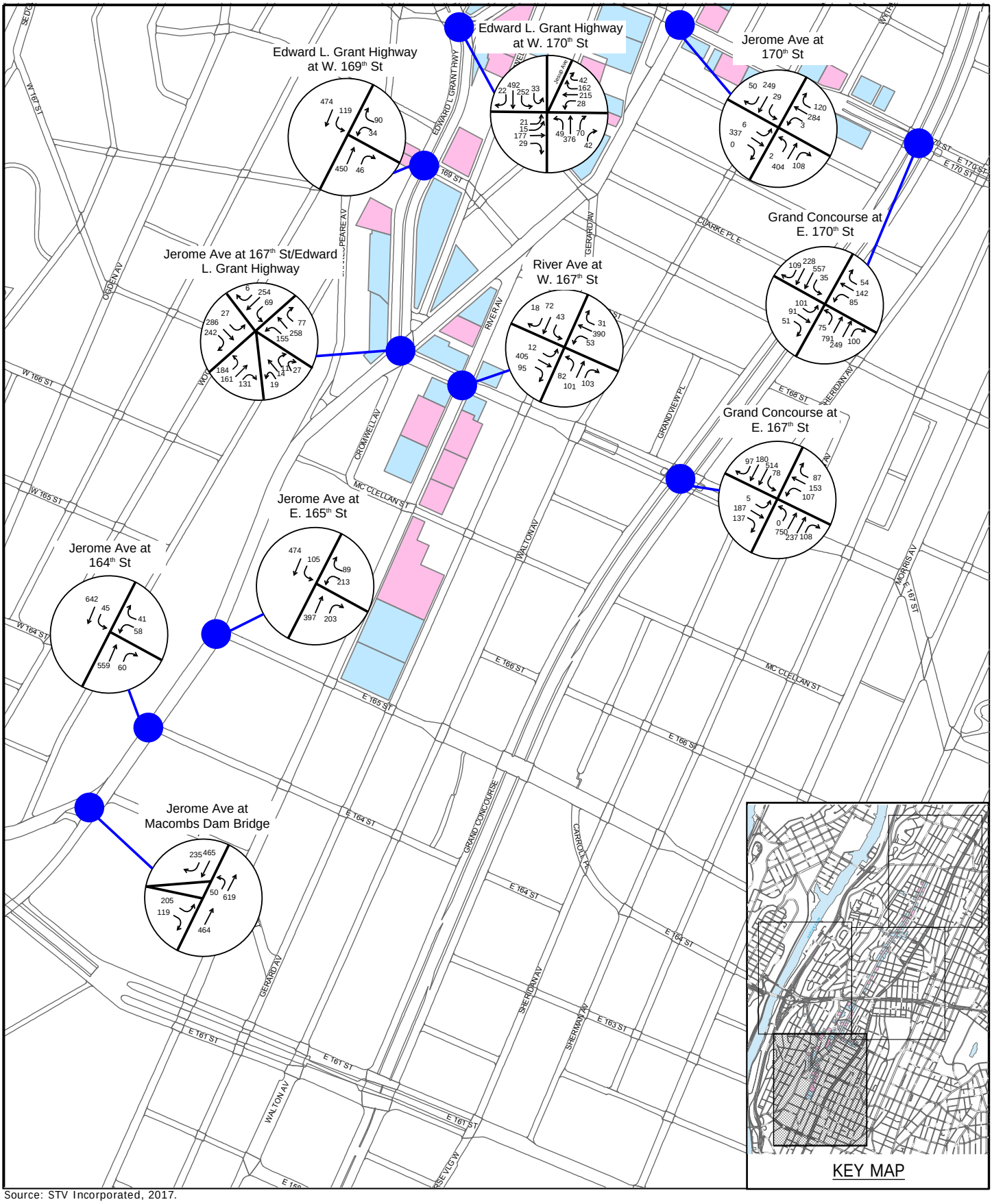
Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-22C

WITH-ACTION SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES



Source: STV Incorporated, 2017.

N

0 0.12 0.24 Miles

Figure 13-22D

WITH-ACTION SATURDAY MIDDAY PEAK HOUR TRAFFIC VOLUMES

Changes to Study Area Street Network

No changes to the study area network are planned as part of the Proposed Actions. Planned physical and operational changes that are incorporated in the No-Action traffic network are also included in the With-Action network.

Intersection Capacity Analysis

The volume-to-capacity ratios, delays and levels of service for those individual lane groups experiencing congestion in one or more peak hours in With-Action conditions are shown in Tables 13-25 through 13-28. Lane groups with significant adverse impacts are highlighted. As shown in Tables 13-25 through 13-28, a total of 22 intersections (all signalized) would have at least one congested lane group in one or more peak hours in the With-Action condition, compared to 19 intersections (all signalized) in No-Action conditions.

Significant adverse impacts were identified at 16 lane groups at 14 intersections during the weekday AM peak hour, 19 lane groups at 15 intersections in the weekday midday peak hour, 32 lane groups at 21 intersections in the weekday PM peak hour, and 30 lane groups at 19 intersections during the Saturday midday peak hour. V/c ratios, delays and levels of service for all lane groups at all analyzed intersections in all peak periods in With-Action conditions are provided in Appendix E, "Transporation." Potential measures to mitigate the significant adverse traffic impacts identified in Tables 13-25 through 13-28 are discussed in Chapter 21, "Mitigation."

Table 13-25: Congested Lane Groups at Analyzed Intersections for With-Action Conditions (Weekday AM Peak Hour)

INTERSECTION & APPROACH		Mvt.	Weekday AM No-Action			Weekday AM With-Action		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS
Jerome Avenue and Kingsbridge Road								
Kingsbridge Road	EB	LTR	0.95	56.2	E	0.95	56.2	E
Jerome Avenue and Fordham Road								
Jerome Avenue	NB	LTR	0.88	67.6	E	1.16	147.3	F
	SB	LTR	1.11	127.5	F	1.07	117.6	F
Jerome Avenue and Tremont Avenue								
Tremont Avenue	EB	LTR	1.07	95.4	F	1.09	101.9	F
	WB	LTR	1.00	75.8	E	0.98	70.0	E
Jerome Avenue and Featherbed Lane								
Featherbed Lane	EB	DefL	1.11	152.9	F	1.13	159.0	F
		TR	0.89	62.1	E	0.89	62.1	E
	WB	LTR	1.10	99.2	F	1.10	99.2	F
Jerome Avenue and NB I-95 Ramps								
Jerome Avenue	SB	DefL	1.02	78.0	E	1.13	118.2	F
Jerome Avenue and Macombs Dam Bridge								
Jerome Avenue	EB	L	0.88	64.9	E	0.91	71.1	E
		R	0.85	63.1	E	0.85	63.1	E
Jerome Avenue and 170th Street								
170th Street	EB	LTR	0.88	51.9	D	0.93	60.3	E
	WB	LTR	1.07	96.4	F	1.13	114.7	F
Jerome Avenue and 167th Street								
Edward L. Grant Highway	EB	R	1.18	154.9	F	1.43	257.8	F
Jerome Avenue	NB	DefL	0.84	63.6	E	0.96	87.4	F
River Avenue and 167th Street								
E. 167th Street	EB	LTR	0.89	36.6	D	0.93	42.0	D
Jerome Avenue and E. 165th Street								
E. 165th Street	WB	LR	0.94	61.8	E	0.97	67.7	E
Grand Concourse and 176th Street								
176th Street	EB	LTR	0.78	62.5	E	0.82	66.8	E
Grand Concourse and Burnside Avenue								
Burnside Avenue	EB	LTR	0.87	66.6	E	0.89	70.2	E
Grand Concourse Mainline	NB	L	0.44	60.8	E	0.43	60.5	E
	SB	L	0.41	59.2	E	0.41	59.2	E
		T	0.96	45.1	D	0.96	45.5	D
Grand Concourse and Tremont Avenue								
Tremont Avenue	EB	L	0.92	101.6	F	0.92	101.6	F
	EB	TR	1.38	247.1	F	1.42	263.2	F
	WB	L	0.64	66.3	E	0.65	68.1	E
		TR	0.99	110.8	F	0.99	112.2	F
Grand Concourse Mainline	NB	L	0.45	61.1	E	0.44	60.9	E
	SB	L	1.00	120.8	F	1.00	120.8	F
Grand Concourse and Mt. Eden Avenue								
Mt. Eden Avenue	EB	LTR	1.02	100.3	F	1.02	99.9	F
	WB	LTR	1.19	160.7	F	1.17	154.8	F
Grand Concourse Mainline	NB	L	0.48	64.7	E	0.48	64.4	E
	SB	L	1.03	132.3	F	1.03	132.3	F
		T	0.91	42.6	D	0.92	43.4	D
Grand Concourse and 170th Street								
Grand Concourse Mainline	NB	L	0.30	57.3	E	0.25	56.0	E
	SB	L	0.34	58.6	E	0.34	58.6	E
Grand Concourse and 167th Street								
167th Street	EB	L	0.71	62.3	E	0.71	62.3	E
	EB	TR	1.04	110.4	F	1.18	156.4	F
		TR	1.00	98.1	F	1.00	98.1	F
Grand Concourse Mainline	SB	L	0.59	70.7	E	0.59	70.7	E
Edward L. Grant Highway and W. 170th Street								
W. 170th Street	WB	LTR	1.00	84.7	F	1.06	102.9	F
Inwood Avenue and W. 170th Street								
W. 170th Street	EB	LT	1.02	71.6	E	1.04	77.0	E
University Avenue and Washington Bridge Off-Ramps								
Washington Bridge Off-Ramps	EB	L	0.93	65.1	E	0.95	68.5	E
		LR	1.03	84.6	F	1.05	90.3	F

Notes: Shading denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Source: STV Incorporated, 2017.

Table 13-26: Congested Lane Groups at Analyzed Intersections for With-Action Conditions (Weekday Midday Peak Hour)

INTERSECTION & APPROACH		Mvt.	Weekday Midday No-Action			Weekday Midday With-Action		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS
Jerome Avenue and Kingsbridge Road								
Jerome Avenue	NB	LTR	1.09	104.5	F	1.29	180.0	F
Jerome Avenue and Fordham Road								
Jerome Avenue	NB	LTR	0.99	75.0	E	1.26	168.6	F
	SB	LTR	0.95	65.5	E	1.08	98.6	F
Jerome Avenue and Burnside Avenue								
Jerome Avenue	SB	LTR	0.68	31.8	C	0.90	49.5	D
Jerome Avenue and Tremont Avenue								
Tremont Avenue	EB	LTR	1.05	91.0	F	1.07	97.3	F
Jerome Avenue and Featherbed Lane								
Featherbed Lane	EB	DefL	1.02	116.7	F	1.09	136.8	F
	WB	LTR	1.07	91.9	F	1.07	91.9	F
Jerome Avenue and NB I-95 Ramps								
Jerome Avenue	SB	DefL	0.88	51.9	D	0.93	61.2	E
Jerome Avenue and Macombs Dam Bridge								
Jerome Avenue	EB	L	0.95	78.1	E	0.98	85.3	F
Jerome Avenue and 170th Street								
170th Street	WB	LTR	0.88	54.0	D	0.99	76.0	E
Jerome Avenue and 167th Street								
Edward L. Grant Highway	EB	R	1.01	104.8	F	1.18	162.7	F
Jerome Avenue	NB	DefL	0.82	57.4	E	0.99	92.8	F
River Avenue and 167th Street								
River Avenue	NB	LTR	1.07	112.6	F	1.17	146.0	F
Grand Concourse and 176th Street								
176th Street	EB	LTR	0.77	56.7	E	0.85	65.3	E
Grand Concourse and Burnside Avenue								
Grand Concourse Mainline	NB	L	0.37	58.0	E	0.41	59.4	E
	SB	L	0.45	61.0	E	0.45	61.0	E
Grand Concourse and Tremont Avenue								
Tremont Avenue	EB	TR	0.76	61.4	E	0.79	64.3	E
	WB	L	0.59	54.2	D	0.60	55.6	E
		TR	0.68	56.5	E	0.70	57.6	E
Grand Concourse Mainline	NB	L	0.58	67.9	E	0.59	68.7	E
	SB	L	0.66	69.5	E	0.66	69.5	E
Grand Concourse and Mt. Eden Avenue								
Mt. Eden Avenue	EB	LTR	1.09	123.2	F	1.12	135.8	F
	WB	LTR	1.14	141.2	F	1.17	152.0	F
Grand Concourse Mainline	NB	L	0.53	66.7	E	0.63	73.5	E
	SB	L	0.47	60.3	E	0.47	60.3	E
Grand Concourse and 170th Street								
Grand Concourse Mainline	NB	L	0.33	58.3	E	0.43	62.1	E
Grand Concourse and 167th Street								
167th Street	EB	L	0.71	62.6	E	0.71	63.3	E
	EB	TR	1.15	144.4	F	1.33	213.4	F
		TR	1.10	121.9	F	1.10	124.2	F
Grand Concourse Mainline	SB	L	0.42	62.0	E	0.42	62.0	E
Edward L. Grant Highway and W. 170th Street								
W. 170th Street	WB	LTR	0.83	55.0	D	0.98	80.7	F
Inwood Avenue and W. 170th Street								
W. 170th Street	EB	LT	1.04	78.8	E	1.14	114.3	F

Notes: Shading denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Source: STV Incorporated, 2017.

Table 13-27: Congested Lane Groups at Analyzed Intersections for With-Action Conditions (Weekday PM Peak Hour)

INTERSECTION & APPROACH		Mvt.	Weekday PM No-Action			Weekday PM With-Action		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS
Jerome Avenue and Kingsbridge Road								
Kingsbridge Road	EB	LTR	1.00	66.5	E	1.00	66.5	E
Jerome Avenue	NB	LTR	1.34	206.1	F	1.47	260.8	F
Jerome Avenue and Fordham Road								
Jerome Avenue	NB	LTR	1.21	163.1	F	1.66	355.4	F
	SB	LTR	1.34	222.4	F	1.38	239.5	F
Jerome Avenue and Burnside Avenue								
Burnside Avenue	WB	LTR	0.85	43.3	D	0.93	53.5	D
Jerome Avenue	SB	LTR	0.79	38.3	D	0.95	59.4	E
Jerome Avenue and Tremont Avenue								
Tremont Avenue	EB	LTR	1.23	154.6	F	1.31	188.4	F
	WB	LTR	1.27	173.2	F	1.31	189.1	F
Jerome Avenue and SB I-95 Ramps								
Jerome Avenue	SB	DefL	0.85	45.2	D	0.94	60.5	E
Jerome Avenue and Featherbed Lane								
Featherbed Lane	EB	DefL	1.15	161.6	F	1.24	193.6	F
	WB	LTR	1.07	86.8	F	1.07	89.1	F
Jerome Avenue and NB I-95 Ramps								
Jerome Avenue	SB	DefL	1.01	81.4	F	1.09	106.9	F
Jerome Avenue and Macombs Dam Bridge								
Jerome Avenue	EB	L	0.69	41.6	D	0.80	48.8	D
Jerome Avenue and 170th Street								
170th Street	WB	LTR	1.01	78.8	E	1.17	133.6	F
Jerome Avenue and 167th Street								
167th Street	EB	R	1.34	228.3	F	1.55	314.2	F
Jerome Avenue	NB	DefL	1.28	191.3	F	1.55	301.6	F
River Avenue and 167th Street								
167th Street	WB	LTR	0.90	37.4	D	0.91	38.9	D
River Avenue	NB	LTR	1.00	90.5	F	1.08	113.5	F
Jerome Avenue and E. 165th Street								
E. 165th Street	WB	LR	1.04	84.0	F	1.07	93.0	F
Grand Concourse and 176th Street								
176th Street	EB	LTR	1.05	116.6	F	1.10	132.7	F
Grand Concourse and Burnside Avenue								
Burnside Avenue	EB	LTR	0.73	51.0	D	0.79	55.3	E
Grand Concourse Mainline	NB	L	0.44	60.7	E	0.46	61.5	E
	SB	L	0.42	59.7	E	0.42	59.7	E
Grand Concourse Service Road	NB	TR	1.05	80.7	F	1.05	80.7	F
Grand Concourse and Tremont Avenue								
Tremont Avenue	EB	L	0.77	67.1	E	0.79	69.5	E
	EB	TR	1.06	119.1	F	1.12	139.7	F
	WB	L	0.70	66.1	E	0.75	73.3	E
		TR	0.74	61.2	E	0.77	63.9	E
Grand Concourse Mainline	NB	L	0.78	84.7	F	0.81	89.0	F
	SB	L	0.94	105.8	F	0.94	105.8	F
Grand Concourse Service Road	NB	TR	1.01	70.8	E	1.00	69.5	E
Grand Concourse and Mt. Eden Avenue								
Mt. Eden Avenue	EB	LTR	1.03	103.6	F	1.05	110.3	F
	WB	LTR	1.20	163.5	F	1.23	175.9	F
Grand Concourse Mainline	NB	L	0.72	80.9	F	0.80	90.6	F
	SB	L	0.73	76.8	E	0.73	76.8	E
Grand Concourse Service Road	NB	TR	0.89	52.2	D	0.90	52.5	D
Grand Concourse and 170th Street								
Grand Concourse Mainline	NB	L	0.67	76.1	E	0.83	96.0	F
	SB	L	0.33	58.1	E	0.33	58.1	E

Notes: Shading denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Source: STV Incorporated, 2017.

Table 13-27 (continued): Congested Lane Groups at Analyzed Intersections for With-Action Conditions (Weekday PM Peak Hour)

INTERSECTION & APPROACH		Mvt.	Weekday PM No-Action			Weekday PM With-Action		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS
Grand Concourse and 167th Street								
167th Street	EB	L	1.16	172.6	F	1.17	176.3	F
		TR	1.00	95.3	F	1.12	131.6	F
	WB	TR	1.15	142.2	F	1.16	145.7	F
Grand Concourse Mainline	SB	L	0.95	126.0	F	0.93	121.5	F
Edward L. Grant Highway and W. 170th Street								
W. 170th Street	WB	LTR	0.95	72.0	E	1.03	91.8	F
Inwood Avenue and W. 170th Street								
W. 170th Street	EB	LT	1.13	109.4	F	1.28	169.4	F
University Avenue and Washington Bridge Off-Ramps								
Washington Bridge Off-Ramps	EB	L	1.08	103.9	F	1.11	115.1	F
		LR	1.00	78.8	E	1.06	95.4	F

Notes: Shading denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Source: STV Incorporated, 2017.

Table 13-28: Congested Lane Groups at Analyzed Intersections for With-Action Conditions (Saturday Midday Peak Hour)

INTERSECTION & APPROACH		Mvt.	Saturday Midday No-Action			Saturday Midday With-Action		
			V/C	Control Delay	LOS	V/C	Control Delay	LOS
Jerome Avenue and Kingsbridge Road								
Kingsbridge Road	EB	LTR	0.95	50.8	D	0.95	50.8	D
Jerome Avenue	NB	LTR	0.85	44.8	D	0.99	69.6	E
Jerome Avenue and Fordham Road								
Jerome Avenue	NB	LTR	0.99	84.9	F	1.23	166.0	F
	SB	LTR	0.91	68.3	E	1.01	90.8	F
Jerome Avenue and Burnside Avenue								
Burnside Avenue	WB	LTR	0.82	40.2	D	0.86	45.2	D
Jerome Avenue	SB	LTR	0.73	34.0	C	0.89	48.5	D
Jerome Avenue and Tremont Avenue								
Tremont Avenue	EB	LTR	1.09	102.7	F	1.14	119.3	F
	WB	LTR	1.03	83.2	F	1.10	106.8	F
Jerome Avenue and SB I-95 Ramps								
Jerome Avenue	SB	DefL	0.76	37.5	D	0.84	46.2	D
Jerome Avenue and Featherbed Lane								
Featherbed Lane	EB	DefL	1.21	180.4	F	1.21	204.1	F
	WB	LTR	0.94	54.8	D	0.95	55.9	E
Jerome Avenue and NB I-95 Ramps								
Jerome Avenue	SB	DefL	0.99	78.3	E	1.02	86.6	F
Jerome Avenue and 170th Street								
170th Street	WB	LTR	1.00	77.2	E	1.12	113.6	F
Jerome Avenue and 167th Street								
Edward L. Grant Highway	EB	R	1.34	221.9	F	1.58	325.0	F
Jerome Avenue	NB	LTR	0.88	46.9	D	-	-	-
		DefL	-	-	F	0.87	61.7	E
		TR	-	-	F	0.90	58.4	E
River Avenue and 167th Street								
River Avenue	NB	LTR	1.14	130.4	F	1.25	174.4	F
Grand Concourse and Burnside Avenue								
Burnside Avenue	EB	LTR	0.83	57.4	E	0.87	61.7	E
	WB	LTR	0.73	52.9	D	0.78	56.3	E
Grand Concourse Mainline	NB	L	0.55	65.3	E	0.58	67.1	E
	SB	L	0.65	72.0	E	0.65	72.0	E
Grand Concourse and Tremont Avenue								
Tremont Avenue	EB	L	0.74	67.5	E	0.78	72.5	F
	EB	TR	0.94	88.5	F	1.02	108.5	F
	WB	TR	0.86	72.3	E	0.91	79.9	E
Grand Concourse Mainline	NB	L	0.72	78.1	E	0.77	83.1	F
	SB	L	0.92	102.1	F	0.92	102.1	F
Grand Concourse and Mt. Eden Avenue								
Mt. Eden Avenue	EB	LTR	0.86	65.2	E	0.88	68.6	E
	WB	LTR	1.06	114.1	F	1.09	124.5	F
Grand Concourse Mainline	NB	L	0.66	75.6	E	0.72	81.0	F
	SB	L	0.63	68.5	E	0.63	68.5	E
Grand Concourse and 170th Street								
Grand Concourse Mainline	NB	L	0.47	63.4	E	0.59	70.2	E
	SB	L	0.27	56.3	E	0.27	56.3	E
Grand Concourse and 167th Street								
167th Street	EB	TR	1.04	104.4	F	1.15	141.8	F
	WB	L	0.76	67.3	E	0.83	80.5	F
		TR	0.84	62.9	E	0.85	63.3	E
Grand Concourse Mainline	SB	L	0.83	106.4	F	0.81	102.8	F
Edward L. Grant Highway and W. 170th Street								
W. 170th Street	WB	LTR	1.05	98.3	F	1.11	118.1	F
Inwood Avenue and W. 170th Street								
W. 170th Street	EB	LT	1.16	116.7	F	1.27	160.1	F
Cromwell Avenue and W. 170th Street								
Cromwell Avenue	SB	LTR	0.79	35.6	D	0.87	45.2	D
University Avenue and Washington Bridge Off-Ramps								
Washington Bridge Off-Ramps	EB	L	1.03	86.9	F	1.04	90.8	F
		LR	1.06	94.4	F	1.09	104.8	F

Notes: Shading denotes a significant adverse impact based on *CEQR Technical Manual* criteria.

Source: STV Incorporated, 2017.

13.8 Transit

EXISTING CONDITIONS

Subway Service

Subway Stations

As discussed previously in Section 13.5, "Level 2 Screening Assessment," project-generated trips at four subway stations are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold in the weekday AM and/or PM peak hours. As listed in Table 13-12, "RWCDS Net Incremental Peak Hour Subway Trips by Station," these are the 183rd Street, Burnside Avenue, 170th Street, and 167th Street stations on the Jerome Avenue No. 4 line. In proximity to the rezoning area, the Jerome Avenue Line stations are all located on an elevated structure above Jerome Avenue.

183rd Street (4)

The 183rd Street station is served by the 4 train (at all times) on the Jerome Line. As shown on Figure 13-23, "Jerome Avenue Subway Station," access from street level up to an intermediate mezzanine level is provided by one stair on the north side of West 183rd Street east of Jerome Avenue (south-facing stair S2), one stair on the north side of West 183rd Street west of Jerome Avenue (east-facing stair S3), and by one stair on the south side of West 183rd Street west of Jerome Avenue (north-facing stair S1). A fare array (R288) consisting of four two-way turnstiles is located on the mezzanine level. As listed in Table 13-29, "Existing Conditions Stairs Analysis at Jerome Avenue Subway Stations," and Table 13-30, "Existing Conditions Fare Array Analysis at Jerome Avenue Subway Stations," all stair and fare array elements operate at an uncongested LOS A in both the AM and PM peak hours.

Burnside Avenue (4)

The Burnside Avenue station is served by the 4 train (at all times) on the Jerome Line. As shown on Figure 13-23, access from street level up to an intermediate mezzanine level is provided by two stairs on the south side of Burnside Avenue east of Jerome Avenue (north-facing stair S2 and south-facing stair S4) and by two stairs on the east side of Jerome Avenue (north-facing stair S1 and south-facing stair S3). A fare array (R287) consisting of three two-way turnstiles, two High Entry/Exit Turnstiles (HEETs), and two High Exit turnstiles (HEXs) is located on the mezzanine level. As listed in Table 13-29 and Table 13-30, all stair and fare array elements operate at an uncongested LOS A or B in both the AM and PM peak hours.

170th Street (4)

The 170th Street station is served by the 4 train (at all times) on the Jerome Line. As shown on Figure 13-23, access from street level up to an intermediate mezzanine level is provided by two stairs on the south side of 170th Street east of Jerome Avenue (north-facing stair S2 and south-facing stair S3) and by one north-facing stair S1 on the southwest corner of the intersection. A fare array (R284) consisting of four two-way turnstiles is located on the mezzanine level. As listed in Tables 13-29 and 13-30, all stair and fare array elements operate at an uncongested LOS A or B in both the AM and PM peak hours.

167th Street (4)

The 167th Street station is served by the 4 train (at all times) on the Jerome Line. As shown on Figure 13-23, access from street level up to an intermediate mezzanine level is provided by one west-facing stair on both the north and southwest corners (stairs S5 and S3, respectively) and one east-facing stair on both the north and southeast corners (stairs S4 and S2, respectively) of the intersection of 167th Street and River Avenue. A fare array (R283) consisting of four two-way turnstiles is located on the mezzanine level. As listed in Tables 13-29 and 13-30, all stair and fare array elements operate at an uncongested LOS A or B in both the AM and PM peak hours.



Source: STV Incorporated, 2017.

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Figure 13-23

JEROME AVENUE SUBWAY STATION DIAGRAMS

Table 13-29: Existing Conditions Stairs Analysis at Jerome Avenue Subway Stations

Peak Hour	Station	Stair	Total Width (feet)	Effective Width (feet)	15-Min Peak Volume		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	183rd Street (4)	S1	5	4	69	11	1.00	0.80	0.90	0.15	A
		S2	5	4	147	53	1.00	0.80	0.90	0.40	A
		S3	5	4	152	50	1.00	0.80	0.90	0.40	A
		P1/P3	5	4	178	18	1.00	0.75	0.90	0.37	A
		P2/P4	5	4	13	32	1.00	0.75	0.90	0.10	A
		P5/P7	5	4	158	17	1.00	0.75	0.90	0.33	A
		P6/P8	5	4	19	49	1.00	0.75	0.90	0.16	A
	Burnside Avenue (4)	S1	6	5	31	28	1.00	0.80	0.90	0.10	A
		S2	6	5	45	15	1.00	0.80	0.90	0.09	A
		S3	6	5	204	166	1.00	0.80	0.90	0.61	B
		S4	6	5	145	70	1.00	0.80	0.90	0.34	A
		P1/P3	7.83	6.33	210	23	1.00	0.75	0.90	0.28	A
		P2/P4	7.83	6.33	43	100	1.00	0.75	0.90	0.21	A
		P5/P7	7.83	6.33	131	26	1.00	0.75	0.90	0.19	A
		P6/P8	7.83	6.33	42	130	1.00	0.75	0.90	0.25	A
	170th Street (4)	S1	5	4	203	69	1.00	0.80	0.90	0.53	B
		S2	5	4	110	27	1.00	0.80	0.90	0.27	A
		S3	5	4	169	68	1.00	0.80	0.90	0.47	B
		P1/P3	5	4	216	27	1.00	0.75	0.90	0.47	B
		P2/P4	5	4	28	44	1.00	0.75	0.90	0.16	A
		P5/P7	5	4	202	32	1.00	0.75	0.90	0.45	B
		P6/P8	5	4	36	62	1.00	0.75	0.90	0.22	A
	167th Street (4)	S2	5	4	169	70	1.00	0.80	0.90	0.48	B
		S3	5	4	144	26	1.00	0.80	0.90	0.33	A
		S4	8.33	6.83	125	42	1.00	0.80	0.90	0.19	A
		S5	5	4	76	23	1.00	0.80	0.90	0.19	A
		P3/P5	5	4	231	39	1.00	0.75	0.90	0.52	B
		P4/P6	5	4	76	74	1.00	0.75	0.90	0.32	A
		P7/P9	5	4	166	16	1.00	0.75	0.90	0.35	A
		P8/P10	5	4	41	30	1.00	0.75	0.90	0.15	A
PM	183rd Street (4)	S1	5	4	20	32	1.00	0.80	0.90	0.11	A
		S2	5	4	48	117	1.00	0.80	0.90	0.36	A
		S3	5	4	40	102	1.00	0.80	0.90	0.31	A
		P1/P3	5	4	50	20	1.00	0.75	0.90	0.14	A
		P2/P4	5	4	7	97	1.00	0.75	0.90	0.25	A
		P5/P7	5	4	39	19	1.00	0.75	0.90	0.12	A
		P6/P8	5	4	12	115	1.00	0.75	0.90	0.31	A
	Burnside Avenue (4)	S1	6	5	20	29	1.00	0.80	0.90	0.08	A
		S2	6	5	30	33	1.00	0.80	0.90	0.10	A
		S3	6	5	122	277	1.00	0.80	0.90	0.69	B
		S4	6	5	68	117	1.00	0.80	0.90	0.32	A
		P1/P3	7.83	6.33	115	34	1.00	0.75	0.90	0.19	A
		P2/P4	7.83	6.33	29	189	1.00	0.75	0.90	0.33	A
		P5/P7	7.83	6.33	61	32	1.00	0.75	0.90	0.12	A
		P6/P8	7.83	6.33	35	199	1.00	0.75	0.90	0.35	A
	170th Street (4)	S1	5	4	73	103	1.00	0.80	0.90	0.37	A
		S2	5	4	55	95	1.00	0.80	0.90	0.32	A
		S3	5	4	76	157	1.00	0.80	0.90	0.51	B
		P1/P3	5	4	62	41	1.00	0.75	0.90	0.22	A
		P2/P4	5	4	33	118	1.00	0.75	0.90	0.35	A
		P5/P7	5	4	61	40	1.00	0.75	0.90	0.21	A
		P6/P8	5	4	48	156	1.00	0.75	0.90	0.47	B
	167th Street (4)	S2	5	4	72	164	1.00	0.80	0.90	0.51	B
		S3	5	4	57	79	1.00	0.80	0.90	0.29	A
		S4	8.33	6.83	55	90	1.00	0.80	0.90	0.18	A
		S5	5	4	27	65	1.00	0.80	0.90	0.20	A
		P3/P5	5	4	85	41	1.00	0.75	0.90	0.26	A
		P4/P6	5	4	30	224	1.00	0.75	0.90	0.61	B
		P7/P9	5	4	57	19	1.00	0.75	0.90	0.15	A
		P8/P10	5	4	38	115	1.00	0.75	0.90	0.35	A

Source: STV Incorporated, 2017.

Table 13-30: Existing Conditions Fare Array Analysis at Jerome Avenue Subway Stations

Peak Hour	Station	Fare Array ID	Control Element	Quantity	15-Min Peak Volume		Surging Factor		Friction Factor	V/C Ratio	LOS
					Entries	Exits	Entries	Exits			
AM	183rd Street (4)	R288	Two-Way Turnstile	4	368	115	1.00	0.80	0.90	0.30	A
	Burnside Avenue (4)	R287	HEETs	2	426	278	1.00	0.80	0.90	0.36	A
			HXTs	2							
			Two-Way Turnstile	3							
	170th Street (4)	R284	Two-Way Turnstile	4	482	164	1.00	0.80	0.90	0.41	A
	167th Street (4)	R283	Two-Way Turnstile	4	513	160	1.00	0.80	0.90	0.43	A
PM	183rd Street (4)	R288	Two-Way Turnstile	4	108	251	1.00	0.80	0.90	0.21	A
	Burnside Avenue (4)	R287	HEETs	2	239	454	1.00	0.80	0.90	0.30	A
			HXTs	2							
			Two-Way Turnstile	3							
	170th Street (4)	R284	Two-Way Turnstile	4	204	355	1.00	0.80	0.90	0.33	A
	167th Street (4)	R283	Two-Way Turnstile	4	210	398	1.00	0.80	0.90	0.35	A

Source: STV Incorporated, 2017.

Subway Line Haul

Line haul is the volume of transit riders passing a defined point on a given transit route. For the No. 4 line, the line haul is measured at the actual maximum load point leaving the station (the point where the trains carry the greatest number of passengers during the peak hour), which is the Upper East Side of Manhattan. The peak direction of travel on the No. 4 line is southbound (Manhattan-bound) in the AM peak hour and northbound (Bronx-bound) in the PM peak hour.

Table 13-31, "Existing Subway Line Haul Analysis," lists existing line haul conditions in the peak direction at the maximum load points for the No. 4 line during the AM and PM peak hours. As identified in Table 13-31, the No. 4 line currently operates over capacity in the peak direction in each peak hour. The northbound 4 train carries an estimated 16,900 passengers (1.06 v/c ratio) in the peak southbound direction during the AM peak hour and 13,850 passengers (1.08 v/c ratio) in the peak northbound direction during the PM peak hour.

Table 13-31: Existing Subway Line Haul Analysis

Peak Hour	Route	Direction	Maximum Load Point (Leaving Station)	Average Trains per Hour (1)	Average Cars per Hour (1)	Average Passengers per Hour (1)	Average Passengers per Car (1)	Guideline Passengers per Car (2)	V/C Ratio (3)
AM	4	SB	86 Street	14.5	145.0	16,908	117	110	1.06
PM	4	NB	59 Street	11.7	117.0	13,848	118	110	1.08

Notes:
(1) Based on 2013-2014 ridership and train throughput data from NYCT.
(2) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.
(3) Volume to guideline capacity ratio.

Source: STV Incorporated, 2017.

Bus Service

As listed in Table 13-13, "RWCDS Net Incremental Peak Hour Bus Trips by Route and Direction," three of the nine local bus routes are expected to experience 50 or more new trips in one direction through their maximum load points, and as such, per *CEQR Technical Manual* guidelines, further analysis is warranted. Table 13-32, "Existing Local Bus Analysis," details existing operating conditions and capacity for these bus routes. In the AM peak hour, the Bx11 and Bx35 exceed NYCT loading guidelines of 54 passengers per standard bus in both directions, while the Bx32 is over-capacity in the northbound direction. In the PM peak hour, passenger loads on the westbound Bx11 and westbound Bx35 exceed NYCT loading guidelines.

Table 13-32: Existing Local Bus Analysis

Peak Hour [1]	Route	Direction	Maximum Load Point(s)	Peak Hour Buses [2]	Peak Hour Passengers [2]	Average Passengers Per Bus	Available Capacity [3]
AM	Bx11	EB	Claremont Pky and Webster Av / W 170th St and Jerome Av	11	635	58	-41
		WB	E 170th St and Jerome Ave / Claremont Pky and Webster Av	10	660	66	-120
	Bx32	NB	Morris Av and E 170th St	5	273	55	-3
		SB	Morris Av and E 170th St / Morris Av and E 161st St	7	339	48	39
	Bx35	EB	E 167th St and Grand Concourse / Webster Av and E 168th St	12	740	62	-92
		WB	E 167th St and College Av / E 167th St and Grand Concourse	15	896	60	-86
PM	Bx11	EB	Claremont Pky and Webster Av	12	461	38	187
		WB	Claremont Pky and Webster Av	9	573	64	-87
	Bx32	NB	Morris Av and E 170th St	6	219	37	105
		SB	Morris Av and E 170th St	5	164	33	106
	Bx35	EB	E 167th St and Grand Concourse	9	463	51	23
		WB	E 167th St and Grand Concourse / Webster Av and E 168th St	9	515	57	-29

Notes:
(1) 7:30-8:30 AM, 4-5 PM
(2) Based on most recent available data from NYCT.
(3) Available capacity based on NYCT loading guideline of 54 passengers per standard bus.

Source: STV Incorporated, 2017.

Metro-North Commuter Rail Service

Metro-North Railroad's (MNR) Hudson and Harlem/New Haven lines operate approximately ½-mile east and west of the rezoning area, respectively. Hudson line stations near the rezoning area include Morris Heights and University Heights. Harlem line station near the rezoning area include Tremont and Fordham. Access to the New Haven line is also provided at the Fordham station. Peak hour service frequency at the Hudson line stations is approximately two trains per hour in the peak direction during the AM and PM peak hours. Similarly, the Tremont service frequency is approximately two trains per hour in the peak direction during the peak hours.

At the Fordham station, approximately two to four Harlem line trains are provided per hour per direction during the peak hours. The higher service frequency is provided northbound during the AM peak hour and southbound during the PM peak hour. Approximately two to five New Haven line trains are provided per hour per direction during the peak hour at Fordham. Similar to the Harlem line trains, the higher service frequency is provided northbound during the AM peak hour and southbound during the PM peak hour.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION CONDITION)

Between 2016 and 2026, it is expected that subway and bus demands in the vicinity of the rezoning area would increase due to long-term background growth as well as development that could occur pursuant to existing zoning. In order to forecast future transit conditions without the Proposed Actions (the No-Action condition), development on projected development sites and developments listed in Table 2-4, "Development Projects in the Future without the Proposed Actions," in Chapter 2, "Land Use, Zoning, and Public Policy," were considered. The Future No-Action subway and bus volumes reflect annual background growth rates of 0.25 percent per year for the 2016 through 2021 period and 0.125 percent for the 2021 through 2026 period. These background growth rates, recommended in the *CEQR Technical Manual* for projects in the Bronx, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-4 and general increases in travel demand not attributable to specific development projects.

Subway Service

Subway Stations

In No-Action conditions, demand at all analyzed subway stations is expected to increase as a result of new development and/or background growth. NYCT has indicated that there are currently no plans for modifications to pedestrian circulation elements at any of the analyzed subway stations.

Tables 13-33 and 13-34 list the results of the analysis of No-Action AM and PM peak hour conditions at the four analyzed subway stations. As listed in Tables 13-33 and 13-34, all analyzed stairs and fare arrays at these stations would continue to operate at an acceptable LOS C or better in both peak hours.

Table 13-33: No-Action Stair Analysis at Jerome Avenue Subway Stations

Peak Hour	Station	Stair	Total Width (feet)	Effective Width (feet)	15-Min Peak Volume		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	183rd Street (4)	S1	5	4	70	11	1.00	0.80	0.90	0.16	A
		S2	5	4	159	56	1.00	0.80	0.90	0.43	A
		S3	5	4	155	51	1.00	0.80	0.90	0.41	A
		P1/P3	5	4	186	18	1.00	0.75	0.90	0.39	A
		P2/P4	5	4	13	33	1.00	0.75	0.90	0.11	A
		P5/P7	5	4	166	17	1.00	0.75	0.90	0.35	A
		P6/P8	5	4	20	50	1.00	0.75	0.90	0.16	A
	Burnside Avenue (4)	S1	6	5	35	29	1.00	0.80	0.90	0.11	A
		S2	6	5	53	16	1.00	0.80	0.90	0.11	A
		S3	6	5	212	171	1.00	0.80	0.90	0.63	B
		S4	6	5	158	73	1.00	0.80	0.90	0.37	A
		P1/P3	7.83	6.33	224	24	1.00	0.75	0.90	0.30	A
		P2/P4	7.83	6.33	46	104	1.00	0.75	0.90	0.22	A
		P5/P7	7.83	6.33	143	27	1.00	0.75	0.90	0.21	A
		P6/P8	7.83	6.33	45	135	1.00	0.75	0.90	0.26	A
	170th Street (4)	S1	5	4	217	74	1.00	0.80	0.90	0.57	B
		S2	5	4	113	27	1.00	0.80	0.90	0.27	A
		S3	5	4	172	69	1.00	0.80	0.90	0.48	B
		P1/P3	5	4	225	28	1.00	0.75	0.90	0.49	B
		P2/P4	5	4	29	45	1.00	0.75	0.90	0.17	A
		P5/P7	5	4	210	33	1.00	0.75	0.90	0.47	B
		P6/P8	5	4	38	64	1.00	0.75	0.90	0.23	A
	167th Street (4)	S2	5	4	216	80	1.00	0.80	0.90	0.59	B
		S3	5	4	187	36	1.00	0.80	0.90	0.43	A
		S4	8.33	6.83	127	42	1.00	0.80	0.90	0.20	A
		S5	5	4	78	27	1.00	0.80	0.90	0.21	A
		P3/P5	5	4	268	45	1.00	0.75	0.90	0.61	B
		P4/P6	5	4	87	86	1.00	0.75	0.90	0.37	A
		P7/P9	5	4	202	19	1.00	0.75	0.90	0.42	A
		P8/P10	5	4	51	35	1.00	0.75	0.90	0.18	A
PM	183rd Street (4)	S1	5	4	20	33	1.00	0.80	0.90	0.11	A
		S2	5	4	53	128	1.00	0.80	0.90	0.39	A
		S3	5	4	41	104	1.00	0.80	0.90	0.32	A
		P1/P3	5	4	53	21	1.00	0.75	0.90	0.15	A
		P2/P4	5	4	7	102	1.00	0.75	0.90	0.27	A
		P5/P7	5	4	42	20	1.00	0.75	0.90	0.13	A
		P6/P8	5	4	12	121	1.00	0.75	0.90	0.32	A
	Burnside Avenue (4)	S1	6	5	23	34	1.00	0.80	0.90	0.10	A
		S2	6	5	33	39	1.00	0.80	0.90	0.12	A
		S3	6	5	130	289	1.00	0.80	0.90	0.73	C
		S4	6	5	73	127	1.00	0.80	0.90	0.34	A
		P1/P3	7.83	6.33	122	36	1.00	0.75	0.90	0.20	A
		P2/P4	7.83	6.33	31	204	1.00	0.75	0.90	0.35	A
		P5/P7	7.83	6.33	67	35	1.00	0.75	0.90	0.13	A
		P6/P8	7.83	6.33	37	214	1.00	0.75	0.90	0.38	A
	170th Street (4)	S1	5	4	81	116	1.00	0.80	0.90	0.42	A
		S2	5	4	56	97	1.00	0.80	0.90	0.33	A
		S3	5	4	78	160	1.00	0.80	0.90	0.52	B
		P1/P3	5	4	65	43	1.00	0.75	0.90	0.23	A
		P2/P4	5	4	35	124	1.00	0.75	0.90	0.37	A
		P5/P7	5	4	65	42	1.00	0.75	0.90	0.22	A
		P6/P8	5	4	50	164	1.00	0.75	0.90	0.50	B
	167th Street (4)	S2	5	4	94	210	1.00	0.80	0.90	0.66	B
		S3	5	4	80	124	1.00	0.80	0.90	0.43	A
		S4	8.33	6.83	56	92	1.00	0.80	0.90	0.19	A
		S5	5	4	31	67	1.00	0.80	0.90	0.21	A
		P3/P5	5	4	103	51	1.00	0.75	0.90	0.31	A
		P4/P6	5	4	39	277	1.00	0.75	0.90	0.75	C
		P7/P9	5	4	75	23	1.00	0.75	0.90	0.20	A
		P8/P10	5	4	46	142	1.00	0.75	0.90	0.44	A

Source: STV Incorporated, 2017.

Table 13-34: No-Action Fare Array Analysis at Jerome Avenue Subway Stations

Peak Hour	Station	Fare Array ID	Control Element	Quantity	15-Min Peak Volume		Surging Factor		Friction Factor	V/C Ratio	LOS
					Entries	Exits	Entries	Exits			
AM	183rd Street (4)	R288	Two-Way Turnstile	4	385	119	1.00	0.80	0.90	0.32	A
	Burnside Avenue (4)	R287	HEETs	2	458	289	1.00	0.80	0.90	0.38	A
			HXTs	2							
			Two-Way Turnstile	3							
	170th Street (4)	R284	Two-Way Turnstile	4	502	170	1.00	0.80	0.90	0.42	A
	167th Street (4)	R283	Two-Way Turnstile	4	608	186	1.00	0.80	0.90	0.50	B
PM	183rd Street (4)	R288	Two-Way Turnstile	4	114	265	1.00	0.80	0.90	0.22	A
	Burnside Avenue (4)	R287	HEETs	2	258	489	1.00	0.80	0.90	0.32	A
			HXTs	2							
			Two-Way Turnstile	3							
	170th Street (4)	R284	Two-Way Turnstile	4	215	373	1.00	0.80	0.90	0.34	A
	167th Street (4)	R283	Two-Way Turnstile	4	435	799	1.00	0.80	0.90	0.72	C

Source: STV Incorporated, 2017.

Subway Line Haul

Table 13-35, "No-Action Subway Line Haul Analysis," lists the anticipated line haul conditions at the maximum load point of the Jerome Avenue No. 4 line serving the rezoning area in the 2026 No-Action condition. The data in Table 13-35 reflect both background growth for the 2016 through 2026 period and the addition of demand from new development within the rezoning area and its proximity. As listed in Table 13-35, the No. 4 line would continue to operate over capacity in the peak direction in each peak hour in the 2026 No-Action condition. The northbound 4 train would carry an estimated 17,350 passengers (1.09 v/c ratio) in the peak southbound direction during the AM peak hour and 14,200 passengers (1.10 v/c ratio) in the peak northbound direction during the PM peak hour.

Table 13-35: No-Action Subway Line Haul Analysis

Peak Hour	Route	Direction	Maximum Load Point (Leaving Station)	Average Trains per Hour (1)	Average Cars per Hour (1)	Average Passengers per Hour (1)	Average Passengers per Car (1)	Guideline Passengers per Car (2)	V/C Ratio (3)
AM	4	SB	86 Street	14.5	145.0	17,344	120	110	1.09
PM	4	NB	59 Street	11.7	117.0	14,203	121	110	1.10

Notes:
(1) Based on 2013-2014 ridership and train throughput data from NYCT.
(2) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.
(3) Volume to guideline capacity ratio.

Source: STV Incorporated, 2017.

Bus Service

Demand on the local bus services operating in the vicinity of the rezoning area is expected to increase during the 2016 through 2026 period as a result of background growth as well as demand from new development. As listed in Table 13-36, "No-Action Local Bus Analysis," existing levels of bus service would not be sufficient to provide adequate supply to meet the projected demand in the 2026 No-Action condition on the Bx11, Bx32, and Bx35 in both directions in the AM peak hour. The westbound Bx11 and the east and westbound Bx35 would also experience a capacity shortfall in the PM peak hour.

As a general policy, the MTA (NYCT and MTA Bus) provides additional bus service where demand warrants, taking into account financial and operational constraints. Based on ongoing passenger monitoring programs, comprehensive service plans would be generated to respond to specific, known needs with capital and/or operational improvements where fiscally and operationally practicable. The MTA's capital program is developed on a five-year cycle; through this program, expansion of bus services would be provided as needs are determined. It is therefore anticipated that in the No-Action condition, MTA Bus would increase service frequency on the Bx11, Bx32, and Bx35 routes to address the capacity shortfall in the AM and PM peak hours.

Table 13-36: No-Action Local Bus Analysis

Peak Hour [1]	Route	Direction	Maximum Load Point(s)	2026 Peak Hour Passengers [2]	No-Action Conditions with Current Service Levels			No-Action Conditions with Potential Service Adjustments		
					Peak Hour Buses [2]	Average Passengers Per Bus	Available Capacity [3]	Peak Hour Buses	Average Passengers Per Bus	Available Capacity [3]
AM	Bx11	EB	Claremont Pky and Webster Av / W 170th St and Jerome Av	673	11	61	-79	13	52	29
		WB	E 170th St and Jerome Ave / Claremont Pky and Webster Av	683	10	68	-143	13	53	19
	Bx32	NB	Morris Av and E 170th St	300	5	60	-30	6	50	24
		SB	Morris Av and E 170th St / Morris Av and E 161st St	395	7	56	-17	8	49	37
	Bx35	EB	E 167th St and Grand Concourse / Webster Av and E 168th St	797	12	66	-149	15	53	13
		WB	E 167th St and College Av / E 167th St and Grand Concourse	932	15	62	-122	18	52	40
PM	Bx11	EB	Claremont Pky and Webster Av	489	12	41	159	12	41	159
		WB	Claremont Pky and Webster Av	612	9	68	-126	12	51	36
	Bx32	NB	Morris Av and E 170th St	249	6	41	75	6	41	75
		SB	Morris Av and E 170th St	213	5	43	57	5	43	57
	Bx35	EB	E 167th St and Grand Concourse	516	9	57	-30	10	52	24
		WB	E 167th St and Grand Concourse / Webster Av and E 168th St	583	9	65	-97	11	53	11

Notes:
(1) 7:30-8:30 AM, 4:00-5:00 PM
(2) Based on most recent available data from NYCT
(3) Available capacity based on NYCT loading guideline of 54 passengers per standard bus

Source: STV Incorporated, 2017.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION CONDITION)

Subway Service

Subway Stations

As listed in Table 13-12, "RWCDS Net Incremental Peak Hour Subway Trips by Station," the Proposed Actions are expected to generate a net increment of approximately 1,382 and 1,748 subway trips during the weekday AM and PM commuter peak hours, respectively. Trips from each development cluster or outlier site are assigned to the individual stations serving the rezoning area based on proximity to projected development sites. The highest number of peak hour subway trips are expected to occur at the

170th Street station on the Jerome Avenue No. 4 line, which would experience approximately 613 incremental trips (in and out combined) in the AM peak hour and 728 in the PM peak hour.

Tables 13-37 and 13-38 list conditions at stairs and fare arrays at the four analyzed subway stations on the No. 4 line in the future with the Proposed Actions. As listed in Tables 13-37 and 13-38, all analyzed stairs and fare arrays are projected to operate at an acceptable LOS C or better in both the AM and PM peak hours, and would therefore not be significantly adversely impacted by the Proposed Actions based on *CEQR Technical Manual* criteria.

Table 13-37: With-Action Stair Analysis at Jerome Avenue Subway Stations

Peak Hour	Station	Stair	Total Width (feet)	Effective Width (feet)	Project Increment		15-Min Peak Volume		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down	Up	Down			
AM	183rd Street (4)	S1	5	4	6	1	77	13	1.00	0.80	0.90	0.17	A
		S2	5	4	32	6	191	62	1.00	0.80	0.90	0.50	B
		S3	5	4	10	2	165	53	1.00	0.80	0.90	0.43	A
		P1/P3	5	4	22	1	208	20	1.00	0.75	0.90	0.43	A
		P2/P4	5	4	2	3	15	36	1.00	0.75	0.90	0.12	A
		P5/P7	5	4	22	1	188	19	1.00	0.75	0.90	0.39	A
		P6/P8	5	4	2	4	22	55	1.00	0.75	0.90	0.18	A
	Burnside Avenue (4)	S1	6	5	10	4	46	34	1.00	0.80	0.90	0.13	A
		S2	6	5	7	3	60	20	1.00	0.80	0.90	0.13	A
		S3	6	5	13	4	225	174	1.00	0.80	0.90	0.66	B
		S4	6	5	5	4	163	77	1.00	0.80	0.90	0.38	A
		P1/P3	7.83	6.33	14	1	238	25	1.00	0.75	0.90	0.32	A
		P2/P4	7.83	6.33	4	5	49	109	1.00	0.75	0.90	0.23	A
		P5/P7	7.83	6.33	14	1	157	28	1.00	0.75	0.90	0.23	A
		P6/P8	7.83	6.33	4	7	49	142	1.00	0.75	0.90	0.28	A
	170th Street (4)	S1	5	4	141	24	358	98	1.00	0.80	0.90	0.89	C
		S2	5	4	22	4	135	31	1.00	0.80	0.90	0.32	A
		S3	5	4	0	0	172	69	1.00	0.80	0.90	0.48	B
		P1/P3	5	4	71	5	296	33	1.00	0.75	0.90	0.63	B
		P2/P4	5	4	11	8	40	53	1.00	0.75	0.90	0.21	A
		P5/P7	5	4	71	5	281	38	1.00	0.75	0.90	0.62	B
		P6/P8	5	4	11	11	49	75	1.00	0.75	0.90	0.27	A
	167th Street (4)	S2	5	4	11	3	227	83	1.00	0.80	0.90	0.61	B
		S3	5	4	22	5	209	41	1.00	0.80	0.90	0.48	B
		S4	8.33	6.83	0	0	127	42	1.00	0.80	0.90	0.20	A
		S5	5	4	11	1	89	28	1.00	0.80	0.90	0.23	A
		P3/P5	5	4	17	2	285	48	1.00	0.75	0.90	0.65	B
		P4/P6	5	4	5	4	92	91	1.00	0.75	0.90	0.39	A
		P7/P9	5	4	17	1	220	20	1.00	0.75	0.90	0.46	B
		P8/P10	5	4	5	2	56	37	1.00	0.75	0.90	0.20	A
PM	183rd Street (4)	S1	5	4	4	7	24	40	1.00	0.80	0.90	0.14	A
		S2	5	4	16	32	68	160	1.00	0.80	0.90	0.50	B
		S3	5	4	3	10	44	114	1.00	0.80	0.90	0.34	A
		P1/P3	5	4	9	4	62	25	1.00	0.75	0.90	0.18	A
		P2/P4	5	4	2	19	9	121	1.00	0.75	0.90	0.32	A
		P5/P7	5	4	9	4	51	24	1.00	0.75	0.90	0.15	A
		P6/P8	5	4	2	22	14	144	1.00	0.75	0.90	0.38	A
	Burnside Avenue (4)	S1	6	5	10	46	33	80	1.00	0.80	0.90	0.20	A
		S2	6	5	6	24	39	63	1.00	0.80	0.90	0.17	A
		S3	6	5	8	48	138	336	1.00	0.80	0.90	0.83	C
		S4	6	5	7	19	79	146	1.00	0.80	0.90	0.39	A
		P1/P3	7.83	6.33	11	10	133	46	1.00	0.75	0.90	0.23	A
		P2/P4	7.83	6.33	4	57	35	261	1.00	0.75	0.90	0.45	A
		P5/P7	7.83	6.33	11	10	78	44	1.00	0.75	0.90	0.16	A
		P6/P8	7.83	6.33	4	60	42	274	1.00	0.75	0.90	0.48	B
	170th Street (4)	S1	5	4	63	136	144	252	1.00	0.80	0.90	0.85	C
		S2	5	4	9	20	64	117	1.00	0.80	0.90	0.39	A
		S3	5	4	0	0	78	160	1.00	0.80	0.90	0.52	B
		P1/P3	5	4	22	18	87	61	1.00	0.75	0.90	0.31	A
		P2/P4	5	4	14	52	49	176	1.00	0.75	0.90	0.52	B
		P5/P7	5	4	22	17	86	59	1.00	0.75	0.90	0.31	A
		P6/P8	5	4	14	69	64	233	1.00	0.75	0.90	0.69	B
	167th Street (4)	S2	5	4	9	13	102	223	1.00	0.80	0.90	0.71	C
		S3	5	4	12	23	92	146	1.00	0.80	0.90	0.51	B
		S4	8.33	6.83	0	0	56	92	1.00	0.80	0.90	0.19	A
		S5	5	4	4	11	35	78	1.00	0.80	0.90	0.25	A
		P3/P5	5	4	8	5	111	55	1.00	0.75	0.90	0.34	A
		P4/P6	5	4	4	26	43	303	1.00	0.75	0.90	0.83	C
		P7/P9	5	4	8	2	83	26	1.00	0.75	0.90	0.22	A
		P8/P10	5	4	4	13	50	155	1.00	0.75	0.90	0.48	B

Source: STV Incorporated, 2017.

Table 13-38: With-Action Fare Array Analysis at Jerome Avenue Subway Stations

Peak Hour	Station	Fare Array ID	Control Element	Quantity	Project Increment		15-Min Peak Volume		Surging Factor		Friction Factor	V/C Ratio	LOS
					Entries	Entries	Entries	Exits	Entries	Exits			
AM	183rd Street (4)	R288	Two-Way Turnstile	4	48	10	433	129	1.00	0.80	0.90	0.36	A
	Burnside Avenue (4)	R287	HEETs	2	36	15	494	305	1.00	0.80	0.90	0.41	A
			HXTs	2									
			Two-Way Turnstile	3									
	170th Street (4)	R284	Two-Way Turnstile	4	163	28	666	199	1.00	0.80	0.90	0.55	B
	167th Street (4)	R283	Two-Way Turnstile	4	45	9	653	195	1.00	0.80	0.90	0.54	B
PM	183rd Street (4)	R288	Two-Way Turnstile	4	23	49	136	314	1.00	0.80	0.90	0.26	A
	Burnside Avenue (4)	R287	HEETs	2	31	136	289	625	1.00	0.80	0.90	0.39	A
			HXTs	2									
			Two-Way Turnstile	3									
	170th Street (4)	R284	Two-Way Turnstile	4	71	156	286	529	1.00	0.80	0.90	0.47	B
	167th Street (4)	R283	Two-Way Turnstile	4	24	47	286	539	1.00	0.80	0.90	0.48	B

Source: STV Incorporated, 2017.

Subway Line Haul

Table 13-39, "With-Action Subway Line Haul Analysis," lists line haul conditions on the No. 4 line serving the rezoning area in the future with the Proposed Actions. The No. 4 line trains are projected to continue to operate over guideline capacity in the AM and PM peak hours, with v/c ratios of 1.12 and 1.13 respectively. Incremental increases in ridership would average 3.4 northbound trips per car in the AM and 3.3 southbound trips in the PM. The No. 4 line is expected to experience fewer than five incremental trips per car in each direction in each peak hour as a result of the Proposed Actions, therefore significant adverse impacts to subway line haul conditions are not anticipated based on *CEQR Technical Manual* criteria.

Table 13-39: With-Action Subway Line Haul Analysis

Peak Hour	Route	Direction	Maximum Load Point (Leaving Station)	Average Trains per Hour [1]	Average Cars per Hour [1]	Guideline Passengers per Car [2]	2026 No-Action Condition			2026 With-Action Condition			
							Average Passengers per Hour	Average Passengers per Car	V/C Ratio [3]	Average Passengers per Hour	Average Passengers per Car	V/C Ratio	Average Additional Passengers per Car
AM	4	SB	86 Street	14.5	145.0	110	17,344	120	1.09	17,830	123	1.12	3.35
PM	4	NB	59 Street	11.7	117.0	110	14,203	121	1.10	14,589	125	1.13	3.30

Notes:
(1) Based on 2013-2014 ridership and train throughput data from NYCT.
(2) Guideline capacities are based on NYCT rush hour loading guidelines, which vary by car type, line, and location based on frequency and type of service.
(3) Volume to guideline capacity ratio.

Source: STV Incorporated, 2017.

Bus Service

As listed in Table 13-13, "RWCDS Net Incremental Peak Hour Bus Trips by Route and Direction," the projected development sites are expected to generate a net total of approximately 555 and 935 incremental trips on the local bus services operating in proximity of the rezoning area during the weekday AM and PM peak hours, respectively. As listed in Table 13-40, "With-Action Local Bus Analysis," demand on the Bx11 route is expected to increase by approximately 93 eastbound trips and 22 westbound trips at the maximum load points in the AM peak hour and by 69 eastbound trips and 114 westbound trips in the PM. Demand on the Bx32 route is expected to increase by approximately 23 northbound trips and 72 southbound trips at the maximum load points in the AM peak hour, and 100 northbound trips and 69 southbound trips in the PM. Demand on the Bx35 route is expected to increase by approximately 41 eastbound trips and 15 westbound trips at the maximum load points in the AM peak hour and by 45 eastbound and 61 westbound trips in the PM.

Table 13-40: With-Action Local Bus Analysis

Peak Hour (1)	Route	Direction	Maximum Load Point(s)	Peak Hour Buses (1)	No-Action Available Capacity (2)	Project Increment	Available Capacity w/Proposed Actions (2)
AM	Bx11	EB	Claremont Pky and Webster Av / W 170th St and Jerome Av	13	29	93	-63
		WB	E 170th St and Jerome Ave / Claremont Pky and Webster Av	13	19	22	-3
	Bx32	NB	Morris Av and E 170th St	6	24	23	1
		SB	Morris Av and E 170th St / Morris Av and E 161st St	8	37	72	-35
	Bx35	EB	E 167th St and Grand Concourse / Webster Av and E 168th St	15	13	41	-28
		WB	E 167th St and College Av / E 167th St and Grand Concourse	18	40	15	25
PM	Bx11	EB	Claremont Pky and Webster Av	12	159	69	90
		WB	Claremont Pky and Webster Av	12	36	114	-78
	Bx32	NB	Morris Av and E 170th St	6	75	100	-25
		SB	Morris Av and E 170th St	5	57	69	-11
	Bx35	EB	E 167th St and Grand Concourse	10	24	45	-21
		WB	E 167th St and Grand Concourse / Webster Av and E 168th St	11	11	61	-50

Notes:
(1) Assumes service levels adjusted to address capacity shortfalls in the No-Action Condition.
(2) Available capacity based on NYCT loading guideline of 54 passengers per standard bus.

Source: STV Incorporated, 2017.

As listed in Table 13-40, based on projected levels of bus service in the No-Action condition, the Proposed Actions would result in the following capacity shortfalls:

- Eastbound Bx11 would experience a shortfall of 63 passengers in the AM peak hour.

- Westbound Bx11 would experience a shortfall of 3 passengers in the AM peak hour and 78 passengers in the PM peak hour.
- Northbound Bx32 would experience a shortfall of 25 passengers in the PM peak hour.
- Southbound Bx32 would experience a shortfall of 35 passengers in the AM peak hour and 11 passengers in the PM peak hour.
- Eastbound Bx35 would experience a shortfall of 28 passengers in the AM peak hour and 21 passengers in the PM peak hour.
- Westbound Bx35 would experience a shortfall of 50 passengers in the PM peak hour.

Therefore, the Bx11, Bx32, and Bx35 services would be significantly adversely impacted in one or more peak hours based on *CEQR Technical Manual* criteria. As discussed in Chapter 21, "Mitigation," the significant impacts to bus service could be mitigated by increasing bus service to east and westbound Bx11, southbound Bx32, and eastbound Bx35 in the AM peak hour and to the westbound Bx11, north and southbound Bx32, and east and westbound Bx35 in the PM peak hour.

Metro-North Commuter Rail Service

The Proposed Actions are not expected to generate substantial numbers of new MNR trips in either the weekday AM or PM commuter peak periods. The Hudson and Harlem/New Haven lines operate approximately ½-mile east and west of the rezoning area, respectively. Increased demand as a result of the Proposed Actions is not expected to result in significant adverse impacts to MNR line-haul capacity in either the weekday AM or PM commuter peak periods.

13.9 Pedestrians

EXISTING CONDITIONS

The rezoning area is generally characterized by relatively light to moderate pedestrian flows during peak periods, with the greatest demand typically found along corridors providing access to area subway stations and bus routes and along retail corridors. As discussed previously in Section 13.5, "Level 2 Screening Assessment," the analysis of pedestrian conditions focuses on representative pedestrian elements where new trips generated by projected developments are expected to be most concentrated. These pedestrian study locations are predominantly located along Jerome Avenue, and along the east-west cross streets in proximity to subway stations slated for rezoning (183rd Street, Burnside Avenue, Mount Eden Avenue, 170th Street, 167th Street). These locations are projected to experience increased pedestrian traffic generated by new development between projected development sites and local bus and subway stops. The pedestrian analysis studies three elements – sidewalks, crosswalks, and corner areas – and these elements form the basis for analysis of the existing and future conditions. As shown on Figures 13-5A and 13-5B, they include a total of 33 sidewalks, 37 corner reservoir areas, and 41 crosswalks.

Sidewalks

The highest pedestrian flows observed at the analyzed sidewalks were located in the vicinity of subway stations. Specifically, pedestrian volumes recorded in the vicinity of the 170th Street subway station exhibited the highest volumes concentrated along 170th Street and Jerome Avenue. Generally, sidewalks along Jerome Avenue measured an average width of between twelve and 16 feet. The width of the sidewalk available for pedestrian flow (effective width) is constrained by obstructions, including the shy distance from the obstruction (one foot for obstructions, 1.5 feet for building walls), in which pedestrians are unlikely to walk. Common obstructions in the study area include subway columns, subway stairs, lamp posts, bus shelters, fire hydrants, stoop line stands, and tree pits. Table 13-41, "Existing Sidewalk Conditions," provides a summary of the effective width, peak hour volume, peak hour factor, average square feet per pedestrian (SFP), and platoon-adjusted level of service for each studied sidewalk. As listed in Table 13-41, all analyzed sidewalks currently operate at LOS C or better during all peak hours analyzed.

Table 13-41: Existing Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	188	0.77	940.7	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	167	0.93	705.6	A
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	556	0.67	190.6	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	304	0.95	272.1	B
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	147	0.78	714.3	A
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	86	0.83	993.6	A
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	153	0.89	829.2	A
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	134	0.86	1,321.5	A
	West	13.5	153	0.93	1,299.8	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	142	0.76	805.3	A
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	305	0.81	252.2	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	222	0.96	650.6	A
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	226	0.88	431.6	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	53	0.60	1,703.5	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	199	0.83	627.5	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	253	0.78	341.7	B
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	190	0.78	455.1	A
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	77	0.55	905.1	A
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	32	0.62	1,687.9	A
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	172	0.77	744.5	A
	South	10.5	774	0.93	199.6	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	540	0.84	159.8	B
	South	7.0	713	0.84	130.2	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	751	0.89	149.8	B
	West	3.0	233	0.77	156.7	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	567	0.84	69.6	C
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	72	0.86	1,419.0	A
	West	7.5	131	0.86	779.8	A
East 167th Street between Jerome Avenue and River Avenue	North	4.5	190	0.70	262.4	B
	South	4.0	980	0.68	42.7	B
River Avenue between McClellan Street and East 167th Street	East	12.5	125	0.80	1,267.2	A
	West	12.5	90	0.90	1,980.0	A
River Avenue between East 165th Street and McClellan Street	East	13.0	38	0.86	4,660.3	A

Table 13-41 (continued): Existing Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday Midday Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	224	0.89	912.5	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	257	0.74	364.7	B
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	277	0.94	537.4	A
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	261	0.89	296.9	B
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	109	0.94	1,161.1	A
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	161	0.86	549.9	A
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	126	0.88	995.6	A
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	119	0.80	1,384.3	A
	West	13.5	264	0.96	777.5	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	263	0.94	537.7	A
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	309	0.82	252.0	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	258	0.83	484.0	B
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	220	0.93	468.6	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	99	0.85	1,292.0	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	142	0.83	879.5	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	154	0.74	532.7	A
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	92	0.77	928.0	A
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	30	0.83	3,505.9	A
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	19	0.59	2,705.3	A
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	183	0.93	845.2	A
	South	10.5	319	0.94	490.0	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	619	0.95	157.7	B
	South	7.0	812	0.86	117.0	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	895	0.87	122.7	B
	West	3.0	106	0.70	313.6	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	228	0.88	183.1	B
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	33	0.92	3,312.0	A
	West	7.5	107	0.86	954.8	A
East 167th Street between Jerome Avenue and River Avenue	North	4.5	256	0.78	216.9	B
	South	4.0	189	0.88	294.8	B
River Avenue between McClellan Street and East 167th Street	East	12.5	92	0.92	1,980.0	A
	West	12.5	157	0.80	1,008.9	A
River Avenue between East 165th Street and McClellan Street	East	13.0	44	0.73	3,416.4	A

Table 13-41 (continued): Existing Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday PM Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	284	0.93	752.0	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	310	0.96	392.3	B
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	359	0.82	361.7	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	311	0.89	249.1	B
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	160	0.83	698.4	A
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	153	0.89	598.8	A
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	157	0.91	826.2	A
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	209	0.73	719.2	A
	West	13.5	305	0.89	623.9	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	296	0.94	477.8	A
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	325	0.85	248.3	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	337	0.85	379.4	B
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	301	0.81	298.2	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	81	0.70	1,300.4	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	184	0.87	711.4	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	226	0.86	421.8	B
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	251	0.83	366.5	B
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	56	0.64	1,448.2	A
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	24	0.86	3,121.8	A
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	331	0.87	437.0	B
	South	10.5	456	0.94	342.7	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	794	0.90	116.2	B
	South	7.0	905	0.88	107.3	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	1,288	0.87	85.0	C
	West	3.0	115	0.63	260.1	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	346	0.95	130.1	B
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	94	0.67	846.7	A
	West	7.5	174	0.79	539.3	A
East 167th Street between Jerome Avenue and River Avenue	North	4.5	352	0.84	169.8	B
	South	4.0	474	0.84	111.8	B
River Avenue between McClellan Street and East 167th Street	East	12.5	125	0.76	1,203.8	A
	West	12.5	208	0.83	790.0	A
River Avenue between East 165th Street and McClellan Street	East	13.0	60	0.83	2,848.5	A

Table 13-41 (continued): Existing Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	LOS
Saturday MD Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	245	0.90	843.7	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	237	0.83	443.7	B
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	302	0.92	482.4	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	430	0.73	147.5	B
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	218	0.91	561.9	A
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	145	0.88	624.8	A
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	151	0.86	811.9	A
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	145	0.76	1,079.3	A
	West	13.5	232	0.82	755.7	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	280	0.74	397.6	B
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	330	0.96	276.3	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	355	0.75	317.7	B
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	325	0.80	272.7	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	69	0.78	1,701.0	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	135	0.82	914.0	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	33	0.59	1,982.4	A
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	208	0.85	453.0	B
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	38	0.79	2,634.4	A
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	28	0.70	2,178.0	A
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	228	0.85	620.0	A
	South	10.5	380	0.90	393.8	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	733	0.85	118.9	B
	South	7.0	865	0.97	123.9	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	904	0.89	124.3	B
	West	3.0	173	0.65	178.2	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	305	0.90	139.8	B
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	63	0.75	1,414.2	A
	West	7.5	224	0.81	429.5	B
East 167th Street between Jerome Avenue and River Avenue	North	4.5	258	0.88	242.9	B
	South	4.0	608	0.91	94.3	B
River Avenue between McClellan Street and East 167th Street	East	12.5	197	0.62	623.1	A
	West	12.5	317	0.87	543.3	A
River Avenue between East 165th Street and McClellan Street	East	13.0	109	0.83	1,568.0	A

Note: SFP = square feet per pedestrian

Source: STV Incorporated, 2017.

Crosswalks

The majority of crosswalks analyzed are located at signalized intersections with pedestrian signals. Crosswalk widths vary from ten to 24 feet. Crosswalk lengths have been shortened at a number of locations through the extension of the sidewalk into former parking lanes (in the vicinity of subway stations) or painted curb extensions. At Edward L. Grant Highway and Jesup Avenue/West 170th Street, Edward L. Grant Highway and West 169th Street, and East 167th Street and Jerome Avenue, roadways are divided by medians with small pedestrian refuge areas and pedestrian signals. At these locations, the two crosswalks on either side of the median were analyzed separately. Table 13-42, "Existing Crosswalk Conditions," provides crosswalk length, crosswalk width, peak hour volume, average SFP, and level of service. As listed in Table 13-42, all analyzed crosswalks operate at LOS C or better during all analysis periods.

Corner Areas

Corner elements were analyzed in tandem with crosswalk elements, as the pedestrian LOS calculation incorporates crosswalk volumes. Table 13-43, "Existing Corner Conditions," lists the average SFP, and LOS for each analyzed corner. As listed in Table 13-43, all analyzed corners operate at LOS C or better during all analysis hours.

Table 13-42: Existing Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	49	429.9	A
	East	35	15	239	205.7	A
	South	46	14	43	687.2	A
West 183rd Street and Jerome Avenue	North	41	13	33	313.8	A
	South	41	13	123	185.2	A
	West	34	17	119	575.2	A
Burnside Avenue and Jerome Avenue	North	60	13.5	255	131.0	A
	East	49.5	16.5	234	162.7	A
	South	60	13	217	167.5	A
	West	68	15.5	342	130.3	A
Tremont Avenue and Jerome Avenue	North	82	18.5	142	372.5	A
	East	58	17	92	415.3	A
	South	83.5	19	124	407.5	A
	West	78	19	101	391.6	A
East 176th Street and Jerome Avenue	North	69.5	14.5	31	483.0	A
	East	38	15.5	268	206.8	A
	South	43	11	47	214.1	A
Mount Eden Avenue and Jerome Avenue	North	61	10	101	112.3	A
	East	30	14	185	275.5	A
	South	71	16	78	330.0	A
	West	33	16	177	314.3	A
East 170th Street and Jerome Avenue	North	69.5	13	178	103.7	A
	East	50	14	449	94.3	A
	South	60	15	187	124.9	A
	West	56	14	136	272.8	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	138	176.8	A
	North (N2)	48	20	138	197.3	A
	East (E1)	30	24	190	443.8	A
	East (E2)	41	11	67	777.3	A
	South (S1)	52	16	134	156.1	A
	South (S2)	59	16	134	205.8	A
	West	38	17	100	530.3	A

Table 13-42 (continued): Existing Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	33	807.2	A
	North (N2)	41	19	33	752.0	A
	East	45	14	33	1,841.0	A
	South (S1)	41	12	26	594.0	A
	South (S2)	41	12	26	590.0	A
East 167th Street and Jerome Avenue	North	76	14	121	120.6	A
	East	65	16	144	116.0	A
	South (S1)	61	13	193	49.2	B
	South (S2)	20	13	193	205.7	A
	West (W1)	54	18	185	149.3	A
	West (W2)	63	18	185	134.4	A
East 167th Street and River Avenue	North	38	18	168	304.5	A
	East	43	15	165	86.7	A
	South	40	20	234	243.7	A
	West	42	15	98	236.2	A
Weekday Midday Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	72	347.3	A
	East	35	15	212	281.9	A
	South	46	14	52	439.9	A
West 183rd Street and Jerome Avenue	North	41	13	167	146.6	A
	South	41	13	87	245.3	A
	West	34	17	152	369.7	A
Burnside Avenue and Jerome Avenue	North	60	13.5	391	96.6	A
	East	49.5	16.5	294	139.1	A
	South	60	13	422	86.6	A
	West	68	15.5	540	77.7	A
Tremont Avenue and Jerome Avenue	North	82	18.5	152	336.3	A
	East	58	17	179	222.4	A
	South	83.5	19	74	606.2	A
	West	78	19	146	341.1	A
East 176th Street and Jerome Avenue	North	69.5	14.5	25	802.2	A
	East	38	15.5	250	205.2	A
	South	43	11	45	242.2	A
Mount Eden Avenue and Jerome Avenue	North	61	10	129	105.4	A
	East	30	14	146	297.2	A
	South	71	16	80	325.0	A
	West	33	16	106	503.8	A
East 170th Street and Jerome Avenue	North	69.5	13	166	101.9	A
	East	50	14	530	86.8	A
	South	60	15	197	117.6	A
	West	56	14	98	329.5	A

Table 13-42 (continued): Existing Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	65	368.8	A
	North (N2)	48	20	65	401.8	A
	East (E1)	30	24	83	1,079.2	A
	East (E2)	41	11	45	1,201.4	A
	South (S1)	52	16	43	426.1	A
	South (S2)	59.5	16	43	569.0	A
	West	38	17	65	851.6	A
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	26	800.3	A
	North (N2)	41	19	26	749.2	A
	East	45	14	35	1,167.3	A
	South (S1)	41	12	13	1,429.3	A
	South (S2)	41	12	13	1,397.3	A
East 167th Street and Jerome Avenue	North	76	14	103	138.6	A
	East	65	16	122	184.2	A
	South (S1)	61	13	219	56.1	B
	South (S2)	20	13	219	222.2	A
	West (W1)	54	18	170	157.5	A
	West (W2)	63	18	170	187.4	A
East 167th Street and River Avenue	North	38	18	288	205.3	A
	East	43	15	60	394.3	A
	South	40	20	348	200.4	A
	West	42	15	125	260.8	A
Weekday PM Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	90	269.5	A
	East	35	15	322	167.4	A
	South	46	14	67	341.7	A
West 183rd Street and Jerome Avenue	North	41	13	252	90.8	A
	South	41	13	170	145.9	A
	West	34	17	234	266.2	A
Burnside Avenue and Jerome Avenue	North	60	13.5	510	71.8	A
	East	49.5	16.5	426	101.9	A
	South	60	13	543	60.1	A
	West	68	15.5	678	59.3	B
Tremont Avenue and Jerome Avenue	North	82	18.5	158	322.7	A
	East	58	17	184	221.4	A
	South	83.5	19	100	514.4	A
	West	78	19	171	273.0	A
East 176th Street and Jerome Avenue	North	69.5	14.5	25	597.9	A
	East	38	15.5	353	171.4	A
	South	43	11	44	290.2	A

Table 13-42 (continued): Existing Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Mount Eden Avenue and Jerome Avenue	North	61	10	144	79.2	A
	East	30	14	197	273.5	A
	South	71	16	119	191.7	A
	West	33	16	207	269.0	A
East 170th Street and Jerome Avenue	North	69.5	13	178	97.2	A
	East	50	14	880	43.3	B
	South	60	15	351	43.6	B
	West	56	14	235	148.6	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	146	150.1	A
	North (N2)	48	20	146	159.0	A
	East (E1)	30	24	136	530.2	A
	East (E2)	41	11	88	592.4	A
	South (S1)	52	16	109	157.5	A
	South (S2)	59.5	16	109	207.5	A
	West	38	17	131	459.1	A
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	22	1,124.6	A
	North (N2)	41	19	22	1,014.9	A
	East	45	14	85	580.9	A
	South (S1)	41	12	34	507.2	A
	South (S2)	41	12	34	499.8	A
East 167th Street and Jerome Avenue	North	76	14	158	92.7	A
	East	65	16	174	96.4	A
	South (S1)	61	13	394	30.8	C
	South (S2)	20	13	394	131.8	A
	West (W1)	54	18	260	109.2	A
	West (W2)	63	18	260	87.9	A
East 167th Street and River Avenue	North	38	18	314	193.5	A
	East	43	15	55	289.2	A
	South	40	20	417	159.8	A
	West	42	15	151	197.9	A
Saturday MD Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	75	358.6	A
	East	35	15	255	213.3	A
	South	46	14	59	346.4	A
West 183rd Street and Jerome Avenue	North	41	13	183	124.7	A
	South	41	13	151	142.0	A
	West	34	17	185	359.3	A
Burnside Avenue and Jerome Avenue	North	60	13.5	389	91.0	A
	East	49.5	16.5	375	97.3	A
	South	60	13	463	62.3	A
	West	68	15.5	550	83.1	A

Table 13-42 (continued): Existing Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Tremont Avenue and Jerome Avenue	North	82	18.5	251	225.8	A
	East	58	17	149	246.4	A
	South	83.5	19	86	618.4	A
	West	78	19	141	279.2	A
East 176th Street and Jerome Avenue	North	69.5	14.5	25	726.2	A
	East	38	15.5	311	142.8	A
	South	43	11	28	320.3	A
Mount Eden Avenue and Jerome Avenue	North	61	10	55	193.0	A
	East	30	14	171	278.9	A
	South	71	16	136	161.2	A
	West	33	16	96	516.5	A
East 170th Street and Jerome Avenue	North	69.5	13	274	62.7	A
	East	50	14	824	39.8	C
	South	60	15	217	80.4	A
	West	56	14	120	330.1	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	128	182.4	A
	North (N2)	48	20	128	187.9	A
	East (E1)	30	24	337	240.3	A
	East (E2)	41	11	60	753.3	A
	South (S1)	52	16	89	199.0	A
	South (S2)	59.5	16	89	262.0	A
	West	38	17	114	567.9	A
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	40	703.1	A
	North (N2)	41	19	40	637.6	A
	East	45	14	50	1,094.7	A
	South (S1)	41	12	19	793.7	A
	South (S2)	41	12	19	778.6	A
East 167th Street and Jerome Avenue	North	76	14	115	113.6	A
	East	65	16	114	192.1	A
	South (S1)	61	13	320	33.4	C
	South (S2)	20	13	320	138.0	A
	West (W1)	54	18	52	437.9	A
	West (W2)	63	18	52	383.4	A
East 167th Street and River Avenue	North	38	18	269	229.3	A
	East	43	15	164	149.1	A
	South	40	20	479	145.4	A
	West	42	15	208	144.4	A

Note:
SFP = square feet per pedestrian

Source: STV Incorporated, 2017.

Table 13-43: Existing Corner Conditions

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour		Saturday MD Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
East 183rd Street and Jerome Avenue	Northeast	304.0	A	319.8	A	223.6	A	266.3	A
	Southeast	329.7	A	499.9	A	344.0	A	454.3	A
West 183rd Street and Jerome Avenue	Northwest	294.1	A	200.7	A	135.6	A	171.6	A
	Southwest	755.3	A	799.8	A	559.4	A	660.8	A
Burnside Avenue and Jerome Avenue	Northwest	263.5	A	210.4	A	147.8	A	201.7	A
	Northeast	240.8	A	188.2	A	140.6	A	158.8	A
	Southeast	115.8	A	90.3	A	83.4	A	73.6	A
	Southwest	96.7	A	105.0	A	75.6	A	66.5	A
Tremont Avenue and Jerome Avenue	Northwest	182.7	A	274.7	A	170.4	A	163.7	A
	Northeast	342.7	A	275.0	A	269.2	A	275.7	A
	Southeast	410.1	A	333.8	A	312.5	A	331.1	A
	Southwest	193.3	A	138.2	A	176.1	A	195.4	A
East 176th Street and Jerome Avenue	Northeast	317.7	A	328.6	A	260.6	A	232.1	A
	Southeast	452.9	A	567.1	A	433.9	A	457.4	A
Mount Eden Avenue and Jerome Avenue	Northwest	362.7	A	466.2	A	286.1	A	571.6	A
	Northeast	206.8	A	288.1	A	221.2	A	353.6	A
	Southeast	373.1	A	448.2	A	343.5	A	267.0	A
	Southwest	398.7	A	524.6	A	277.9	A	365.7	A
East 170th Street and Jerome Avenue	Northwest	473.6	A	534.7	A	344.3	A	423.9	A
	Northeast	137.3	A	134.7	A	82.3	A	70.8	A
	Southeast	141.5	A	155.3	A	54.8	B	82.8	A
	Southwest	280.3	A	287.8	A	120.8	A	218.8	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	Northwest	270.9	A	508.3	A	251.1	A	302.7	A
	Northeast	166.7	A	366.2	A	161.1	A	118.5	A
	Southeast	364.9	A	822.0	A	354.8	A	242.8	A
	Southeast Island	2,563.1	A	5,428.4	A	2,309.1	A	2,955.4	A
	Southwest	330.5	A	614.2	A	332.2	A	358.1	A
Edward L. Grant Highway and West 169th Street	Northeast	526.7	A	506.7	A	424.0	A	420.4	A
	Southeast	1,271.5	A	1,327.0	A	706.6	A	1,008.4	A
East 167th Street and Jerome Avenue	Northwest	263.0	A	327.3	A	198.2	A	389.0	A
	Northeast	69.9	A	76.1	A	36.7	C	74.3	A
	Southeast	119.1	A	220.4	A	146.7	A	168.0	A
	Southwest	291.8	A	326.4	A	202.8	A	290.0	A
East 167th Street and River Avenue	Northwest	626.9	A	493.4	A	438.3	A	387.5	A
	Northeast	349.4	A	404.1	A	422.8	A	424.0	A
	Southeast	317.8	A	421.3	A	318.8	A	279.7	A
	Southwest	498.9	A	421.4	A	343.9	A	262.9	A

Note:
SFP = square feet per pedestrian

Source: STV Incorporated, 2017.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION CONDITION)

Pedestrian volumes at analyzed sidewalks, crosswalks, and corners are projected to increase during the 2016 through 2026 period. Future No-Action pedestrian volumes were developed as a result of background growth coupled with pedestrian trip generation from identified No-Action development sites. The No-Action projects include both the development of ten projected development sites in accordance with existing zoning and the development of 22 other No-Action projects to be constructed.

Sidewalks

Table 13-44, "No-Action Sidewalk Conditions," lists the No-Action peak hour pedestrian volumes, square feet per pedestrian, and platoon-adjusted levels of service at analyzed sidewalks. As listed in Table 13-44, of the 33 sidewalks analyzed, one sidewalk is project to operate at a congested LOS D during the Weekday AM peak hour. All other sidewalks are projected to operate at LOS C or better during all peak hours. This compares to no congested sidewalks during the same periods in the Existing Conditions.

Table 13-44: No-Action Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	193	0.77	916.3	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	170	0.93	693.2	A
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	570	0.67	185.9	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	310	0.95	266.8	B
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	149	0.78	704.7	A
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	88	0.83	971.0	A
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	156	0.89	797.9	A
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	151	0.86	1,172.7	A
	West	13.5	172	0.93	1,156.2	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	206	0.76	555.1	A
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	348	0.81	221.0	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	231	0.96	625.3	A
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	235	0.88	415.1	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	107	0.60	843.7	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	210	0.83	594.7	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	264	0.78	327.4	B
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	193	0.78	448.0	B
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	80	0.55	871.1	A
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	33	0.62	1,636.8	A
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	178	0.77	719.4	A
	South	10.5	806	0.93	199.1	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	550	0.84	156.9	B
	South	7.0	726	0.84	127.9	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	765	0.89	147.1	B
	West	3.0	237	0.77	154.0	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	593	0.84	66.5	C
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	99	0.86	1,031.9	A
	West	7.5	164	0.86	622.9	A
East 167th Street between Jerome Avenue and River Avenue	North	4.5	234	0.70	213.0	B
	South	4.0	1046	0.68	39.9	D
River Avenue between McClellan Street and East 167th Street	East	12.5	441	0.80	359.0	B
	West	12.5	315	0.90	565.6	A
River Avenue between East 165th Street and McClellan Street	East	13.0	113	0.86	1,567.1	A

Table 13-44 (continued): No-Action Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday Midday Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	228	0.89	896.5	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	262	0.74	357.8	B
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	287	0.94	518.7	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	266	0.89	291.3	B
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	111	0.94	1161.1	A
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	164	0.86	549.9	A
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	128	0.88	995.6	A
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	173	0.80	952.2	A
	West	13.5	314	0.96	653.7	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	404	0.94	350.0	B
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	418	0.82	186.2	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	268	0.83	465.9	B
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	224	0.93	468.6	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	106	0.85	1292.0	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	147	0.83	849.6	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	157	0.74	532.7	A
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	94	0.77	928.0	A
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	41	0.83	3505.9	A
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	28	0.59	2705.3	A
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	199	0.93	845.2	A
	South	10.5	358	0.94	490.0	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	633	0.95	154.2	B
	South	7.0	828	0.86	114.7	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	912	0.87	120.4	B
	West	3.0	111	0.70	299.5	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	274	0.88	152.3	B
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	166	0.92	658.3	A
	West	7.5	229	0.86	446.0	B
East 167th Street between Jerome Avenue and River Avenue	North	4.5	425	0.78	130.4	B
	South	4.0	339	0.88	164.1	B
River Avenue between McClellan Street and East 167th Street	East	12.5	1,136	0.92	160.0	B
	West	12.5	1096	0.80	144.1	B
River Avenue between East 165th Street and McClellan Street	East	13.0	304	0.73	3416.4	A

Table 13-44 (continued): No-Action Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday PM Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	291	0.93	734.0	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	317	0.96	383.6	B
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	373	0.82	348.1	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	317	0.89	244.4	B
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	163	0.83	698.4	A
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	155	0.89	598.8	A
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	160	0.91	826.2	A
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	255	0.73	719.2	A
	West	13.5	346	0.89	623.9	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	395	0.94	358.0	B
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	392	0.85	205.8	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	347	0.85	368.5	B
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	308	0.81	298.2	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	90	0.70	1300.4	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	195	0.87	671.3	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	231	0.86	421.8	B
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	255	0.83	366.5	B
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	62	0.64	1448.2	A
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	26	0.86	3121.8	A
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	350	0.87	437.0	B
	South	10.5	500	0.94	342.7	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	813	0.90	113.5	B
	South	7.0	926	0.88	104.9	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	1,312	0.87	83.4	C
	West	3.0	121	0.63	247.2	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	389	0.95	115.6	B
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	198	0.67	846.7	A
	West	7.5	269	0.79	539.3	A
East 167th Street between Jerome Avenue and River Avenue	North	4.5	491	0.84	121.5	B
	South	4.0	604	0.84	87.5	C
River Avenue between McClellan Street and East 167th Street	East	12.5	856	0.76	175.5	B
	West	12.5	733	0.83	224.0	B
River Avenue between East 165th Street and McClellan Street	East	13.0	128	0.83	1335.2	A

Table 13-44 (continued): No-Action Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	LOS
Saturday MD Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	251	0.90	823.5	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	242	0.83	434.5	B
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	312	0.92	467.0	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	438	0.73	144.8	B
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	222	0.91	561.9	A
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	148	0.88	624.8	A
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	154	0.86	811.9	A
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	211	0.76	741.6	A
	West	13.5	289	0.82	606.7	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	399	0.74	278.9	B
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	420	0.96	217.0	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	382	0.75	295.3	B
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	332	0.80	272.7	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	85	0.78	1701.0	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	143	0.82	862.8	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	33	0.59	1982.4	A
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	212	0.85	453.0	B
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	46	0.79	2634.4	A
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	34	0.70	2178.0	A
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	245	0.85	620.0	A
	South	10.5	407	0.90	393.8	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	750	0.85	118.9	B
	South	7.0	884	0.97	123.9	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	922	0.89	124.3	B
	West	3.0	176	0.65	178.2	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	338	0.90	126.1	B
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	159	0.75	560.3	A
	West	7.5	320	0.81	300.5	B
East 167th Street between Jerome Avenue and River Avenue	North	4.5	409	0.88	153.0	B
	South	4.0	760	0.91	75.1	C
River Avenue between McClellan Street and East 167th Street	East	12.5	926	0.62	132.2	B
	West	12.5	932	0.87	184.5	B
River Avenue between East 165th Street and McClellan Street	East	13.0	117	0.83	1,568.0	A

Note: SFP = square feet per pedestrian; *: Sidewalk not provided

Source: STV Incorporated, 2017.

Crosswalks

Table 13-45, "No-Action Crosswalk Conditions," lists the No-Action peak hour pedestrian volumes, square feet per pedestrian, and levels of service at analyzed crosswalks. As listed in Table 13-45, of the 47 crosswalks analyzed, one crosswalk is projected to operate at a congested LOS D during the Weekday PM peak hour. All other crosswalks are projected to operate at LOS C during all peak hours. This compares to no congested crosswalks during the same periods in the Existing Conditions.

Table 13-45: No-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	49	429.7	A
	East	35	15	243	201.8	A
	South	46	14	44	671.0	A
West 183rd Street and Jerome Avenue	North	41	13	40	250.6	A
	South	41	13	126	180.4	A
	West	34	17	121	565.2	A
Burnside Avenue and Jerome Avenue	North	60	13.5	295	112.9	A
	East	49.5	16.5	276	137.2	A
	South	60	13	249	145.3	A
	West	68	15.5	366	121.5	A
Tremont Avenue and Jerome Avenue	North	82	18.5	164	330.8	A
	East	58	17	159	236.4	A
	South	83.5	19	146	346.4	A
	West	78	19	115	343.2	A
East 176th Street and Jerome Avenue	North	69.5	14.5	31	482.6	A
	East	38	15.5	276	200.2	A
	South	43	11	53	189.4	A
Mount Eden Avenue and Jerome Avenue	North	61	10	124	90.7	A
	East	30	14	213	238.2	A
	South	71	16	80	322.0	A
	West	33	16	232	240.4	A
East 170th Street and Jerome Avenue	North	69.5	13	182	101.2	A
	East	50	14	461	90.5	A
	South	60	15	193	120.8	A
	West	56	14	138	268.8	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	167	145.2	A
	North (N2)	48	20	167	168.5	A
	East (E1)	30	24	223	382.8	A
	East (E2)	41	11	83	618.4	A
	South (S1)	52	16	138	151.0	A
	South (S2)	59	16	145	186.7	A
	West	38	17	122	438.1	A

Table 13-45 (continued): No-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	45	597.1	A
	North (N2)	41	19	45	555.6	A
	East	45	14	63	951.2	A
	South (S1)	41	12	39	392.6	A
	South (S2)	41	12	39	389.9	A
East 167th Street and Jerome Avenue	North	76	14	145	99.9	A
	East	65	16	163	101.7	A
	South (S1)	61	13	234	37.8	C
	South (S2)	20	13	234	168.7	A
	West (W1)	54	18	196	140.8	A
	West (W2)	63	18	196	126.3	A
East 167th Street and River Avenue	North	38	18	171	299.2	A
	East	43	15	232	60.8	A
	South	40	20	275	146.8	A
	West	42	15	181	132.4	A
Weekday Midday Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	74	337.6	A
	East	35	15	216	276.0	A
	South	46	14	53	430.5	A
West 183rd Street and Jerome Avenue	North	41	13	172	142.1	A
	South	41	13	89	239.3	A
	West	34	17	155	362.3	A
Burnside Avenue and Jerome Avenue	North	60	13.5	450	83.0	A
	East	49.5	16.5	342	118.4	A
	South	60	13	484	74.8	A
	West	68	15.5	587	71.1	A
Tremont Avenue and Jerome Avenue	North	82	18.5	263	189.5	A
	East	58	17	306	126.5	A
	South	83.5	19	144	306.9	A
	West	78	19	197	251.3	A
East 176th Street and Jerome Avenue	North	69.5	14.5	25	801.5	A
	East	38	15.5	254	199.6	A
	South	43	11	46	232.9	A
Mount Eden Avenue and Jerome Avenue	North	61	10	137	99.2	A
	East	30	14	151	290.1	A
	South	71	16	82	318.3	A
	West	33	16	108	493.8	A
East 170th Street and Jerome Avenue	North	69.5	13	169	99.7	A
	East	50	14	544	84.2	A
	South	60	15	203	114.0	A
	West	56	14	100	320.6	A

Table 13-45 (continued): No-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	92	254.9	A
	North (N2)	48	20	92	284.8	A
	East (E1)	30	24	169	543.8	A
	East (E2)	41	11	121	436.3	A
	South (S1)	52	16	45	405.2	A
	South (S2)	59.5	16	77	319.6	A
	West	38	17	109	505.6	A
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	71	273.2	A
	North (N2)	41	19	71	273.2	A
	East	45	14	155	257.9	A
	South (S1)	41	12	28	613.6	A
	South (S2)	41	12	28	613.6	A
East 167th Street and Jerome Avenue	North	76	14	255	53.4	B
	East	65	16	140	157.2	A
	South (S1)	61	13	360	32.3	C
	South (S2)	20	13	360	132.5	A
	West (W1)	54	18	184	167.7	A
	West (W2)	63	18	184	141.5	A
East 167th Street and River Avenue	North	38	18	304	194.0	A
	East	43	15	421	42.1	B
	South	40	20	354	194.5	A
	West	42	15	498	61.8	A
Weekday PM Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	92	263.4	A
	East	35	15	328	163.9	A
	South	46	14	68	336.0	A
West 183rd Street and Jerome Avenue	North	41	13	262	86.9	A
	South	41	13	174	142.2	A
	West	34	17	238	261.2	A
Burnside Avenue and Jerome Avenue	North	60	13.5	589	61.9	A
	East	49.5	16.5	484	88.0	A
	South	60	13	608	52.7	B
	West	68	15.5	710	55.3	B
Tremont Avenue and Jerome Avenue	North	82	18.5	200	251.8	A
	East	58	17	271	147.3	A
	South	83.5	19	174	294.4	A
	West	78	19	229	202.1	A
East 176th Street and Jerome Avenue	North	69.5	14.5	25	597.4	A
	East	38	15.5	360	165.9	A
	South	43	11	44	285.4	A

Table 13-45 (continued): No-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Mount Eden Avenue and Jerome Avenue	North	61	10	165	68.6	A
	East	30	14	208	256.4	A
	South	71	16	122	187.1	A
	West	33	16	211	263.7	A
East 170th Street and Jerome Avenue	North	69.5	13	181	95.3	A
	East	50	14	902	42.0	B
	South	60	15	359	42.5	B
	West	56	14	239	145.2	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	187	116.8	A
	North (N2)	48	20	187	123.9	A
	East (E1)	30	24	211	346.5	A
	East (E2)	41	11	157	330.9	A
	South (S1)	52	16	115	149.1	A
	South (S2)	59.5	16	143	157.5	A
	West	38	17	149	401.6	A
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	92	232.1	A
	North (N2)	41	19	92	232.1	A
	East	45	14	176	266.7	A
	South (S1)	41	12	50	335.4	A
	South (S2)	41	12	50	335.4	A
East 167th Street and Jerome Avenue	North	76	14	269	53.3	B
	East	65	16	203	80.2	A
	South (S1)	61	13	508	22.8	D
	South (S2)	20	13	508	100.7	A
	West (W1)	54	18	279	101.9	A
	West (W2)	63	18	279	80.4	A
East 167th Street and River Avenue	North	38	18	319	190.4	A
	East	43	15	342	43.2	B
	South	40	20	425	156.7	A
	West	42	15	367	79.2	A
Saturday MD Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	77	348.9	A
	East	35	15	260	208.8	A
	South	46	14	60	339.7	A
West 183rd Street and Jerome Avenue	North	41	13	189	120.3	A
	South	41	13	154	139.0	A
	West	34	17	189	351.1	A
Burnside Avenue and Jerome Avenue	North	60	13.5	504	69.1	A
	East	49.5	16.5	442	81.6	A
	South	60	13	575	49.4	B
	West	68	15.5	587	77.5	A

Table 13-45 (continued): No-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Tremont Avenue and Jerome Avenue	North	82	18.5	305	184.7	A
	East	58	17	295	120.0	A
	South	83.5	19	182	287.8	A
	West	78	19	181	215.7	A
East 176th Street and Jerome Avenue	North	69.5	14.5	25	726.2	A
	East	38	15.5	332	133.5	A
	South	43	11	28	320.3	A
Mount Eden Avenue and Jerome Avenue	North	61	10	68	154.8	A
	East	30	14	181	261.8	A
	South	71	16	138	158.8	A
	West	33	16	98	504.8	A
East 170th Street and Jerome Avenue	North	69.5	13	279	62.6	A
	East	50	14	844	39.7	C
	South	60	15	222	80.3	A
	West	56	14	122	328.4	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	163	142.0	A
	North (N2)	48	20	163	155.0	A
	East (E1)	30	24	414	193.9	A
	East (E2)	41	11	96	475.2	A
	South (S1)	52	16	98	180.5	A
	South (S2)	59.5	16	116	198.8	A
	West	38	17	160	400.4	A
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	66	428.4	A
	North (N2)	41	19	66	636.1	A
	East	45	14	116	462.3	A
	South (S1)	41	12	47	307.7	A
	South (S2)	41	12	47	778.6	A
East 167th Street and Jerome Avenue	North	76	14	229	55.6	B
	East	65	16	134	160.1	A
	South (S1)	61	13	436	24.1	C
	South (S2)	20	13	436	99.8	A
	West (W1)	54	18	63	361.4	A
	West (W2)	63	18	63	313.4	A
East 167th Street and River Avenue	North	38	18	274	224.9	A
	East	43	15	225	104.8	A
	South	40	20	488	141.3	A
	West	42	15	511	55.8	B

Note:
SFP = square feet per pedestrian

Source: STV Incorporated, 2017.

Corner Areas

Table 13-46, "No-Action Corner Conditions," lists the No-Action peak hour square feet per pedestrian and levels of service at analyzed corner areas. As listed in Table 13-46, of the 37 corner areas analyzed, one corner area (northeast corner of Jerome Avenue at East 167th Street) is projected to operate at a congested LOS D during the Weekday PM peak. All other corner areas are projected to operate at LOS C or better during all peak hours. This compares to no congested corner areas during the same periods in the Existing Conditions.

Table 13-46: No-Action Corner Conditions

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour		Saturday MD Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
East 183rd Street and Jerome Avenue	Northeast	299.0	A	313.4	A	218.5	A	260.2	A
	Southeast	312.2	A	479.1	A	326.0	A	427.1	A
West 183rd Street and Jerome Avenue	Northwest	275.0	A	196.0	A	132.0	A	167.3	A
	Southwest	740.4	A	783.0	A	548.2	A	647.4	A
Burnside Avenue and Jerome Avenue	Northwest	232.1	A	170.8	A	127.7	A	158.0	A
	Northeast	205.5	A	161.2	A	120.5	A	130.5	A
	Southeast	104.2	A	80.1	A	73.1	A	61.7	A
	Southwest	88.4	A	77.2	A	58.6	B	53.5	B
Tremont Avenue and Jerome Avenue	Northwest	168.2	A	178.3	A	139.3	A	133.3	A
	Northeast	268.6	A	166.1	A	203.4	A	177.4	A
	Southeast	287.2	A	196.5	A	177.9	A	174.4	A
	Southwest	168.2	A	99.8	A	118.0	A	125.0	A
East 176th Street and Jerome Avenue	Northeast	307.9	A	323.4	A	256.1	A	219.4	A
	Southeast	438.2	A	557.6	A	426.2	A	438.7	A
Mount Eden Avenue and Jerome Avenue	Northwest	217.0	A	417.1	A	253.0	A	514.8	A
	Northeast	191.0	A	278.5	A	207.8	A	330.1	A
	Southeast	340.3	A	434.9	A	330.2	A	257.9	A
	Southwest	333.2	A	514.6	A	271.5	A	358.6	A
East 170th Street and Jerome Avenue	Northwest	464.4	A	523.6	A	338.4	A	423.9	A
	Northeast	132.9	A	131.4	A	80.3	A	70.6	A
	Southeast	136.5	A	151.0	A	53.3	B	82.2	A
	Southwest	264.8	A	263.4	A	116.0	A	211.8	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	Northwest	224.8	A	331.4	A	206.1	A	226.2	A
	Northeast	141.3	A	229.9	A	118.1	A	95.4	A
	Southeast	324.8	A	520.5	A	274.6	A	203.2	A
	Southeast Island	2235.1	A	2,462.0	A	1,531.7	A	2,074.4	A
	Southwest	301.3	A	472.4	A	307.0	A	300.0	A
Edward L. Grant Highway and West 169th Street	Northeast	341.1	A	155.5	A	242.2	A	247.3	A
	Southeast	800.9	A	369.7	A	403.0	A	478.6	A
East 167th Street and Jerome Avenue	Northwest	235.3	A	191.8	A	149.0	A	235.0	A
	Northeast	56.2	B	41.3	B	22.7	D	43.5	B
	Southeast	108.8	A	163.5	A	121.6	A	134.6	A
	Southwest	259.1	A	244.7	A	172.4	A	228.8	A
East 167th Street and River Avenue	Northwest	490.6	A	270.6	A	294.4	A	249.7	A
	Northeast	283.9	A	193.9	A	202.2	A	368.9	A
	Southeast	170.3	A	120.2	A	130.1	A	144.3	A
	Southwest	276.6	A	183.9	A	197.9	A	154.8	A

Note:
SFP = square feet per pedestrian

Source: STV Incorporated, 2017.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION CONDITION)

In the future 2026 With-Action Condition, the Proposed Actions would result in a net increase in pedestrian trips along sidewalks, crosswalks, and corner areas in the study area. New pedestrian demand would include trips made solely by walking, as well as trips en-route to and from subway stations, bus stops, commuter rail, on-street parking, and off-street parking facilities. These trips are expected to be concentrated in the proximity of the projected development sites, as well as both along commercial corridors and to/from residential neighborhoods.

As listed in Table 13-9, "RWCDS Travel Demand Forecast," the Proposed Actions is expected to generate approximately 1,607 walk-only trips, during the weekday AM peak hour, 6,772 walk-only trips during the weekday midday peak hour, 4,143 walk-only trips during the weekday PM peak hour, and 4,787 during the Saturday midday peak hour. Pedestrians walking to and from subway, bus, commuter rail, and parking (both on and off-street) are estimated to add an additional 2,378 pedestrians trips to sidewalks, crosswalks, and corners during the weekday AM peak hour, 2,623 during the weekday midday peak hour, 3,366 during the weekday PM peak hour, and 3,373 during the Saturday midday peak hour.

Sidewalks

Table 13-47, "With-Action Sidewalk Conditions," lists the peak hour pedestrian volumes, average pedestrian space, and platoon-adjusted levels of service at study area crosswalks. The south sidewalk of West 170th Street between Edward L. Grant Highway and Cromwell Avenue is projected to experience a significant adverse impact during the Saturday midday peak hour, operating at LOS D. No other significant sidewalk impacts were identified during any of the analysis peak hours.

Table 13-47: With-Action Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	241	0.77	733.8	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	222	0.93	530.8	A
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	660	0.67	160.5	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	530	0.95	155.8	B
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	173	0.78	607.0	A
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	512	0.83	166.6	B
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	244	0.89	519.9	B
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	141	0.86	1,255.9	A
	West	13.5	162	0.93	1,227.6	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	292	0.76	391.5	B
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	380	0.81	202.3	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	247	0.96	584.8	A
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	247	0.88	394.9	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	110	0.60	820.7	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	271	0.83	460.8	B
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	267	0.78	323.8	B
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	191	0.78	452.7	B
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	234	0.55	297.7	B
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	69	0.62	782.7	A
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	284	0.77	450.8	B
	South	10.5	1194	0.93	129.1	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	550	0.84	156.9	B
	South	7.0	731	0.84	127.0	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	765	0.89	147.1	B
	West	3.0	243	0.77	150.2	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	869	0.84	44.8	C
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	173	0.86	590.5	A
	West	7.5	259	0.86	394.3	B
East 167th Street between Jerome Avenue and River Avenue	North	4.5	336	0.70	148.1	B
	South	4.0	1086	0.68	38.3	D
River Avenue between McClellan Street and East 167th Street	East	12.5	528	0.80	299.8	B
	West	12.5	351	0.90	507.6	B
River Avenue between East 165th Street and McClellan Street	East	13.0	302	0.86	586.3	A

Table 13-47 (continued): With-Action Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday Midday Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	670	0.89	304.9	B
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	695	0.74	134.5	B
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	1,170	0.94	126.8	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	1,303	0.89	58.6	C
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	1,296	0.94	97.1	B
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	1,270	0.86	68.9	C
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	923	0.88	135.5	B
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	120	0.80	1,372.8	A
	West	13.5	261	0.96	786.5	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	356	0.94	397.2	B
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	349	0.82	223.1	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	334	0.83	373.8	B
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	288	0.93	357.9	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	138	0.85	926.8	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	188	0.83	664.3	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	121	0.74	678.0	A
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	58	0.77	1,472.0	A
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	225	0.83	467.3	B
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	127	0.59	404.6	B
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	545	0.93	283.6	B
	South	10.5	871	0.94	179.2	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	633	0.95	154.2	B
	South	7.0	849	0.86	111.8	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	926	0.87	118.6	B
	West	3.0	168	0.70	197.7	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	971	0.88	41.8	C
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	227	0.92	481.4	B
	West	7.5	463	0.86	220.4	B
East 167th Street between Jerome Avenue and River Avenue	North	4.5	488	0.78	113.5	B
	South	4.0	429	0.88	129.6	B
River Avenue between McClellan Street and East 167th Street	East	12.5	1,394	0.92	130.3	B
	West	12.5	1199	0.80	131.7	B
River Avenue between East 165th Street and McClellan Street	East	13.0	1,484	0.73	100.8	B

Table 13-47 (continued): With-Action Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday PM Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	479	0.93	445.8	B
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	514	0.96	236.4	B
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	788	0.82	164.5	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	912	0.89	84.4	C
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	771	0.83	144.6	B
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	1,122	0.89	81.0	C
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	507	0.91	255.7	B
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	227	0.73	662.1	A
	West	13.5	318	0.89	598.4	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	471	0.94	300.1	B
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	394	0.85	204.8	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	382	0.85	334.7	B
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	347	0.81	258.6	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	99	0.70	1,063.9	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	256	0.87	511.3	B
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	216	0.86	441.3	B
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	238	0.83	386.5	B
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	314	0.64	258.5	B
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	266	0.86	281.5	B
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	598	0.87	241.7	B
	South	10.5	1068	0.94	146.0	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	833	0.90	110.8	B
	South	7.0	986	0.88	98.4	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	1,343	0.87	81.4	C
	West	3.0	159	0.63	188.0	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	950	0.95	46.4	C
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	261	0.67	304.8	B
	West	7.5	496	0.79	188.9	B
East 167th Street between Jerome Avenue and River Avenue	North	4.5	594	0.84	100.3	B
	South	4.0	666	0.84	79.2	C
River Avenue between McClellan Street and East 167th Street	East	12.5	1,019	0.76	147.3	B
	West	12.5	829	0.83	198.0	B
River Avenue between East 165th Street and McClellan Street	East	13.0	750	0.83	227.6	B

Table 13-47 (continued): With-Action Sidewalk Conditions

Location	Sidewalk	Effective Width (ft.)	Two-way Peak Hour Volume	PHF	SFP	LOS
Saturday MD Peak Hour						
Jerome Avenue between East 183rd Street and East 184th Street	East	14.5	335	0.90	617.0	A
Jerome Avenue between West 183rd Street and Evelyn Place	West	8.0	380	0.83	276.6	B
Jerome Avenue between East 182nd Street and East 183rd Street	East	10.0	593	0.92	245.5	B
Jerome Avenue between Buchanan Place and West 183rd Street	West	5.5	911	0.73	69.0	C
Jerome Avenue between Cameron Place and East 182nd Street	East	8.5	934	0.91	130.8	B
Jerome Avenue between Clinton Place and West 182nd Street	West	6.5	1,227	0.88	73.1	C
Jerome Avenue between East 181st Street and Cameron Place	East	9.0	475	0.86	257.9	B
Jerome Avenue between Burnside Avenue and 181st Street	East	13.0	176	0.76	889.1	A
	West	13.5	255	0.82	687.6	A
Jerome Avenue between East Tremont Avenue and East 179th Street	East	9.5	437	0.74	254.6	B
Jerome Avenue between West Tremont Avenue and West Burnside Avenue	West	6.0	427	0.96	213.4	B
Jerome Avenue between East 176th Street and Mount Hope Place	East	9.5	457	0.75	246.7	B
Jerome Avenue between East 175th Street and East 176th Street	East	7.0	392	0.80	226.0	B
Jerome Avenue between Clifford Place and East 175th Street	East	9.5	105	0.78	1117.8	A
Jerome Avenue between East 172nd Street and Mount Eden Avenue	East	9.5	198	0.82	623.1	A
Jerome Avenue between East 171st Street and East 172nd Street	East	7.0	12	0.59	5451.6	A
Jerome Avenue between Macombs Road and West 172nd Street	West	7.0	186	0.85	506.6	B
Inwood Avenue between West 170th Street and Macombs Road	West	8.0	336	0.79	297.8	B
Cromwell Avenue between West 170th Street and Macombs Road	East	5.5	177	0.70	344.4	B
East 170th Street between Inwood Avenue and Plaza Drive	North	10.5	564	0.85	250.4	B
	South	10.5	857	0.90	174.4	B
East 170th Street between Jerome Avenue and Townsend Avenue	North	6.5	780	0.85	111.7	B
	South	7.0	894	0.97	119.9	B
Jerome Avenue between Elliot Place and 170th Street	East	8.0	924	0.89	121.6	B
	West	3.0	221	0.65	139.4	B
West 170th Street between Edward L. Grant Highway and Cromwell Avenue	South	3.0	1,211	0.90	33.8	D
Edward L. Grant Highway between Jerome Avenue and 169th Street	East	7.5	300	0.75	296.8	B
	West	7.5	543	0.81	176.9	B
East 167th Street between Jerome Avenue and River Avenue	North	4.5	571	0.88	109.4	B
	South	4.0	845	0.91	67.4	C
River Avenue between McClellan Street and East 167th Street	East	12.5	1,103	0.62	110.8	B
	West	12.5	976	0.87	176.2	B
River Avenue between East 165th Street and McClellan Street	East	13.0	846	0.83	201.8	B

Note: SFP = square feet per pedestrian; Shading denotes significant impact

Source: STV Incorporated, 2017.

Crosswalks

Table 13-48, "With-Action Crosswalk Conditions," lists peak hour pedestrian volumes, average pedestrian space, and levels of service at study area crosswalks. One crosswalk is projected to experience a significant adverse impact during the With-Action condition. The south crosswalk of East 167th Street and Jerome Avenue is projected to operate at LOS D during the weekday PM and Saturday midday peak hours. No other significant crosswalk impacts were identified during any of the analysis peak hours.

Table 13-48: With-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	49	429.7	A
	East	35	15	301	163.8	A
	South	46	14	44	671.0	A
West 183rd Street and Jerome Avenue	North	41	13	40	250.3	A
	South	41	13	126	180.4	A
	West	34	17	170	400.1	A
Burnside Avenue and Jerome Avenue	North	60	13.5	295	113.1	A
	East	49.5	16.5	273	137.0	A
	South	60	13	249	145.1	A
	West	68	15.5	367	120.9	A
Tremont Avenue and Jerome Avenue	North	82	18.5	200	269.2	A
	East	58	17	290	125.5	A
	South	83.5	19	190	261.5	A
	West	78	19	110	357.9	A
East 176th Street and Jerome Avenue	North	69.5	14.5	31	482.6	A
	East	38	15.5	287	191.2	A
	South	43	11	73	134.7	A
Mount Eden Avenue and Jerome Avenue	North	61	10	124	90.5	A
	East	30	14	212	238.5	A
	South	71	16	148	175.5	A
	West	33	16	354	162.9	A
East 170th Street and Jerome Avenue	North	69.5	13	218	83.1	A
	East	50	14	560	73.2	A
	South	60	15	243	95.5	A
	West	56	14	172	217.6	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	222	108.6	A
	North (N2)	48	20	222	126.0	A
	East (E1)	30	24	408	200.5	A
	East (E2)	41	11	194	270.6	A
	South (S1)	52	16	164	113.2	A
	South (S2)	59	16	268	84.3	A
	West	38	17	148	376.6	A

Table 13-48 (continued): With-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	68	399.1	A
	North (N2)	41	19	68	366.4	A
	East	45	14	100	601.7	A
	South (S1)	41	12	95	149.7	A
	South (S2)	41	12	95	146.6	A
East 167th Street and Jerome Avenue	North	76	14	245	59.8	B
	East	65	16	164	100.8	A
	South (S1)	61	13	277	33.7	C
	South (S2)	20	13	277	141.3	A
	West (W1)	54	18	231	118.5	A
	West (W2)	63	18	231	105.1	A
East 167th Street and River Avenue	North	38	18	197	250.3	A
	East	43	15	265	52.4	B
	South	40	20	280	143.8	A
	West	42	15	198	122.5	A
Weekday Midday Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	100	248.0	A
	East	35	15	436	134.1	A
	South	46	14	54	426.2	A
West 183rd Street and Jerome Avenue	North	41	13	172	141.9	A
	South	41	13	89	239.3	A
	West	34	17	683	76.4	A
Burnside Avenue and Jerome Avenue	North	60	13.5	450	81.6	A
	East	49.5	16.5	264	152.5	A
	South	60	13	492	73.5	A
	West	68	15.5	516	81.3	A
Tremont Avenue and Jerome Avenue	North	82	18.5	284	172.8	A
	East	58	17	288	134.3	A
	South	83.5	19	164	268.4	A
	West	78	19	117	423.4	A
East 176th Street and Jerome Avenue	North	69.5	14.5	25	801.5	A
	East	38	15.5	318	157.8	A
	South	43	11	175	55.2	B
Mount Eden Avenue and Jerome Avenue	North	61	10	137	98.1	A
	East	30	14	246	175.3	A
	South	71	16	383	65.3	A
	West	33	16	163	325.8	A
East 170th Street and Jerome Avenue	North	69.5	13	213	79.1	A
	East	50	14	529	85.9	A
	South	60	15	245	94.0	A
	West	56	14	112	282.9	A

Table 13-48 (continued): With-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	298	71.5	A
	North (N2)	48	20	298	80.6	A
	East (E1)	30	24	442	203.2	A
	East (E2)	41	11	155	360.9	A
	South (S1)	52	16	72	256.1	A
	South (S2)	59.5	16	118	207.9	A
	West	38	17	129	426.0	A
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	255	78.2	A
	North (N2)	41	19	255	73.8	A
	East	45	14	324	120.1	A
	South (S1)	41	12	228	69.9	A
	South (S2)	41	12	162	95.5	A
East 167th Street and Jerome Avenue	North	76	14	329	40.6	B
	East	65	16	201	107.7	A
	South (S1)	61	13	469	24.5	C
	South (S2)	20	13	469	100.2	A
	West (W1)	54	18	258	119.2	A
	West (W2)	63	18	258	98.6	A
East 167th Street and River Avenue	North	38	18	353	165.3	A
	East	43	15	472	36.1	C
	South	40	20	363	187.8	A
	West	42	15	572	53.3	B
Weekday PM Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	92	263.4	A
	East	35	15	445	119.7	A
	South	46	14	70	326.7	A
West 183rd Street and Jerome Avenue	North	41	13	262	86.8	A
	South	41	13	174	142.2	A
	West	34	17	414	146.5	A
Burnside Avenue and Jerome Avenue	North	60	13.5	589	61.1	A
	East	49.5	16.5	433	98.0	A
	South	60	13	608	52.6	B
	West	68	15.5	654	60.3	A
Tremont Avenue and Jerome Avenue	North	82	18.5	214	233.4	A
	East	58	17	348	112.3	A
	South	83.5	19	290	177.4	A
	West	78	19	220	209.4	A
East 176th Street and Jerome Avenue	North	69.5	14.5	25	597.4	A
	East	38	15.5	390	151.6	A
	South	43	11	101	119.2	A

Table 13-48 (continued): With-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Mount Eden Avenue and Jerome Avenue	North	61	10	165	68.0	A
	East	30	14	213	250.0	A
	South	71	16	378	57.0	B
	West	33	16	384	144.7	A
East 170th Street and Jerome Avenue	North	69.5	13	284	59.3	B
	East	50	14	950	39.4	C
	South	60	15	500	30.1	C
	West	56	14	287	119.2	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	323	66.6	A
	North (N2)	48	20	323	74.1	A
	East (E1)	30	24	557	127.1	A
	East (E2)	41	11	429	114.7	A
	South (S1)	52	16	169	100.4	A
	South (S2)	59.5	16	302	72.4	A
	West	38	17	159	376.1	A
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	224	102.5	A
	North (N2)	41	19	224	91.8	A
	East	45	14	391	109.9	A
	South (S1)	41	12	156	104.8	A
	South (S2)	41	12	156	101.7	A
East 167th Street and Jerome Avenue	North	76	14	370	38.4	C
	East	65	16	218	76.7	A
	South (S1)	61	13	581	20.3	D
	South (S2)	20	13	581	87.2	A
	West (W1)	54	18	348	81.2	A
	West (W2)	63	18	348	61.0	A
East 167th Street and River Avenue	North	38	18	359	168.7	A
	East	43	15	393	35.8	C
	South	40	20	431	151.8	A
	West	42	15	420	68.1	A
Saturday MD Peak Hour						
East 183rd Street and Jerome Avenue	North	69	13	79	340.4	A
	East	35	15	411	128.5	A
	South	46	14	118	174.1	A
West 183rd Street and Jerome Avenue	North	41	13	219	102.0	A
	South	41	13	207	101.9	A
	West	34	17	383	169.2	A
Burnside Avenue and Jerome Avenue	North	60	13.5	504	68.2	A
	East	49.5	16.5	375	95.7	A
	South	60	13	575	49.4	B
	West	68	15.5	520	87.9	A

Table 13-48 (continued): With-Action Crosswalk Conditions

Location	Crosswalk	Crosswalk Length (ft.)	Crosswalk Width (ft.)	Two-way Peak Hour Volume	SFP	LOS
Tremont Avenue and Jerome Avenue	North	82	18.5	383	145.2	A
	East	58	17	436	78.6	A
	South	83.5	19	345	148.9	A
	West	78	19	105	371.9	A
East 176th Street and Jerome Avenue	North	69.5	14.5	25	725.6	A
	East	38	15.5	399	108.3	A
	South	43	11	108	74.4	A
Mount Eden Avenue and Jerome Avenue	North	61	10	68	153.5	A
	East	30	14	316	146.8	A
	South	71	16	479	43.4	B
	West	33	16	177	277.0	A
East 170th Street and Jerome Avenue	North	69.5	13	408	40.8	B
	East	50	14	894	35.8	C
	South	60	15	222	78.5	A
	West	56	14	164	236.5	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	North (N1)	48	20	205	109.9	A
	North (N2)	48	20	205	119.9	A
	East (E1)	30	24	604	129.7	A
	East (E2)	41	11	96	465.2	A
	South (S1)	52	16	298	55.9	B
	South (S2)	59.5	16	369	59.2	B
	West	38	17	299	210.9	A
Edward L. Grant Highway and West 169th Street	North (N1)	41	19	148	189.8	A
	North (N2)	41	19	148	170.6	A
	East	45	14	464	111.3	A
	South (S1)	41	12	148	94.3	A
	South (S2)	41	12	148	90.7	A
East 167th Street and Jerome Avenue	North	76	14	387	32.0	C
	East	65	16	232	89.5	A
	South (S1)	61	13	535	19.4	D
	South (S2)	20	13	535	80.4	A
	West (W1)	54	18	135	167.2	A
	West (W2)	63	18	135	141.3	A
East 167th Street and River Avenue	North	38	18	318	192.8	A
	East	43	15	282	82.2	A
	South	40	20	506	135.2	A
	West	42	15	580	48.7	B

Note:
SFP = square feet per pedestrian; Shading denotes significant adverse impact

Source: STV Incorporated, 2017.

Corner Areas

Table 13-49, "With-Action Corner Conditions," lists the average pedestrian space and levels of service at study area corner areas. A significant adverse impact was identified at one location. The northeast corner of East 167th Street and Jerome Avenue is projected to operate at LOS D during the Weekday PM and Saturday midday peak hours. No significant adverse impacts were identified at any other corner area during any of the analysis peak hours.

Table 14-49: With-Action Corner Conditions

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour		Saturday MD Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
East 183rd Street and Jerome Avenue	Northeast	252.6	A	118.0	A	147.3	A	170.2	A
	Southeast	294.6	A	257.9	A	249.1	A	290.7	A
West 183rd Street and Jerome Avenue	Northwest	227.2	A	84.8	A	97.6	A	115.6	A
	Southwest	535.6	A	269.1	A	319.8	A	338.3	A
Burnside Avenue and Jerome Avenue	Northwest	231.8	A	182.6	A	147.8	A	166.8	A
	Northeast	206.6	A	179.0	A	140.6	A	141.3	A
	Southeast	102.8	A	86.3	A	83.4	A	65.0	A
	Southwest	87.8	A	81.5	A	75.6	A	55.6	B
Tremont Avenue and Jerome Avenue	Northwest	159.0	A	200.8	A	131.0	A	137.9	A
	Northeast	189.1	A	164.4	A	172.5	A	125.9	A
	Southeast	170.0	A	192.0	A	113.4	A	104.9	A
	Southwest	147.3	A	111.8	A	92.2	A	103.6	A
East 176th Street and Jerome Avenue	Northeast	295.0	A	270.3	A	240.7	A	188.1	A
	Southeast	415.3	A	383.4	A	378.3	A	334.0	A
Mount Eden Avenue and Jerome Avenue	Northwest	180.8	A	344.9	A	182.9	A	369.4	A
	Northeast	191.2	A	238.3	A	206.7	A	261.8	A
	Southeast	274.3	A	159.7	A	164.2	A	105.6	A
	Southwest	144.7	A	123.7	A	94.2	A	102.5	A
East 170th Street and Jerome Avenue	Northwest	377.5	A	311.5	A	229.0	A	203.2	A
	Northeast	112.3	A	125.3	A	69.8	A	59.3	B
	Southeast	115.2	A	145.9	A	45.9	B	74.9	A
	Southwest	129.3	A	101.8	A	58.3	B	83.6	A
Edward L. Grant Highway and Jesup Avenue/West 170th Street	Northwest	183.2	A	140.8	A	139.0	A	144.7	A
	Northeast	87.0	A	79.8	A	52.5	B	66.3	A
	Southeast	189.9	A	230.7	A	127.1	A	106.9	A
	Southeast Island	1000.9	A	1784.1	A	629.7	A	919.1	A
	Southwest	252.7	A	383.8	A	250.2	A	139.7	A
Edward L. Grant Highway and West 169th Street	Northeast	168.3	A	37.6	C	64.1	A	57.0	B
	Southeast	284.2	A	118.7	A	139.9	A	134.2	A
East 167th Street and Jerome Avenue	Northwest	166.7	A	141.0	A	110.5	A	131.4	A
	Northeast	43.2	B	28.6	C	15.8	D	19.7	D
	Southeast	99.7	A	128.9	A	109.8	A	104.2	A
	Southwest	222.8	A	188.8	A	148.3	A	175.2	A
East 167th Street and River Avenue	Northwest	323.8	A	214.1	A	234.0	A	173.0	A
	Northeast	248.7	A	172.0	A	178.1	A	310.4	A
	Southeast	145.9	A	101.5	A	112.4	A	125.3	A
	Southwest	266.7	A	164.5	A	184.1	A	144.7	A

Note:
SFP = square feet per pedestrian; Shading denotes significant adverse impact

Source: STV Incorporated, 2017.

13.10 Vehicular and Pedestrian Safety Evaluation

RECENT DOT INITIATIVES

The City's Vision Zero initiative seeks to eliminate all deaths from traffic crashes regardless of whether on foot, bicycle, or inside a motor vehicle. In an effort to drive these fatalities down, DOT and NYPD developed a set of five plans, each of which analyzes the unique conditions of one New York City borough and recommends actions to address the borough's specific challenges to pedestrian safety. These plans pinpoint the conditions and characteristics of pedestrian fatalities and severe injuries; and identify priority corridors, intersections, and areas that disproportionately account for pedestrian fatalities and severe injuries, prioritizing them for safety interventions. The plans outline a series of recommended actions comprised of engineering, enforcement, and education measures that intend to alter the physical and behavioral conditions on City streets that lead to pedestrian fatality and injury.

Vision Zero Bronx Pedestrian Safety Action Plan

The *Vision Zero Bronx Pedestrian Safety Action Plan* was released on February 18, 2015. Portions of the Jerome Avenue Rezoning traffic study area were identified as Priority Areas where safety issues were found to occur systematically at an area-wide level. The following roadways are identified as Priority Corridors along their entire length within the traffic study area:

- Edward L. Grant Highway / University Avenue
- Grand Concourse
- Tremont Avenue
- 170th Street

In addition, four study area intersections are identified as Priority Intersections:

- Grand Concourse and East Fordham Road
- Grand Concourse and East Burnside Avenue
- Grand Concourse and Monroe Avenue
- Grand Concourse and East 170th Street

A summary of actions recommended in the *Vision Zero Bronx Pedestrian Safety Action Plan* to enhance pedestrian safety in the Bronx are summarized below.

Engineering and Planning

- Implement at least 50 Vision Zero safety engineering improvements annually at Priority Corridors, Intersections and Areas citywide, informed by community input at project locations
- Significantly expand exclusive pedestrian crossing time on all Bronx Priority Corridors by the end of 2017
- Add exclusive pedestrian crossing time to all feasible Bronx Priority Intersections by the end of 2017
- Modify signal timing to reduce off-peak speeding on all feasible Bronx Priority Corridors by the end of 2017
- Install expanded speed limit signage on all Bronx Priority Corridors in 2015
- Drive community input and engagement at Bronx Priority Corridors, Intersections, and Areas
- Install additional lighting under elevated trains and around other key transit stops
- Expand midblock treatments on Bronx Priority Corridors with high rates of midblock crossing pedestrian crashes
- Coordinate with MTA to ensure bus operations contribute to a safe pedestrian environment
- Expand a bicycle network in the Bronx that improves safety for all road users
- Proactively design for pedestrian safety in high-growth areas in the Bronx, including locations in the *Housing New York* plan

Enforcement

- Implement the majority of speed cameras at Priority Corridors, Intersections, and Areas
- Focus enforcement and deploy dedicated resources to Bronx NYPD precincts that overlap substantially with Priority Areas
- Prioritize targeted enforcement at Bronx Priority Corridors, Intersections, and Areas annually
- Focus speeding enforcement in the overnight hours, targeting transit stops and other pedestrian hot spots for off-peak commuting

Education and Awareness Campaign

- Target child and senior safety education at Bronx Priority Corridors and Priority Areas

- Target Street Team outreach at Bronx Priority Corridors, Intersections, and Areas
- Focus messaging and paid placement of Vision Zero public information campaigns targeting night time drivers, as well as addressing at-risk Bronx demographic groups, such as younger adults and overnight commuters

Study Area High Crash Locations

Crash data for intersections in the traffic and pedestrian study areas were obtained from DOT for the three-year period between January 1, 2012 and December 31, 2014. The data quantifies the total number of reportable (involving a fatality, injury, or more than $1,000 in property damage) and non-reportable crashes as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year reporting period, 1,103 crashes, seven fatalities, and 311 pedestrian/bicyclist-related crashes occurred at study area intersections. Table 13-50, "Summary of Motor Vehicle Crash Data 2012-2014," provides details of crash characteristics by intersection during the 2012-2014 period, as well as a breakdown of pedestrian and bicycle crashes by year and location.

According to the *CEQR Technical Manual*, a high crash location is one where there were 48 or more reportable or non-reportable crashes or five or more pedestrian/bicyclist-related crashes in any consecutive twelve months within the most recent three year period for which data is available. No intersections in the traffic and pedestrian study area had 48 or more crashes in a consecutive 12 month period during the most recent three-year period for which data was available; however, nine intersections had five or more pedestrian/bicyclist-related crashes within a consecutive 12-month period. These intersections, identified as high crash locations in Table 13-50, are the following:

- Grand Concourse and Monroe Avenue
- Grand Concourse and East 176th Street
- Grand Concourse and Mount Eden Avenue
- Grand Concourse and East 170th Street
- Jerome Avenue and East Fordham Road
- Jerome Avenue and West Burnside Avenue
- Jerome Avenue and West 170th Street
- Jerome Avenue and Marcy Place
- Burnside Avenue and Walton Avenue

The nine high crash intersections are discussed below. A discussion of potential measures to enhance pedestrian safety at intersections is also provided.

Grand Concourse

Four of the nine high crash intersections are located along Grand Concourse. Grand Concourse intersections are approximately 0.5 miles from the projected development sites, and are expected to experience little increase in pedestrian volumes with the Proposed Actions. Each intersection is signalized and is equipped with pedestrian signals with countdown clocks as well as crosswalks on all legs. Pedestrian islands are located between the service roads and mainline of Grand Concourse to improve pedestrian safety.

Grand Concourse and Monroe Avenue/Tremont Avenue

Eleven pedestrian-related and three bicycle-related crashes occurred from 2012 to 2014 at the intersection. Six pedestrian crashes occurred in 2013. Five of the eleven pedestrian-related crashes involved pedestrians crossing against the signal. This is a five-legged intersection and Monroe Avenue is a one-way street that operates away from this intersection. Measures to increase pedestrian safety at this location could include restriping of the faded high-visibility crosswalk striping and the installation of signs warning turning vehicles to yield to pedestrians in the crosswalk on all approaches and yield to bicyclist signs.

Grand Concourse and East 176th Street/Weeks Avenue

The five-legged intersection of Grand Concourse with East 176th Street and Weeks Avenue experienced nine pedestrian and two bicyclist-related crash in the three-year period from 2012 to 2014. Five pedestrian crashes occurred in 2014. All of the crashes occurred at the intersection, with three of the pedestrians crossing against the signal. Bicycle lanes are provided on north and southbound Grand Concourse, and the north and west crosswalks are striped with high-visibility markings. The addition of signs warning turning vehicles to yield to pedestrians in the crosswalk and high visibility striping on the south and east crosswalk could increase pedestrian safety.

Grand Concourse and Mount Eden Avenue

Seven pedestrian-related and two bicycle-related crashes occurred from 2012 to 2014 at the intersection of Grand Concourse and Mount Eden Avenue. Five pedestrian crashes occurred in 2014. No prevailing trends were identified as the primary cause of recorded crashes. The intersection has high-visibility crosswalks on all approaches and pedestrian medians along Mount Eden Avenue in addition to the pedestrian medians present along Grand Concourse between the mainline and the service roads.

Measures to increase pedestrian safety at this location could include the installation of signs warning turning vehicles to yield to pedestrians in the crosswalk on all approaches and yield to bicyclist signs.

Grand Concourse and East 170th Street

The intersection of Grand Concourse and East 170th Street experienced one bicyclist-related and nine pedestrian-related crashes, including one fatality, from 2012-2014. Six pedestrian crashes occurred in 2014. It is worth noting that more than half of the pedestrian-related crashes are due to pedestrians crossing against the signal or not at the crosswalk. The intersection has high-visibility crosswalks on all approaches and pedestrian medians along East 170th Street and Grand Concourse.

Jerome Avenue and East Fordham Road

Fourteen pedestrian-related and one bicycle-related crash occurred from 2012 to 2014 at the intersection of Jerome Avenue and East Fordham Road. Five pedestrian crashes occurred each year in 2013 and 2014. High-visibility pedestrian crosswalks and pedestrian signals with countdown clocks are located on all approaches; however, the intersection is dark and has obstructed sightlines due to the presence of columns and the overhead subway structure. There is a pedestrian island on the southwest corner creating a channelized, stop-controlled right turn lane. Four of the pedestrian-related crashes occurred at this crosswalk, where no pedestrian signal is present. Four additional crashes involved pedestrians crossing against the signal. Measures to increase pedestrian safety at this intersection could include the installation of signs warning turning vehicles to yield to pedestrians in the crosswalk on all approaches and increased lighting throughout the intersection.

Jerome Avenue and Burnside Avenue

Jerome Avenue and Burnside Avenue is also located under the elevated subway structure, creating a dark intersection and obstructed sightlines due to the location of columns. The intersection experienced 17 pedestrian-related and one bicyclist-related crash in the most recent three-year period. Seven of the pedestrian crashes occurred in 2012. The north and south crosswalks are striped as high-visibility crosswalks and the east and west crosswalks are standard crosswalks. There are pedestrian islands located on the north and southbound approaches to the intersection, to provide bus stop waiting areas in between two travel lanes. Pedestrian safety at this intersection could be increased with the implementation of protective safety elements for those standing in the bus stop areas and increased lighting throughout the intersection.

Jerome Avenue and 170th Street

Fifteen pedestrian-related crashes occurred at the intersection of Jerome Avenue and 170th Street from 2012 to 2014, of which eleven pedestrian crashes occurred in 2014. Seven of the 15 crashes involved pedestrians crossing against the traffic signal. Geometric and operational characteristics affecting safety at this intersection include obstructed sightlines due to the presence of columns supporting the overhead

subway structure. The intersection is signalized and is equipped with pedestrian signals with countdown clocks as well as high-visibility crosswalks on all legs; however, the east and west crosswalk striping is faded. No north or southbound left turns are permitted at the intersection.

Jerome Avenue and Marcy Place

The intersection of Jerome Avenue and Marcy Place had five-pedestrian related crashes occur from 2012 to 2014, all of which occurred in 2013. Four of the five crashes involved pedestrians crossing against the signal or through an area where no pedestrian signal is located. There are pedestrian signals with countdown clocks and high-visibility crosswalks along the standard three approaches to the intersection. Southbound Plaza Drive West approaches the intersection at a skewed angle to southbound Jerome Avenue. There is a striped pavement area to create parking between Jerome Avenue and Plaza Drive West that may be creating confusion for pedestrians as a safe place to walk. Curbside parking on Plaza Drive West also creates limited sightlines for pedestrians. The intersection is located under the elevated subway structure and columns are present throughout. Safety improvements at this intersection could include signs warning pedestrians not to cross at Plaza Drive West and increased lighting throughout the intersection.

Burnside Avenue and Walton Avenue

Nine pedestrian- and one bicyclist-related crashes occurred at the intersection of Burnside and Walton avenues in the three-year period from 2012 to 2014. Five pedestrian crashes occurred in 2012. All of the crashes occurred at the intersection, with three involving pedestrians crossing against the signal. The intersection is signalized with high-visibility striping on the east, north, and west crosswalks and a standard crosswalk on the south approach. Measures to increase pedestrian safety at this location could include the installation of signs warning turning vehicles to yield to pedestrians in the crosswalk on all approaches and yield to bicyclist signs.

Table 13-50: Summary of Motor Vehicle Crash Data 2012-2014

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicycle Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
Major Street	**Minor Street**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
Edward L Grant Hwy	Washington Bridge	1	0	0	0	0	0	1	0	0	1	2	3
	Plimpton Ave	0	0	0	0	0	0	0	0	0	2	4	3
	Nelson Ave	0	0	0	0	0	0	0	0	0	0	2	0
	Shakespeare Ave	0	2	1	0	0	0	0	2	1	0	2	1
	W 170 St	1	0	1	0	0	1	1	0	2	3	5	13
	W 169 St	0	1	1	0	0	1	0	1	2	1	6	4
Grand Concourse	E Fordham Rd	1	3	1	2	0	2	3	3	3	11	10	8
	E 188 St	1	2	4	0	2	0	1	4	4	4	10	11
	E 187 St	3	1	0	0	0	0	3	1	0	6	6	3
	E 184 St	2	2	2	0	2	2	2	4	4	5	14	7
	Field Pl	0	0	0	0	0	0	0	0	0	0	0	0
	E 183 St	2	1	3	1	1	1	3	2	4	12	13	11
	E 182 St	0	1	2	0	0	0	0	1	2	2	4	5
	Anthony Ave	0	0	0	0	0	0	0	0	0	0	0	0
	E 181 St	0	0	3	0	0	0	0	0	3	5	5	5
	E 180 St	0	0	0	0	0	0	0	0	0	1	5	0
	E Burnside Ave	4	3	3	0	1	0	4	4	3	9	10	11
	Bush St	0	0	0	0	0	0	0	0	0	1	0	0
	E 179 St	1	0	0	0	0	0	1	0	0	3	1	4
	E 178 St	0	0	0	0	0	0	0	0	0	1	3	1
	Echo Pl	0	0	0	0	0	0	0	0	0	1	2	0
	Monroe Ave	2	6	3	2	1	0	4	7	3	15	17	14
	Mount Hope Pl	0	1	1	0	0	0	0	1	1	2	4	5
	E 176 St	1	3	5	0	1	1	1	4	6	3	5	10
	Eastburn Ave	0	0	0	0	0	0	0	0	0	0	1	0
	E 175 St	0	0	0	0	0	0	0	0	0	0	4	6
	E 173 St	0	1	1	0	0	0	0	1	1	5	4	1
	Mount Eden Avenue	0	2	5	0	2	0	0	4	5	5	8	13
	Rockwood St	0	0	0	0	0	0	0	0	0	0	3	2
	E 172 St	0	1	1	0	0	0	0	1	1	0	4	4
	E 171 St	0	0	1	0	0	0	0	0	1	0	1	5
	E 170 St	2	1	6	0	0	1	2	1	7	5	3	14
	Marcy Pl	0	0	0	0	0	0	0	0	0	1	0	1
	Clarke Pl E	0	0	0	0	0	0	0	0	0	1	0	0
	E 169 St	0	3	1	0	0	0	0	3	1	3	6	5
	E 167 St	1	3	2	0	0	0	1	3	2	3	7	8
	E 168 St	0	2	0	0	0	0	0	2	0	0	2	4
Burnside Ave	Davidson Ave	1	2	2	1	0	0	2	2	2	3	4	3
	Grand Ave	1	4	0	0	0	0	1	4	0	3	6	0
	Harrison Ave	0	0	0	0	0	1	0	0	1	3	3	1
	Creston Ave	1	0	0	1	0	0	2	0	0	7	3	3
	Morris Ave	0	3	1	0	0	0	0	3	1	1	3	2
	Walton Ave	5	1	2	0	0	1	5	1	3	6	3	8
E Tremont Ave	Creston Ave	0	0	0	0	0	0	0	0	0	0	1	1
	Echo Pl	0	0	0	0	0	0	0	0	0	1	0	0
	Morris Ave	1	2	1	0	0	0	1	2	1	2	3	4
	Walton Av	2	0	2	0	1	0	2	1	2	4	4	6

Table 13-50 (continued): Summary of Motor Vehicle Crash Data 2012-2014

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicycle Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
Major Street	**Minor Street**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
Jerome Ave	E Fordham Rd	4	5	5	0	0	1	4	5	6	12	12	10
	W 184 St	1	1	2	0	0	0	1	1	2	3	7	4
	North St	0	0	0	1	0	0	1	0	0	2	1	0
	Evelyn Pl	0	0	0	0	0	0	0	0	0	3	4	0
	Buchanan Pl	0	0	0	0	0	1	0	0	1	2	0	1
	E 182 St	0	0	1	0	0	0	0	0	1	0	0	2
	W 182 St	0	1	0	0	0	0	0	1	0	1	2	0
	E 183 St	1	1	1	0	0	0	1	1	1	2	4	1
	W 183 St	2	0	2	0	0	0	2	0	2	4	0	3
	Clinton Pl	0	1	0	0	0	0	0	1	0	0	1	0
	W 181 St	1	0	0	0	2	0	1	2	0	4	5	1
	W Burnside Ave	7	4	6	0	1	0	7	5	6	12	12	12
	E 179 St	0	0	0	0	0	1	0	0	1	1	5	2
	W Tremont Ave	2	1	2	0	1	0	2	2	2	9	6	5
	E 177 St	1	0	1	0	1	0	1	1	1	3	4	2
	W 177 St	1	0	1	0	0	0	1	0	1	3	1	1
	Mount Hope Pl	1	0	1	0	0	0	1	0	1	1	1	3
	E 176 St	3	0	1	0	1	0	3	1	1	5	5	3
	E 175 St	2	0	0	2	0	0	4	0	0	16	12	6
	E 174 St	1	1	1	0	0	1	1	1	2	7	9	13
	Clifford Pl	1	0	1	0	0	0	1	0	1	5	6	6
	Cross Bronx Expressway	0	0	0	0	0	0	0	0	0	7	4	0
	E Mount Eden Ave	1	1	1	0	0	0	1	1	1	6	8	10
	Goble Pl	0	0	0	0	0	0	0	0	0	1	4	3
	Clarke Pl E	0	0	0	0	0	0	0	0	0	0	0	2
	Clarke Pl W	0	0	0	0	0	0	0	0	0	0	1	0
	W 172 St	0	1	2	0	0	0	0	1	2	2	4	5
	E 171 St	0	0	1	0	0	0	0	0	1	1	4	1
	Macombs Rd	0	0	1	0	0	0	0	0	1	0	0	1
	Edward L Grant Hwy / Cromwell Ave	0	3	2	0	1	2	0	4	4	2	16	12
	W 170 St	1	3	11	0	0	0	1	3	11	3	7	16
	E 169 St	0	0	0	0	0	1	0	0	1	1	1	2
	W 169 St	0	1	1	0	0	0	0	1	1	0	1	3
	Elliot Pl	0	1	0	0	1	0	0	2	0	0	2	1
	Marcy Pl	0	5	0	0	0	0	0	5	0	0	7	1
	Shakespeare Ave	0	2	0	0	0	0	0	2	0	0	5	3
	E 165 St	0	2	2	0	0	0	0	2	2	4	7	5
	E 164 St	0	1	0	0	1	0	0	2	0	2	3	2
	E 162 St	0	0	0	0	0	0	0	0	0	4	0	1
Macombs Rd	W Mount Eden Ave	0	0	0	0	0	0	0	0	0	1	0	0
	Featherbed La	1	0	0	1	0	0	2	0	0	4	1	1
	Cromwell Ave	0	0	0	0	0	0	0	0	0	1	0	0
	Inwood Ave	0	1	0	0	0	0	0	1	0	1	2	0
	Plaza Dr	0	0	0	0	0	0	0	0	0	1	1	1

Table 13-50 (continued): Summary of Motor Vehicle Crash Data 2012-2014

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicycle Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
Major Street	**Minor Street**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
River Ave	E 168 St	0	0	0	0	1	1	0	1	1	0	1	2
	E 167 St	0	0	2	0	1	0	0	1	2	3	3	4
	McClellan St	0	2	0	0	0	1	0	2	1	0	2	2
	E 165 St	0	0	1	0	0	0	0	0	1	1	3	3
Inwood Ave	W Mount Eden Ave	0	1	1	0	0	0	0	1	1	0	1	1
	Goble Pl	0	0	0	0	1	0	0	1	0	1	3	1
170 St	Cromwell Ave	1	0	1	0	0	0	1	0	1	1	1	1
	Inwood Ave	0	0	0	0	0	2	0	0	2	0	1	3
	Townsend Ave	0	0	0	1	1	0	1	1	0	1	4	0
	Walton Ave	0	0	0	0	0	0	0	0	0	3	0	5
	Wythe Pl	0	1	0	0	0	0	0	1	0	1	2	2
W 169 St	Cromwell Ave	0	0	0	0	0	0	0	0	0	1	2	1
	Inwood Ave	0	0	0	0	0	0	0	0	0	0	0	2

Notes:

5 denotes high crash location based on *CEQR Technical Manual* guidelines.

Source: STV Incorporated, 2017.

13.11 Parking

EXISTING CONDITIONS

Off-Street Parking

An inventory of off-street parking facilities was conducted in June 2016, and a total of 47 public parking facilities were identified within ¼-mile of the study area. Figure 13-24 shows the locations of these off-street parking facilities, while Table 13-51, "Existing Off-Street Public Parking Facilities in the Study Area," lists names and addresses, license numbers, licensed capacity, and utilization during the midday, overnight, and Saturday peak periods. A number of the inventoried facilities are not within the proposed rezoning area and nine of these locations are located to the east of Grand Concourse. Of the 47 public parking facilities, eight are located on projected development sites in the future build condition.

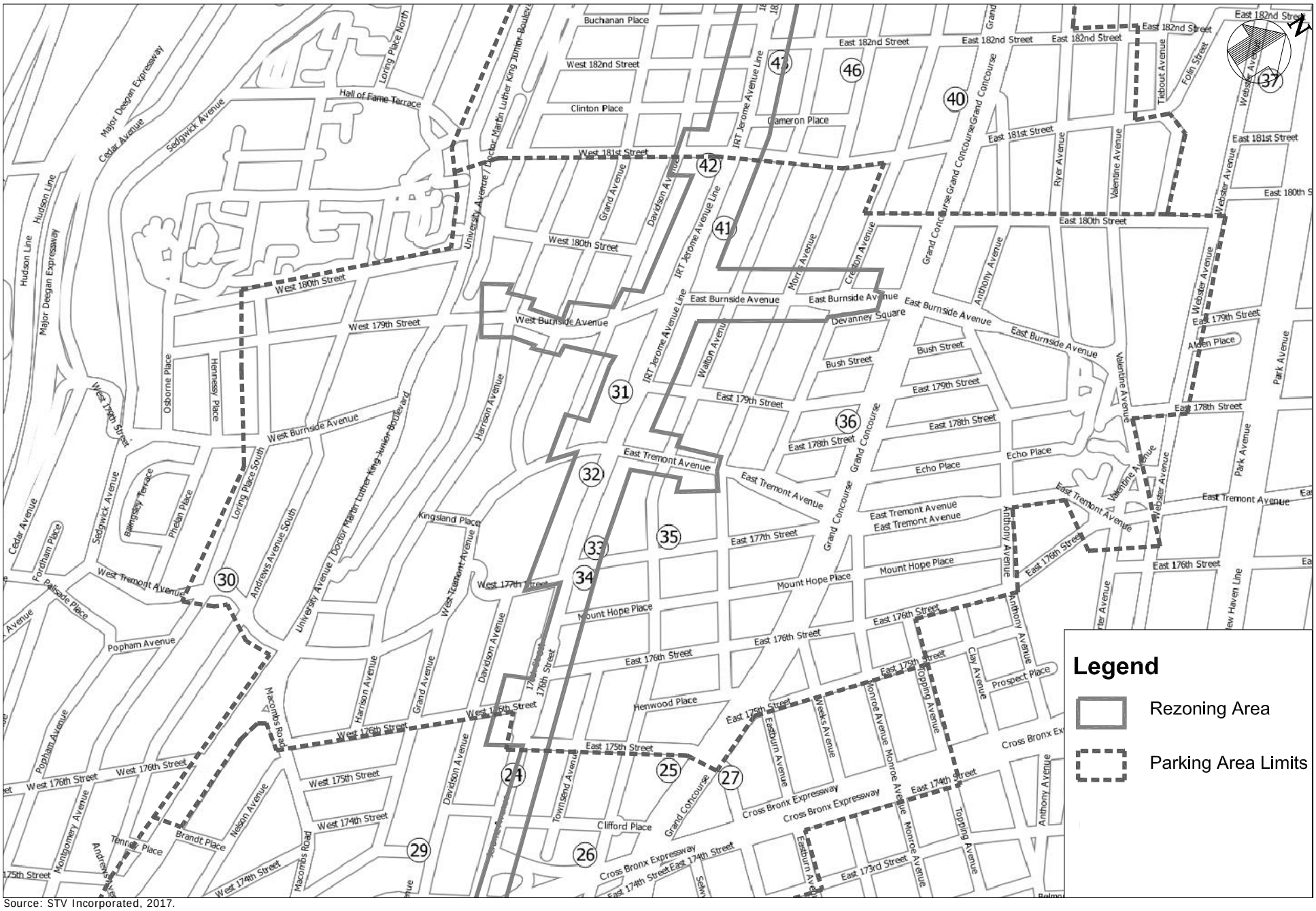
Parking attendants at each facility were interviewed to determine the utilization rate for each facility during a typical midweek day (noon to 2 PM), a typical midweek overnight period, and a typical Saturday midday. As listed in Table 13-51, the 47 parking facilities have a combined capacity of 7,220 vehicles. During the weekday midday period, 79 percent of total capacity is utilized, leaving an available capacity of 1,496 spaces. During the midweek overnight period, 38 percent of total capacity is utilized, leaving an available capacity of 4,505 spaces. During the Saturday period, 61 percent of total capacity is utilized, leaving an available capacity of 2,820 spaces.



Source: STV Incorporated, 2017.

Figure 13-24A

EXISTING OFF STREET PARKING FACILITIES-ZONE 1


Legend
Rezoning Area
Parking Area Limits
East 182nd Street
West 182nd Street
Buchanan Place
Clinton Place
Cameron Place
West 181st Street
East 181st Street
East 180th Street
West 180th Street
West 179th Street
East 179th Street
West Burnside Avenue
East Burnside Avenue
Devanney Square
Bush Street
East 178th Street
Echo Place
East Tremont Avenue
West 177th Street
East 177th Street
Mount Hope Place
West 176th Street
East 176th Street
Henwood Place
West 175th Street
East 175th Street
Clifford Place
West 174th Street
East 174th Street
Prospect Place
Cross Bronx Expressway
Grand Concourse
Anthony Avenue
Webster Avenue
Valentine Avenue
River Avenue
Park Avenue
Morris Avenue
Creston Avenue
Walton Avenue
Harrison Avenue
Davidson Avenue
Townsend Avenue
Sedgwick Avenue
Cedar Avenue
Major Deegan Expressway
Hudson Line
Hall of Fame Terrace
Osborne Place
Hennessy Place
Bailey Avenue
Phelan Place
Fordham Place
Palisade Place
Popham Avenue
Montgomery Avenue
Tenney Place
Brandt Place
Nelson Avenue
Macombs Road
Andrews Avenue South
Loring Place South
Loring Place North
Kingsland Place
West Tremont Avenue
Grand Avenue
Eastburn Avenue
Weeks Avenue
Monroe Avenue
Topping Avenue
Clay Avenue
Folin Street
Tiebout Avenue
Webster Avenue
Alden Place
Echo Place
Valentine Avenue
Anthony Avenue
Park Avenue
New Haven Line
IRT Jerome Avenue Line
University Avenue / Doctor Martin Luther King Junior Boulevard
Grand Concourse
Cross Bronx Expressway
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East 175th Street
East 176th Street
East 177th Street
East 178th Street
East 179th Street
East 180th Street
East 181st Street
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Mount Hope Place
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Prospect Place
Henwood Place
Clifford Place
Cameron Place
Buchanan Place
Hall of Fame Terrace
Kingsland Place
Bailey Avenue
Phelan Place
Fordham Place
Palisade Place
Montgomery Avenue
Tenney Place
Brandt Place
Nelson Avenue
Macombs Road
Andrews Avenue South
Loring Place South
Loring Place North
Sedgwick Avenue
Cedar Avenue
Major Deegan Expressway
Hudson Line
Osborne Place
Hennessy Place
Harrison Avenue
Davidson Avenue
Townsend Avenue
Grand Avenue
Eastburn Avenue
Weeks Avenue
Monroe Avenue
Topping Avenue
Clay Avenue
Prospect Place
Cross Bronx Expressway
Grand Concourse
Anthony Avenue
Webster Avenue
Valentine Avenue
River Avenue
Park Avenue
Morris Avenue
Creston Avenue
Walton Avenue
Harrison Avenue
Davidson Avenue
Townsend Avenue
Sedgwick Avenue
Cedar Avenue
Major Deegan Expressway
Hudson Line
Osborne Place
Hennessy Place
Bailey Avenue
Phelan Place
Fordham Place
Palisade Place
Popham Avenue
Montgomery Avenue
Tenney Place
Brandt Place
Nelson Avenue
Macombs Road
Andrews Avenue South
Loring Place South
Loring Place North
Kingsland Place
West Tremont Avenue
Grand Avenue
Eastburn Avenue
Weeks Avenue
Monroe Avenue
Topping Avenue
Clay Avenue
Folin Street
Tiebout Avenue
Webster Avenue
Alden Place
Echo Place
Valentine Avenue
Anthony Avenue
Park Avenue
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West 174th Street
West Burnside Avenue
East Burnside Avenue
East Tremont Avenue
Mount Hope Place
Bush Street
Devanney Square
Alden Place
Echo Place
Prospect Place
Henwood Place
Clifford Place
Cameron Place
Buchanan Place
Hall of Fame Terrace
Kingsland Place
Bailey Avenue
Phelan Place
Fordham Place
Palisade Place
Montgomery Avenue
Tenney Place
Brandt Place
Nelson Avenue
Macombs Road
Andrews Avenue South
Loring Place South
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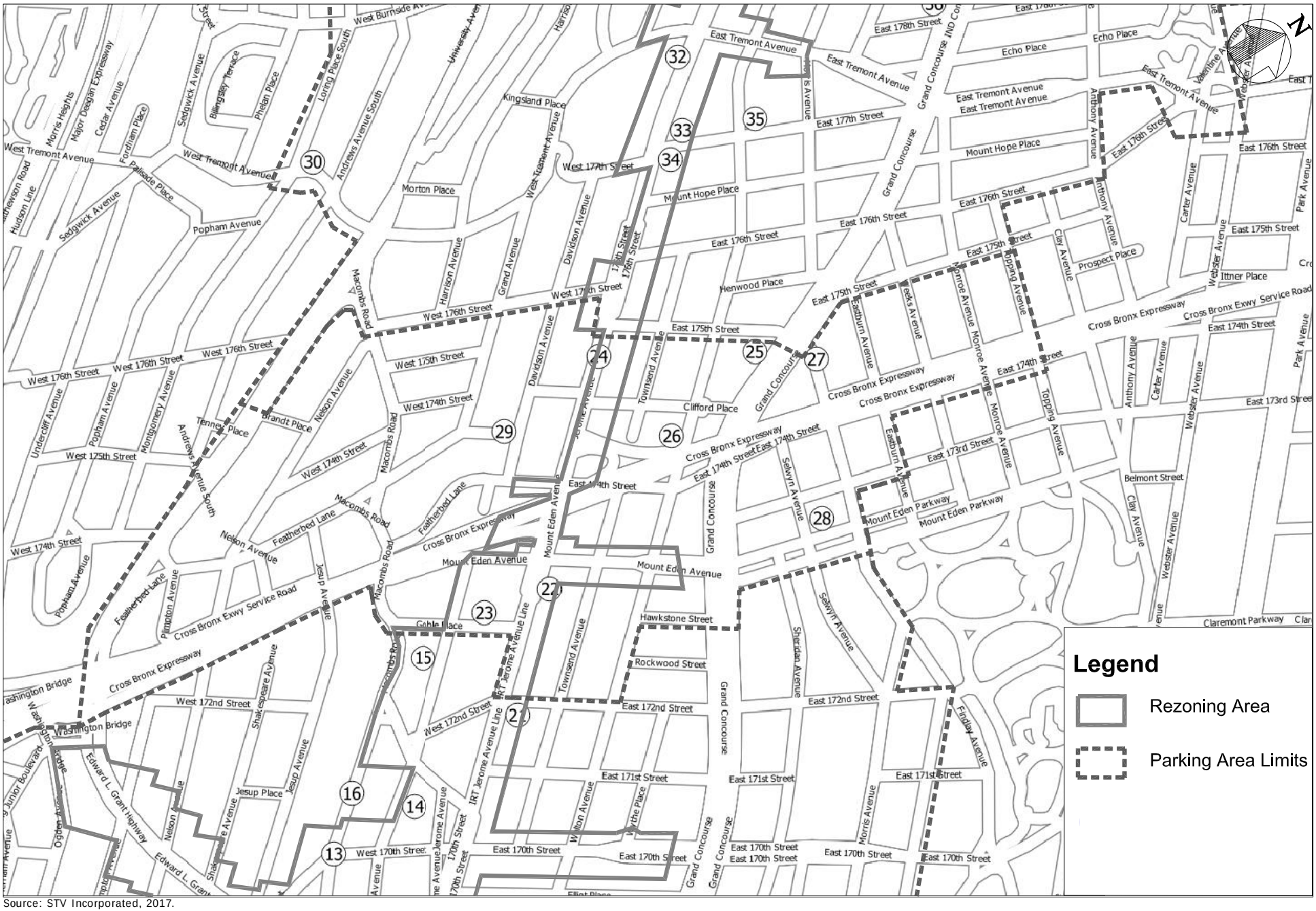
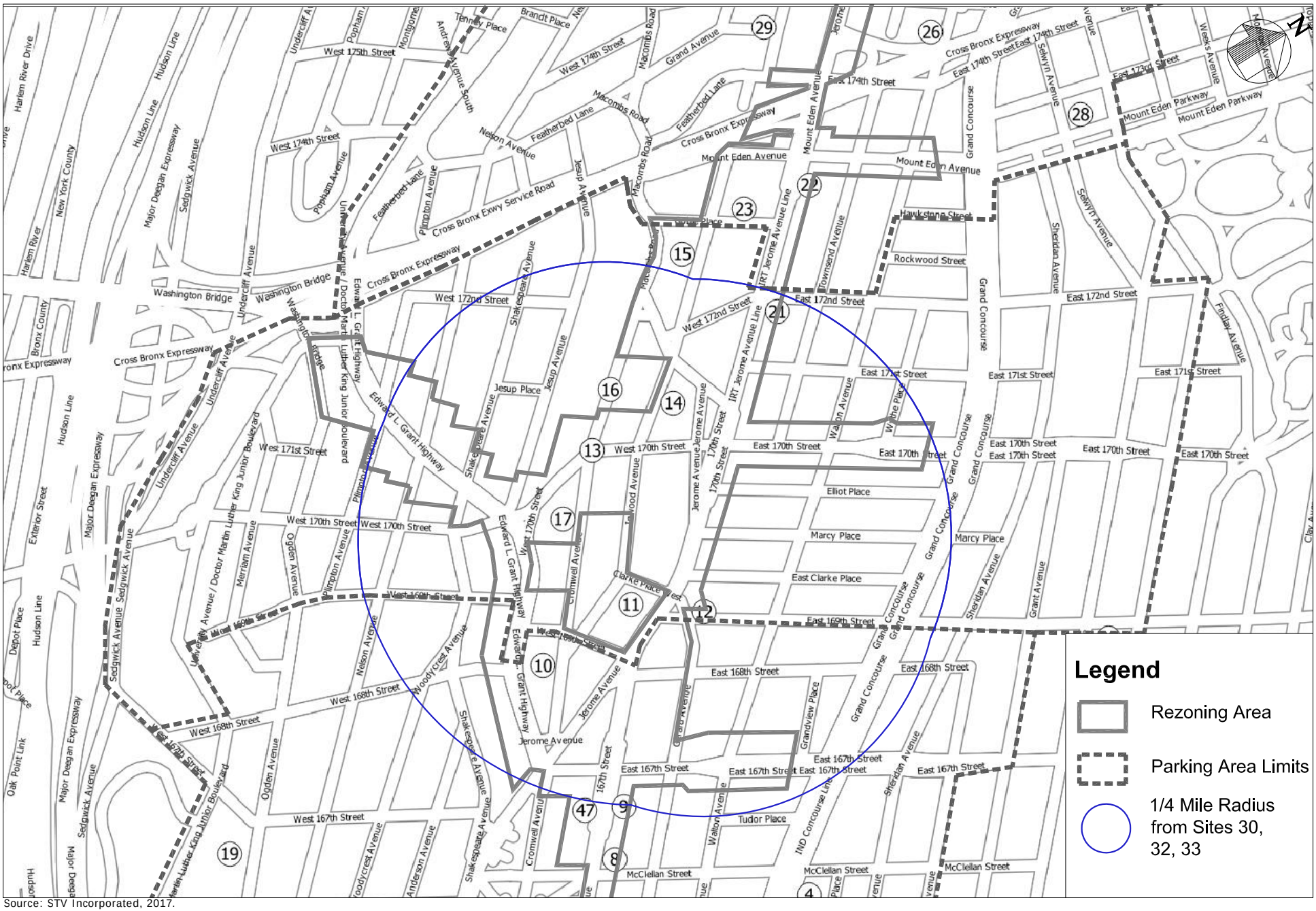
Cedar Avenue
Major Deegan Expressway
Hudson Line
Osborne Place
Hennessy Place
Harrison Avenue
Davidson Avenue
Townsend

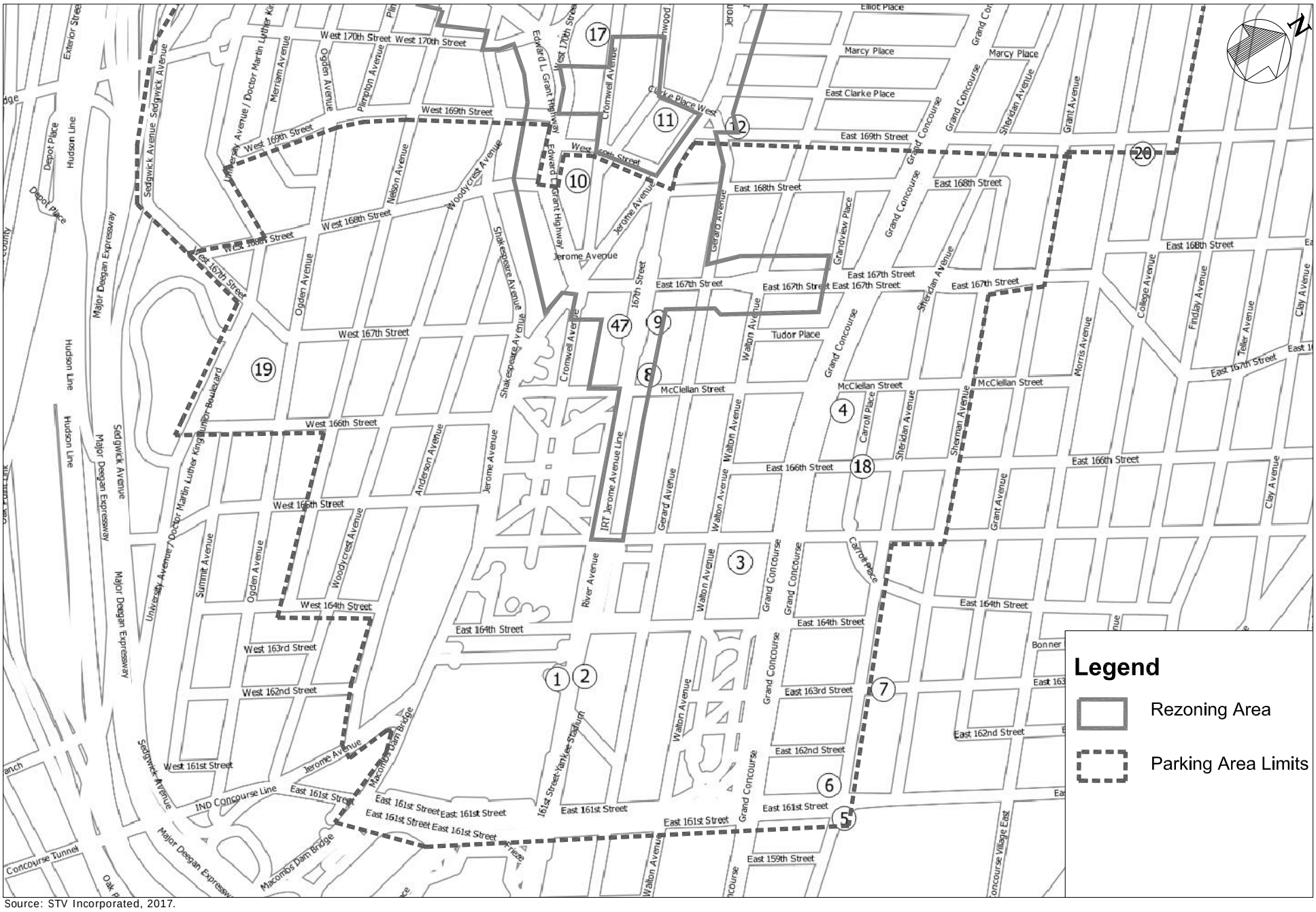

Legend
Rezoning Area
Parking Area Limits
N
East Tremont Avenue
West Tremont Avenue
West 177th Street
East 177th Street
Mount Hope Place
East 176th Street
West 176th Street
Morton Place
Kingsland Place
Popham Avenue
Sedgwick Avenue
Palisade Place
Henwood Place
Clifford Place
West 175th Street
East 175th Street
West 174th Street
East 174th Street
Cross Bronx Expressway
Cross Bronx Exwy Service Road
Mount Eden Avenue
East 173rd Street
Belmont Street
Mount Eden Parkway
Hawkstone Street
Rockwood Street
West 172nd Street
East 172nd Street
East 171st Street
West 170th Street
East 170th Street
Claremont Parkway
Featherbed Lane
Macombs Road
Nelson Avenue
Andrews Avenue South
Jesup Avenue
Jesup Place
Shakespeare Avenue
Edward L. Grant Highway
Washington Bridge
Grand Concourse
Townsend Avenue
Sheridan Avenue
Selwyn Avenue
Eastburn Avenue
Monroe Avenue
Topping Avenue
Anthony Avenue
Webster Avenue
Carter Avenue
Park Avenue
Clay Avenue
Prospect Place
Ittner Place
Echo Place
Valentine Avenue
Cross Bronx Exwy Service Road
Tennyson Place
Brandt Place
Montgomery Avenue
Undercliff Avenue
Cedar Avenue
Major Deegan Expressway
Morris Heights
Fordham Place
Sedgwick Avenue
Billingsley Terrace
Phelan Place
Loring Place South
Andrews Avenue South
West Burnside Avenue
Hudson Line
Jerome Avenue
Davidson Avenue
Grand Avenue
Harrison Avenue
Nelson Avenue
Pimpton Avenue
Cable Place
Shakespeare Avenue
Ogden Avenue
Nelson Avenue
Shakespeare Avenue
Jesup Avenue
Jesup Place
Edward L. Grant Highway
IRT Jerome Avenue Line
Mount Eden Avenue
Mount Eden Parkway



Source: STV Incorporated, 2017.

Figure 13-24D

EXISTING OFF STREET PARKING FACILITIES-ZONE 4



Source: STV Incorporated, 2017.

Figure 13-24E

EXISTING OFF STREET PARKING FACILITIES-ZONE 5

Table 13-51: Existing Off-Street Public Parking Facilities in the Study Area

Lot #	License Number	Business Name	Address	Licensed Capacity	Estimated Utilization (%)			Available Capacity		
					Midday	Overnight	Saturday	Midday	Overnight	Saturday
1	1466926	QP Isabel LLC	951 River Ave	668	75	10	80	167	601	134
2	1466928	QP Isabel LLC	950 River Ave	1205	75	10	80	301	1085	241
3	1077409	Hill Parking Lot	130 E 165th St	25	80	30	30	5	25	25
4	1148651	MPG 1020 Parking LLC	1020 Grand Concourse	292	90	90	90	29	29	29
5	1101577	Central Parking System Of New York, Inc.	200 E 161st St	1208	70	20	20	362	966	966
6	913566	Taft Garage Corp.	891 Sheridan Ave	95	100	10	10	0	85	85
7	2006473	Ezy Parking Go Inc.	210 E 163rd St	65	75	25	25	16	49	49
8	1380469	LR Parking Corp.	1150 River Ave	74	95	25	95	3	55	3
9	1380470	Pjp Parking Corp.	1184 River Ave	88	100	50	95	0	44	4
10	140254	ELG & 169th Street Parking Corporation	1240 Edward L Grant Hwy	140	95	50	95	7	70	7
11	1007823	Bienvenido, LLC	1295 Jerome Ave	240	100	75	100	0	60	0
12	2011705	Easy Parking	21 E 169th St	50	100	10	10	0	45	45
13	1381089	BK Parking Group Inc.	27-33 W 170th St	99	100	10	10	0	89	89
14	1241015	1430 Inwood LLC	1430 Inwood Ave	140	90	100	80	14	0	28
15	1134343	Jonathan & Gabriel Parking Inc.	1521 Inwood Ave	100	100	10	10	0	90	90
16	1360731	119 Parking Lot Corp.	1420 Cromwell Ave	70	90	100	100	7	0	0
17	1135386	City Safe Parking Corp.	1355 Cromwell Ave	100	90	50	10	10	50	90

Table 13-51 (continued): Existing Off-Street Public Parking Facilities in the Study Area

Lot #	License Number	Business Name	Address	Licensed Capacity	Estimated Utilization (%)			Available Capacity		
					Midday	Overnight	Saturday	Midday	Overnight	Saturday
18	1117512	New Ogden Parking Inc.	156 W 166th St	100	95	50	95	5	50	5
19	2011162	Citi Management Group Ltd.	1133 Ogden Ave	240	75	100	100	60	0	0
20	948686	Ginebra Parking	276 E 169th St	50	75	50	75	12	25	12
21	1467740	Ramcell Parking Corporation	1484 Jerome Ave	174	75	50	50	43	87	87
22	2005860	Happy Face Parking Corp.	1560 Jerome Ave	150	75	25	25	37	112	112
23	1040945	1545 Parking LLC	1545 Jerome Ave	250	75	50	50	62	125	125
24	1403604	1740 Petroleum LLC	1730 Jerome Ave	33	70	95	50	9	1	16
25	2016643	MPG 1775 LLC	1775 Grand Concourse	106	80	CLOSED	60	21	CLOSED	42
26	2010780	BX Parking, LLC	1673 Walton Ave	32	100	50	10	0	16	28
27	899288	MPG Poo Parking Corp.	1752 Morris Ave	150	75	10	10	37	135	135
28	899470	MPG Poo Parking Corp.	1650 Selwyn Ave	64	90	50	50	6	32	32
29	469978	Draynib Corp.	25 W 174th St	20	50	90	90	10	2	2
30	202153	M.R. Parking Ii Corp.	1810 Loring Place	51	75	95	95	12	2	2
31	1421366	Jerome Parking Corp.	1985 Jerome Ave	54	100	100	100	0	0	0
32	1421369	Jerome Parking Corp.	1961 Jerome Ave	50	75	25	25	12	37	37
33	1088937	KRM Garage Corp.	1900 Jerome Ave	40	65	50	40	14	20	24
34	1249121	Veneca Parking Corp.	1892 Jerome Ave	50	75	25	50	12	37	25

Table 13-51 (continued): Existing Off-Street Public Parking Facilities in the Study Area

Lot #	License Number	Business Name	Address	Licensed Capacity	Estimated Utilization (%)			Available Capacity		
					Midday	Overnight	Saturday	Midday	Overnight	Saturday
35	1342009	Danes Parking Corp.	53 E 177th St	46	75	100	100	11	0	0
36	2018161	In Lot Parking, Inc.	1963-67 Grand Concourse	95	90	90	90	9	10	10
37	201162	K One Parking Inc.	2160 Webster Ave	100	100	10	75	0	90	25
38	1385662	J-A Parking Inc.	376 E 184th St	147	100	50	95	0	73	7
39	1470158	Ryer Parking LLC	2346 Ryer Ave	40	75	25	50	10	30	20
40	2024618	GMS Auto Station Inc.	2173 Grand Concourse	20	100	100	100	0	0	0
41	1303884	D'almonte Enterprises Parking Garage Inc.	2080 Jerome Ave	70	50	25	50	35	53	35
42	1389592	KK Enterprise Group Inc.	2125 Jerome Ave	75	50	25	50	37	56	38
43	2006524	Sam Dar Enterprises Inc.	2218 Jerome Ave	129	25	50	25	96	64	96
44	2017533	Maa Tara Gas, Inc.	2350 Jerome Ave	20	80	90	10	4	2	18
45	1202048	Fordham Auto Plus, Inc.	2409 Jerome Ave	80	95	25	95	4	60	4
46	997852	Eternity Realty, Inc.	2195 Morris Ave	25	50	CLOSED	CLOSED	12	CLOSED	CLOSED
47	1341578	90 John St. Parking Corp.	1185 River Ave	100	95	50	95	5	50	5
			Total:	**7,220**	**79%**	**38%**	**61%**	**1,496**	**4,505**	**2,820**

Note:
##: Based on visual estimate due to non-response by employee/owner

Source: STV Incorporated, 2017.

On-Street Parking

Existing on-street parking regulations within an approximately ¼-mile radius of the rezoning area were inventoried in June 2016, using a combination of field visits and online resources. A smaller sub-area

within a ¼-mile radius of Projected Development Sites 30, 32, and 33 was also identified for analysis. Parking regulations for all block faces within the study area are provided in Appendix E, "Transportation."

Available off-street parking capacities were estimated using the worst-case scenario for alternate-side-of-the-street parking regulations during the midday period (Tuesdays), as well as for Saturday and weekday overnight periods. On-street parking is generally subject to alternate-side-of-the-street regulations to allow for street cleaning. Metered parking (one-hour/two-hour) is located along Jerome Avenue and on streets in commercial areas (e.g., Mount Eden Avenue, 170th Street, Burnside Avenue, Grand Concourse service roads, and Edward L. Grant Highway). Truck loading zones and no standing zones are also common on commercial streets, and Department of Education and NYPD specific regulations exist in proximity to schools and police stations, respectively. Using the existing curbside regulations and accounting for curb cuts and fire hydrants, there are approximately 17,338 available parking spaces during the weekday midday period (13,176 available during peak alternate-side restriction), 17,992 available during the weekday overnight period, and 17,849 available during the Saturday midday period. Within a ¼-mile of Projected Development Sites 30, 32 and 33, there are 3,105 available legal parking spaces during the weekday midday period (2,348 during peak alternate-side restriction), 3,160 available during the weekday overnight period, and 3,105 available during the Saturday midday period. Higher capacities in the overnight period are a result of less-restrictive parking regulations as compared to daytime regulations.

Field counts of parked vehicles during the midday, overnight, and Saturday periods were conducted in June 2016. When alternative-side-of-the-street regulations are not in effect, on-street parking in the study area is approximately 88 percent utilized during the weekday midday period, approximately 93 percent utilized in the weekday overnight period, and approximately 88 percent utilized during the Saturday midday period. There are approximately 2,129, 1,300, and 2,204 legal spaces available during the weekday midday, weekday overnight, and Saturday midday periods, respectively. On-street parking within ¼-mile of Projected Development Sites 30, 32, and 33 is approximately 88 percent utilized in the weekday midday period, approximately 94 percent utilized in the weekday overnight period, and approximately 88 percent utilized in the Saturday midday period. There are approximately 365, 199, and 365 legal parking spaces available with ¼-mile of Projected Development Sites 30, 32, and 33 during the weekday midday, weekday overnight, and Saturday midday periods, respectively.

On-street parking capacity is severely restricted during the hours when alternate-side-of-the-street regulations are in effect. Therefore, utilization rates were also calculated for midday Tuesday, which was identified as the day of the week with the greatest number of blocks subject to alternate-side regulations. Double parking was commonly observed during the hours in which alternate-side-of-the-street regulations were in effect. These double parked vehicles were also included in the utilization rates during the alternate-side period. During peak alternate-side-of-the-street restrictions on Tuesday, demand for both the total study area and within ¼-mile of Projected Development Sites 30, 32, and 33 was estimated at 116 percent of total capacity. The net effect is that no legal parking spaces were available on blocks where alternate-side-of-the-street regulations are in effect during this period. A total of 2,110 and 370

vehicles were observed to be double parked within the study area and within a ¼-mile of project development sites 30, 32, and 33 during this period, respectively.

THE FUTURE WITHOUT THE PROPOSED ACTIONS (NO-ACTION CONDITION)

It is anticipated that parking demand within a ¼ mile radius of the rezoning area will increase due to background growth as well as discrete development projects constructed pursuant to existing zoning. A growth rate of 0.25 percent per year for the first five years and 0.125 percent per year through 2026 was utilized to account for background growth as per the *CEQR Technical Manual*. For No-Action developments located on With-Action development sites as well as on other parcels, parking demand for residential uses was estimated using residential auto ownership rates from the *East New York Rezoning Proposal FEIS*. Parking demand for other land-uses was derived from the No-Action trip generation.

Four With-Action development sites are located on current off-street parking facilities projected to be developed in the No-Action condition pursuant to existing zoning. The 316 parking spaces associated with these parking facilities were removed from the No-Action parking capacity and the parked vehicles (demand) were redistributed to parking facilities with available capacity. Seventy-six off-street parking spaces will be constructed as part of the development of No-Action Site 45. This capacity was included in the calculation of total capacity within the parking analysis area.

As listed in Table 13-52, "No-Action Public Parking Capacity, Demand, and Utilization within ¼-Mile of the Rezoning Area," sufficient parking is projected within a ¼ mile radius of the study area to accommodate No-Action parking demand. Parking within a ¼ mile radius of the study area is projected to be 90 percent utilized during the weekday midday period and 84 percent utilized in the weekday overnight and Saturday midday periods. On-street parking within ¼-mile of Projected Development Sites 30, 32, and 33 in the No-Action condition is projected to be 91 percent utilized in the weekday midday period, approximately 86 percent utilized in the weekday overnight period, and approximately 82 percent utilized in the Saturday midday period. There are approximately 402, 626, and 765 parking spaces available within ¼-mile of Projected Development Sites 30, 32, and 33 during the weekday midday, weekday overnight, and Saturday midday periods, respectively.

Table 13-52: No-Action Public Parking Capacity, Demand, and Utilization within ¼-Mile of the Rezoning Area

Parking Analysis Study Area (1/4-Mile Radius from the Rezoning Area)	Weekday Midday	Weekday Overnight	Saturday Midday
Off-Street Capacity			
Existing Licensed Capacity	7,220	7,089	7,195
New Capacity from No-Action Developments	76	76	76
Capacity Displaced by No-Action Developments	(316)	(316)	(316)
Total Off-Street No-Action Capacity	6,980	6,849	6,955
On-Street Capacity			
Existing Capacity	17,338	17,992	17,849
Combined Off-Street and On-Street Capacity	24,318	24,841	24,804
Demand			
Existing Off-Street Demand	5,709	2,575	4,366
Existing On-Street Demand	15,209	16,693	15,644
Demand from Background Growth (Off-Street)	108	49	83
Demand from Background Growth (On-Street)	288	316	296
Projected Demand from No-Action Developments	581	1,167	461
Total No-Action Demand	21,895	20,800	20,850
Utilization			
No-Action Utilization (%)	90	84	84
No-Action Parking Surplus/(Deficit)	2,423	4,041	3,954
Parking Analysis Sub-Area (1/4-Mile Radius from Sites 30, 32, and 33)	**Weekday Midday**	**Weekday Overnight**	**Saturday Midday**
Off-Street Capacity			
Existing Licensed Capacity	1,113	1,113	1,113
New Capacity from No-Action Developments	76	76	76
Capacity Displaced by No-Action Developments	0	0	0
Total Off-Street No-Action Capacity	1,189	1,189	1,189
On-Street Capacity			
Existing Capacity	3,105	3,160	3,105
Combined Off-Street and On-Street Capacity	4,294	4,349	4,294
Demand			
Existing Off-Street Demand	1,031	622	677
Existing On-Street Demand	2,740	2,961	2,740
Demand from Background Growth (Off-Street)	19	12	13
Demand from Background Growth (On-Street)	52	56	52
Projected Demand from No-Action Developments	50	72	47
Total No-Action Demand	3,892	3,723	3,529
Utilization			
No-Action Utilization (%)	91	86	82
No-Action Parking Surplus/(Deficit)	402	626	765

Source: STV Incorporated, 2017.

THE FUTURE WITH THE PROPOSED ACTIONS (WITH-ACTION CONDITIONS)

No additional off-street public parking spaces would be provided as part of the Proposed Actions. Two projected development sites are located on parcels currently occupied by parking facilities that were not projected to be developed during the No-Action Condition. A total of 132 parking spaces were removed from the area-wide capacity to account for the loss of these two facilities. In addition, the demand currently accommodated by these spaces was redistributed to nearby parking facilities with available capacity. In the Proposed Actions, No-Action Site 45 would be developed with no accessory parking spaces, a net reduction of 76 parking spaces from the No-Action condition that was applied to the total capacity within the parking analysis area.

Tables 13-53 and 13-54 list the hourly net incremental change in parking demand for each land use in the Proposed Actions during weekdays and Saturdays. Parking demand for residential uses was estimated using residential auto ownership rates derived from the 2006-2010 ACS Census Transportation Planning package and the temporal distribution from the *East New York Rezoning Proposal FEIS*. Parking demand for other land-uses was derived from the RWCDS trip generation.

Estimates of future parking accumulation also account for net reductions in demand associated with No-Action land uses displaced from projected development sites in the Proposed Actions.

As listed in Table 13-53, residential parking demand is greatest during the overnight period while parking demand for commercial, retail, and community facilities uses peaks during the midday period. The conversion of Light Industrial, Auto Repair, and Warehouse to other uses results in a negative demand associated with these land use types. Weekday midday parking demand in the Proposed Actions is projected to be 770 vehicles (1-2 PM) and overnight parking demand is projected to be 1,853 vehicles (1-2 AM).

Table 13-54 details the hourly net incremental change in parking demand on Saturday. Saturday trip generation and associated parking demand for retail land uses is projected to be greater on Saturdays than weekdays, while commercial uses are projected to experience lower parking demand on Saturdays than on weekdays. Residential trip generation is higher on Saturdays than weekdays yielding a lower parking demand for residential uses than on weekdays. Saturday midday parking demand in the Proposed Actions is projected to be 656 vehicles (1-2 PM).

Table 13-53: With-Action RWCDS Net Incremental Weekday Hourly Parking Accumulation by Land Use

	Local Retail	Office	Regional Retail	Residential	Hotel	Light Industrial	Restaurant	Auto Repair	Warehouse	FRESH Supermarket	Pre-K & PS/IS School (staff)	Community Facility				Total Demand
												Community Center	House of Worship	Medical Office	Daycare	
12-1 AM	0	0	0	1,823	0	0	0	0	0	0	0	0	0	0	0	1,823
1-2	0	0	0	1,853	0	0	0	0	0	0	0	0	0	0	0	1,853
2-3	0	0	0	1,853	0	0	0	0	0	0	0	0	0	0	0	1,853
3-4	0	0	0	1,853	0	0	0	0	0	0	0	0	0	0	0	1,853
4-5	0	0	0	1,853	0	0	0	0	0	0	0	0	0	0	0	1,853
5-6	0	0	0	1,805	0	0	0	0	0	0	0	0	0	0	0	1,805
6-7	0	0	0	1,591	0	0	0	0	0	0	0	0	0	0	0	1,591
7-8	1	3	0	1,271	0	-2	0	-1	-5	0	0	1	2	0	4	1,276
8-9	1	41	0	762	0	-18	2	-8	-18	0	0	3	5	3	7	779
9-10	7	68	3	709	0	-30	5	-24	-32	0	0	2	5	5	7	724
10-11	15	70	5	682	0	-34	9	-26	-35	0	0	1	5	6	7	706
11-12	22	67	6	685	0	-30	16	-20	-30	0	0	1	11	5	7	741
12-1 PM	24	66	6	674	0	-32	30	-10	-28	0	0	2	11	4	7	755
1-2	24	66	7	676	0	-32	39	-10	-28	1	0	3	11	4	7	770
2-3	25	74	6	727	0	-34	19	-12	-32	1	0	3	14	4	7	801
3-4	24	73	6	907	0	-35	12	-12	-32	1	0	4	16	4	5	972
4-5	19	49	5	1,157	0	-27	5	-4	-25	2	0	3	18	3	4	1,210
5-6	16	7	5	1,471	0	-5	11	-4	-9	3	0	1	18	3	0	1,518
6-7	8	1	5	1,664	0	0	28	-1	-2	2	0	1	18	0	0	1,723
7-8	5	0	5	1,752	0	0	40	0	0	0	0	1	11	0	0	1,814
8-9	2	0	4	1,828	0	0	23	0	0	1	0	0	5	0	0	1,863
9-10	0	0	2	1,836	0	0	7	0	0	0	0	0	0	0	0	1,846
10-11	0	0	1	1,802	0	0	0	0	0	0	0	0	0	0	0	1,803
11-12	0	0	0	1,793	0	0	0	0	0	0	0	0	0	0	0	1,793

Source: New York City Department of City Planning, 2017; STV Incorporated, 2017.

Table 13-54: Saturday With-Action RWCDS Net Incremental Hourly Parking Accumulation by Land Use

	Local Retail	Office	Regional Retail	Residential	Hotel	Light Industrial	Restaurant	Auto Repair	Warehouse	FRESH Supermarket	Pre-K & PS/IS School (staff)	Community Facility				Total Demand
												Community Center	House of Worship	Medical Office	Daycare	
12-1 AM	0	0	0	1,533	0	0	0	0	0	0	0	0	0	0	0	1,533
1-2	0	0	0	1,853	0	0	0	0	0	0	0	0	0	0	0	1,853
2-3	0	0	0	1,853	0	0	0	0	0	0	0	0	0	0	0	1,853
3-4	0	0	0	1,853	0	0	0	0	0	0	0	0	0	0	0	1,853
4-5	0	0	0	1,853	0	0	0	0	0	0	0	0	0	0	0	1,853
5-6	0	0	0	1,518	0	0	0	0	0	0	0	0	0	0	0	1,518
6-7	0	0	0	1,338	0	0	0	0	0	0	0	0	0	0	0	1,338
7-8	1	1	0	1,069	0	0	0	-1	-2	0	0	1	3	0	0	1,072
8-9	1	9	0	641	0	-3	2	-8	-6	0	0	1	5	3	0	645
9-10	8	15	3	596	0	-4	5	-24	-11	0	0	1	5	5	0	600
10-11	18	15	6	573	0	-5	9	-26	-12	0	0	1	5	6	0	591
11-12	25	14	8	576	0	-4	17	-20	-10	0	0	1	13	5	0	624
12-1 PM	28	14	8	567	0	-5	31	-10	-10	0	0	1	13	4	0	641
1-2	28	14	8	569	0	-5	41	-10	-10	2	0	1	13	4	0	656
2-3	29	16	8	611	0	-5	20	-12	-11	2	0	1	15	4	0	677
3-4	28	16	7	763	0	-5	12	-12	-11	2	0	2	18	4	0	822
4-5	22	11	6	973	0	-4	5	-4	-9	3	0	1	21	3	0	1,029
5-6	19	1	6	1,238	0	-1	11	-4	-3	5	0	1	21	3	0	1,297
6-7	9	0	6	1,399	0	0	29	-1	-1	3	0	0	21	0	0	1,466
7-8	6	0	6	1,474	0	0	42	0	0	0	0	0	13	0	0	1,540
8-9	2	0	5	1,538	0	0	25	0	0	2	0	0	5	0	0	1,576
9-10	0	0	3	1,545	0	0	8	0	0	0	0	0	0	0	0	1,555
10-11	0	0	1	1,516	0	0	0	0	0	0	0	0	0	0	0	1,517
11-12	0	0	0	1,508	0	0	0	0	0	0	0	0	0	0	0	1,508

Source: New York City Department of City Planning, 2017; STV Incorporated, 2017.

In the Proposed Actions, sufficient parking would be available within a ¼-mile radius of the study area to accommodate projected demand during the weekday midday, weekday overnight, and Saturday midday periods. As listed in Table 13-55, parking is projected to be 94 percent utilized during the weekday midday period, 92 percent utilized during the weekday overnight period, and 87 percent utilized during the Saturday overnight period. In the Proposed Actions, there is projected to be a parking shortfall within a ¼-mile of Projected Development Sites 30, 32, and 33 during the weekday midday and weekday overnight periods. A deficit of approximately 88 parking spaces is projected during the weekday midday period and a deficit of 453 parking spaces is projected in the weekday overnight period. Sufficient parking would be available within a ¼-mile radius of Projected Development Sites 30, 32, and 33 during the Saturday midday period, with a projected utilization rate of 93 percent.

Overall, the study area has a parking surplus. Some drivers destined for the Projected Development Sites 30, 32, and 33 would potentially have to travel a greater distance (e.g., between ¼ and ½ mile) to find available parking in the weekday midday and overnight periods. The parking shortfall for the Projected Development Sites 30, 32, and 33 would not be considered a significant adverse impact, based on *CEQR Technical Manual* criteria, due to the availability of sufficient parking outside the ¼-mile radius within the overall study area and the magnitude of available alternative modes of transportation. Therefore, the Proposed Actions are not expected to result in significant adverse parking impacts.

Table 13-55: With-Action Public Parking Capacity, Demand, and Utilization

Parking Analysis Study Area (1/4-Mile Radius from the Rezoning Area)	Weekday Midday	Weekday Overnight	Saturday Midday
Capacity			
No-Action Capacity (Off-Street and On-Street)	24,318	24,841	24,804
Capacity Displaced by With-Action Developments	(208)	(208)	(208)
Total With-Action Capacity	24,110	24,633	24,596
Demand			
No-Action Demand (Off-Street and On-Street)	21,895	20,800	20,850
Projected Demand from With-Action Developments	770	1,853	656
Total With-Action Demand	22,664	22,653	21,506
Utilization			
With-Action Utilization (%)	94	92	87
With-Action Parking Surplus/(Deficit)	1446	1,980	3,090
Parking Analysis Sub-Area (1/4-Mile Radius from Sites 30, 32, and 33)	**Weekday Midday**	**Weekday Overnight**	**Saturday Midday**
Capacity			
No-Action Capacity (Off-Street and On-Street)	4,294	4,349	4,294
Capacity Displaced by With-Action Developments	(175)	(175)	(175)
Total With-Action Capacity	4,119	4,174	4,119
Demand			
No-Action Demand (Off-Street and On-Street)	3,892	3,723	3,529
Projected Demand from With-Action Developments	315	904	285
Total With-Action Demand	4,207	4,627	3,814
Utilization			
With-Action Utilization	102	111	93
With-Action Parking Surplus/(Deficit)	(88)	(453)	305

Source: STV Incorporated, 2017.