A. INTRODUCTION

This chapter describes the transportation characteristics and potential impacts associated with the Proposed Action, which involve zoning map amendment, height and setback special permit, public parking garage special permit and waterfront zoning authorization. These actions would facilitate a new commercial development encompassing the entirety of Brooklyn Block 2023, Lot 10 in the South Williamsburg neighborhood in Brooklyn Community District (CD) 2 (the "Project Site"). As shown in **Figure 12-1,** the Project Site, which contains approximately 115,244 square feet (sf) of lot area, is bounded by Division Avenue on the north, Kent Avenue on the east, the Brooklyn Navy Yard (BNY) on the south and the Wallabout Channel/East River on the west. In addition, the **site and ground floor plans** are shown in **Figures 12-2 and 12-3**, respectively. The Project Site is currently vacant, but it was previously occupied by a power plant, which was demolished in 2008.

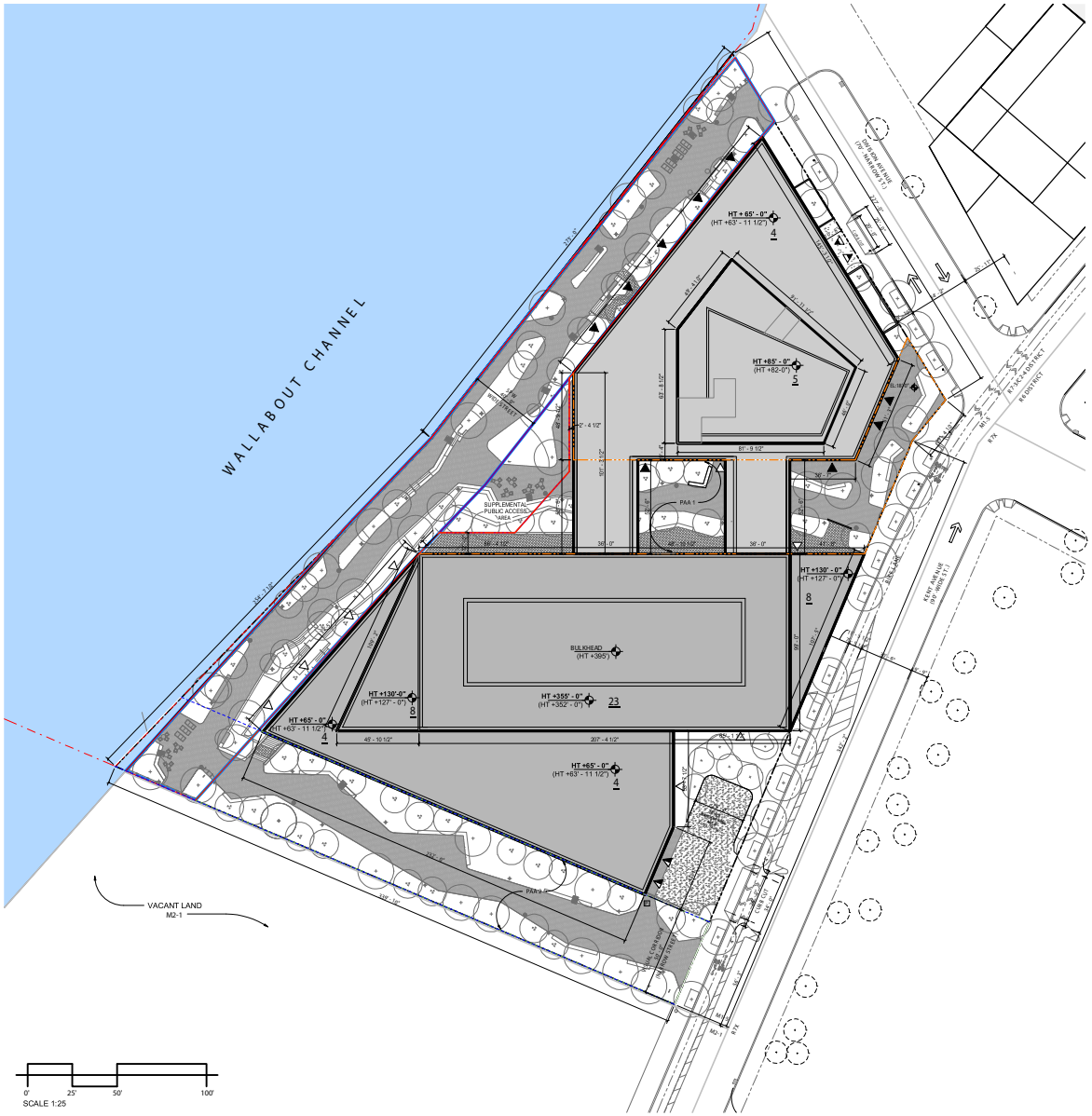
The Proposed Project would consist of a new 23-story 352-foot tall (roof height) approximately 684,242-gsf commercial building comprised of approximately 598,442 gsf of office space and 21,233 gsf of local retail space, as well as approximately 234 parking spaces, which would be exempt from being counted as floor area. Additionally, the Proposed Project would provide approximately 49,453 sf (1.14 acres) of public open space. The Proposed Project is expected to be completed and fully operational by 2026.

In order to assess the potential effects of the Proposed Action, a reasonable worst case development scenario (RWCDS) for both "future without the Proposed Action" (No-Action) and "future with the Proposed Action" (With-Action) conditions is analyzed for an analysis year, or Build year, of 2026 (refer to **Table 12-1**). As per the RWCDS, the No-Action condition assumes that the existing M3-1 zoning would remain and the Proposed Project would not be constructed. Under the RWCDS No-Action conditions, it is projected that the existing 115,244-sf lot would be developed as-of-right with an approximately 312,599-gsf commercial building including approximately 58,000 gsf of office space, approximately 181,401 gsf of warehouse use and roughly 279 accessory parking spaces.

Under the RWCDS With-Action conditions, the Proposed Project would be constructed pursuant to the proposed zoning map amendment, zoning special permits, zoning certification, and waterfront zoning authorizations. Similar to the Proposed Project, by 2026 under With-Action conditions, the Proposed Action under the RWCDS are expected to result in the development of a new 23-story, 352-foot tall commercial building. As shown in **Table 12-1**, the approximately 684,242-gsf building would consist of approximately 598,442 gsf of office space, 21,233 gsf of retail and 234 public parking spaces. Although no parking is required under the proposed M1-5 zoning district, the parking would be permitted via a special permit. In addition, the Proposed Project would provide approximately 49,453 sf (1.14 acres) of publicly accessible waterfront open space.

Project Location and Transit Map





1 ZONING - SITE PLAN
1" = 25'-0"

SITE PLAN LEGEND

- OFFICE ACCESS POINT
- COMMERCIAL ACCESS
- LOADING DOCK UG 6B
- PARKING INGRESS/EGRESS
- BUILDING ENTRANCE POINTS SHOWN MOR ILLUSTRATIVE PURPOSES ONLY
- M1-5 / R7X ZONING DISTRICT
- 23 # STORIES
- 4B # STORIES W/ BASEMENT
- 4L # STORIES W/ STORE
- 65' BUILDING HEIGHT
- ROAD DIRECTION
- ZONING LOT LINE
- ZONING DISTRICT BOUNDARY
- ILLUSTRATIVE BUILDING LINE
- PROPOSED MAXIMUM BUILDING ENVELOPE
- TOTAL SPW & SPAA (WPAA)
- VISUAL CORRIDOR
- PUBLIC ACCESS AREA 1 (PAA1)
- PUBLIC ACCESS AREA 2 (PAA2)
- SHORE PUBLIC WALKWAY (SPW)
- SUPPLEMENTAL PUBLIC ACCESS AREA (SPAA)
- U.S. PIER & BULKHEAD LINES
- REMOVED LIGHTING POLE
- PROPOSED LIGHTING POLE
- EXISTING LIGHTING POLE
- FIRE HYDRANT
- EXISTING TREE
- PROPOSED CANOPY TREE
- PROPOSED ORNAMENTAL TREE
- EXISTING MANHOLE
- EXISTING SIGN
- EXISTING EMERGENCY PHONE
- EXISTING STREET VENT GRILLE
- EXISTING CATCH BASIN
- EXISTING BUS STOP
- EXISTING POST
- HT +7' - 6" (HT +2' - 0") PROP. MAX. BLDG. ENVELOPE HEIGHT / ILLUSTRATIVE BUILDING HEIGHT
- PROPOSED BUILDING FOOTPRINT

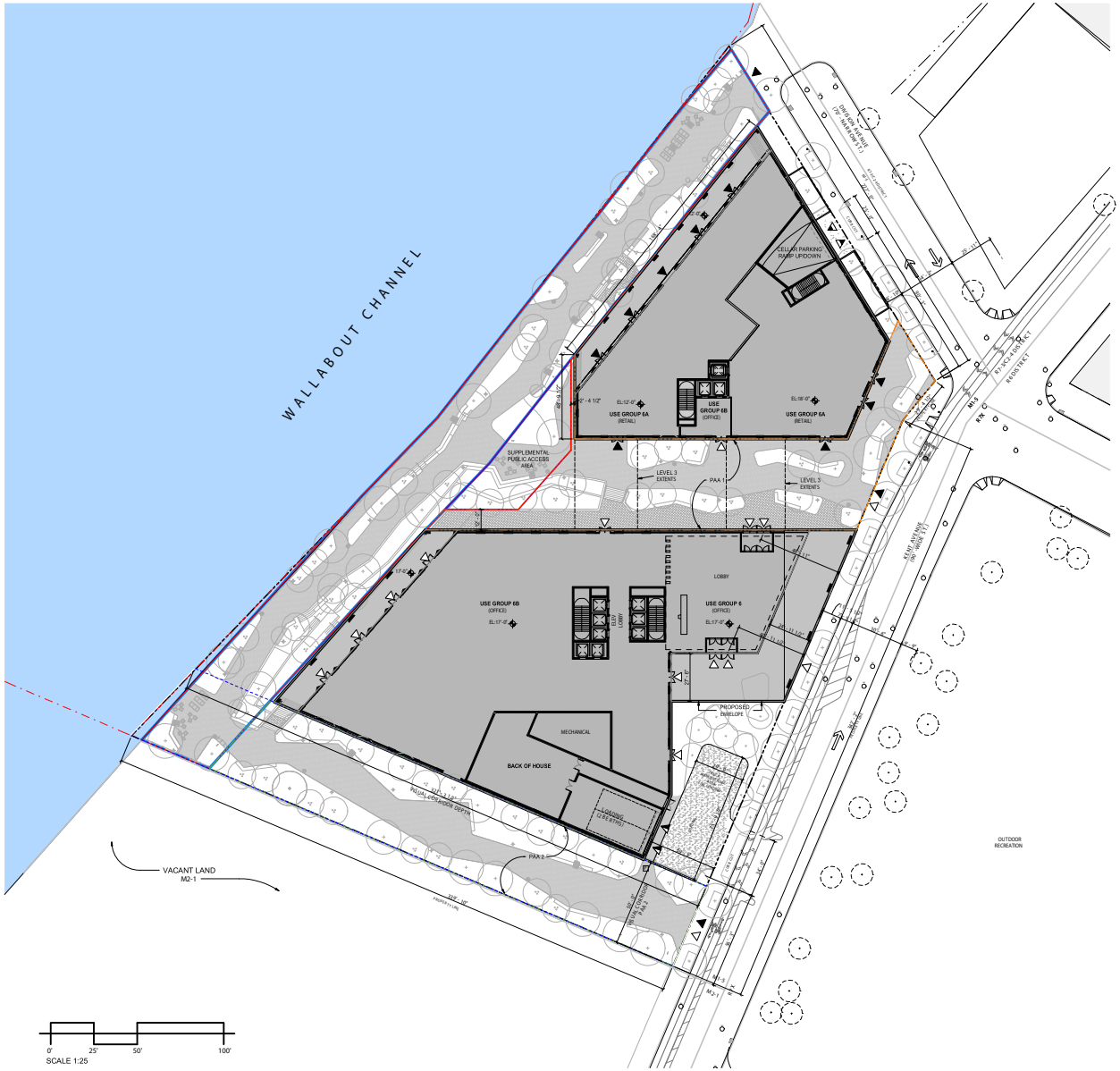
NOTES:

1. APPLICANTS STAMP AND SEAL CORRESPONDS TO THE INFORMATION REGARDING THE DEVELOPMENT SITE, ZONING LOT, AND RELATED CURB CUTS. INFORMATION REGARDING THE SURROUNDING PROPERTIES IS FOR ILLUSTRATIVE PURPOSES ONLY.
2. ILLUSTRATIVE BUILDING LINES WITHIN THE PROPOSED MAXIMUM BUILDING ENVELOPE ARE PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY AND ARE SUBJECT TO CHANGE.
3. SEE OPEN SPACE DRAWINGS FOR SITE AND LANDSCAPE DETAILS.
4. ADJUSTED BASE PLANE IS +13.81'
5. BASE FLOOD ELEVATION ZONE AE +13'.00' (NAVD-1988)
6. DESIGN FLOOD ELEVATION(DFE) IS +15.00'
7. ALL ELEVATIONS TAKEN FROM DFE\
8. FINAL DESIGN OF SIDEWALK TO BE COORDINATED WITH DOT IN THE BUILDERS' PAVEMENT PLAN TO ACCOUNT FOR KENT AVENUE WATERFRONT GREENWAY PROJECT

1/10/2024 8:36:42 PM

© MARVEL ARCHITECTS, PLLC 2023

Source: Marvel



1 ZONING - ILLUSTRATIVE GROUND FLOOR PLAN
1" = 25'-0"

ILLUSTRATIVE GROUND FLOOR PLAN LEGEND

- OFFICE ACCESS POINT
- COMMERCIAL ACCESS
- LOADING DOCK UG 6B
- PARKING INGRESS/EGRESS
- BUILDING ENTRANCE POINTS SHOWN AFTER ILLUSTRATIVE PURPOSES ONLY
- M1-5 / R7X ZONING DISTRICT
- ROAD DIRECTION
- ZONING LOT LINE
- ZONING DISTRICT BOUNDARY
- ILLUSTRATIVE BUILDING LINE
- PROPOSED MAXIMUM BUILDING ENVELOPE
- TOTAL SPW & SPAA (WPAA)
- VISUAL CORRIDOR
- PUBLIC ACCESS AREA 1 (PAA1)
- PUBLIC ACCESS AREA 2 (PAA2)
- SHORE PUBLIC WALKWAY (SPW)
- SUPPLEMENTAL PUBLIC ACCESS AREA (SPAA)
- U.S. PIER & BULKHEAD LINES
- REMOVED LIGHTING POLE
- PROPOSED LIGHTING POLE
- EXISTING LIGHTING POLE
- RRE HYDRANT
- EXISTING TREE
- PROPOSED CANOPY TREE
- PROPOSED ORNAMENTAL TREE
- EXISTING MANHOLE
- EXISTING SIGN
- EXISTING EMERGENCY PHONE
- EXISTING STREET VENT GRILLE
- EXISTING CATCH BASIN
- EXISTING BUS STOP
- EXISTING POST
- HT +0'-0" (HT +0'-0") PROP. MAX. BLDG. ENVELOPE HEIGHT ILLUSTRATIVE BUILDING HEIGHT
- PROPOSED BUILDING FOOTPRINT

NOTES:

1. APPLICANTS STAMP AND SEAL CORRESPONDS TO THE INFORMATION REGARDING THE DEVELOPMENT SITE. ZONING LOT, AND RELATED CURB CUTS. INFORMATION REGARDING THE SURROUNDING PROPERTIES IS FOR ILLUSTRATIVE PURPOSES ONLY.
2. ILLUSTRATIVE BUILDING LINES WITHIN THE PROPOSED MAXIMUM BUILDING ENVELOPE ARE PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY AND ARE SUBJECT TO CHANGE.
3. SEE OPEN SPACE DRAWINGS FOR SITE AND LANDSCAPE DETAILS.
4. ADJUSTED BASE PLANE IS +13.8'
5. BASE FLOOD ELEVATION ZONE AE +13'-0" (NAVD-1988)
6. DESIGN FLOOD ELEVATION(DFE) IS +15.00'
7. ALL ELEVATIONS TAKEN FROM DFE

Source: Marvel

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500 Kent Avenue EIS

Figure 12-3
Illustrative Ground Floor Plan

As shown in **Table 12-1**, compared to the No-Action condition, the Proposed Action would result in a net incremental increase of 380,274 gsf of total commercial space – including an increase of 540,442 gsf of office, an increase of 21,233 gsf of retail, and a decrease of 181,401 gsf of warehouse use. Additionally, the Proposed Project would add approximately 1.14 acres of publicly accessible waterfront open space. The Proposed Action would also result in a decrease of 45 parking spaces.

TABLE 12-1:
2026 RWCDS No-Action and With-Action Land Uses

Use	No-Action Scenario	With-Action Scenario	Increment
Commercial			
Office	58,000 gsf	598,442 gsf	+ 540,442 gsf
Warehouse	181,401 gsf	0 gsf	- 181,401 gsf
Retail	0 gsf	21,233 gsf	+ 21,233 gsf
Total Commercial Increment			**+ 380,274 gsf**
Parking			
Parking Spaces	279	234	- 45
Total Parking Increment			**- 45**
Open Space			
Publically Accessible Open Space	0 acres	1.14 acres	+1.14 acres

This chapter describes in detail the existing transportation conditions in proximity to the Project Area. Future conditions in the year 2026 without the Proposed Action (the No-Action condition) are then determined, including additional transportation-system demand and any changes expected by 2026. The increase in travel demand resulting from the Proposed Action is then projected and added to the No-Action condition to develop the 2026 future with the Proposed Action (the With-Action condition). Significant adverse impacts from action-generated trips are then identified and described in detail. **Chapter 19, "Mitigation"** discusses practicable measures to address these impacts.

B. PRINCIPAL CONCLUSIONS

Traffic

Traffic conditions were evaluated for the weekday AM (8:00-9:00 AM), midday (12:15-1:15 PM), and PM (5:00-6:00 PM) peak hours, and Saturday (2:00-3:00 PM) peak hours at 17 intersections (10 signalized and seven unsignalized) in the traffic study area where additional traffic resulting from the Proposed Action would exceed the 50-trip *City Environmental Quality Review* (CEQR) *Technical Manual* analysis threshold. As summarized in **Table 12-2** and **Table 12-3**, the traffic impact analysis indicates the potential for significant adverse impacts at three lane groups at two intersections in the weekday PM peak hour. **Chapter 19, "Mitigation,"** discusses potential measures to mitigate these significant adverse traffic impacts.

TABLE 12-2:
Number of Impacted Intersections and Lane Groups by Peak Hour

	Peak Hour			
	Weekday AM	Weekday Midday	Weekday PM	Saturday
Impacted Lane Groups	0	0	3	0
Impacted Intersections	0	0	2	0

TABLE 12-3:
Summary of Significantly Impacted Intersections

Intersection		Peak Hour			
Location	Control	Weekday AM	Weekday Midday	Weekday PM	Saturday
Wythe Avenue (NB/SB) & Division Avenue (EB/WB)	Signalized	---	---	X	---
Kent Avenue (NB/SB) & Clymer Street (WB)	Signalized	---	---	X	---
	Total	0	0	2	0

Transit

Subway

SUBWAY STATIONS

The Proposed Action would generate a net increment of approximately 547 and 468 new subway trips during the weekday AM and PM commuter peak hours, respectively. The analysis of subway station conditions focuses on New York City Transit's (NYCT's) Marcy Avenue (J, M, Z) station as incremental demand from the Proposed Action would exceed the 200-trips/hour *CEQR Technical Manual* analysis threshold at this station in the weekday AM and PM peak hours. In the future with the Proposed Action, those stairs and turnstiles that would be used by project-generated demand are expected to operate at an acceptable level of service (LOS) C or better in both the AM and PM peak hours and would therefore not be significantly adversely impacted by the Proposed Action based on *CEQR Technical Manual* criteria.

Bus

Five NYCT local bus routes—the B67, B62, B44, B32, and Q59—operate in proximity to the Project Site. It is estimated that the Proposed Action would generate a net total of approximately 416 and 364 incremental bus trips on these routes during the weekday AM and PM peak hours, respectively. These would include trips that would use the bus to access the subway, as well as trips made solely by bus. Incremental demand is expected to meet or exceed the 50-trip per direction *CEQR Technical Manual* analysis threshold in the AM and/or PM peak hour at the maximum load points along two routes—the B62 and B67 routes. Based on projected levels of bus service in the No-Action condition, there would be sufficient capacity to meet the projected demand on the northbound and southbound B62 and B67 bus routes during the during the AM and PM peak hours in the 2026 With-Action condition. Therefore, the B62 and B67 bus routes would not be considered significantly adversely impacted based on *CEQR Technical Manual* impact criteria.

Pedestrians

The Proposed Action's RWCDS is expected to generate approximately 539 incremental walk-only trips in the weekday AM peak hour, 1,246 in the weekday midday peak hour, 763 in the weekday PM peak hour, and 652 in the Saturday peak hour. Persons walking to and from subway station entrances, bus stops, and ferry landings would add approximately 657, 157, 569, and 192 incremental pedestrian trips to sidewalks and crosswalks in the vicinity of the Project Area during the weekday AM, midday and PM peak hours, and Saturday peak hour, respectively. Pedestrian conditions were evaluated during the weekday AM (8:00-9:00 AM), midday (12:30-1:30 PM), and PM (4:15-5:15 PM) peak hours at a total of 22 pedestrian elements (six sidewalks, five crosswalks, and 11 corner areas) where new trips generated by the Proposed Action are expected to exceed the 200-trip/hour *CEQR Technical Manual* analysis threshold. These elements are primarily located along Kent Avenue and Division Avenue in the immediate proximity of the Project Site. In the Future with the Proposed Action, one analyzed crosswalk, one analyzed sidewalk, and one analyzed corner area would be considered significantly adversely impacted in one or more peak hours as a result of the Proposed Action. Potential measures to mitigate these impacts are discussed in **Chapter 19, "Mitigation."**

Citywide Ferry Service

According to *CEQR Technical Manual* guidance, detailed analyses of the citywide ferry service (CWFS) are not typically required if a proposed action would result in 50 or fewer peak hour CWFS peak hour ferry riders. The Proposed Action's RWCDS would generate a net incremental increase of 33, 0, 28, and 8 ferry trips (in/out combined) in the weekday AM, midday, PM, and Saturday peak hours, respectively. Therefore, based on *CEQR Technical Manual* criteria, the Proposed Action are not expected to result in significant adverse impacts to the CWFS, and a detailed analysis of ferry conditions is not warranted.

Vehicular and Pedestrian Safety

Under *CEQR Technical Manual* guidance, 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. These are defined as locations along a Vision Zero intersection or where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available should be identified as a high crash location. For these locations, crash trends will be identified to determine whether projected vehicular and pedestrian traffic would further impact safety, or whether existing unsafe conditions could adversely impact the flow of the projected new trips. The *Vision Zero Brooklyn Pedestrian Safety Action Plan,* released in 2015 and updated in 2019, identified Bedford Avenue, to the east of the Project Site as a Priority Corridor.

Crash data for intersections in the traffic and pedestrian study areas were obtained from the New York City Department of Transportation (DOT) for the three-year reporting period between January 1, 2017, and December 31, 2019 (the most recent period for which data were available for all locations). The data quantify the total number of crashes as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year reporting period, a total of 114

reportable and non-reportable crashes, zero fatalities, 60 total injuries, and 25 pedestrian/bicyclist-related crashes occurred at intersections within the quarter-mile study area. Based on these criteria, no intersections were classified as high crash locations within the quarter-mile study area.

Parking

The Proposed Project would provide a total of 234 accessory parking spaces within the Project Area. The Proposed Action would generate a peak parking accumulation of approximately 234 spaces during the 2 PM to 3 PM period, which would be fully accommodated on-site. Therefore, the Proposed Action is not expected to result in significant adverse parking impacts for project generated parking demand.

C. PRELIMINARY ANALYSIS METHODOLOGY

The *CEQR Technical Manual* describes a two-level screening procedure for the preparation of a "preliminary analysis" to determine if quantified operational analyses of transportation conditions are warranted. As discussed in the following sections, the preliminary analysis begins with a trip generation (Level 1) analysis to estimate the numbers of person and vehicle trips attributable to the proposed action. According to the *CEQR Technical Manual*, if the proposed action is expected to result in fewer than 50 peak hour vehicle or ferry trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (a Level 2 analysis) are to be performed to estimate the incremental trips that would be incurred at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that the proposed action 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, 25 or more peak hour ferry trips in one direction along a ferry 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, vehicular and pedestrian safety, and parking.

D. LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the Proposed Action during the weekday AM, midday and PM peak hours, and Saturday peak hour, for the RWCDS. These estimates were then 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 then provided for the RWCDS.

Background

As shown in **Table 12-1**, compared to the No-Action condition, the Proposed Action would result in a net incremental increase of approximately 380,274 gsf of total commercial space – including

an increase of 540,442 gsf of office, an increase of 21,233 gsf of retail, and a decrease of 181,401 gsf of warehouse use. Additionally, the Proposed Project would add approximately 1.14 acres of public open space. The Proposed Action would also result in a decrease of 45 parking spaces.

Transportation Planning Factors

The trip generation rates, temporal and directional distributions, modal splits, vehicle occupancies, and truck trip factors used to forecast travel demand for office, warehouse, retail, and open space land uses are summarized in **Table 12-4**. They were based on factors cited in the *CEQR Technical Manual*, data provided by the New York City Department of Transportation (NYCDOT), the *ITE Trip Generation Manual, 10th Edition*, and factors developed for recent environmental reviews. Factors are shown for the weekday AM and PM peak hours (typical peak periods for commuter travel demand) and the weekday midday and Saturday peak hours (typical peak periods for retail demand).

Travel Demand Forecast

The net incremental change in person and vehicle trips expected to result from the Proposed Action by the 2026 analysis year was derived based on the net change in land uses shown in **Table 12-1** and the transportation planning factors shown in **Table 12-4**. **Tables 12-5** and **12-6** show estimates of the net incremental change in peak hour person trips and vehicle trips (versus the No-Action condition) that would occur in 2026 with implementation of the Proposed Action. These data are further summarized in **Table 12-7**. As shown in **Table 12-5**, under the RWCDS, the Proposed Action would generate a net increase of approximately 1,417 person trips (in + out combined) in the weekday AM peak hour, 1,459 in the weekday midday, 1,554 in the weekday PM, and 966 in the Saturday peak hour. As shown in **Table 12-7**, peak hour vehicle trips (including auto, taxi, and truck trips) would increase by a net total of approximately 200, 45, 176, and 81 (in + out combined) in the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively. Peak hour subway trips would increase by a net total of approximately 547, 76, 468, and 153 trips during the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively. Bus trips would increase by 416, 128, 364, and 125 (in + out combined, including trips to and from nearby subway stations) in the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively. Ferry trips would increase by 33, 0, 28, and 8 (in + out combined, including trips to and from nearby subway stations) in the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively. Lastly, pedestrian trips would increase by 1,196, 1,403, 1,332, and 844, during the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively. These totals include walk-only trips and pedestrians en route to and from nearby subway stations, bus stops, and ferry landings.

TABLE 12-4:
Transportation Planning Factors

Land Use:		Local Retail		Warehouse		Office		Open Space	
Size/Units:		21,233 gsf		-181,401 gsf		540,442 gsf		1.14 acres	
	No-Action	0 gsf		181,401 gsf		58,000 gsf		0 acres	
Size/Units:	With-Action	21,233 gsf		0 gsf		598,442 gsf		1.14 acres	
Trip Generation:		(1)		(4)(5)		(1)		(1)	
	Weekday	329		2.36		18		44	
	Saturday	358		0.20		3.9		62	
		per 1,000 sf		per 1,000 sf		per 1,000 sf		per acre	
Temporal Distribution:		(1)		(4)		(1)		(1)	
	AM	4.8%		10.0%		12.4%		3.0%	
	MD	8.0%		9.0%		11.0%		14.0%	
	PM	10.9%		11.0%		10.5%		14.0%	
	Sat	11.7%		33.0%		14.1%		16.0%	
		(2)		(6)		(9)	(7)	(10)	
Modal Splits:		All Period		All Period		AM/PM/Sat	MD	All Period	
	Auto	11.0%		51.0%		12.1%	2.0%	5.0%	
	Taxi	0.0%		2.0%		5.9%	1.0%	5.0%	
	Subway-Only	1.0%		11.0%		17.0%	3.0%	2.0%	
	Subway-to-Bus	2.0%		17.0%		28.7%	4.0%	3.0%	
	Bus	2.0%		7.0%		6.2%	7.0%	5.0%	
	Ferry	0.0%		0.0%		2.7%	0.0%	0.0%	
	Walk/Other	84.0%		12.0%		27.4%	83.0%	80.0%	
		100.0%		100.0%		100.0%	100.0%	100.0%	
		(1)		(4)		(1)		(1)	
In/Out Splits:		In	Out	In	Out	In	Out	In	Out
	AM	53%	47%	77.0%	23.0%	89%	11%	59%	41%
	MD	50%	50%	53.0%	47.0%	48%	52%	55%	45%
	PM	50%	50%	27.0%	73.0%	17%	83%	55%	45%
	Sat	50%	50%	64.0%	36.0%	50%	50%	55%	45%
Vehicle Occupancy:		(3)		(6)		(9)		(10)	
		All Periods		All Periods		All Periods		All Periods	
	Auto	2.00		1.30		1.15		2.00	
	Taxi	2.00		1.30		1.85		2.00	
Truck Trip Generation:		(1)		(4)(5)(8)		(1)		(10)	
	Weekday	0.35		0.91		0.32		n/a	
	Saturday	0.04		0.08		0.01		n/a	
		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
Truck Temporal Distribution:		(1)		(4)		(1)		(10)	
	AM	8.0%		9.9%		10.0%		n/a	
	MD	11.0%		8.0%		11.0%		n/a	
	PM	2.0%		7.0%		2.0%		n/a	
	Sat	11.0%		28.0%		11.0%		n/a	
Truck Directional Distribution:		In	Out	In	Out	In	Out	In	Out
		50.0%	50.0%	67.0%	33.0%	50.0%	50.0%	n/a	n/a
	MD	50.0%	50.0%	57.0%	43.0%	50.0%	50.0%	n/a	n/a
	PM	50.0%	50.0%	60.0%	40.0%	50.0%	50.0%	n/a	n/a
	Sat	50.0%	50.0%	42.0%	58.0%	50.0%	50.0%	n/a	n/a

Notes :

(1) *2021 City Environmental Quality Review (CEQR) Technical Manual*
(2) Based on data provided by NYCDOT for local retail use in Brooklyn Transit Zone
(3) Based on data from *Atlantic Yards Arena and Redevelopment FEIS* (2014)
(4) Based on data from *ITE Trip Generation Manual, 10th Edition,* Land Use Code 150 (Warehousing)
(5) Included 1.51 adjustment factor per NYCDOT Trip Generation Survey
(6) Based on data from *East New York Rezoning Proposal FEIS* (2016)
(7) Based on data from *12 Franklin Street EAS* (2017)
(8) Adjusted per the ratio between weekday and Saturday based on information from the ITE Generation Handbook, 10th Edition
(9) Based on 2019 PHA mode choice survey data for office use in Williamsburg, Brooklyn
(10) Based on data from the *Domino Sugar Rezoning* (2010)

TRAFFIC

Based on *CEQR Technical Manual* guidelines, a quantified traffic analysis is typically required if a proposed action would result in 50 or more vehicle trip ends in a peak hour at one or more intersections. As shown in **Table 12-7**, under the RWCDS, the net number of incremental vehicle trips—200, 45, 176, and 81 in the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively—would exceed the 50-trip threshold in the weekday AM, PM, and Saturday peak hours, and a Level 2 screening analysis is therefore warranted to determine which intersections would require quantified analysis.

TRANSIT

According to the general thresholds used by the Metropolitan Transportation Authority and specified in the *CEQR Technical Manual*, detailed transit analyses are generally not required if a proposed action is projected to result in fewer 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 and/or subway analysis would be warranted. 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 systems is usually highest.

As shown in **Table 12-7**, the Proposed Action is expected to generate approximately 547 and 468 new subway trips in the weekday AM and PM peak hours. As these numbers of trips would exceed the 200-trip *CEQR Technical Manual* analysis threshold, a Level 2 screening analysis is warranted to determine which subway stations and routes would require quantified analysis. As also shown in **Table 12-7**, the Proposed Action is expected to generate 416 and 364 new trips by bus in the weekday AM and PM peak hours, respectively (including trips to and from nearby subway stations). As these numbers of trips would exceed the 50-trip *CEQR Technical Manual* analysis threshold, a Level 2 screening analysis is warranted to determine which bus routes would require quantified analysis.

CITYWIDE FERRY SERVICE

According to *CEQR Technical Manual* guidance, detailed analyses of the citywide ferry service (CWFS) are not typically required if a proposed action would result in 50 or fewer peak hour CWFS peak hour ferry riders. The Proposed Action's RWCDS would generate a net incremental increase of 33, 0, 28, and 8 ferry trips (in/out combined) in the weekday AM, midday, PM, and Saturday peak hours, respectively. Therefore, based on *CEQR Technical Manual* criteria, the Proposed Action is not expected to result in significant adverse impacts to the CWFS, and a detailed analysis of ferry conditions is not warranted.

PEDESTRIANS

According to *CEQR Technical Manual* guidelines, a quantified analysis of pedestrian conditions is typically required if a proposed action would result in 200 or more peak hour pedestrian trips at any pedestrian element (sidewalk, corner area, or crosswalk). As shown in **Table 12-7**, the Proposed Action's RWCDS would generate an incremental demand of approximately 1,196, 1,403, 1,332, and 844 total pedestrian trips (including walk-only trips and pedestrians en route to

and from nearby subway stations and bus stops) in the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively. As the numbers of trips in all of these periods would exceed the 200-trip threshold, a Level 2 screening analysis is warranted to determine which if any pedestrian elements would require quantified analysis.

TABLE 12-5:
RWCDS Travel Demand Forecast – Incremental Person Trips

		Increment									
Land Use:		**Local Retail***		**Warehouse**		**Office**		**Open Space**		**Total**	
Size/Units:		21,233 gsf		-181,401 gsf		540,442 gsf		1.14 acres			
Peak Hour Trips:											
	AM	252		-43		1,206		2		1,417	
	MD	420		-39		1,070		8		1,459	
	PM	572		-47		1,021		8		1,554	
	Sat	668		-12		298		12		966	
Person Trips:											
		In	Out	In	Out	In	Out	In	Out	In	Out
AM	**Auto**	15	13	-17	-5	129	16	0	0	127	24
	Taxi	0	0	-1	0	63	8	0	0	62	8
	Subway-Only	2	1	-3	-1	186	23	0	0	185	23
	Subway-to-Bus	2	2	-6	-2	305	38	0	0	301	38
	Bus	3	2	-2	-1	67	8	0	0	68	9
	Ferry	0	0	0	0	29	4	0	0	29	4
	Walk/Other	113	99	-4	-1	294	36	1	1	404	135
	Total	135	117	-33	-10	1,073	133	1	1	1,176	241
		In	Out	In	Out	In	Out	In	Out	In	Out
MD	**Auto**	23	23	-11	-11	10	11	0	0	22	23
	Taxi	0	0	0	0	5	6	0	0	5	6
	Subway-Only	2	2	-2	-2	14	15	0	0	14	15
	Subway-to-Bus	4	4	-4	-3	22	24	0	0	22	25
	Bus	4	4	-1	-1	36	39	0	0	39	42
	Ferry	0	0	0	0	0	0	0	0	0	0
	Walk/Other	177	177	-2	-2	426	462	4	4	605	641
	Total	210	210	-20	-19	513	557	4	4	707	752
		In	Out	In	Out	In	Out	In	Out	In	Out
PM	**Auto**	31	31	-6	-17	21	103	0	0	46	117
	Taxi	0	0	0	-1	10	50	0	0	10	49
	Subway-Only	3	3	-1	-5	30	147	0	0	32	145
	Subway-to-Bus	5	5	-2	-6	49	240	0	0	52	239
	Bus	6	6	-1	-2	11	53	0	0	16	57
	Ferry	0	0	0	0	5	23	0	0	5	23
	Walk/Other	241	241	-2	-4	48	231	5	3	292	471
	Total	286	286	-12	-35	174	847	5	3	453	1,101
		In	Out	In	Out	In	Out	In	Out	In	Out
Sat	**Auto**	37	37	-4	-2	18	18	0	0	51	53
	Taxi	0	0	0	0	9	9	0	0	9	9
	Subway-Only	4	4	-1	0	26	26	0	0	29	30
	Subway-to-Bus	6	6	-1	-1	42	42	0	0	47	47
	Bus	7	7	-1	0	9	9	0	0	15	16
	Ferry	0	0	0	0	4	4	0	0	4	4
	Walk/Other	280	280	-1	-1	41	41	6	6	326	326
	Total	334	334	-8	-4	149	149	6	6	481	485

*25% link trip applied to Local Retail trips

TABLE 12-6:
RWCDS Travel Demand Forecast – Incremental Vehicle Trips

		Increment									
Land Use:		**Local Retail***		**Warehouse**		**Office**		**Open Space**		**Total**	
Size/Units:		21,233 gsf		-181,401 gsf		540,442 gsf		1.14 acres			
Peak Hour Trips:											
	AM	252		-43		1,206		2		1,417	
	MD	420		-39		1,070		8		1,459	
	PM	572		-47		1,021		8		1,554	
	Sat	668		-12		298		12		966	
		Increment								*Total*	
Vehicle Trips :											
		In	Out	In	Out	In	Out	In	Out	In	Out
AM	**Auto (Total)**	8	7	-13	-4	112	14	0	0	107	17
	Taxi	0	0	-1	0	34	4	0	0	33	4
	Taxi Balanced	0	0	-1	-1	38	38	0	0	37	37
	Truck	0	0	-11	-5	9	9	0	0	-2	4
	Total	8	7	-25	-10	159	61	0	0	142	58
		In	Out	In	Out	In	Out	In	Out	In	Out
MD	**Auto (Total)**	12	12	-8	-8	9	10	0	0	13	14
	Taxi	0	0	0	0	3	3	0	0	3	3
	Taxi Balanced	0	0	0	0	6	6	0	0	6	6
	Truck	0	0	-8	-6	10	10	0	0	2	4
	Total	12	12	-16	-14	25	26	0	0	21	24
		In	Out	In	Out	In	Out	In	Out	In	Out
PM	**Auto (Total)**	16	16	-5	-13	18	90	0	0	29	93
	Taxi	0	0	0	-1	5	27	0	0	5	26
	Taxi Balanced	0	0	-1	-1	32	32	0	0	31	31
	Truck	0	0	-7	-5	2	2	0	0	-5	-3
	Total	16	16	-13	-19	52	124	0	0	55	121
		In	Out	In	Out	In	Out	In	Out	In	Out
Sat	**Auto (Total)**	19	19	-3	-2	16	16	0	0	32	33
	Taxi	0	0	0	0	5	5	0	0	5	5
	Taxi Balanced	0	0	0	0	10	10	0	0	10	10
	Truck	0	0	-2	-2	0	0	0	0	-2	-2
	Total	19	19	-5	-4	26	26	0	0	40	41

TABLE 12-7:
Travel Demand Forecast Summary

Peak Hour	Person Trips																	
	Net Vehicle[1]			Total Subway[2]			Total Bus[3]			Net Ferry			Net Walk			Total Pedestrian Trips[4]		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM	**142**	**58**	**200**	**486**	**61**	**547**	**369**	**47**	**416**	**29**	**4**	**33**	**404**	**135**	**539**	**987**	**209**	**1,196**
MD	**21**	**24**	**45**	**36**	**40**	**76**	**61**	**67**	**128**	**0**	**0**	**0**	**605**	**641**	**1,246**	**680**	**723**	**1,403**
PM	**55**	**121**	**176**	**84**	**384**	**468**	**68**	**296**	**364**	**5**	**23**	**28**	**292**	**471**	**763**	**397**	**935**	**1,332**
Sat	**40**	**41**	**81**	**76**	**77**	**153**	**62**	**63**	**125**	**4**	**4**	**8**	**326**	**326**	**652**	**421**	**423**	**844**

[1]Includes Auto, Taxi and Truck trips for all peak hours
[2]Includes Subway-Only and Subway-to-Bus trips
[3]Includes Subway-to-Bus and Bus-Only trips
[4]Includes Walk-Only and pedestrians en route to/from nearby subway stations and bus stops

E. 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

As shown in **Table 12-7** and discussed above, the Proposed Action is expected to result in new incremental increases of approximately 200, 45, 176, and 81 vehicle trips in the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively. These traffic volumes would exceed the *CEQR Technical Manual* threshold of 50 vehicles during each peak hour for Level 1 screening and, therefore, a Level 2 screening was performed to help identify intersections for detailed analysis.

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). Peak hour project increment traffic volumes were first assigned to the Project Area street network to identify the intersections that would potentially exceed the 50-trip threshold during one or more periods. The origins/destinations of the residential trips used for the assignments are based upon 2012-2016 American Community Survey (ACS) five-year reverse journey-to-work data and AASHTO Census Transportation Planning Products program (CTPP) for office and warehouse uses, and population density in proximity to the Project Site and surrounding neighborhoods within an approximately three quarter-mile radius for local retail uses. Additional data on the distributions of auto and taxi trips by land use are presented in the TPF/TDF Technical Memorandum included in **Appendix D.** Auto trips were assigned to the parking garage entrance on Division Avenue, while taxi trips were assigned to the Kent Avenue frontage (see **Figure 12-4**). Trucks were assigned to DOT designated truck routes – i.e., Kent Avenue, Broadway, and Williamsburg Street East – and then the most direct paths to and from the Project Site's loading dock entrances along Kent Avenue.

The assignment of net incremental peak hour vehicle trips at intersections in proximity to the Project Site are shown in **Figure 12-4**. As shown in **Figure 12-4**, a total of 17 intersections (10 signalized and seven unsignalized) were selected for detailed analysis as they would exceed the 50-trip threshold in one or more peak hours.

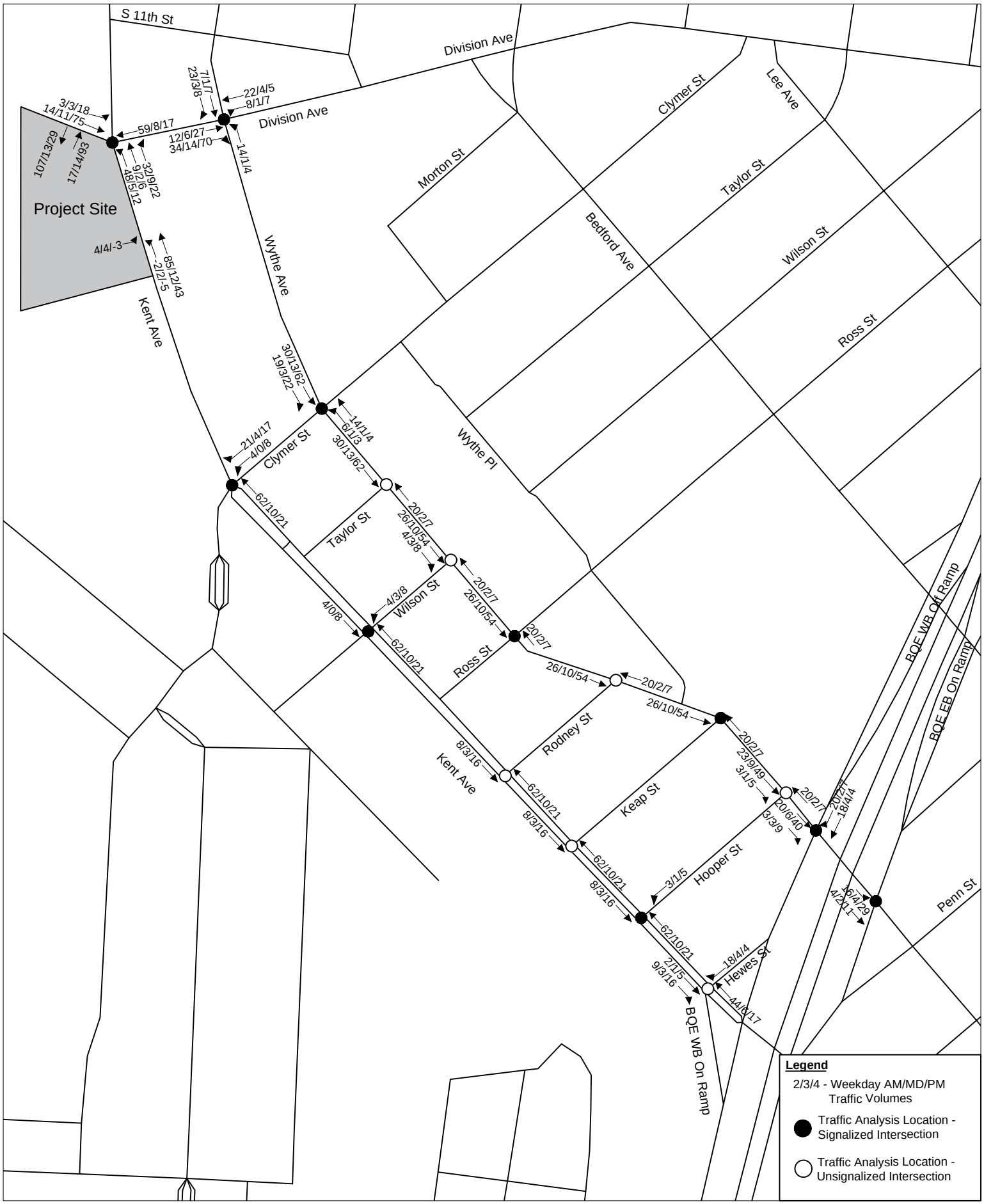
Transit

Subway

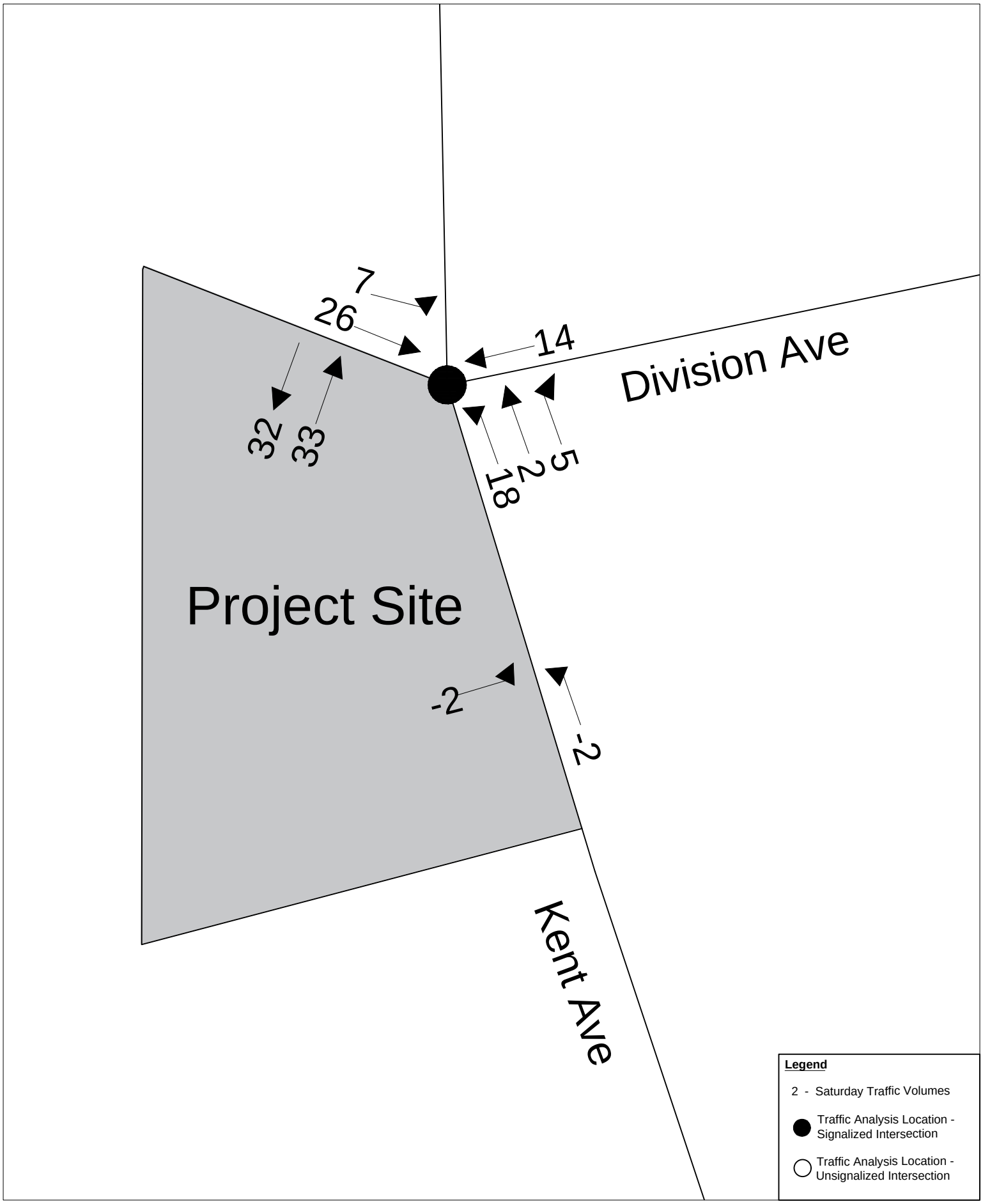
Subway Stations

As shown in **Table 12-7**, the Proposed Action is expected to generate a net total of approximately 547 and 468 incremental subway trips in the weekday AM and PM peak hours, respectively. As discussed in the *TDF Memo*, it is anticipated that the majority of project-generated subway trips would utilize the Marcy Avenue subway station, which is located approximately 0.6-miles northeast of the site and served by the J/M/Z subway lines (refer to **Figure 12-1**). Only project-

Project Increment Weekday AM/MD/PM Traffic Volumes



Project Increment Saturday Traffic Volumes



generated trips commencing or terminating at the Marcy Avenue Station are considered subway-only trips and are included in the subway analysis. The remaining action-generated subway trips are expected to be dispersed among other nearby subway stations were riders are assumed to complete their journey via bus (i.e. Subway-to-Bus trips). This dispersion is detailed in **Table 12-8** below. As shown in **Table 12-8**, the Proposed Action would generate approximately 356 and 303 subway trips (in and out combined) in the AM and PM peak periods, respectively, at the Marcy Avenue station, which exceeds the 200-trip CEQR threshold. As incremental peak hour demand from the Proposed Action would exceed the 200-trip *CEQR Technical Manual* analysis threshold at this station during the AM and PM peak hours, it has been selected for detailed analysis during the weekday AM and PM peak hours. Key circulation elements (e.g., stairs and fare arrays) expected to be used by concentrations of new demand from the Proposed Action are analyzed.

TABLE 12-8:
Subway Assignment Summary

Subway Station/Line Summary	AM Peak Hour			PM Peak Hour		
	Projected Sites			Projected Sites		
	In	Out	Total	In	Out	Total
Marcy Avenue (J/M/Z) - subway only	185	23	208	32	145	177
Marcy Avenue (J/M/Z) - subway to bus transfer	131	17	148	22	104	126
York Street (F)	34	4	38	6	27	33
Atlantic Terminal (2/3/4/5/B/D/N/Q/R/LIRR)	34	4	38	6	27	33
DeKalb Ave (B/D/N/R/W)	15	2	17	3	12	15
Jay Street-Metrotech (A/C/F/R)	44	5	49	8	35	43
Franklin Ave (C/S)	24	3	27	4	19	23
Bedford Ave (G)	19	3	22	3	15	18
Total	486	61	547	84	384	468

Source: U.S. Census Bureau, ACS 2012-2016 5-year reverse journey-to-work estimates and AASHTO Census Transportation Planning Products program (CTPP)

SUBWAY LINE HAUL

As discussed above, the Marcy Avenue subway station is served by three NYCT subway routes – the J, M, and Z trains. The peak direction of travel along the J, M, and Z routes is typically Manhattan-bound (westbound) in the weekday AM and Queens-bound (eastbound) in the weekday PM. **Table 12-9**, below, provides the assignment of project-generated subway trips for the weekday AM and PM peak hours for the J, M, and Z routes, by direction. As shown in **Table 12-9**, the Proposed Project would generate approximately 47 Manhattan-bound trips along the J subway route in the weekday AM peak hour, and 43 Queens-bound trips during the weekday PM peak hour. In addition, the Proposed Project would generate approximately 62 Manhattan-bound trips along the M subway route in the weekday AM peak hour, and 58 Queens-bound trips during the weekday PM peak hour. Along the Z subway route, the Proposed Project would generate approximately 17 Manhattan-bound trips in the weekday AM peak hour, and 15 Queens-bound trips in the weekday PM peak hour. As the Proposed Project would not generate the *CEQR*

Technical Manual threshold of 200 or more new peak hour subway trips in any one direction of the J, M, and Z subway routes, an analysis of subway line haul conditions is not warranted as impacts are not expected.

TABLE 12-9:
Subway Assignments by Direction – J, M, Z Routes

Subway Line	Direction	AM			PM		
		In	Out	Total	In	Out	Total
J	Manhattan-Bound	37	10	47	6	64	70
	Queens-Bound	81	5	86	14	29	43
	Bi-Directional Total	**118**	**15**	**133**	**20**	**93**	**113**
M	Manhattan-Bound	49	13	62	8	85	93
	Queens-Bound	108	6	114	19	39	58
	Bi-Directional Total	**157**	**19**	**176**	**27**	**124**	**151**
Z	Manhattan-Bound	13	4	17	2	22	24
	Queens-Bound	28	2	30	5	10	15
	Bi-Directional Total	**41**	**6**	**47**	**7**	**32**	**39**
Marcy Avenue Station (J,M,Z) Total		**316**	**40**	**356**	**54**	**249**	**303**

Bus

As shown in **Table 12-7** and discussed above, the approximate hourly public bus trips generated by the Proposed Action would be 416 and 364 trips in the weekday AM and PM peak hours, respectively. This includes trips that would use the bus to access the subway, as well as bus-only trips. As discussed above, due to the location of the site some subway trips are expected to also include a bus element to complete the journey. As shown in **Table 12-10**, a total of five NYCT local bus routes—the B67, B62, B44, B32, and Q59 routes – operate in proximity to the Project Site. As shown in **Table 12-10**, two routes (the B62 and B67) are expected to experience 50 or more new trips during one or both peak hours.

TABLE 12-10:
Bus Assignment Summary

Bus Line	Bus Only						Subway to Bus						Total Bus Trip					
	AM			PM			AM			PM			AM			PM		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Peak Hour Incremental Bus Trips	68	9	77	16	57	73	301	38	339	52	239	291	369	47	416	68	296	364
B67	14	2	16	3	11	14	64	7	71	12	51	63	78	9	87	15	62	77
B62	15	2	17	4	13	17	213	28	241	36	169	205	228	30	258	40	182	222
B44	17	3	20	4	15	19	24	3	27	4	19	23	41	6	47	8	34	42
B32	11	1	12	3	9	12	0	0	0	0	0	0	11	1	12	3	9	12
Q59	11	1	12	2	9	11	0	0	0	0	0	0	11	1	12	2	9	11
Total	**68**	**9**	**77**	**16**	**57**	**73**	**301**	**38**	**339**	**52**	**239**	**291**	**369**	**47**	**416**	**68**	**296**	**364**

Source: U.S. Census Bureau, ACS 2012-2016 5-year reverse journey-to-work estimates and AASHTO Census Transportation Planning Products program (CTPP)

Table 12-11, below, provides the assignment of project-generated bus trips for the weekday AM and PM peak hours for the B62 and B67 routes, by direction. As shown in **Table 12-11**, the B62 bus route would experience and increase of 139 northbound and 119 southbound trips in the

weekday AM peak hour and 104 northbound and 118 southbound trips in the weekday PM peak hour. Additionally, the B67 bus route would experience an increase of 78 northbound and 9 southbound trips in the weekday AM peak hour and 15 northbound and 62 southbound trips in the weekday PM peak hour. Therefore, detailed bus analyses of the B62 and B67 bus routes are warranted.

TABLE 12-11:
Bus Assignment by Direction –B62 and B67 Routes

Bus Line	Direction	AM			PM		
		In	Out	Total	In	Out	Total
B62	NB	125	14	139	22	82	104
	SB	103	16	119	18	100	118
B67	NB	78	0	78	15	0	15
	SB	0	9	9	0	62	62

Pedestrians

Under *CEQR Technical Manual* criteria, detailed pedestrian analyses are generally warranted if a proposed action is projected to result in 200 or more peak hour pedestrians at any sidewalk, corner area or crosswalk.

As shown in **Table 12-7**, the Proposed Action's RWCDS is expected to generate approximately 539 incremental walk-only trips in the weekday AM peak hour, 1,246 in the weekday midday peak hour, 763 in the weekday PM peak hour, and 652 in the Saturday peak hour. Persons walking to and from subway station entrances, bus stops, and ferry landings would add approximately 657, 157, 569, and 192 incremental pedestrian trips to sidewalks and crosswalks in the vicinity of the Project Area during the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively. Pedestrian trips were assigned to entrances along Kent Avenue (refer to **Figure 12-5**). In the weekday AM and PM peak hours, new pedestrian trips would be most concentrated on sidewalks and crosswalks adjacent to the Project Site and along corridors connecting the site to nearby bus stops. In the midday and Saturday periods, pedestrian trips would tend to be more dispersed, as people travel throughout the area for dining, shopping and/or running errands.

Although the number of pedestrian trips in the Saturday peak hour would also exceed the 200-trip *CEQR Technical Manual* analysis threshold, the 844 trips generated during this period would be less than the trips generated in the weekday peak hours. Additionally, the distribution of trips to area sidewalks and crosswalks in the Saturday peak hour is expected to be similar to the distribution in the weekday midday. Consequently, significant adverse pedestrian impacts on Saturday over and above those identified for the weekday peak hours are considered unlikely. Therefore, the analysis of pedestrian conditions will focus on the weekday AM, midday and PM peak hours and the Saturday peak hour is not analyzed.

Given the numbers of incremental pedestrian trips that would be generated, a detailed analysis of pedestrian conditions under the Proposed Action is warranted. Based on pedestrian count data collected in proximity to the Project Site, the weekday AM (8:00-9:00 AM), midday (12:30-1:30 PM), and PM (4:15-5:15 PM) peak hours have been selected for analysis. A preliminary assignment of weekday AM, midday and PM peak hours is shown in **Figure 12-5**. As shown in

Figure 12-5
Pedestrian Analysis Locations

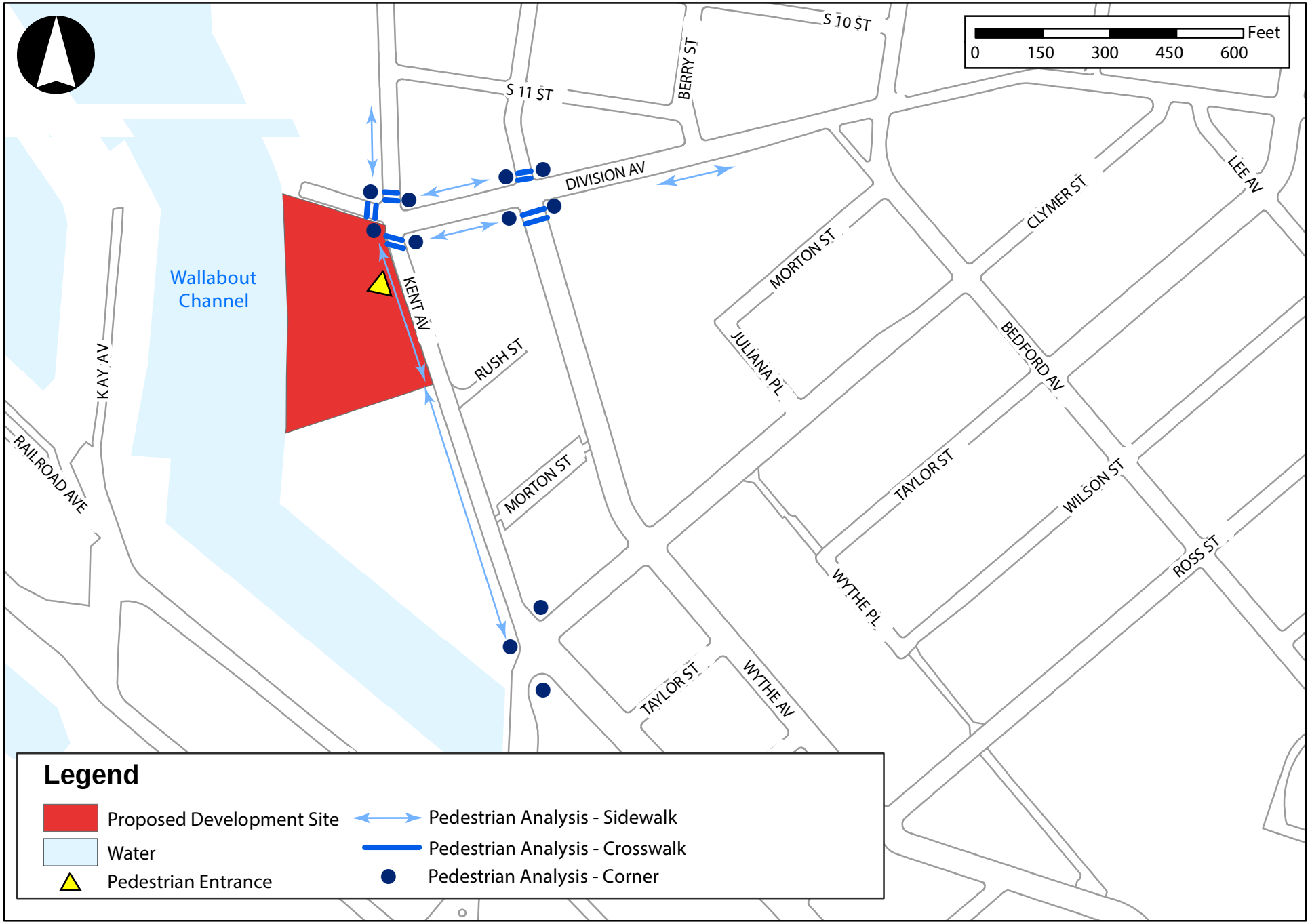


Figure 12-5, a total of 22 pedestrian elements (six sidewalks, five crosswalks and 11 corner areas) will exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or more peak hours, thereby warranting detailed analyses. These pedestrian elements, discussed below, are primarily located along Kent Avenue and Division Avenue.

Parking

In the future with the Proposed Action, the site would be rezoned from M3-1 to M1-5. As such, on-site parking would not be required for the proposed uses – although it is anticipated that the proposed 234 on-site parking spaces to be provided at the Project Site will be sufficient to accommodate the overall demand generated by the Proposed Action. The proposed parking supply is based on the weekday peak parking demand that would be generated by the Proposed Project, shown below in **Table 12-12**. As mentioned earlier, 234 spaces would be provided as part of the Proposed Project. Therefore, as the proposed parking supply would accommodate the peak parking demand generated under the RWCDS, a detailed parking analysis is not warranted as significant adverse parking impacts are not expected.

TABLE 12-12:
Weekday Parking Accumulation

	Local Retail 21,233 gsf			Office 598,442 gsf			Total
	In	Out	Accum.	In	Out	Accum.	Accum.
Overnight			2			2	
12-1 AM	0	0	2	0	0	2	4
1-2	0	0	2	0	0	2	4
2-3	0	0	2	0	0	2	4
3-4	0	0	2	0	0	2	4
4-5	0	0	2	0	0	2	4
5-6	0	0	2	0	0	2	4
6-7	0	0	2	0	0	2	4
7-8	5	4	3	11	1	12	15
8-9	7	6	4	125	15	122	126
9-10	10	8	6	109	18	213	219
10-11	10	7	9	18	15	216	225
11-12	10	9	10	8	22	202	212
12-1 PM	12	12	10	9	9	202	212
1-2	12	12	10	10	11	201	211
2-3	13	14	9	42	18	225	**234**
3-4	13	12	10	14	22	217	227
4-5	12	14	8	13	91	139	147
5-6	16	16	8	20	98	61	69
6-7	12	12	8	5	43	23	31
7-8	7	9	6	1	22	2	8
8-9	4	6	4	0	0	2	6
9-10	1	3	2	0	0	2	4
10-11	0	0	2	0	0	2	4
11-12	0	0	2	0	0	2	4
Total	144	144		385	385		

F. TRANSPORTATION ANALYSES METHODOLOGIES

Traffic

Analysis Methodology

The traffic analysis examines conditions in the weekday AM, midday, and PM peak hours, and Saturday peak hour at 17 intersections (10 signalized and seven unsignalized). Based on data collected in June 2019, November 2020, and May 2021 the weekday peak hours selected for analysis are 8:00-9:00 AM, 12:15-1:15 PM, and 5:00-6:00 PM, and the Saturday peak hour is 2:00-3:00 PM.

The capacity analyses at intersections were based on the methodology presented in the Highway Capacity Manual (HCM) and utilize HCS+ Version 5.5 software. Traffic data required for these analyses include the hourly volumes on each approach, turning movements, the percentage 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 for each signalized intersection approach. 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 HCM methodology also expresses the quality of traffic flow in terms of level of service (LOS), which 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, as it is for signalized intersections), to F, which represents long delays (greater than 50 seconds per vehicle, compared to greater than 80 seconds per vehicle for signalized intersections).

Table 12-13 shows 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 reflects heavy 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 12-13:
Intersection Level of Service Criteria

LOS	Average Delay per Vehicle (seconds)	
	Signalized Intersections	Unsignalized Intersections
A	Less than 10.1	Less than 10.1
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	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, C, or D (i.e., delay less than or equal to 55.0 seconds/vehicle for signalized intersections and 35.0 seconds/vehicle for unsignalized intersections), the impact is not considered significant. If the lane-group LOS would deteriorate from LOS A, B, C, or D in the No-Action condition 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 E in the With-Action condition, an increase in delay of 5.0 or more seconds compared to the No-Action condition is considered a significant impact. For a lane group that would operate at LOS F in the With-Action condition, a projected No-Action increase in delay of 4.0 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

To determine existing conditions at analyzed subway station elements, subway ridership data was collected at the Marcy Avenue (J,M,Z) subway station in June 2019. The methodology for assessing subway station pedestrian circulation elements (stairs, escalators, and passageways) and fare control elements (low turnstiles, high entry/exit turnstiles [HEETs], and high exit turnstiles [HXTs]) compares existing and projected pedestrian volumes with the element's design capacity to yield a v/c ratio. All analyses reflect pedestrian flow volumes over a 15-minute interval during each peak hour. Based on existing pedestrian volumes at the Marcy Avenue (J,M,Z) station, the peak hours selected for the analysis of subway station conditions are 8:00-9:00 AM and 5:00-6:00 PM. (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 systems is usually highest.)

Under *CEQR Technical Manual* guidance, 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. NYCT guideline capacity is 10 passengers per foot-width per minute (pfm) for stairs and 15 pfm for passageways. The effective width of a stair or passageway is the actual width adjusted to reflect pedestrian avoidance of sidewalls and for 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 ten percent is applied where opposing pedestrian flows use the same stair or passageway. (No friction factor is applied if the flow is all or predominantly in one direction.)

By contrast with stairways and passageways, under *CEQR Technical Manual* guidance 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. **Table 12-14** shows the *CEQR Technical Manual* LOS criteria for all subway station elements. As shown in **Table 12-14**, six levels of service are defined 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 12-14:
Level of Service Criteria for Subway Station Elements

LOS	Description	V/C Ratio
A	Free Flow	0.00 to 0.45
B	Fluid 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 to 1.67
F	Severely congested, queued	> 1.67

Source: *CEQR Technical Manual*

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.

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 LOS or that 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 shown in **Table 12-15** are reached or exceeded.

TABLE 12-15:
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
≥1.6	2	3

Source: *CEQR Technical Manual*

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.

BUS

According to the *CEQR Technical Manual* and NYCT guidelines, additional bus service along a route is recommended when load levels exceed maximum capacity at the route's maximum load point. A significant impact is considered 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 Project Site in June 2019, November 2020 and May 2021. 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 8:00-9:00 AM, 12:30-1:30 PM, and 4:15-5:15 PM peak hours.

Peak 15-minute pedestrian flow conditions during the weekday AM, midday and PM peak hours are analyzed using the *Highway Capacity Manual 2010* methodology and procedures outlined in the *CEQR Technical Manual*. Using this methodology, 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 traffic 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. To effectively evaluate these facilities a "time-space" analysis methodology is employed, 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 12-16** defines the LOS criteria for pedestrian crosswalk/corner area and sidewalk conditions, as based on the *Highway Capacity Manual* methodology.

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 an LOS one level poorer than that determined for average flow rates.

Significant Impact Criteria

SIDEWALKS

The *CEQR Technical Manual* impact criteria for a non-central business district (non-CBD) location are used to identify significant adverse impacts due to the Proposed Action. These criteria define a significant adverse sidewalk impact to have occurred under platoon conditions if the average pedestrian space under the No-Action condition is greater than or equal to 44.3 square feet/pedestrian (sf/ped), and the average pedestrian space under the With-Action condition is 40.0 sf/ped or less (LOS D or worse). If the average pedestrian space under 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 condition pedestrian space is between 6.4 and 44.3 sf/ped, a reduction in pedestrian space under the With-Action condition should be considered significant based on **Table 12-17**, 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 12-17**, the impact is not considered significant. If the average pedestrian space under the No-Action condition is less than or equal to 6.3 sf/ped, then a reduction in pedestrian space greater than or equal to 0.3 sf/ped, under the With-Action condition, should be considered significant.

TABLE 12-16:
Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions

LOS	Crosswalk/Corner	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*

CORNER AREAS AND CROSSWALKS

For non-CBD areas, *CEQR Technical Manual* criteria define a significant adverse corner area or crosswalk impact to have occurred if the average pedestrian space under the No-Action condition is greater than or equal to 26.6 sf/ped and, under the With-Action condition, the average pedestrian space decreases to 24 sf/ped or less (LOS D or worse). If the pedestrian space under the With-Action condition is greater than 24 sf/ped (LOS C or better), the impact should not be considered significant. If the average pedestrian space under the No-Action condition is between 5.1 and 26.6 sf/ped, a decrease in pedestrian space under the With-Action condition should be considered significant based on **Table 12-18** which shows a sliding-scale that identifies what decrease in pedestrian space is considered a significant impact for a given amount of pedestrian space in the No-Action condition. If the decrease in pedestrian space is less than the value in **Table 12-18**, the impact is not considered significant. If the average pedestrian space under the No-Action condition is less than or equal to 5.0 sf/ped, then a decrease in pedestrian space greater than or equal to 0.2 sf/ped should be considered significant.

Vehicular and Pedestrian Safety Evaluation

Under *CEQR Technical Manual* guidance, 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. These are defined as locations along a Vision Zero intersection or where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available should be identified as a high crash location. For these locations, crash trends would be identified to determine whether projected 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 should be identified and coordinated with DOT.

TABLE 12-17:
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)
≥44.3	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
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 ≥ 0.4
≤6.3	Reduction ≥ 0.3

Source: *CEQR Technical Manual*

TABLE 12-18:
Significant Impact Criteria for Corners and Crosswalks in a Non-CBD Location

No-Action Condition Pedestrian Space (sf/ped)			With-Action Condition Pedestrian Space Reduction to be Considered a Significant Impact (sf/ped)
≥ 26.6			With-Action Condition ≤ 24.0
25.8	to	26.5	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
≤ 5.0			Reduction ≥ 0.2

Source: *CEQR Technical Manual*

G. TRAFFIC

Existing Conditions

Study Area Street Network

As shown in **Figure 12-1**, the Project Site encompasses an 115,244 sf lot with approximately 528 feet of shoreline along Wallabout Channel, approximately 227 feet of frontage on Division Avenue and approximately 372 feet of frontage on Kent Avenue.

Kent Avenue, to the east of the Project Site, serves as a north-south minor arterial providing access to the Brooklyn waterfront. In the vicinity of the Project Site, to the south of Clymer Street, Kent Avenue operates as a two-way north-south street with a parking lane along the eastern curb and a two-way striped bicycle path along the western curb. To the north of Clymer Street, Kent Avenue operates as a one-way northbound street with two parking lanes and a two-way striped bicycle path along the western curb. The striped bicycle path along Kent Avenue is part of the Brooklyn

Waterfront Greenway. The B67 bus route operates along Kent Avenue, to the north of Clymer Street, and the B62 operates along Kent Avenue, to the south of Keap Street.

Division Avenue, to the north of the Project Site, serves as an east-west major collector that operates with one moving lane and one parking lane in each direction. The B62 bus route operates along Division Avenue, to the east of Wythe Avenue. **Wythe Avenue**, to the east of the Project Site, operates as a two-way, north-south street with one moving lane and one parking lane in each direction. To the south of Ross Street, a southbound bicycle path is striped adjacent to the southbound travel lane along Wythe Avenue. **Broadway**, to the east of the Project Site, operates as a two-way north-south minor arterial. In the vicinity of the Project Site, Broadway typically operates with one moving lane and one parking lane in each direction, with one-way bicycle paths striped adjacent to parking lanes in each direction.

To the south of the Project Site, the **Brooklyn Queens Expressway** (I-278) generally operates with three lanes in each direction and provides access through Brooklyn, Queens, and Staten Island. In the vicinity of the Project Site, the Brooklyn Queens Expressway is bordered by **Williamsburg Street East** and **Williamsburg Street West**. Williamsburg Street East and Williamsburg Street West typically operate as one-way eastbound and westbound streets, respectively, with one moving lane and parking along both curbs.

To the north of the Project Site, the **Williamsburg Bridge** provides access between the Williamsburg Area and the Lower East Side of Manhattan. In addition, in the vicinity of the Project Site, **Taylor Street, Ross Street and Keap Street**, to the south of the Project Site, operate as one-way eastbound local streets with one moving lane and parking along both curbs. Similarly, in the vicinity of the Project Site, **Wilson Street, Rodney Street, Hooper Street, and Hewes Street** operate as one-way westbound local streets with one moving lane and parking along both curbs.

Bus Routes

As shown in **Figure 12-1**, NYCT bus route primarily operate along portions of the following study area corridors:

- Kent Avenue/Wythe Avenue/Broadway (B32 and Q59)
- Kent Avenue/Wythe Avenue (B67)
- Wythe Avenue/Division Avenue (B62)
- Bedford Avenue/Lee Avenue (B44)

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." Trucks must generally travel on local truck routes to reach the intersection nearest their destinations. In the vicinity of the Project Site, local truck routes have been designated along Kent Avenue, Broadway, Williamsburg Street East, and Flushing Avenue. Through trucks are defined as having neither an origin nor a destination within Brooklyn. The nearest designated through truck routes in proximity to the Project Site are the Brooklyn Queens Expressway (I-278) and the Williamsburg Bridge.

Traffic Conditions

To establish the 2019 existing conditions traffic network, an extensive traffic data collection program—including ATR counts, turning movement counts, and vehicle classification counts—was undertaken in June 2019, November 2020, and May 2021. 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 also collected during these periods. Signal timing plans for signalized intersections within the study area were obtained from DOT. **Figures 12-6A and 12-6B** show 2019 existing traffic volumes during the weekday (AM, midday, and PM peak hours), and Saturday peak hour, respectively.

Intersection Capacity Analysis

Existing (2019) v/c ratios, delays, and LOS for individual lane groups at analyzed intersections are shown in **Table 12-19**. A lane group is considered congested in **Table 12-19** 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 shown in **Table 12-19**, of the 17 analyzed intersections, the signalized intersection of Kent Avenue and Clymer Street currently has one congested lane group in the weekday PM peak hour. Under existing conditions, there are no intersections with lane groups operating over capacity (v/c ratio ≥ 1.0) in any analyzed peak hour.

The Future without the Proposed Action (No-Action Condition)

Future No-Action Traffic Growth

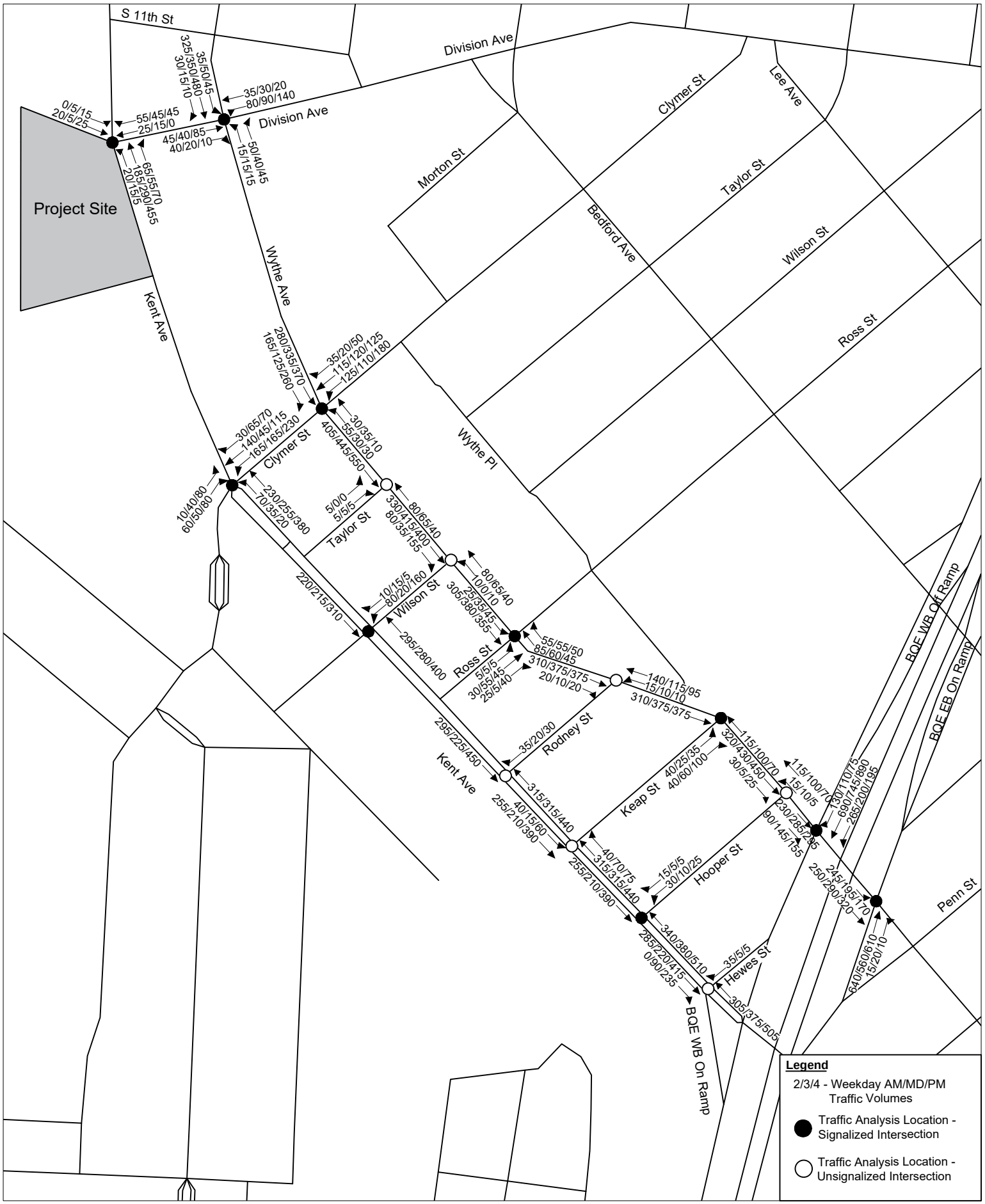
Between 2019 and 2026, it is expected that transportation demands in the vicinity of the Project Site will increase due to long-term background growth and other planned developments unrelated to the Proposed Action. As shown in **Table 12-1**, it is assumed that under the No-Action condition RWCDS, the existing 115,244-sf lot would be developed as-of-right under the existing M3-1 zoning district with an approximately 312,599-gsf commercial building including approximately 58,000 gsf of office space, approximately 181,401 gsf of warehouse use and roughly 279 accessory parking spaces.

In order to forecast future traffic conditions without the Proposed Action (the No-Action condition), the developments within quarter-mile of the Project Site listed in **Table 2-3** in **Chapter 2, "Land Use, Zoning, and Public Policy,"** were considered. The future No-Action traffic volumes also reflect annual background growth rates of 0.50 percent per year for the 2019 through 2024 period, and 0.25 percent per year for the 2024 through 2026 period. This background growth rate, recommended in the *CEQR Technical Manual* for projects in Brooklyn outside of Downtown Brooklyn, is applied to account for smaller projects and as-of-right developments not reflected in **Table 2-3**, and general increases in travel demand not attributable to specific development projects. Where new developments were found to generate relatively little new traffic through analyzed intersections, demand from these sites was also assumed to be reflected as part of general background growth. **Figures 12-7A and 12-7B** show total No-Action condition traffic volumes during the weekday (AM, midday, and PM) peak hours, and Saturday peak hour, respectively.

Intersection Capacity Analysis

The peak hour v/c ratios, delays and LOS for lane groups at analyzed intersections under the No-Action condition are shown in **Table 12-20**. As shown in **Table 12-20**, a total of one analyzed

Existing Weekday AM/MD/PM Traffic Volumes



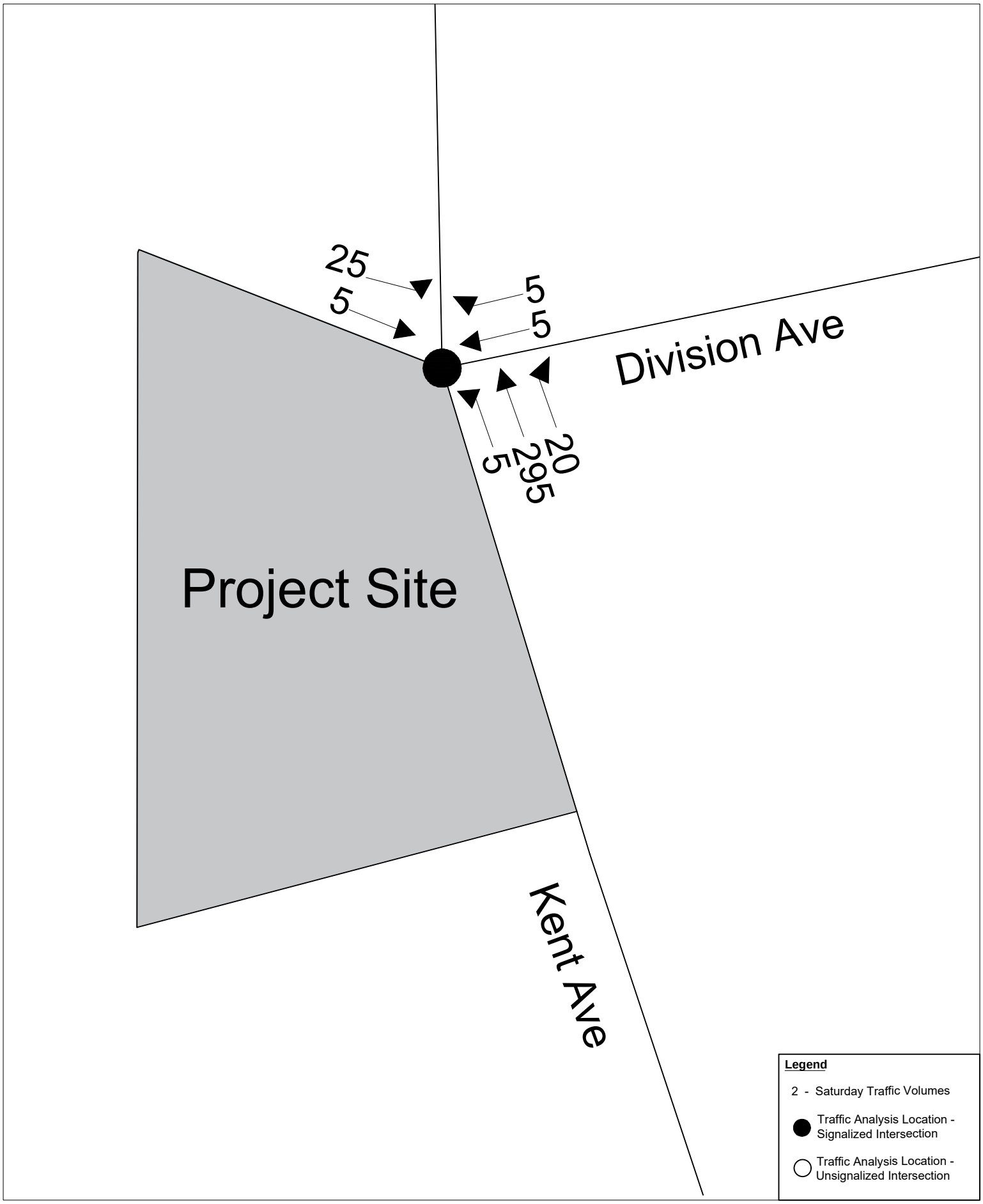

25
5
5
5
20
295
5
Division Ave
Project Site
Kent Ave
Legend
2 - Saturday Traffic Volumes
Traffic Analysis Location - Signalized Intersection
Traffic Analysis Location - Unsignalized Intersection

TABLE 12-19
EXISTING INTERSECTION LEVEL OF SERVICE ANALYSIS

Intersections	Existing AM Peak Hour					Existing MD Peak Hour					Existing PM Peak Hour					Existing SAT Peak Hour				
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
Signalized Intersections																				
Kent Avenue @	EB	LT	0.06	26.3	C	EB	LT	0.03	26.1	C	EB	LT	0.12	27.1	C	EB	LT	0.10	26.9	C
Division Avenue	WB	TR	0.29	29.8	C	WB	TR	0.22	28.6	C	WB	TR	0.16	27.7	C	WB	TR	0.03	26.0	C
	NB	L	0.03	5.9	A	NB	L	0.02	5.8	A	NB	L	0.01	5.7	A	NB	L	0.01	5.7	A
	NB	TR	0.30	7.9	A	NB	TR	0.43	9.4	A	NB	TR	0.59	11.8	B	NB	TR	0.33	8.1	A
Wythe Avenue @	EB	TR	0.20	21.6	C	EB	TR	0.16	21.2	C	EB	TR	0.20	21.6	C					
Division Avenue	WB	LT	0.34	24.2	C	WB	LT	0.38	25.0	C	WB	LT	0.55	30.0	C					
	NB	LR	0.19	11.5	B	NB	LR	0.15	10.9	B	NB	LR	0.18	11.3	B					
	SB	LTR	0.53	15.4	B	SB	LTR	0.49	14.6	B	SB	LTR	0.66	18.3	B					
Kent Avenue @	EB	LR	0.31	29.9	C	EB	LR	0.38	31.3	C	EB	LR	0.97	89.6	F *					
Clymer Street	WB	L	0.55	35.8	D	WB	L	0.61	37.8	D	WB	L	0.75	44.8	D					
	WB	TR	0.56	35.2	D	WB	TR	0.50	34.9	C	WB	TR	0.74	45.5	D					
	NB	LR	0.09	6.6	A	NB	LR	0.06	6.4	A	NB	LR	0.02	6.2	A					
	NB	T	0.29	8.2	A	NB	T	0.30	8.3	A	NB	T	0.42	9.5	A					
Wythe Avenue @	WB	LT	0.66	34.9	C	WB	LT	0.61	32.8	C	WB	LT	0.80	42.8	D					
Clymer Street	WB	R	0.13	23.8	C	WB	R	0.07	22.9	C	WB	R	0.15	23.8	C					
	NB	LT	0.23	15.0	B	NB	LT	0.15	13.9	B	NB	LT	0.10	13.3	B					
	SB	T	0.35	15.8	B	SB	T	0.45	17.1	B	SB	T	0.49	17.9	B					
	SB	R	0.34	16.3	B	SB	R	0.23	14.6	B	SB	R	0.53	19.8	B					
Kent Avenue @	WB	LR	0.29	27.5	C	WB	LTR	0.11	24.8	C	WB	LTR	0.54	33.0	C					
Wilson Street	NB	T	0.36	9.7	A	NB	LT	0.32	9.4	A	NB	LT	0.39	10.1	B					
	SB	T	0.25	8.6	A	SB	TR	0.24	8.5	A	SB	TR	0.28	8.8	A					
Wythe Avenue @	EB	LTR	0.25	29.4	C	EB	LTR	0.20	28.0	C	EB	LTR	0.27	29.1	C					
Ross Street	NB	TR	0.20	7.0	A	NB	TR	0.14	6.6	A	NB	TR	0.13	6.6	A					
	SB	LT	0.37	8.6	A	SB	LT	0.43	9.2	A	SB	LT	0.41	8.9	A					
Wythe Avenue @	EB	LR	0.19	20.0	C	EB	LR	0.19	15.9	B	EB	LR	0.24	20.7	C					
Keap Street	NB	T	0.21	20.2	C	NB	T	0.18	15.6	B	NB	T	0.11	18.8	B					
	SB	T	0.50	25.4	C	SB	T	0.64	24.2	C	SB	T	0.59	27.9	C					
Kent Avenue @	WB	LR	0.09	12.7	B	WB	LR	0.02	14.1	B	WB	LR	0.07	12.6	B					
Hooper Street	NB	T	0.62	16.5	B	NB	T	0.66	24.9	C	NB	T	0.79	22.3	C					
	SB	T	0.40	12.2	B	SB	T	0.37	18.1	B	SB	T	0.55	14.4	B					
Wythe Avenue @	WB	LTR	0.68	15.2	B	WB	LTR	0.68	13.9	B	WB	LTR	0.64	14.1	B					
Williamsburg St W.	SB	T	0.54	42.0	D	SB	T	0.57	32.2	C	SB	T	0.60	43.3	D					
	SB	R	0.26	36.3	D	SB	R	0.45	30.6	C	SB	R	0.53	43.0	D					
Wythe Avenue @	EB	TR	0.60	35.7	D	EB	TR	0.53	26.0	C	EB	TR	0.60	35.4	D					
Williamsburg St E.	SB	L	0.37	14.7	B	SB	L	0.29	11.6	B	SB	L	0.23	12.7	B					
	SB	LT	0.33	13.8	B	SB	LT	0.39	12.6	B	SB	LT	0.35	14.0	B					
Unsignalized Intersections																				
Wythe Avenue @ Wilson Street	NB	LT	0.01	8.8	A	NB	LT	0.00	9.1	A	NB	LT	0.01	9.4	A					
Kent Avenue @ Rodney Street	WB	R	0.07	11.0	B	WB	R	0.04	11.3	B	WB	R	0.08	13.5	B					
Wythe Avenue @ Rodney Street	NB	LT	0.02	8.6	A	NB	LT	0.02	13.1	B	NB	LT	0.03	15.7	C					
Wythe Avenue @ Taylor Street	EB	LR	0.02	12.1	B	EB	LR	0.01	11.4	B	EB	LR	0.01	12.4	B					
Kent Avenue @ Keap Street	SB	LT	0.05	8.9	A	SB	LT	0.02	9.0	A	SB	LT	0.09	9.9	A					
Wythe Avenue @ Hooper Street	NB	LT	0.04	13.2	B	NB	LT	0.03	15.8	C	NB	LT	0.02	18.3	C					
Kent Avenue @ Hewes Street	WB	R	0.06	10.3	B	WB	R	0.01	10.3	B	WB	R	0.01	11.7	B					

Notes:

EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

L - Left, T - Through, R - Right

* - Denotes a congested movement

No-Action Weekday AM/MD/PM Traffic Volumes

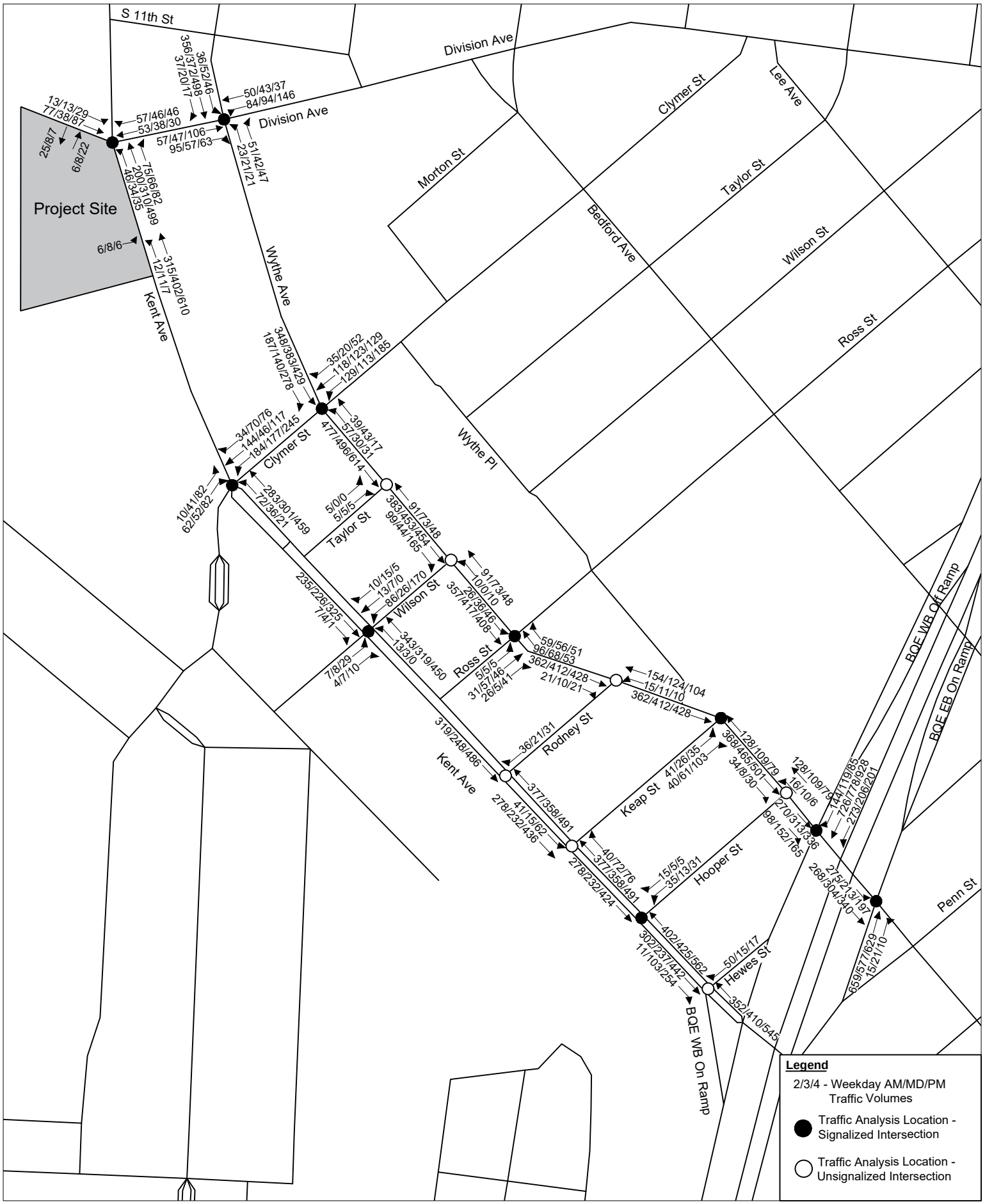


Figure 12-7B
No-Action Saturday Traffic Volumes

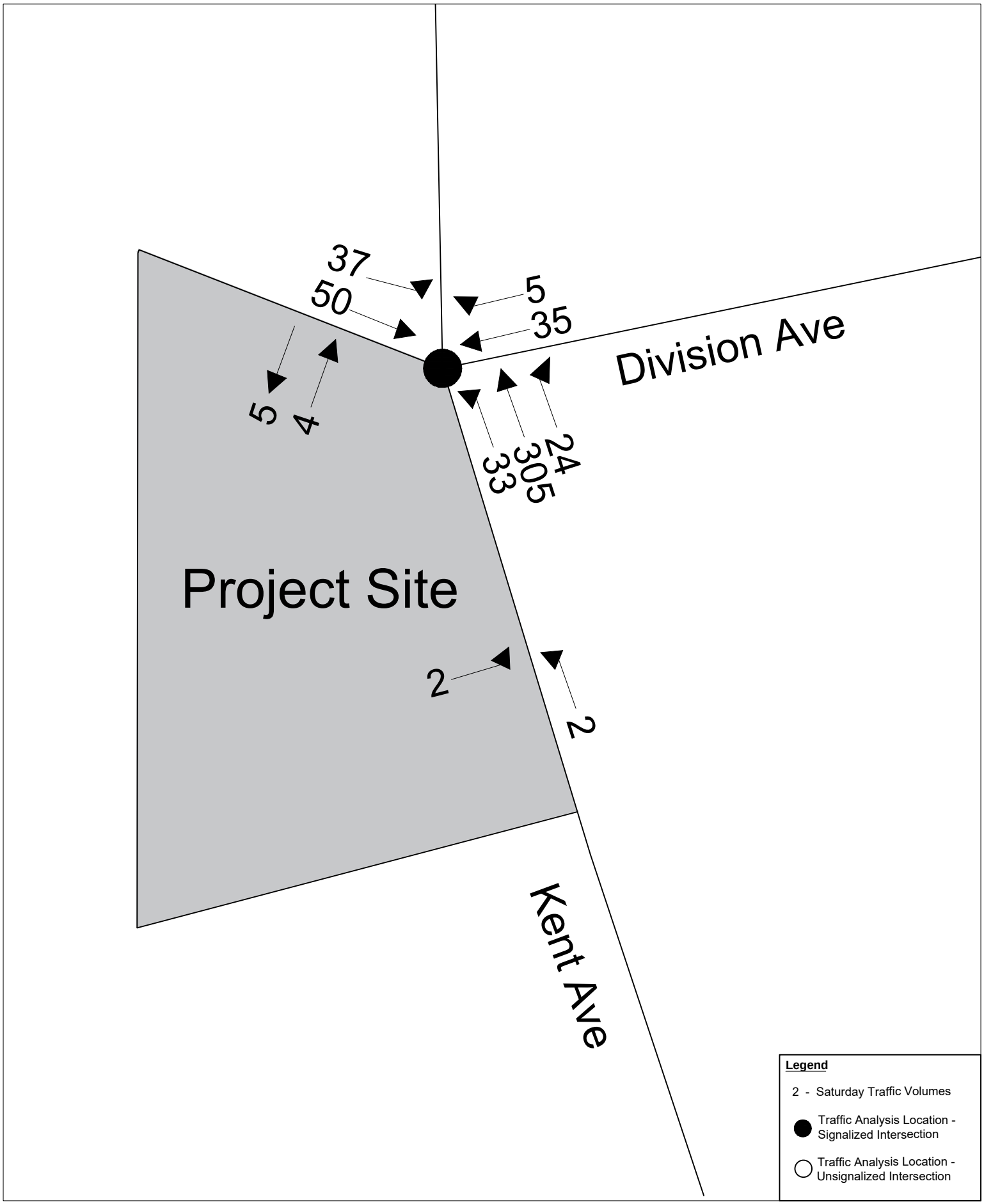


TABLE 12-20

NO-ACTION INTERSECTION LEVEL OF SERVICE ANALYSIS

Intersections	Existing AM Peak Hour					No-Action AM Peak Hour					Existing MD Peak Hour					No-Action MD Peak Hour					Existing PM Peak Hour					No-Action PM Peak Hour					Existing SAT Peak Hour					No-Action SAT Peak Hour				
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
Signalized Intersections																																						
Kent Avenue @	EB	LT	0.06	26.3	C	EB	LT	0.27	29.0	C	EB	LT	0.03	26.1	C	EB	LT	0.18	28.1	C	EB	LT	0.12	27.1	C	EB	LT	0.36	30.6	C	EB	LT	0.10	26.9	C	EB	LT	0.30	29.8	C
Division Avenue	WB	TR	0.29	29.8	C	WB	TR	0.41	32.4	C	WB	TR	0.22	28.6	C	WB	TR	0.33	30.8	C	WB	TR	0.16	27.7	C	WB	TR	0.28	29.7	C	WB	TR	0.03	26.0	C	WB	TR	0.11	27.0	C
	NB	L	0.03	5.9	A	NB	L	0.09	6.3	A	NB	L	0.02	5.8	A	NB	L	0.07	6.2	A	NB	L	0.01	5.7	A	NB	L	0.09	6.3	A	NB	L	0.01	5.7	A	NB	L	0.05	6.0	A
	NB	TR	0.30	7.9	A	NB	TR	0.35	8.4	A	NB	TR	0.43	9.4	A	NB	TR	0.50	10.4	B	NB	TR	0.59	11.8	B	NB	TR	0.69	14.4	B	NB	TR	0.33	8.1	A	NB	TR	0.36	8.5	A
Wythe Avenue @	EB	TR	0.20	21.6	C	EB	TR	0.37	21.8	C	EB	TR	0.16	21.2	C	EB	TR	0.29	20.6	C	EB	TR	0.20	21.6	C	EB	TR	0.39	21.9	C									
Division Avenue	WB	LT	0.34	24.2	C	WB	LT	0.40	22.9	C	WB	LT	0.38	25.0	C	WB	LT	0.44	23.9	C	WB	LT	0.55	30.0	C	WB	LT	0.75	39.9	D									
	NB	LR	0.19	11.5	B	NB	LR	0.20	13.5	B	NB	LR	0.15	10.9	B	NB	LR	0.20	13.7	B	NB	LR	0.18	11.3	B	NB	LR	0.22	14.0	B									
	SB	LTR	0.53	15.4	B	SB	LTR	0.65	20.9	C	SB	LTR	0.49	14.6	B	SB	LTR	0.57	18.6	B	SB	LTR	0.66	18.3	B	SB	LTR	0.76	24.6	C									
Kent Avenue @	EB	LR	0.31	29.9	C	EB	LR	0.33	30.6	C	EB	LR	0.38	31.3	C	EB	LR	0.42	32.7	C	EB	LR	0.97	89.6	F *	EB	LR	1.10	130.2	F *									
Clymer Street	WB	L	0.55	35.8	D	WB	L	0.53	34.3	C	WB	L	0.61	37.8	D	WB	L	0.57	35.5	D	WB	L	0.75	44.8	D	WB	L	0.71	40.7	D									
	WB	TR	0.56	35.2	D	WB	TR	0.55	34.7	C	WB	TR	0.50	34.9	C	WB	TR	0.51	35.0	C	WB	TR	0.74	45.5	D	WB	TR	0.76	46.6	D									
	NB	LR	0.09	6.6	A	NB	LR	0.10	6.7	A	NB	LR	0.06	6.4	A	NB	LR	0.06	6.4	A	NB	LR	0.02	6.2	A	NB	LR	0.03	6.2	A									
	NB	T	0.29	8.2	A	NB	T	0.36	8.9	A	NB	T	0.30	8.3	A	NB	T	0.35	8.8	A	NB	T	0.42	9.5	A	NB	T	0.51	10.7	B									
Wythe Avenue @	WB	LT	0.66	34.9	C	WB	LT	0.69	36.6	D	WB	LT	0.61	32.8	C	WB	LT	0.64	34.1	C	WB	LT	0.80	42.8	D	WB	LT	0.86	48.4	D									
Clymer Street	WB	R	0.13	23.8	C	WB	R	0.14	24.0	C	WB	R	0.07	22.9	C	WB	R	0.07	23.0	C	WB	R	0.15	23.8	C	WB	R	0.16	24.1	C									
	NB	LT	0.23	15.0	B	NB	LT	0.28	15.9	B	NB	LT	0.15	13.9	B	NB	LT	0.17	14.1	B	NB	LT	0.10	13.3	B	NB	LT	0.12	13.6	B									
	SB	T	0.35	15.8	B	SB	T	0.43	17.0	B	SB	T	0.45	17.1	B	SB	T	0.48	17.6	B	SB	T	0.49	17.9	B	SB	T	0.57	19.4	B									
	SB	R	0.34	16.3	B	SB	R	0.40	17.2	B	SB	R	0.23	14.6	B	SB	R	0.27	15.1	B	SB	R	0.53	19.8	B	SB	R	0.59	21.4	C									
Kent Avenue @						EB	LR	0.03	23.8	C						EB	LR	0.05	24.0	C						EB	LR	0.14	25.3	C									
Wilson Street	WB	LR	0.29	27.5	C	WB	LTR	0.34	28.4	C	WB	LR	0.11	24.8	C	WB	LTR	0.15	25.2	C	WB	LR	0.54	33.0	C	WB	LTR	0.57	34.1	C									
	NB	T	0.36	9.7	A	NB	LT	0.44	10.7	B	NB	T	0.32	9.4	A	NB	LT	0.37	9.9	A	NB	T	0.39	10.1	B	NB	LT	0.44	10.7	B									
	SB	T	0.25	8.6	A	SB	TR	0.27	8.8	A	SB	T	0.24	8.5	A	SB	TR	0.26	8.6	A	SB	T	0.28	8.8	A	SB	TR	0.30	9.0	A									
Wythe Avenue @	EB	LTR	0.25	29.4	C	EB	LTR	0.26	29.5	C	EB	LTR	0.20	28.0	C	EB	LTR	0.20	28.1	C	EB	LTR	0.27	29.1	C	EB	LTR	0.28	29.2	C									
Ross Street	NB	TR	0.20	7.0	A	NB	TR	0.22	7.2	A	NB	TR	0.14	6.6	A	NB	TR	0.16	6.7	A	NB	TR	0.13	6.6	A	NB	TR	0.15	6.6	A									
	SB	LT	0.37	8.6	A	SB	LT	0.43	9.2	A	SB	LT	0.43	9.2	A	SB	LT	0.47	9.7	A	SB	LT	0.41	8.9	A	SB	LT	0.46	9.5	A									
Wythe Avenue @	EB	LR	0.19	20.0	C	EB	LR	0.19	20.1	C	EB	LR	0.19	15.9	B	EB	LR	0.19	15.9	B	EB	LR	0.24	20.7	C	EB	LR	0.25	20.8	C									
Keap Street	NB	T	0.21	20.2	C	NB	T	0.23	20.5	C	NB	T	0.18	15.6	B	NB	T	0.19	15.8	B	NB	T	0.11	18.8	B	NB	T	0.12	19.0	B									
	SB	T	0.50	25.4	C	SB	T	0.58	27.6	C	SB	T	0.64	24.2	C	SB	T	0.71	26.5	C	SB	T	0.59	27.9	C	SB	T	0.68	30.9	C									
Kent Avenue @	WB	LR	0.09	12.7	B	WB	LR	0.10	12.8	B	WB	LR	0.02	14.1	B	WB	LR	0.03	14.2	B	WB	LR	0.07	12.6	B	WB	LR	0.08	12.7	B									
Hooper Street	NB	T	0.62	16.5	B	NB	T	0.74	20.3	C	NB	T	0.66	24.9	C	NB	T	0.73	28.0	C	NB	T	0.79	22.3	C	NB	T	0.87	28.3	C									
	SB	T	0.40	12.2	B	SB	T	0.44	12.7	B	SB	T	0.37	18.1	B	SB	T	0.41	18.7	B	SB	T	0.55	14.4	B	SB	T	0.60	15.4	B									
Wythe Avenue @	WB	LTR	0.68	15.2	B	WB	LTR	0.71	16.2	B	WB	LTR	0.68	13.9	B	WB	LTR	0.72	14.6	B	WB	LTR	0.64	14.1	B	WB	LTR	0.67	14.8	B									
Williamsburg St W.	SB	T	0.54	42.0	D	SB	T	0.64	45.1	D	SB	T	0.57	32.2	C	SB	T	0.63	33.8	C	SB	T	0.60	43.3	D	SB	T	0.68	46.3	D									
	SB	R	0.26	36.3	D	SB	R	0.30	37.1	D	SB	R	0.45	30.6	C	SB	R	0.51	32.4	C	SB	R	0.53	43.0	D	SB	R	0.62	46.9	D									
Wythe Avenue @	EB	TR	0.60	35.7	D	EB	TR	0.62	36.1	D	EB	TR	0.53	26.0	C	EB	TR	0.55	26.3	C	EB	TR	0.60	35.4	D	EB	TR	0.61	35.8	D									
Williamsburg St E.	SB	L	0.37	14.7	B	SB	L	0.42	15.4	B	SB	L	0.29	11.6	B	SB	L	0.32	11.9	B	SB	L	0.23	12.7	B	SB	L	0.27	13.1	B									
	SB	LT	0.33	13.8	B	SB	LT	0.35	14.1	B	SB	LT	0.39	12.6	B	SB	LT	0.41	12.9	B	SB	LT	0.35	14.0	B	SB	LT	0.37	14.3	B									
Unsignalized Intersections																																						
Wythe Avenue @ Wilson Street	NB	LT	0.01	8.8	A	NB	LT	0.01	9.4	A	NB	LT	0.00	9.1	A	NB	LT	0.00	9.7	A	NB	LT	0.01	9.4	A	NB	LT	0.02	0.0	A									
Kent Avenue @ Rodney Street	WB	R	0.07	11.0	B	WB	R	0.07	11.4	B	WB	R	0.04	11.3	B	WB	R	0.05	11.7	B	WB	R	0.08	13.5	B	WB	R	0.09	0.0	A									
Wythe Avenue @ Rodney Street	NB	LT	0.02	8.6	A	NB	LT	0.02	9.0	A	NB	LT	0.02	13.1	B	NB	LT	0.03	14.8	B	NB	LT	0.03	15.7	C	NB	LT	0.04	0.0	A									
Wythe Avenue @ Taylor Street	EB	LR	0.02	12.1	B	EB	LR	0.03	13.0	B	EB	LR	0.01	11.4	B	EB	LR	0.01	11.9	B	EB	LR	0.01	12.4	B	EB	LR	0.01	0.0	A									
Kent Avenue @ Keap Street	SB	LT	0.05	8.9	A	SB	LT	0.06	9.2	A	SB	LT	0.02	9.0	A	SB	LT	0.02	9.2	A	SB	LT	0.09	9.9	A	SB	LT	0.10	0.0	A									
Wythe Avenue @ Hooper Street	NB	LT	0.04	13.2	B	NB	LT	0.05	15.1	C	NB	LT	0.03	15.8	C	NB	LT	0.04	18.8	C	NB	LT	0.02	18.3	C	NB	LT	0.03	0.0	A									
Kent Avenue @ Hewes Street	WB	R	0.06	10.3	B	WB	R	0.09	10.7	B	WB	R	0.01	10.3	B	WB	R	0.03	10.2	B	WB	R	0.01	11.7	B	WB	R	0.04	0.0	A									

Notes:

EB - Eastbound, WB - Westbound, NB - Northbound, SB - Southbound

L - Left, T - Through, R - Right

* - Denotes a congested movement

signalized intersections would have at least one congested lane group in one or more peak hours in the No-Action condition, same as under existing conditions. The congested intersection is located along the Kent Avenue corridor (same as under existing conditions). One intersection would have one lane group operating at or over capacity (v/c $\geq$ 1.0) in the weekday PM peak hour (versus none under existing conditions).

The Future with the Proposed Action (With-Action Condition)

Future With-Action Traffic Growth

As shown in **Table 12-7**, based on projected development associated with the Proposed Action, there would be a net total of approximately 200, 45, 176, and 81 vehicle (auto, taxi, and truck) trips in the weekday AM, midday, and PM peak hours, and Saturday peak hour, respectively. **Figures 12-4A and 12-4B** shows the assignment of incremental vehicle trips (auto, taxi, and truck) generated during the each analyzed peak hour under the Proposed Action. **Figures 12-8A and 12-8B** show the total traffic volumes at the 17 analyzed intersections for the 2026 future with the Proposed Action. The volumes shown are the combination of the net incremental traffic generated by the Proposed Action and the No-Action condition volumes.

Intersection Capacity Analysis

The peak hour v/c ratios, delays, and LOS for lane groups at analyzed intersections under the With-Action condition are shown in **Table 12-21**. Lane groups with significant adverse impacts are identified. As shown in **Table 12-21**, a total of four analyzed signalized intersections would have at least one congested lane group in one or more peak hour in the With-Action condition, as compared to one intersection under the No-Action condition. Significant adverse impacts were identified to three lane groups at two intersections in the PM peak hour. Potential measures to mitigate the significant adverse traffic impacts identified in **Table 12-21** are discussed in **Chapter 19, "Mitigation."**

H. TRANSIT

Existing Conditions

Subway Stations

As discussed above in Section E, "Level 2 Screening Assessment," the Proposed Action is expected to exceed the 200-trip *CEQR Technical Manual* threshold for a subway station analysis in both the weekday AM and PM peak hours at the Marcy Avenue station served by J, M, and Z trains operating on the Nassau Street Express, Queens Boulevard Local/6 Avenue Local/Myrtle Avenue Local, and Nassau Street Local Lines, respectively. The Marcy Avenue station is an elevated station with two side platforms. As shown in **Figure 12-9**, there are station entrances/exits and control areas located at the intersections of Broadway/Havemeyer Street and Broadway/Marcy Avenue. As the entrances adjacent to the Broadway/Havemeyer Street intersection are closer to the Project Site, all project generated subway trips at the Marcy Avenue station were assigned to these entrances/control areas.

500 Kent Avenue **Figure 12-8A**

With-Action Weekday AM/MD/PM Traffic Volumes



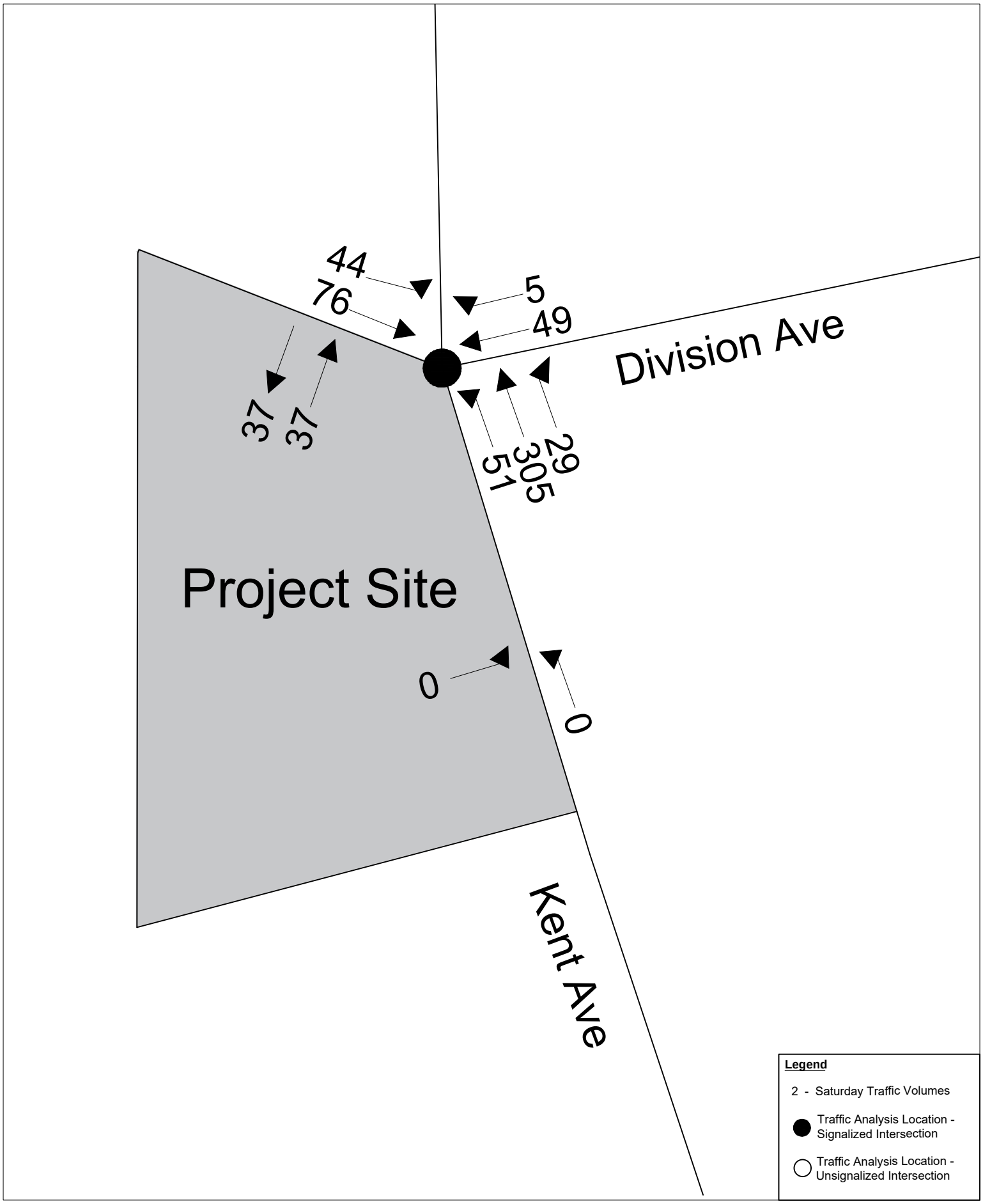

44
76
5
49
37
37
29
305
51
Division Ave
Project Site
0
0
Kent Ave
Legend
2 - Saturday Traffic Volumes
Traffic Analysis Location - Signalized Intersection
Traffic Analysis Location - Unsignalized Intersection

TABLE 12-21
WITH-ACTION INTERSECTION LEVEL OF SERVICE ANALYSIS

Signalized Intersections	No-Action AM Peak Hour					With-Action AM Peak Hour					No-Action MD Peak Hour					With-Action MD Peak Hour					No-Action PM Peak Hour					With-Action PM Peak Hour					No-Action SAT Peak Hour					With-Action SAT Peak Hour				
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
Signalized Intersections																																						
Kent Avenue @	EB	LT	0.27	29.0	C	EB	LT	0.34	30.3	C	EB	LT	0.18	28.1	C	EB	LT	0.26	29.4	C	EB	LT	0.36	30.6	C	EB	LT	0.72	42.8	D	EB	LT	0.30	29.8	C	EB	LT	0.45	33.1	C
Division Avenue	WB	TR	0.41	32.4	C	WB	TR	0.65	40.3	D	WB	TR	0.33	30.8	C	WB	TR	0.45	34.9	C	WB	TR	0.28	29.7	C	WB	TR	0.40	32.5	C	WB	TR	0.11	27.0	C	WB	TR	0.16	27.5	C
	NB	L	0.09	6.3	A	NB	L	0.28	8.7	A	NB	L	0.07	6.2	A	NB	L	0.12	6.8	A	NB	L	0.09	6.3	A	NB	L	0.15	7.1	A	NB	L	0.05	6.0	A	NB	L	0.11	6.5	A
	NB	TR	0.35	8.4	A	NB	TR	0.41	9.2	A	NB	TR	0.50	10.4	B	NB	TR	0.51	10.7	B	NB	TR	0.69	14.4	B	NB	TR	0.73	15.9	B	NB	TR	0.36	8.5	A	NB	TR	0.37	8.6	A
Wythe Avenue @	EB	TR	0.37	21.8	C	EB	TR	0.61	29.3	C	EB	TR	0.29	20.6	C	EB	TR	0.43	23.8	C	EB	TR	0.39	21.9	C	EB	TR	0.75	34.7	C									
Division Avenue	WB	LT	0.40	22.9	C	WB	LT	0.59	29.4	C	WB	LT	0.44	23.9	C	WB	LT	0.55	28.0	C	WB	LT	0.75	39.9	D	WB	LT	1.08	111.5	F *									
	NB	LR	0.20	13.5	B	NB	LR	0.34	16.4	B	NB	LR	0.20	13.7	B	NB	LR	0.20	13.7	B	NB	LR	0.22	14.0	B	NB	LR	0.24	14.5	B									
	SB	LTR	0.65	20.9	C	SB	LTR	0.69	22.0	C	SB	LTR	0.57	18.6	B	SB	LTR	0.58	18.8	B	SB	LTR	0.76	24.6	C	SB	LTR	0.79	26.0	C									
Kent Avenue @	EB	LR	0.33	30.6	C	EB	LR	0.36	31.6	C	EB	LR	0.42	32.7	C	EB	LR	0.50	36.3	D	EB	LR	1.10	130.2	F	EB	LR	1.31	213.8	F *									
Clymer Street	WB	L	0.53	34.3	C	WB	L	0.58	36.3	D	WB	L	0.57	35.5	D	WB	L	0.69	41.7	D	WB	L	0.71	40.7	D	WB	L	0.81	49.2	D									
	WB	TR	0.55	34.7	C	WB	TR	0.72	43.2	D	WB	TR	0.51	35.0	C	WB	TR	0.60	40.1	D	WB	TR	0.76	46.6	D	WB	TR	0.94	74.2	E *									
	NB	LR	0.1	6.7	A	NB	LR	0.10	6.7	A	NB	LR	0.06	6.4	A	NB	LR	0.06	6.4	A	NB	LR	0.03	6.2	A	NB	LR	0.03	6.2	A									
	NB	T	0.36	8.9	A	NB	T	0.44	9.8	A	NB	T	0.35	8.8	A	NB	T	0.36	9.0	A	NB	T	0.51	10.7	B	NB	T	0.53	11.1	B									
Wythe Avenue @	WB	LT	0.69	36.6	D	WB	LT	0.71	37.9	D	WB	LT	0.64	34.1	C	WB	LT	0.69	36.4	D	WB	LT	0.86	48.4	D	WB	LT	0.90	54.6	D									
Clymer Street	WB	R	0.14	24.0	C	WB	R	0.20	25.5	C	WB	R	0.07	23.0	C	WB	R	0.09	23.3	C	WB	R	0.16	24.1	C	WB	R	0.19	24.6	C									
	NB	LT	0.28	15.9	B	NB	LT	0.37	17.5	B	NB	LT	0.17	14.1	B	NB	LT	0.18	14.2	B	NB	LT	0.12	13.6	B	NB	LT	0.16	14.0	B									
	SB	T	0.43	17.0	B	SB	T	0.47	17.6	B	SB	T	0.48	17.6	B	SB	T	0.50	17.9	B	SB	T	0.57	19.4	B	SB	T	0.65	21.4	C									
	SB	R	0.40	17.2	B	SB	R	0.45	18.4	B	SB	R	0.27	15.1	B	SB	R	0.30	15.6	B	SB	R	0.59	21.4	C	SB	R	0.67	24.3	C									
Kent Avenue @	EB	LR	0.03	23.8	C	EB	LR	0.03	23.8	C	EB	LR	0.05	24.0	C	EB	LR	0.05	24.0	C	EB	LR	0.14	25.3	C	EB	LR	0.14	25.3	C									
Wilson Street	WB	LTR	0.34	28.4	C	WB	LTR	0.36	28.6	C	WB	LTR	0.15	25.2	C	WB	LTR	0.16	25.4	C	WB	LTR	0.57	34.1	C	WB	LTR	0.60	35.0	C									
	NB	LT	0.44	10.7	B	NB	LT	0.51	11.8	B	NB	LT	0.37	9.9	A	NB	LT	0.38	10.1	B	NB	LT	0.44	10.7	B	NB	LT	0.47	11.0	B									
	SB	TR	0.27	8.8	A	SB	TR	0.28	8.8	A	SB	TR	0.26	8.6	A	SB	TR	0.26	8.6	A	SB	TR	0.30	9.0	A	SB	TR	0.31	9.0	A									
Wythe Avenue @	EB	LTR	0.26	29.5	C	EB	LTR	0.26	29.5	C	EB	LTR	0.20	28.1	C	EB	LTR	0.20	28.1	C	EB	LTR	0.28	29.2	C	EB	LTR	0.28	29.2	C									
Ross Street	NB	TR	0.22	7.2	A	NB	TR	0.24	7.4	A	NB	TR	0.16	6.7	A	NB	TR	0.16	6.7	A	NB	TR	0.15	6.6	A	NB	TR	0.16	6.7	A									
	SB	LT	0.43	9.2	A	SB	LT	0.46	9.6	A	SB	LT	0.47	9.7	A	SB	LT	0.48	9.8	A	SB	LT	0.46	9.5	A	SB	LT	0.51	10.2	B									
Wythe Avenue @	EB	LR	0.19	20.1	C	EB	LR	0.19	20.1	C	EB	LR	0.19	15.9	B	EB	LR	0.19	15.9	B	EB	LR	0.25	20.8	C	EB	LR	0.25	20.8	C									
Keap Street	NB	T	0.23	20.5	C	NB	T	0.27	21.1	C	NB	T	0.19	15.8	B	NB	T	0.20	15.9	B	NB	T	0.12	19.0	B	NB	T	0.14	19.1	B									
	SB	T	0.58	27.6	C	SB	T	0.62	28.9	C	SB	T	0.71	26.5	C	SB	T	0.73	27.3	C	SB	T	0.68	30.9	C	SB	T	0.76	34.9	C									
Kent Avenue @	WB	LR	0.10	12.8	B	WB	LR	0.10	12.9	B	WB	LR	0.03	14.2	B	WB	LR	0.03	14.2	B	WB	LR	0.08	12.7	B	WB	LR	0.10	12.8	B									
Hooper Street	NB	T	0.74	20.3	C	NB	T	0.85	27.2	C	NB	T	0.73	28.0	C	NB	T	0.75	28.9	C	NB	T	0.87	28.3	C	NB	T	0.90	31.9	C									
	SB	T	0.44	12.7	B	SB	T	0.45	12.9	B	SB	T	0.41	18.7	B	SB	T	0.41	18.8	B	SB	T	0.60	15.4	B	SB	T	0.62	15.9	B									
Wythe Avenue @	WB	LTR	0.71	16.2	B	WB	LTR	0.74	17.0	B	WB	LTR	0.72	14.6	B	WB	LTR	0.72	14.8	B	WB	LTR	0.67	14.8	B	WB	LTR	0.67	15.0	B									
Williamsburg St W.	SB	T	0.64	45.1	D	SB	T	0.68	47.1	D	SB	T	0.63	33.8	C	SB	T	0.64	34.1	C	SB	T	0.68	46.3	D	SB	T	0.76	50.4	D									
	SB	R	0.30	37.1	D	SB	R	0.32	37.8	D	SB	R	0.51	32.4	C	SB	R	0.63	38.1	D	SB	R	0.62	46.9	D	SB	R	0.73	54.9	D									
Wythe Avenue @	EB	TR	0.62	36.1	D	EB	TR	0.62	36.1	D	EB	TR	0.55	26.3	C	EB	TR	0.55	26.3	C	EB	TR	0.61	35.8	D	EB	TR	0.61	35.8	D									
Williamsburg St E.	SB	L	0.42	15.4	B	SB	L	0.45	15.9	B	SB	L	0.32	11.9	B	SB	L	0.33	11.9	B	SB	L	0.27	13.1	B	SB	L	0.31	13.6	B									
	SB	LT	0.35	14.1	B	SB	LT	0.36	14.2	B	SB	LT	0.41	12.9	B	SB	LT	0.41	12.9	B	SB	LT	0.37	14.3	B	SB	LT	0.38	14.5	B									
Unsignalized Intersections																																						
Wythe Avenue @	NB	LT	0.01	9.4	A	NB	LT	0.02	9.9	A	NB	LT	0.00	9.7	A	NB	LT	0.00	10.7	B	NB	LT	0.02	10.2	B	NB	LT	0.02	11.4	B									
Wilson Street																																						
Kent Avenue @	WB	R	0.07	11.4	B	WB	R	0.08	12.0	B	WB	R	0.05	11.7	B	WB	R	0.05	11.8	B	WB	R	0.09	14.4	B	WB	R	0.09	14.8	B									
Rodney Street																																						
Wythe Avenue @	NB	LT	0.02	9.0	A	NB	LT	0.02	9.6	A	NB	LT	0.03	14.8	B	NB	LT	0.05	18.8	C	NB	LT	0.04	19.1	C	NB	LT	0.04	16.3	C									
Rodney Street																																						
Wythe Avenue @	EB	LR	0.03	13.0	B	EB	LR	0.03	13.6	B	EB	LR	0.01	11.9	B	EB	LR	0.01	8.9	A	EB	LR	0.01	13.3	B	EB	LR	0.02	14.3	B									
Taylor Street																																						
Kent Avenue @	SB	LT	0.06	9.2	A	SB	LT	0.06	9.5	A	SB	LT	0.02	9.2	A	SB	LT	0.02	9.2	A	SB	LT	0.10	10.3	B	SB	LT	0.10	10.5	B									
Keap Street																																						
Wythe Avenue @	NB	LT	0.05	15.1	C	NB	LT	0.06	17.0	C	NB	LT	0.04	18.8	C	NB	LT	0.07	26.2	D	NB	LT	0.03	23.5	C	NB	LT	0.04	26.9	D									
Hooper Street																																						
Kent Avenue @	WB	R	0.09	10.7	B	WB	R	0.13	11.5	B	WB	R	0.03	10.2	B	WB	R	0.03	10.3	B	WB	R	0.04	12.4	B	WB	R	0.05	12.8	B									
Hewes Street																																						

Notes:

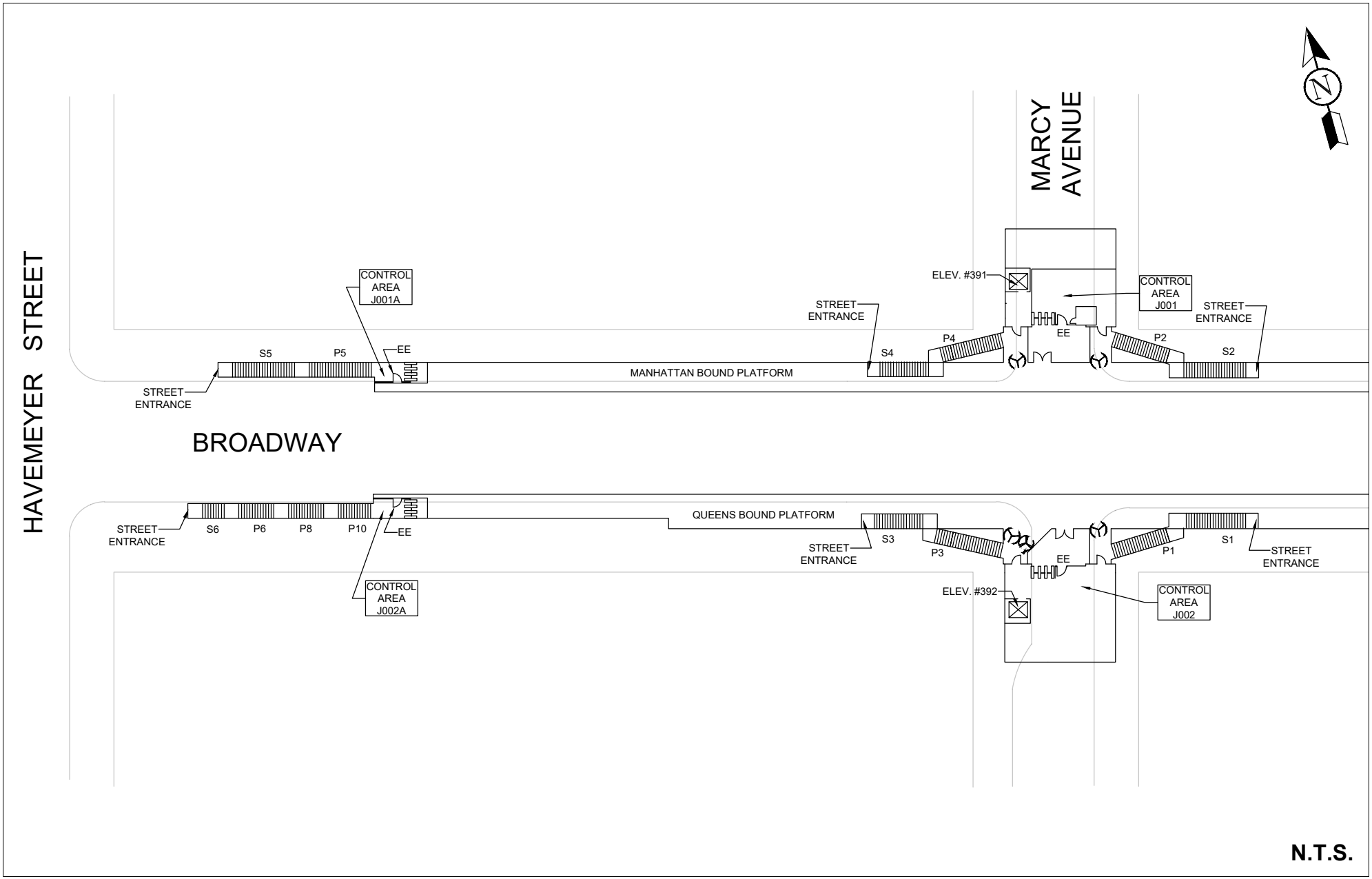
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

L-Left, T-Through, R-Right, DfL-Analysis considers a defacto left-turn lane on this approach

V/C ratio - volume to capacity ratio

LOS - level of service

* - Denotes a significant adverse impact based on CEQR Technical Manual criteria.



Legend

High Capacity Turnstile | High Capacity Turnstile Exit Only | Turnstile | EE = Emergency Exit

500 Kent Avenue

Figure 12-9

Marcy Avenue (J/M/Z) Subway Station Complex

As shown in **Figure 12-9**, at the intersection of Broadway/Havemeyer Street, street stair S5 provides access to platform stair P5, control area J001A, and the Manhattan-bound platform. Along the south sidewalk, street stair S6 provides access to platform stairs P6, P8, and P10, control area J002A, and the Queens-bound platform. Analyzed control areas J001A and J002A both include three turnstiles and an emergency exit. As shown in **Tables 12-22 and 12-23**, all stairs and fare arrays at the Broadway/Havemeyer Street entrances, respectively, currently operate at LOS B or better in both the AM and PM peak hours.

TABLE 12-22:
Existing Conditions Subway Station Stair Analysis

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	Marcy Ave (J/M/Z)	S5/P5	6.67	5.67	1,033	419	1.00	0.75	0.90	0.65	B
		S6/P6/ P8/P10	6.67	5.67	74	201	1.00	0.75	0.90	0.14	A
PM	Marcy Ave (J/M/Z)	S5/P5	6.67	5.67	319	149	1.00	0.75	0.90	0.21	A
		S6/P6/ P8/P10	6.67	5.67	257	572	1.00	0.75	0.90	0.42	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

TABLE 12-23:
Existing Conditions Subway Station Fare Array Analysis

Peak Hour	Station	Control Area	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	Marcy Ave (J/M/Z)	J001A	3	0	0	1,033	419	1.00	0.75	0.90	0.39	A
		J002A	3	0	0	74	201	1.00	0.75	0.90	0.07	A
PM	Marcy Ave (J/M/Z)	J001A	3	0	0	319	149	1.00	0.75	0.90	0.12	A
		J002A	3	0	0	257	572	1.00	0.75	0.90	0.21	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

Bus Service

As discussed above, the Project Area is served by a total of five local bus routes operated by NYCT. These include the B67, B62, B44, B32, and Q59. A brief overview of these local bus services is provided below in **Table 12-24**.

TABLE 12-24:
Bus Routes Serving the Project Site

Route	Operating Agency	Route Endpoints	Corridors Served in Proximity to the Project Site
B67	NYCT	Kensington – Downtown Brooklyn	Kent Av/Wythe Av
B62	NYCT	Queens Plaza – Downtown Brooklyn	Wythe Av/Division Av
B44	NYCT	Sheepshead Bay - Williamsburg	Bedford Av/Lee Av
B32	NYCT	Long Island City - Williamsburg	Kent Av/Wythe Av/Broadway
Q59	NYCT	Rego Park – Williamsburg	Kent Av/Wythe Av/Broadway

As shown in **Tables 12-10 and 12-11**, of the five bus routes operating in proximity to the Project Area, the B62 and B67 bus routes are expected to experience 50 or more new trips in one direction and are therefore analyzed in this EIS. **Table 12-25** shows the existing number of buses and ridership at the maximum load point in each direction for the B62 and B67 local bus routes in the AM and PM peak hours. As shown in **Table 12-25**, the B62 and B67 local bus routes currently operate with available capacity at their maximum load points in both directions during both the AM and PM peak hours.

TABLE 12-25:
Existing Local Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses[1]	Peak Hour Passengers[1]	Average Passengers per Bus	Available Capacity[2]
AM	B62	NB	Mc Guinness Bl & Freeman St	6	231	39	93
		SB	Driggs Av & N 11 St	11	308	28	286
	B67	NB	7 Av & Garfield Pl	6	264	44	60
		SB	7 Av & Union St	6	298	50	26
PM	B62	NB	Bedford Av & N 5 St	6	172	29	152
		SB	Driggs Av & Broadway	6	134	22	190
	B67	NB	7 Av & Garfield Pl	5	164	33	106
		SB	7 Av & 9 St	6	193	32	131

Notes:
[1] Based on most currently available data from NYCT/MTA Bus.
[2] Available capacity based on MTA loading guidelines of 54 passengers per standard bus.

The Future without the Proposed Action (No-Action Condition)

Between 2019 and 2026, it is expected that subway demand in the vicinity of the Project Site will increase due to long-term background growth as well as planned development. In order to forecast future subway conditions without the Proposed Action (the No-Action condition), the developments within a quarter-mile of the Project Site listed in **Table 2-3** in **Chapter 2, "Land Use, Zoning, and Public Policy,"** were considered. The future No-Action traffic volumes also reflect annual background growth rates of 0.50 percent per year for the 2019 through 2024, and 0.25 percent per year for the 2024 through 2026 period. This background growth rates, recommended in the *CEQR Technical Manual* for projects in Brooklyn outside of Downtown Brooklyn, are applied to account for smaller projects and as-of-right developments not reflected in Table 2-3, and general increases in travel demand not attributable to specific development projects.

Subway Stations

Under the No-Action condition, demand at the Marcy Avenue (J,M,Z) subway station is expected to increase as a result of new development and background growth. As shown in **Tables 12-26 and 12-27**, it is expected that in the future No-Action condition, all analyzed stairs and fare arrays, respectively, will continue to operate at LOS C or better in both the AM and PM peak hours.

TABLE 12-26:
No-Action Stair Analysis at Analyzed Subway Stations

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down			
AM	Marcy Ave (J/M/Z)	S5/P5	6.67	5.67	1,129	453	1.00	0.75	0.90	0.71	C
		S6/P6/ P8/P10	6.67	5.67	105	252	1.00	0.75	0.90	0.18	A
PM	Marcy Ave (J/M/Z)	S5/P5	6.67	5.67	382	178	1.00	0.75	0.90	0.25	A
		S6/P6/ P8/P10	6.67	5.67	289	641	1.00	0.75	0.90	0.47	B

Notes:
Methodology based on *CEQR Technical Manual guidance.*

TABLE 12-27:
No-Action Fare Array Analysis at Analyzed Subway Stations

Peak Hour	Station	Fare Array	Control Elements			Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits			
AM	Marcy Ave (J/M/Z)	J001A	3	0	0	1,129	453	1.00	0.75	0.90	0.42	A
		J002A	3	0	0	105	252	1.00	0.75	0.90	0.09	A
PM	Marcy Ave (J/M/Z)	J001A	3	0	0	382	178	1.00	0.75	0.90	0.15	A
		J002A	3	0	0	289	641	1.00	0.75	0.90	0.23	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

Bus Service

Demand on the local bus services operating in the vicinity of the Project Site is expected to increase during the 2019 through 2026 period as a result of background growth as well as demand from new development. As shown in **Table 12-28**, the B62 and B67 local bus routes are expected to continue to operate with available capacity in the both the AM and PM peak hours in the No-Action condition.

TABLE 12-28:
No-Action Local Bus Analysis

Peak Hour[1]	Route	Direction	Maximum Load Point	Peak Hour Passengers[1]	No-Action Conditions with Current Service Levels		
					Peak Hour Buses[1]	Average Passengers per Bus	Available Capacity[2]
AM	B62	NB	Mc Guinness Bl & Freeman St	254	6	42	70
		SB	Driggs Av & N 11 St	333	11	30	261
	B67	NB	7 Av & Garfield Pl	276	6	46	48
		SB	7 Av & Union St	312	6	52	12
PM	B62	NB	Bedford Av & N 5 St	197	6	33	127
		SB	Driggs Av & Broadway	161	6	27	163
	B67	NB	7 Av & Garfield Pl	173	5	35	97
		SB	7 Av & 9 St	201	6	34	123

The Future with the Proposed Action (With-Action Condition)

Subway Stations

As shown in **Table 12-8**, the Proposed Action is expected to generate a net increment of 356 and 303 new subway trips in the weekday AM and PM peak hours, respectively, at the Marcy Avenue (J,M,Z) station. Based on the location of the Marcy Avenue station relative to the Project Area and nearby bus stops, it is anticipated that new project-generated subway trips would utilize the entrances adjacent to the Broadway/Havemeyer Street intersection. **Tables 12-29 and 12-30** show conditions at analyzed stairs and fare arrays at this subway station in the future with the Proposed Action, respectively. As shown in **Tables 12-29 and 12-30**, under the With-Action condition all analyzed elements at the Marcy Avenue (J,M,Z) station would continue to operate at an acceptable LOS C or better in both the AM and PM peak hours. The Proposed Action would therefore not result in significant adverse subway station impacts based on *CEQR Technical Manual* impact criteria.

TABLE 12-29:
With-Action Stair Analysis at Analyzed Subway Stations

Peak Hour	Station	Stair	Total Width (ft.)	Effective Width (ft.)	Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
					Up	Down	Up	Down	Up	Down			
AM	Marcy Ave (J/M/Z)	S5/P5	6.67	5.67	27	99	1,156	552	1.00	0.75	0.90	0.77	C
		S6/P6/ P8/P10	6.67	5.67	13	217	118	469	1.00	0.75	0.90	0.30	A
PM	Marcy Ave (J/M/Z)	S5/P5	6.67	5.67	171	16	553	194	1.00	0.75	0.90	0.33	A
		S6/P6/ P8/P10	6.67	5.67	78	38	367	679	1.00	0.75	0.90	0.52	B

Notes: Methodology based on *CEQR Technical Manual guidance.*

TABLE 12-30:
With-Action Fare Array Analysis at Analyzed Subway Stations

Peak Hour	Station	Fare Array	Control Elements			Project Increment		Peak Hour Volumes		Surging Factor		Friction Factor	V/C Ratio	LOS
			Turnstile	HEET	HXT	System Entries	System Exits	System Entries	System Exits	System Entries	System Exits			
AM	Marcy Ave (J/M/Z)	J001A	3	0	0	27	99	1,156	552	1.00	0.75	0.90	0.45	A
		J002A	3	0	0	13	217	118	469	1.00	0.75	0.90	0.15	A
PM	Marcy Ave (J/M/Z)	J001A	3	0	0	171	16	553	194	1.00	0.75	0.90	0.20	A
		J002A	3	0	0	78	38	367	679	1.00	0.75	0.90	0.26	A

Notes:
Methodology based on *CEQR Technical Manual guidance.*

Bus Service

As shown in **Table 12-7**, the Proposed Project is expected to generate a net increment of approximately 416 and 364 new trips on the local bus services operating in proximity to the Project Site during the weekday AM and PM peak hours, respectively. As shown in **Table 12-31**, demand on the B62 route is expected to increase by approximately 7 northbound and 72 southbound trips at the maximum load points in the AM peak hour and by 66 northbound and 16 southbound trips in the PM. In addition, the B67 route is expected to increase by approximately 3 northbound trips at the maximum load point in the AM and by 1 northbound and 1 southbound trip at the maximum load point in the PM.

As shown in **Table 12-31**, the B62 and B67 local bus routes are expected to continue to operate with available capacity in the both the AM and PM peak hours in the With-Action condition. As such, the B62 and B67 bus routes would not be considered significantly adversely impacted by the Proposed Action under *CEQR Technical Manual* impact criteria.

TABLE 12-31:
With-Action Local Bus Analysis

Peak Hour	Route	Direction	Maximum Load Point	Peak Hour Buses	No-Action Available Capacity[1]	Project Increment	Available Capacity w/Proposed Action[1]
AM	B62	NB	Mc Guinness Bl & Freeman St	6	70	7	63
		SB	Driggs Av & N 11 St	11	261	72	189
	B67	NB	7 Av & Garfield Pl	6	48	3	45
		SB	7 Av & Union St	6	12	0	12
PM	B62	NB	Bedford Av & N 5 St	6	127	66	61
		SB	Driggs Av & Broadway	6	163	16	147
	B67	NB	7 Av & Garfield Pl	5	97	1	96
		SB	7 Av & 9 St	6	123	1	122

Notes:
[1] Available capacity based on MTA loading guidelines of 54 passengers per standard bus.
***** Denotes a significant adverse impact.

I. PEDESTRIANS

Existing Conditions

As discussed previously in Section E, "Level 2 Screening Assessment," the analysis of pedestrian conditions focuses on a total of 22 pedestrian elements where new trips generated by the Proposed Project are expected to exceed the 200-trip *CEQR Technical Manual* analysis threshold in one or more peak hours. As shown in **Figure 12-3**, these elements— six sidewalks, five crosswalks and 11 corner areas—are located in the immediate proximity of the Project Site and along the Kent Avenue and Division Avenue corridors.

Sidewalks

As shown in **Table 12-32**, the highest pedestrian flows on analyzed sidewalks are generally found along Kent Avenue between Division Avenue and Clymer Street, adjacent to the Project Site, and along Division Avenue between Bedford Avenue-Cohen Triangle and Bedford Avenue, to the east of the site. By contrast, the lowest existing pedestrian volumes are found along Division Avenue between Kent Avenue and Wythe Avenue, to the east of the site. Analyzed sidewalks typically range from 10 feet in width (along segments of Division Avenue) to 18 feet (along Kent Avenue). Features present along these sidewalks that reduce the effective width available for pedestrian flow include street furniture such as fire hydrants, tree pits and street lamps.

Table 12-32 shows the existing peak hour pedestrian volumes, average pedestrian space (in sf/ped), and platoon-adjusted LOS at the analyzed sidewalks. As shown in **Table 12-32**, the analyzed sidewalks currently operate at an acceptable LOS C or better in all weekday peak hours.

TABLE 12-32:
Existing Sidewalk Conditions

Location	Sidewalk	Effective Width	Peak Hour Volume			Average Pedestrian Space (ft^2/ped)			Platoon-Adjusted Level of Service		
			AM	MD	PM	AM	MD	PM	AM	MD	PM
Division Ave Btwn Kent Ave & Wythe Ave	North	5.8	13	52	24	4,625.3	1,352.0	2,312.6	A	A	A
Division Ave Btwn Kent Ave & Wythe Ave	South	7.3	17	26	20	4,166.2	3,617.2	4,818.4	A	A	A
Kent Ave Btwn Division Ave & Clymer St (Adjacent to Project Site)	West	4.3	80	108	126	608.6	552.4	462.6	A	A	B
Kent Ave Btwn Division Ave & Clymer St (South of Project Site)	West	3.9	80	108	126	551.0	500.1	418.8	A	B	B
Kent Ave Btwn S. 11th St & Division Ave	West	3.0	90	104	139	385.3	397.4	290.4	B	B	B
Division Ave Btwn Wythe Ave & Bedford Ave	South	3.0	216	493	688	173.5	63.7	46.5	B	C	C

Crosswalks

Study area intersections are a mix of signalized and stop controlled, and the signalized intersections generally include pedestrian signals. High visibility crosswalk striping is present at several intersections. **Table 12-33** shows the peak hour volumes, average pedestrian space (in sf/ped), and LOS at the analyzed crosswalk during the weekday AM, midday, and PM peak hour. As shown in

Table 12-33, all analyzed crosswalks currently operate at an uncongested LOS A in all weekday peak hours.

Corner Areas

Table 12-34 shows the peak hour volumes, average pedestrian space (in sf/ped) and levels of service at analyzed corner areas. As shown in **Table 12-34**, all analyzed corner areas currently operate at an uncongested LOS A in all analyzed peak hours.

TABLE 12-33:
Existing Crosswalk Conditions

Location	Crosswalk	Peak Hour Volume			Average Pedestrian Space (ft^2/ped)			Level of Service		
		AM	MD	PM	AM	MD	PM	AM	MD	PM
Kent Ave & Divison Ave	North	33	27	30	529.6	534.9	523.2	A	A	A
Kent Ave & Divison Ave	South	26	30	32	700.3	786.7	629.0	A	A	A
Kent Ave & Divison Ave	West	88	111	125	584.5	507.8	442.0	A	A	A
Wythe Ave & Division Ave	North	60	50	46	364.8	605.6	561.3	A	A	A
Wythe Ave & Division Ave	South	47	80	69	446.9	231.2	307.3	A	A	A

TABLE 12-34:
Existing Corner Conditions

Location	Corner	Average Pedestrian Space (ft^2/ped)			Level of Service		
		AM	MD	PM	AM	MD	PM
Kent Ave & Division Ave	NE	1,552.6	1,263.5	1,002.8	A	A	A
	SE	2,064.3	1,585.5	1,213.2	A	A	A
	SW	780.7	720.5	596.5	A	A	A
	NW	859.1	832.8	672.9	A	A	A
Wythe Ave & Division Ave	NE	680.5	712.1	697.3	A	A	A
	SE	869.5	639.4	716.4	A	A	A
	SW	1,222.3	1,010.4	1,143.6	A	A	A
	NW	793.4	1,053.8	962.3	A	A	A
Kent Ave & Clymer St	NE	894.4	934.0	451.0	A	A	A
	SW	3,205.7	1,746.3	2,047.2	A	A	A
	NW	339.2	148.9	81.3	A	A	A

The Future without the Proposed Action (No-Action Condition)

Pedestrian volumes along analyzed sidewalks, crosswalks, and corner areas are expected to increase through 2026 as a result of background growth as well as demand from No-Action development projects (see Table **2-3** in **Chapter 2, "Land Use, Zoning, and Public Policy"**). Changes to the study area pedestrian network are anticipated along Kent Avenue in conjunction with NYCDOT Capital Improvements. These changes have been incorporated into the analyses accordingly.

Sidewalks

Table 12-35 shows the No-Action condition peak hour pedestrian volumes, average pedestrian space, and platoon-adjusted LOS at the analyzed sidewalks. As shown in **Table 12-35**, in the future without the Proposed Action, the analyzed sidewalks are expected to operate at an uncongested LOS C or better in all weekday peak hours with the exception of the south sidewalk on Division Avenue between Wythe Avenue and Bedford Avenue which would operate at LOS D during the weekday PM peak hour.

Crosswalks

Table 12-36 shows the peak hour volumes, average pedestrian space, and LOS at the analyzed crosswalk in the No-Action condition. As shown in **Table 12-36**, the analyzed crosswalks are expected to operate at an acceptable LOS A or B in all weekday peak hours in the future without the Proposed Action.

Corner Areas

Table 12-37 shows the peak hour volumes, average pedestrian space, and LOS at analyzed corner areas in the No-Action condition. As shown in **Table 12-37**, all analyzed corner areas are expected to operate at an uncongested LOS A or B in all analyzed peak hours in the future without the Proposed Action.

TABLE 12-35:
No-Action Sidewalk Conditions

Location	Sidewalk	Effective Width	Peak Hour Volume			Average Pedestrian Space (ft^2/ped)			Platoon-Adjusted Level of Service		
			AM	MD	PM	AM	MD	PM	AM	MD	PM
Division Ave Btwn Kent Ave & Wythe Ave	North	5.8	101	131	121	595.2	536.6	458.6	A	A	B
Division Ave Btwn Kent Ave & Wythe Ave	South	7.3	263	253	324	269.1	371.6	297.3	B	B	B
Kent Ave Btwn Division Ave & Clymer St (Adjacent to Project Site)	West	4.3	243	290	326	200.1	205.5	178.5	B	B	B
Kent Ave Btwn Division Ave & Clymer St (South of Project Site)	West	3.9	170	208	256	259.1	259.5	205.9	B	B	B
Kent Ave Btwn S. 11th St & Division Ave	West	3.0	459	270	641	74.9	87.3	62.2	C	C	C
Division Ave Btwn Wythe Ave & Bedford Ave	South	3.0	334	622	856	111.9	50.1	36.9	B	C	D

TABLE 12-36:
No-Action Crosswalk Conditions

Location	Crosswalk	Peak Hour Volume			Average Pedestrian Space (ft^2/ped)			Level of Service		
		AM	MD	PM	AM	MD	PM	AM	MD	PM
Kent Ave & Divison Ave	North	131	115	138	127.9	120.9	108.7	A	A	A
Kent Ave & Divison Ave	South	297	292	378	59.4	79.5	51.1	B	A	B
Kent Ave & Divison Ave	West	440	463	583	107.7	117.5	90.6	A	A	A
Wythe Ave & Division Ave	North	147	122	141	174.2	293.6	219.3	A	A	A
Wythe Ave & Division Ave	South	193	240	282	128.4	88.7	85.2	A	A	A

TABLE 12-37:
No-Action Corner Conditions

Location	Corner	Average Pedestrian Space (ft^2/ped)			Level of Service		
		AM	MD	PM	AM	MD	PM
Kent Ave & Division Ave	NE	687.6	586.4	496.1	A	A	A
	SE	350.7	417.4	271.2	A	A	A
	SW	114.5	135.5	95.4	A	A	A
	NW	183.4	195.3	153.5	A	A	A
Wythe Ave & Division Ave	NE	420.2	512.8	442.7	A	A	A
	SE	465.5	346.9	346.0	A	A	A
	SW	545.0	448.8	452.3	A	A	A
	NW	482.5	684.4	566.8	A	A	A
Kent Ave & Clymer St	NE	615.3	524.9	341.4	A	A	A
	SW	1,986.1	1,018.6	1,216.0	A	A	A
	NW	195.7	79.9	51.8	A	A	B

The Future with the Proposed Action (With-Action Condition)

The Proposed Action would generate new pedestrian demand on analyzed sidewalks, crosswalks, and corner areas by 2026. This new demand would include trips made solely by walking, as well as pedestrian trips en route to and from subway station entrances and bus stops. Pedestrian trips generated by the Proposed Action are expected to be most concentrated in proximity to the Project Site and along corridors connecting the site to area transit services.

As shown in **Table 12-7**, the Proposed Action is expected to generate a net total of approximately 539 incremental walk-only trips in the weekday AM peak hour, 1,246 in the weekday midday peak hour, and 763 in the weekday PM peak hour. Persons walking to and from subway station entrances and bus stops would add approximately 657, 157, and 569 incremental pedestrian trips to

sidewalks and crosswalks in the vicinity of the Project Area during the weekday AM, midday, and PM peak hours, respectively. These pedestrian volumes were added to the projected No-Action condition volumes to generate the With-Action condition pedestrian volumes for analysis.

Anticipated conditions at analyzed sidewalks, crosswalks, and corner areas in the future with the Proposed Action are shown in **Tables 12-38 through 12-40**. As discussed below, in the Future with the Proposed Action, one analyzed corner area, one analyzed crosswalk, and one analyzed sidewalk would be considered significantly adversely impacted in one or more peak hours as a result of the Proposed Action. Potential measures to mitigate these impacts are discussed in **Chapter 19, "Mitigation."**

Sidewalks

Table 12-38 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Action and the total With-Action condition pedestrian volumes, average pedestrian space, and platoon-adjusted LOS at the analyzed sidewalks. It should be noted, that as part of the Proposed Project, the portion of the west sidewalk on Kent Avenue between Division Avenue and Clymer Avenue adjacent to the site would be widened to a width of approximately 39.5 feet (as compared to 11 feet under existing conditions). As such, under With-Action conditions, the effective width along this portion of the sidewalk would be approximately 19.5 feet (as compared to 4.3 feet under existing conditions, refer to **Table 12-38**).

As shown in **Table 12-38**, in the With-Action condition, one analyzed sidewalk would be considered significantly adversely impacted in two peak hours. The south sidewalk on Division Avenue between Wythe Avenue and Bedford Avenue would operate at LOS D during the weekday midday and PM peak hours and would be significantly adversely impacted in both peak hours. Potential measures to mitigate these sidewalk impacts are discussed in **Chapter 19, "Mitigation."**

Crosswalks

Table 12-39 shows the incremental change in peak hour pedestrian volumes attributable to the Proposed Action and the total With-Action condition pedestrian volumes, average pedestrian space, and LOS at the analyzed crosswalk. As shown in **Table 12-39**, in the With-Action condition, one analyzed crosswalk would be considered significantly adversely impacted in one analyzed peak hour based on the *CEQR Technical Manual* impact criteria cited in Section F, "Transportation Analyses Methodologies." The south crosswalk on Kent Avenue at Division Avenue would operate at LOS D in the weekday PM peak hour and would be significantly adversely impacted during this period. Potential measures to mitigate this crosswalk impact is discussed in **Chapter 19, "Mitigation."**

TABLE 12-38:
With-Action Sidewalk Conditions

Location	Sidewalk	Effective Width	No-Action Average Pedestrian Space (ft^2/ped)			No-Action Platoon-Adjusted Level of Service			Project Increment			With-Action Peak Hour Volume			With-Action Average Pedestrian Space (ft^2/ped)			With-Action Platoon-Adjusted Level of Service		
			AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Division Ave Btwn Kent Ave & Wythe Ave	North	5.8	595.2	536.6	458.6	A	A	B	280	282	258	381	413	379	157.5	169.9	146.1	B	B	B
Division Ave Btwn Kent Ave & Wythe Ave	South	7.3	269.1	371.6	297.3	B	B	B	346	431	431	609	684	755	115.8	137.1	127.2	B	B	B
Kent Ave Btwn Division Ave & Clymer St (Adjacent to Project Site)	West	19.5	200.1	205.5	178.5	B	B	B	957	1,152	1,072	1,200	1,442	1,398	182.5	186.1	187.5	B	B	B
Kent Ave Btwn Division Ave & Clymer St (South of Project Site)	West	3.9	259.1	259.5	205.9	B	B	B	239	251	260	409	459	516	107.3	117.2	101.8	B	B	B
Kent Ave Btwn S. 11th St & Division Ave	West	3.0	74.9	87.3	62.2	C	C	C	200	458	228	659	728	869	51.6	55.8	45.3	C	C	C
Division Ave Btwn Wythe Ave & Bedford Ave	South	3.0	111.9	50.1	36.9	B	C	D	194	254	263	528	876	1,119	70.3	34.8	27.4	C	D	D

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

TABLE 12-39:
With-Action Crosswalk Conditions

Location	Crosswalk	No-Action Average Pedestrian Space (ft^2/ped)			No-Action Level of Service			Project Increment			With-Action Peak Hour Volume			With-Action Average Pedestrian Space (ft^2/ped)			With-Action Level of Service		
		AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Kent Ave & Divison Ave	North	127.9	120.9	108.7	A	A	A	380	389	367	511	504	505	30.3	25.8	27.0	C	C	C
Kent Ave & Divison Ave	South	59.4	79.5	51.1	B	A	B	378	506	477	675	798	855	24.4	27.8	21.8	C	C	D
Kent Ave & Divison Ave	West	107.7	117.5	90.6	A	A	A	579	646	595	1,019	1,109	1,178	41.5	46.7	42.8	B	B	B
Wythe Ave & Division Ave	North	174.2	293.6	219.3	A	A	A	232	194	195	379	316	336	66.7	111.3	87.1	A	A	A
Wythe Ave & Division Ave	South	128.4	88.7	85.2	A	A	A	226	429	308	419	669	590	52.1	29.7	36.3	B	C	C

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

Corner Areas

Table 12-40 shows the total With-Action condition pedestrian volumes, average pedestrian space, and LOS at analyzed corner areas. As shown in **Table 12-40**, in the With-Action condition one analyzed corner area would be considered significantly adversely impacted in one analyzed peak hour based on the *CEQR Technical Manual* impact criteria cited in Section F, "Transportation Analyses Methodologies." The northwest corner area at Kent Avenue and Clymer Street would operate at LOS D in the weekday PM peak hour and would be significantly adversely impacted during this period. Potential measures to mitigate this corner area impact is discussed in **Chapter 19, "Mitigation."**

TABLE 12-40:
With-Action Corner Conditions

Location	Corner	No-Action Average Pedestrian Space (ft^2/ped)			No-Action Level of Service			With-Action Average Pedestrian Space (ft^2/ped)			With-Action Level of Service		
		AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Kent Ave & Division Ave	NE	687.6	586.4	496.1	A	A	A	194.5	165.2	179.2	A	A	A
	SE	350.7	417.4	271.2	A	A	A	142.6	163.6	128.4	A	A	A
	SW	114.5	135.5	95.4	A	A	A	47.0	46.9	37.2	B	B	C
	NW	183.4	195.3	153.5	A	A	A	64.5	60.9	59.4	A	A	B
Wythe Ave & Division Ave	NE	420.2	512.8	442.7	A	A	A	206.2	295.2	250.8	A	A	A
	SE	465.5	346.9	346.0	A	A	A	251.0	152.6	196.4	A	A	A
	SW	545.0	448.8	452.3	A	A	A	319.4	196.4	252.3	A	A	A
	NW	482.5	684.4	566.8	A	A	A	228.5	303.3	268.4	A	A	A
Kent Ave & Clymer St	NE	615.3	524.9	341.4	A	A	A	347.5	236.8	220.7	A	A	A
	SW	1986.1	1018.6	1216.0	A	A	A	1,303.0	506.6	793.9	A	A	A
	NW	195.7	79.9	51.8	A	A	B	91.9	28.8	21.5	A	C	D

J. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Recent DOT Initiatives

Vision Zero Brooklyn Pedestrian Safety Action Plan

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 the New York City Police Department (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; they also 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.

The *Vision Zero Brooklyn Pedestrian Safety Action Plan* was released in 2015 and updated in 2019. Bedford Avenue, to the east of the Project Site, was identified as a Priority Corridor. There were no Priority Intersections or Priority Areas identified within the quarter-mile study area. The *Vision Zero Brooklyn Pedestrian Safety Action Plan* recommendations to enhance pedestrian safety in Brooklyn are summarized below.

ENGINEERING AND PLANNING

- Implement at least 50 Vision Zero safety engineering improvements at Priority Corridors, Intersections, and Areas citywide, informed by community input
- Expand exclusive pedestrian crossing time, install expanded speed limit signage, and modify signal timing to reduce off-peak speeding on Priority Corridors and Intersections where feasible
- Expand community outreach and engagement with regard to Priority Corridors, Intersections, and Areas
- Install additional lighting under elevated trains and around other key transit stops
- Coordinate with MTA to ensure bus operations contribute to a safe pedestrian environment
- Expand a bicycle network in Brooklyn that improves safety for all road users
- Proactively design for pedestrian safety in high-growth areas in Brooklyn

ENFORCEMENT

- Deploy speed camera at Priority Corridors, Intersections, and Areas
- Focus enforcement and deploy dedicated resources to Brooklyn NYPD precincts that overlap substantially with Priority Areas
- Prioritize targeted enforcement at all Priority Corridors, Intersections, and Areas annually

EDUCATION AND AWARENESS CAMPAIGNS

- Target child and senior safety education at Priority Corridors and Priority Areas
- Target intensive street-level outreach at Priority Corridors, Intersections, and Areas

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, 2017 and December 31, 2019 (the most recent three-year period for which data are available). The data quantify the total number of crashes as well as the total number of crashes involving injuries to pedestrians or bicyclists. During the three-year reporting period, a total of 114 reportable and non-reportable crashes, zero fatalities, 60 total injuries, and 25 pedestrian/bicyclist-related crashes occurred at intersections within the quarter-mile study area.

Table 12-41 provides a summary of crashes by intersection during the 2017 to 2019 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 locations along a Vision Zero intersection or where five or more pedestrian/bicyclist injury crashes have occurred in any consecutive 12 months of the most recent three-year period for which data are available. In addition, any location along a Vision Zero priority corridor with three or more pedestrian/bicyclist injury crashes in any consecutive 12 months of the most recent three-year period for which data is available should be identified as a high crash location. As shown in **Table 12-41**, based on these criteria, no intersections are classified as high crash locations.

Lastly, no intersections within the traffic and pedestrian study areas are located within a designated Senior Pedestrian Focus Area (SPFA), which were identified by DOT based on the density of senior pedestrian (age 65+) crashes resulting in fatalities or severe injuries in a five-year period, as well as variables such as senior trip generators, concentrations of senior centers, and senior housing locations.

TABLE 12-41:
Summary of Motor Vehicle Crash Data 2017-2019

Intersection		Pedestrian Injury Crashes			Bicycle Injury Crashes			Total Pedestrian/Bicyclist Injury Crashes			Total Crashes (Reportable + Non-Reportable)		
		2017	2018	2019	2017	2018	2019	2017	2018	2019	2017	2018	2019
Kent Ave	S 8th St	0	0	0	0	0	0	0	0	0	0	1	0
	S 9th St	0	0	0	0	0	0	0	0	0	0	1	1
	S 10th St	0	0	0	0	0	0	0	0	0	0	0	0
	S 11th St	0	0	0	1	0	0	1	0	0	3	1	1
	Division Ave	0	0	0	0	0	1	0	0	1	2	1	4
	Clymer St	0	0	0	0	0	1	0	0	1	1	3	2
	Taylor St	0	0	0	0	0	0	0	0	0	0	1	0
	Wilson St	0	0	0	1	0	0	1	0	0	2	0	1
Wythe Ave	S 8th St	0	0	0	0	0	0	0	0	0	0	1	2
	S 9th St	0	1	0	0	1	0	0	2	0	1	2	1
	S 10th St	1	0	0	0	0	0	1	0	0	2	6	2
	S 11th St	1	0	0	0	1	1	1	1	1	2	2	1
	Division Ave	1	0	0	0	0	0	1	0	0	2	3	5
	Clymer St	1	0	0	1	1	0	2	1	0	4	4	1
	Taylor St	0	0	0	0	0	0	0	0	0	0	0	1
	Wilson St	0	0	0	0	0	1	0	0	1	1	1	2
Berry St	S 8th St	0	0	0	0	0	0	0	0	0	0	2	2
	S 9th St	1	0	0	0	0	0	1	0	0	2	2	1
	S 10th St	0	0	1	1	0	0	1	0	1	1	1	4
	S 11th St	0	0	0	0	0	0	0	0	0	0	1	0
	Division Ave	0	0	0	0	0	0	0	0	0	0	0	0
Bedford Ave	S 10th St	0	1	0	1	0	0	1	1	0	1	1	0
	Division Ave	1	0	0	1	0	1	2	0	1	2	7	7
	Morton St	0	0	0	0	0	1	0	0	1	0	2	1
	Clymer St	0	0	0	1	0	0	1	0	0	2	1	1
Clymer St	Juliana Pl	0	0	0	0	0	0	0	0	0	0	0	2

Source: NYSDMV/DOT