Chapter 9: Transportation

A. INTRODUCTION

The objective of this transportation analysis is to determine whether the proposed project may have a potential significant adverse impact on traffic operations and mobility, parking conditions, public transportation facilities and services, pedestrian elements and flow, safety of all roadway users (pedestrians, bicyclists and vehicles), on- and off-street parking, or goods movement. Also, in coordination with the construction analysis (see Chapter 13, "Construction Impacts"), construction phase transportation effects also are assessed.

The 6.08-acre project site is located at the northeast corner of the intersection of Navy Street and Nassau Street in Brooklyn Community District 2. The project site has approximately 683 feet of frontage on Nassau Street and approximately 419 feet of frontage on Navy Street. The site, which is located on the southwestern edge of the former Brooklyn Navy Yard property, is currently not actively used and is occupied by several vacant structures and bounded along its public street frontages by walls and fencing. While the remainder of the Brooklyn Navy Yard property is City-owned and operated as an industrial park, the project site remains under federal ownership (it would be acquired by the City as part of the proposed project).

The development program for the proposed project analyzed in this chapter includes approximately 152,891 gross square feet (gsf) of retail shopping center space which would include approximately 26,214 gsf of specialty retail, approximately 52,854 gsf of local neighborhood retail, and an approximately 73,823 gsf supermarket; approximately 7,024 gsf of community facility/non-profit office space; and approximately 127,257 gsf of light industrial use. It should be noted that the amounts of proposed supermarket and light industrial space analyzed in this chapter (73,823 and 127,257 gsf, respectively) are slightly less than the amounts of supermarket and light industrial space identified in Chapter 1, "Project Description" (74,161 and 127,364 gsf, respectively). The total incremental increase of approximately 445 gsf is due to nominal refinements in the proposed development program made during the finalization of the draft ULURP application. Travel demand generated by the development program analyzed in this chapter would be virtually the same as the travel demand generated by the development program identified in Chapter 1. With the minimally larger program, the proposed project would generate one additional vehicle in the weekday AM peak hour, one additional vehicle trip in the weekday PM peak hour, and the same number of vehicle trips in the weekday midday peak hour and the Saturday midday peak hour. Such *de minimus* increases in travel demand would not meaningfully change conditions identified in this chapter. Therefore, the results of the analysis, including the disclosure of significant adverse traffic impacts and a significant adverse bus impact, would not be affected by the minimal increases in the size of the supermarket and light industrial spaces. Based on the preliminary site plan, the specialty and neighborhood retail and community facility/non-profit office uses would be located in buildings located along Navy Street and the western portion of the site's frontage on Nassau Street. The supermarket space would be located along the eastern portion of the site's frontage on Nassau Street with the light

industrial located above. The parking lot would be set back from the streets behind the buildings. The site would have vehicular entrances/exits on both street frontages and would provide approximately 295 on-grade accessory parking spaces for the retail and office uses. The development would also include approximately 215 gsf of indoor bicycle parking and outdoor bicycle racks. As part of the proposed project, a signal-controlled intersection would be created at the site's new driveway on Nassau Street, pursuant to warrant studies; the signal warrant study has been submitted to New York City Department of Transportation (DOT) and is pending. The site would also have a new unsignalized driveway on Navy Street, with inbound and outbound right-turn movements permitted and street treatments and pavement markings prohibiting left-turns. Approximately 130 parking spaces for the industrial use would be provided within the existing Navy Yard industrial park property and accessed via the Sands Street entrance to the Navy Yard industrial park, located at the intersection of Sands Street and Navy Street immediately north of the project site. Similarly, loading berths (5,462 gsf) for both the shopping center and industrial uses would be accessed via the Sands Street entrance (except on weekends when they would be accessed via the Navy Yard industrial park gate at the intersection of Clinton and Flushing Avenues). The proposed project is expected to be constructed and operational in 2014. Under the 2014 future without the proposed project (No Action condition), the site would remain unoccupied.

The proposed development program exceeds the minimum development density screening thresholds specified in Table 16-1 of the *City Environmental Quality Review (CEQR) Technical Manual*. Therefore, per the *CEQR Technical Manual*, a Level 1 (Project Trip Generation) Screening Assessment and a Level 2 (Project-Generated Trip Assignment) Screening Assessment have been prepared to determine if the project would require detailed analyses of traffic, transit, and pedestrian conditions. As discussed in the following paragraphs, detailed traffic, parking, bus, and pedestrian analyses are warranted and are provided in this chapter.

TRAFFIC

As discussed later in this chapter, according to the travel demand forecast for the proposed project, it would generate approximately 213, 306, 345, and 350 new vehicles per hour (vph) in the following peak hours, respectively: weekday AM (8-9 AM), weekday midday (12-1 PM), weekday PM (5-6 PM), and Saturday midday (1-2 PM.) The trip assignment for the proposed project vehicle trips, reviewed and approved by DOT, indicates that ten intersections in the vicinity of the project site would process concentrations of project-generated vehicle trips. As the incremental vehicle trips generated by the proposed project in one or more peak hours exceed the 50 vehicle-trips per peak hour threshold for a detailed analysis as established in the *CEQR Technical Manual*, this chapter provides detailed traffic impact analyses for these four peak hours.

PARKING

As also discussed later in this chapter, the proposed project is expected to generate a total peak combined parking demand of approximately 282 and 317 vehicles spaces during the weekday midday and Saturday midday peak periods, respectively. As the peak parking demand would not exceed the number of accessory parking spaces to be provided for the project on the project site and in the Navy Yard industrial park (for light industrial workers), this chapter provides a detailed parking analysis that focuses on the adequacy of the project's off-street accessory parking to accommodate project-generated demand. Accordingly, consistent with the *CEQR Technical Manual*, a detailed analysis of off-site parking resources in the vicinity of the site,

including on-street spaces and off-street public parking facilities, is not warranted and is not provided as no significant adverse parking impacts are expected.

SUBWAY TRANSIT

The travel demand forecast, reviewed and approved by DOT, determined that the proposed project would generate a total of 133, 211, 243, and 209 peak hour subway trips in the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, respectively. As the proposed project would generate less than 200 subway trips in one of the four peak hours, consistent with the *CEQR Technical Manual*, detailed analysis is not warranted and is not provided in this chapter for that period. For the weekday midday, PM, and Saturday midday peak hours, per the *CEQR Technical Manual*, this chapter provides a Level 2 (Project-Generated Trip Assignment) Screening Assessment to determine if the proposed project would generate more than 200 peak hour trips at any single subway station or station complex. As part of this screening assessment and for informational purposes, this chapter provides a qualitative discussion of subway services likely to be utilized by project-generated demand.

BUS TRANSIT

The travel demand forecast determined that the proposed project would generate a total of 195, 339, 412, and 406 peak hour bus-only trips in the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, respectively. As the total number of bus trips exceeds the preliminary screening threshold of 200 bus trips in the weekday midday, weekday PM, and Saturday midday peak hours, per the *CEQR Technical Manual*, a Level 2 (Project-Generated Trip Assignment) Screening Assessment is necessary to determine if the proposed project would generate more than 50 peak hour trips passing through the peak load point on any bus route in any peak hour. The trip assignment for the proposed project indicates that there would be 50 or more peak direction project-generated bus trips passing through the peak load point on one bus route in the PM peak hour. As the incremental bus person-trips generated by the proposed project in the weekday PM peak hour exceed the 50-trip per peak hour threshold for detailed analysis as established in the *CEQR Technical Manual*, this chapter provides detailed bus analysis for this route in the PM peak hour.

PEDESTRIAN CONDITIONS

The travel demand forecast determined that the proposed project would generate a total of 714, 2,236, 1,738, and 1,948 peak hour trips made by walking or by other modes that include a walk component in the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, respectively. As the incremental walk person-trips generated by the proposed project exceed the 200-trip per peak hour threshold for detailed analysis as established in the *CEQR Technical Manual*, this chapter provides detailed pedestrian conditions analyses for all four peak hours.

TRANSPORTATION SAFETY

As the proposed project would generate increases in vehicular and pedestrian volumes and requires detailed analyses, it has the potential to have significant adverse impacts related to safety. Accordingly, a safety assessment is provided in this chapter.

GOODS DELIVERY

As the proposed project includes a substantial amount of retail space, it would generate goods delivery activities. The proposed project would provide loading berths in compliance with zoning and based on the projected demand for loading capacity. An assessment of the ability of the proposed project to accommodate goods delivery demand without interfering with vehicular, pedestrian, and bicycle traffic or compromising safety is provided in this chapter.

CHAPTER FORMAT

The following section describes the methodologies used in this chapter. After that, the next section analyzes the 2010 existing transportation conditions in the study area. The 2014 No Action condition is then described. Included are increases in demand due to background and new developments in and around the study area that are expected by 2014. The change in travel demand resulting from the proposed project is then projected and added to No Action condition to develop the 2014 future with the proposed project (With Action condition). The result of the analysis detailed below indicates that there would be significant adverse traffic impacts at two intersections in weekday AM peak hour and three intersections in the weekday PM peak hour. As discussed in Chapter 14, "Mitigation," proposed mitigation measures consisting of signal phasing adjustments of 3 seconds or less would mitigate these significant adverse impacts. The analysis of bus conditions indicates that there would be a significant adverse bus impact on the B62 northbound bus route in the weekday PM peak hour as there would be a shortfall of 7 spaces. As also discussed in Chapter 14, standard practices by MTA New York City Transit (NYCT) could mitigate this impact, subject to operational and financial feasibility. There are no other expected transportation-related significant adverse impacts associated with the proposed project.

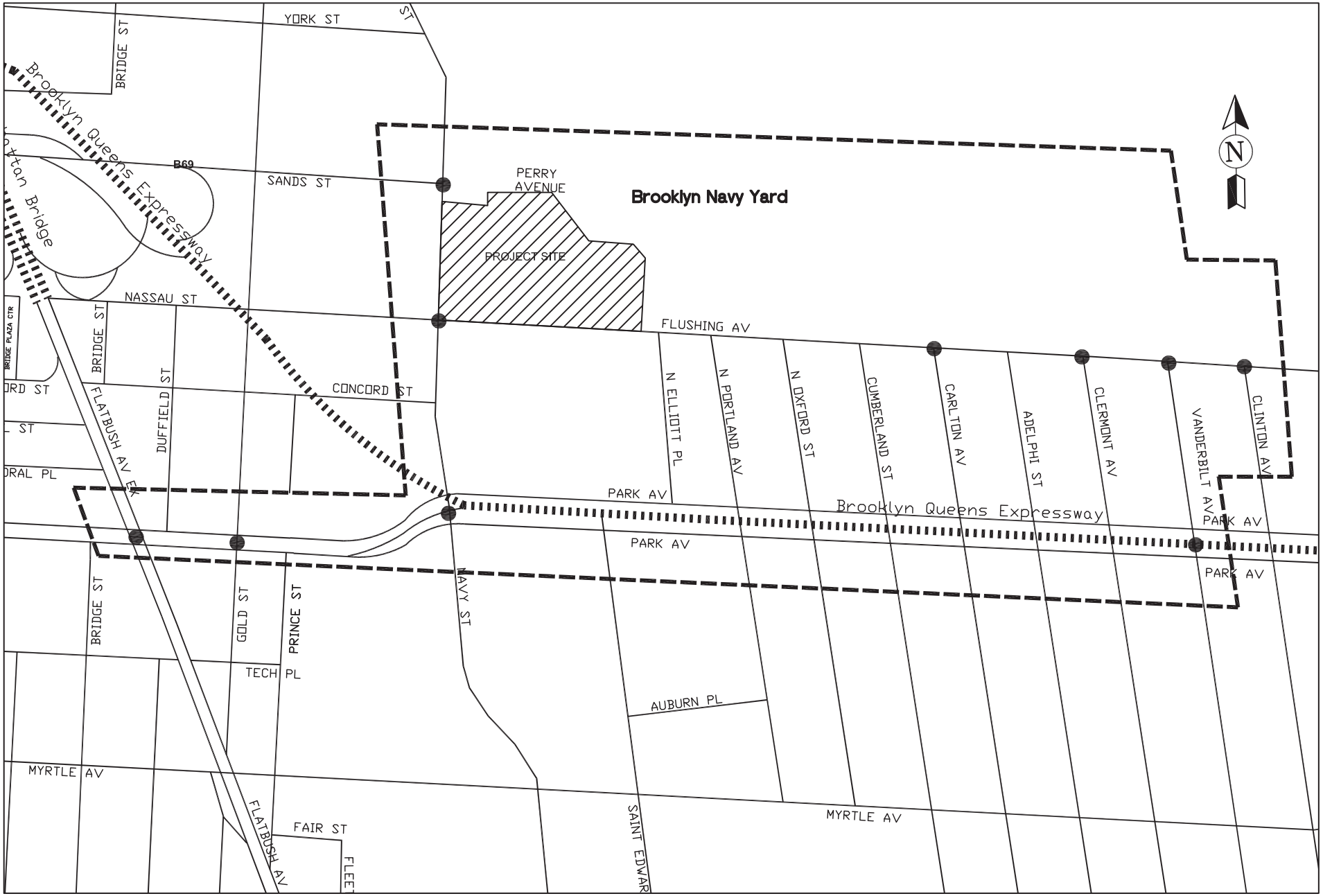
B. METHODOLOGY

STUDY AREAS

The traffic study area was selected in consultation with DOT to include the intersections most likely to be used by concentrations of project-generated vehicles traveling to and from the project site. These include 10 signal-controlled intersections within an area generally bounded on the north by Sands Street, on the south by Park Avenue/Tillary Street, on the east by Clinton Avenue, and on the west by Flatbush Avenue Extension/Flatbush Avenue, as shown in **Figure 9-1**, "Traffic Study Area." Outside of this study area, project-generated traffic would be increasingly dispersed and significant adverse impacts therefore would be unlikely.

The bus study area considers the three public bus routes that serve the project site. As shown in **Figure 9-2**, these include the B57 (Downtown Brooklyn - Maspeth), B62 (Downtown Brooklyn - Long Island City), and B69 (Park Slope - Downtown Brooklyn).

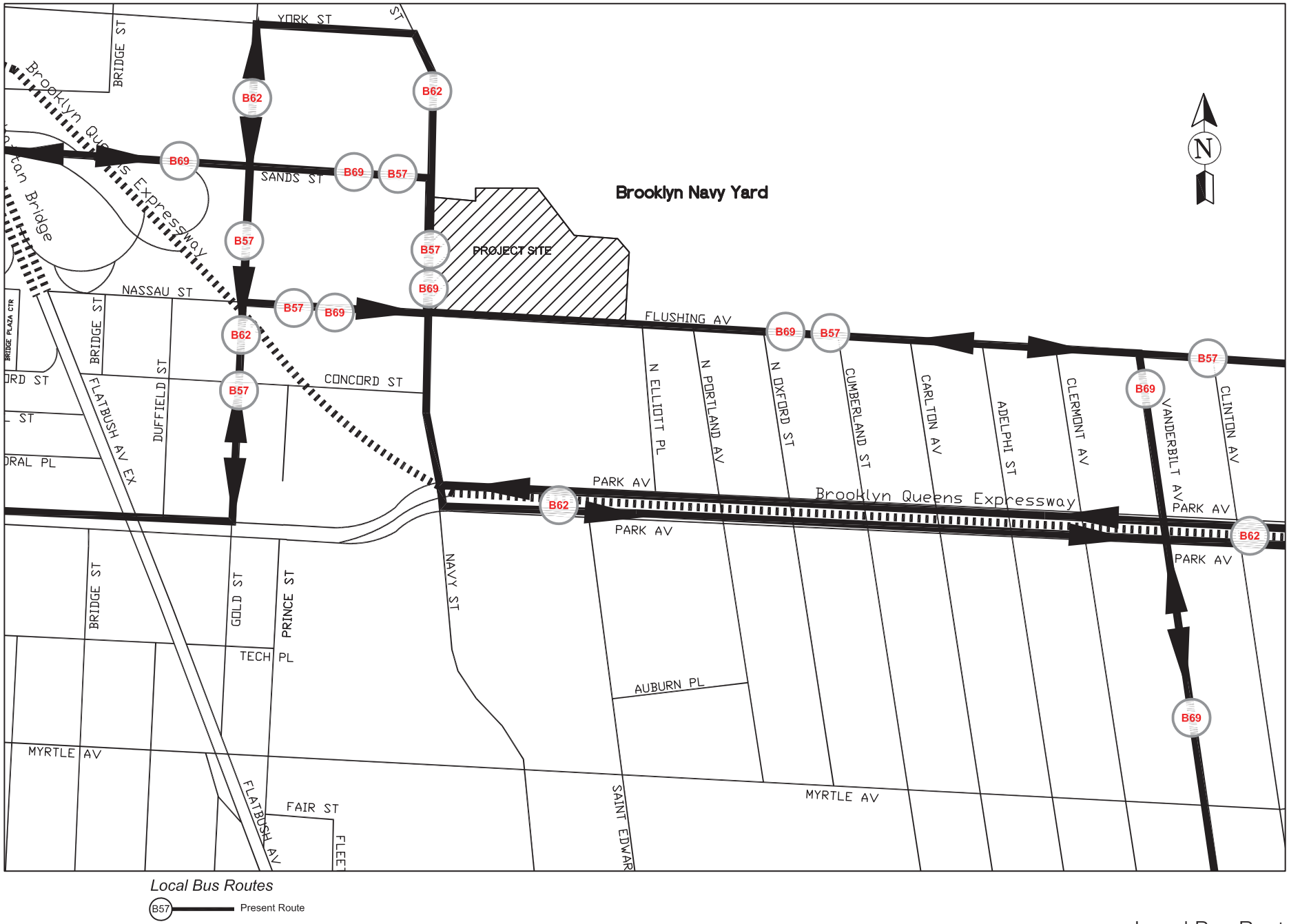
The pedestrian conditions study area focuses on the sidewalks, street corners, and crosswalks in the immediate vicinity of the project site that would process the greatest concentrations of project-generated walk trips. Specifically the pedestrian study area consists of the facilities at the three intersections immediately adjacent to the project site. Similar to traffic, beyond these study area locations, project-generated walk trips would be well dispersed among the various pedestrian facilities on the surrounding blocks of the street grid.



Study Area Intersections

ADMIRALS ROW PLAZA

Traffic Study Area
Figure 9-1



ADMIRALS ROW PLAZA

Local Bus Routes
Figure 9-2

ANALYSIS PEAK HOURS

As noted above, this Environmental Impact Statement (EIS) analyzes travel demand during the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours. These are the periods during which the project-generated trips and the overall trip levels in the study area would be at the highest levels. These peak hours were selected in consultation with DOT and pursuant to the guidance of the *CEQR Technical Manual*. It should be noted that the *Manual* states that for most types of retail, weekday midday, weekday PM, and Saturday or Sunday midday peak periods should be considered. Consistent with *CEQR Technical Manual* guidance the Saturday midday peak hour was selected for analysis rather than a Sunday midday peak hour as background traffic already existing in the area is higher on Saturday than on Sunday according to 24-hour automatic traffic recorder (ATR) data. The inclusion of the weekday AM peak hour is also appropriate given the concentration of arriving workers during that period.

It should be noted based on the proposed project's travel demand forecast, it is anticipated that project-generated travel demand during the Saturday midday would peak in the 1:00 to 2:00 PM hour. However, the ATR data indicate that the peak hour for traffic on the adjacent street network is 12:15 to 1:15 PM. To be conservative, the analysis of Saturday midday traffic conditions assumes that the peak project increment travel demand (i.e., the demand generated during the 1:00 to 2:00 PM hour) would occur concurrent with the 12:15 to 1:15 PM peak hour of the adjacent street network.

The parking analysis focuses on weekday midday and Saturday midday peak periods when cumulative parking demand from the project's commercial, industrial, and community facility/non-profit office uses would be highest; as the project would not include any residential uses an overnight parking analysis is not provided. As discussed above, the subway analysis only requires a Level 2 (Project-Generated Trip Assignment) Screening Assessment during the weekday midday and PM peak hours. Also, as noted above, as the number of bus trips in the weekday AM peak hour falls below the Level 1 analysis screening threshold, consistent with the *CEQR Technical Manual* further assessment is not provided for that peak hour.

TRAFFIC CAPACITY ANALYSIS

The capacity analyses at study area intersections are based on the methodology presented in the *Highway Capacity Manual (HCM) Software HCS+ Version 5.4*. Traffic data required for these analyses include volumes on each approach and various other physical and operational characteristics. Signal timing plans for each signalized intersection were obtained from DOT. Field inventories were conducted to document curbside parking regulations, vehicle classifications, shared lane usage, and other relevant characteristics needed for the analysis.

The *HCM* methodology provides a volume-to-capacity (v/c) ratio for each signalized intersection approach. The v/c ratio represents the ratio of traffic volumes on an approach to the approach's carrying capacity. At a v/c ratio of between 0.95 and 1.0, near-capacity conditions are reached and vehicle delays can become substantial. Ratios of greater than 1.05 indicate saturated conditions with queuing. The *HCM* methodology also expresses quality of flow in terms of level of service (LOS), which is based on the amount of vehicle delay that a driver typically experiences at an intersection. Levels of service range from A, with minimal vehicle delay (10 seconds or less per vehicle), to F, which represents long vehicle delays (80 seconds or greater per vehicle).

Table 9-1 shows the LOS/vehicle delay relationship for signalized intersections using the *HCM* methodology. Levels of service A, B and C generally represent extremely favorable to fair levels of

traffic flow; at LOS D the influence of congestion becomes noticeable as vehicle delay increases; LOS E is considered to be the limit of acceptable vehicle delay; and LOS F is considered to be unacceptable to most drivers, with traffic operations at or over capacity. In this study, a signalized lane grouping operating at LOS E or F and/or with a v/c ratio of 0.90 or above is identified as congested.

Table 9-1
Intersection Level of Service Criteria

Level of Service (LOS)	Average Delay per Vehicle (seconds) Signalized Intersections
A	less than 10.1
B	10.1 to 20.0
C	20.1 to 35.0
D	35.1 to 55.0
E	55.1 to 80.0
F	greater than 80.0

Source: *2000 Highway Capacity Manual*.

Section E, "Probable Impacts of the Proposed Project (With Action)," below describes the methodology for determining significant adverse traffic impacts.

PARKING ANALYSIS

The methodology used for the parking analysis reflects the specific characteristics associated with the parking operations for this project. The analysis estimates vehicle arrival and departure patterns to determine a vehicle accumulation pattern, including number and time period of peak parking demand. The assessment determines if the parking spaces provided for the proposed project would provide sufficient supply to accommodate the project's parking demand.

SUBWAY ANALYSIS

Per, the *CEQR Technical Manual*, the Level 2 (Project-Generated Trip Assignment) Screening Assessment determines if the proposed project would generate more than 200 passenger trips through a single subway station in any peak hour. In that event, a detailed subway analysis would be required. As the proposed project would generate more than 200 total subway trips in only the weekday midday and PM peak hours, the screening assessment is only required for those peak hours. As there are several subway stations located in the area that provide access by walking or a bus transfer for travel to and from the project site, the screening assessment must proportionally assign project-generated subway trips among these stations. This assignment is based on distance of stations from the project site, availability of bus transfers, and station usage data.

BUS ANALYSIS

Per the *CEQR Technical Manual*, the local bus analysis focuses on conditions in the peak direction at the maximum load point for each bus route during the analyzed peak hours. Identification of significant adverse impacts is based on current NYCT guidelines under which increases in bus load levels to above their maximum capacity at any load point is considered a significant adverse impact as it would necessitate the addition of more bus service along that route to provide capacity sufficient to accommodate the peak ridership.

PEDESTRIAN CAPACITY ANALYSIS

Peak 15-minute pedestrian flow conditions during the analyzed peak hours are analyzed using the *2000 Highway Capacity Manual* methodology. 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 level of service (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 9-2** defines the LOS criteria for pedestrian crosswalk/corner area and sidewalk conditions, as based on the *2000 Highway Capacity Manual* methodology.

Table 9-2
Pedestrian Crosswalk/Corner Area and Sidewalk Levels of Service Descriptions*

Levels of Service		Crosswalk/Corner Area Criteria (sq. ft./ped.)	Sidewalk Criteria (ped./min./ft.)
A	(Unrestricted)	≥ 60	≤ 5
B	(Slightly Restricted)	≥ 40	≤ 7
C	(Restricted but fluid)	≥ 24	≤ 10
D	(Restricted, necessary to continuously alter walking stride and direction)	≥ 15	≤ 15
E	(Severely restricted)	≥ 8	≤ 23
F	(Forward progress only by shuffling; no reverse movement possible)	< 8	> 23

Note: * Based on average conditions for 15 minutes.
Source: *2000 Highway Capacity Manual.*

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

SAFETY ANALYSIS

Safety analysis focuses principally on the effect of the proposed project's generated demand at existing high crash locations or at locations that may become unsafe due to the proposed project. According to the *CEQR Technical Manual*, a high crash location is one where there were 48 or more total crashes (reportable and non-reportable) or five or more pedestrian/bicycles injuries or deaths in any consecutive 12 months of the most recent three year period for which data is available. "Reportable crashes" are defined as all crashes resulting in death, injury or property damage in excess of $1,000. "Non-reportable crashes" are defined as crashes involving property

damage only if the property damage reported is either less than $1,000 or not provided (non-reportable crashes must be reported by police agencies but not by involved motorists).

The safety analysis determines if there are any high crash locations at which increased pedestrian crossings may result in increasingly unsafe conditions. In addition, a detailed analysis of safety may be needed for some projects, such as those that would significantly redesign or reconfigure one or more streets as part of the proposed project; or those located near sensitive land uses, such as hospitals, schools, parks, nursing homes, elderly housing, or study intersections located in a Senior Pedestrian Focus Area (SPFA) that could be affected by increased traffic and pedestrian volumes generated by the proposed project. In addition, the absence of controlled pedestrian crosswalks at key access points leading to/from a proposed project, crossing locations with difficult sight lines, *etc.*, may all serve as indicators of current or future problems that could create the potential for significant adverse impacts. Also, the analysis should determine if the proposed project would affect any heavily used bicycle paths or routes.

Therefore, the safety analysis determines if any of the above conditions applies to the proposed project and its study area. Impact determinations should identify whether project-generated vehicle trips would likely exacerbate or create unsafe conditions. Contributing factors to be considered include the volumes affected by or affecting such conditions (including the types of vehicles, including trucks; and the age group of pedestrians, such as children or the elderly), accident types, and severity. The types of measures to improve traffic and pedestrian safety should be identified and coordinated with DOT.

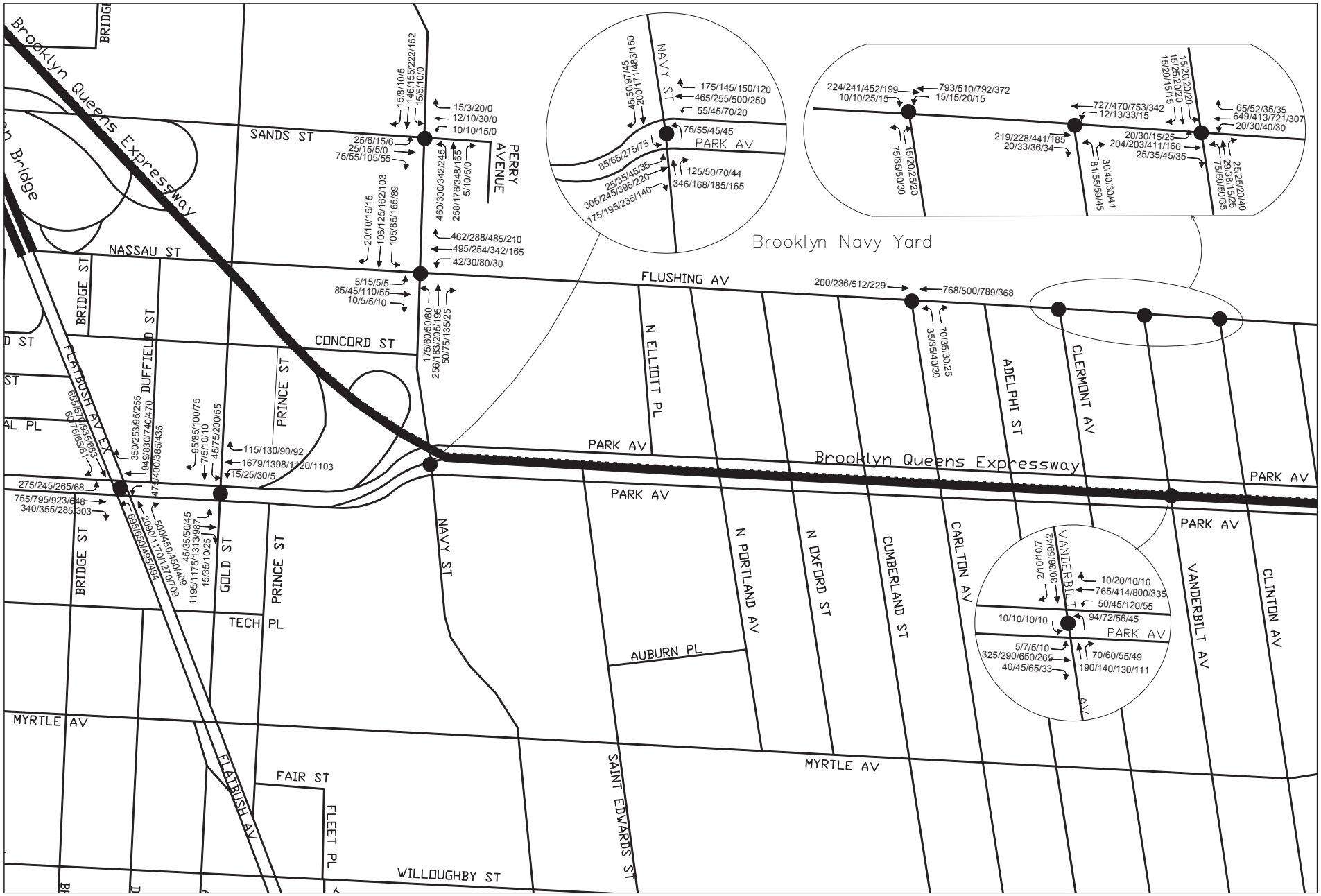
C. EXISTING CONDITIONS

TRAFFIC

DATA COLLECTION

Manual traffic turning movement counts were conducted for study area intersections (see **Figure 9-1**) on Tuesday, May 25, 2010 for the weekday AM peak period between the hours of 7:30 AM and 9:30 AM, midday peak period between 11:30 AM and 1:30 PM, and the PM peak period between 4:30 PM and 6:30 PM. The manual traffic turning movement counts for the Saturday midday peak period were conducted on Saturday, May 22, 2010 between the hours of 12:30 PM and 2:30 PM. ATR data were collected from Friday, May 21, 2010 through Friday, May 28, 2010. Supplemental ATR data for Friday, November 14, 2008 through Monday, November 24, 2008, originally collected for the *Navy Green EAS* (CEQR No. 09HPD030K) traffic study, were also used. ATR data originally collected by DOT for Tuesday, September 22, 2009 through Monday September 29, 2009, were used for the Park Avenue corridor. The resulting existing peak hour traffic volumes for the study area intersections are shown in **Figure 9-3**.

Data on parking regulations, curbside activity and other physical and operational characteristics of the street network were obtained from field data collected in May, September, and October 2010. Signal timing plans for signalized intersections within the study area were obtained from DOT and field verified.



Legend: ● Analyzed Signalized Intersection 2/3/4/6 = AM/MD/PM/Saturday MD Increment Traffic Volume

Existing Peak Hour Traffic Volume

ADMIRALS ROW PLAZA

Figure 9-3

STREET NETWORK

The traffic study area overlaps with the edges of three distinct neighborhoods (Downtown Brooklyn, Vinegar Hill, and Fort Greene) and the Brooklyn Navy Yard, a 300-acre waterfront area that now functions primarily as an industrial park, and which does not include any public streets.

Generally, the street network in the study area is characterized by a rectilinear street-grid with wide east-west avenues spaced 400 feet or more apart and narrow north-south streets generally spaced 200 feet apart. However, the street-grid spacing is irregular in some areas. Also, the study area is intersected by the elevated Brooklyn-Queens Expressway (I-278), which extends on an east-west alignment above Park Avenue east of Navy Street and on a northwest-southeast alignment west of Navy Street where it cuts diagonally above the grid. Another distinctive characteristic of the street network is the Manhattan Bridge approach roadways which extend from the foot of the Flatbush Avenue extension north of Concord Street.

The 6.08-acre project site is bounded by Nassau Street and Navy Street; these streets form the southern and western boundaries of the Brooklyn Navy Yard, respectively. As such, the project site is located on the edge of the public street-grid system. Access to the Navy Yard industrial park is provided through several gated entrances including one immediately north of the project site at the intersection of Sands Street and Navy Street, where the Sands Street roadway continues as a private street and connects to a network of internal private roadways. Access by vehicles or pedestrians is limited to those having business in the Navy Yard industrial park. The next closest Navy Yard industrial park entry/exit point is located at Cumberland and Flushing Avenues. There are currently no curb-cuts providing access from the public streets into the project site.

All of the analyzed intersections within the study area are signalized. Key roadways within the traffic study area include:

Sands Street is a two-way east-west street extending for several blocks from Adams Street to Navy Street. In the vicinity of the project site it operates with protected bicycle lanes in the center of the roadway on a curb-raised pavement surface, and one to two moving lanes in each direction flanked by parking lanes. On the block from Gold Street to Navy Streets, there is a median separating the eastbound and westbound bicycle lanes. This block of Sands Street carries two-way vehicular volumes of approximately 600, 350, 500, and 300 in the weekday AM, midday, PM, and Saturday midday peak hours, respectively. West of Gold Street, Sands Street provides access to entry ramps for the eastbound and westbound BQE. The roadway extends east of Navy Street into the Navy Yard industrial park, via a security gate, where it is not a public street but is designated as Perry Avenue. The B57 bus operates in both directions on the block of Sands Street between Navy Street and Gold Street, while the B69 bus operates westbound on Sands Street from Navy Street to Gold Street and in both directions between Gold Street and Jay Street, where the line terminates. Sands Street is a designated truck route.

Nassau Street/Flushing Avenue is a two-way east-west street that functions as a minor arterial in this area of Brooklyn. The street's name formally changes a half-block east of the project site at N. Elliott Place; to the west it is Nassau Street and to the east it is Flushing Avenue.[1] Nassau

[1] Current street signage designates Nassau Street to be west of Navy Street and Flushing Avenue to be east of Navy Street. However, the City's official Zoning Map indicates that Nassau Street formally extends east of Navy Street to N. Elliott Place before becoming Flushing Avenue. Thus, consistent with the City's Zoning Map, the EIS chapters reference Nassau Street as the project site's southern boundary.

Street/Flushing Avenue serves as the southern boundary of the Brooklyn Navy Yard from Navy Street on the west to Williamsburg Street West on the east and continues further east to Maspeth, Queens where it merges with Grand Street near 64th Street. In the vicinity of the project site the roadway is approximately 50 feet wide and generally operates with one moving lane in each direction separated by a painted median. However, the westbound approach at the intersection with Navy Street has two moving lanes as there is also a right-turn only lane at that location. Along the roadway the moving lanes are flanked by bicycle lanes and there is also a parking lane along the south side of the street adjacent to the eastbound bicycle lane. In front of the project site the roadway carries two-way vehicular volumes of approximately 1,250, 800, 1,250, and 550 vehicles in the weekday AM, midday, PM, and Saturday midday peak hours, respectively. West of Navy Street, the roadway continues for several blocks to Flatbush Avenue Extension where it provides access to the Manhattan Bridge. This section of the roadway's geometry is similar to the area east of Navy Street except that there are no bicycle lanes and there is a parking lane on the north side of the street flanking the westbound moving lane. (West of Flatbush Avenue Extension there is a discontinuous short one block section of Nassau Street extending from Bridge Plaza Court to Jay Street.) The B57 bus operates in both directions on the roadway between Navy Street and 61st Street in Maspeth and operates eastbound only between Gold Street and Navy Street. The B69 bus operates eastbound between Gold Street and Navy Street and in both directions between Navy Street and Vanderbilt Avenue. Flushing Avenue is also a designated truck route as is Nassau Street west to Flatbush Avenue Extension.

Park Avenue/Tillary Street is a two-way east-west arterial extending from Cadman Plaza in Downtown Brooklyn to Broadway in Bushwick. East of Navy Street the roadway is called Park Avenue and from that point to Emerson Street, near the eastern edge of the Brooklyn Navy Yard, the BQE is located above the street's right-of-way and the surface street's eastbound and westbound roadways are separated by the expressway's support structures. Park Avenue generally operates with two moving lanes and a parking lane in each direction. West of Navy Street, the roadway, which curves to the south and then resumes an east-west alignment, is called Tillary Street and is divided by a median. Park Avenue between Navy Street and N. Elliott Place carries two-way vehicular volumes of approximately 1,200, 800, 1,450, and 750 in the weekday AM, midday, PM, and Saturday midday peak hours, respectively. Tillary Street generally operates with four to five moving lanes in each direction with parking lanes in some areas and includes dedicated left-turn and right-turn lanes at intersections. There are exits from the both the eastbound and westbound BQE onto westbound Tillary Street and an entry ramp from eastbound Tillary Street to the eastbound BQE. The B62 bus operates on Park Avenue in both directions between Navy Street and Classon Street and both the B57 and B62 operate on Tillary Street in both directions between Gold Street and Jay Street. Tillary Street between Navy Street and Flatbush Avenue Extension is a designated through truck route and between Flatbush Avenue Extension and Cadman Plaza West is a designated truck route.

Navy Street is a two-way north-south street extending from York Street to Myrtle Avenue. North of York Street the roadway continues as Hudson Avenue and extends north to its foot near the East River shoreline. South of Myrtle Avenue the roadway continues as Ashland Place and extends to the Atlantic Terminal area. In the vicinity of the project site Navy Street is approximately 55 feet wide and operates with one to two moving lanes in each direction flanked by bicycle lanes and parking lanes. There are dedicated left-turn only lanes at the northbound approach to the Sands Street intersection and at both the northbound and southbound approaches to the Nassau Street intersection. There is also a dedicated right-turn only lane at the northbound approach to the latter intersection. Navy Street in front of the project site carries two-way

vehicular volumes of approximately 950, 700, 1,050, and 617 in the weekday AM, midday, PM, and Saturday midday peak hours, respectively. Bus services operating on Navy Street include the B62 in both directions between Park Avenue/Tillary Street and York Street, the B57 in both directions and the B69 northbound only between Nassau Street and Sands Street. Navy Street is a designated truck route between Tillary Street and York Street.

Flatbush Avenue Extension is a major two-way arterial that connects the Manhattan Bridge approach roadway with the surface street network. It extends from Nassau Street to Fulton Street where the roadway continues further south as Flathbush Avenue through the borough to Floyd Bennett Field (part of Gateway National Recreation Area) where it connects to the Marine Parkway-Gil Hodges Memorial Bridge. In the traffic study area, it extends on a diagonal northwest-southeast alignment cutting across the street-grid and it typically operates with three to four moving lanes in each direction separated by a concrete median, with parking lanes in some areas.

Vanderbilt Avenue is a two-way north-south street extending from Flushing Avenue to Grand Army Plaza. Between Flushing Avenue and Park Avenue, Vanderbilt Avenue is approximately 42 feet wide, operates with one moving lane and one parking lane in each direction, and carries two-way vehicular volumes of approximately 150 in each of the four analyzed peak hours. The B69 bus route operates in both directions on Vanderbilt Avenue between Flushing Avenue and Grand Army Plaza. Vanderbilt Avenue is not a designated a truck route.

CAPACITY ANALYSIS

Table 9-3 shows the v/c ratios, delays, and levels of service for the ten intersections within the study area. Congested locations are highlighted (*). As shown in **Table 9-3**, during the periods analyzed, seven of the ten study area intersections have a congested movement in one or more of the analyzed peak hours. In the weekday AM peak hour, six intersections have one or more congested movement(s). In the weekday midday peak hour, one intersection has one or more congested movement(s). In the weekday PM peak hour, four intersections have one or more congested movement(s). In the Saturday midday peak hour, one intersection has one or more congested movement(s). These congested locations are described in detail below.

Navy Street Corridor

All three of the analyzed intersections along the Navy Street corridor have a congested movement in one or more of the analyzed peak hours. In this corridor, all of the congested movements are on exclusive left-turn lanes.

In the weekday AM peak hour, there are two intersections in this corridor with congested movements. At the intersection of Navy Street and Sands Street, the northbound left operates at LOS E, with 73.9 seconds of delay, and a v/c ratio of 1.05. At the intersection of Navy Street and Nassau Street the southbound left-turn operates at LOS E, with 72.4 seconds of delay, but with a v/c ratio of 0.80, and the northbound left-turn operates at LOS E with 58.1 seconds of delay, but with a v/c ratio of 0.76.

Table 9-3
2010 Existing Conditions
Level of Service at Analyzed Intersections

Signalized Intersection	Lane Group	V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS		V/C Ratio	Delay (sec/veh)	LOS	
Tillary Street (E-W) @	EB-L	1.04	114.0	F	*	1.05	121.7	F	*	1.05	119.1	F	*	0.29	47.6	D	
Flatbush Avenue Ext (N-S)	EB-TR	0.70	42.6	D		0.79	45.9	D		0.84	48.0	D		0.59	39.8	D	
	EB-R	0.92	73.7	E	*	1.03	99.5	F	*	0.76	54.2	D		0.80	58.0	E	*
	WB-L	1.01	92.7	F	*	0.85	65.5	E	*	0.83	63.2	E	*	0.91	71.9	E	*
	WB-TR	1.04	83.7	F	*	0.98	69.2	E	*	0.89	54.2	D		0.55	39.4	D	
	WB-R	0.99	87.9	F	*	0.72	50.5	D		0.27	35.9	D		0.71	49.7	D	
	NB -L	1.05	91.3	F	*	1.05	92.4	F	*	0.72	45.5	D		0.88	56.7	E	*
	NB-T	1.05	68.1	E	*	0.65	27.9	C		0.67	28.4	C		0.43	23.7	C	
	SB-T	0.59	37.8	D		0.48	35.5	D		0.75	41.8	D		0.65	38.9	D	
	SB-R	0.20	32.5	C		0.23	33.0	C		0.19	32.3	C		0.28	34.0	C	
Unsig.	NB-R	0.75	21.5	C		0.59	15.5	C		0.68	19.4	C		0.52	13.4	B	
Tillary Street (E-W) @	EB-L	0.27	30.9	C		0.21	22.1	C		0.24	19.5	B		0.20	17.3	B	
Gold Street (N-S)	EB-TR	0.53	13.4	B		0.57	14.0	B		0.58	14.1	B		0.44	12.2	B	
	WB-LTR	0.75	24.5	C		0.67	22.4	C		0.56	20.2	C		0.48	18.8	B	
	SB-LT	0.15	31.5	C		0.22	32.7	C		0.54	39.7	D		0.19	32.2	C	
	SB-R	0.41	38.1	D		0.35	36.3	D		0.38	37.0	D		0.25	34.1	C	
Sands Street (E-W) @	EB-LTR	0.24	11.8	B		0.15	10.9	B		0.24	11.8	B		0.12	10.7	B	
Navy Street (N-S)	WB-LTR	0.08	10.3	B		0.04	10.0	A		0.10	10.5	B					
	NB-L	1.05	73.9	E	*	0.85	35.7	D		1.04	75.8	E	*	0.74	27.0	C	
	NB-TR	0.47	14.9	B		0.35	13.0	B		0.65	18.8	B		0.29	12.4	B	
	SB-LTR	0.32	12.7	B		0.31	12.4	B		0.38	13.2	B		0.28	12.1	B	
Nassau Street (E-W) @	EB-LTR	0.14	10.0	A		0.13	13.0	B		0.16	10.2	B		0.12	12.9	B	
Navy Street (N-S)	WB-LT	0.63	17.9	B		0.45	17.1	B		0.55	15.8	B		0.33	15.2	B	
	WB-R	0.68	20.3	C		0.56	20.1	C		0.72	21.6	C		0.42	17.1	B	
	NB-L	0.76	58.1	E	*	0.19	18.6	B		0.25	34.4	C		0.24	19.4	B	
	NB-T	0.60	41.8	D		0.33	20.1	C		0.50	38.5	D		0.35	20.4	C	
	NB-R	0.19	32.6	C		0.19	18.6	B		0.48	39.7	D		0.06	16.9	B	
	SB -L	0.80	72.4	E	*	0.34	21.8	C		0.94	90.9	F	*	0.36	22.4	C	
	SB-TR	0.37	35.7	D		0.29	19.6	B		0.45	37.2	D		0.26	19.2	B	
Park Av/Tillary St(E-W)@ **NS**	WB-R	0.63	22.0	C		0.37	16.4	B		0.71	24.7	C		0.36	16.3	B	
Navy Street (N-S)	WB-LT	0.33	16.4	B		0.28	15.5	B		0.29	15.7	B		0.25	15.1	B	
	NB-L	0.33	32.3	C		0.24	29.6	C		0.43	41.2	D		0.19	28.7	C	
	NB-T	0.62	37.7	D		0.32	30.0	C		0.38	31.2	C		0.36	30.8	C	
	SB -T	0.38	31.2	C		0.32	29.8	C		0.83	47.6	D		0.27	29.1	C	
SS	EB -LT	0.38	16.5	B		0.35	16.1	B		0.55	19.6	B		0.29	15.2	B	
	NB-T	0.70	40.8	D		0.35	30.5	C		0.36	30.9	C		0.37	31.0	C	
	SB-L	0.60	47.4	D		0.28	30.7	C		1.04	101.4	F	*	0.36	32.9	C	
	SB-T	0.38	31.5	C		0.33	30.3	C		0.56	35.6	D		0.22	28.5	C	
Flushing Ave (E-W)	EB-T	0.26	7.3	A		0.37	10.7	B		0.66	13.8	B		0.37	10.6	B	
Carlton Ave(NB)	WB-T	0.75	7.8	A		0.60	14.2	B		0.85	22.0	C		0.44	11.3	B	
	NB-LR	0.63	57.6	E	*	0.32	28.0	C		0.37	45.1	D		0.26	26.9	C	
Flushing Ave (E-W)	EB-TR	0.27	7.4	A		0.36	10.4	B		0.56	11.2	B		0.31	9.9	A	
Clermont Ave(N-S)	WB-LT	0.78	8.8	A		0.63	14.8	B		0.88	24.5	C		0.46	11.6	B	
	NB-LR	0.45	46.0	D		0.16	24.9	C		0.54	49.3	D		0.19	25.3	C	
Flushing Ave (E-W)	EB-T	0.22	6.8	A		0.28	9.4	A		0.44	9.1	A		0.23	8.9	A	
Vanderblit Ave(N-S)	EB-R	0.03	5.6	A		0.06	7.7	A		0.06	5.8	A		0.07	7.7	A	
	WB-LT	0.66	5.5	A		0.53	12.6	B		0.80	18.2	B		0.39	10.6	B	
	NB-LR	0.55	49.8	D		0.43	29.9	C		0.45	46.1	D		0.30	27.2	C	
Flushing Ave (E-W)	EB-LTR	0.32	7.9	A		0.43	11.6	B		0.58	11.8	B		0.36	10.6	B	
Clinton Ave(N-S)	WB-LTR	0.67	5.8	A		0.58	13.5	B		0.83	19.9	B		0.43	11.1	B	
	NB-LTR	0.80	72.2	E	*	0.52	33.1	C		0.54	51.7	D		0.42	30.2	C	
(Navy Yard Driveway)	SB-LTR	0.27	41.9	D		0.21	25.6	C		0.35	43.4	D		0.24	26.1	C	
Park Ave (E-W) **NS**	WB-LTR	0.50	14.7	B		0.33	12.5	B		0.62	16.9	B		0.26	11.8	B	
Vanderblit Ave(N-S)	NB-LT	0.65	44.6	D		0.61	43.1	D		0.44	37.3	D		0.34	35.0	C	
	SB-TR	0.12	31.1	C		0.17	31.9	C		0.19	32.2	C		0.18	32.1	C	
SS	EB-LTR	0.25	11.6	B		0.27	11.8	B		0.44	13.8	B		0.21	11.2	B	
	NB-TR	0.84	58.0	E	*	0.77	51.6	D		0.60	42.0	D		0.48	38.4	D	
	SB-LT	0.29	33.9	C		0.27	33.5	C		0.45	36.9	D		0.33	34.6	C	

Notes:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach
V/C Ration – Volume to Capacity Ratio, SEC/VEH – Seconds per vehicle
LOS – Level of Service
* - Denotes Congested Location in the 2010 Existing Conditions
Analysis based on the *2000 Highway Capacity Manual* Methodology (HCS + 5.4)

In the weekday PM peak hour, there are three intersections in this corridor with congested movements. At the intersection of Navy Street and Sands Street, the northbound left-turn operates at LOS E, with 75.8 seconds of delay, and a v/c ratio of 1.04. At the intersection of Navy Street and Nassau Street, the southbound left-turn operates at LOS F, with 90.9 seconds of delay, and a v/c ratio of 0.94. At the intersection of Navy Street and Park Avenue/Tillary Street, the southbound left-turn operates at LOS F, with 101.4 seconds of delay, and a v/c ratio of 1.04.

There are no congested movements in the Navy Street corridor during the weekday midday and Saturday midday peak hours.

Park Avenue/Tillary Street Corridor

Besides the intersection of Navy Street and Park Avenue/Tillary Street described above, two of the three other intersections along the Park Avenue/Tillary Street corridor have one or more congested movement in one or more peak hours.

In the AM peak hour, at the intersection of Park Avenue and Vanderbilt Avenue the northbound through-right movement operates at LOS E, with 58.0 seconds of delay, but with a v/c ratio of 0.84. This intersection has no congested movements in the other analyzed peak hours.

The intersection of Tillary Street and Flatbush Avenue Extension, a major crossroads at the eastern edge of Downtown Brooklyn, has one or more congested movements in all four of the analyzed peak hours.

In the weekday AM peak hour, the Tillary Street and Flatbush Avenue Extension intersection has seven congested lane groups. The eastbound left-turn operates at LOS F, with 114.0 seconds of delay, and a v/c ratio of 1.04. The eastbound right-turn operates at LOS E, with 73.7 seconds of delay, and a v/c ratio of 0.92. The westbound left-turn operates at LOS F, with 92.7 seconds of delay, and a v/c ratio of 1.01. The westbound through-right movement operates at LOS F, with 83.7 seconds of delay, and a v/c ratio of 1.04. The westbound right-turn operates at LOS F, with 87.9 seconds of delay, and a v/c ratio of 0.99. The northbound left-turn operates at LOS F, with 91.3 seconds of delay, and a v/c ratio of 1.05. The northbound through movement operates at LOS E, with 68.1 seconds of delay, and a v/c ratio of 1.05.

In the weekday midday peak hour, the Tillary Street and Flatbush Avenue Extension intersection has five congested movements. The eastbound left-turn operates at LOS F, with 121.7 seconds of delay, and a v/c ratio of 1.05. The eastbound right-turn operates at LOS F, with 99.5 seconds of delay, and a v/c ratio of 1.03. The westbound left-turn operates at LOS E, with 65.5 seconds of delay, but with a v/c ratio of 0.85. The westbound through-right movement operates at LOS E, with 69.2 seconds of delay, and a v/c ratio of 0.98. The northbound left-turn operates at LOS F, with 92.4 seconds of delay, and a v/c ratio of 1.05.

In the weekday PM peak hour, the Tillary Street and Flatbush Avenue Extension intersection has two congested movements. The eastbound left-turn operates at LOS F, with 119.1 seconds of delay and a v/c ratio of 1.05. The westbound left-turn operates at LOS E, with 63.2 seconds of delay, but with a v/c ratio of 0.83.

In the midday Saturday peak hour, the Tillary Street and Flatbush Avenue Extension intersection has three congested movements. The eastbound right-turn operates at LOS E, with 58.0 seconds of delay, but with a v/c ratio of 0.80. The westbound left-turn operates at LOS E, with 71.9 seconds of delay, and a v/c ratio of 0.91. The northbound left-turn operates at LOS E, with 56.7 seconds of delay, but with a v/c ratio of 0.88.

Nassau Street/Flushing Avenue Corridor

Besides the Navy Street and Nassau Street intersection described above, two of the other four study area intersections along Flushing Avenue have a congested movement in any of the analyzed peak hours.

In the weekday AM peak hour, at the intersection of Flushing Avenue and Carlton Avenue, the northbound approach operates at LOS E, with 57.6 seconds of delay, but with a v/c ratio of 0.70 0.63. This intersection does not have any congested movements in the other analyzed peak hours.

Also in the weekday AM peak hour, at the intersection of Flushing Avenue and Clinton Avenue, the northbound approach operates at LOS E, with 72.2 seconds of delay, but with a v/c ratio of 0.80.

All other movements analyzed currently operate at LOS D or better and have a v/c ratio of less than 0.90.

The congested intersection information for existing conditions is summarized in **Table 9-4**.

Table 9-4
Summary of Existing Congested Study Area Intersection Movements

Intersection	Weekday AM	Weekday MD	Weekday PM	Saturday MD
Tillary St. (E-W) & Flatbush Ave. Ext. (N-S)	EB-L; EB-R; WB-L; WB-TR WB-R; NB-L; NB-T	EB-L; EB-R; WB-L; WB-TR; NB-L	EB-L; WB-L	EB-R; WB-L; NB-L
Tillary St. (E-W) & Gold St. (N-S)	--	--	--	--
Sands St. (E-W) & Navy St. (N-S)	NB-L	--	NB-L	--
Nassau St. (E-W) & Navy St. (N-S)	NB-L; SB-L	--	SB-L	--
Tillary St./Park Ave. (E-W) & Navy St. (N-S)	--	--	SB-L	--
Flushing Ave. (E-W) & Carlton Ave. (N-S)	NB-LR	--	--	--
Flushing Ave. (E-W) & Clermont Ave. (N-S)	--	--	--	--
Flushing Ave. (E-W) & Vanderbilt Ave. (N-S)	--	--	--	--
Flushing Ave. (E-W) & Clinton Ave. (E-W)	NB-LTR	--	--	--
Park Ave. (E-W) & Vanderbilt Ave. (N-S)	NB-TR	--	--	--

Notes: Key to abbreviations: E-W: east-west roadway alignment; N-S: north-south roadway alignment; NB: northbound; SB: southbound; EB: eastbound; WB: westbound. L: left-turn; T: through movement; R: right-turn; e.g., NB-LTR: the northbound left-through-right approach

GOODS DELIVERY

As the project site is unoccupied and has no curb cuts, there is no goods delivery activity associated with it currently.

TRUCK ROUTE NETWORK

Trucks are required to use the designated truck route network in New York City. Trucks should only use non-designated routes at the beginning or end of a trip, when traveling between their origin/destination and a truck route, using the most direct route possible.

There are several designated truck routes located in the vicinity of the project site, which are shown in **Figure 9-4.**

BROOKLYN NAVY YARD TRUCK ACCESS

The closest access point to the project site that can be used by trucks and other commercial vehicles providing goods delivery services for the Navy Yard industrial park is the Sands Street Gate, located at the Sands Street and Navy Street intersection. This gate is open 5 AM to 7 PM, Monday to Friday, and 5 AM to 10 AM, Saturday. At other times, access is available at the Clinton Avenue Gate, located at the Clinton Avenue and Flushing Avenue intersection, which is open 24 hours a day, 7 days per week. These gates provide access to the Brooklyn Navy Yard's internal roadway network.

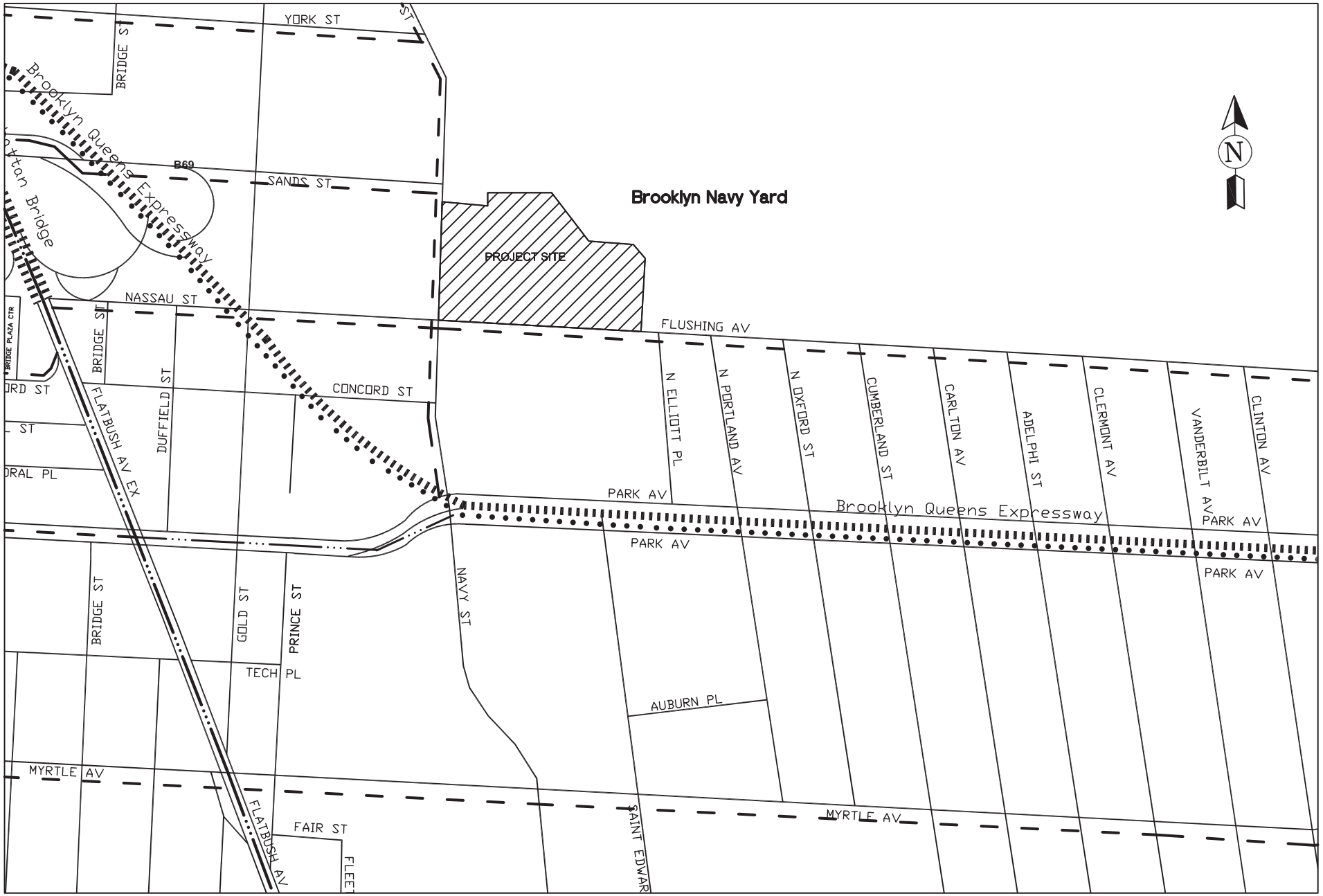
PARKING

The project site is not being actively used and does not provide any parking spaces. In general, in the vicinity of the project site parking demand is accommodated by a mix of off-street accessory parking spaces and on-street parking spaces. Notable accessory parking facilities include several parking lots within the Navy Yard Industrial Park and the parking lot at the northwest corner of the Navy Street and Nassau Street intersection for the New York City Housing Authority (NYCHA) Farragut Houses. Adjacent to the project site, curbside parking is permitted subject to street cleaning regulations. However, no parking is permitted on the north side of Nassau Street and at bus stops. There are no public parking facilities in the immediate vicinity of the project site; the closest is a 29-space lot located approximately a quarter-mile from the project site, on the northeastern edge of Downtown Brooklyn at 246-254 Gold Street, midblock between Tillary and Concord streets.

As discussed above in the "Methodology" section, detailed analysis of on-street or off-street public parking is not warranted and is not provided, as the proposed project would include sufficient on-site accessory parking to meet parking demand for retail and community facility uses, and parking for the light industrial use would be provided in the Navy Yard industrial park.

SUBWAY

For the subway analysis, a threshold of 200 peak hour trips entering or exiting a subway station has been established under 2010 *CEQR Technical Manual* criteria to determine whether new subway demand from a proposed action warrants a detailed analysis at a particular station. Based on the travel demand forecast for the proposed project and the assignment of new subway trips, presented later in this chapter (**Table 9-17**), it is expected that the proposed project would generate 125 subway trips in the weekday AM peak hour, 202 subway trips in the weekday MD peak hour, 229 subway trips in the weekday PM peak hour, and 195 subway trips during the Saturday MD peak hour. Therefore, none of the subway stations closest to the project site would have the potential to experience a peak hour demand in excess of 200 persons per hour in any peak hour except the weekday midday and PM peak hours. A Level 2 (Project-Generated Trip Assignment) Screening Assessment is provided later in this chapter and demonstrates that during



ADMIRALS ROW PLAZA

Truck Routes
Figure 9-4

the weekday midday and PM peak hour project-generated trips would be dispersed among several different subway stations in Downtown Brooklyn and no single station would process 200 or more peak hour trips. As such, a detailed analysis of subway stations is not warranted. However, this chapter provides a qualitative discussion of subway services likely to be utilized by project-generated demand as background for the trip assignment screening and for informational purposes.

The stations that are likely to be used by project-generated demand, as well as the subway lines they serve, their distance from the project site, and their average weekday and average Saturday ridership for 2007-2009 are shown in **Figure 9-5 and Table 9-5**.

Table 9-5
Subway Stations within 1 mile of Project Site

Subway Station	Line(s) Served	Distance from Project Site (in miles)	2007 Average Weekday Riders*	2008 Average Weekday Riders*	2009 Average Weekday Riders*	2007 Average Saturday Riders*	2008 Average Saturday Riders*	2009 Average Saturday Riders*
York St**	F	0.40	5,131	5,895	6,077	3,141	3,572	3,636
High St	A,C	0.67	5,572	6,088	6,045	3,443	3,653	3,494
Lawrence St	R	0.67	5,433	5,526	5,546	1,271	1,170	792
DeKalb Avenue	B,D,N, Q, R	0.75	16,068	16,722	16,835	8,257	8,285	7,864
Jay St-Boro Hall**	A,C,F	0.75	30,328	31,072	30,177	13,601	13,039	13,080
Court St-Boro Hall**	N,R,2,3, 4,5	0.90	35,069	36,639	37,057	13,420	14,403	14,597
Hoyt St	2,3	0.83	6,652	6,612	6,341	3,317	2,736	3,155
Total			97,601	101,942	101,737	43,133	44,122	43,463

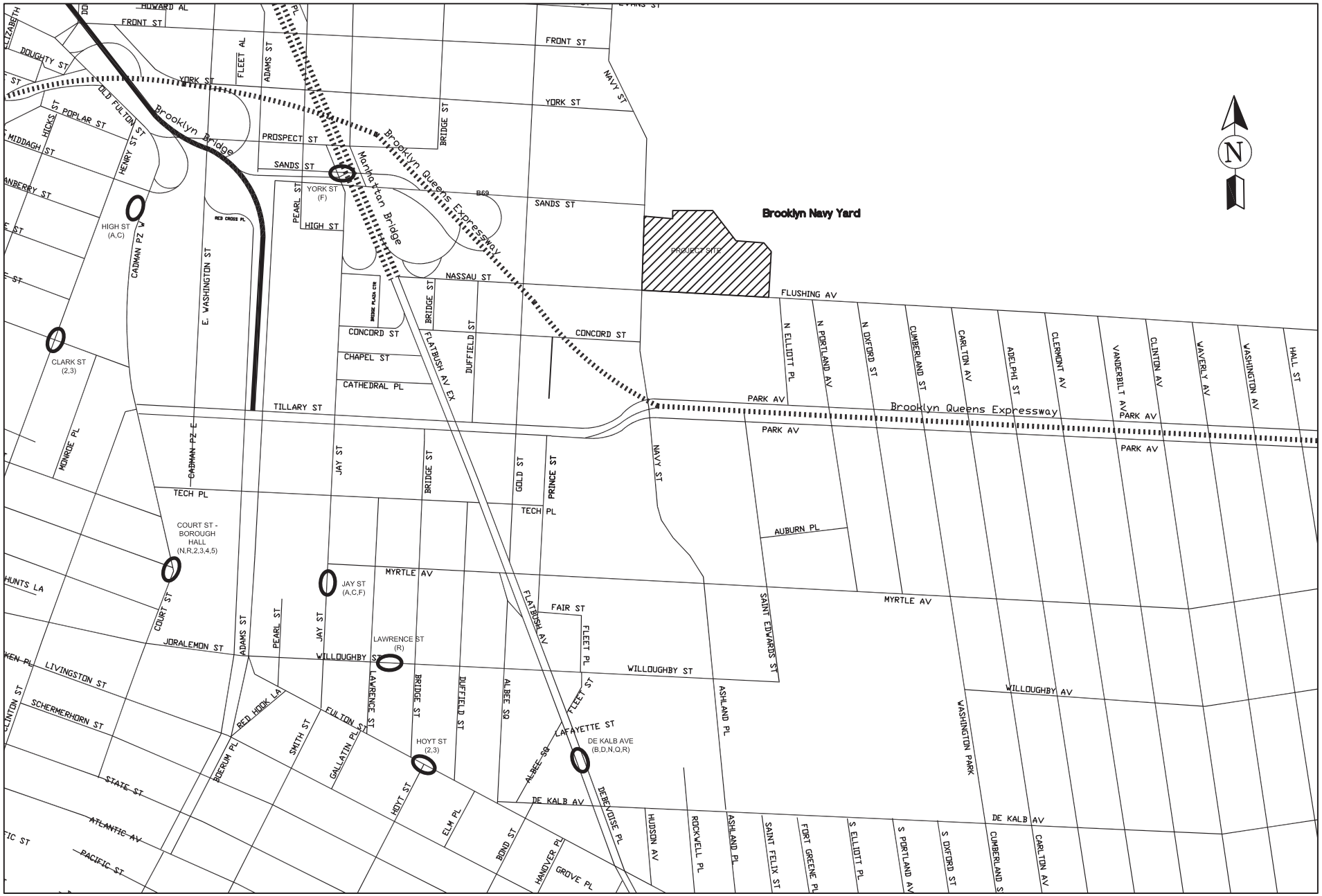
Notes:
* Source: New York City Transit 2007, 2008, and 2009 Subway Ridership Reports
** The Brooklyn Navy Yard industrial park operates free subway shuttle bus services for employees during the AM and PM peak periods to and from the Jay Street-Borough Hall, Court Street-Borough Hall, and York Street subway stations.

It should be noted that a pedestrian connector was built between the Lawrence Street and Jay Street-Borough Hall stations and recently opened (December 2010). This connector combines the two stations into one complex, named "Jay Street-MetroTech," with free transfers among the A, C, F, and R lines. This change is not expected to substantially affect subway ridership volumes in the future.

Some of these stations provide opportunities for transfers to local bus routes, including the B57 and B62 buses at Jay Street-MetroTech station and the B57 bus at Court Street-Borough Hall.

BUS

The project site is served by three bus routes—the B57, B62, and B69. As shown in **Figure 9-2**, all three bus routes directly service the project site. The results of the analysis of existing conditions along each of these three routes are shown in **Table 9-6**. The analysis examines conditions at the maximum load point in the peak direction in the weekday midday (MD, a window of 12-3 pm), the weekday 5-6 PM peak hour, and Saturday midday hours (MD, a window of 12-3 pm). The analysis shows the average passengers per bus and the total available peak hour directional capacity on each route based on a maximum of 54 passengers per bus for standard buses. The following provides a brief description of each route.



Subway Stations

Nearby Subway Stations

Figure 9-5

Table 9-6
Existing Local Bus Conditions

Peak Hour	Route	Peak Direction	Peak Load Point	Peak Hour Buses*	Peak Hour Passengers 2010**	Average Passengers Per Bus	Peak Hour Available Capacity***
MD	B57	EB	Boerum Pl & Livingston St	3	102	34	60
	B62	NB	Smith St & Livingston St	4	141	35	75
	B69	SB	Fulton St & Vanderbilt Ave	2	71	35	37
PM	B57	EB	Flushing Ave & Nostrand Ave	4	161	40	55
	B62	NB	Smith St & Livingston St	6	242	40	82
	B69	SB	Fulton St & Vanderbilt Ave	4	58	15	158
Sat MD	B57	EB	Boerum Pl & Schermerhorn St	3	90	30	72
	B62	SB	Manhattan Ave & Nassau Ave	5	147	29	123
	B69****	-	-	-	-	-	-

Notes:
* Number of peak hour buses is "proposed," taken from DOT data
** Peak hour passengers at peak load point taken from most recently available DOT data from previous years and grown to 2010 levels based on 0.25% annual background growth rate for Downtown Brooklyn, per 2010 *CEQR Technical Manual*
*** Capacity per bus is 54 passengers (Source: 2010 *CEQR Technical Manual*)
**** Effective June, 2010, the B69 does not operate on weekends.

B57

The B57 bus provides local service from Flushing Avenue and 61st Street in Queens to Boerum Place and Schermerhorn Street in Brooklyn. As shown in **Figure 9-2**, in the vicinity of the project site, the B57 operates east-west along Nassau Street/Flushing Avenue and Sands Street, and north-south along Gold Street and Navy Street. The route has a frequency of service of 20 minutes in the weekday MD peak hour. In the PM peak hour and during the Saturday MD peak hours, its frequency of service is 15 minutes in each direction. As shown in **Table 9-6**, for 2010 existing conditions, B57 buses operate with available capacity in the peak direction during the three analyzed peak hours. In the weekday MD, buses in the peak eastbound direction operate with available capacity for an additional 60 passengers, while in the PM, buses in the peak eastbound direction operate with available capacity for an additional 55 passengers. Saturday MD buses in the peak eastbound direction have room for an additional 72 passengers.

B62

The B62 bus line was originally part of the B61 line, a 9.4 mile route running from Queens Plaza to Red Hook. However due to its frequent congestion and schedule problems, the line was split on January 3, 2010, into two parts; the new B61 runs from Downtown Brooklyn to Red Hook, while the new B62 bus provides local service between Queens Plaza in Queens and Livingston Street in Brooklyn. As shown in **Figure 9-2**, the major streets of operation near the project site are Park Avenue, on which it runs east-west, and Navy Street and Gold Street, on which it runs north-south. In the weekday MD peak hour, the route has a service frequency of 15 minutes in the peak northbound direction and an available capacity of 75 passengers. Its frequency of service in the PM peak hour is 10 minutes, also in the northbound direction, with an available

capacity of 82 passengers. During the Saturday MD peak period, the B62 has a frequency of 12 minutes in the peak southbound direction, and an available capacity of 123 passengers.

B69

The B69 bus provides local service between Cortelyou Road and Jay Street in Brooklyn. As shown in **Figure 9-2**, in the vicinity of the project site, the B69 operates north-south on Vanderbilt Avenue, and east-west on Nassau Street/Flushing Avenue and Sands Street. In the weekday MD peak hour, the B69 route has a frequency of service of 30 minutes in the peak southbound direction. Its frequency of service in the PM peak hour is 15 minutes in the peak southbound direction. There is no weekend service for the B69 bus. As shown in **Table 9-6**, for 2010 existing conditions, B69 buses operate with available capacity in the southbound peak direction in both the MD and PM peak hours. In the MD, buses have the capacity for an additional 37 passengers, while in the PM, buses operate with the capacity for an additional 158 passengers.

BUS STOPS

There are three bus stops in very close proximity to the project site. The closest stop is adjacent to the project site on Navy Street southeast of the intersection of Navy Street and Sands Street, for northbound B57, B62, and B69 buses. There is a stop for southbound B62 buses on Navy Street southwest of the same intersection across the street from the project site. There is a stop for eastbound B57 and B69 buses on Nassau Street southeast of the intersection of Nassau Street and Navy Street, adjacent to Barry Park across the street from the project site.

PEDESTRIANS

At present, pedestrian activity is very light at the sidewalks, crosswalks, and street corners immediately adjacent to the project site. This reflects the site's location near the edge of the public street network adjacent to the Brooklyn Navy Yard industrial park, which has limited pedestrian access, and the absence of major pedestrian traffic generators such as a subway station or retail uses. Pedestrian activity in this area is generally associated with City facilities including: PS 287, the Bailey K. Ashford School, located at the southwest corner of Navy Street and Nassau Street; Commodore Barry Park and Playground, on the block bounded by Nassau Street, N. Elliott Place, Park Avenue, and Navy Street; and the Farragut Houses, a NYCHA housing development on the blocks bounded by York Street, Navy Street, Nassau Street, Gold Street, Sands Street, and Bridge Street. There is a school crossing guard posted at the intersection of Navy Street and Nassau Street during school opening and closing hours. Pedestrian volumes are generally much higher in areas of Downtown Brooklyn and Fort Greene a quarter-mile away and farther.

LEVEL OF SERVICE ANALYSIS

The analysis of pedestrian conditions focuses on the sidewalks, crosswalks, and corner areas immediately adjacent to the project site, areas where substantial numbers of new trips would be generated by the proposed project. Further from the site project-generated pedestrian trips would be dispersed throughout the street network. As pedestrian trips to and from the project site would be made to the various subway stations, bus stops, and residential areas in the surrounding community, there would be no single origin/destination point for project-generated pedestrian trips. Therefore, analysis of pedestrian facilities beyond the immediate vicinity of the project site is not warranted as significant adverse impacts would be very unlikely at such locations.

The pedestrian facilities selected for analysis include:

Sidewalks:

- North sidewalk of Nassau Street between Navy and Gold Streets
- North sidewalk of Nassau Street east of Navy Street
- North sidewalk of Nassau Street/Flushing Avenue at N. Elliott Place

Crosswalks:

- North, east, south, and west crosswalks at Navy Street and Nassau Street
- North, east, south, and west crosswalks at Navy Street and Sands Street

Street Corners:

- Northwest, northeast, and southeast corners at Navy Street and Nassau Street
- Northwest, northeast, and southeast corners at Navy Street and Sands Street
- Southwest corner of N. Elliott Place and Flushing Avenue

Tables 9-7, 9-8, and **9-9** show the results of the analyses of existing conditions for sidewalks, crosswalks, and street corners, respectively, for the weekday AM, midday, and PM peak hours and Saturday midday peak hour. As shown in these tables, given the very low pedestrian volumes in this area, all analyzed elements operate at LOS A.

Table 9-7
Existing Sidewalk Conditions

Intersection	Sidewalk Location	Effective Width (ft)	Peak 15-Minute Volumes				Flow Rate (per/min/ft)				Platoon Flow Level of Service			
			AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
Nassau St. btwn Navy St. & Gold St.	North	13.5	9	1	3	7	0.04	0.00	0.01	0.03	A	A	A	A
Nassau St. East of Navy St.	North	10.5	3	3	2	5	0.02	0.02	0.02	0.03	A	A	A	A
Nassau St./ Flushing Ave. at N. Elliott Pl.	North	9.6	6	4	3	9	0.04	0.03	0.02	0.06	A	A	A	A

Notes: Effective width calculated by deducting 1.5 ft for wall avoidance, 1.5 ft for curbside obstructions and an additional 0.5 ft for other sidewalk obstacles from measured width. Persons per minute per foot of effective width.

Table 9-8
Existing Crosswalk Conditions

Location	Xwalk	Existing Peak 15-Minute Volumes				Average Pedestrian Space (sq-ft/ped)				Existing Levels of Service			
		AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
Navy St. and Nassau St.	North	9	4	6	11	284.6	1,840.7	1,334.3	235.5	A	A	A	A
	West	55	5	12	38	732.9	1,656.0	1,102.1	598.6	A	A	A	A
	South	13	6	15	7	261.7	1,524.0	1,202.6	195.0	A	A	A	A
	East	9	4	7	21	639.7	1,656.0	1,102.1	598.6	A	A	A	A
Navy St. and Sands St.	North	19	4	7	5	578.6	2,758.5	1,377.9	2,206.3	A	A	A	A
	West	31	15	11	4	379.0	1,182.4	984.8	2,961.4	A	A	A	A
	South	10	3	4	5	457.9	1,428.5	1,189.7	3,578.0	A	A	A	A
	East	5	4	5	21	2,072.1	2,592.3	1,477.6	486.9	A	A	A	A

Table 9-9
Existing Corner Area Condition

Intersection	Corner	Curb Radii (feet)	Existing Peak 15-Minute Volumes				Average Pedestrian Space (sq-ft./ped)				Existing Level of Service			
			AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
Navy St. and Nassau St.	NW	12	1	0	0	5	1,518.4	4,785.2	1,856.8	617.5	A	A	A	A
	NE	12	1	0	0	5	1,294.2	3,514.0	2,236.5	663.7	A	A	A	A
	SE	12	3	0	2	1	2,318.9	6,447.2	2,636.3	1,999.9	A	A	A	A
Navy St. and Sands St.	NW	12	8	1	3	3	659.8	2,583.0	1,683.0	3,238.5	A	A	A	A
	NE	12	1	2	2	0	1,193.0	2,984.8	1,753.1	1,146.1	A	A	A	A
	SE	12	1	0	1	0	535.8	1,047.1	1,045.9	796.8	A	A	A	A
Nassau St./ Flushing Ave. and N. Elliott Pl.	SW	12	1	0	0	1	2,416.7	22,988.4	9,187.9	6,562.8	A	A	A	A

BICYCLE FACILITIES

The on-street bicycle facilities in the study area are a resource for the local population. These currently include a separated on-street path, known as a "Class 1" facility, running east-west on Sands Street (ultimately connecting to the Manhattan Bridge). Class 1 bike paths are protected from traffic by parked cars and/or curbs or are located in off-street paths. In addition, there are on-street striped routes, known as "Class 2" facilities running north-south on Carlton Avenue and Navy Street and running east-west on Nassau Street/Flushing Avenue. They are typically painted on the road next to the parking lane and are marked with bicycle symbols to provide a defined space for bicyclists and a visual cue to motorists and pedestrians. There is a "Class 3," or on-street signed route, running south on Cumberland Street. These lanes are shared with drivers, and are marked by "sharrows" (bike symbols and chevrons), which are placed just far enough from parked cars to help bikers avoid opening car doors.

These lanes connect with the larger Citywide bicycle network and directly benefit the community by providing dedicated cycling space, which is designed to encourage ridership and increases safety for cyclists and non-cyclists.

SAFETY

Chapter 16 of the 2010 *CEQR Technical Manual* defines a high crash location as "one where there were 48 or more total crashes (reportable and non-reportable) or five or more pedestrian/bicycles injury crashes in any consecutive 12 months of the more recent 3-year period for which data is available."

The annual number of pedestrians and bicyclists injured in motor vehicle accidents at high crash locations in the traffic study area from October 2007 through September 2010 is shown in **Table 9-10**. There were no accident-related fatalities during this time. Accidents resulting in injuries to pedestrians or bicyclists often involve turning vehicles, with failure to yield the right-of-way to pedestrians in crosswalks frequently cited as a causal factor.

Table 9-10
Pedestrian & Bicyclist Injuries from Vehicle Accidents

Intersection	Total Pedestrian/Bicyclist Injuries				Highest Number of Injuries in any 12 month period (rolling) between Oct. 2007-Sep. 2010
	Oct-Dec 2007	2008	2009	Jan-Sep 2010	
Adelphi St & Flushing Ave	2	1	2	3	5
Carlton St & Flushing Ave	2	0	5	1	5
Clinton Ave & Flushing Ave	0	1	4	1	5
Flatbush Ave Ext & Tillary St	2	17	23	27	30
Flushing Ave & N. Elliott Pl	0	0	5	0	5
Flushing Ave & N. Portland Ave	0	5	4	1	5
Navy St & Park Ave	1	4	3	2	5
Navy St & Sands St	3	3	2	1	6
Park Ave & Vanderbilt Ave	2	4	4	1	5

As shown in **Table 9-10**, there are nine intersections in the vicinity of the project area that experienced five or more pedestrians or bicyclists injuries in any consecutive 12-month period during the 2007-2010 study period. The Flatbush Avenue Extension and Tillary Street intersection, where two major arterial roadways meet, is the highest accident location in the study area, far exceeding the high crash location threshold with 30 accidents involving injuries to pedestrians or bicyclists in the peak 12-month period. The other high crash locations, with a high of 5 or 6 accidents in the peak 12-month period, include the Navy Street and Sand Street intersection adjacent to the project site and the Nassau Street/Flushing Avenue and N. Elliott Place intersection approximately 150 feet east of the project site.

In addition, two of the high crash location intersections experienced 48 or more total accidents (reportable and non-reportable) in a 12-month period during the 2007-2010 study period. These intersections are:

- Flatbush Avenue Extension and Tillary Street – there were 129 accidents during a 12-month period
- Gold Street and Tillary Street – there were 58 accidents during a 12-month period

Other key intersections in the study area were found to not be high crash locations. These intersections include:

- Flushing Avenue and Clermont Avenue
- Flushing Avenue and Cumberland Street
- Flushing Avenue and North Oxford Street
- Flushing Avenue and Vanderbilt Avenue
- Gold Street and Tillary Street
- Nassau Street and Navy Street
- Park Avenue and the Brooklyn-Queens Expressway

SCHOOL CROSSWALKS

As part of the "Safe Routes to Schools" initiative, DOT provides traffic safety infrastructure in the vicinity of schools. This includes PS 287, located diagonally across the street from the project site at the southwest corner of the intersection of Navy Street and Nassau Street. Traffic

safety measures around schools include designated schools crosswalks where children are recommended to cross. The school crosswalks are ladder striped to help make the crosswalk more visible to drivers. In addition, motorists are warned of the crossing with roadway markings, "SCHOOL X-ING" and fluorescent yellow-green colored school crossing signs.

School crosswalks in the study area include the south and west crosswalks at the Navy Street and Nassau Street intersection and the west crosswalk at the Navy Street and Sands Street intersection. As noted above, there is a school crossing guard at the intersection of Navy Street and Nassau Street during school opening and closing periods.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT (NO ACTION)

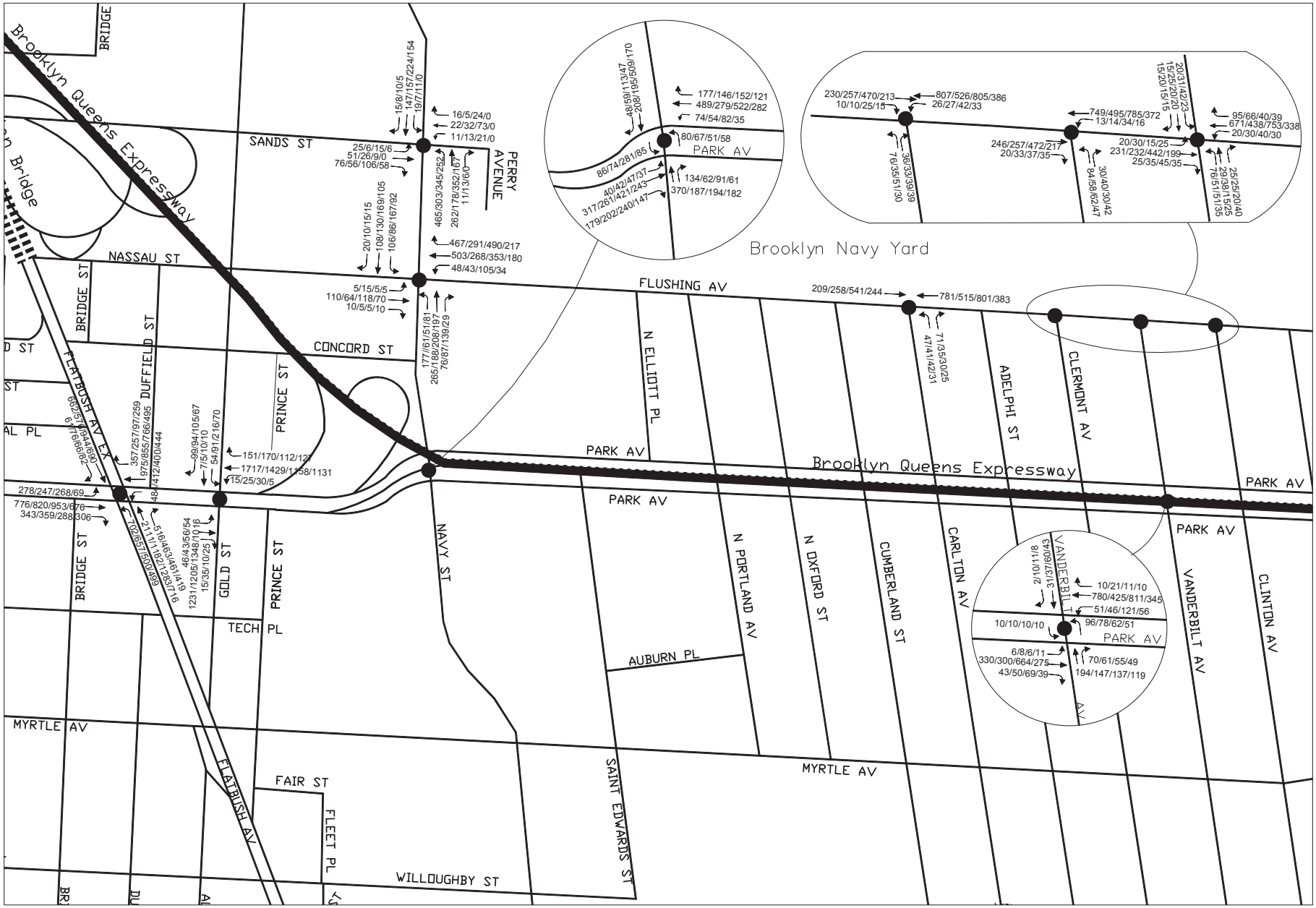
In the future without the proposed project there is expected to be an increase in transportation demands. This increase will be from sites expected to be developed during the 2010 to 2014 period as well as background growth reflecting general long-term trends and smaller developments. Based on a review of conditions in the land use study area, Table 2-1 in Chapter 2, "Land Use, Zoning, and Public Policy, identifies 13 development sites likely to be developed by 2014. For transportation analyses each of development was reviewed to determine if it is likely to generate substantial new travel demand. This review indicated that four of these No Action projects: (1) the Navy Green development on the former Navy Brig site; (2) 257-277 Gold Street; (3) BNY Building 128 Green Manufacturing Center; and (4) BNY Building 268 Duggal Greenhouse space; are likely to generate substantial numbers of new vehicle and bus trips given their size and location relative to the project site. Accordingly, the traffic and bus analyses account for trips generated by these developments. The other No Action projects are smaller and are accounted for in the background growth, which is 0.25 percent per year.

TRAFFIC

Figure 9-6 shows the expected 2014 No Action peak hour traffic volumes within the study area in each of the four peak hours analyzed. Capacity analyses were again performed at each intersection applying the future 2014 No Action traffic volumes to the roadway network. Results of the analysis are summarized on **Table 9-11**, which shows the 2014 No Action v/c ratios, delays and level of service for each lane group approach and compares them to the existing conditions. The table also shows that there will be no newly congested intersections.

At the intersection of Tillary Street and Flatbush Avenue Extension, there will be two additional congested approaches in the PM peak hour. The eastbound right-turn will deteriorate from LOS D, with 54.2 seconds of delay and a v/c ratio of 0.76, to LOS E, with 55.1 seconds of delay and 0.77 v/c ratio. The westbound through-right movement will deteriorate from LOS D, with 54.2 seconds of delay and a v/c ratio of 0.89, to LOS E, with 57.8 seconds of delay and a v/c ratio of 0.92. No other existing uncongested approaches at this intersection will become congested under the No Action condition.

At the intersection of Flushing Avenue and Clermont Avenue, there will be two newly congested approaches in the PM peak hour. The westbound approach v/c ratio will deteriorate from 0.88 to 0.95, but will remain at LOS C. The northbound approach will deteriorate from LOS D, with 49.3 seconds of delay and a v/c ratio of 0.54, to LOS E, with 56.7 seconds of delay but a v/c ratio of 0.68.



Legend: ● Analyzed Signalized Intersection 2/3/4/6 = AM/MD/PM/Saturday MD Increment Traffic Volume

2014 No-Build Peak Hour Traffic Volumes

ADMIRALS ROW PLAZA **Figure 9-6**

Table 9-11
2014 No-Build Conditions
Level of Service at Analyed Intersctions

Signalized Intersection	Lane Group	Existing AM Peak Hour V/C Ratio	Delay (sec/veh)	LOS		No-Build AM Peak Hour V/C Ratio	Delay (sec/veh)	LOS		Existing MD Peak Hour V/C Ratio	Delay (sec/veh)	LOS		No-Build MD Peak Hour V/C Ratio	Delay (sec/veh)	LOS		Existing PM Peak Hour V/C Ratio	Delay (sec/veh)	LOS		No-Build PM Peak Hour V/C Ratio	Delay (sec/veh)	LOS		Existing SMD Peak Hour V/C Ratio	Delay (sec/veh)	LOS	No-Build SMD Peak Hour V/C Ratio	Delay (sec/veh)	LOS
Tillary Street (E-W) @	EB-L	1.04	114.0	F	*	1.05	118.1	F	*	1.05	121.7	F	*	1.06	125.4	F	*	1.05	119.1	F	*	1.06	122.4	F	*	0.29	47.6	D		0.30	47.7	D	
Flatbush Avenue Ext (N-S)	EB-TR	0.70	42.6	D		0.72	43.2	D		0.79	45.9	D		0.81	47.1	D		0.84	48.0	D		0.87	49.7	D		0.59	39.8	D		0.62	40.4	D	
	EB-R	0.92	73.7	E	*	0.93	75.3	E	*	1.03	99.5	F	*	1.04	102.8	F	*	0.76	54.2	D		0.77	55.1	E	*	0.80	58.0	E	*	0.81	58.9	E	*
	WB-L	1.01	92.7	F	*	1.03	98.0	F	*	0.85	65.5	E	*	0.87	68.1	E	*	0.83	63.2	E	*	0.86	66.1	E	*	0.91	71.9	E	*	0.92	74.5	E	*
	WB-TR	1.04	83.7	F	*	1.07	92.7	F	*	0.98	69.2	E	*	1.01	76.6	E	*	0.89	54.2	D		0.92	57.8	E	*	0.55	39.4	D		0.58	40.1	D	
	WB-R	0.99	87.9	F	*	1.01	93.4	F	*	0.72	50.5	D		0.73	51.2	D		0.27	35.9	D		0.28	36.0	D		0.71	49.7	D		0.72	50.4	D	
	NB -L	1.05	91.3	F	*	1.06	94.3	F	*	1.05	92.4	F	*	1.06	95.1	F	*	0.72	45.5	D		0.72	45.6	D		0.88	56.7	E	*	0.89	57.4	E	*
	NB-T	1.05	68.1	E	*	1.06	72.0	E	*	0.65	27.9	C		0.66	28.0	C		0.67	28.4	C		0.68	28.6	C		0.43	23.7	C		0.43	23.8	C	
	SB-T	0.59	37.8	D		0.60	37.9	D		0.48	35.5	D		0.48	35.6	D		0.75	41.8	D		0.76	42.1	D		0.65	38.9	D		0.65	39.1	D	
	SB-R	0.20	32.5	C		0.20	32.5	C		0.23	33.0	C		0.23	33.0	C		0.19	32.3	C		0.19	32.3	C		0.28	34.0	C		0.28	34.0	C	
Unsig.	NB-R	0.75	21.5	C		0.78	23.7	C		0.59	15.5	C		0.61	15.9	C		0.68	19.4	C		0.70	20.2	C		0.52	13.4	B		0.54	13.9	B	
Tillary Street (E-W) @	EB-L	0.27	30.9	C		0.28	34.0	C		0.21	22.1	C		0.27	26.4	C		0.24	19.5	B		0.28	21.8	C		0.20	17.3	B		0.26	19.7	B	
Gold Street (N-S)	EB-TR	0.53	13.4	B		0.55	13.6	B		0.57	14.0	B		0.59	14.2	B		0.58	14.1	B		0.59	14.3	B		0.44	12.2	B		0.45	12.3	B	
	WB-LTR	0.75	24.5	C		0.79	25.7	C		0.67	22.4	C		0.71	23.3	C		0.56	20.2	C		0.59	20.7	C		0.48	18.8	B		0.51	19.2	B	
	SB-LT	0.15	31.5	C		0.17	31.9	C		0.22	32.7	C		0.26	33.5	C		0.54	39.7	D		0.58	41.0	D		0.19	32.2	C		0.24	33.0	C	
	SB-R	0.41	38.1	D		0.43	38.7	D		0.35	36.3	D		0.39	37.2	D		0.38	37.0	D		0.40	37.6	D		0.25	34.1	C		0.30	35.1	D	
Sands Street (E-W) @	EB-LTR	0.24	11.8	B		0.28	12.2	B		0.15	10.9	B		0.17	11.1	B		0.24	11.8	B		0.25	11.9	B		0.12	10.7	B		0.12	10.7	B	
Navy Street (N-S)	WB-LTR	0.08	10.3	B		0.10	10.5	B		0.04	10.0	A		0.08	10.3	B		0.10	10.5	B		0.18	11.2	B									
	NB-L	1.05	73.9	E	*	1.07	79.9	E	*	0.85	35.7	D		0.87	37.5	D		1.04	75.8	E	*	1.06	81.9	F	*	0.74	27.0	C		0.77	29.0	C	
	NB-TR	0.47	14.9	B		0.49	15.3	B		0.35	13.0	B		0.36	13.2	B		0.65	18.8	B		0.66	19.2	B		0.29	12.4	B		0.30	12.4	B	
	SB-LTR	0.32	12.7	B		0.34	12.9	B		0.31	12.4	B		0.31	12.5	B		0.38	13.2	B		0.39	13.3	B		0.28	12.1	B		0.28	12.2	B	
Nassau Street (E-W) @	EB-LTR	0.14	10.0	A		0.17	10.3	B		0.13	13.0	B		0.17	13.4	B		0.16	10.2	B		0.18	10.3	B		0.12	12.9	B		0.14	13.1	B	
Navy Street (N-S)	WB-LT	0.63	17.9	B		0.66	18.7	B		0.45	17.1	B		0.50	18.2	B		0.55	15.8	B		0.61	17.5	B		0.33	15.2	B		0.36	15.7	B	
	WB-R	0.68	20.3	C		0.69	20.6	C		0.56	20.1	C		0.56	20.2	C		0.72	21.6	C		0.72	21.9	C		0.42	17.1	B		0.44	17.3	B	
	NB-L	0.76	58.1	E	*	0.78	59.3	E	*	0.19	18.6	B		0.19	18.7	B		0.25	34.4	C		0.26	34.8	C		0.24	19.4	B		0.24	19.4	B	
	NB-T	0.60	41.8	D		0.63	42.6	D		0.33	20.1	C		0.34	20.3	C		0.50	38.5	D		0.51	38.7	D		0.35	20.4	C		0.35	20.5	C	
	NB-R	0.19	32.6	C		0.29	34.7	C		0.19	18.6	B		0.23	19.0	B		0.48	39.7	D		0.50	40.1	D		0.06	16.9	B		0.08	17.0	B	
	SB -L	0.80	72.4	E	*	0.83	78.6	E	*	0.34	21.8	C		0.35	22.0	C		0.94	90.9	F	*	0.97	98.5	F	*	0.36	22.4	C		0.38	22.7	C	
	SB-TR	0.37	35.7	D		0.37	35.8	D		0.29	19.6	B		0.30	19.7	B		0.45	37.2	D		0.46	37.6	D		0.26	19.2	B		0.26	19.2	B	
Park Av/Tillary St (E-W)@ **NS**	WB-LT	0.63	22.0	C		0.68	23.8	C		0.37	16.4	B		0.41	17.1	B		0.71	24.7	C		0.75	26.5	C		0.36	16.3	B		0.42	17.3	B	
Navy Street (N-S)	WB-R	0.33	16.4	B		0.33	16.5	B		0.28	15.5	B		0.28	15.6	B		0.29	15.7	B		0.29	15.8	B		0.25	15.1	B		0.25	15.1	B	
	NB-L	0.33	32.3	C		0.37	33.3	C		0.24	29.6	C		0.31	31.5	C		0.43	41.2	D		0.52	48.5	D		0.19	28.7	C		0.26	30.3	C	
	NB-T	0.62	37.7	D		0.69	40.7	D		0.32	30	C		0.34	30.5	C		0.38	31.2	C		0.39	31.4	C		0.36	30.8	C		0.37	31.1	C	
	SB -T	0.38	31.2	C		0.40	31.5	C		0.32	29.8	C		0.36	30.6	C		0.83	47.6	D		0.88	52.0	D		0.27	29.1	C		0.31	29.7	C	
SS	EB -LT	0.38	16.5	B		0.41	17.0	B		0.35	16.1	B		0.38	16.5	B		0.55	19.6	B		0.58	20.4	C		0.29	15.2	B		0.31	15.5	B	
	NB-T	0.70	40.8	D		0.75	43.4	D		0.35	30.5	C		0.38	31.3	C		0.36	30.9	C		0.38	31.2	C		0.37	31.0	C		0.40	31.7	C	
	SB-L	0.60	47.4	D		0.65	52.4	D		0.28	30.7	C		0.34	32.2	C		1.04	101.4	F	*	1.08	116.0	F	*	0.36	32.9	C		0.43	35.1	D	
	SB-T	0.38	31.5	C		0.44	32.8	C		0.33	30.3	C		0.38	31.3	C		0.56	35.6	D		0.62	37.7	D		0.22	28.5	C		0.28	29.5	C	
Flushing Ave (E-W)	EB-T	0.26	7.3	A		0.27	7.4	A		0.37	10.7	B		0.41	11.2	B		0.66	13.8	B		0.70	14.9	B		0.37	10.6	B		0.39	10.9	B	
Carlton Ave(NB)	WB-T	0.75	7.8	A		0.77	8.2	A		0.60	14.2	B		0.62	14.6	B		0.85	22.0	C		0.87	23.1	C		0.44	11.3	B		0.46	11.6	B	
	NB-LR	0.63	57.6	E	*	0.69	62.0	E	*	0.32	28.0	C		0.36	29.0	C		0.37	45.1	D		0.39	45.6	D		0.26	26.9	C		0.27	27.0	C	
Flushing Ave (E-W)	EB-TR	0.27	7.4	A		0.28	7.4	A		0.36	10.4	B		0.38	10.7	B		0.56	11.2	B		0.58	11.6	B		0.31	9.9	A		0.33	10.1	B	
Clermont Ave(NS)	WB-LT	0.78	8.8	A		0.82	10.1	B		0.63	14.8	B		0.68	16.1	B		0.88	24.5	C	*	0.95	34.2	C	*	0.46	11.6	B		0.51	12.5	B	
	NB-LR	0.45	46.0	D		0.60	52.2	D		0.16	24.9	C		0.21	25.7	C		0.54	49.3	D		0.68	56.7	E	*	0.19	25.3	C		0.28	26.9	C	
Flushing Ave (E-W)	EB-T	0.22	6.8	A		0.25	7.0	A		0.28	9.4	A		0.31	9.7	A		0.44	9.1	A		0.47	9.5	A		0.23	8.9	A		0.27	9.3	A	
Vanderblit Ave(NS)	EB-R	0.03	5.6	A		0.03	5.6	A		0.06	7.7	A		0.06	7.7	A		0.06	5.8	A		0.06	5.8	A		0.07	7.7	A		0.07	7.7	A	
	WB-LT	0.66	5.5	A		0.68	5.8	A		0.53	12.6	B		0.56	13.1	B		0.80	18.2	B		0.83	20.2	C		0.39	10.6	B		0.43	11.0	B	
	NB-LR	0.55	49.8	D		0.56	50.4	D		0.43	29.9	C		0.44	30.1	C		0.45	46.1	D		0.46	46.5	D		0.30	27.2	C		0.31	27.4	C	
Flushing Ave (E-W)	EB-LTR	0.32	7.9	A		0.36	8.3	A		0.43	11.6	B		0.48	12.3	B		0.58	11.8	B		0.62	12.6	B		0.36	10.6	B		0.41	11.2	B	
Clinton Ave(NS)	WB-LTR	0.67	5.8	A		0.73	6.9	A		0.58	13.5	B		0.62	14.6	B		0.83	19.9	B		0.87	22.9	C		0.43	11.1	B		0.47	11.7	B	
	NB-LTR	0.80	72.2	E	*	0.82	74.1	E	*	0.52	33.1	C		0.53	33.5	C		0.54	51.7	D		0.56	53.0	D		0.42	30.2	C		0.42	30.2	C	
(Navy Yard Driveway)	SB-LTR	0.27	41.9	D		0.32	43.0	D		0.21	25.6	C		0.26	26.4	C		0.35	43.4	D		0.54	50.4	D		0.24	26.1	C		0.26	26.4	C	
Park Ave (E-W) **NS**	WB-LTR	0.50	14.7	B		0.51	14.9	B		0.33	12.5	B		0.34	12.6	B		0.62	16.9	B		0.63	17.2	B		0.26	11.8	B		0.27	11.8	B	
Vanderblit Ave(NS)	NB-LT	0.65	44.6	D		0.66	45.4	D		0.61	43.1	D		0.64	44.9	D		0.44	37.3	D		0.48	38.5	D		0.34	35	C		0.37	35.7	D	
	SB-TR	0.12	31.1	C		0.12	31.2	C		0.17	31.9	C		0.17	31.9	C		0.19	32.2	C		0.20	32.3	C		0.18	32.1	C		0.19	32.2	C	
SS	EB-LTR	0.25	11.6	B		0.25	11.7	B		0.27	11.8	B		0.28	12.0	B		0.44	13.8	B		0.45	14.0	B		0.21	11.2	B		0.22	11.3	B	
	NB-TR	0.84	58.0	E	*	0.85	59.5	E	*	0.77	51.6	D		0.80	54.3	D		0.6	42	D		0.62	42.9	D		0.48	38.4	D		0.50	39.0	D	
	SB-LT	0.29	33.9	C		0.30	34.1	C		0.27	33.5	C		0.28	33.6	C		0.45	36.9	D		0.45	37.0	D		0.33	34.6	C		0.34	34.8	C	

NOTES:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach .
V/C Ratio - Volume to Capacity Ratio, SEC/VEH - Seconds per vehicle
LOS - Level of service
* -Denotes Congested Location in the 2014 No-Build Condition
Analysis is based on the 2000 Highway Capacity Manual Methodology (HCS+™ 5.4).

At the intersection of Sands Street and Navy Street, in the PM peak hour the northbound left-turn will deteriorate from LOS E, with 75.8 seconds of delay and a v/c ratio of 1.04, to LOS F, with 81.9 seconds of delay and a v/c ratio of 1.06.

All other congested approaches will remain at the same level of service that they are under existing conditions.

GOODS DELIVERY

There are no anticipated to changes to the City's designated truck route network in the traffic study area in the future without the proposed project. Under the No Action condition, there would continue to be no goods delivery activity associated with the project site.

PARKING

In the future without the proposed project it is expected that parking conditions would remain similar to existing conditions.

SUBWAY

There are anticipated changes to the subway services in the vicinity of the project site under the 2014 No Action condition.

BUS

The demand for bus transit within the study area is anticipated to increase in the future due to both background growth and anticipated development in the area surrounding the project site. To forecast transit demand for the No Action condition, an annual background growth rate of 0.25 percent per year was applied to existing demand, per the 2010 *CEQR Technical Manual*.

In addition, consistent with the *CEQR Technical Manual*, the demand generated by the thirteen development projects listed in Table 2-1, "No Action Projects," in Chapter 2, "Land Use, Zoning, and Public Policy," were accounted for to establish No Action transit demand. For the four largest projects, discrete travel demand forecasts and trip assignments were prepared and incorporated into the analysis. The other nine No Action projects will be adding either a small amount or no dwelling units or non-residential space, and are therefore considered part of the background growth. Overall, the projected increase in ridership can be accommodated by existing capacity on the three bus routes serving the project site under the 2014 No Action condition.

Table 9-12, "2014 No Action Bus Trip Summary," shows the projected number of peak hour bus passengers in the 2014 With Action year, as a result of background growth and the No Action projects. A comparison between the 2010 existing conditions with the 2014 No Action condition shows that the greatest decrease in available capacity, of 52 passengers, will take place on the eastbound B57 line during Saturday MD peak hour. The second largest decrease in available capacity, of 26 passengers, will occur on the northbound B62 during the weekday PM peak hour. The northbound B62 will experience an available capacity decrease of 21 passengers, the third largest decrease, during the weekday MD peak hour. However, all three lines will still have available capacity in their peak direction during peak hours, indicating that bus travel in the vicinity of the project site will not incur significant adverse impacts in the No Action condition.

Table 9-12
No Action Bus Trip Summary

Peak Hour	Route	Peak Direction	Peak Hour Buses*	2010 Available Capacity	Total NB Peak Hour Passengers 2014	2014 NB Available Capacity	Decrease in Avail. Cap. From Ex. Conditions
MD	B57	EB	3	60	118	44	16
	B62	NB	4	75	162	54	21
	B69	SB	2	37	79	29	8
PM	B57	EB	4	55	177	39	16
	B62	NB	6	82	268	56	26
	B69	SB	4	158	63	153	5
Saturday MD	B57	EB	3	72	142	20	52
	B62	SB	5	123	150	120	3
	B69	SB	-	-	-	-	-

Notes:
* Number of peak hour buses is "proposed," taken from DOT data
** Peak hour passengers taken from DOT data from previous years and grown to 2014 levels based on the 0.25% rate recommended by the *CEQR Technical Manual* to account for general trends and small No Action projects, with discrete demand from No Action Sites 7 and 8 passing through the peak load point added.
*** Effective June, 2010, the B69 does not operate on weekends.

PEDESTRIANS

Under the No Action condition, it is expected that the pedestrian volumes in the vicinity of the project site would not change substantially. None of the No Action projects identified in Table 2-1 in Chapter 2, "Land Use, Zoning, and Public Policy," will generate significant increases in pedestrian activity at the analyzed locations. These No Action sites are all located at some distance from the project site and it is unlikely that they would generate substantial pedestrian activity through the analyzed locations given the area's land use and transportation patterns. Per *CEQR Technical Manual* guidance, a compounded annual background growth rate was applied to the existing pedestrian volumes for the four years from 2010 existing conditions to 2014 to identify the No Action volumes. This reflects general long-term trends in the area and includes any trips associated with specific developments.

Tables 9-13, **9-14**, and **9-15** present the 2014 No Action condition for sidewalks, crosswalks, and street corners, respectively. As shown in the tables, all analyzed elements will operate at LOS A in all analyzed peak hours.

Table 9-13
No Action Sidewalk Conditions

Intersection	Sidewalk Location	Effective Width (ft)	No Action Peak 15-Minute Volumes				Flow Rate (per/min/ft)				No Action Platoon Flow Level of Service			
			AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
Nassau St. Btwn Navy St. & Gold St.	North	13.5	9	1	3	7	0.04	0.00	0.01	0.03	A	A	A	A
Nassau St. East of Navy St.	North	10.5	3	3	2	5	0.02	0.02	0.02	0.03	A	A	A	A
Nassau St./ Flushing Ave. at N. Elliott Pl.	North	9.6	6	4	3	9	0.04	0.03	0.02	0.06	A	A	A	A

Table 9-14
No Action Crosswalk Conditions

Location	Xwalk	No Action Peak 15-Minute Volumes				Average Pedestrian Space (sq-ft/ped)				No Action Levels of Service			
		AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
Navy St. and Nassau St.	North	8	6	5	7	1,781.8	2,302.8	2,677.0	832.4	A	A	A	A
	West	56	5	12	38	548.3	2,209.9	548.3	169.4	A	A	A	A
	South	13	6	15	7	1,128.8	1,280.4	977.4	1,096.7	A	A	A	A
	East	9	4	7	21	639.7	1,931.6	1,156.5	270.7	A	A	A	A
Navy St. and Sands St.	North	19	4	7	5	578.6	2,758.5	1,377.9	2,206.3	A	A	A	A
	West	31	15	3	4	379.0	1,182.4	984.8	2,961.4	A	A	A	A
	South	10	3	4	5	457.9	1,428.5	1,189.7	3,578.0	A	A	A	A
	East	5	4	5	21	2,072.1	2,592.3	1,477.6	486.9	A	A	A	A

Table 9-15
No Action Corner Area Conditions

Intersection	Corner	Curb Radii (feet)	No Action Peak 15-Minute Volumes				Average Pedestrian Space (sq-ft./ped)				No Action Level of Service			
			AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
Navy St. and Nassau St.	NW	12	1	0	0	5	1,518.4	4,785.2	1,856.8	617.5	A	A	A	A
	NE	12	1	0	0	5	1,294.2	3,514.0	2,236.5	663.7	A	A	A	A
	SE	12	3	0	2	1	2,229.7	6,447.2	2,636.3	1,999.9	A	A	A	A
Navy St. and Sands St.	NW	12	8	1	3	3	659.8	2,583.0	1,683.0	3,238.5	A	A	A	A
	NE	12	1	2	2	0	1,193.0	2,984.8	1,753.1	1,146.1	A	A	A	A
	SE	12	1	0	1	0	535.8	6,447.2	1,045.9	796.8	A	A	A	A
Nassau St./ Flushing Ave. and N. Elliott Pl.	SW	12	1	0	0	1	2,416.7	22,988.4	9,187.9	6,562.8	A	A	A	A

BICYCLE FACILITIES

According to the City's NYC Cycling Map 2010 and plans for the Brooklyn Waterfront Greenway route, a new off-street bicycle and pedestrian path will be implemented along Nassau Street/Flushing Avenue and Navy Street in the immediate vicinity of the project site. This path will connect to the existing northbound bike lanes on Carlton Ave and the southbound lane on Cumberland Street, and will continue north on Navy Street and run westbound on York Street and eastbound on Front Street.

However, the opportunity to provide protected bike lanes in the vicinity of the project site is constricted by the existing wall along the property's perimeter; as that wall likely would remain in place under the No Action condition the greenway plan would not be fully realized at this location under the No Action condition. Using the existing street right-of-way, under the No Action condition the existing on-street bike lanes could be maintained or an off-street shared path for bicyclists and pedestrians could be provided. As discussed in the section on the proposed project, under the With Action condition the project site would provide sufficient space for widened sidewalks to accommodate the full implementation of the greenway with both protected bike-only lanes along the site's frontage separated from vehicular traffic and a separate pedestrian sidewalk. Accordingly, it is expected that implementation of the greenway bordering the project on Nassau Street and Navy Street would be coordinated with the development of the proposed project.

SAFETY

One of the objectives of the Brooklyn Waterfront Greenway is to improve safety for all street users, including providing ample space for pedestrians and bicyclists. In addition to protected bicycle lanes, the greenway plan also includes landscaping, widened sidewalks, and pedestrian refuge islands. The greenway is expected to improve safety conditions under the No Action condition, including at high accident locations along Nassau Street/Flushing Avenue and Navy Street identified above in **Table 9-10**.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT (WITH ACTION)

As discussed in Chapter 1, "Project Description," the proposed project's development program represents the reasonable worst case development scenario as this program would be specified by contract documents between the project developer and the Brooklyn Navy Yard Development Corporation (BNYDC). The travel demand forecast prepared for the proposed project is based on the following development program: approximately 26,214 gsf of specialty retail; approximately 52,854 gsf of local neighborhood retail; approximately 73,823 gsf supermarket; 7,024 gsf community facility/non-profit office space; and approximately 127,257 gsf of light industrial use. The project would include approximately 295 on-site accessory parking spaces for vehicles generated by the retail and community facility/non-profit office uses and 130 spaces would be provided within the Navy Yard industrial park for vehicles generated by the industrial use. Loading berths also would be accessed via Navy Yard industrial park internal roadways.

Vehicular access to the on-site parking lot would be provided by two-way midblock driveways located on Nassau Street and Navy Street. It is proposed that the Nassau Street driveway would be signal-controlled, subject to warrant studies; the signal warrant study has been submitted to DOT and is pending. The Navy Street driveway would be unsignalized and only permit right-turn entry and right-turn exit with street treatments and pavement markings prohibiting left-turns. Pedestrian access also would be provided along both street frontages. Access to the industrial parking spaces and loading docks would be via the Navy Yard industrial park's Sands Street Gate at the Navy Street and Sands Street intersection on weekdays and via the Navy Yard industrial park's Clinton Avenue Gate at the Flushing Avenue and Clinton Avenue intersection on weekends.

TRANSPORTATION PLANNING ASSUMPTIONS AND DEMAND FORECASTS

Table 9-16 shows the transportation planning assumptions used in the proposed project's travel demand forecasts for the weekday AM (8-9 AM), weekday midday (12-1 PM), weekday PM (5-6 PM), and Saturday midday (1-2 PM) peak hours. The table provides the daily generation rates, mode choice, as well as hourly and directional patterns. These transportation planning assumptions were based on standard CEQR criteria, standard professional references, Census data, and recent surveys and studies that have been used in previous EASs and EISs for projects with similar uses and areas of the City with similar characteristics. **Table 9-17** provides the overall resulting trip generation forecast for the proposed project including person trips for each mode of transportation and vehicle trips for autos, taxis, and trucks.

Admirals Row Plaza

TABLE 9-16
TRANSPORTATION PLANNING ASSUMPTIONS

Land Use:	**Specialty Retail**		**Local Retail**		**Community Facility Non-profit Office**		**Industrial /Light Manufacturing**		**Supermarket**	
Size/Units:	26,214 gsf		52,854 gsf		7,024 gsf		127,257 gsf		73,823 gsf	
					(5)					
Trip Generation:	(1)		(1)		Staff	Visitors	(7)		(1)	
Weekday	78.2		205		10	33.6	9.5		175	
Saturday	92.5		240		4.3	14.5	2.8		231	
					per 1,000 sf		per 1,000 sf		per 1,000 sf	
Temporal Distribution:	(1)		(1)		(5)		(7)		(1)	
AM	3.0%		3.0%		24.0%	6.0%	13.2%		5.0%	
MD	9.0%		19.0%		17.0%	9.0%	10.6%		6.0%	
PM	9.0%		10.0%		24.0%	5.0%	13.9%		10.0%	
Sat MD	11.0%		10.0%		17.0%	9.0%	10.6%		9.0%	
	(2)		(1)		(5,6)		(6)		(2)	
Modal Splits:	AM/MD/PM	SAT	All periods		All Periods		All periods		AM/MD/PM	SAT
Auto	36.0%	40.0%	2.0%		57.0%	25.0%	57.0%		36.0%	40.0%
Taxi	1.0%	1.0%	3.0%		1.0%	25.0%	1.0%		1.0%	1.0%
Subway	13.0%	10.0%	4.0%		25.0%	29.0%	25.0%		13.0%	10.0%
Bus	27.0%	22.0%	6.0%		10.0%	11.0%	10.0%		27.0%	22.0%
Walk/Ferry/Other	23.0%	27.0%	85.0%		7.0%	10.0%	7.0%		23.0%	27.0%
	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%		100.0%	100.0%
	(2,3)		(1)		(5)		(7)		(8)	
In/Out Splits:	In	Out	In	Out	In	Out	In	Out	In	Out
AM	61%	39%	50%	50%	96.0%	4.0%	88%	12%	61%	39%
MD	55%	45%	50%	50%	39.0%	61.0%	47%	53%	50%	50%
PM	47%	53%	50%	50%	5.0%	95.0%	12%	88%	51%	49%
Sat MD	52%	48%	50%	50%	60.0%	40.0%	47%	53%	50%	50%
Vehicle Occupancy:	(3)	(3)	(3)		(5)		(7)		(9)	
Auto	2.00	2.70	2.00		1.00	1.65	1.30		2.00	
Taxi	2.00	2.80	2.00		1.40	1.20	1.30		2.00	
Truck Trip Generation:	(1)		(1)		(1)		(4)		(10)	
	0.35		0.35		0.32		0.68		1.20	
	0.04		0.04		0.01		0.20		0.24	
	per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf		per 1,000 sf	
	(1)		(1)		(1)		(4)		(8)	
AM	8.0%		8.0%		10.0%		14.0%		3.0%	
MD	11.0%		11.0%		11.0%		8.6%		6.0%	
PM	2.0%		2.0%		2.0%		1.0%		7.0%	
Sat MD	11.0%		11.0%		11.0%		1.0%		5.6%	
	In	Out	In	Out	In	Out	In	Out	In	Out
AM/MD/PM	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%

Notes :

(1) 2010 CEQR Technical Manual . Modal Split for local retail based on 2000 CEQR Technical Manual.
(2) Based on survey conducted at Rego Park Mall 2 at May 26,2010 & June 5,2010
(3) Atlantic Center Plaza EIS.
(4) Curbside Pickup & Delivery Operations & Arterial Traffic Impact, FHWA, February 1981.
(5) Dutch Kills 2008.
(6) Based on 2000 census reverse-journey-to-work data for tract 23,25,29.01,29.02,543.
(7) Based on data for Land Use 110 (Light Industrial) from "ITE Trip Generation", 8th Edition. Weekday person trip rate : 1.3 x 6.97/ 0.95.
(8) Van Cortlandt Center EAS ,2006. Base on 22,000 weekly shopping transactions.
(9) Based on PHA Pathmark survey at Atlantic Center, Brooklyn December 1997, adjusted to local conditions.
(10) Springfield Gardens Pathmark EAS, February, 1995.

TABLE 9-17
TRAVEL DEMAND FORECAST

Land Use:		Specialty Retail		Local Retail		Community Facility Non-profit Office				Industrial /Light Manufacturing		Supermarket		Total (Before Linked Trips)		Total (After Linked	
Size/Units:		26,214	gsf	52,854	gsf	7,024	gsf			127,257	gsf	73,823	gsf				
Peak Hour Trips:						Staffs		Visitors									
	AM	61		325		17		14		160		646		1,224		979	
	MD	184		2,059		12		21		129		775		3,180		2544	
	PM	184		1,084		17		12		169		1,292		2,758		2206	
	Sat MD	267		1,268		5		9		38		1,535		3,122		2498	
Person Trips:						Staff		Visitors									
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto	14	9	3	3	9	0	3	1	80	11	142	91	251	115	213	98
	Taxi	0	0	5	5	0	0	3	0	1	0	4	3	13	8	11	7
	Subway	5	3	7	7	4	0	4	1	35	6	51	33	106	50	90	43
	Bus	10	6	10	10	2	0	1	0	14	2	106	68	143	86	122	73
	Walk/Ferry/Other	9	6	138	138	1	1	1	0	10	1	91	58	250	204	213	173
	Total	38	24	163	163	16	1	12	2	140	20	394	253	763	463	610	370
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto	37	30	21	21	3	4	2	3	34	39	140	140	237	237	201	201
	Taxi	1	1	31	31	0	0	2	3	1	1	4	4	39	40	33	34
	Subway	13	11	41	41	1	2	2	5	15	17	50	50	122	126	104	107
	Bus	27	22	62	62	0	1	1	1	6	7	105	105	201	198	171	168
	Walk/Ferry/Other	23	19	875	875	1	1	1	1	4	5	89	89	993	990	844	842
	Total	101	83	1030	1030	5	8	8	13	60	69	388	388	1,592	1,591	1,274	1,273
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto	31	35	11	11	0	9	0	3	12	85	237	228	291	371	247	315
	Taxi	1	1	16	16	0	0	0	3	0	1	7	6	24	27	20	23
	Subway	11	13	22	22	0	4	1	3	5	37	86	82	125	161	106	137
	Bus	23	26	33	33	0	2	0	1	2	15	178	171	236	248	201	211
	Walk/Ferry/Other	20	22	460	460	1	1	0	1	1	10	152	146	634	640	539	544
	Total	86	97	542	542	1	16	1	11	20	148	660	633	1,310	1,447	1,048	1,158
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Sat MD	Auto	56	51	13	13	2	1	1	1	10	11	307	307	389	384	331	326
	Taxi	1	1	19	19	0	0	1	1	0	0	8	8	29	29	25	25
	Subway	14	13	25	25	1	1	2	1	4	5	77	77	123	122	105	104
	Bus	31	28	38	38	0	0	1	0	2	2	169	169	241	237	205	201
	Walk/Ferry/Other	37	35	539	539	1	0	1	0	1	1	207	207	786	782	668	665
	Total	139	128	634	634	4	2	6	3	17	19	768	768	1,568	1,554	1,254	1,243
Vehicle Trips :																	
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
AM	Auto (Total)	7	5	2	2	9	0	2	1	62	8	71	46	153	62	130	53
	Taxi	0	0	3	3	0	0	3	0	1	0	2	2	9	5	8	4
	Taxi Balanced	0	0	6	6	0	0	3	3	1	1	4	4	14	14	12	12
	Truck	0	0	1	1	0	0	0	0	6	6	1	1	8	8	8	8
	Total	7	5	9	9	9	0	5	4	69	15	76	51	175	84	150	73
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
MD	Auto (Total)	19	15	11	11	3	4	1	2	26	30	70	70	130	132	111	112
	Taxi	1	1	16	16	0	0	2	3	1	1	2	2	22	23	19	20
	Taxi Balanced	2	2	32	32	0	0	5	5	2	2	4	4	45	45	39	39
	Truck	1	1	1	1	0	0	0	0	4	4	3	3	9	9	9	9
	Total	22	18	44	44	3	4	6	7	32	36	77	77	184	186	159	160
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
PM	Auto (Total)	16	18	6	6	0	9	0	2	9	65	119	114	150	214	128	182
	Taxi	1	1	8	8	0	0	0	3	0	1	4	3	13	16	11	14
	Taxi Balanced	2	2	16	16	0	0	3	3	1	1	7	7	29	29	25	25
	Truck	0	0	0	0	0	0	0	0	0	0	3	3	3	3	3	3
	Total	18	20	22	22	0	9	3	5	10	66	129	124	182	246	156	210
		In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Sat MD	Auto (Total)	21	19	7	7	2	1	1	1	8	8	154	154	193	190	164	162
	Taxi	0	0	10	10	0	0	1	1	0	0	4	4	15	15	13	13
	Taxi Balanced	0	0	20	20	0	0	2	2	0	0	8	8	30	30	26	26
	Truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	21	19	27	27	2	1	3	3	8	8	162	162	223	220	190	188

	Total Vehicle Trips			15% Reduction for Linked Trips*			10% Reduction for Pass-By Trips**		
	Total Vehicles	In	Out	Total	In	Out	Total	In	Out	Total
	AM	175	84	259	150	73	223	144	69	213
	MD	184	186	370	159	160	319	152	154	306
	PM	182	246	428	156	210	366	145	200	345
	Sat MD	223	220	443	190	188	378	176	174	350

* 15% Linked Trips Applied to All Project Components.
** 10% By -Pass Trips Applied to Supermarket.

TRAFFIC

As indicated on **Table 9-17**, the travel demand forecast indicates that during a typical weekday and Saturday the proposed project's development program would generate an increment of approximately 213, 306, 345, and 350 vph in the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, respectively.

VEHICLE TRIP ASSIGNMENT

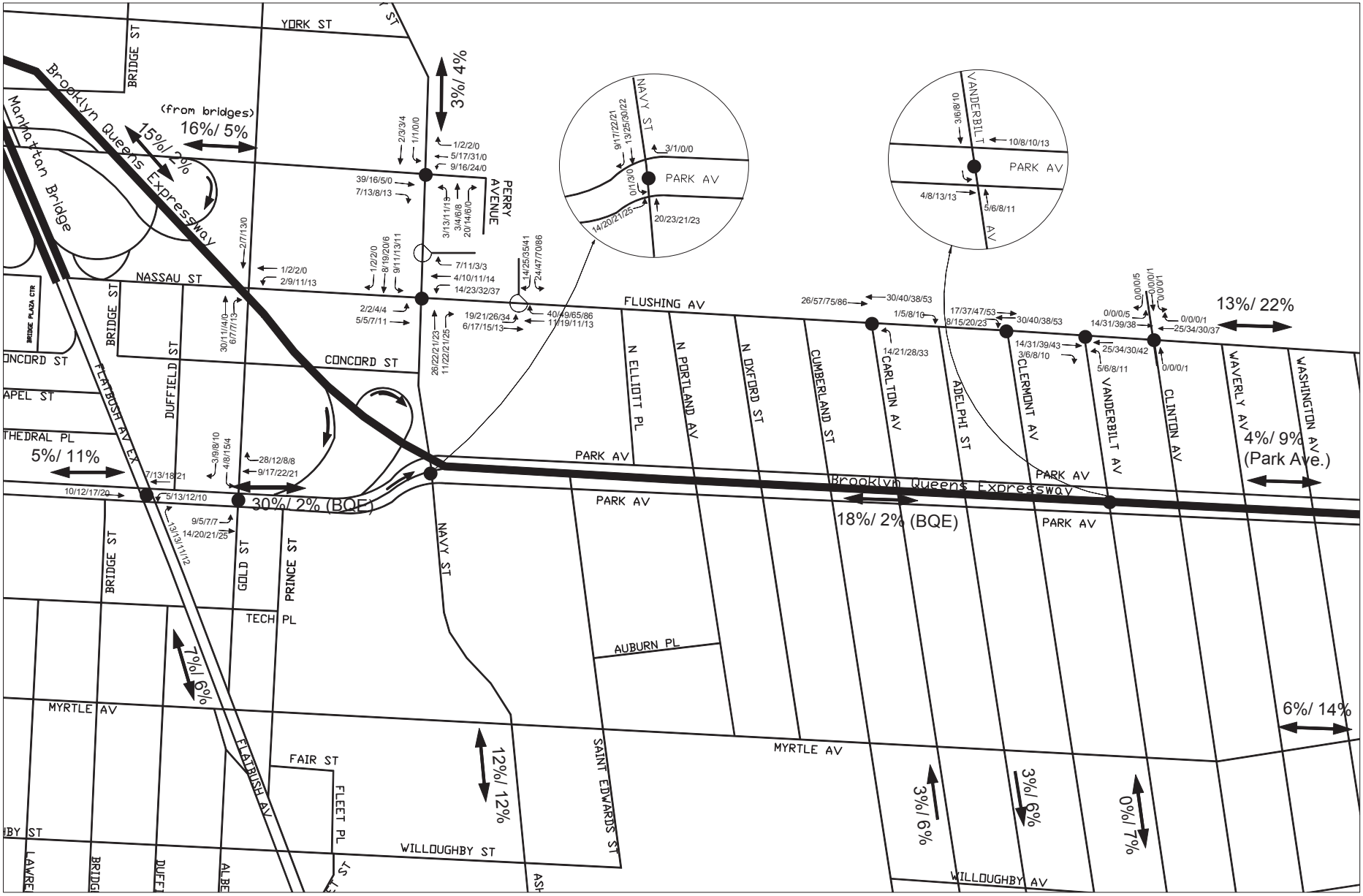
The traffic assignments were prepared separately for the retail center (specialty retail, local retail, and supermarket) and non-retail (light industrial and community facility/non-profit office) components of the proposed development. The peak hour traffic assignment percentage patterns are shown in **Figure 9-7**. The patterns are based on population data from the 2000 Census, the characteristics of the roadway network, and the likely routes that would be used to travel between the project site and surrounding areas, including major access points to the Vinegar Hill/Navy Yard area. Most retail center vehicle trips are expected to have origins and destinations nearby and would travel only on streets, with only approximately 8 percent of trips traveling via the Brooklyn-Queens Expressway or the Manhattan Bridge. By contrast, based onreverse journey-to-work Census data for Census tracts in the vicinity of the site, a majority of the light industrial and community facility/non-profit office vehicle trips are expected to have origins and destinations outside the study area, with approximately 80 percent of trips traveling via the Brooklyn-Queens Expressway or the Manhattan Bridge.

The vehicle trips generated by the proposed project identified in **Table 9-17** were assigned to the area roadways per the assignment patterns in **Figure 9-7** to assess any significant adverse traffic impacts of the proposed project. **Figure 9-7** also shows the resulting incremental traffic volumes at the study area analyzed intersections. Auto trips generated by the retail center and community facility/non-profit office uses were assigned to the project site driveways, using the Nassau Street or Navy Street access points depending on trip origin/destination. Auto trips generated by the industrial uses as well as all truck trips were assigned to enter the Navy Yard industrial park via the Sands Street and Navy Street intersection for the weekday peak hours and the Flushing Avenue and Clinton Avenue intersection for the Saturday midday peak hour. Taxi trips were assigned to one of the site's frontages based on trip origin/destination patterns.

Figure 9-8 shows the With Action condition volumes during the weekday AM, midday, PM, and Saturday midday peak hours, identified by adding the incremental volumes in **Figure 9-7** to the No Action volumes in **Figure 9-6**.

CAPACITY ANALYSIS

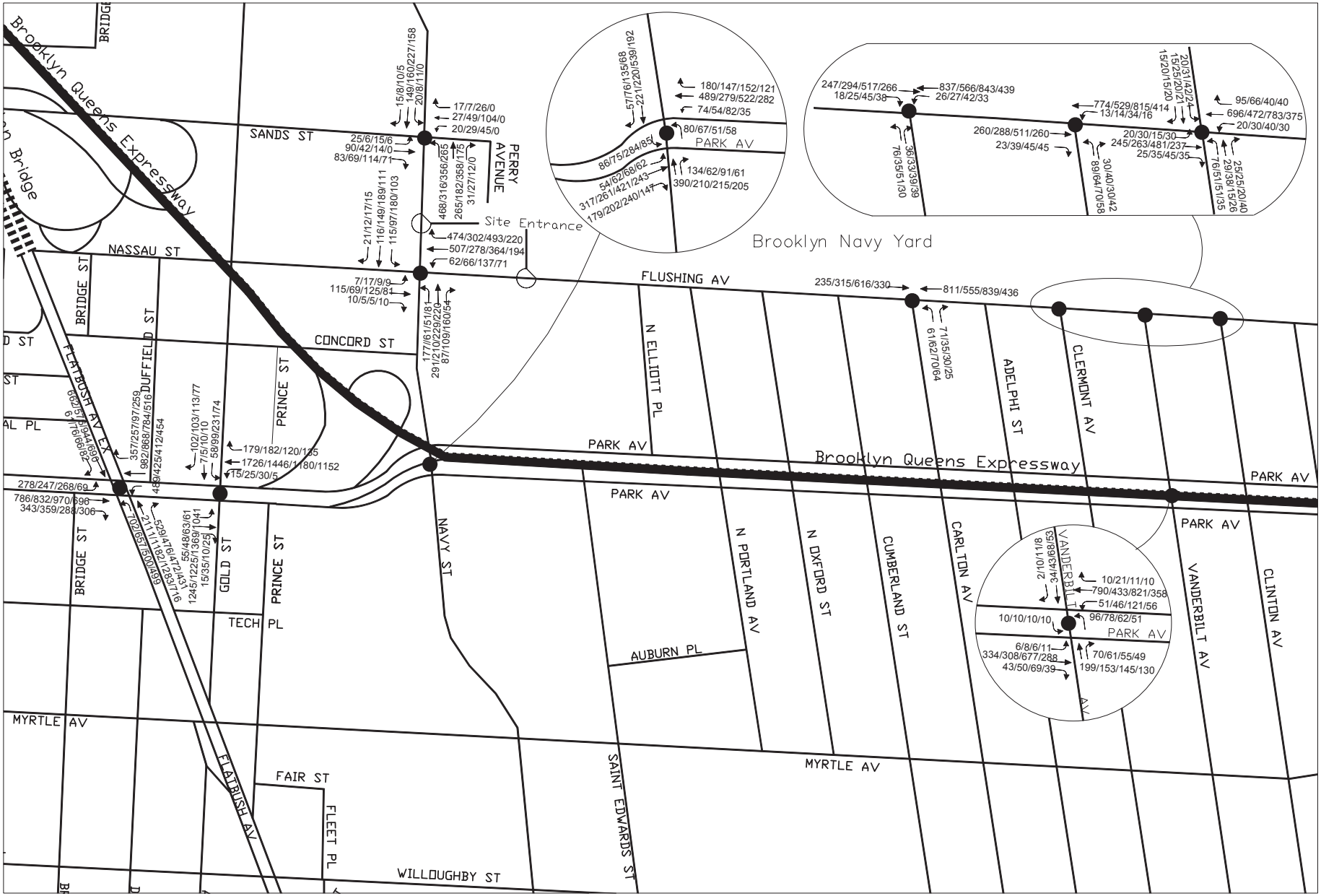
Table 9-18 shows the weekday AM, midday, PM and Saturday midday peak hour volume-to-capacity ratios, delays, and levels of service at analyzed study area intersections in the 2014 future with the proposed project and compares these with 2014 future without the proposed project. The table also identifies the specific movements at each intersection that would experience significant adverse impacts due to project-generated traffic.



Legend: ● Analyzed Signalized Intersection
Site Entrances

2/3/4/6 = AM/MD/PM/Saturday MD Increment Traffic Volume xx% /yy% = Industrial -office / Retail Percentage Distribution

Percentage Distribution of Industrial /Office and Retail Trips and
Net Project Increment Peak Hours Traffic Volume



Legend: ● Analyzed Signalized Intersection ○ Site Entrances 2/3/4/6 = AM/MD/PM/Saturday MD Increment Traffic Volume

2014 With Action Peak Hour Traffic Volumes

ADMIRALS ROW PLAZA **Figure 9-8**

Table 9-18
2014 Build Conditions
Level of Service at Analyed Intersctions

Signalized Intersection	Lane Group	2014 No-Build AM Peak Hour V/C Ratio	Delay (sec/veh)	LOS	2014 Build AM Peak Hour V/C Ratio	Delay (sec/veh)	LOS	2014 No-Build MD Peak Hour V/C Ratio	Delay (sec/veh)	LOS	2014 Build MD Peak Hour V/C Ratio	Delay (sec/veh)	LOS	2014 No-Build PM Peak Hour V/C Ratio	Delay (sec/veh)	LOS	2014 Build PM Peak Hour V/C Ratio	Delay (sec/veh)	LOS	2014 No-Build SMD Peak Hour V/C Ratio	Delay (sec/veh)	LOS	2014 Build SMD Peak Hour V/C Ratio	Delay (sec/veh)	LOS
Tillary Street (E-W) @	EB-L	1.05	118.1	F	1.05	118.1	F	1.06	125.4	F	1.06	125.4	F	1.06	122.4	F	1.06	122.4	F	0.30	47.7	D	0.30	47.7	D
Flatbush Avenue Ext (N-S)	EB-TR	0.72	43.2	D	0.73	43.4	D	0.81	47.1	D	0.83	47.7	D	0.87	49.7	D	0.88	50.9	D	0.62	40.4	D	0.63	40.8	D
	EB-R	0.93	75.3	E	0.93	75.3	E	1.04	102.8	F	1.04	102.8	F	0.77	55.1	E	0.77	55.1	E	0.81	58.9	E	0.81	58.9	E
	WB-L	1.03	98.0	F	1.04	100.9	F	0.87	68.1	E	0.90	71.7	E	0.86	66.1	E	0.89	69.3	E	0.92	74.5	E	0.95	78.2	E
	WB-TR	1.07	92.7	F	1.08	95.6	F	1.01	76.6	E	1.03	80.5	F	0.92	57.8	E	0.94	61.0	E	0.58	40.1	D	0.60	40.6	D
	WB-R	1.01	93.4	F	1.01	93.4	F	0.73	51.2	D	0.73	51.2	D	0.28	36.0	D	0.28	36.0	D	0.72	50.4	D	0.72	50.4	D
	NB -L	1.06	94.3	F	1.06	94.3	F	1.06	95.1	F	1.06	95.1	F	0.72	45.6	D	0.72	45.6	D	0.89	57.4	E	0.89	57.4	E
	NB-T	1.06	72.0	E	1.06	72.0	E	0.66	28.0	C	0.66	28.0	C	0.68	28.6	C	0.68	28.6	C	0.43	23.8	C	0.43	23.8	C
	SB-T	0.60	37.9	D	0.60	37.9	D	0.48	35.6	D	0.48	35.6	D	0.76	42.1	D	0.76	42.1	D	0.65	39.1	D	0.65	39.1	D
	SB-R	0.20	32.5	C	0.20	32.5	C	0.23	33.0	C	0.23	33.0	C	0.19	32.3	C	0.19	32.3	C	0.28	34.0	C	0.28	34.0	C
Unsig.	NB-R	0.78	23.7	C	0.80	25.7	D	0.61	15.9	C	0.63	16.4	C	0.70	20.2	C	0.72	21.0	C	0.54	13.9	B	0.56	14.2	B
Tillary Street (E-W) @	EB-L	0.28	34.0	C	0.34	39.1	D	0.27	26.4	C	0.31	28.9	C	0.28	21.8	C	0.32	24.1	C	0.26	19.7	B	0.29	21.5	C
Gold Street (N-S)	EB-TR	0.55	13.6	B	0.56	13.7	B	0.59	14.2	B	0.60	14.4	B	0.59	14.3	B	0.60	14.5	B	0.45	12.3	B	0.46	12.5	B
	WB-LTR	0.79	25.7	C	0.81	26.3	C	0.71	23.3	C	0.72	23.7	C	0.59	20.7	C	0.61	21.0	C	0.51	19.2	B	0.52	19.4	B
	SB-LT	0.17	31.9	C	0.19	32.2	C	0.26	33.5	C	0.29	33.9	C	0.58	41.0	D	0.62	42.5	D	0.24	33.0	C	0.25	33.2	C
	SB-R	0.43	38.7	D	0.44	39.0	D	0.39	37.2	D	0.43	38.3	D	0.40	37.6	D	0.43	38.5	D	0.30	35.1	D	0.35	36.2	D
Sands Street (E-W) @	EB-LTR	0.28	12.2	B	0.35	13.1	B	0.17	11.1	B	0.21	11.5	B	0.25	11.9	B	0.27	12.2	B	0.12	10.7	B	0.15	10.9	B
Navy Street (N-S)	WB-LTR	0.10	10.5	B	0.13	10.8	B	0.08	10.3	B	0.14	10.9	B	0.18	11.2	B	0.29	12.2	B						
	NB-L	1.07	79.9	E	1.08	83.8	F	0.87	37.5	D	0.91	44.1	D	1.06	81.9	F	1.10	94.7	F *	0.77	29.0	C	0.81	33.2	C
	NB-TR	0.49	15.3	B	0.54	16.3	B	0.36	13.2	B	0.40	13.7	B	0.66	19.2	B	0.68	19.9	B	0.30	12.4	B	0.31	12.6	B
	SB-LTR	0.34	12.9	B	0.34	13.0	B	0.31	12.5	B	0.32	12.6	B	0.39	13.3	B	0.39	13.3	B	0.28	12.2	B	0.29	12.2	B
Nassau Street (E-W) @	EB-LTR	0.17	10.3	B	0.18	10.4	B	0.17	13.4	B	0.18	13.6	B	0.18	10.3	B	0.19	10.5	B	0.14	13.1	B	0.17	13.4	B
Navy Street (N-S)	WB-LT	0.66	18.7	B	0.69	19.8	B	0.50	18.2	B	0.57	19.9	B	0.61	17.5	B	0.69	20.2	C	0.36	15.7	B	0.48	17.8	B
	WB-R	0.69	20.6	C	0.70	21.0	C	0.56	20.2	C	0.59	20.9	C	0.72	21.9	C	0.73	22.1	C	0.44	17.3	B	0.44	17.4	B
	NB-L	0.78	59.3	E	0.79	61.9	E	0.19	18.7	B	0.20	18.9	B	0.26	34.8	C	0.28	35.4	D	0.24	19.4	B	0.24	19.5	B
	NB-T	0.63	42.6	D	0.69	45.3	D	0.34	20.3	C	0.38	20.9	C	0.51	38.7	D	0.56	40.2	D	0.35	20.5	C	0.39	21.1	C
	NB-R	0.29	34.7	C	0.33	35.7	D	0.23	19.0	B	0.28	19.9	B	0.50	40.1	D	0.57	42.9	D	0.08	17.0	B	0.14	17.8	B
	SB -L	0.83	78.6	E	0.99	117.9	F *	0.35	22.0	C	0.41	23.7	C	0.97	98.5	F	1.12	143.4	F *	0.38	22.7	C	0.44	24.7	C
	SB-TR	0.37	35.8	D	0.40	36.4	D	0.30	19.7	B	0.35	20.4	C	0.46	37.6	D	0.52	39.1	D	0.26	19.2	B	0.27	19.4	B
Park Ave (E-W)@ **NS**	WB-LT	0.68	23.8	C	0.68	23.8	C	0.41	17.1	B	0.41	17.1	B	0.75	26.5	C	0.75	26.5	C	0.42	17.3	B	0.42	17.3	B
Navy Street (N-S)	WB-R	0.33	16.5	B	0.34	16.6	B	0.28	15.6	B	0.28	15.6	B	0.29	15.8	B	0.29	15.8	B	0.25	15.1	B	0.25	15.1	B
	NB-L	0.37	33.3	C	0.38	33.8	C	0.31	31.5	C	0.33	32.2	C	0.52	48.5	D	0.58	55.0	D *	0.26	30.3	C	0.28	30.8	C
	NB-T	0.69	40.7	D	0.76	44.4	D	0.34	30.5	C	0.44	32.4	C	0.39	31.4	C	0.47	33.3	C	0.37	31.1	C	0.48	33.6	C
	SB -T	0.40	31.5	C	0.43	32.0	C	0.36	30.6	C	0.41	31.5	C	0.88	52.0	D	0.93	59.0	E *	0.31	29.7	C	0.35	30.4	C
SS	EB -LT	0.41	17.0	B	0.43	17.3	B	0.38	16.5	B	0.40	16.9	B	0.58	20.4	C	0.61	21.2	C	0.31	15.5	B	0.35	16.0	B
	NB-T	0.75	43.4	D	0.79	46.0	D	0.38	31.3	C	0.43	32.3	C	0.38	31.2	C	0.42	32.1	C	0.40	31.7	C	0.46	32.9	C
	SB-L	0.65	52.4	D	0.69	56.9	E	0.34	32.2	C	0.36	33.2	C	1.08	116.0	F	1.16	142.9	F *	0.43	35.1	D	0.45	36.5	D
	SB-T	0.44	32.8	C	0.47	33.6	C	0.38	31.3	C	0.43	32.4	C	0.62	37.7	D	0.68	39.9	D	0.28	29.5	C	0.34	30.5	C
Flushing Ave (E-W)	EB-T	0.27	7.4	A	0.30	7.7	A	0.41	11.2	B	0.49	12.6	B	0.70	14.9	B	0.79	19.2	B	0.39	10.9	B	0.53	13.2	B
Carlton Ave(NB)	WB-T	0.77	8.2	A	0.79	9.2	A	0.62	14.6	B	0.67	15.9	B	0.87	23.1	C	0.91	27.3	C	0.46	11.6	B	0.52	12.6	B
	NB-LR	0.69	62.0	E	0.77	69.0	E *	0.36	29.0	C	0.46	31.4	C	0.39	45.6	D	0.52	50.5	D	0.27	27.0	C	0.41	30.2	C
Flushing Ave (E-W)	EB-TR	0.28	7.4	A	0.31	7.8	A	0.38	10.7	B	0.46	11.9	B	0.58	11.6	B	0.67	13.7	B	0.33	10.1	B	0.45	11.7	B
Clermont Ave(N-S)	WB-LT	0.82	10.1	B	0.84	11.6	B	0.68	16.1	B	0.85	26.1	C	0.95	34.2	C	1.00	44.8	D	0.51	12.5	B	0.58	13.8	B
	NB-LR	0.60	52.2	D	0.60	52.2	D	0.21	25.7	C	0.21	25.7	C	0.68	56.7	E	0.68	56.7	E	0.28	26.9	C	0.28	26.9	C
Flushing Ave (E-W)	EB-T	0.25	7.0	A	0.28	7.4	A	0.31	9.7	A	0.35	10.2	B	0.47	9.5	A	0.51	10.0	A	0.27	9.3	A	0.32	9.8	A
Vanderblit Ave(N-S)	EB-R	0.03	5.6	A	0.04	5.6	A	0.06	7.7	A	0.08	7.8	A	0.06	5.8	A	0.07	5.9	A	0.07	7.7	A	0.09	7.9	A
	WB-LT	0.68	5.8	A	0.73	6.9	A	0.56	13.1	B	0.60	13.9	B	0.83	20.2	C	0.87	22.6	C	0.43	11.0	B	0.47	11.6	B
	NB-LR	0.56	50.4	D	0.58	51.2	D	0.44	30.1	C	0.46	30.6	C	0.46	46.5	D	0.49	47.5	D	0.31	27.4	C	0.34	28.0	C
Flushing Ave (E-W)	EB-LTR	0.36	8.3	A	0.37	8.5	A	0.48	12.3	B	0.52	13.2	B	0.62	12.6	B	0.67	13.9	B	0.41	11.2	B	0.48	12.4	B
Clinton Ave (N-S)	WB-LTR	0.73	6.9	A	0.75	7.5	A	0.62	14.6	B	0.66	15.5	B	0.87	22.9	C	0.90	26.2	C	0.47	11.7	B	0.51	12.4	B
	NB-LTR	0.82	74.1	E	0.82	74.1	E	0.53	33.5	C	0.53	33.5	C	0.56	53.0	D	0.56	53.0	D	0.42	30.2	C	0.42	30.3	C
(Navy Yard Driveway)	SB-LTR	0.32	43.0	D	0.32	43.0	D	0.26	26.4	C	0.26	26.4	C	0.54	50.4	D	0.54	50.4	D	0.26	26.4	C	0.29	27.0	C
Park Ave (E-W) **NS**	WB-LTR	0.51	14.9	B	0.51	15.0	B	0.34	12.6	B	0.35	12.7	B	0.63	17.2	B	0.63	17.3	B	0.27	11.8	B	0.28	11.9	B
Vanderblit Ave(N-S)	NB-LT	0.66	45.4	D	0.68	46.1	D	0.64	44.9	D	0.68	46.8	D	0.48	38.5	D	0.51	39.5	D	0.37	35.7	D	0.40	36.3	D
	SB-TR	0.12	31.2	C	0.14	31.4	C	0.17	31.9	C	0.19	32.3	C	0.20	32.3	C	0.22	32.7	C	0.19	32.2	C	0.23	32.8	C
SS	EB-LTR	0.25	11.7	B	0.25	11.7	B	0.28	12.0	B	0.28	12.0	B	0.45	14.0	B	0.47	14.4	B	0.22	11.3	B	0.23	11.4	B
	NB-TR	0.85	59.5	E	0.86	61.0	E	0.80	54.3	D	0.82	56.2	E	0.62	42.9	D	0.67	45.6	D	0.50	39.0	D	0.53	39.9	D
	SB-LT	0.30	34.1	C	0.31	34.4	C	0.28	33.6	C	0.30	34.0	C	0.45	37.0	D	0.47	37.5	D	0.34	34.8	C	0.37	35.4	D
Flushing Ave (E-W)	EB-LT				0.45	9.7	A				0.46	12.2	B				0.64	13.5	B				0.43	11.8	B
Driveway(SB)	WB-T				0.99	43.9	D				0.75	18.5	B				0.99	41.7	D				0.52	12.6	B
	WB-R				0.06	5.8	A				0.13	8.4	A				0.12	6.3	A				0.20	9.1	A

NOTES:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach .
V/C Ratio - Volume to Capacity Ratio, SEC/VEH - Seconds per vehicle
LOS - Level of service
* -Significant Impact in the 2014 Build Condition
Analysis is based on the 2000 Highway Capacity Manual Methodology (HCS+™ 5.4).

Based on the thresholds established for signalized intersections in the *CEQR Technical Manual*, if a lane group operating at No Action LOS of A, B, or C deteriorates to an unacceptable mid-LOS D, i.e., 45.0 seconds of delay or worse under the With Action condition, then a significant adverse impact is deemed to have occurred. For a No Action LOS D, an increase of With Action delay by 5 or more seconds is considered a significant adverse impact. For a No Action LOS E, the threshold is a 4 second increase in With Action delay, and for a No Action LOS F, a 3 second increase in With Action delay is usually considered significant. However, if a No Action LOS F condition has a No Action delay in excess of 120 seconds, an increase in With Action delay of more than 1 second is considered significant, unless the proposed project would generate fewer than five vehicles through that lane group in the peak hour.

Table 9-19 summarizes the significant adverse traffic impact locations and these significant adverse traffic impacts are discussed below. Overall, in the weekday AM peak hour there would be two significantly impacted intersections, no significantly impacted intersections in the weekday midday peak hour, three significantly impacted intersections in the weekday PM peak hour (one intersection would have three significantly impacted movements), and no significantly impacted intersections in the Saturday midday peak hour.

Table 9-19
Summary of Significant Adverse Traffic Impacts

Significantly Impacted Intersections (1)	Peak Period: Significantly Impacted Movements			
	WKDAY AM	WKDAY MD	WKDAY PM	SAT MD
Sands St. & Navy St.	--	--	NB-L	--
Nassau St. & Navy St.	SB-L	--	SB-L	--
Park Ave./Tillary St. & Navy St.	--	--	SB-T, SB-L, NB-L	--
Flushing Ave. & Carlton Ave.	NB-LR	--	--	--

Notes: (1) The following study area intersections would not be significantly impacted in any of the analyzed peak hours: Tillary St. & Flatbush Ave. Extension; Tillary St. & Gold St.; Flushing Ave. & Clermont Ave.; Flushing Ave. & Vanderbilt Ave.; Flushing Ave. & Clinton Ave; Park Ave. & Vanderbilt Ave.
Key to abbreviations: NB = northbound; SB = southbound; L = left-turn; R = right-turn

SANDS STREET AND NAVY STREET

The northbound left-turn movement on Navy Street approaching Sands Street would be significantly impacted in the PM peak hour. It would operate at LOS F with 94.7 seconds of delay in the With Action condition, compared to LOS F with 81.9 seconds of delay in the No Action condition.

NASSAU STREET AND NAVY STREET

The southbound left-turn movement approaching this intersection would be significantly impacted in both the AM and PM peak hours. In the AM peak hour, the southbound left-turn movement would operate at LOS F with 117.9 seconds of delay in the With Action condition, compared to LOS E with 78.6 seconds of delay in the No Action condition. In the PM peak hour, this movement would operate at LOS F with 143.4 seconds of delay in the With Action condition, compared to LOS F with 98.5 seconds of delay in the No Action condition.

PARK AVENUE/TILLARY STREET AND NAVY STREET

There would be three significantly impacted movements at this intersection in the PM peak hour. The northbound left-turn movement on Navy Street approaching the north-side of this intersection would operate at LOS D with 55.0 seconds of delay in the With Action condition,

compared to LOS D with 48.5 seconds of delay in the No Action condition. The southbound through approach on Navy Street approaching the north-side of this intersection would operate at LOS E with 59.0 seconds of delay in the With Action condition, compared to LOS D with 52.0 seconds of delay in the No Action condition. The southbound left-turn movement on Navy Street approaching the south-side of this intersection would operate at LOS F with 142.9 seconds of delay in the With Action condition, compared to LOS F with 116.0 seconds of delay in the No Action condition.

FLUSHING AVENUE AND CARLTON AVENUE

The northbound approach on Carlton Avenue to Flushing Avenue would be significantly impacted in the AM peak hour. It would operate at LOS E with 69.0 seconds of delay in the With Action condition, compared to LOS E with 62.0 seconds of delay in the No Action condition.

Measures to mitigate significant adverse impacts are presented in Chapter 14, "Mitigation." As discussed therein, all significant adverse impacts could be fully mitigated with minor signal timing adjustments.

Operating Conditions at Project Site Driveway

As noted, a new traffic signal would be installed at the project site driveway on Nassau Street if warranted; the signal warrant study has been submitted to DOT and is pending. Capacity analysis of this location was performed, assuming signal timing plans that would be similar to the signal phasing used at adjacent intersections. This analysis found that the new intersection could operate with acceptable levels of service, i.e., all analyzed movements operating at mid-LOS D or better, on the public street approaches.

Goods Delivery

As shown in Figure 1-2, "Preliminary Site Plan," in Chapter 1, "Project Description," the proposed project would provide ten loading berths for the proposed retail, industrial, and community facility/non-profit office uses. All of these loading berths would be accessed from within the Navy Yard industrial park via the Sands Street and Navy Street intersection and the internal roadway network. Truck trips generated by the proposed project would be required to use designated truck routes.

As shown in **Table 9-17**, "Travel Demand Forecast," the peak truck trip activity generated by the proposed project would be during the weekday AM peak hour when there would be 8 inbound truck trips and 8 outbound truck trips. In addition, it is expected that that there would be a weekday daily total of approximately 132 truck trips, generated by 66 trucks using the on-site loading berths. The ten loading berths provided by the proposed project would be sufficient to accommodate the overall daily truck activity and peak 1-hour activity, with excess capacity that could accommodate atypical surges in peak truck loading/unloading activity.

All trucks would enter the site via a signalized intersection which has pedestrian crosswalks and bicycle lanes. With sufficient loading berth capacity and the loading berths' location away from the street network, the proposed project would not result in any on-street loading/unloading activity or congestion from queuing/waiting trucks. Accordingly, the proposed project would not result in any significant adverse impacts related to goods delivery.

PARKING

PROPOSED PARKING SUPPLY

The proposed project would provide approximately 295 accessory parking spaces in a surface parking lot on the project site to accommodate demand from retail employees, shoppers, and community facility/non-profit office employees and visitors (refer to Figure 1-2 in Chapter 1, "Project Description"). This self-park lot would be accessed by two-way driveways on Navy Street and Nassau Street.

In addition, approximately 130 dedicated parking spaces would be provided within the Navy Yard industrial park at a nearby location to accommodate parking demand from employees of the proposed project's light industrial space. These parking spaces would be accessed via the existing entry/exit gate to the Navy Yard industrial park at the intersection of Sands Street and Navy Street on weekdays and via the existing entry/exit gate to the Navy Yard industrial park at the intersection of Clinton Avenue and Flushing Avenue on weekends (as the Sands Street Gate is only open 5 AM to 10 AM on Saturdays while the Clinton Avenue Gate is open 24 hours every day). This would continue to be an access-controlled location and therefore these spaces would not be available to shoppers or others generated by the proposed project.

PROJECTED PARKING DEMAND

The weekday and Saturday parking demand forecasts for the proposed project are presented in **Tables 9-20 and 9-21**, respectively. These tables show hourly vehicle entry and exits and net accumulation of parked vehicles. As shown in the tables, parking demand for spaces in the approximately 295-space on-site accessory parking lot would peak during 1 to 2 PM on Saturday at 276 vehicles with 19 spaces available. Parking demand for the 130 spaces in the Navy Yard industrial park for light industrial employees would peak at 119 during 2 to 3 PM on weekdays with 11 spaces available. Overall, total project parking demand would peak at 282 vehicles during 1 to 2 PM on weekdays and at 317 vehicles during 1 to 2 PM on Saturdays.

As demonstrated by these tables, the proposed project would provide sufficient accessory parking on-site to accommodate the peak parking demand for on-site accessory parking and sufficient spaces in the Navy Yard industrial park for light industrial workers. Accordingly, the proposed project would not result in significant adverse parking impacts.

SUBWAY

The proposed project is expected to generate up to 211, 243, and 209 subway trips in the weekday midday, PM, and Saturday midday peak hours, respectively, and therefore a Level 2 (Project-Generated Trip Assignment) Screening Assessment is warranted to determine if the proposed project would generate more than 200 subway trips through a single subway station.

As noted in the discussion of existing subway and bus conditions, there are several subway stations that provide access to the project site via walking, bus transfers, or the Navy Yard industrial park's subway shuttle bus for employees which operates during the weekday AM and PM peak hours. Subway stations that likely would be used by project-generated trips would include the Jay Street-MetroTech complex, the Court Street-Borough Hall complex, York Street station, and High Street station. However, other stations may attract small proportions of project-generated subway trips. Overall, of the 211 weekday midday subway trips, it is expected that

Table 9-20
Weekday Parking Demand Forecast

	ON-SITE PARKING DEMAND								NAVY YARD[1] PARKING DEMAND				TOTAL PARKING DEMAND		
	SPECIALTY RETAIL/ LOCAL RETAIL/ SUPERMARKET			COMMUNITY FACILITY/NON-PROFIT OFFICE			TOTAL ON-SITE (SUPPLY = 295 SPACES)		LIGHT INDUSTRIAL		TOTAL NAVY YARD[1] (SUPPLY = 130 SPACES)				
	In	Out	Accum	In	Out	Accum	Accum	Available	In	Out	Accum	Available	In	Out	Accum
12-1a	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
1-2	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
2-3	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
3-4	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
4-5	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
5-6	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
6-7	11	10	16	0	0	0	16	279	4	0	19	111	15	10	35
7-8	32	11	37	1	0	1	38	257	21	0	40	90	54	11	78
8-9	68	45	60	11	1	11	71	224	52	6	86	44	131	52	157
9-10	71	34	97	2	2	11	108	187	26	5	107	23	99	41	215
10-11	84	48	133	2	2	11	144	151	10	7	110	20	96	57	254
11-12	95	71	157	3	3	11	168	127	8	22	96	34	106	96	264
12-1p	85	81	161	5	5	11	172	123	23	26	93	37	113	112	265
1-2	97	96	162	4	3	12	174	121	34	19	108	22	135	118	282
2-3	107	126	143	2	2	12	155	140	22	11	119	11	131	139	274
3-4	114	136	121	2	2	12	133	162	8	9	118	15	124	147	251
4-5	106	137	90	2	2	12	102	193	8	30	96	37	116	169	198
5-6	119	118	91	0	11	1	92	203	8	56	48	85	127	185	10
6-7	93	105	79	1	2	0	79	216	3	20	31	102	97	127	110
7-8	69	66	82	0	0	0	82	213	1	12	20	113	70	78	102
8-9	26	44	64	0	0	0	64	231	1	6	15	115	27	50	79
9-10	13	33	44	0	0	0	44	251	0	0	15	115	13	33	59
10-11	0	21	23	0	0	0	23	272	0	0	15	115	0	21	38
11-12	0	8	15	0	0	0	15	280	0	0	15	115	0	8	30
Total	**1,190**	**1,190**		**35**	**35**				**229**	**229**			**1,454**	**1,454**	

Table 9-21
Saturday Parking Demand Forecast

	ON-SITE PARKING DEMAND								NAVY YARD[1] PARKING DEMAND				TOTAL PARKING DEMAND		
	SPECIALTY RETAIL/ LOCAL RETAIL/ SUPERMARKET			COMMUNITY FACILITY/NON-PROFIT OFFICE			TOTAL ON-SITE (SUPPLY = 295 SPACES)		LIGHT INDUSTRIAL		TOTAL NAVY YARD[1] (SUPPLY = 130 SPACES)				
	In	Out	Accum	In	Out	Accum	Accum	Available	In	Out	Accum	Available	In	Out	Accum
12-1a	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
1-2	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
2-3	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
3-4	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
4-5	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
5-6	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
6-7	16	15	16	0	0	0	16	279	1	0	16	114	17	15	32
7-8	54	18	52	1	0	1	53	242	6	0	22	108	61	18	75
8-9	80	34	98	4	0	5	103	192	15	2	35	95	99	36	138
9-10	83	33	148	1	0	6	154	141	7	2	40	90	91	35	194
10-11	147	67	228	0	0	6	234	61	3	2	41	89	150	69	275
11-12	137	102	263	2	1	7	270	25	2	6	37	93	141	109	307
12-1p	147	143	267	2	3	6	273	22	10	6	41	89	159	152	314
1-2	154	152	269	3	2	7	276	19	7	7	41	89	164	161	317
2-3	183	197	255	1	1	7	262	33	6	3	44	86	190	201	306
3-4	195	213	237	1	1	7	244	51	4	3	45	85	200	217	289
4-5	164	200	201	0	1	6	207	88	2	9	38	92	166	210	245
5-6	143	154	190	0	6	0	190	105	2	16	24	106	145	176	214
6-7	74	161	103	0	0	0	103	192	1	6	19	111	75	167	122
7-8	36	72	67	0	0	0	67	228	0	3	16	114	36	75	83
8-9	35	50	52	0	0	0	52	243	0	1	15	115	35	51	67
9-10	3	27	28	0	0	0	28	267	0	0	15	115	3	27	43
10-11	0	13	15	0	0	0	15	280	0	0	15	115	0	13	30
11-12	0	0	15	0	0	0	15	280	0	0	15	115	0	0	30
Total	**1,651**	**1,651**		**15**	**15**				**66**	**66**			**1,732**	**1,732**	

approximately 96 would use the Court Street-Borough Hall station complex, approximately 93 would use the Jay Street-MetroTech station complex, approximately 16 would use the York Street station, and 6 would use the High Street station. Overall, of the 243 weekday PM subway trips, it is expected that approximately 111 would use the Court Street-Borough Hall station complex, approximately 107 would use the Jay Street-MetroTech station complex, approximately 18 would use the York Street station, and approximately 7 would use the High Street station. Overall, of the 209 Saturday midday subway trips, it is expected that approximately 95 would use the Court Street-Borough Hall station complex, approximately 92 would use the Jay Street-MetroTech station complex, approximately 16 would use the York Street station, and approximately 6 would use the High Street station. Accordingly, no single station would process 200 or more project-generated subway trips in the weekday PM peak hour.

During the other peak hours, the proposed project is expected to generate less than 200 subway trips and as such there is no potential to generate more than 200 trips through any single station.

Accordingly, based on *CEQR Technical Manual* guidelines, the proposed project does not have the potential to result in any significant adverse subway impacts and no further analysis is warranted.

BUS

The proposed project is expected to generate 195, 339, 412, and 406 additional bus-only trips in the weekday AM, weekday MD, weekday PM, and Saturday MD peak hours, respectively (refer to **Table 9-17**, "Travel Demand Forecast").

The Level 1 (Project Trip Generation) Screening Assessment required by the *CEQR Technical Manual* determined no further analysis is necessary for the weekday AM peak hour as there would be less than 200 peak hour project-generated bus riders. For the other peak hours, a Level 2 (Project-Generated Trip Assignment) Screening Assessment is required per the *CEQR Technical Manual* to determine if there would be 50 or more bus trips in a single direction on a single route, in which case detailed analysis is required.

For the Level 2 screening, first the project-generated trips are assigned amongst the bus routes serving the project site, according to their 2010 proportional share of passengers. Then each route is assessed to determine the number of passengers that would ride in the peak direction through the peak load point, by accounting for the location of the peak load point and the project site vis-à-vis likely origin/destination points. The resulting assignment of project-generated bus trips on the bus routes in the peak direction traveling through the peak load point are shown in **Table 9-22**. It should be noted that many trips traveling in the peak direction would not pass through the peak load point as passengers would either board after or disembark before the bus passes the peak load point.

As shown in the table, the B62 line would experience an increase of 62 additional weekday PM passengers through the peak load point in the peak direction, thereby exceeding the CEQR analysis threshold. Accordingly, detailed analysis is only warranted and provided for the B62 in the PM peak hour. For the other bus routes, which would generate fewer than 50 trips through the peak load point in the peak direction, significant adverse impacts are considered unlikely and further analysis is not warranted or provided.

Detailed analysis of the B62 in the PM peak hour is provided in **Table 9-23**.

Table 9-22
Project Increment Bus Assignment

Peak Hour	Route	Project Increment	Peak Direction	Project Increment in Peak Direction	Peak Load Point	Project Increment Thru Peak Load Point
MD	B57	109	EB	61	Boerum Pl. & Livingston St.	31
	B62	153	NB	90	Smith St. & Livingston St.	45
	B69	76	SB	40	Fulton St. & Vanderbilt Av.	18
PM	B57	144	EB	88	Flushing Av. & Nostrand Av.	45
	B62	216	NB	128	Smith St. & Livingston St.	**62**
	B69	52	SB	29	Fulton St. & Vanderbilt Av.	14
SAT MD	B57	155	EB	89	Boerum Pl. & Schermerhorn St.	45
	B62	251	SB	150	Manhattan Av. & Nassau Av.	29
Note: Effective June, 2010, the B69 does not operate on weekends						

Table 9-23
2014 With Action Bus Trip Summary

Peak Hour	Route	Peak Direction	Peak Hour Buses	NB Total Peak Hour Passengers	With Action Total Peak Hour Passengers	Average Passengers Per Bus	With Action Available Capacity	Decrease in Available Capacity from NB Condition
PM	B62	NB	6*	269	331	55	-7	62
Note: * Number of peak hour buses is "proposed," taken from DOT data								

As shown in the table, under the With Action condition, the analysis indicates that, pursuant to *CEQR Technical Manual* guidelines, there would be a shortfall in capacity of 7 passengers at the peak load point, with 331 passengers exceeding the available capacity of 324. According to the *CEQR Technical Manual*, the shortfall in capacity would be considered a significant adverse impact.

As also discussed in Chapter 14, "Mitigation," NYCT has been consulted regarding the results of this analysis. The general policy of NYCT is to provide additional bus service where demand warrants, taking into account financial and operational constraints. Based on NYCT's ongoing passenger monitoring program, comprehensive service plans are generated to respond to specific known needs with capital and/or operational improvements where fiscally feasible and operationally practicable. Therefore, at the time the proposed project is operational, NYCT will determine the need to implement specific mitigation measures to address the significant adverse impact on the northbound B62 local bus service in the weekday PM peak hour.

BUS/SUBWAY TRANSFERS

It is expected that during the weekday AM and PM peak hours, most employees at Admirals Row traveling by subway would utilize the shuttle services provided by the Brooklyn Navy Yard

industrial park. Only those taking the F train to the York Street station would be likely to walk to the project site instead of taking the shuttle. Other project-generated subway trips, i.e., shoppers and other visitors, would likely transfer to a public bus or walk during the AM and PM peak hours. Furthermore, all project-generated subway trips during the weekday MD and Saturday MD peak hours, when the shuttle is not running would be likely to use a public bus or walk. It is estimated that during these midday peak hours, about 80 percent of travelers would employ bus-subway transfers, while 20 percent of travelers would opt to walk to the subway.

Based on transit ridership patterns and the location of bus stops relative to subway stations, the B57 and B62 bus lines would experience an increase in passengers during the peak hours due to bus-subway transfers. However, the additional passengers generated by subway-bus transfers would disembark before or board after the buses pass their peak load points (shown in **Table 9-6**) and therefore are not expected to affect capacity conditions shown in **Tables 9-22** and **9-23**.

PEDESTRIANS

In the future with the proposed project, the project site would generate new pedestrian trips by shoppers, employees, and other visitors to the site. Project-generated pedestrians would include walk only trips shown in the travel demand forecast in **Table 9-17**, as well as trips by public transportation modes that include a walk component. Overall, accounting for all walk only, subway, and bus trips, the proposed project would generate approximately 714, 2,236, 1,738, and 1,948 pedestrian trips in the weekday AM, midday, PM, and Saturday midday peak hours, respectively.

Shoppers, visitors, and employees (excluding light industrial employees) would access the site via the public sidewalks on Nassau Street and Navy Street. It is expected that light industrial employees traveling on foot or by transit would access the site via the Navy Yard industrial park's Sands Street Gate.

An assignment of project-generated pedestrian trips was prepared using subway and bus assignments for trips by those modes and 2000 population data for local census tracts for walk only trips to identify the likely distribution of origin-destination points. Although some bus trips would be made directly from bus stops adjacent to the project site, it was conservatively assumed that all bus trips would include a street crossing. The assigned pedestrian incremental volumes were then added to the No Action volumes to determine pedestrian level of service at analyzed sidewalks, corners, and crosswalks, where the greatest concentrations of project-generated trips would occur.

The pedestrian level of service analysis is presented in **Tables 9-24, 9-25,** and **9-26**.

Table 9-24
With Action Sidewalk Conditions

Intersection	Sidewalk Location	Effective Width (ft)	Project Increment Peak 15-Minute Volumes				With Action Peak 15-Minute Volumes				With Action Flow Rate (per/min/ft)				With Action Platoon Flow Level of Service			
			AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
Nassau St. btwn Navy St. & Gold St.	North	13.5	49	112	102	100	58	113	105	107	0.29	0.56	0.52	0.53	A	B	B	B
Nassau St. east of Navy St.	North	10.5	132	382	310	337	135	385	313	342	0.86	2.45	1.98	2.17	B	B	B	B
Nassau St./ Flushing Ave. btwn Navy St. & N. Elliot Pl	North	9.6	18	79	51	62	24	83	54	71	0.17	0.58	0.37	0.50	A	B	A	A

Notes: Effective width calculated by deducting 1.5 ft for wall avoidance, 1.5 ft for curbside obstructions and an additional 0.5 ft for other sidewalk obstacles from measured width. Persons per minute per foot of effective width.

Table 9-25
With Action Crosswalk Conditions

Location	Xwalk	Project Increment Peak 15-Minute Volumes				With Action Peak 15-Minute Volumes				Average Pedestrian Space (sq-ft/ped)				With Action Levels of Service			
		AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
Navy St. and Nassau St	North	68	191	153	163	77	195	159	174	81.5	29.2	36.8	33.3	A	C	C	C
	West	18	79	51	62	74	84	63	100	209.2	102.6	248.4	84.7	A	A	A	A
	South	12	53	34	42	25	59	49	49	259.7	107.9	130.7	131.2	A	A	A	A
	East	67	211	166	188	76	215	173	209	188.4	33.1	78.2	34.1	A	C	A	C
Navy St. and Sands St.	North	24	98	65	78	43	102	72	83	255.4	105.4	95.3	130.0	A	A	A	A
	West	17	67	44	53	48	82	55	57	245.9	138.0	185.4	203.6	A	A	A	A
	South	47	119	109	117	57	122	113	122	213.4	128.9	182.7	176.7	A	A	A	A
	East	24	98	65	78	29	102	70	99	352.9	93.9	52.6	96.8	A	A	B	A

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

Table 9-26
With Action Street Corner Conditions

Intersection	Corner	Curb Radii (feet)	Project Increment Peak 15-Minute Volumes				With Action Peak 15-Minute Volumes				With Action Average Pedestrian Space (sq-ft./ped)				With Action Level of Service			
			AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD	AM	MD	PM	Sat MD
Navy St. and Nassau St.	NW	12	68	191	153	163	69	191	153	168	150.5	68.5	86.6	73.0	A	A	A	A
	NE	12	134	402	319	351	135	402	319	356	84.3	28.8	36.3	31.8	A	C	C	C
	SE	12	67	211	166	188	70	211	168	189	338.2	117.6	146.9	127.5	A	A	A	A
Navy St. and Sands St.	NW	12	40	165	109	132	48	166	112	135	272.9	105.9	128.5	137.0	A	A	A	A
	NE	12	26	101	69	82	27	103	71	82	300.4	93.3	80.8	109.5	A	A	A	A
	SE	12	71	218	174	195	72	218	175	195	132.6	47.5	47.2	54.7	A	B	B	B
Nassau St./ Flushing Ave. and N. Elliott Pl.	SW	12	18	79	51	62	19	79	51	63	2,409.2	567.4	823.8	661.1	A	A	A	A

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

As shown in the tables, all analyzed elements would operate acceptably with LOS C or better in all peak hours. As a worst-case condition, it was assumed that no pedestrian trips would be made via possible new crosswalks that may be provided at the project site's signalized driveway on Nassau Street. If crosswalks are provided at this location, pedestrian trips in this area, including those generated by the proposed project, would be somewhat more widely dispersed and the levels of service at the analyzed locations and at the new crosswalks and adjacent sidewalks and street corners would operate at comparable or better LOS values.

SAFETY

With the implementation of the proposed project and its new driveway on Nassau Street, a new signal controlled intersection would be created by DOT if warranted by crash history, traffic activity, or pedestrian volumes. Where new traffic signals are installed, crosswalks with pedestrian signal phases would be provided. The signal warrant study has been submitted to DOT and is pending.

The proposed project would generate additional pedestrian and vehicle trips through several intersections identified as high crash locations in **Table 9-10**, particularly the Navy Street and

Sands Street intersection. DOT has already begun to address these high accident locations by implementing improvements as part of the "Safe Routes to School" initiative in the vicinity of the project site. In addition, the City is planning to implement the Brooklyn Waterfront Greenway.

The development of the proposed project would be coordinated with the implementation of the Brooklyn Waterfront Greenway adjacent to the project site. With the removal of the wall along the site's street perimeter and the provision of building setbacks from the street line, a full build-out of the greenway with widened sidewalks, pedestrian refuge, and protected off-street bike lanes would be possible. It is expected that the greenway would be completed by the project's With Action year of 2014, however it should be noted that the greenway is an independent project being implemented by the City, located in the public right-of-way, and is not a part of the proposed project nor is the applicant responsible for its construction. The greenway is expected to enhance traffic safety, including pedestrian and bicyclist safety. Therefore, under the With Action condition, it is expected that traffic safety would be further enhanced at the Navy Street and Nassau Street intersection and Navy Street and Sands Street intersections, the intersections that would process the greatest number of project-generated vehicle and pedestrian/bicycle trips.

The proposed project is not expected to result in any significant adverse safety impacts as it would not be likely to exacerbate or create any unsafe conditions and it would be coordinated with efforts to improve safety.

F. CONCLUSION

The effects of the proposed project on area traffic, parking, transit, and pedestrian conditions were analyzed during the weekday AM, weekday midday, weekday PM, and Saturday midday peak periods.

TRAFFIC

The traffic analysis found that the proposed project would generate an increment of 213, 306, 345, and 350 vehicles per hour (vph), in the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, respectively. This increased travel demand would result in significant adverse traffic impacts at two intersections in the weekday AM peak hour and three intersections in the weekday PM peak hour.

These impacts include the following:

In the AM peak hour:

- The southbound left-turn movement at the Nassau Street and Navy Street intersection
- The northbound left-right approach at the Flushing Avenue and Carlton Avenue intersection

In the PM peak hour:

- The northbound left-turn movement at the Sands Street and Navy Street intersection
- The southbound left-turn movement at the Nassau Street and Navy Street intersection
- The southbound through, the southbound left turn, and the northbound left turn movements at the Park Avenue/Tillary Street intersection.

Mitigation measures to address these significant adverse traffic impacts are described in Chapter 14, "Mitigation." As discussed therein, all of the project's significant adverse traffic impacts can

be fully mitigated by minor signal timing adjustments of 3 seconds or less between signal phases.

The goods delivery assessment determined that the proposed project would provide sufficient loading berth capacity and loading berth access locations via the Navy Yard industrial park. Accordingly, the proposed project would not result in any significant adverse impacts related to goods delivery.

PARKING

The parking analysis found that the proposed project would generate a peak parking demand of 174 and 276 spaces during weekdays and Saturdays, respectively, for the on-site approximately 295-space accessory parking lot. The analysis also found that the proposed project would generate a peak parking demand of 119 and 45 spaces during weekdays and Saturdays, respectively, for the 130 parking spaces provided in the Navy Yard industrial park for light industrial workers. Accordingly, the proposed project would fully accommodate its peak parking demand and no significant adverse parking impacts would occur.

SUBWAY

The subway analysis found that the proposed project would generate an increment of 133, 211, 243, and 209 peak hour subway trips in the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, respectively. A screening assessment determined that the proposed project would not generate more than 200 trips at any single subway station. Therefore, per the *CEQR Technical Manual* significant adverse subway trips are unlikely and detailed subway analysis is not warranted and was not provided.

BUS

The bus analysis found that the proposed project would generate an increment of 195, 339, 412, and 406 peak hour bus-only trips in the weekday AM, weekday midday, weekday PM, and Saturday midday peak hours, respectively. In addition, some subway trips would include a bus transfer for travel to and from the project site. Per the *CEQR Technical Manual*, the analysis found that the proposed project would result in a significant adverse bus impact on the northbound B62 bus route in the weekday PM peak hour, with a shortfall in capacity of seven spaces. Mitigation measures to address this significant adverse bus impact are described in Chapter 14, "Mitigation." As discussed therein, the general policy of NYCT is to provide additional bus service where demand warrants, taking into account financial and operational constraints. Based on NYCT's ongoing passenger monitoring program, comprehensive service plans are generated to respond to specific known needs with capital and/or operational improvements where fiscally feasible and operationally practicable. NYCT's capital program is developed on a five-year cycle; through this program, expansion of bus services would be provided as needs are determined, subject to operational and financial feasibility. Therefore, at the time the proposed project is operational, NYCT will determine the need to implement specific mitigation measures to address the significant adverse impact on the northbound B62 local bus service in the weekday PM peak hour.

PEDESTRIANS

The pedestrian analysis found that the proposed project would generate approximately 714, 2,236, 1,738, and 1,948 pedestrian trips in the weekday AM, midday, PM, and Saturday midday

peak hours, respectively, including all walk only, subway, and bus trips that the proposed project would generate. A detailed analysis shows that the pedestrian elements that would receive the greatest concentrations of project-generated travel, which are all very lightly utilized under existing conditions, would not experience significant adverse impacts as a result of the proposed project.

SAFETY

The safety assessment concluded that, particularly with improvements provided through City initiatives and as part of the project, the proposed project would not result in any significant adverse traffic safety impacts. ✷