

## 4. BROOKLYN TRUCK ROUTE NETWORK ANALYSIS

### a. Land Use

The analysis of the land use maps indicated that the Local and Through Truck Route network in Brooklyn provides sufficient access to the primary commercial, industrial and manufacturing area of the Brooklyn (Figure 4-1). As was described in Section 2, in most cases the Through Truck Route network in each of the five Boroughs was deemed far enough removed from many residential areas of the City and is deemed a vital component of the truck route network. Therefore, the through truck network was not analyzed with respect to the land use data.

There are exceptions to this though, with several truck route segments that traverse areas that are less than seventy-five percent manufacturing, commercial, transportation, utility and other types of land uses that necessitate the placement of a truck route to ensure safe and efficient access. The following Local Truck Routes traverse areas that are primarily residential (>75%):

#### Williamsburg neighborhood

- Local Truck Route segment along Lee Avenue and Bedford Avenue from Lorimer Street to Division Avenue and then Roebling Street from Division Avenue to Broadway

#### Bushwick/Ocean Hill neighborhoods

- Local Truck Route segment on Cooper Street from the Queens border to where it becomes Rockaway Boulevard and then to Atlantic Avenue.

#### Bedford Stuyvesant neighborhood

- Myrtle Avenue from Broadway to Nostrand Avenue.  
- Nostrand Avenue from DeKalb Avenue to Atlantic Avenue.

#### Fort Green neighborhood

- Lafayette Street from Nostrand Avenue to Flatbush Avenue.  
- DeKalb Avenue from Nostrand Avenue to Flatbush Avenue.

#### Prospect Park South, East Flatbush neighborhoods

- Linden Boulevard from Church Avenue past Flatbush Avenue and then along Caton Avenue to where it merges into McDonald Avenue.

#### Park Slope, Prospect Heights, Botanic Gardens, Prospect Park, Prospect Lefferts Gardens neighborhood

- Flatbush Avenue from Atlantic Avenue to Caton Avenue

#### Prospect Heights, Prospect Lefferts Gardens neighborhoods

- Rogers Avenue from Atlantic Avenue to Church Avenue  
- Nostrand Avenue from Atlantic Avenue to Church Avenue

#### East Flatbush neighborhood

- Empire Boulevard from Utica Avenue to Rogers Avenue

#### Flatlands and Marine Park neighborhoods

- Flatlands Avenue from Utica Avenue to Flatbush Avenue  
- Avenue N and Avenue M from Kings Highway to Flatbush Avenue

*Bay Ridge neighborhood*

- Fort Hamilton Parkway from 65<sup>th</sup> Street to 92<sup>nd</sup> Street
- 7<sup>th</sup> Avenue from 65<sup>th</sup> Street to 92<sup>nd</sup> Street
- 92<sup>nd</sup> Street between Fort Hamilton Parkway and 7<sup>th</sup> Avenue



**Figure 4-1: Brooklyn Current Land Use**

## **b. Mobility**

Figure 4-2 shows the future forecasted volume to capacity (v/c) ratio, based on NYMTC's Best Practices Model, for the year 2025 during the AM peak hour period and highlights those roadway segments which are forecast to experience severe traffic conditions (those areas with a v/c ratio greater than 1.0). Most of the roadways that are forecast to be severely congested in 2025 are already severely congested and will only continue to worsen over the next twenty years. In Brooklyn, as was the case with almost all of the Boroughs, many of the trucks routes that were severely congested along nearly their entire lengths are the through routes. The following is a list of those truck routes in the Brooklyn which are forecasted to experience severe traffic conditions in 2025. Unless otherwise noted, the majority of the truck routes indicated are forecasted to be severely congested.

### **Through Truck Routes**

- Atlantic Avenue
- Brooklyn-Queens Expressway
- Brooklyn-Battery Tunnel
- Verrazano Narrows Bridge Approach
- Prospect Expressway
- Flatbush Avenue, except for the area south of Flatland Avenue
- Church Avenue at Utica Avenue
- North and South Conduit Avenue at Atlantic Avenue

### **Local Truck Routes**

- McGuinness Boulevard at Dupont Street and Greenpoint Avenue
- Greenpoint Avenue at Kingsland Avenue
- Pulaski Bridge
- Grand Street
- Metropolitan Avenue
- Flushing Avenue at Broadway, Wallabout Street at the BQE, Nassau Street at Broadway
- DeKalb Avenue
- Myrtle Avenue
- East New York Avenue from Utica Avenue and Rockaway Avenue
- Remsen Avenue at Linden Boulevard
- Empire Boulevard at Troy Avenue and Flatbush Avenue
- Gowanus Expressway
- Rockaway Avenue at Broadway
- Jamaica Avenue at Logan Street
- Utica Avenue at Empire Boulevard and Linden Boulevard
- Church Avenue at Utica Avenue
- Granville Payne Avenue at Linden Boulevard
- 14<sup>th</sup> Avenue from 39<sup>th</sup> Street to Flatbush Avenue
- 65<sup>th</sup> Street at Ft. Hamilton Parkway/7<sup>th</sup> Avenue
- Foster Avenue at Utica Avenue
- Kings Highway at Avenue N, Avenue M, and Coney Island Avenue
- Avenue U from McDonald Avenue to Coney Island Avenue
- Linden Boulevard from Remsen Avenue and Nostrand Avenue
- Caton Avenue from Coney Island Avenue to McDonald Avenue
- 20<sup>th</sup> Street



**Figure 4-2: Brooklyn Truck Routes  
Traffic Congestion 2025 AM**

### c. Origin and Destination Forecast

Figure 4-3 shows the truck trip ends by Transportation Analysis Zone for Brooklyn in relation to the Borough-wide truck route network. The major truck Origin and Destination zones in Brooklyn are located at: Floyd Bennett Field; Sheepshead Bay; Fort Hamilton, Bush Terminal/Sunset Park waterfront; Red Hook; Downtown Brooklyn; and East Williamsburg Industrial Park. There are also numerous clusters throughout the Borough that will generate 100-150 truck trips during the weekday AM peak period.

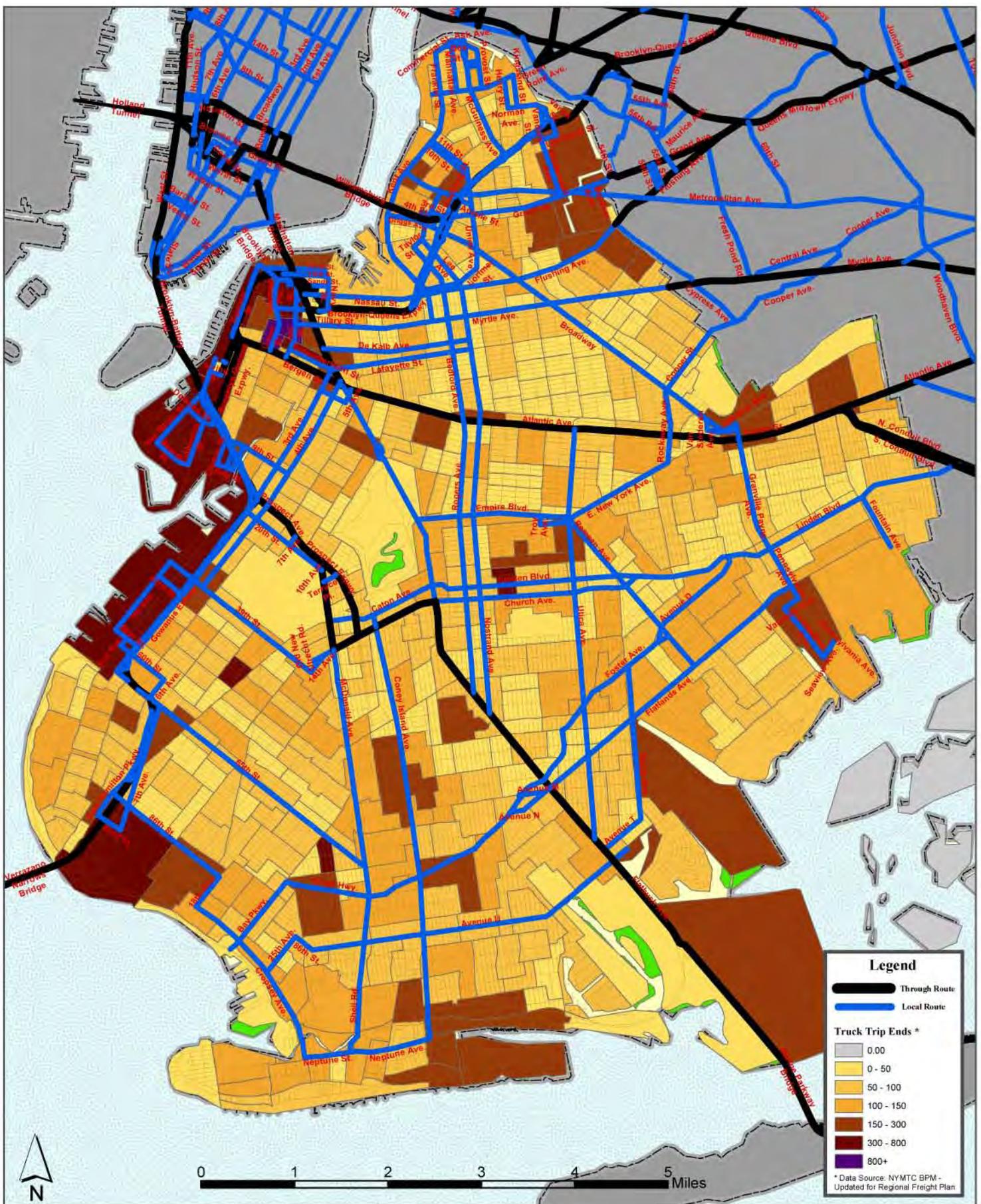
The truck network consists of 50 miles of Through Truck Routes and 148 miles of Local Truck Route streets. While the existing truck route network serves each of the above-mentioned zones, the network does not effectively accommodate through truck trips. Through trucks entering and traversing Brooklyn are limited to two routes: Gowanus Expressway/Brooklyn-Queens Expressway or Atlantic Avenue. Both facilities operate at capacity during the peak hours. Unfortunately for the majority of tractor-trailers, the Atlantic Avenue route is not a viable option because the vehicles exceed the 55 foot length 96 inch width restriction for trucks operating on City roads. With the inordinate number of zones that are expected to generate more than 150 trips in the AM peak period, 10-15% of these trips will be made by tractor-trailers with 53 foot trailers, which would be made over local streets. An additional east-west truck route to accommodate through trucks is warranted<sup>6</sup>.

The air cargo industry has also emphasized the need for an east-west Through Truck Route through southern Brooklyn to access the Verrazano-Narrows Bridge. Additionally, trucks longer than 55 feet must use the Van Wyck Expressway to the Long Island Expressway to the BQE to the Gowanus Expressway to pass through Brooklyn.

Overall, the configuration of the truck route network is inefficient especially from a citywide perspective. The freeway portions of the Borough's 50 miles of Through Truck Routes are located at the western and northern edges of Brooklyn. Most of the truck trips with a local origin or destination must use the 148 miles of local streets for the majority of the trips because of the structure of the Through Truck Route network.

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<sup>6</sup> Truck volumes at the Verrazano Narrows Bridge decreased by 5% between 2003 and 2004. The limitations and constraints of the truck route network, especially for through trucks, is a contributing factor in this reduction in truck activity across the bridge.  
reduction in truck



**Figure 4-3**  
**Brooklyn Truck Trip Ends**  
**2025 AM Peak Period**

#### **d. Accidents**

The following is an analysis of the accident statistics information that was collected for two time periods, long term data from 1999 – 2001 and short term two month data from 2003.

##### Three Year Data (1999 - 2001)

- Of the five intersections listed in the top 20, two are located along Flatbush Avenue.
- The intersection of Flatbush Avenue Extension and Tillary Street had 33 reported accidents involving trucks, which ranked highest in Brooklyn and second citywide.
- More than half (55.5%) of the 584 truck accidents reported at the 42 top intersections Borough-wide occurred along Flatbush Avenue (19.1%), Atlantic Avenue (18.6%), and Metropolitan Avenue (17.8%).
- Citywide these three intersections accounted for 324 accidents, and represented almost 20% of the total truck accidents identified within the top 115 intersections throughout the city.
- Out of the 42 Brooklyn intersections identified from the top 115 truck accident locations citywide, Atlantic Avenue has the most intersections (10) identified as high accident locations.
- Over three-fourths (77%) of the accidents within Brooklyn's top 42 truck accident locations occurred along five roadways; Flatbush Avenue, Atlantic Avenue, Metropolitan Avenue, Meeker Avenue, and Hamilton Avenue, sequentially. All of these streets are truck routes.

Figures 4-4 and 4-5 respectively; show those locations where there were 10 or more accidents and the top 5 accident locations.

##### Two Month (October – November 2003) NYPD Accident Data

In Brooklyn, most of the accidents occurred on the truck routes. Accidents were especially heavy in the northern part of Brooklyn, near and on the through routes between Manhattan and Queens. Accidents involving trucks were especially heavy in the following areas:

- Flatbush Avenue between Atlantic Avenue and the Manhattan Bridge
- Brooklyn Queens Expressway near Flushing Ave
- McGuinness Avenue near Greenpoint Avenue
- Flushing Avenue and Broadway
- Prospect Expressway and the Gowanus Expressway

Most off-route accidents occurred in close proximity to the designated truck routes, which might indicate that trucks are using alternate routes to bypass the congested designated route. The following paragraphs provide more detail about truck accidents and accident locations in Brooklyn.

#### **Characteristics of All Accidents and Accident Locations**

There were 640 truck accidents in Brooklyn during the two-month period covered by the data obtained from the NYPD. These accidents occurred at 555 locations in the Borough. The number of accidents per location ranged from one to five. There was greater variation in the number of accidents per location for on-route truck accidents than for off-route truck accidents as shown in the sections below. In Brooklyn, approximately half of the truck accidents occurred

of positive truck route signage and wayfinding signs to major commercial and industrial sites in the area.

One of the major problems in the Bay Ridge area is that there are not designated Local or Through Truck Routes. While the truck route network effectively ends at 86<sup>th</sup> Street and Fort Hamilton Parkway, there are commercial and retail establishments on 86<sup>th</sup> Street and a strong retail/commercial core in the Bay Ridge area along 3<sup>rd</sup> and 4<sup>th</sup> Avenues. However, very little positive, or negative, signage exists in this area. This leads to trucks utilizing various streets to access both the retail and commercial land uses in the area. The situation is compounded by the fact that many of the cross streets are narrower one-way with parking on both sides and difficult for most trucks to navigate. As a result, the City's traffic rules that require trucks to access and leave locations via the closest intersection have little bearing here. Drivers who may be making a delivery on one of the primary roadways are forced to traverse the residential streets to return to 86<sup>th</sup> Street or 3<sup>rd</sup> or 4<sup>th</sup> Avenue. However, they may find the other north-south streets to be better alternatives due to less congestion. These movements are legal as drivers are looking to return to the designated routes by the most direct route possible.

The trucking community that participated in "stakeholder" meetings indicated that they rely on maps such as Hagstrom and Atlas in their routing decisions. These maps typically depict many non-truck route streets as "principal arterials" which is a designation based on street width. These streets are perceived as truck routes and, in the absence of positive signing to the designated truck routes, are used by truckers to reach their destinations.

Improved negative signage and directional "To Truck Route" signage would be appropriate on some northbound and southbound streets to keep the trucks on the wider avenues to 86<sup>th</sup> Street rather than navigating through residential areas. One such area for negative signage should be at the intersection of 86<sup>th</sup> Street and 4<sup>th</sup> Avenue, which is the end of the truck route.

There are some major generators in the Bay Ridge area (i.e. Walgreens, Supermarkets) that frequently get deliveries by large trucks. Most of these trucks reach this area of the City via the Gowanus Expressway. The NYCDOT should pursue further outreach initiatives with the area businesses to explore better routing options.

Another problem is commercial traffic traveling between Staten Island and southern Queens via the Verrazano Narrows Bridge. With no Through Truck Routes in southern Brooklyn, truckers must take a long circuitous route along the western edge of Brooklyn into northern Queens. This routing is problematic for truck traffic, especially air freight, to/from JFK International Airport. This routing adds approximately 22 miles to each truck trip between JFK Airport and the Verrazano Narrows Bridge. Trucks that are less than 55 feet in length can also use Conduit Avenue to Atlantic Avenue to the Brooklyn Queens Expressway as a Through Truck Route.

Local Borough deliveries also experience problems. Some trucks coming from Staten Island and making deliveries within southern Brooklyn or to other points east utilize the Local Truck Routes and illegal routes to access the east-west corridors in the southern part of the Borough.

Similarly, the lack of the north-south designated routes encourages trucks to utilize various streets to reach their destinations. The preferred roadways are typically those streets identified as principal arterials on typical commercially purchased maps. However, many of these arterials are not part of the City's truck route network.

at on-route locations and half at off-route locations. The following bullet points illustrate the characteristics of truck accidents and accident locations in Brooklyn.

- 48% of Brooklyn's truck accidents occurred off the truck route
- 52% of Brooklyn's truck accidents occurred on the truck route
- 28.4% of New York City truck accident locations were in Brooklyn
- 26.8% of City truck accidents were in Brooklyn

### **Characteristics of On-Route Accidents and Accident Locations**

There were 362 on-route truck accidents in Brooklyn during the two-month period covered by the data obtained from the NYPD. These accidents occurred at 290 on-route locations in the Borough. Anywhere from one to five accidents occurred at the accident locations. The following numbers describe the characteristics of on-route truck accidents and their locations in Brooklyn.

- At 242 of the 290 on-route accident locations, there was one truck accident
- 30 on-route accident locations experienced two truck accidents
- At 18 on-route accident locations, there were three or more truck accidents
- One on-route accident location experienced five accidents
- Brooklyn's 362 on-route accidents represented 23.5% of citywide on-route accidents
- 24.5% of New York City on-truck route accident locations were in Brooklyn

Table 4-1 identifies the on-route truck route accident corridors in Brooklyn.

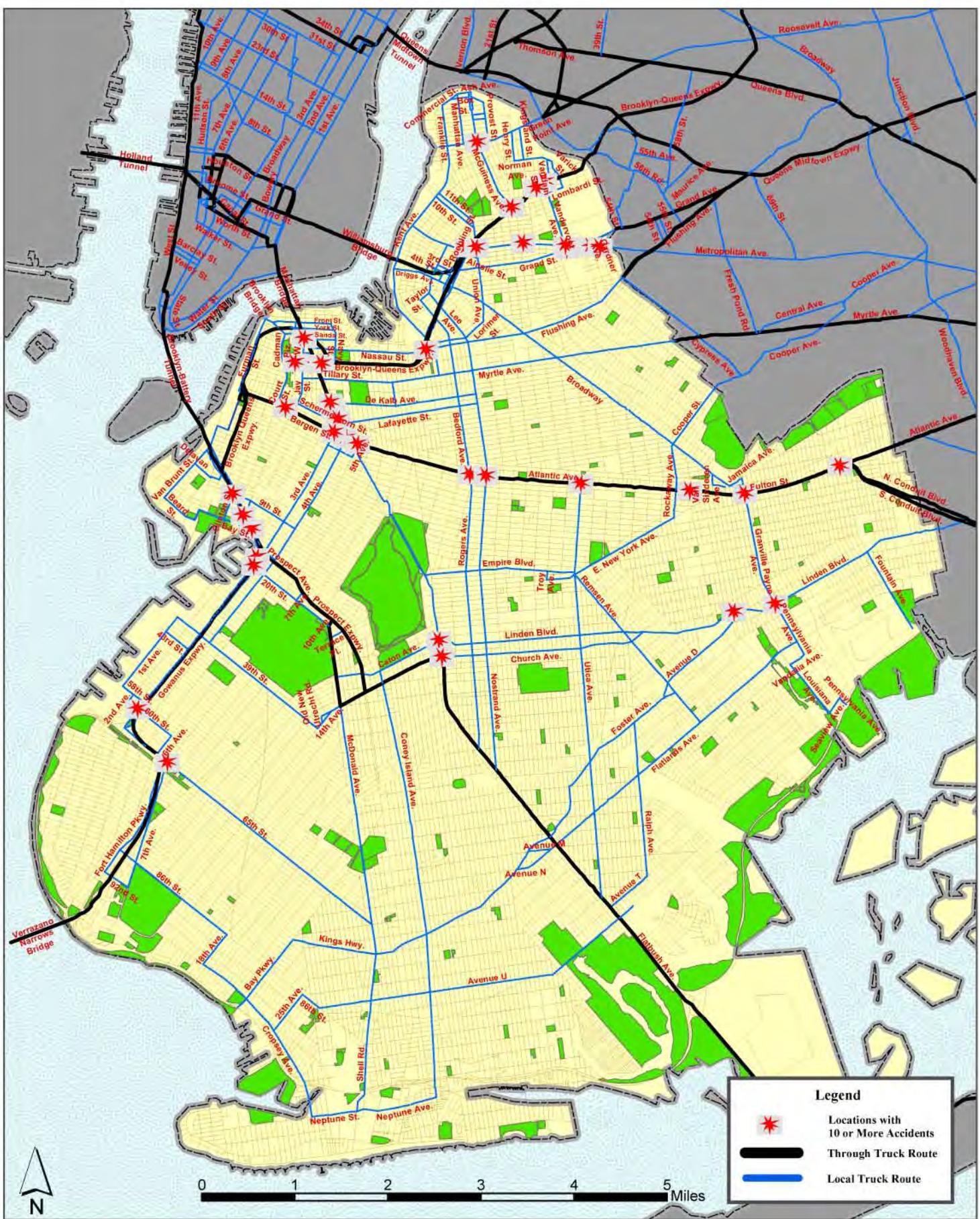
### **Characteristics of Off-Route Accidents and Accident Locations**

In Brooklyn, 278 off-route truck accidents occurred during the two-month period in the NYPD data. These accidents occurred at 265 off-route locations in the Borough. At the majority of off-route accident locations, there was only one accident. No off-route accident location in Brooklyn experienced more than three accidents during the study period. These numbers highlight the following characteristics of off-route accidents and their locations in Brooklyn.

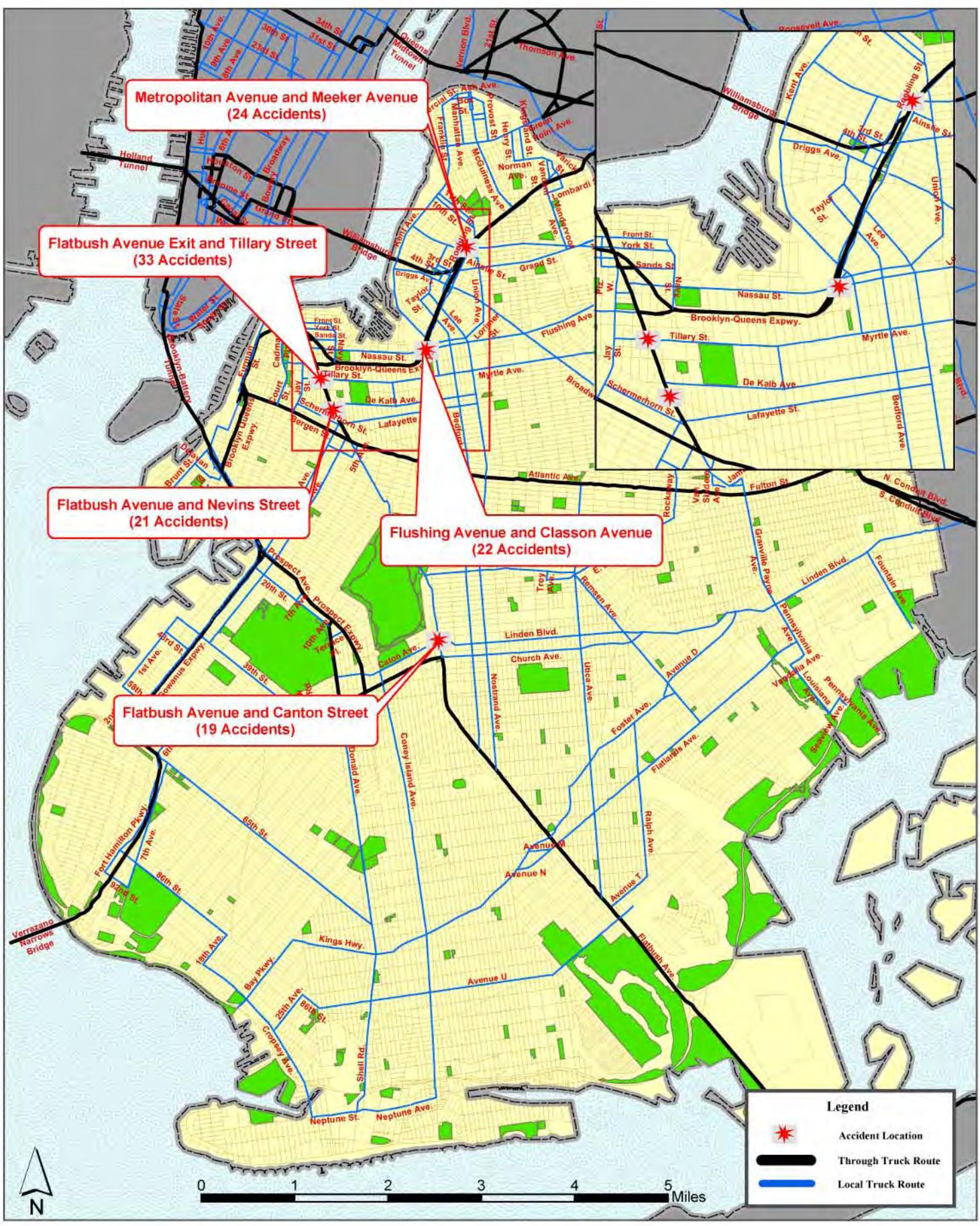
- At 253 off-route accident locations, there was one truck accident
- Brooklyn's 278 off-route accidents represented 32.8% of all citywide off-route accidents
- 34.5% of New York City off-route truck accident locations were in Brooklyn

The high percentage of off-route truck accident occurring in Brooklyn is not unexpected because this Borough has the fewest miles of truck route streets.

Table 4-2 identifies the off-route truck accident corridors in Brooklyn.



**Figure 4-4**  
**Brooklyn 10 or More Truck Accident Locations Map**



**Figure 4-5**  
**Brooklyn Top 5 Truck Accident Locations**

11Table 4-1: Brooklyn On-Route Truck Accident Corridors

Corridor	Location (Between)	Corridor Length (Miles)	Number of On-Route Accidents	Accidents Per Mile	% of On-Route Accidents Borough-wide	% of All Accidents Borough-wide	% of On-Route Accidents Citywide	% of All Accidents Citywide
Flatbush Avenue Corridor*	Manhattan Bridge and Marine Parkway Bridge	10.4	42	4.0	11.6%	6.6%	2.7%	1.8%
Meeker Avenue/BQE (N) Corridor	Vandervoot Avenue and Flushing Avenue	2.3	29	12.6	8.0%	4.5%	1.9%	1.2%
Linden Boulevard/Church Avenue Corridor	Pennsylvania Avenue and McDonald Avenue	7.8	29	3.7	8.0%	4.5%	1.9%	1.2%
3rd Avenue Corridor	11th Street and 60th Street	2.5	26	10.4	7.2%	4.1%	1.7%	1.1%
Atlantic Avenue Corridor	Furman Street and N. Conduit Boulevard	6.8	24	3.5	6.6%	3.8%	1.6%	1.0%
Flushing Avenue Corridor	BQE and Scott Avenue	2.3	22	9.6	6.1%	3.4%	1.4%	0.9%
McGuinness Boulevard Corridor	Ash Avenue and BQE	1.3	13	10.0	3.6%	2.0%	0.8%	0.5%
Bay Parkway/Kings Highway Corridor	Cropsey Avenue and Flatbush Avenue	4.0	13	3.3	3.6%	2.0%	0.8%	0.5%
65th Street/7th Avenue Corridor	5th Avenue and 92nd Street	1.6	12	7.5	3.3%	1.9%	0.8%	0.5%
4th Avenue Corridor	43rd Street and 9th Street	1.8	11	6.1	3.0%	1.7%	0.7%	0.5%
Rockaway Avenue Corridor	Broadway and East New York Avenue	0.8	10	12.5	2.8%	1.6%	0.6%	0.4%
Coney Island Avenue Corridor	Church Avenue and Neptune Avenue	4.5	9	2.0	2.5%	1.4%	0.6%	0.4%
Avenue U Corridor	Gerritson Avenue and 25th Avenue	2.8	9	3.2	2.5%	1.4%	0.6%	0.4%
Vandervoot Avenue Corridor	BQE and Grand Street	0.7	8	11.4	2.2%	1.3%	0.5%	0.3%
Myrtle Avenue Corridor	Flatbush Avenue and Broadway	2.6	8	3.1	2.2%	1.3%	0.5%	0.3%
Nostrand Avenue Corridor	Lafayette Street and Prospect Place	1.1	7	6.4	1.9%	1.1%	0.5%	0.3%
DeKalb Avenue Corridor	Flatbush Avenue and Bedford Avenue	1.4	7	5.0	1.9%	1.1%	0.5%	0.3%
Schermerhorn Street Corridor	Smith Street and Atlantic Avenue	0.5	6	12.0	1.7%	0.9%	0.4%	0.3%

\*Flatbush Avenue Corridor - Of the 42 total accidents reported along the Flatbush Avenue Corridor, 15 accidents occurred along the 1.6 mile span between the Manhattan Bridge and Atlantic Avenue.

Table 4-2: Brooklyn Off-Route Truck Accident Corridors

Corridor	Location (Between)	Corridor Length (Miles)	Number of Off-Route Accidents	Accidents Per Mile	% of Off-Route Accidents Borough-wide	% of All Accidents Borough-wide	% of Off-Route Accidents Citywide	% of All Accidents Citywide
4th Avenue Corridor	Shore Road and 39th Street	3.3	10	3.0	3.6%	1.6%	1.2%	0.4%
5th Avenue Corridor	4th Avenue/95th Street and Flatbush Avenue	5.5	10	1.8	3.6%	1.6%	1.2%	0.4%
Shore Parkway Corridor	Shell Road and Knapp Street	2.3	8	3.5	2.9%	1.3%	0.9%	0.3%
Bushwick Avenue Corridor	Grand Street and Cooper Street	2.6	7	2.7	2.5%	1.1%	0.8%	0.3%
Avenue P Corridor	McDonald Avenue and Kings Highway	1.1	6	5.5	2.2%	0.9%	0.7%	0.3%
Stillwell Avenue Corridor	Kings Highway and Neptune Street	1.9	6	3.2	2.2%	0.9%	0.7%	0.3%
Ocean Parkway Corridor	Avenue U and Neptune Avenue	1.2	6	5.0	2.2%	0.9%	0.7%	0.3%
DeKalb Avenue Corridor	Myrtle Avenue and Cypress Avenue	0.7	5	7.1	1.8%	0.8%	0.6%	0.2%
Pierrepont Street/Montague Street Corridor	Furman Street and Court Street	0.8	5	6.3	1.8%	0.8%	0.6%	0.2%
Prince Street/Fleet Place Corridor	Tillary Street and Flatbush Avenue	0.4	4	10.0	1.4%	0.6%	0.5%	0.2%
Union Street Corridor	4th Avenue and Flatbush Avenue	0.8	4	5.0	1.4%	0.6%	0.5%	0.2%
3rd Avenue Corridor	Shore Road and 65th Street	1.8	4	2.2	1.4%	0.6%	0.5%	0.2%
Nevins Street Corridor	Schermerhorn Street and Flatbush Avenue	0.1	3	30.0	1.1%	0.6%	0.4%	0.1%
Court Street Corridor	Atlantic Avenue and 9th Street	1.0	3	3.0	1.1%	0.5%	0.4%	0.1%
Smith Street Corridor	Atlantic Avenue and 9th Street	1.0	3	3.0	1.1%	0.5%	0.4%	0.1%
2nd Avenue Corridor	37th Street and 58th Street	1.0	3	3.0	1.1%	0.5%	0.4%	0.1%
18th Avenue Corridor	McDonald Avenue and Coney Island Avenue	0.6	2	3.3	0.7%	0.3%	0.2%	0.1%
Ralph Avenue Corridor	Church Avenue and Foster Avenue	0.8	2	2.5	0.7%	0.3%	0.2%	0.1%

### e. NYPD Truck Summonses

For Brooklyn, the NYPD data contained a total of 632 violations for the five violation categories. Almost half of the violations, or 308 violations, were equipment violations. One hundred eighty-four of the 632 violations, or 29%, were for overweight vehicles. Another 125 violations, or 20%, were for off-route trucking. The remaining 15 violations were in the over-dimension and posted limit categories.

Almost all of the over-height and off-route truck citations occurred on roadways that ring the outer edges of the Borough. The notable exception was the Jackie Robinson Parkway exit at Pennsylvania Avenue. There were no clusters of violation sites in Brooklyn as in the other Boroughs. Most of the violation sites were located on or near the Shore and Belt Parkways and the Gowanus Expressway. The two violation sites near the Gowanus Expressway were located near 39<sup>th</sup> and 65<sup>th</sup> Streets, placing these sites on the truck route.

### f. NYCDOT “Hot Spot” Priority Areas

Figures 4-6 through 4-10 at the end of this subsection show the “Hot Spot” priority areas of concern that were analyzed.

#### 1. Bay Ridge Parkway, Fort Hamilton Parkway, Shore Road and Fourth Avenue

There are several streets of concern in the Bay Ridge community in Brooklyn.

**Bay Ridge Parkway** is an east-west arterial that runs between Shore Road and Bay Parkway. While Bay Parkway is a designated Local Truck Route, Bay Ridge Parkway is not a designated truck route. Bay Ridge Parkway is nearly 75 feet wide and is shown on the Hagstrom map as a principal arterial street. As a result, truckers on Bay Parkway mistakenly view Bay Ridge Parkway as a truck route.

**Fort Hamilton Parkway** runs in a southerly direction from Prospect Avenue to 101<sup>st</sup> Street. Only a short portion of the street (82<sup>nd</sup> to 96<sup>th</sup> streets) is designated as a Local Truck Route. However, as in the case of Bay Ridge Parkway, it is a wide street that is designated as a principal arterial on commercially-sold maps, which truckers mistakenly assume is a truck route. The Local Truck Routes are not adequately signed. In addition, for both Bay Ridge Parkway and Fort Hamilton Parkway there is a perception that these roads are classified as “Parkways” and therefore prohibit commercial vehicles. It should be noted that both these roadways do not prohibit commercial traffic.

Other issues in the Fort Hamilton area are the lack of north-south truck connectivity, limited truck routes in the surrounding areas, and the presence of through truck traffic.

**Shore Road** is a north/south street that runs along the west edge of Bay Ridge between 68<sup>th</sup> Street and Fourth Avenue forming t-intersections with the intersecting streets. Residences line the entire east side of the street.

**Fourth Avenue** runs in a southerly direction between Flatbush Avenue and Shore Road; however it is a designated Local Truck Route only between Flatbush Avenue and 39<sup>th</sup> Street. At 39<sup>th</sup> Street, the truck route runs on 39<sup>th</sup> Street west to First Avenue or east to Fourteenth Avenue. However, the truck route does not connect to McDonald Avenue, which is a designated Through Truck Route. Trucks that may stray onto residential streets can be attributed to the lack

Negative signage exists in several areas, however their effectiveness is unclear. The presence of signs in some locations only reinforces the point to truckers that they can use streets that do not have negative signs. A policy that depends on the installation of negative signs can jeopardize the enforcement of a positive sign program advocated in *Technical Memorandum 3, Truck Signage Program*.

## **2. Linden Boulevard, Caton Avenue and Church Avenue**

While each of these corridors are designated truck routes, they generate a high number of complaints, mainly due to their use as through trucking corridors. In addition, there are perceptions that new developments in Brooklyn, such as the gateway Mall have contributed to a significant increase in truck traffic on streets like Linden Boulevard. In addition, Caton Avenue from Coney Island Avenue to Flatbush Avenue is frequently highlighted as problematic.

A significant source of these complaints is the lack of east-west Through Route connectivity in Brooklyn, as Atlantic Avenue is the only through east/west truck route in the Borough. However, each of these corridors provides connectivity to critical truck routes in Queens, as well as connections to the exiting through network in Brooklyn.

**Linden Boulevard** is a major east-west arterial that runs from North and South Conduit Avenue/Nassau Expressway in Queens to Flatbush Avenue/Caton Avenue in Brooklyn. It is also designated as State Route 27, and a Local Truck Route in Brooklyn. In Queens, Conduit Avenue is designated as Route 27. Trucks traveling westbound on North Conduit Avenue reach a decision point at Linden Boulevard; where Linden Boulevard is signed as a Through Truck Routes. In addition, the Route 27 designation continues along Linden Boulevard and trucks tend to remain on Route 27 and use it to traverse Brooklyn.

While there is no quantitative information to substantiate that through trucks are using Linden Boulevard, from a regulatory standpoint, there are no Through Truck Routes across South Brooklyn and only one east-west Through Truck Route in the entire Borough (Atlantic Avenue).

The current configuration of Through Routes on the Prospect Expressway, McDonald Avenue and Church and Flatbush Avenues leads drivers to be inclined to use Caton, Church and Linden Boulevard as Through Routes. At the intersection of Church and Flatbush Avenues, the Through Truck Routes continue along a southeast access, providing through routing toward the Rockaways. In addition, westbound trucks tend to stay on Linden Boulevard at the Church Avenue / Linden Boulevard Split as both are designate truck routes that lead to nearly identical connections to the rest of the central and eastern truck routes.

Another source of confusion and contributor to truck traffic is the fact that drivers frequently refer to commercial maps that identify streets, such as Linden Boulevard, as a principal arterials and state highways, therefore increasing the likelihood a driver will use this corridor.

Confusion occurs due to the state highway designation and truck access on Linden Boulevard. The entire length of Church Avenue is designated as a Local Truck Route, but the section between McDonald and Flatbush Avenues is a Through Truck Route in the area. One recommendation should be at the Prospect Expressway; Local and Through Truck Route signage should be prominently placed. For example, signage indicating that "THROUGH TRUCKS USE CHURCH AVENUE" should be placed on eastbound approaches (i.e. on Prospect Expressway) to advise trucks of the routes.

Residents have complained about trucks using **Caton Avenue** between McDonald and Flatbush Avenues. This corridor is a legal Local Truck Route that runs east/west between Fort Hamilton Parkway to Flatbush Avenue at which point Linden Boulevard begins. This segment is the source of local complaints.

**Church Avenue**, is designated as a Local Truck Route for most of the Borough, however it makes up an important part of the Through Route network for a portion of its length (between McDonald Avenue and Flatbush Avenue. Overall, the corridor runs east/west street from Old New Utrecht Road to Linden Boulevard. The section between Ocean Parkway and Coney Island Avenue is also designated as State Route 27. Church Avenue combines with Linden Boulevard to provide an east-west truck route through the central part of the Borough.

Church Avenue parallels Linden Boulevard between Flatbush Avenue and Kings Highway and is a high-activity commercial street and a designated Local Truck Route. Commercial/retail is the predominant land use along the corridor. Local deliveries, bus and vehicle parking maneuvers, pedestrian activity at the intersections and truck traffic constrain the vehicle capacity of Church Avenue.

The New York State Department of Transportation and the New York Metropolitan Transportation Council have completed studies that identified the need for additional east-west truck route capacity through Brooklyn. Feedback from businesses and the trucking community in this study also mentioned the need for improved truck access through Brooklyn.

One possible option is to change Linden Boulevard to a Through Truck Route from the Queens County line to Rockaway Avenue; and change Rockaway Avenue to a Through Truck Route from Linden Boulevard to the Bay Ridge rail line, constructing an express truck route within the Bay Ridge rail line right-of-way from Rockaway Avenue to 4<sup>th</sup> Avenue with access ramps at either end; and changing 4<sup>th</sup> Avenue to a Through Truck Route between 68<sup>th</sup> Street and the Gowanus Expressway. This would also require improving ramp access to the Gowanus Expressway. This route should be designated as Route 27 for through trucks. This option would eliminate the intrusion of tractor trailers into the residential areas on Linden Boulevard west of Rockaway Avenue.

A shorter-term recommendation to address truck traffic on these corridors is improved truck route signing and information posted on the Prospect Expressway.

### **3. Greenpoint / Williamsburg Area**

This area is experiencing increased residential development in a transitional commercial neighborhood. The community complains that trucks are using local streets instead of designated truck routes.

Truck access to the Greenpoint and Williamsburg areas is very limited. McGuinness Boulevard and the Brooklyn-Queens Expressway are the primary corridors from the north and west and Metropolitan Avenue and Grand Avenue are the truck corridors from the south. Greenpoint Avenue provides access from the east. Traffic congestion on the Brooklyn-Queens Expressway and Kosciusko Bridge contributes to trucks using McGuinness Boulevard, as well as limited opportunities for accessing or leaving the Brooklyn Queens Expressway. Metropolitan Avenue is a Local Truck Route in Brooklyn and Queens; however, Grand Avenue is a Through Truck Route in Queens and a Local Truck Route in Brooklyn.

This northwest area of Brooklyn recently underwent a rezoning by the Department of City Planning, which may put additional pressures on the residential areas by truck traffic accessing industrial and commercial properties. It should be noted that a large amount of negative signage is already posted in the entire Greenpoint/Williamsburg/East Williamsburg area. Given the proximity of the Brooklyn-Queens Expressway and its exit ramps, as well as the service road underneath the roadway, trucks inevitably venture into residential areas. The Kingsland Avenue and McGuinness Boulevard issues are examples of this conflict. In addition, with the large amount of construction, there are a high number of temporary truck trips traversing the residential streets of the neighborhood. While difficult to enforce, completion of the projects will eliminate a significant number of the trips. However, increased enforcement may be necessary in many of the areas of the 90<sup>th</sup> and 94<sup>th</sup> Precincts.

A significant contributor to truck traffic in this area is waste management vehicles. It should be noted that the Department of Sanitation's Solid Waste Management Plan (SWAMP) which was finalized in September 2006, established the structure of New York City's solid waste management for the next twenty years. Waste and refuse vehicles are typically bound by more stringent permitting and regulations in terms of routing and siting of facilities, which allows for a greater range of management of their movements. The Department of Transportation has been working closely with the Department of Sanitation on sanitation related truck issues in this area, and with the SWAMP plan, should look to address and mitigate some of the quality of life issues associated with these vehicles, as well as improved truck management in areas where these vehicles are concentrated.

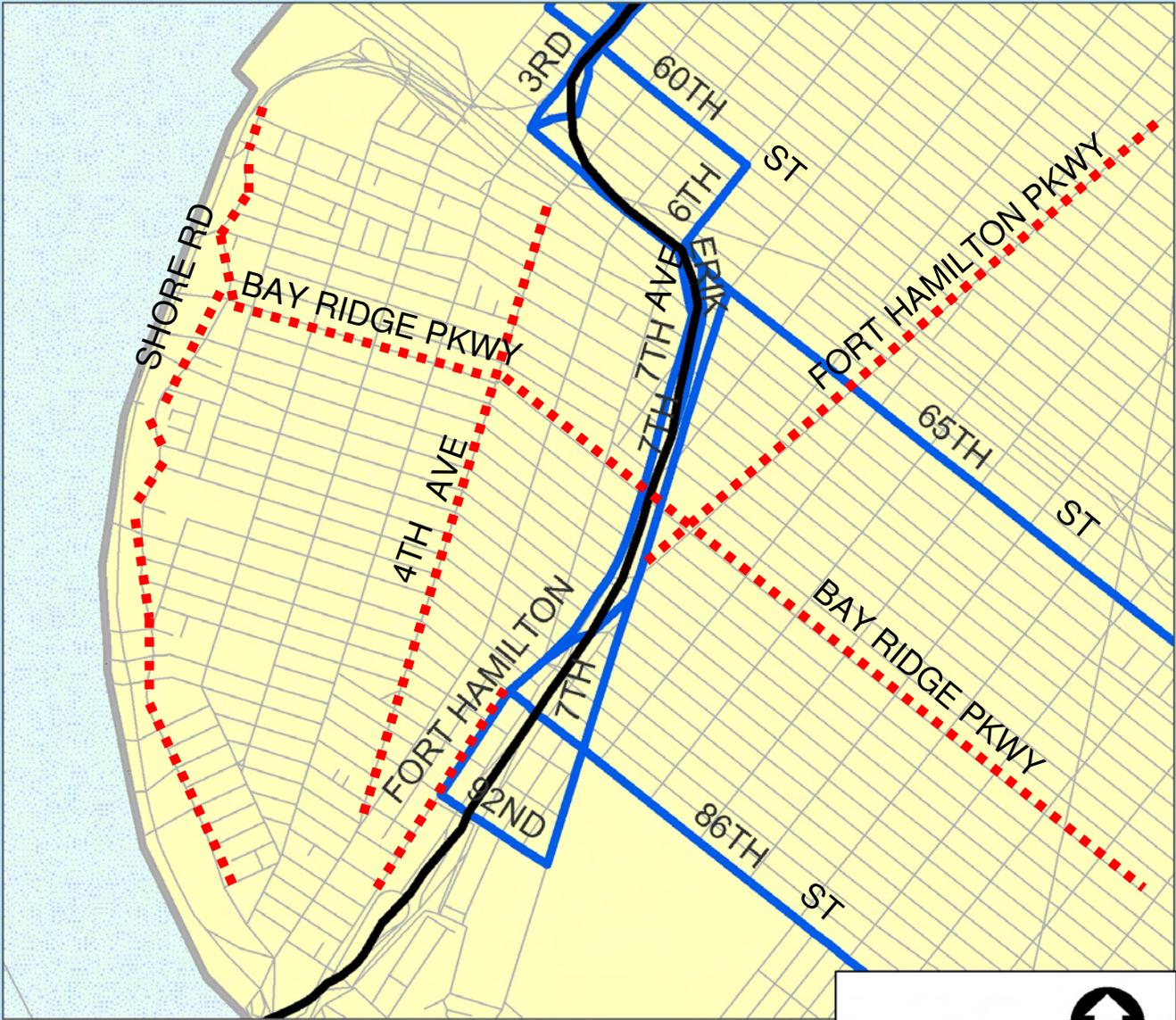
Primary recommendations for this area are to eliminate the discontinuities in Local and Through Truck Routes between Brooklyn and Queens. The current system is inadequate for westbound or Brooklyn-bound trucks if they do not have a destination in Brooklyn. However, it is not feasible to designate all the local routes in Brooklyn that connect with through routes, nor would it make sense because many of these routes are not typical for a Queens originating truck utilizing Brooklyn to go to points outside of Brooklyn. Truck access should also be consistent with the truck routing proposal for Maspeth. Therefore, the logical choice for designation would be Grand Avenue in Brooklyn to the BQE. Flushing Avenue takes trucks too far to the south, and Metropolitan Avenue is a local route in Queens.

In addition, additional signage treatments should be investigated for the area. This may include an expanded sign program to illustrate the overall routes in the area, and a renewed investigation into both positive and negative signage at select intersections to account for the changes in land use.

Finally, the investigation into the East Williamsburg Study Area produced additional recommendations which are detailed later in this document



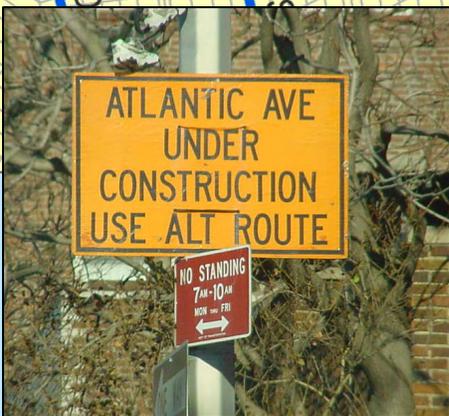
**Figure 4-6: Brooklyn Hot Spots**



**Legend** 

-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas

**Figure 4-7: Bay Ridge, 4<sup>th</sup> Avenue, & Fort Hamilton Parkway**



**Legend**

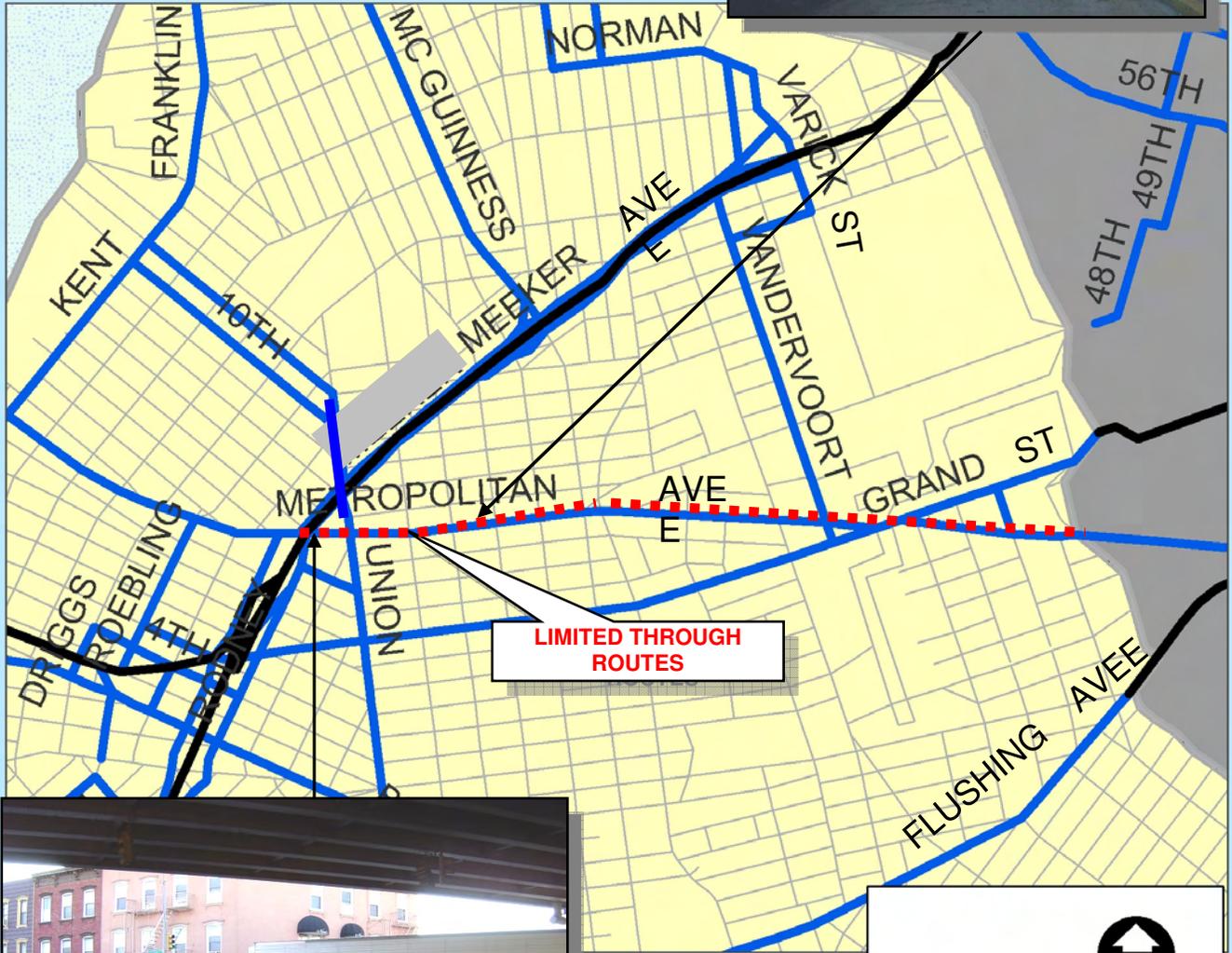


-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas

**Figure 4-8: Linden Boulevard, Caton Avenue, & Church Avenue**



**Figure 4-9: Kingsland Avenue & McGuinness Boulevard**



LIMITED THROUGH ROUTES



**Legend**

 North

-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas

**Figure 4-10: Metropolitan Avenue & Grand Street**

## **g. Stakeholder Issues**

The following is an analysis of the public comments regarding truck activity in Brooklyn. Figures 4-11 through 4-16 graphically depict the stakeholder issues that were raised during this study process.

### Geometric Constraints

Of all the statements received from the Brooklyn residents and businesses, fifteen mentioned geometric constraints of roadways. Generally, these comments discussed traffic, property damage and the dangers resulting from trucks traveling along and turning on narrow roadways. This inadequate roadway condition leads to cars being struck, as well as trucks utilizing sidewalks to complete turning movements. An example of larger trucks colliding with a subway overpass was also discussed. The comments focused on approximately 25 locations.

Location of comments:

- 20<sup>th</sup> Street between 5<sup>th</sup> and 7<sup>th</sup> Avenues
- 3<sup>rd</sup> Street
- Amersfort Place
- Atlantic Avenue
- Atlantic Avenue Exit off Brooklyn Queens Expressway
- Avenue P between East 15<sup>th</sup> and East 16<sup>th</sup> Streets (trucks hit train overpass)
- Bedford Avenue
- Beverly Road and East 3<sup>rd</sup> Street
- Bond Street
- Clinton Street between Hamilton Avenue and Bay Street
- Dorchester Road between Ocean and Coney Island Avenues
- East 27<sup>th</sup> Street
- Flatbush Avenue
- Graham Avenue
- Henry Street
- Hicks Street
- Hoyt Street
- Kent Avenue
- Manhattan Avenue
- McGuinness Boulevard
- Meeker Avenue
- Metropolitan Avenue
- Nevins Street
- Nostrand Avenue
- 3<sup>rd</sup> Avenue

### Land Use

Twenty comments pertaining to land use issues were collected in the Borough of Brooklyn. These comments typically identified quality of life impacts resulting from truck trips that utilize residential streets. Most stated that these trips are destined for industrial areas. Truck drivers are also attempting to avoid traffic congestion on designated truck routes. The changing

landscape of Brooklyn from industrial to residential land use patterns was also cited as a cause of conflict between trucks and residential neighborhoods.

Location of comments:

- 11<sup>th</sup> Avenue
- 12<sup>th</sup> Avenue
- 609 Metropolitan Avenue
- North 6th Street between Havermeyer Street and Meeker Avenue
- 74th Street and Bay Ridge Parkway
- 9th Street between 7th and 8th Avenues
- Atlantic Avenue
- Avenue Y
- Bay Ridge Parkway
- Caton Avenue
- Dean Street between Smith Street and Flatbush Avenue
- East Williamsburg Industrial Park
- Franklin Avenue
- Franklin Street
- Gowanus Area
- Grand Street
- Grattan Street between Porter Street and Knickerbocker Avenue
- Greene Avenue
- Greenpoint Avenue
- Greenpoint Neighborhood
- Humboldt Street
- Kent Street
- Kingsland Avenue
- Linden Boulevard between Kings Highway and Bedford Avenue
- Lorimer Street
- Manhattan Avenue
- McGuinness Boulevard
- Meeker Avenue
- Metropolitan Avenue
- Norman Avenue
- Thames Street
- Vandervoort Avenue
- West 1st Street
- Williamsburg Neighborhood

Off-Truck Route

Forty-one comments from the Borough of Brooklyn discussed trucks traveling off NYCDOT designated truck routes. The perception is that truck drivers are disregarding the designated truck route regulations by utilizing non-truck route roadways to bypass congestion and tolls and create a “short cut” to their ultimate destination. In addition, a large number of trucks utilize Local Truck Routes as Through Truck Routes. Generally, these roadways are residential in nature. A number of statements called for improvements including, changes in route designations where areas have over time become residential in character, better education practices for drivers, and additional traffic controls in order to make non-truck routes less desirable.

Location of comments:

- 11th Avenue
- 20th Street
- 74th Street
- Apollo Street
- Avenue Y
- Bay Ridge Parkway
- Bedford Avenue
- Beverly Road
- Calyer Street
- Clinton Street
- Conselyea Street
- Cropsey Avenue between 15th and 18th Avenues
- Dean Street between 4th and 5<sup>th</sup> Avenues
- Dean Street between Smith Street and Flatbush Avenue
- Ditmas Avenue between Coney Island Avenue and Ocean Avenue
- Dorchester Road between Ocean Avenue and Flatbush Avenue
- Dorchester Road between Coney Island Avenue and Ocean Avenue
- East 3rd Street
- Flatbush Avenue
- Franklin Avenue
- Graham Avenue
- Grattan Street between Knickerbocker Avenue and Porter Street
- Greene Avenue
- Hoyt Street
- Humboldt Street
- Kent Street
- Kingsland Avenue
- Maspeth Avenue
- Meeker Avenue
- Metropolitan Avenue
- Morgan Avenue
- North 6th Street between Havemeyer Street and Meeker Avenue
- Pacific Street
- Pacific Street and 4th Avenue

- Reeve Place
- Side streets in Flatbush
- Side streets in Gowanus
- Smith Street
- Streets around Dyker Golf Course
- Streets leading to the Gowanus Expressway
- Thames Street
- Through Traffic on Local Routes between Gowanus Expressway and JFK Airport
- Vandervoort Avenue
- Washington Avenue between Greene and Gates Avenues
- West 1<sup>st</sup> Street

### Oversized Trucks

Twenty-two comments pertained to issues associated with oversized trucks. A wide range of comments included: the need to regulate the overall size and weight of trucks, large trucks continue to cause damage to local roadways and that there are problems resulting from large trucks traveling along residential streets.

#### Location of comments:

- Atlantic Avenue
- Avenue J
- Avenue M
- Avenue U
- Bedford Avenue
- Beverly Road
- Caton Avenue
- Clinton Street
- Cumberland Street
- Farragut Road
- Flushing Avenue
- Foster Avenue
- Henry Street
- Kings Highway
- Maspeth Avenue
- Montague Street
- Park Avenue
- Washington Avenue

### Public Safety

Twenty-eight public safety related comments were received from the public in Brooklyn. Most statements discussed the dangers that trucks pose to pedestrians in residential areas and in close proximity to schools. Children were of primary concern in many of these comments. In

order to control reckless drivers, implementation of numerous traffic calming techniques were discussed.

Location of comments:

- 3<sup>rd</sup> Avenue
- 4<sup>th</sup> Avenue
- 9<sup>th</sup> Street between 7<sup>th</sup> and 8<sup>th</sup> Avenues
- Atlantic Avenue
- Avenue J
- Avenue Y
- Bedford Avenue
- Bond Street
- Carroll Gardens Neighborhood
- Caton Avenue
- Clinton Street
- Farragut Road
- Flatbush Avenue
- Foster Avenue
- Franklin Avenue
- Franklin Street near American Playground
- Grattan Street
- Greene Avenue
- Greenpoint Avenue
- Greenpoint Neighborhood
- Herbert Street and North Henry Street
- Hoyt Street
- Humboldt Street
- Kent Avenue
- Kent Street
- Maspeth Avenue
- McGuinness Boulevard
- Metropolitan Avenue
- Morgan Avenue
- Nevins Street
- Newell Street
- North 6<sup>th</sup> Street
- North Henry Street
- North Henry Street and Richardson Street
- Provost Street
- Reeve Place
- Richardson Street
- Roebling Street
- State Street
- Thames Street
- Washington Avenue
- Williamsburg Neighborhood

### Structural/Infrastructure/Utility Damage

Sixteen comments cited physical damage to roadways, water mains and building foundations and facades. Examples of damage caused by truck-generated vibration were mentioned.

Location of comments:

- Bedford Avenue between Glenwood Road and Foster Avenue
- Beverley Road
- Brooklyn Navy Yard (historic buildings)
- Clinton Avenue
- Court Street
- Cropsey Avenue between 14<sup>th</sup> and 18<sup>th</sup> Avenues
- Cumberland Street
- Ditmas Avenue
- East 3<sup>rd</sup> Street
- Farragut Road
- Flatbush Avenue
- Flushing Avenue
- Foster Avenue
- Henry Street
- Hicks Street
- Joralemon Street
- McDonough Street between Ralph and Howard Avenues
- Montague Street
- Park Avenue
- State Street
- Sunset Park Neighborhood
- Washington Avenue

### Signage

Eighteen comments referred to inadequate signage. Generally, the comments expressed a need for improved signs showing where trucks are permitted and prohibited. Several comments discussed a claim from the NYPD that unless there was negative signage, off-truck route summonses could not be issued.

Location of comments:

- Apollo Street
- Atlantic Avenue
- Avenue Y
- Bedford Avenue
- Bushwick Avenue
- Classon Avenue
- Conselyea Street
- Dean Street between 4<sup>th</sup> and 5<sup>th</sup> Avenues
- East Williamsburg Neighborhood

- Franklin Avenue
- Graham Avenue
- Grand Street
- Maspeth Avenue
- Meeker Avenue
- Metropolitan Avenue
- Morgan Avenue
- Nostrand Avenue
- Ocean Parkway (examples of good signage)
- Union Avenue
- Vandervoort Avenue
- West 1<sup>st</sup> Street

### Enforcement

Thirty-nine comments cited the NYPD's lack of enforcement of the NYCDOT truck regulations. The statements discuss the need for more stringent enforcement of truck regulations and routes. A call for tougher penalties was also mentioned.

#### Location of comments:

- 2<sup>nd</sup> Place
- 3<sup>rd</sup> Street
- Amersfort Place
- Apollo Street
- Atlantic Avenue
- Avenue J
- Avenue K
- Avenue M
- Bedford Avenue
- Bond Street
- Cadman Plaza West
- Clinton Street
- Clinton Street and Montague Street
- Columbia Street
- Coney Island Avenue
- Conselyea Street
- Court Street
- Dean Street between 4<sup>th</sup> and Flatbush Avenues
- Dorchester Road
- Dorchester Road and Flatbush Avenue
- Dorchester Road and Ocean Avenue
- East 16<sup>th</sup> Street
- East 27<sup>th</sup> Street
- Eckford Street
- Flatbush Avenue

- Franklin Avenue
- Franklin Avenue (traffic decrease b/c increased enforcement)
- Franklin Street
- Gowanus Industrial Area
- Graham Avenue
- Grand Street
- Greene Avenue
- Greenpoint Avenue
- Greenpoint Neighborhood
- Henry Street
- Herbert Street
- Hicks Street
- Hoyt Street
- Kent Avenue
- Leonard Street
- Manhattan Avenue
- Maspeth Avenue
- McGuinness Boulevard
- Meeker Avenue
- Metropolitan Avenue
- Morgan Avenue
- Newell Street
- Noble Street
- North Henry Street
- Nostrand Avenue
- Pierrepont Street
- Pierrepont Street and Henry Street
- President Street
- Provost Avenue
- Smith Street
- Union Street
- Van Brunt Street
- Vandervoort Avenue
- Williamsburg Neighborhood

### Public Comments Analysis

There are several roadways within Brooklyn that are designated as Through and Local Truck Routes that were referenced in the public comments as concerns. A review of accident data over a two-month period (October to November, 2003) revealed that there were several truck-related accidents along these roadways, such as Atlantic Avenue, Flatbush Avenue, Flushing Avenue, and Vandervoort Avenue. Along several roadways that have been designated as truck routes, concerns were raised over traversing through residential areas such as along Atlantic Avenue and Linden Boulevard. A review of the morning peak period truck trip ends within Brooklyn (see Figure 4-3) indicates that there are truck generating areas along these roadways.

Several problems were noted along Atlantic Avenue, including oversized trucks, public safety, the lack of proper signage, and lack of enforcement. There were twenty-four (24) truck-related accidents along Atlantic Avenue during the two-month period studied (October-November, 2004). Flatbush Avenue recorded forty-two (42) truck-related accidents, the highest amount of truck-related accidents in the Borough, and was also commented as having geometric constraints, public safety concerns, structural/infrastructure/utility damage, and lack of proper enforcement. Both Atlantic Avenue and Flatbush Avenue are Through Truck Routes.

Residents of the Williamsburg neighborhood voiced concerns over truck traffic passing through residential streets as well as public safety concerns and lack of enforcement. There were comments regarding lack of enforcement or the need for more stringent enforcement of truck regulations and routes throughout the Borough. In fact, more comments regarding enforcement of truck traffic were received in Brooklyn than the other four Boroughs. An increase or change in policy of enforcement of truck traffic rules and regulations, particularly pertaining to prohibitions, is recommended.

The following is an analysis of six problem areas in a greater level of detail, along with some suggested recommendations:

#### **1. Prospect Park – Park Slope - Windsor Park**

Community complaints have been raised about trucks using Prospect Park Southwest, north of Caton Avenue in the Park Slope and Windsor Terrace sections of Brooklyn. Trucks appear to use this street to avoid bottlenecks southbound on Flatbush Avenue at Grand Army Plaza at the north end of Prospect Park. Vehicle queues spillback upstream of the Plaza. The following actions are recommended to address this problem:

- Post “THROUGH TRUCK ROUTE” signs along Flatbush Avenue to advise truckers of the existing truck route.
- Post signs at the entrance to Plaza Street West at the intersection with 8<sup>th</sup> Avenue and Flatbush Avenue indicating “NO TRUCKS EXCEPT LOCAL DELIVERIES”.
- Prohibit parking on both sides of Flatbush Avenue between Prospect Park West and Lincoln Road from 7-10 AM and 4-7 PM on weekdays.
- Retime the traffic signals at:
  - Flatbush Avenue at Empire Boulevard/Washington Avenue; and
  - Empire Boulevard and Washington Avenue
- Examine whether negative signage is appropriate in the vicinity of the Grand Army Plaza, including Union and Plaza Streets

## **2. 2. Columbia Street, Clinton Street and Hicks Street**

With the exception of the short portion of Columbia Street and Van Brunt Streets, there are no streets designated as Local Truck Routes between Hamilton Avenue and Atlantic Avenue. South of Hamilton Avenue, Columbia Street was designated as a local truck route between Hamilton Avenue and Bay Street and was a source of community complaints. It was subsequently removed as part of the Red Hook Truck Study. In addition to the removal of this portion of Columbia Street, a significant number of improvements were proposed and implemented to mitigate concerns in the Red Hook areas.

To address this local concern, the following actions are recommended:

- Post the “LOCAL TRUCK ROUTE” signs on Hamilton Avenue and Columbia Street and oversized “NO TRUCKS EXCEPT LOCAL DELIVERY” signage at intersection.
- Post a “THROUGH TRUCK ROUTE” sign on Columbia Street southbound between Atlantic Avenue and the BQE access ramps;
- Post “NO TRUCKS EXCEPT LOCAL DELIVERIES” signs at the intersections of Hamilton Avenue with Clinton Street, Hicks Street, and Henry Street; and
- Provide enforcement details at the truck route violation areas.

In addition, there are several commercial and residential developments as well as changes to land use that have taken place since this study was undertaken and completed. It is recommended that the Department of Transportation continue to address truck routing in this area, including investigations for the posting of appropriate wayfinding, negative and positive signage.

## **3. Dean Street**

Dean Street is a narrow, east-west street with parking on both sides of the street in the Cobble Hill and Boerum Hill sections of the Borough. The street accommodates one-way traffic and runs between Court Street and 3<sup>rd</sup> Avenue. The area is residential but the street is used to access Hospital of the Holy Family. While the street runs parallel to Atlantic Avenue, there were no indications that the street is used as an alternate truck route to Atlantic Avenue. Fewer than five trucks were observed traveling on Dean Street on a weekday morning. The completion of construction on Atlantic Avenue, posting of “THROUGH TRUCK ROUTE” signs on Atlantic Avenue and random police enforcement should remedy the problem.

## **4. Ditmas Avenue**

The residents of the Parkville section are concerned about trucks on Ditmas Avenue, which runs from McDonald Avenue to Ocean Avenue. Truck use of this street can be attributed to:

- The sparseness of the Local Truck Routes in the Borough.
- The absence of truck route signing to advise truckers of the existing truck route streets.
- The generous street width of Ditmas Avenue.

There is no advantage for trucks to use Ditmas Avenue rather than McDonald Avenue or Bay Parkway, which are Local Truck Routes. To address the community concern, the following measures are recommended:

- The placement of Local Truck Route signs at the intersections of Ditmas Avenue with McDonald Avenue, Coney Island Avenue, and 65<sup>th</sup> Street.
- Placement of Local Truck Route wayfinding signs along Ditmas Avenue

Negative signing is not recommended for this situation because the presence of trucks does not appear to be attributed to trucks avoiding a bottleneck, using the street as a short-cut but rather an absence of understanding of the truck route network in the Borough.

## 5. Schenectady Avenue

Schenectady Avenue is a north-south street that runs southbound between Fulton Street and Winthrop Street. It is parallel to Utica Avenue, which is a Local Truck Route. Curb parking lines both sides of the street and hospitals are located at each end of the street. At the north end is the Interfaith Hospital and Medical Center and at the south end is Kingsbrook Jewish Medical Center and Kingsboro Psychiatric Center. Inappropriate truck use of this street can be addressed by the following measures:

- The placement of Local Truck Route signs at the intersections of Schenectady Avenue with Atlantic Avenue, Empire Boulevard, Linden Boulevard, and Church Avenue.
- The placement of Negative truck signage, at the intersections of Atlantic Avenue and Schenectady Avenue
- Placement of Local Truck Route wayfinding signs along Schenectady Avenue.
- Improved Truck Route signs on all approaches at the intersection of East New York Avenue, Empire Boulevard, Remsen Avenue and Utica Avenue.

## 6. 20<sup>th</sup> Street

Currently, 20<sup>th</sup> Street is a designated Local Truck Route between 3<sup>rd</sup> Avenue and 10<sup>th</sup> Avenue. However, the Department has received complaints from the community about traffic conditions on the segment of 20<sup>th</sup> Street between the 3<sup>rd</sup> Avenue/Gowanus Expressway and McDonald Avenue. These concerns prompted an investigation to explore possible ways of mitigating the impact of truck traffic along this section. In order to determine the best solution, traffic counts for three key intersections along this segment were analyzed. These intersections included:

- 20<sup>th</sup> Street and 4<sup>th</sup> Avenue
- 20<sup>th</sup> Street and 7<sup>th</sup> Avenue
- 20<sup>th</sup> Street and 10<sup>th</sup> Avenue/McDonald Avenue

For each of these intersections, the movements of vehicles was observed and recorded. The vehicle counts for each turning movement were recorded into four categories: cars (including taxis and SUV's), trucks, tractor trailers, and buses. The observations were recorded during the morning, midday and afternoon peak hours on two separate weekdays. An analysis of truck and tractor trailer movements was conducted using the average number of total vehicles per day. The key findings were as follows:

- The heaviest volumes of truck and tractor trailer traffic travel eastbound on 20<sup>th</sup> Street (entering the intersection from 3<sup>rd</sup> Avenue bound for McDonald Avenue), straight through the intersection of 20<sup>th</sup> Street and 7<sup>th</sup> Avenue and continuing on to MacDonald Avenue.
- At 20<sup>th</sup> Street and 7<sup>th</sup> Avenue, the vast majority of truck and tractor trailer traffic traversing this intersection is eastbound. Two-thirds of trucks and 87% of tractor trailers passing through this intersection were eastbound compared to 23% of trucks and 10% of tractor trailers headed westbound.

#### 20<sup>th</sup> Street and 4<sup>th</sup> Avenue

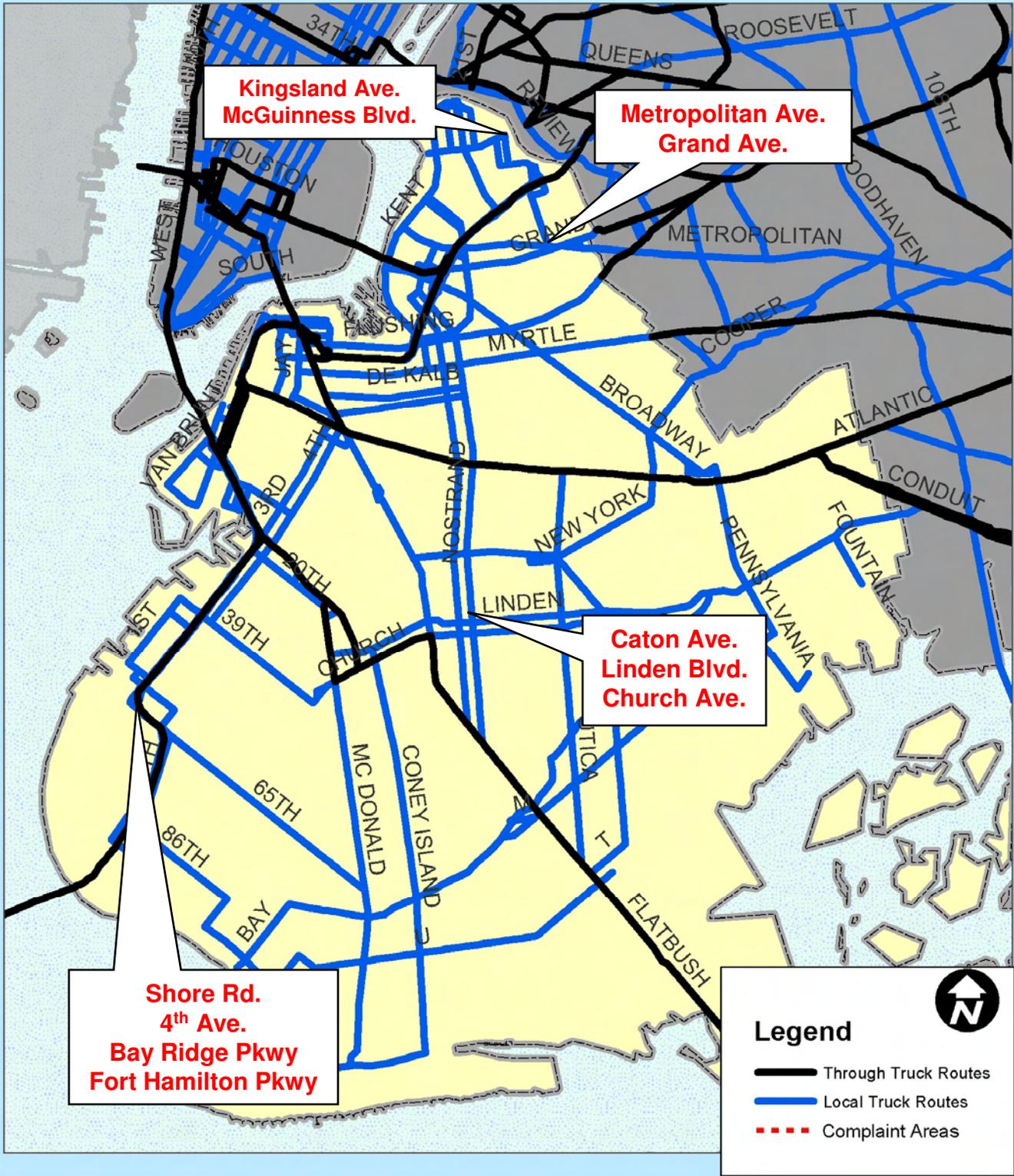
- Due to the close proximity of both the Gowanus Expressway and the Prospect Expressway, and because it is the crossroads of two designated truck routes, the 20<sup>th</sup> St/ 4<sup>th</sup> Avenue intersection serves as a gateway to the study area, attracting the vast majority of truck and tractor trailer traffic within the study area.
- The majority of truck and tractor trailer traffic passing through this intersection is northbound and eastbound. 49% of trucks and 56% of tractor trailers that traversed this intersection headed north on 4<sup>th</sup> Avenue towards the Prospect Expressway, while 29% of trucks and 37% of tractor trailers head east on 20<sup>th</sup> Street (presumably after exiting the Gowanus Expressway). In contrast, 4% of trucks and tractor trailers headed westbound.

#### 20<sup>th</sup> Street and McDonald Avenue

- Because of the truck route designation, trucks are limited to either McDonald Avenue or 20<sup>th</sup> Street at this intersection. Both trucks and tractor trailers tended to use 10<sup>th</sup> Avenue for access to McDonald Avenue from the Prospect Expressway. Very few (7% of trucks and 3% of tractor trailers) accessed 20<sup>th</sup> Street from 10<sup>th</sup> Avenue.

Both 3<sup>rd</sup> and 4<sup>th</sup> Avenues are Local Truck Routes and there are a number of sites in the area that generate truck activity especially along 20<sup>th</sup> Street between 4<sup>th</sup> Avenue and the waterfront. Due to the close proximity to the Gowanus Expressway and the Prospect Expressway it is reasonable to assume that the truck traffic has a local origin or destination that warrants their using 20<sup>th</sup> Street, especially since there is no outlet at the west end of 20<sup>th</sup> Street. However, the following actions are recommended:

- Post “LOCAL TRUCK ROUTE” signs at the key intersections along 3<sup>rd</sup> and 4<sup>th</sup> Avenues
- Post wayfinding signs along 20<sup>th</sup> Street to the Local Truck Routes (3<sup>rd</sup> and 4<sup>th</sup> Avenues)
- Post wayfinding signs on 4<sup>th</sup> Avenue to Atlantic Avenue, the Gowanus Expressway, and Flatbush Avenue.



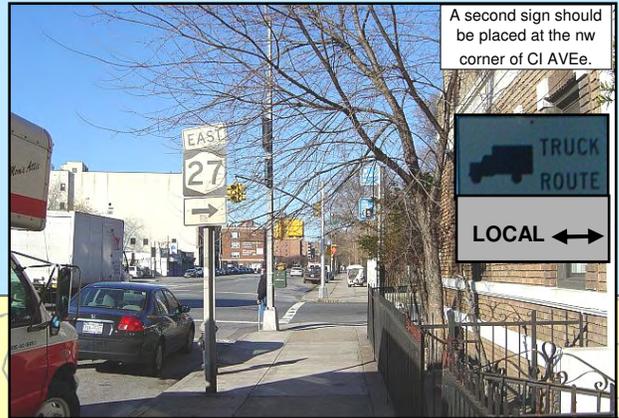
**Figure 4-6: Brooklyn Hot Spots**



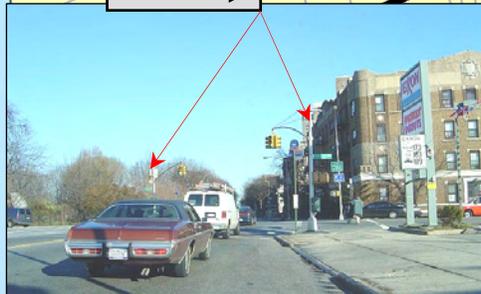
**Figure 4-11: Brooklyn Stakeholder Areas**



AVeE. Prospect Park SW



Coney Island AVEe NB/Prospect Park SW and Caton AVEe.



Caton AVEe. EB and Coney Island Ave/Prospect ParkSW.

**Figure 4-12: Prospect Park Southwest**



**Legend**

-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas



Figure 4-13: Columbia Street, Clinton Street, & Hicks Street

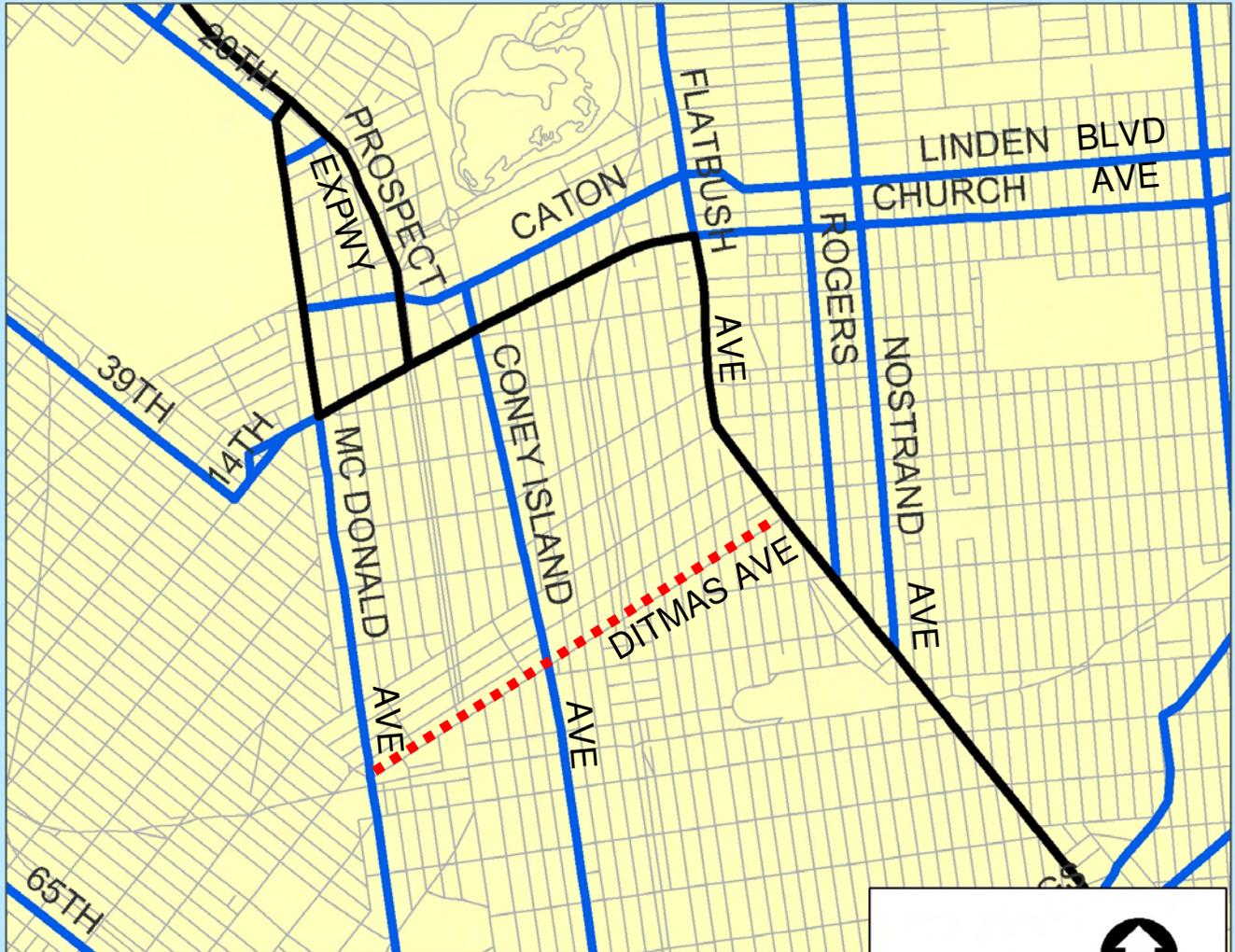


**Legend**



-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas

**Figure 4-14: Dean Street & Schenectady Avenue**

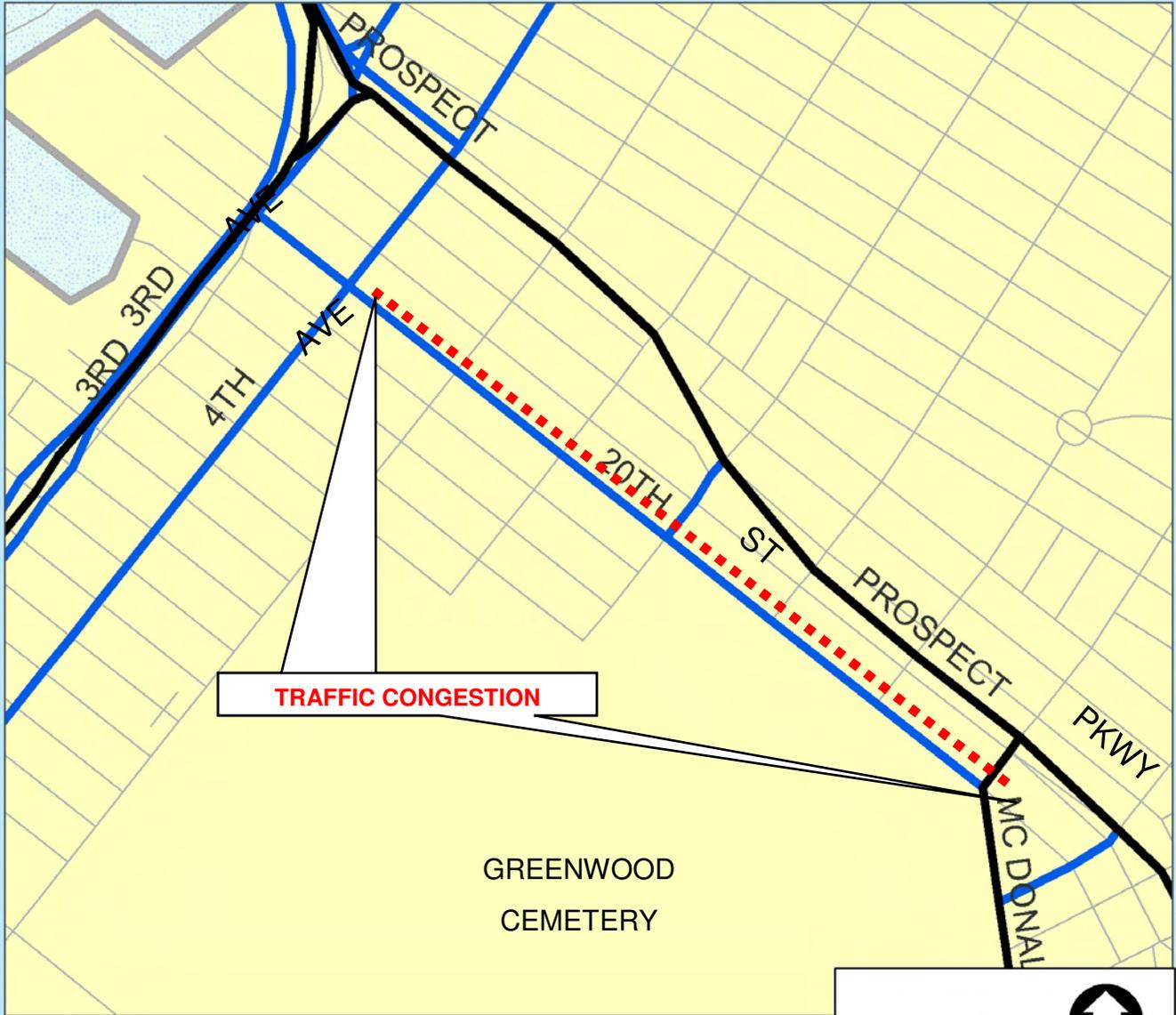


**Legend**

 N

-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas

**Figure 4-15: Ditmas Avenue**



**TRAFFIC CONGESTION**

GREENWOOD  
CEMETERY

**Legend**

-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas



**Figure 4-16: 20<sup>th</sup> Street**