

6. STATEN ISLAND TRUCK ROUTE NETWORK ANALYSIS

a. Land Use

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. As is shown in Figure 7-1, a majority of the Local Truck Route network in Staten Island traverses through areas where the land use is largely residential or mixed-use (residential/commercial). Many of the commercial districts in Staten Island rely on the Local Truck Route network to safely and efficiently enable trucks to provide goods and services.

Today there is less of a need for as extensive a Local Truck Route network in Staten Island as most of the Borough is residential and because two large truck generator sites, Fresh Kills landfill and the Naval Homeport in Stapleton, are going to be redeveloped to help meet the open space and recreation needs of the Staten Island residents. The following is a list by neighborhood of those areas in Staten Island where a Local Truck Route network traverses through an area where the land use is predominately (>75%) residential.

Arlington and Mariners Harbor neighborhoods

- South Avenue from Goethals Road North to Richmond Terrace
- Morningstar Road from Forest Avenue to Richmond Terrace

Port Richmond neighborhood

- Walker Street from Morningstar Road to Richmond Avenue
- Jewett Avenue from Victory Boulevard to Richmond Terrace

Port Richmond, Sunnyside and Emerson Hill neighborhoods

- Clove Road from Little Clove Road to Richmond Terrace

West Brighton and Randall Manor neighborhoods

- Castleton Avenue from Broadway to Jersey Street
- Broadway from Forest Avenue to Richmond Terrace

St. George neighborhood

- Jersey Street from Victory Boulevard to Richmond Terrace

New Brighton, Tompkinsville, and Silver Lake neighborhoods

- Victory Boulevard from Clove Road to Bay Street

Tompkinsville, Stapleton and Grymes Hill neighborhoods

- Van Duzer Street from St. Pauls Avenue to Bay Street
- Vanderbilt Avenue from Van Duzer Street to Bay Street

Tompkinsville, Stapleton and Grymes Hill and Concord neighborhoods

- Targee Street from the diverge with Van Duzer Street to where it merges with Van Duzer Street
- St. Paul's Avenue/Van Duzer Street to Vanderbilt Avenue, which then becomes Richmond Road and along this road until it diverges from Targee Street

Castleton Corners, Westerleigh and Graniteville neighborhoods

- N. Gannon Avenue/Willow Road East from Slosson Avenue to Forest Avenue is a collector-distributor roadway for the Staten Island Expressway
- S. Gannon Avenue from Victory Boulevard to Manor Road is a collector-distributor roadway for the Staten Island Expressway

Graniteville neighborhood

- Richmond Avenue from Forest Avenue to where it becomes Goethals Road North and then to Western Avenue are collector-distributor roadways for the Staten Island Expressway

South of Castleton Corners neighborhood (south side of Staten Island Expressway)

- Bradley Avenue from Victory Boulevard to Brielle Avenue
- Manor Road from Victory Boulevard which then becomes Brielle Avenue down to Rockland Avenue
- Schmidts Lane between Manor Avenue and Slosson Avenue
- Ocean Terrace between Manor Avenue and Slosson Avenue

Castleton Corners and Todt Hill neighborhoods

- Slosson Avenue from Victory Boulevard to where it then becomes Todt Hill Road to Richmond Road. The section of Slosson Avenue provides access to and from the Staten Island Expressway.

Grant City neighborhood

- Midland Avenue between Richmond Road and Hylan Boulevard
- Lincoln Avenue between Richmond Road and Hylan Boulevard

Old Town neighborhood

- Buell Avenue between Richmond Road and Hylan Boulevard
- Seaview Avenue between Hylan Boulevard and Fr. Capodanno Boulevard

Shore Acres, Arrochar, Midland Beach and Grant City neighborhoods

- Bay Street from Hylan Boulevard to School Road, which turns into School Road, Lily Pond Road, Fr. Capodanno Boulevard, and concluding on Midland Avenue at Hylan Boulevard
- Section of Narrows Road North and Narrows Road South from about Clove Road to Lily Pond Road are collector-distributor roadways for the Staten Island Expressway.

Midland Beach neighborhood

- Ebbitts Avenue from Hylan Boulevard to Cedar Grove Avenue
- New Dorp Lane from Hylan Boulevard to Cedar Grove Avenue

Heartland Village neighborhood

- Forest Hills Road from Victory Boulevard to Richmond Hills Road

Heartland Village, Lighthouse Hill and Richmond Town neighborhoods

- Rockland Avenue from Victory Boulevard to Richmond Road

Bloomfield and New Springville neighborhoods

- Travis Avenue from South Avenue to Richmond Avenue

Tottenville, Butler Manor, Great Kills, Bay Terrace, Oakwood and New Dorp Beach neighborhoods

- Hylan Boulevard from Satterlee Street to Tysens Lane, excluding the section between Richmond Avenue and Nelson Avenue which is a commercial area.

Tottenville, Richmond Valley, Pleasant Plains, Prince's Bay, Huguenot, Annadale, Eltingville, Great Kills, Bay Terrace, Oakwood and New Dorp Beach neighborhoods

- Amboy Road from Wards Point Avenue/Aviva Court to New Dorp Lane to where Amboy Road becomes Richmond Road from New Dorp Lane to Todt Hill Road, excluding the sections between Richmond Avenue and Nelson Avenue which is a commercial district.

Pleasant Plains, Prince's Bay, Huguenot, Annadale, Eltingville, and Arden Heights neighborhoods

- Drumgoole Road East/West from Bloomingdale Road to Arthur Kill Road

Bay Terrace neighborhood

- Justin Avenue from Hylan Boulevard to Amboy Road
- Guyon Avenue from Hylan Boulevard to Amboy Road
- Clarke Avenue from Amboy Road to Arthur Kill Road

Greenridge, Eltingville, and Arden Heights neighborhoods

- Arden Avenue from Hylan Boulevard to Arthur Kill Road

Eltingville and Great Kills neighborhoods

- Richmond Avenue from Hylan Boulevard to Amboy Road
- Nelson Avenue from Hylan Boulevard to Amboy Road
- Giffords Lane from Amboy Road to Arthur Kill Road

Woodrow and Arden Heights neighborhoods

- Woodrow Road from Bloomingdale Road to Arthur Kill Road

Greenridge, Great Kills, Lighthouse Hill and Richmond Town neighborhoods

- Richmond Road from Clarke Avenue to Rockland Avenue
- Arthur Kill Road from Huguenot Avenue to Clarke Avenue

Rossville neighborhood

- Veterans Road East between Bloomingdale Road and Rossville Road is a connector distributor roadway from Pearl Harbor Memorial Expressway

Prince's Bay, Rossville and Woodrow neighborhoods

- Seguine Avenue from Hylan Boulevard to Amboy Road
- Foster Road from Amboy Road to Woodrow Road
- Rossville Road from Woodrow Road to Veterans Road East

Huguenot and Rossville neighborhoods

- Huguenot Avenue from Hylan Boulevard to Arthur Kill Road

Rossville, Woodrow and Pleasant Plains neighborhoods

- Bloomingdale Road from Amboy Road to Veterans Road East.

Butler Manor neighborhood

- Sharrott Avenue from Hylan Boulevard to Amboy Road

Pleasant Plains and Charleston neighborhoods

- Veterans Road East and West is a connector-distributor roadway to and from the Korean War
- Veterans Parkway and Pearl Harbor Memorial Expressway

Tottenville neighborhood

- Page Avenue from Hylan Boulevard to Amboy Road
- Craig Road from Hylan Boulevard to Amboy Road

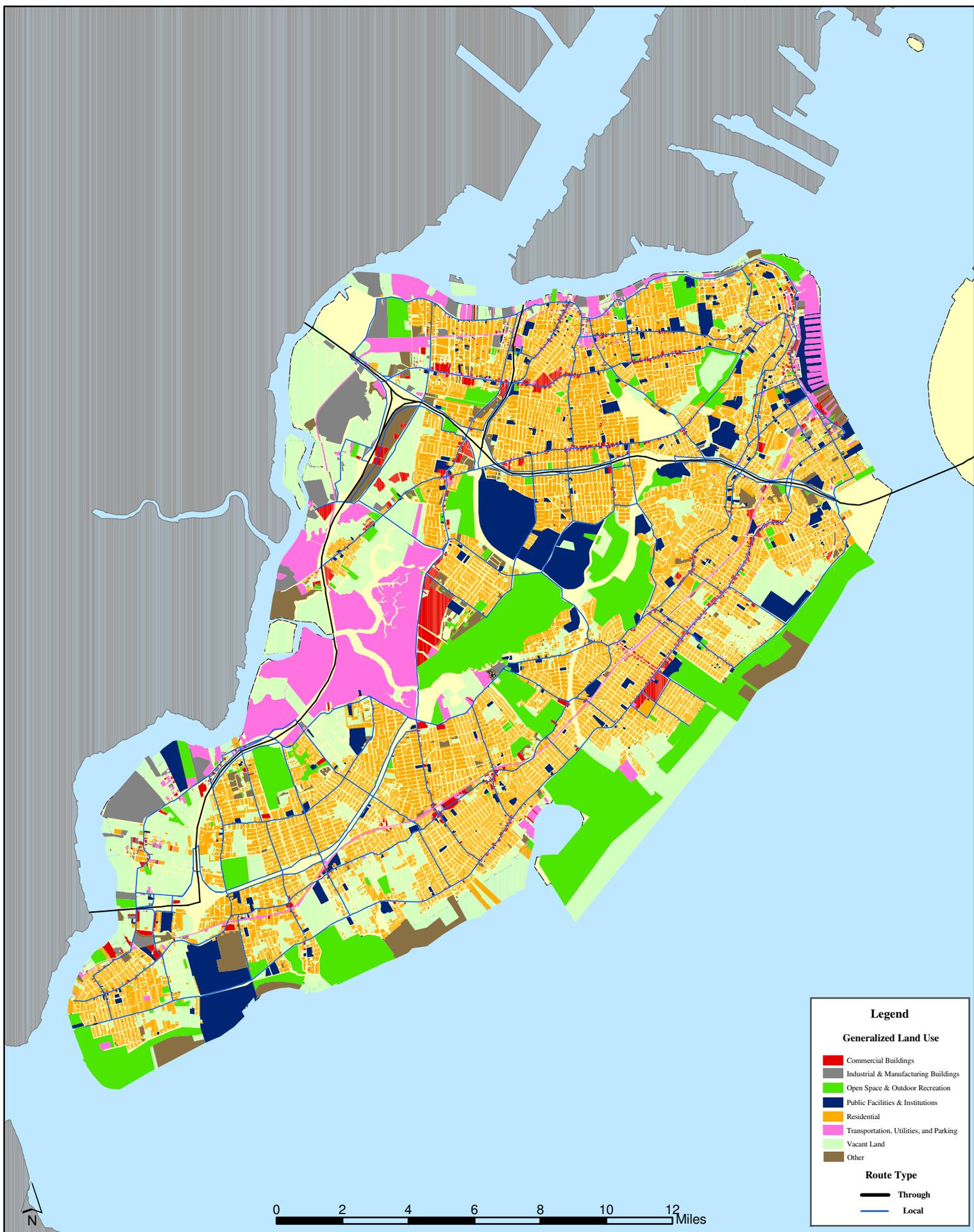


Figure 7-1: Staten Island Current Land Use

b. Mobility

Figure 7-2 shows the future forecasted volume to capacity ratio (v/c ratio), based on the New York Metropolitan Transportation Council's (NYMTC) Best Practices Model, for the AM peak hour period of the year 2025 and highlights those roadway segments which are forecast to experience severe traffic conditions (those areas with a v/c ratio greater than 1.0). In Staten Island, as was the case with almost all of the Boroughs, the Through Truck Routes were those which had the longest roadway lengths that were forecasted to be severely congested.

More so than any other Borough in New York City, the extensive Local and Limited Local Truck Route network in Staten Island is forecast to have an adequate capacity to meet the traveling needs within the Borough. Many of the Local and Limited Local Truck Routes do not serve areas where there is a heavy amount of existing and forecasted truck traffic expected to be generated. Many of the truck route roadways also traverse areas that are largely residential in nature and hence they do not fit in well with the neighborhood characteristics. Given these facts, the removal of some of these roadways from the truck route network or the implementation of evening hour time restrictions 10 PM to 6 AM should be considered along such truck routes, so long as the local businesses can be adequately serviced by adjoining truck routes.

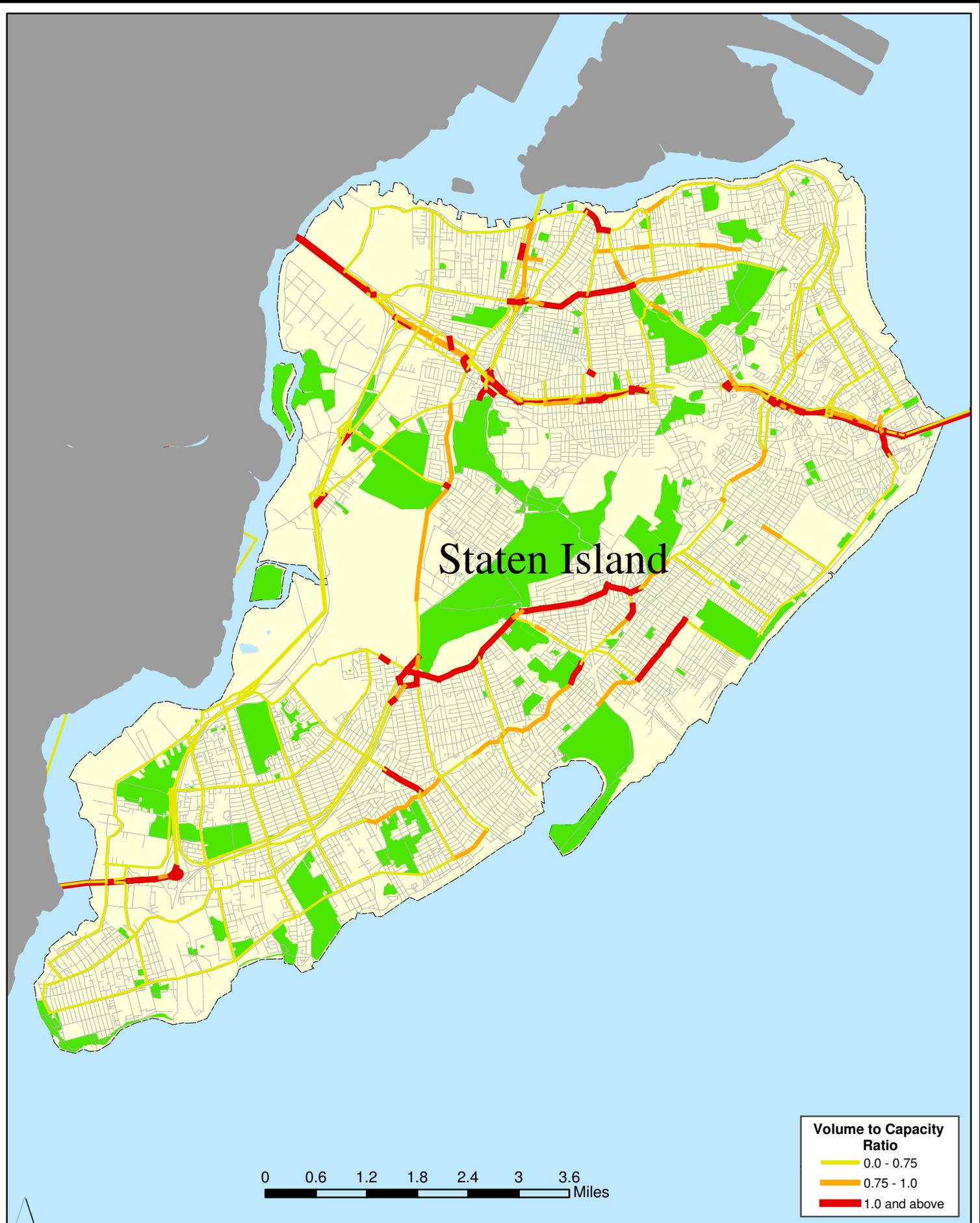
The following is a list of those truck routes in Staten Island which are forecast to experience severe traffic conditions in 2025. Unless otherwise noted, the full length of the roadways identified will be severely congested in 2025.

Through Truck Routes

- Goethals Bridge
- Staten Island Expressway
- Verrazano Narrows Bridge
- Outerbridge Crossing
- West Shore Expressway at Victory Boulevard

Local Truck Routes

- Arden Avenue from Amboy Avenue and Drumgoole Road
- Arthur Kill Road from Drumgoole Road to Clarke Avenue
- Drumgoole Road at Arthur Kill Road
- Richmond Road from Clarke Avenue to Amboy Road
- Amboy Road at Clarke Avenue, Richmond Road,
- Hylan Boulevard from Guyon Avenue to New Dorp Lane
- Victory Boulevard at Jewett Avenue
- Forest Avenue from Richmond Avenue to Clove Road
- Morningstar Road at Walker Street
- Richmond Terrace between Richmond Avenue and Clove Road
- Lily Road at Staten Island Expressway
- South Avenue at Travis Road
- Richmond Avenue at Arthur Kill Road and Travis Avenue



**Figure 7-2: Staten Island Truck Routes
Traffic Congestion 2025 AM**

c. Origins and Destinations

Figure 7-3 depicts the truck trip ends by Traffic Analysis Zone for Staten Island in relation to the truck route network. The major truck origins and destinations are in the northern section of the Borough which is served by the Staten Island Expressway as the Through Truck Route, as well as a series of Local Truck Routes that provide access to the major Origin and Destination Zones. The major zones in Staten Island include Howland Hook Marine Terminal just off the Goethals Bridge north of the Staten Island Expressway, the Hylan Boulevard Commercial Retail Corridor; the industrial area along Richmond Terrace on the north shore; Eltinville; and South Beach.

There are 194 total truck route miles in the Borough including 24 Through Truck Route miles. Access from the northern portion of the Borough from the Staten Island Expressway is provided by several major arterials including Richmond Avenue. The southern and central sections of the Borough are well served by truck routes in relation to the major zones with truck activity. Amboy Road and Hylan Boulevard provide parallel, almost duplicate east/west access along the east coast of the Borough with numerous north/south connections.

Overall, Staten Island is well served by Local Truck Routes (170 miles). In fact, several of the routes could be considered a duplication of each other and the amount of truck traffic generated in these zones may not warrant the need for the level of Local Truck Route coverage. However, the physical condition of some truck route streets, such as Richmond Terrace has resulted in truckers using other routes.

The limited number of Through Truck Routes consists of 24 miles of expressways. The only Through Truck Routes in the Borough are the Staten Island Expressway from the Goethals Bridge to the Verrazano Narrows Bridge; the West Shore Expressway from the Outerbridge Crossing to the Staten Island Expressway; and the Willowbrook Expressway from the Staten Island Expressway to the Bayonne Bridge.

Staten Island is the only Borough that contains a group of eleven streets designated as Limited Local Truck Routes. These streets are restricted to trucks with two axles and six tires.

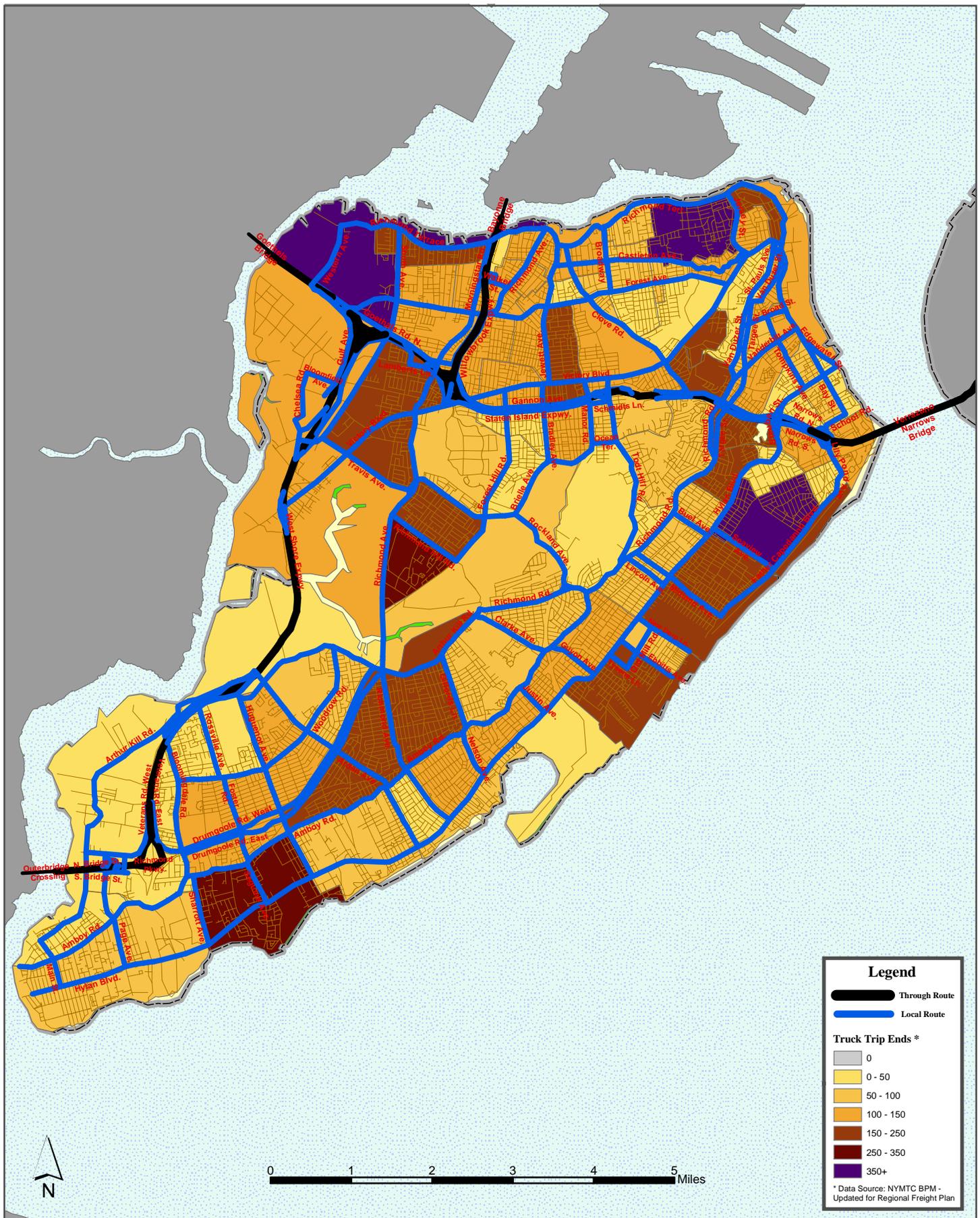


Figure 7-3
Staten Island Truck Trip Ends
2025 AM Peak Period

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)

- Staten Island had no intersections identified in the top 115 intersection list.
- Of the 341 reported truck accidents in Staten Island during the 36-month period, 76 or 22.3% of the accidents occurred along Hylan Boulevard.
- Nearly three quarters (71.2%) of all reported truck accidents in Staten Island occurred along six roadways; Hylan Boulevard, Richmond Avenue, Victory Boulevard, Forest Avenue, Richmond Road, Clove Road, and Narrows Road, sequentially.
- The intersection with the highest number of reported truck accidents was Victory Boulevard and the West Service Road with a total of 8, followed by Clove Road and Narrows Road, Victory Boulevard and Clove Road, and Victory Boulevard and Richmond Avenue with 5 accidents each.

Figure 7-4 shows the top four accident locations during the time period of 1999 to 2001.

Two Month (October – November 2003) NYPD Accident Data

Staten Island had the fewest truck accidents of all the Boroughs and only 22% of the accidents occurred off the designated truck routes. This situation may also be attributed to Staten Island having the highest ratio of designated routes to land area. Given the low number of total accidents, there were no heavy clusters of accidents in any one area. The following paragraphs provide more detail about truck accidents and accident locations in Staten Island.

Characteristics of All Accidents and Accident Locations

During the two-month period covered by the NYPD data, there were 94 truck accidents in Staten Island. These accidents occurred at 89 locations. At each location, there were between one and three truck accidents, with the majority of locations experiencing only one accident. The notes below reveal the characteristics of truck accidents and accident locations in Staten Island.

- 22% of Staten Island truck accidents occurred off the truck route
- 78% of Staten Island truck accidents occurred on truck route designated streets
- 4.5% of New York City truck accident locations were in Staten Island
- 3.9% of City truck accidents were in Staten Island

Characteristics of On-Route Accidents and Accident Locations

During the two-month period covered by the data, 74 on-route truck accidents occurred at 69 different locations in Staten Island. Between one and three accidents occurred at the accident locations. The following numbers describe on-route truck accidents and their locations in Staten Island.

- Sixty-five on-route accident locations experienced one truck accident
- Three on-route accident locations experienced two truck accidents
- One on-route accident location experienced three accidents

- Staten Island's 65 on-route accidents accounted for 4.8% of New York City on-route accidents
- 5.8% of New York City on-route truck accident locations were in Staten Island

Table 7-1 identifies the on-route truck accident corridors in Staten Island.

During the time period covered by the NYPD data, 20 off-route truck accidents occurred in Staten Island. The following numbers highlight the characteristics of off-route accidents and their locations in Staten Island.

- All of Staten Island's off-route locations experienced one truck accident, and occurred at various locations throughout the Borough. As a result no significant truck accident corridor patterns were identified.
- These off-route accidents accounted for 2.4% of New York City off-route accidents
- 2.6% of New York City off-route truck accident locations were in Staten Island

Since there was an insignificant number of off-route truck accidents at particular locations or corridors in Staten Island, it was not necessary to compile an accident table for such data.

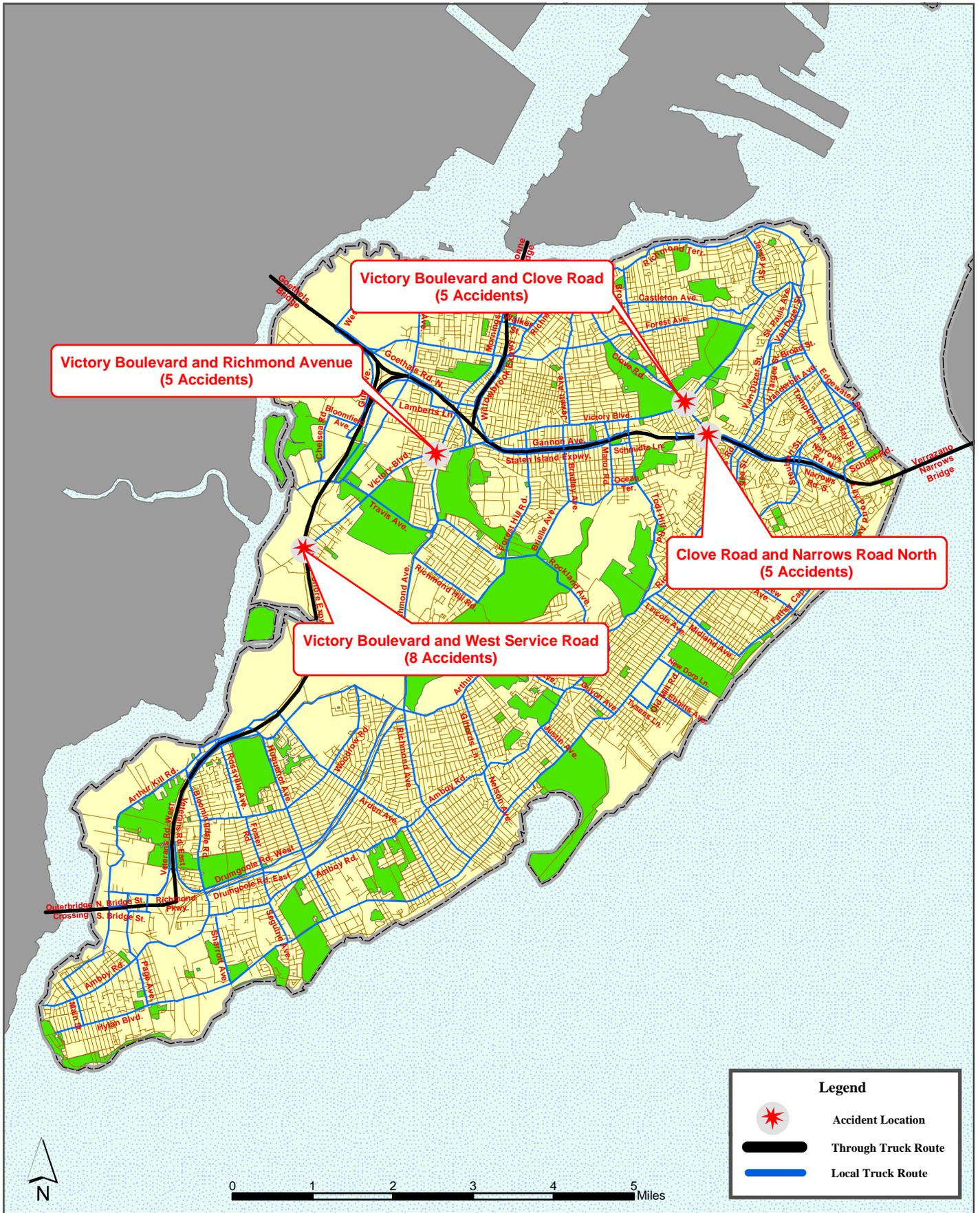


Figure 7-4
Staten Island Top Accident Location Map

Table 7-1: Staten Island 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
Goethals Road/Narrows Road - SIE Corridor	Goethals Bridge and Verrazano Narrows Bridge	8.4	10	1.2	13.5%	10.6%	0.6%	0.4%
Victory Boulevard Corridor	Jersey Street and Morningstar Road	4.9	8	1.6	10.8%	8.5%	0.5%	0.3%
Forest Avenue Corridor	Victory Boulevard and South Street	4.3	7	1.6	9.5%	7.4%	0.5%	0.3%
Morningstar Road/Richmond Avenue Corridor	Richmond Terrace and Travis Road	3.3	7	2.1	9.5%	7.4%	0.5%	0.3%
Richmond Road Corridor	Richmond Hill Road and Targee Street	3.8	6	1.6	8.1%	6.4%	0.4%	0.3%
Hylan Boulevard Corridor	Guyon Avenue and Buel Avenue	2.2	5	2.3	6.8%	5.3%	0.3%	0.2%
Richmond Avenue Corridor	Arthur Kill Road and Hylan Boulevard	2.1	3	1.4	4.1%	3.2%	0.2%	0.1%
Huguenot Avenue Corridor	Arthur Kill Road and Hylan Boulevard	2.5	2	0.8	2.7%	2.1%	0.1%	0.1%

e. NYPD Truck Summonses

Staten Island had the fewest violations with a total of 28 violations. Nineteen of the violations, or 70%, were in the overweight category. The remaining 9 violations, or 30%, were in the equipment category. There were no violations in the other categories. The highway patrol log contained no over-height or off-route truck violations for Staten Island.

f. NYCDOT “Hot Spot” Priority Areas

Figures 7-5 to 7-8 depict the priority areas identified by the Staten Island NYCDOT Borough Commissioner which were analyzed in this subsection.

1. Decker and Heberton Avenues

Decker Avenue between Forest Avenue and Anderson Avenue and Heberton Avenue between Catherine Street and Richmond Terrace are located in a residential section of Port Richmond of Staten Island. Neither street has commercial activity that should generate truck activity. These local streets parallel two Local Truck Routes: Richmond Avenue and Jewett Avenue. Both truck routes experience traffic congestion during weekdays and as a result, the non-truck route streets are used to by-pass bottlenecks on the designated truck route streets. The NYC Transit Bus Garage is located on the block bordered by Castleton Avenue, Clove Road, Cary Avenue and Driprock Street. This facility may also cause bottlenecks at the beginning and end of peak hour transit service when the buses deadhead between their designated bus routes and the garage.

Richmond Avenue and Jewett Avenue are north-south truck routes that connect with Richmond Terrace, Castleton Avenue and Forest Avenue. The northbound approach at the intersection of Jewett Avenue and Richmond Terrace only permits right turns. Neither Decker nor Heberton Avenues intersect all three Local Truck Route streets. Therefore, trucks must use both streets to bypass traffic congestion on either Richmond Avenue or Jewett Avenue.

Field observations indicate that the bottlenecks on the north-south truck routes are caused by intersection capacity problems along Richmond Terrace. A major problem is the geometry on the southeast corner at the intersection of Richmond Terrace and Richmond Avenue.

The following measures are proposed for this location:

- Post new “LOCAL TRUCK ROUTE” signs on Richmond Avenue, Jewett Avenue, Forest Avenue and Castleton Avenue to inform truckers of the designated truck routes in the area.
- Reconstruct the turning radius on the southeast corner at the intersection of Richmond Terrace and Richmond Avenue. This measure would reduce the traffic queues on Richmond Avenue and reinforce the reason for trucks to stay on the Local Truck Route.
- Conduct random traffic enforcement initiatives to keep trucks on the truck routes.

2. Clove Road between Hylan Boulevard and Narrows Road South

Clove Road runs from Richmond Terrace (at the north end of the Borough) to Hylan Boulevard (at the south end). Except for the section between Narrows Road South and Hylan Boulevard, “LOCAL TRUCK ROUTE” signs are missing at key decision points along the street. Just as

importantly, there is no signing to advise commercial drivers that the Local Truck Route ends at Narrows North Road. Local residents have complained that trucks use the aforementioned section of Clove Road as a “jump lane” to avoid traffic congestion eastbound on the Staten Island Expressway and enter the Expressway at Lily Pond Avenue.

Again, this situation should be alleviated by truck driver education and the placement of the following signs:

- Post new “LOCAL TRUCK ROUTE” signs at the key intersection decision points along Clove Road, Hylan Boulevard, Narrows Road South.
- Post “LOCAL TRUCK ROUTE” signs on Richmond Avenue, Jewett Avenue, Forest Avenue and Castleton Avenue to inform truckers of the designated truck routes in the area.
- Conduct random traffic enforcement initiatives to keep trucks on the truck routes.
- Provide truck driver education materials as described in *Technical Memorandum 4, Education Program*.

3. Armstrong Avenue between Hylan Boulevard and Amboy Road

Armstrong Avenue is a north/south street that runs from Arthur Kill Road to Hylan Boulevard and the waterfront. It is located in the Eltingville and Great Kills communities within the Borough and runs parallel to Richmond Avenue and Nelson Avenue/Giffords Avenue, which are the designated Local Truck Routes in the corridor. While land use along the corridor is predominantly residential, the presence of retail and other non-residential uses at intersections with designated east-west Local Truck Routes conveys the impression that the street is also a truck route. The assumption is further supported by the absence of truck route signage at decision points and widened intersection approaches at key intersections such as Arthur Kill Road, Amboy Road and Hylan Boulevard. The street is comparable to the designated truck routes in every way. The street is also an attractive alternate for trucks in comparison to other streets because it is grade-separated with the Staten Island Rapid Transit line just south of Wilson Avenue.

The situation should be rectified by properly signing the designated Local Truck Routes as described in *Technical Memorandum 3, Truck Signage Program* and educating the truckers and businesses about the truck routes and traffic rules governing their use of the local streets. The following measures are proposed:

- Properly sign the designated Local Truck Routes as described in *Technical Memorandum 3, Truck Signage Program*.
- Educate the truckers and businesses about the truck routes and traffic rules governing their use of the local streets.
- Post new “Local Truck Route Signs” at the intersections on Amboy Road, Hylan Boulevard, Richmond Avenue, Giffords Avenue and Nelson Avenue to inform truckers of the designated truck routes in the area.
- Conduct random traffic enforcement initiatives to keep trucks on the truck routes.

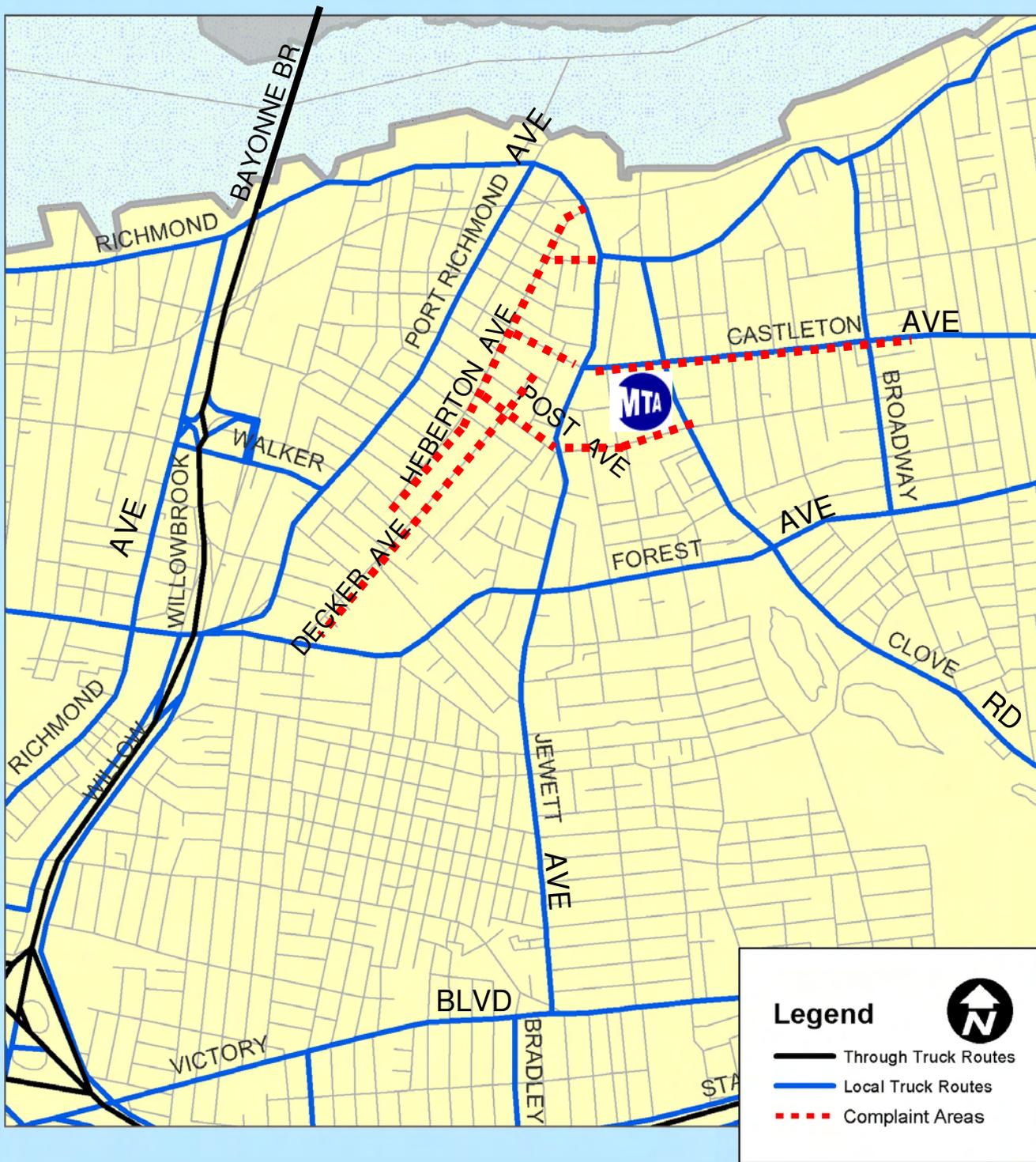
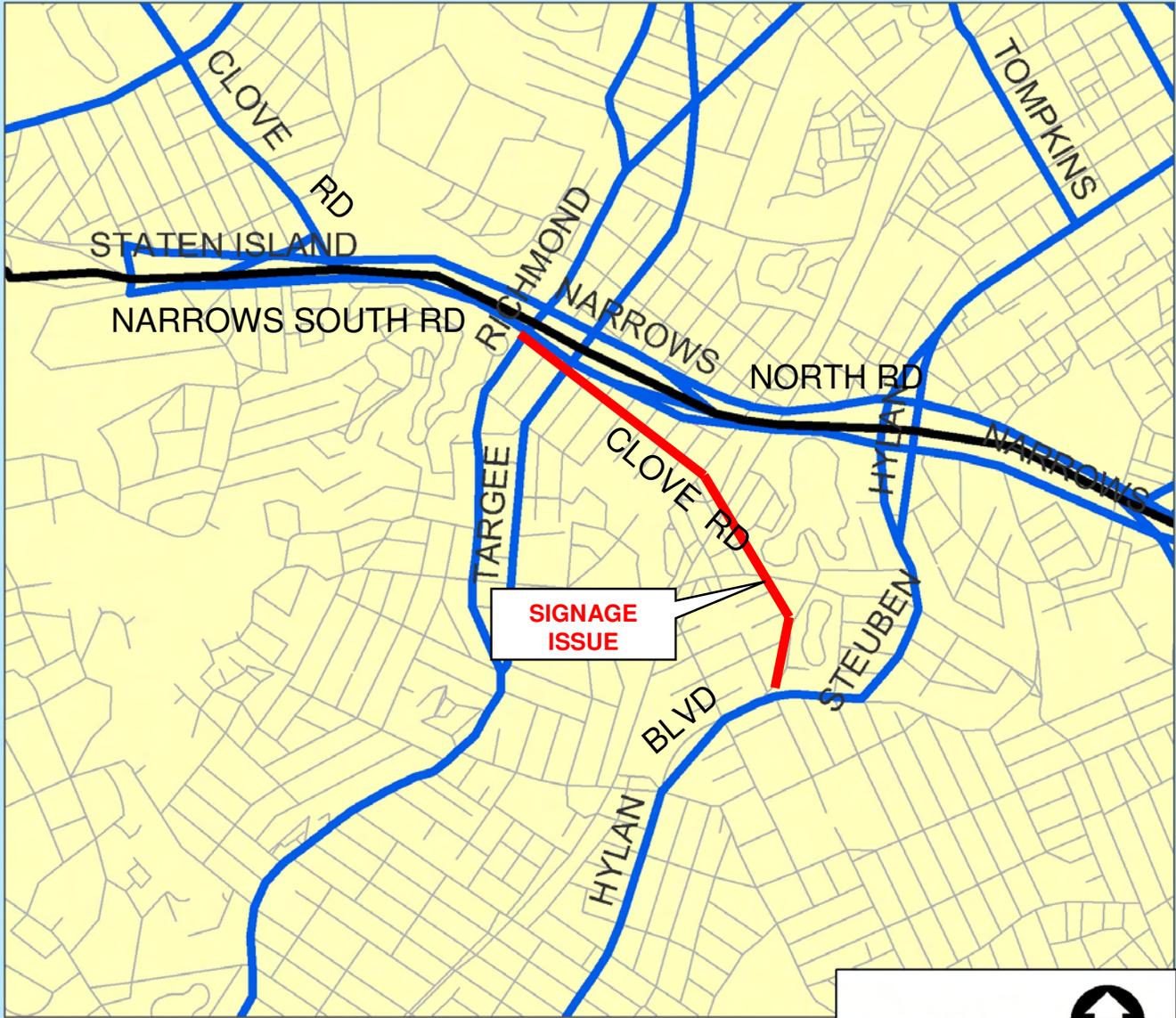


Figure 7-6: Decker Avenue & Heberton Avenue

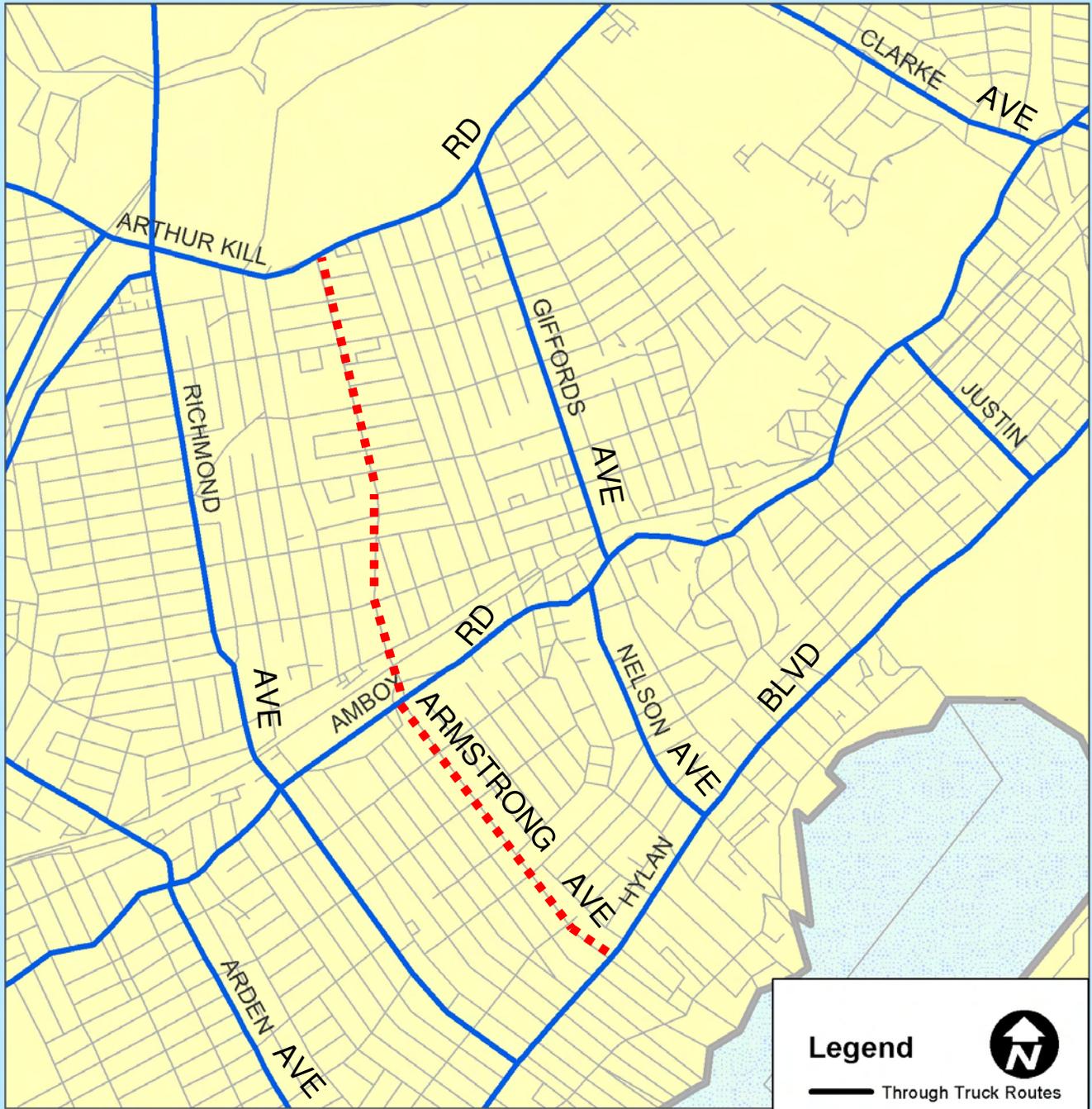


**SIGNAGE
ISSUE**

Legend 

-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas

Figure 7-7: Clove Road



Legend

-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas



Figure 7-8: Armstrong Avenue

g. Stakeholder Issues

The following is an analysis of the public comments regarding truck activity in Staten Island.

Geometric Constraints

A total of seven comments pertaining to the geometric constraints of roadways, intersections and loading areas were received in the Borough of Staten Island. These comments indicate that streets and intersections utilized by trucks are too narrow to accommodate safe traffic flow. The general design, as well as the close proximity of commercial loading areas to roadways has also been discussed as a cause of conflict between trucks and other vehicles.

Location of comments:

- Bloomingdale Road
- Bloomingdale Road, north of Amboy Road
- Delaware Avenue
- Forest Avenue
- Gilbert Place
- Richmond Avenue
- Sharrotts Road and Bedell Street
- Windsor Road

Land Use

Of all the comments collected from the Borough of Staten Island, ten referred to land use issues. Generally, these issues pertained to truck utilization of streets in residential areas, the rate of development and the development review and approval processes. Additionally, the total acres zoned for manufacturing uses and the number of variances granted for commercial development was mentioned as potential impacts since these parcels would become truck-generating sites.

Location of comments:

- Arthur Kill Road
- Dunhill Lane
- Hylan Boulevard
- Korean War Memorial Parkway
- Little Clove Road
- Richmond Terrace
- Slosson Avenue
- Wilson Avenue
- Windsor Road

Off-Truck Route

Of all the comments received from the Borough of Staten Island, sixteen referenced trucks traveling off of NYCDOT designated truck routes. These comments discuss truck drivers' overall disregard for NYCDOT truck regulations and signage. Truck usage of residential streets was also cited as a major issue.

Location of comments:

- Bard Avenue
- Bennett Street
- Clove Road
- Drumgoole Road
- Forest Avenue
- Greaves Avenue
- Greaves Lane
- Heberton Avenue
- Hodges Place off of Victory Boulevard
- Korean War Memorial Parkway
- Little Clove Road
- Little Clove Road between Renwick Avenue and Narrows Road North
- Martling Avenue
- Mosel Avenue
- Park Avenue
- Slosson Avenue
- Victory Boulevard
- Wainwright Avenue
- Wilson Avenue
- Windsor Road

Oversized Trucks

Two comments mentioned problems associated with oversized trucks. These statements generally discussed the inappropriate use of narrow roadways containing parked vehicles and bus stops by larger trucks.

Public Safety

A total of six comments regarding public safety were received from the Borough of Staten Island. The overall safety of children in residential areas and proximate to schools was mentioned in numerous instances as a primary concern. In addition, the overall speed trucks are traveling through residential neighborhoods and the frequency by which debris is dropped by trucks were discussed as major issues.

Location of comments:

- Korean War Memorial Parkway
- Martling Avenue
- Richmond Avenue
- Richmond Terrace
- Victory Boulevard and Slosson Avenue
- Wilson Avenue
- Windsor Road

Structural/Infrastructure/Utility Damage

Four comments cited physical damage to roadways and structures as a result of truck traffic. Examples of damage include caved-in roadways and sewer lines, and cracked building foundations. Each example of damage occurred in a residential area.

Location of comments:

- Arthur Kill Road
- Bennett Street
- Herberton Avenue
- Little Clove Road between Renwick Avenue and Narrows Road North
- Park Avenue
- Richmond Terrace
- Windsor Road

Signage

A total of thirteen comments regarding inadequate signage were collected in the Borough of Staten Island. Each comment identified a lack of signs overall. Several discussed the need for “negative” signage in particular areas to better inform drivers where trucks are prohibited.

Location of comments:

- Amboy Road and Bedell Street
- Arling Street
- Clove Road
- Fahey Avenue
- Felton Street
- Fingerboard Road between Bay Street and Tompkins Avenue
- Gilbert Place
- Greaves Avenue
- Greaves Lane
- Hodges Place at Victory Boulevard
- Lamberts Lane
- Little Clove Road
- Martling Avenue
- Narrows Road North
- Sharrotts Road between Amboy Road and Hylan Boulevard
- Signs Road between Victory Boulevard and Richmond Avenue
- Slosson Avenue
- Veterans War Memorial Parkway
- Victory Boulevard
- Wilson Avenue

Enforcement

There were two comments related to the need for increased enforcement of NYCDOT truck regulations.

Location of comments:

- Martling Avenue
- Verrazano Narrows Bridge Service Road North

Public Comment Analysis

A review of accident data over a two-month period (October to November, 2003) revealed several truck-related accidents along Forest Avenue and Richmond Avenue, two Local Truck Routes that pass through significant industrial and commercial land uses. Geometric constraints were noted on both roadways. The public comments received noted other issues concerning Richmond Avenue, such as the existence of oversized trucks and public safety concerns. Public safety was a concern along Richmond Terrace, a roadway that passes near several truck generator sites, including Howland Hook.

A review of accident data over a three-year period (1999-2001) revealed that three of the top four locations for truck related accidents within Staten Island are along Victory Boulevard. Victory Boulevard was noted in several of the comments for poor signage and public safety concerns. Victory Boulevard is a designated Local Truck Route and the roadway passes through industrial land uses with truck generating sites. A review of the signage along Victory Boulevard and traffic-calming methods is recommended.

Several comments were noted regarding Arthur Kill Boulevard for trucks passing through non-industrial land uses and for structural/infrastructure/utility damage. A review of the morning peak period truck trip ends for Staten Island (see Figure 7-3) reveals that Arthur Kill Boulevard passes through areas of minimal truck trip ends. A review of the local truck network and a possible de-designation of Arthur Kill Boulevard as a Local Truck Route may be warranted.

The following is a more detailed analysis of the stakeholder comments, along with various recommendations. Figures 7-9 through 7-15 identify some of the stakeholder areas that were analyzed in this subsection.

1. Main Street between Amboy Road and Hylan Boulevard

Main Street is a Local Truck Route in the Tottenville section of Staten Island, which runs from Arthur Kill Road and Hylan Boulevard. Trucks use this street to loop out of the area because it is the last north/south connector designated as a truck route between Amboy Road and Hylan Boulevard. The street accommodates two-way traffic with parking on both sides of the street and is only 30 feet wide. The NYC Transit operates bus service (s78) on Main Street in the southbound direction. Buses operate on 15-30 minute schedule through most of the day. The Community Board would like to change the street to one-way southbound, but their request was denied because of the Local Truck Route designation.

Due to the limited street width, the presence of regular scheduled bus service, the absence of any commercial uses within the limits, and for public safety, the section of Main Street between

Amboy Road and Hylan Boulevard should be removed as a truck route. The following measures are proposed:

- Replace Main Street as a truck route with Craig Avenue (or as a second choice Carteret Street) which are located two and six blocks to the west of Main Street. While truck activity should be minimal, both streets are 60 feet and better suited to accommodate trucks than Main Street.
- Post new “LOCAL TRUCK ROUTE” signs at the following intersections:
 - Amboy Avenue and Main Street
LTR with through arrow – eastbound and westbound approaches
LTR with left/right arrow – southbound approach
 - Amboy Avenue and Craig Avenue
LTR with left/right arrows – northbound approach
LTR with through right arrows – eastbound approach
LTR with through/left arrows – westbound approach
 - Hylan Boulevard and Craig Avenue
LTR with right arrow – westbound approach
LTR with left arrow – southbound approach

2. Bard Avenue

Local residents have complained that trucks are using Bard Avenue as a cut-through between Forest Avenue and Richmond Terrace. Bard Avenue accommodates two-way traffic. The street is lined with residences, but St. Vincent’s Medical Center is located at the intersection of Castleton Avenue (Local Truck Route) and Bard Avenue.

The following measures are proposed to address this concern:

- Post new “LOCAL TRUCK ROUTE” signs with through arrow at the key intersection decision points: Richmond Terrace/Bard Avenue, Castleton Avenue/Bard Avenue and Forest Avenue/Bard Avenue.
- Post “NO TRUCKS EXCEPT LOCAL DELIVERIES” signs at the following intersections:
 - Richmond Terrace and Bard Avenue – south leg
 - Castleton Avenue and Bard Avenue – north and south legs
 - Forest Avenue and Bard Avenue – north leg
- Conduct random traffic enforcement initiatives to keep trucks on the truck routes.
- Provide truck driver education materials as described in *Technical Memorandum 4, Education Program*.

3. Broadway

Broadway, a two-way street, runs between Richmond Terrace and Forest Avenue, and is part of the Local Truck Route network. It is the only north-south Local Truck Route street between Clove Road and Jersey Street, a distance of nearly 3.5 miles; however, its is less than ½ mile east of Clove Road. The inclusion of Broadway in the truck route network 25 years ago was to access commercial/industrial uses along Richmond Terrace and to acknowledge the capacity limitations attributed to horizontal constraints on Richmond Terrace. Trucks are also using Broadway as the preferred north-south route instead of Clove Road to avoid a tight right turn at Clove Road and Castleton Avenue. The community concern is focused on the non-truck route segment of Broadway between Clove Road and Forest Avenue. Negative signs restricting truck

access are posted on the Broadway but are not visible from Forest Avenue or from Castleton Avenue.

Based on field observations, the following recommendations are presented:

- Post new “NO TRUCKS EXCEPT LOCAL DELIVERIES” sign on the following intersection approaches:
 - Forest Avenue and Broadway
NTELD signs south leg viewable from eastbound and westbound approaches
 - Clove Road and Broadway
NTELD signs north leg viewable from northbound approach
- Post new “LOCAL TRUCK ROUTE” signs with through arrow on Richmond Terrace and Clove Road, Castleton Avenue and Forest Avenue.
- Improve the turning radius on the southeast corner at the intersection of Clove Road and Castleton Avenue.
- Restrict trucks from using Broadway between the hours of 10:00 PM and 6:00 AM.

4. Windsor Road/Little Clove Road/Renwick Avenue

The community has voiced concerns about trucks traveling on Little Clove Road, which is a residential street. Narrows North Road, the westbound service road, ends at Clove Road. The entrance to the Staten Island Expressway is located two blocks west of this point on Little Clove Road. The section of Little Clove Road between Clove Road and Renwick Avenue is part of the Local Truck Route network. However, there are no signs to convey this information to truck drivers. As a result trucks travel further west on Little Clove Road. This action occurs more often when the Expressway experiences traffic congestion.

Renwick Avenue is also a Local Truck Route street that is needed for commercial access to the Educational Center that is located on the south side of the Staten Island Expressway. Renwick Avenue has more than adequate vertical clearance to accommodate trucks.

This situation can be remedied by the following measures:

- Post the new “LOCAL TRUCK ROUTE” sign on Little Clove Road between Clove Road and Renwick Avenue.
- Post “ALL TRUCKS” sign with left turn arrow on the far side of the intersection of Little Clove Road and Renwick Avenue so that the signs are visible from the westbound approach.
- Post “ALL TRUCKS” sign with right turn arrow at the exit driveway from the Michael J. Petrides Educational Center to prevent trucks from traveling under the Expressway and onto Little Clove Road.

5. Hylan Boulevard and Steuben Street

NYDOT has received many complaints about trucks on Steuben Street and Hylan Boulevard north of the Staten Island Expressway. In this area the two streets function as a one-way pair. Both streets are designated as Local Truck Routes, however, residential land uses along both streets are incompatible with heavy truck traffic. As a result, these streets should be considered as part of the truck route restriction between the hours of 10:00 PM and 6:00 AM.

6. Greaves Avenue/Greaves Lane

Local complaints focus on trucks using Greaves Avenue and Greaves Lane in the Great Kills/Bay Terrace areas of the Borough. Neither street is a designated a truck route and Greaves Avenue is a residential street. Speed bumps have been installed to prevent trucks from speeding. However, a shopping center located at the end of Greaves Lane receives frequent truck deliveries each day.

The following measures are proposed to address this concern:

- Post new “LOCAL TRUCK ROUTE” signs with through arrow at the key intersection decision points: Giffords Avenue/Amboy Road, and Giffords Avenue/Arthur Kill Road.
- Post “NO TRUCKS EXCEPT LOCAL DELIVERIES” signs at the following intersections:
 - Arthur Kill Road and Greaves Avenue – east and west approaches
 - Amboy Road and Greaves Avenue – east and west approaches
- Conduct random traffic enforcement initiatives to keep trucks on the truck routes.
- Restrict trucks from Greaves Avenue (between Arthur Kill Road and Amboy Road) between the hours of 10:00 PM and 6:00 AM.
- Provide truck driver education materials as described in *Technical Memorandum 4, Education Program*.



Figure 7-9: Staten Island Stakeholder Areas



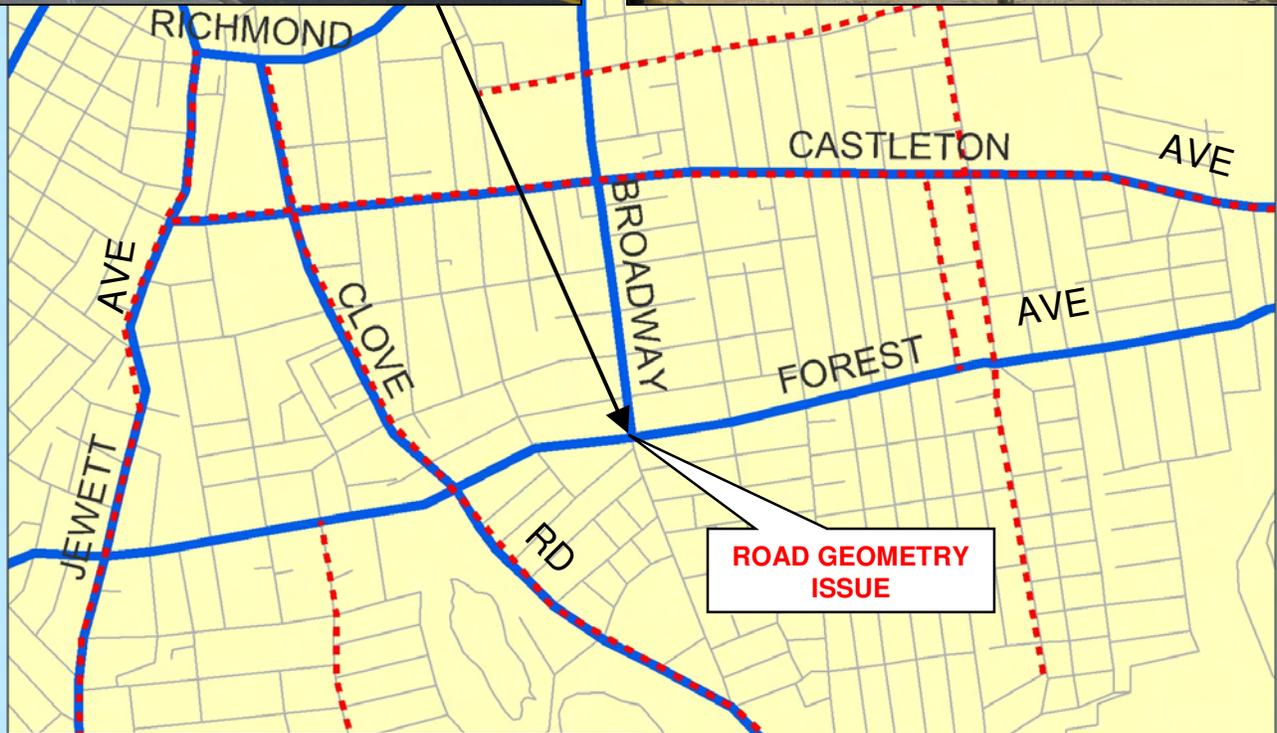
Legend 

-  Through Truck Routes
-  Local Truck Routes
-  Complaint Areas

Figure 7-10: Main Street



Figure 7-11: Bard Avenue



Legend

- Through Truck Routes
- Local Truck Routes
- - - Complaint Areas

Figure 7-12: Broadway



Figure 7-13: Windsor Road, Little Clove Road, & Renwick Ave.



Figure 7-14: Steuben Street & Hylan Boulevard



Figure 7-15: Greaves Avenue & Greaves Lane

h. Case Studies

1. Howland Hook – Staten Island

Land Use

The Howland Hook study area is bounded by Richmond Terrace to the north, Goethals Road North to the south, Western Avenue to the east, and the Arthur Kill to the west. The three roadway boundaries of the study area are designated Local Truck Routes, with the exception of Goethals Road North which is also designated as a Through Truck Route. A map of the Howland Hook study area is shown in Figure 7-16.

The truck generator site is the Howland Hook Marine Terminal, which encompasses the entire study area. The terminal is a full service container and general cargo handling facility. The terminal is comprised of 147-acres of open area for container storage, seven container cranes, and 200,000 square feet of warehouse space. The terminal has the capacity to handle 425,000 containers annually. East of the study area there are additional warehouse facilities used for distribution and storage, a utility substation, a wetland restoration area, and a large vacant industrial building.

A map of the land uses within the Howland Hook study area can be found in Figure 7-17.

Zoning

The Howland Hook truck generator site and study area are completely contained within a M3-1 zoning district (Figure 7-18). This heavy manufacturing district permits container and cargo handling facilities, which comprise the uses of the truck generator site. A floor area ratio (FAR) of 2.0 is the maximum permitted in the M3-1 district. Bordered by Richmond Terrace to the north, the Staten Island Expressway to the south, Western Avenue to the east and the Arthur Kill waterway to the west, the truck generator site and study area are separated from other manufacturing zoned areas to the south and east by the Staten Island Expressway, Goethals Road North and Western Avenue truck routes. M3-1 zoning districts are usually located near the waterfront and buffered from residential areas.

Community Facilities

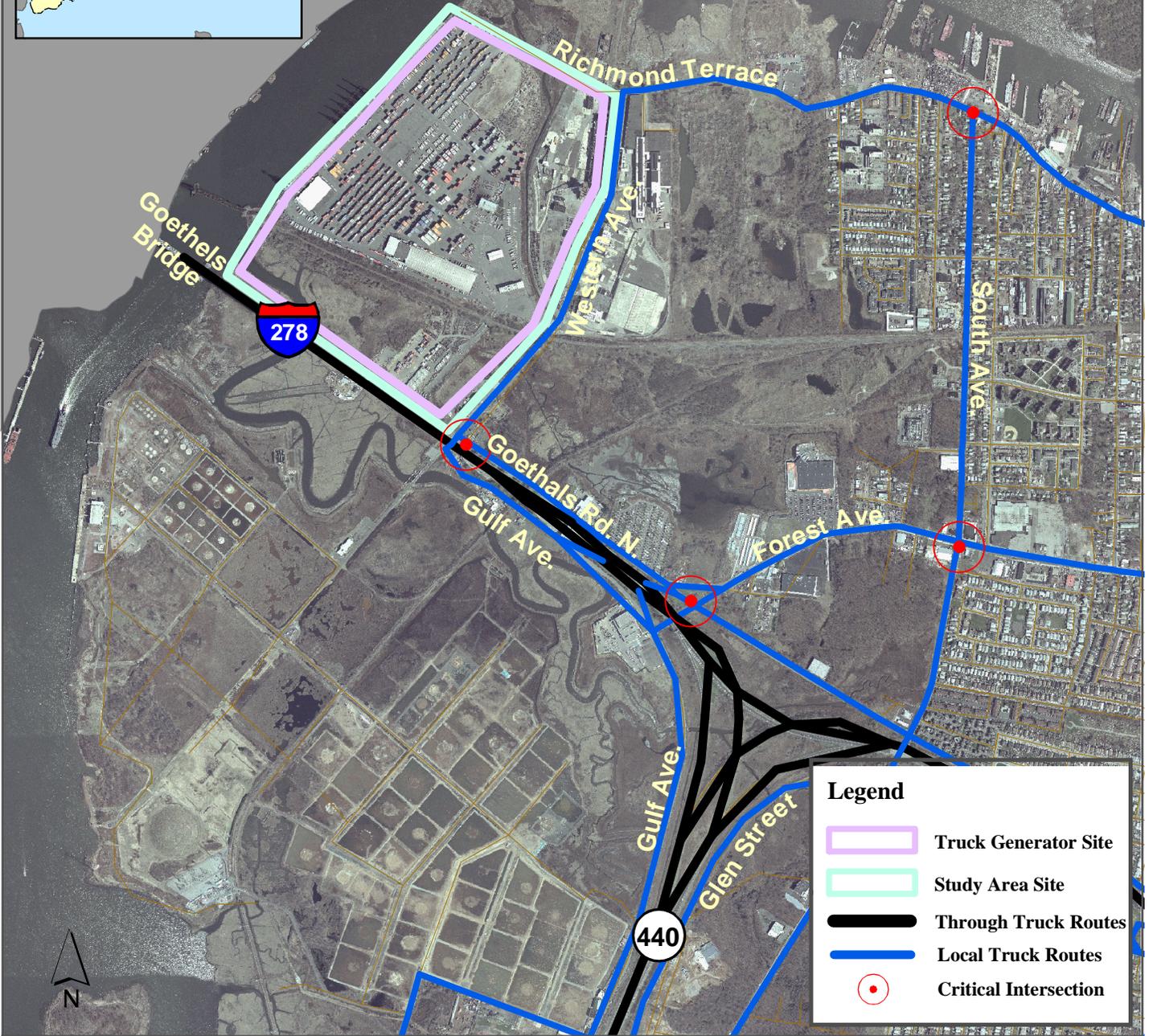
There are no community facilities that could be impacted by truck traffic within the Howland Hook study area.

Access to Truck Routes from Site/Study Area

The Howland Hook study area is bounded by two truck routes: Western Avenue, a designated Local Truck Route, and the Staten Island Expressway (I-278), a limited access highway that is a Through Truck Route. These routes provide access to the local and regional truck routes including the Interstate System. Access to I-278 is maintained at via Goethals Road North and Gulf Avenue, two Local Truck Routes that parallel I-278. Other Local Truck Routes surrounding the Howland Hook area include Forest Avenue, South Avenue, and Richmond Terrace, which link the Howland Hook area to other commercial and industrial areas of Staten Island.

0 1,250 2,500 5,000 Feet

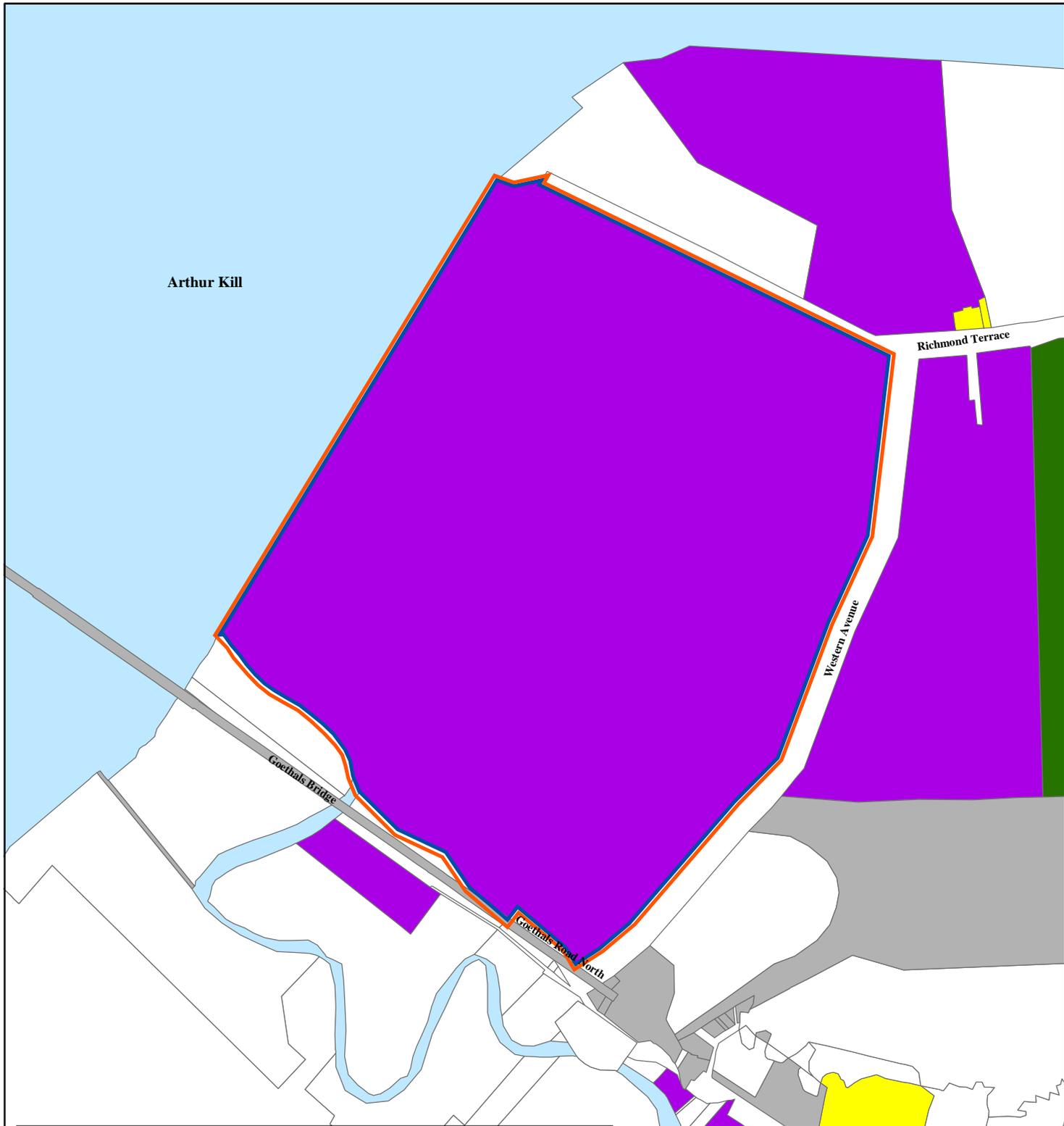
New Jersey



Legend

- Truck Generator Site
- Study Area Site
- Through Truck Routes
- Local Truck Routes
- Critical Intersection

Figure 7-16
Site Map
Howland Hook - Staten Island



Truck Generator Site	Land Use	Commercial	Transportation & Utility
Study Area	Residential	Industrial	Parking Facility
	Mixed Use	Park / Open Space	Vacant Land
		Other	

0 500 1,000 Feet

NORTH

Figure 7-17
Land Use
Howland Hook - Staten Island

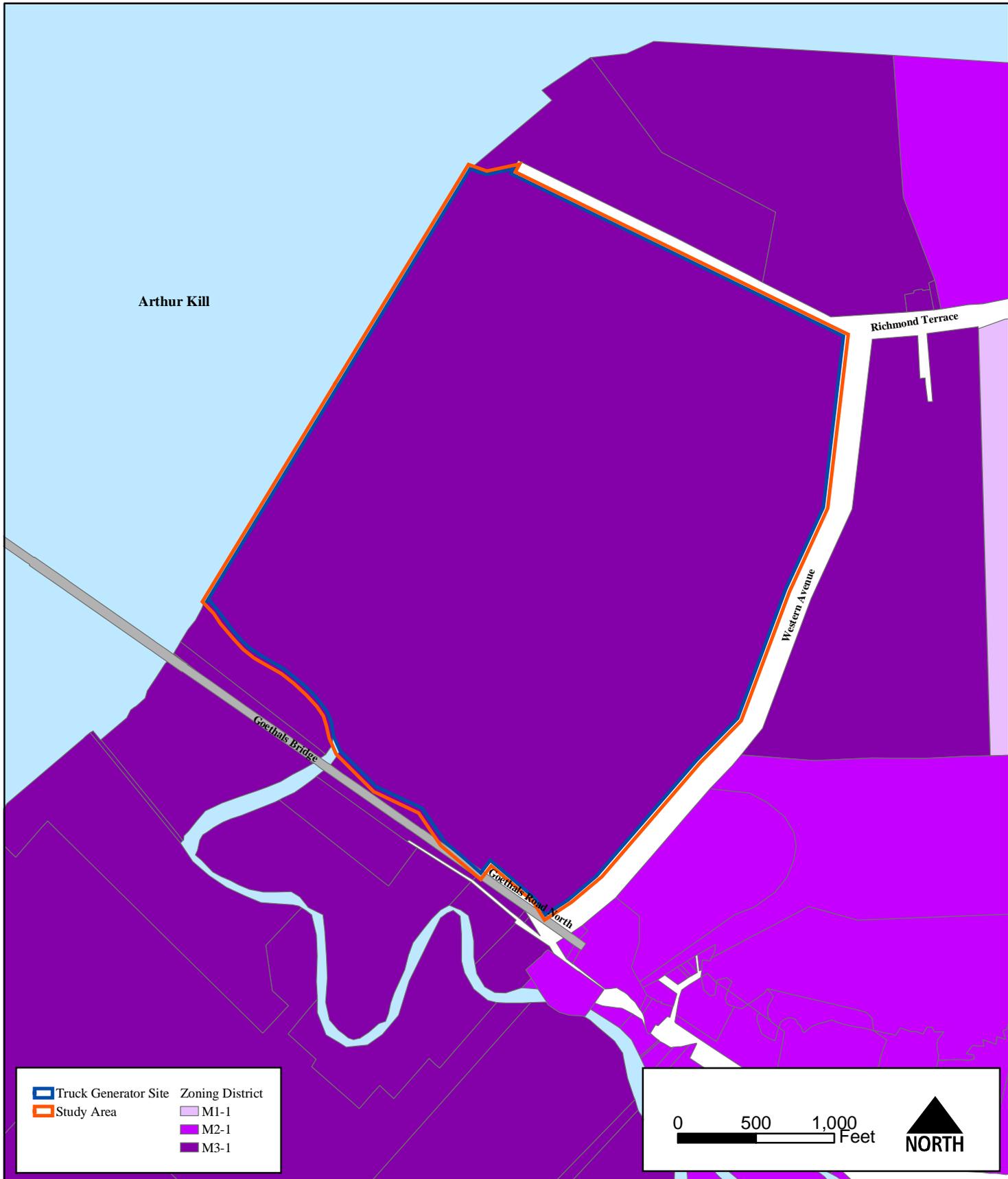


Figure 7-18
Zoning
Howland Hook - Staten Island

The insufficient lane widths on the Goethals Bridge (I-278) affect the vehicle capacity and traffic safety across the bridge. The 10.5-foot lanes must accommodate 102-inch wide tractor-trailers. These trucks are better suited to travel on the Outerbridge Crossing or the Bayonne Bridge.

Critical Intersections

There are four intersections within the Howland Hook study area that have been identified as critical intersections. These intersections include:

- Goethals Road North at Western Avenue
- Goethals Road North at Forest Avenue
- Forest Avenue at South Avenue
- Richmond Terrace at South Avenue

The intersection of Goethals Road North and Western Avenue is located at the entrance to the Howland Hook Marine Truck Terminal. Western Avenue and Goethals Road North are designated Local Truck Routes and trucks destined to and originating from the facility will likely pass through this intersection. The intersection of Forest Avenue and Goethals Road North is located close to the Howland Hook Marine Truck Terminal facility and is near the entrance to the Staten Island Expressway (I-278) and the Goethals Bridge. Trucks coming off the Staten Island Expressway and the Goethals Bridge will likely pass through this intersection, particularly if their destination is Howland Hook. The remaining two intersections are intersecting Local Truck Routes that truck traffic originating from and destined to Howland Hook may likely pass through.

Traffic Operations

Traffic counts were conducted at the four key intersections within the Howland Hook study area on the following dates:

- Goethals Road North at Western Avenue – Wednesday, June 30, 2004
- Goethals Road North at Forest Avenue – Tuesday, August 3, 2004
- Forest Avenue at South Avenue – Tuesday, August 3, 2004
- Richmond Terrace at South Avenue – Tuesday, August 3, 2004

The traffic counts were conducted to determine the amount of heavy vehicle traffic at the intersection and to conduct an operations analysis of the intersection. The morning hours were determined to be the time of day where the most significant amount of truck traffic was likely to occur. A map of the AM peak hour truck traffic at the four key intersections within the Howland Hook study area can be found in Figure 7-19.