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SUBWAY-SIDEWALK INTERFACE PROJECT

TECHNICAL MEMORANDUM IV

ISSUES AND OPPORTUNITIES

INTRODUCTION
1. INTRODUCTION

The Subway-Sidewalk Interface Project is a joint project, sponsored by the New York City Department of City Planning (DCP), Transportation Division and the New York City Department of Transportation (NYCDOT). The project is funded through a matching city-federal grant, under the Transportation Equity Act (TEA-21), Congestion Mitigation and Air Quality (CMAQ) program.

Pedestrian circulation improvements linked to mass transit access offer the opportunity to reduce vehicular congestion and improve air quality. The Subway-Sidewalk Interface Project focuses on the areas where the subways meet the street, the nexus of the surface and subsurface circulation systems. The project aims to improve pedestrian and vehicular circulation around the entrances to subway stations in order to encourage mass transit use. While the primary aim of this project is to improve pedestrian circulation, as well as safety and security, improvements to vehicular circulation can also benefit pedestrians and reduce emissions. The project will implement improvements that will relieve congestion and improve security and safety. The type of improvements that may be implemented include signage, lighting, signal timing adjustments, pavement markings, corner clearances, and curb line changes where necessary. Thirty sites have been selected throughout the Bronx, Brooklyn and Queens. The site selection process was previously outlined in Technical Memorandum I, Work Program and Site Selection Criteria, and was reviewed and commented upon by the Technical Advisory Committee.

### Subway Stations Selected for the Subway-Sidewalk Interface Project

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<th>The Bronx</th>
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1.1 ISSUES AND OPPORTUNITIES IDENTIFIED AND DEFINED

*Technical Memorandum IV, Issues and Opportunities*, is the latest in a series of technical documents that have been released to the public via the Technical Advisory Committee. The previous documents that were released are *Technical Memorandum I, Work Program and Site Selection Criteria; Technical Memorandum II, Literature Review; and, Technical Memorandum III, Existing Conditions*.

This document identifies the issues and opportunities for improvement at the 30 study areas. These findings are based on field observations, on-site meetings with community board district managers, discussions with the Technical Advisory Committee, and data analysis. Issues have been identified if congestion, access, or safety are a matter of concern or require special consideration. A feasible improvement for each issue may or may not exist within the scope of this project.
Issues were defined in accordance with the project goals, which are to improve pedestrian access to the subway system; improve pedestrian speed and efficiency at the interface of the street and the subway; enhance pedestrian safety and security; improve air quality; and optimize the feasibility of and ability to implement, proposed pedestrian improvements.

1.2 Application of the Issues

In order to develop the issues listed below, an extensive list of concerns was drafted and then grouped into 13 broad topics. These topics were further narrowed and placed into four categories, Street Traffic Issues, Pedestrian/Vehicular Issues, Sidewalk Circulation Issues, and Community Issues. The three borough matrices, exhibited in Appendix A, indicate the issues at the 30 selected stations as presented to, and discussed by, the Technical Advisory Committees in November, 2000.

Street Traffic Issues

Roadway Design

Excess Roadbed

Excess roadbed is where there is more paved area than necessary for street design, capacity, and function. Excess roadbed is found in extra-wide travel lanes, unused buffer space, or other design idiosyncrasies. Such spaces often function ambiguously, and they create potential for conflicts as pedestrians and vehicles compete for their use. Unnecessary for vehicular use, this space can be recaptured for pedestrian use.

Blocked Visibility

According to AASHTO (American Association of State Highway and Transportation Officials) guidelines, objects in and around intersections should be over 14’6” above the intersection, at least two feet off the curb, or low enough for drivers to see over them. Intersections with elevated support columns embedded in the roadway often do not adhere to these guidelines. As a result, the visibility of both pedestrians and vehicles is frequently obscured, resulting in decreased safety. Mitigation measures will be considered for these sites.

Sight Distance

Sight distance issues arise where a hill or bend in the road obscure a driver’s view the intersection ahead. As a result, the driver may misjudge the braking distance necessary to stop the vehicle. This issue has been preliminarily identified at a few sites; further analysis will be conducted as necessary.

Channelization and Traffic Patterns

According to AASHTO, channelization and traffic patterns must adequately direct vehicular traffic safely and smoothly through a roadway segment or intersection. A channelization problem exists if the traffic pattern fails to do so. This study has identified roadways and traffic patterns that were observed to channel traffic inadequately or improperly. AASHTO design standards will be applied to these roadways upon further analysis.
Any roadbed or drainage facility in this study that fails to efficiently clear standing water from the roadbed or sidewalk is considered a drainage issue. Excess water shunted off elevated train platforms onto roadbeds may result in water volumes that exceed flow capacity of existing street drainage systems, thereby impeding pedestrian and/or vehicular movement. (Several community board District Managers pointed out drainage problems during on-site meetings at elevated stations in their districts.)

Traffic volume is an issue in areas that appear to be excessively congested, impacting not only vehicular traffic, but pedestrian and mass transit activities as well. Traffic volume is also an issue if it is large enough to produce observably adverse impacts on pedestrian and vehicular conditions, such as spillbacks, heavy turning movements, and vehicles blocking crosswalks.

High accident locations are derived from the New York State Department of Transportation (NYSDOT) Accident Data Files. The data have been compiled from information collected by local police departments and forwarded to the New York State Department of Motor Vehicles (DMV). NYSDOT then prepares the data for analysis.

For the purpose of this project, 60 total accidents or six pedestrian accidents between 1996 and 1998 were used to identify streets or intersections with safety concerns. Appendix B contains summary information about these intersections.

For this study, excessive traffic speed is considered a problem if it was observed to produce adverse or potentially dangerous impacts on pedestrian conditions. Sites with excessive traffic speeds are candidates for enhanced traffic controls or traffic calming techniques, both of which are intended to moderate and regulate traffic flow.

Bus stop placement is an issue at stops where buses cannot pull to the curb and passengers must wait for, or exit, the bus in the street such as at many elevated stations. Additionally, the issue has been identified at bus stops located mid-block, thereby encouraging pedestrians to jaywalk.

Bus routes often require buses to execute difficult turning movements, usually due to narrow street widths or tight corner radii. (Transportation Planning Handbook, 131 1992).
Although the Traffic Engineering Handbook maintains that buses generally operate effectively on all types of urban streets, buses still have difficulty navigating turning movements and passenger pick-ups that involve traversing several lanes of traffic or maneuvering complex or congested intersections.

Parking regulations are an issue if they appear to be contradictory or if they are inappropriate for the actual activity that occurs at the curb.

Commercial vehicles may stop and load/unload in the travel lane adjacent to an occupied parking lane, as is generally permitted by the NYCDOT traffic rules. Truck loading is an issue when it interferes with traffic flow, causing congestion, bus delays and blocked pedestrian visibility. Furthermore, it is illegal to load/unload commercial vehicles in crosswalks, bicycle lanes, bus stops and bus lanes.

This issue refers to passenger loading/unloading from proprietary vehicles (taxis, commuter vans, and private cars). This activity is an issue if vehicles loading or unloading passengers interfere with traffic flow or place discharged passengers in the path of oncoming vehicles.

Illegally-parked vehicles disrupt loading zones, bus stops and travel lanes, causing traffic congestion and blocking pedestrian pathways. This issue has been identified at sites that were consistently observed with illegally-parked vehicles.

Conflicting curb use is a problem when the same curb space is utilized for a number of conflicting vehicular activities. Curb space is used for parking, truck loading, bus stops, taxi stands, hotel zones, and so on. If these uses overlap or are not allocated sufficient curb space, conflicts result and impact bus operations, traffic and pedestrian movement.

Signal timing is an issue where data indicates that pedestrian or vehicular traffic may benefit from a timing adjustment. For this project, pedestrian crossing time is the primary focus. A minimum pedestrian crossing time analysis was performed using signal timing, crosswalk width and pedestrian speed data. Field observations supported and enhanced this analysis.

Stop signs are control devices that require approaching motorists to stop at the intersection and yield the right-of-way to pedestrians and
traffic on the intersecting street. A stop sign is the minimum regulatory device needed to install crosswalks at an intersection in New York City. Intersections that may benefit from this control have been identified under this issue. In order to install a stop sign, a warrant analysis must be conducted.

**Signal Placement**

Signals should be placed so that they are clearly visible to drivers, with no obstructions or confusion as to whom the signal regulates. Signal placement is an issue when it creates potential conflict among vehicles or between vehicles and pedestrians.

**Conflicting Movements**

Conflicting movements may result from poor channelization and traffic patterns (see above), wherein vehicles and pedestrians are not adequately guided through their movements, resulting in congestion, confusion, or conflict. Conflict may also result from more than one traffic flow occupying the same space at the same time; for example, vehicular turning movements through a signalized crosswalk occupied by pedestrians, a bus routed to pull out into moving traffic on a busy street, or a median bike path crossing from island to island through a left-turn path for motor vehicles.

This study treats any vehicular-pedestrian or intra-vehicular conflict, whatever the cause, as a conflicting movement.

**Signage**

**Vehicular Signage**

Vehicular signage is an issue if it is confusing or inadequate in directing or informing motorists. Signs indicating the clearance height under elevated stations are included in this category.

**Orientation Signage**

Orientation signage is an issue if the station appears to be difficult to find, if the entrance is obscured, or if there are multiple bus lines and stops near the station.

**Crosswalks**

**Crosswalk Issues**

For the purposes of this project, crosswalk issues refers to any crosswalk that is: unmarked, an inappropriate type (i.e. standard, or high visibility), or of insufficient width. According to the Manual on Uniform Traffic Control Devices (MUTCD), crosswalks serve primarily to guide pedestrians in a safe path across the street.

In order to guide pedestrians across the street safely and efficiently, crosswalks must be of sufficient width. According to the Highway Capacity Manual, written by the Transportation Research Board, overloaded crosswalks can also delay vehicle turning movements, thereby reducing the capacity of the intersection and connecting streets. (Page 13-3)
According to NYCDOT policy, crosswalks are installed only at locations that are controlled by either signals or Stop signs.

**Crosswalk Obstructions**

This category refers to any crosswalk that is obstructed by a support column from an elevated structure. (This does not refer to street furniture on corners that constrict the width of the corner adjacent to the sidewalk. The latter issue can be found in the Street Furniture category.)

**Lighting**

**Street and Sidewalk Lighting**

Street and sidewalk lighting is an issue if:

- Luminaire spacing deviates from NYC policy;
- Observed conditions indicate that lighting adversely affects vehicular or pedestrian movement or interaction; or
- Insufficient lighting contributes to a low-quality pedestrian environment.

Insufficient lighting may be considered an issue even during daylight hours, especially under elevated train viaducts.

**Sidewalk Circulation Issues**

**Sidewalk Design and Layout**

**Sidewalk Dimensions**

Sidewalk dimensions are an issue where insufficient sidewalk space results in poor pedestrian circulation.

**Pedestrians Waiting for Transit**

In areas where pedestrians wait to catch a bus or enter a subway station, sidewalks often become congested causing bottlenecks.

**Discontinuous sidewalks**

In some cases, sidewalks abruptly stop, forcing pedestrians to cross roadways, or continue walking in the street. For the purposes of this study, discontinuous sidewalks are the property at the edge of the road that is either unpaved, interrupted, or not clearly designated for general sidewalk use.

**Medians**

For the purposes of this project, a median is defined as any traffic island or median that is painted or raised above street level surrounded by a curb. Medians are problematic if they do not provide adequate queuing or pedestrian refuge space, or if they are painted and an opportunity for improvement exists.
**Pleasant Environment**

This issue refers to items that might ordinarily be deemed amenities, such as landscaping, seating and lighting. At some locations, the lack of amenities, or poor maintenance of amenities, creates unpleasant spaces and discourages pedestrian and mass transit use.

**Sidewalk Elements**

**Street Furniture**

Street furniture includes any object on the sidewalk. Common examples of street furniture include: benches, lamps, fire hydrants, parking meters, trash cans and sidewalk cafes.

According to NYCDOT’s Rules Related to Revocable Consent, the installation of all street furniture requires a permit. NYC Department of Parks and Recreation, Department of Sanitation, Department of Transportation, Department of Consumer Affairs, and the Police and Fire Departments all have their own jurisdictions over certain elements of street furniture, and therefore, their own rules.

It should also be noted that according to Executive Order No. 22: Sidewalk Corner Clearances, “structures and objects should not be placed in the corner and corner quadrant.” Additionally, the City Council recently approved legislation regulating the maintenance and placement of newspaper boxes on sidewalks. The legislation prohibits the placement of newspaper boxes “within close proximity of the entrance or exit of any railway or subway station” (Local Law No. 23).

**Vendors and Newsstands**

Street furniture is an issue where street corners or sidewalks are cluttered with fixed objects that disrupt pedestrian flow.

Vendors and newsstands are an issue where they have been observed to obstruct pedestrian flow, operate illegally, or if community board district managers have identified them as a problem.

**Bicycle Facilities**

**Bicycle Parking**

Bicycle parking is an issue at stations that either have no bicycle parking nearby and are located near a bicycle route designated by the New York City Bicycle Master Plan, or have a demonstrated need for bicycle parking.

**Bicycle Routes**

If there is a bicycle route, planned or built, as designated by the New York City Bicycle Master Plan, immediately adjacent to the station, then the station requires special planning considerations.

**Subway Station**

**Condition of Elevated Structure**

This issue refers to the aesthetic condition of the elevated structure. Many elevated stations are in need of new paint, weatherproofing, general maintenance and/or beautification.
This issue exists if a subway entrance is placed mid-block, or on a traffic island a considerable length from a crosswalk, where pedestrians frequently cross mid-block. This issue also arises where station entrances (particularly elevators) constrict pedestrian circulation. While relocating station entrances is not within the scope of this project, mitigation measures may be employed.

At subway stations with multiple entrances, the use of entrances may be poorly distributed. This uneven distribution may result in congestion at highly-used entrances, as well as the perception of poor security and crime at less frequently-used entrances.

Entrance stairwells occasionally have a low concrete riser on the sidewalk. In certain cases, these risers are not sufficiently brought to the attention of passengers, who may not notice the step.

This category does not refer to trash, but to bird guano that is usually, but not exclusively, found beneath elevated tracks where birds perch.

Signs, stairwells, and other station facilities should be well-lit so that pedestrians may find the entrances, see any steps, and feel secure about entering the stations at any time of day. NYC Transit's design guidelines call for a maintained design level of five-foot candles at street stairways. However, elevated structures cast shadows and obscure lighting at the entrances. Entrances/exits that were observed to have an increased need for lighting at the entrances have been identified.

This category has been defined broadly. A population is considered to have special needs if it has any distinctive characteristics that set it apart from the general population, and that may in any way affect site design or recommendations. These special needs may reflect disability (concentrations of blind, deaf, or physically or mentally handicapped people), and age (concentrations of elderly adults or school-aged children).

Refers to any Uniform Land Use Review Procedure (ULURP) action by the City Planning Commission that will change the land use or zoning within the study area.

Stations with on-going projects that preclude, or significantly overlap with, this project require additional coordination.
2. SUMMARY OF FINDINGS

Matrices have been constructed in order to compare conditions at all 30 study areas. (See Appendix A). During field visits, the project team checked the list of issues and developed the findings presented in this report to determine the conditions of each site and what opportunities exist for improvement.

The analysis of the thirty stations showed that characteristic issues and opportunities are common at the three station types that differ from the standard sub-grade subway station; elevated stations, inter-modal stations, and stations with entrances located within a building or on a traffic island. These commonalities among the station types have been identified and graphed in order to present the relationships.

2.1 ELEVATED STATIONS

These 15 stations share issues directly related to the elevated structures, such as blocked visibility, drainage, and sanitation.

Blocked visibility during the daytime and evening is an issue at all elevated stations. Elevated structures block natural sunlight from reaching the street and sidewalk below during the day, and cast the street and sidewalk in shadows at night. Additionally, due to the location of support columns of the elevated structure in the roadbed, the vision of pedestrians and motorists is obscured at more than 86 percent of these stations.

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<th>Elevated Stations</th>
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<td>Bronx:</td>
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<td>231st Street</td>
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<td>233rd Street</td>
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<td>Burnside Avenue</td>
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<td>East 177th Street, Parkchester</td>
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<td>Lefferts Boulevard</td>
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231st Street in the Bronx. The elevated structure blocks natural sunlight.
Two elevated stations, the 33rd and 40th Street stations on the Queens Boulevard line, do not share the same issues with the other elevated stations, due to the design of the supporting structure. The stations have a different street geometry below and the main thoroughfare runs adjacent to the elevated structure, not beneath it. However, their unique configuration creates congestion at the stairwell entrances and channelization problems for parked vehicles beneath the elevated structure.

2.2 INTERMODAL STATIONS

The study defines intermodal stations as those that connect to three or more bus lines or a commuter rail line. One exception is the Church Avenue station, which is considered to be an intermodal station for the purposes of this project. While this station provides connections to only two bus lines, they are two of the most used lines in the City. As a result, frequent transfers occur between transportation modes and registrations are high at this station.

Intermodal stations are often heavily used and located in commercial areas. As a result, they have concerns that arise from pedestrians, delivery trucks, buses and cars for hire all competing for the same space. Bus stop
placement is an issue at most of these stations, primarily because of congestion at the bus stops. Conflicting curb uses and illegal parking were also observed to occur frequently at almost all of the intermodal stations.

Pedestrians unfamiliar with stations located in buildings or on traffic islands have difficulty finding them, since their entrances are often obscured. Seventy-one percent of the stations need additional lighting, and 64 percent of the stations lack orientation signage.
2.3 Stations with Entrances in Buildings or on Traffic Islands

Stations with entrances in buildings or on traffic islands are often located mid-block. The non-standard placement of these entrances encourages, or in some cases requires, jaywalking, and creates access difficulties. In addition, many station entrances on traffic islands are located near intersections that lack stop signs and crosswalks, thereby forcing pedestrians to cross the street in front of unregulated traffic.

### Stations with Entrances in Buildings or on Traffic Islands

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<th>Borough</th>
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<tr>
<td>Bronx</td>
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</tr>
<tr>
<td>Queens</td>
<td>33rd Street&lt;br&gt;40th Street&lt;br&gt;90th Street&lt;br&gt;Metropolitan Avenue&lt;br&gt;Rockaway Park/Beach 116th Street&lt;br&gt;Woodhaven Boulevard</td>
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</table>
2.4 Common Issues at Most Stations
There are some issues which most stations have in common, regardless of station type. Subway stations in the outer boroughs typically have significant amounts of traffic as well as passenger loading and unloading. During periods of congestion, this can lead to illegal parking and conflicting curb uses. Traffic volume was an issue at eighty-three percent of the stations. Additionally, accidents and street and sidewalk lighting were issues at seventy percent of the stations. Passenger loading and unloading was an issue at sixty-seven percent of the stations.

Utica Avenue and Eastern Parkway, in Brooklyn. This station has many of the issues that are found at most of the 30 stations.
STATION REPORTS

The following individual station reports identify the issues and opportunities for improvement surrounding each of the 30 subway stations. The reports have a summary of the major issues at that station. Following each summary is a station specific description of each applicable issue, as defined in the introduction. A site plan accompanies each report, where issues which require additional clarity are pointed out. Not all issues are represented on the site plans.
The 231st Street station is an elevated station with support columns embedded in the roadway below. The issues with the streets surrounding this station primarily stem from those support columns, which block visibility for both pedestrians and motorists, and force buses to load/unload passengers in the street. Additionally, numerous Kennedy High School students use the station, creating a need for special design considerations.

**Street Traffic Issues**

**Roadway Design**

*Excess Roadbed*  
The roadbed between the parking lane and elevated support columns is used ambiguously and is unnecessary for moving vehicles.

*Blocked Visibility*  
The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.

*Drainage*  
Storm water runoff from the elevated structure accumulates in the intersection. The ponding obstructs pedestrian flow.

**Traffic Flow**

*Traffic Volume*  
Broadway and 231st Street are both commercial streets with high traffic volumes.

*Accident Location > 20 per year*  
At the intersection of 231st Street and Broadway, from 1996 through 1998, there was a total of 53 accidents, six of which were reportable (accidents involving a death, an injury or vehicle property damage exceeding $1,000 are considered reportable) pedestrian accidents, and five of which were reportable vehicular accidents.

The distribution was evenly divided between accidents that involved pedestrians crossing with the traffic signal, against the traffic signal, and other accidents for which the detailed action was not reported (33.3% each).

**Bus Operations**

*Bus Stop Placement*  
The Bx9 buses cannot stop at the curb because of the elevated support columns. As a result, they must load and unload passengers in the travel lane. There is a painted section in between the support columns where passengers are expected to wait for the bus.

*Bus Routes*  
The Bx7 and Bx20 buses turn left from Broadway onto 231st Street. This left turn is difficult to maneuver because of the elevated support columns, and the platoons of pedestrians crossing 231st Street.
Street Traffic Issues

Curb Regulations & Use

*Truck Loading/Unloading*  Both 231st Street and Broadway are commercial streets with a significant amount of truck loading and unloading, particularly along Broadway beneath the elevated structure.

*Passenger Loading/Unloading*  Significant amounts of passenger loading and unloading occurs in the space between the columns and parking lane, beneath the elevated structure.  There is also heavy taxi and livery car activity.

*Illegal Parking*  Many cars double park, particularly on 231st Street, slowing traffic and causing spillbacks along 231st Street.

*Conflicting Curb Uses*  Since the function of the space between the parked cars and the elevated support columns is ambiguous, both pedestrians and motorists compete for it.  Pedestrians use it to wait for the bus or to shorten their crossing distance, while motorists use it to double park, load/unload passengers or as a right turn lane.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

*Signal Placement*  The elevated support columns in the crosswalk obstruct views of pedestrian signals.

*Conflicting Movements*  Vehicles turning left from northbound Broadway onto 231st Street block through traffic on Broadway.  In addition, vehicles have difficulty turning left because of the heavy pedestrian traffic in the crosswalks.

Signage

*Vehicular Signage*  Trucks frequently become stuck beneath the elevated structure.  The elevated clearance signage may be obscured or incorrect.

Crosswalks

*Crosswalk Obstructions*  Elevated support columns are located in the crosswalks along Broadway.

Lighting

*Street and Sidewalk Lighting*  Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours.  The study area has a variety of lighting types.
Sidewalk Circulation Issues

Sidewalk Design and Layout

*Sidewalk Dimensions*  
Station entrances and support columns narrow effective sidewalk widths.

*Pedestrians Waiting for Transit*  
A high volume of pedestrians wait at the bus stop on the north side of 231st Street, west of Broadway thereby constricting the sidewalk.

*Pleasant Environment*  
The Kingsbridge-Riverdale-Van Cortlandt Development Corporation has recently made improvements along the west side of 231st Street. New street furniture and other amenities have been installed.

Sidewalk Elements

*Street Furniture*  
Corners are crowded with street furniture.

*Vendors and Newsstands*  
A newsstand on the east side of Broadway, south of 231st Street, obstructs pedestrian flow.

Bicycle Facilities

*Bicycle Parking*  
There are no bicycle parking facilities.

*Bicycle Routes*  
Broadway is a designated bicycle route in the New York City Bicycle Master Plan.

Subway Station

*Condition of Elevated Structure*  
The elevated structure needs repainting.

*Entrance Stairwell*  
Raised platforms at the top of stairwells are difficult to see.

*Sanitation*  
Birds perched in the elevated structure leave guano on the street below.

*Station Entrance Lighting*  
Lighting is insufficient at the station entrances.

Community Issues

Community

*Special Needs Population*  
The area surrounding the station has a significant senior citizen population as well as a number of schools with students using the 231st Street station.

*On-Going Projects*  
This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Issues and Opportunities

Community Issues

Community
Blocked Visibility: The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.

Bus Stop Placement: Buses cannot pull up to the curb, forcing passengers to wait on painted section of the roadbed.

Street Furniture: Corners are crowded with street furniture.

Bus Routes: Both the northbound BX7 and the BX20 make a difficult left turn onto 231st Street because of the support columns and the pedestrians crossing 231st Street.

Passenger Loading and Unloading: Significant amounts of passenger loading and unloading happen in the area between the columns and the parking lane.

Vendors and Newsstands: A vendor on the east side of Broadway, south of 231st Street, obstructs pedestrian flow.
The 233rd Street station is both an elevated and intermodal station. The primary concern with the streets surrounding this station is the elevated structure that casts the roadway in shadows, blocks visibility of pedestrians and motorists, and prevents buses from loading and unloading passengers at the curb.

### Street Traffic Issues

#### Roadway Design

**Excess Roadbed**

The roadbed between the parking lane and elevated support columns is used ambiguously and is unnecessary for moving traffic.

**Blocked Visibility**

The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.

**Drainage**

Storm water runoff from the elevated structure accumulates at the southeast corner of the intersection of 233rd Street and White Plains Road. The ponding is significant and obstructs pedestrian flow.

#### Traffic Flow

**Traffic Volume**

White Plains Road is a commercial street with heavy traffic volumes.

**Accident Location > 20 per year**

At the intersection of White Plains Road and 233rd Street there were 124 total accidents from 1996 through 1998. Thirty-two of these accidents were reportable vehicular, and 7 of these accidents were reportable pedestrian.

There was a diverse mix of accidents at this location. For 28% (or nine) of the reportable vehicular accidents, the detailed vehicular action was not reported. The next largest proportion of accidents (28%, or eight) involved an overtaking. The remaining accidents involved left turns against a car (19%), rear end collisions (16%), or right angle collisions (13%).

There were a total of seven reportable pedestrian accidents. The detailed pedestrian action was not reported for five of these accidents (or 71%). Two of these accidents (or 29%) involved pedestrians crossing against the traffic signal.

#### Bus Operations

**Bus Stop Placement**

Buses cannot stop at the curb because of the elevated support columns. As a result, they must load and unload passengers in the travel lane. White Plains Road is a major bus route and the buses back up traffic along the corridor.
**Issues and Opportunities**

**Street Traffic Issues**

**Bus Operations**

*Bus Routes*  
Buses have difficulty maneuvering beneath the elevated structure because of the support columns.

**Curb Regulations & Use**

*Truck Loading/Unloading*  
Truck loading and unloading beneath the elevated structure is frequent along White Plains Road.

*Passenger Loading/Unloading*  
There is a significant amount of passenger loading and unloading from both private vehicles and commuter vans.

*Illegal Parking*  
Double parking is frequent, particularly along White Plains Road.

*Conflicting Curb Uses*  
Since the function of the space between the parked cars and the elevated support columns is ambiguous, both pedestrians and motorists compete for it. Pedestrians use it to wait for the bus or to shorten their crossing distance, while motorists use it to double park, load/unload passengers or as a right turn lane.

**Pedestrian/Vehicular Traffic Issues**

**Traffic Controls**

*Signal Placement*  
The elevated support columns in the crosswalk obstruct views of pedestrian traffic signals.

*Conflicting Movements*  
Left-hand turns from White Plains Road to 233rd Street cause spillbacks along White Plains Road. In addition, vehicles have difficulty turning left because of the heavy pedestrian traffic in the crosswalks.

**Signage**

*Vehicular Signage*  
Clearance signage for the elevated structure is obscured by dirt.

**Crosswalks**

*Crosswalk Obstructions*  
Elevated support columns are located in the crosswalks along White Plains Road.

**Lighting**

*Street and Sidewalk Lighting*  
Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours.
Sidewalk Circulation Issues

Sidewalk Design and Layout

**Medians**
The median along 233rd Street, west of White Plains Road, does not extend into the crosswalk to provide pedestrian refuge space.

**Pleasant Environment**
Street trees are lacking.

Sidewalk Elements

**Street Furniture**
Corners are crowded with street furniture.

**Vendors and Newsstands**
Vendors and newsstands obstruct pedestrian flow, particularly along the east side of White Plains Road south of 233rd Street.

Subway Station

**Condition of Elevated Structure**
The elevated structure needs repainting.

**Entrance Stairwell**
The raised platforms at the top of the stairwells are difficult to see.

**Sanitation**
Birds perched in the elevated structure leave guano on the street below.

**Station Entrance Lighting**
Lighting is insufficient at the station entrances.

Community Issues

**Community**

**Special Needs Population**
During on site field work, a large number of physically disabled people were observed in the area. Public School 103, a nearby elementary School, has a capacity of over 1200 students.

**On-Going Projects**
This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Excess Roadbed and Conflicting Curb Uses: The roadbed between the parking lane and elevated support columns is used ambiguously and is excess road space. Pedestrians use this space to wait for the bus or to shorten their crossing distance, while motorists use it to double park, load/unload passengers or as a right turning lane.

Blocked Visibility: The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.

Bus Stop Placement: Buses cannot pull up to the curb because of the elevated support columns. As a result, they must load/unload passengers in the travel lane.

Conflicting Movements: Left-hand turns from White Plains Road onto 233rd Street cause spill backs along White Plains Road. In addition, vehicles have difficulty turning left because of the heavy pedestrian traffic in the crosswalks.

Crosswalk Obstructions: Elevated support columns are located in the crosswalks along White Plains Road.

Street Furniture: Corners are crowded with street furniture.

Truck Loading/Unloading and Illegal Parking: Truck loading and unloading beneath the elevated structure is frequent along White Plains Road. Double parking is also frequent along White Plains Road.

Medians: The median along 233rd Street, west of White Plains Road, does not extend into the crosswalk to provide pedestrian refuge space.
The Burnside Avenue station is an elevated and intermodal station. The primary concern with the streets surrounding this station is the elevated structure that casts the roadway in shadows, blocks visibility of pedestrians and motorists, and prevents buses from loading and unloading passengers at the curb.

**Street Traffic Issues**

**Roadway Design**
- **Excess Roadbed**
  - The roadbed between the parking lane and elevated support columns is used ambiguously and is excess road space.
- **Blocked Visibility**
  - The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.
- **Drainage**
  - Storm water runoff from the elevated structure accumulates in the intersection. The ponding obstructs pedestrian flow.

**Traffic Flow**
- **Traffic Volume**
  - Jerome and Burnside avenues are local truck routes and commercial streets that carry heavy traffic volumes.
- **Accident Location > 20 per year**
  - At the intersection of Burnside and Jerome avenues there was a total of 44 accidents from 1996 through 1998. Seven of these accidents were reportable vehicular and an additional seven were reportable pedestrian.
  - Four of the reportable accidents involved pedestrians crossing with the traffic signal, and ten of the reportable accidents occurred during daylight.

**Bus Operations**
- **Bus Stop Placement**
  - The Bx32 bus, which runs beneath the elevated structure, cannot stop at the curb so passengers are loaded and unloaded in the travel lane. The southbound Bx32 bus loads and unloads passengers in front of the McDonald's driveway. Passengers must wait for the bus in front of the driveway as cars pull in and out. Passengers transferring from the southbound Bx32 to the subway must cross the street to reach the station entrance.
- **Bus Routes**
  - Buses have difficulty maneuvering beneath the elevated structure because of the support columns.
Issues and Opportunities

Street Traffic Issues

Curb Regulations & Use

Truck Loading/Unloading
Both Burnside and Jerome avenues are commercial streets and have a significant amount of truck loading and unloading.

Illegal Parking
Double parking is considerable.

Conflicting Curb Uses
Since the function of the space between the parked cars and the elevated support columns is ambiguous, both pedestrians and motorists compete for it. Pedestrians use it to wait for the bus or to shorten their crossing distance, while motorists use it to double park, load/unload passengers or as a right turn lane.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Conflicting Movements
Left-hand turns from Jerome Avenue to Burnside Avenue cause spillbacks on Jerome Avenue.

Signage

Vehicular Signage
Elevated clearance signage may be obscured by dirt.

Lighting

Street and Sidewalk Lighting
Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours.

Sidewalk Circulation Issues

Sidewalk Elements

Street Furniture
The corners are crowded with street furniture, particularly the northwest corner of Jerome Avenue and Burnside Avenue, where a pedestrian signal and street light are located in the middle of the pedestrian path.

Vendors and Newsstands
Numerous street vendors constrict pedestrian flow on both Burnside and Jerome avenues.

Subway Station

Condition of Elevated Structure
The elevated structure needs repainting.

Placement of Entrances
The entrances south of Burnside Avenue are located mid-block and encourage pedestrians to jaywalk.

Entrance Stairwell
The raised platforms at the top of the stairwells are difficult to see.
Sidewalk Circulation Issues

Subway Station

Sanitation

Birds perched in the elevated structure leave guano on the street below.

Station Entrance Lighting

Lighting is insufficient at the station entrances.

Community Issues

Community

Special Needs Population

The area surrounding this station has numerous public facilities with large capacities. A nearby senior center has a capacity of over 2700. Additionally, there are number of nearby elementary schools with high capacities as well.

On-Going Projects

This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Excess Roadbed and Conflicting Curb Uses: The roadbed between the parking lane and elevated support columns is used ambiguously and is excess road space. Pedestrians use this space to wait for the bus or to shorten their crossing distance, while motorists use it to double park, load/unload passengers or as a right-turning lane.

Blocked Visibility: The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.

Bus Stop Placement: The southbound Bx32 bus loads and unloads passengers in front of the McDonald's driveway. Passengers must wait for the bus in front of the driveway as cars pull in and out.

Conflicting Movements: Left-hand turns from Jerome Avenue onto Burnside Avenue cause spillbacks on Jerome Avenue.

Street Furniture: The corners are crowded with street furniture, particularly the northwest corner of Jerome and Burnside avenues, where a pedestrian signal and street light are located in the pedestrian path.

Placement of Entrances: The southern entrances are not wide enough and are overhanging pedestrian pavers.

Note: All traffic signals are attached to the elevated structure.
The East 177th Street/Parkchester station is an elevated and intermodal station with an entrance located in a traffic circle surrounded by irregular street geometry. The primary issues of concern with the streets surrounding this station are lack of orientation signage, insufficient lighting, difficult bus routes, and jaywalking along desire lines that have no traffic lights or crosswalks.

Street Traffic Issues

Roadway Design

Excess Roadbed
There is excess road space where Virginia Avenue meets eastbound Westchester Avenue at Hugh J. Grant Circle.

Blocked Visibility
Visibility is blocked on the east side of Westchester Avenue due to columns in the roadbed.

Sight Distance
The circular roadway creates sight distance issues.

Drainage
Storm water runoff from the elevated structure accumulates in the intersection. The ponding obstructs pedestrian flow.

Traffic Flow

Traffic Volume
Traffic volumes are high in this study area, which is located adjacent to the service roads for the Cross Bronx Expressway. In addition, Westchester Avenue is a truck route.

Bus Operations

Bus Stop Placement
All bus stops are located at the perimeter of the circle. Pedestrians must cross a sixty foot wide road to reach the station located in the inner circle. The eastbound Q44 bus stop, in the southwest section of the study area, is not located near a crosswalk leading across Hugh J. Grant Circle. Pedestrians must first cross a street before reaching a crosswalk that leads to the station entrance.

Bus Routes
Buses cannot turn right onto Metropolitan Avenue or the Cross Bronx Expressway service road without first pulling out into the adjacent left lane. Vehicles try to pass the buses on the right, since it seems as though the buses are changing lanes.

Curb Regulations & Use

Truck Loading/Unloading
Trucks delivering merchandise to the C-Town supermarket load and unload merchandise on the southern side of the circle.

Passenger Loading/Unloading
Passenger loading and unloading primarily occurs on the southern side of the station. Livery vehicles stop on the inside of the circle to drop off passengers (on the southeast side). Passengers were observed
Issues and Opportunities

Street Traffic Issues

Curb Regulations & Use

Opening their doors into traffic.

Illegal Parking

NYC Transit uses the west side of the traffic circle for employee parking. Patrons of the vendors park on the eastern side, which is illegal. Double parking occurs as a result of trucks loading and unloading at the C-Town.

Conflicting Curb Uses

The metered parking on the southern side of the circle and the adjacent travel lane are both used for truck loading and unloading.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Signal Timing

Traffic signals at Hugh J. Grant Circle contribute to vehicular and pedestrian congestion.

Signal Placement

There are no traffic signals or crosswalks at Hugh J. Grant Circle and the Cross Bronx Expressway service road, or at Westchester Avenue, on the west side of the circle.

Signage

Orientation Signage

The station signage is obscured by the elevated structure and it is difficult to see the entrance from across the street. The station needs orientation signage to benefit pedestrians who exit the station in the middle of a traffic circle and may be disoriented.

Crosswalks

Crosswalk Obstructions

Columns are located in the crosswalk at westbound Westchester Avenue, east of the circle.

Lighting

Street and Sidewalk Lighting

Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours. Lighting is particularly poor on the western side of the circle. "BB" lighting, which has been installed on the eastern side of the circle along Westchester Avenue, has improved the lighting.

Sidewalk Circulation Issues

Roadway Design

Channelization and Traffic Patterns

Motorists use a shortcut from eastbound Westchester Avenue to Virginia Avenue to avoid the traffic light on Hugh J. Grant Circle.
Sidewalk Circulation Issues

Sidewalk Elements

Vendors and Newsstands  Illegal vendors on Metropolitan Avenue constrict pedestrian flow.

Subway Station

Condition of Elevated Structure  The elevated structure needs repainting.

Placement of Entrances  The entrance is in the middle of a traffic circle and many pedestrians jaywalk across Hugh J. Grant Circle to reach their destination.

Sanitation  Birds perched in the elevated structure leave guano on the street below.

Station Entrance Lighting  Lighting is insufficient at the station entrance.

Community Issues

Community

Land Use Changes  A ULURP application is planned for the construction of a new community center at Parker and Purdy streets.
Excess Roadbed: There is excess road space where Virginia Avenue meets eastbound Westchester Avenue at Hugh J. Grant Circle.

Bus Routes: Buses cannot turn right onto Metropolitan Avenue or the Cross Bronx Expressway service road without first pulling out into the adjacent left lane. Vehicles try to pass the buses on the right, since it seems as though the buses are changing lanes.

Bus Stop Placement: All bus stops are located at the perimeter of the circle. Pedestrians must cross a sixty foot wide road to reach the station entrance.

Illegal Parking: NYC Transit uses the west side of the traffic circle for employee parking. Patrons of the vendors park on the eastern side, which is illegal.

Placement of Entrances: The entrance is in the middle of a traffic circle, and many pedestrians jaywalk across Hugh J. Grant Circle to reach their destination.

Blocked Visibility: Visibility is blocked on the east side of Westchester Avenue due to columns in the roadbed.

Signal Placement: There are no traffic signals or crosswalks at Hugh J. Grant Circle and the Cross Bronx Expressway service road, or at Westchester Avenue, on the west side of the circle.

Channelization and Traffic Patterns: Motorists use a shortcut from eastbound Westchester Avenue to Virginia Avenue to avoid the traffic light on Hugh J. Grant Circle.

Passenger Loading/Unloading: Passenger loading and unloading primarily occurs on the southern side of the station. Livery vehicles stop on the inside of the circle to drop off passengers. Some passengers were observed opening their doors into traffic.

Truck Loading/Unloading: Trucks load and unload merchandise on the southern side of the circle. This leads to conflicting curb uses because the metered parking is occupied by trucks.

Excess Roadbed: There is excess road space where Virginia Avenue meets eastbound Westchester Avenue at Hugh J. Grant Circle.

Bus Stop Placement: All bus stops are located at the perimeter of the circle. Pedestrians must cross a sixty foot wide road to reach the station entrance.

There is excess road space where Virginia Avenue meets eastbound Westchester Avenue at Hugh J. Grant Circle.
The primary concern with the streets surrounding the Fordham Road station is the closed station entrance at Fordham Road, which is compounded by the lack of orientation signage directing pedestrians to bus stops as they exit at 188th Street. In addition, there is a lack of pedestrian refuge space along the Grand Concourse at 188th Street.

**Street Traffic Issues**

**Roadway Design**

_Sight Distance_

Southbound vehicles on the Grand Concourse approach the 188th Street intersection below grade, obscuring the visibility of the east-west crosswalk at 188th Street. The crosswalk is not visible to drivers until the Grand Concourse lanes emerge at grade just before the crossing.

**Traffic Flow**

_Traffic Volume_

The Grand Concourse is a major arterial that carries heavy traffic volumes.

**Accident Location > 20 per year**

There were four intersections at the East Fordham Road station where an average of more than twenty accidents occurred from 1996 through 1998. The intersections are:
- Grand Concourse and East Fordham Road
- Grand Concourse and East 188th Street
- East Fordham Road and Creston Avenue
- East 188th Street and Creston Avenue

At the intersection of the Grand Concourse and East 188th Street, there were a total of 68 accidents. Eighteen of these accidents were reportable vehicular, and nine were reportable pedestrian. The largest proportion of vehicular accidents, seven, or 39%, were reported as rear end accidents. The largest proportion of pedestrian accidents, 44%, or four, occurred while pedestrians were crossing against the traffic signal.

At the intersection of the Grand Concourse and East Fordham Road a total of 71 accidents occurred. Thirteen of these accidents were reportable vehicular, and 11 were reportable pedestrian. Seventy percent (or nine) of the vehicular accidents were reported as rear ends. The largest proportion of pedestrian accidents, seven, involved pedestrians that were crossing with the traffic signal. Three accidents occurred while pedestrians were crossing against the traffic signal.

At the intersection of Creston Avenue and East Fordham Road there was a total of 40 accidents, eight of which were reportable pedestrian, and nine of which were reportable vehicular. Five of the reportable accidents involved pedestrians crossing with the traffic signal.

At the intersection of Creston Avenue and East 188th Street a total of
Issues and Opportunities

Street Traffic Issues

Traffic Flow

35 accidents occurred, 13 of which were reportable vehicular and six of which were reportable pedestrian. Eleven of the vehicular accidents involved a right angle collision. Seven of the reportable accidents involved pedestrians crossing where there was no traffic signal or crosswalk. One occurred while the pedestrian was playing in the road, and additional one involved a pedestrian that emerged from behind a parked car.

Traffic Speed

Southbound traffic moves through the viaduct along the Grand Concourse at high speeds before reaching 188th Street.

Bus Operations

Bus Stop Placement

The bus stop on the western side of the Grand Concourse, south of Fordham Road serves three bus lines. When more than one bus stops to load and unload passengers at the same time they create vehicular and pedestrian congestion on the service road.

Curb Regulations & Use

Truck Loading/Unloading

Trucks frequently load and unload merchandise on the Grand Concourse and Fordham Road.

Illegal Parking

Weekend traffic on the Grand Concourse leads to illegal parking along the left lane of the southbound service road. This practice, while tolerated, interferes with bus operation and general traffic flow.

Conflicting Curb Uses

The Bx1 and Bx2 buses load and unload passengers directly behind parking meters on the Grand Concourse north of Fordham Road. Some conflict occurs as cars pull into those metered spots.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Signal Timing

Many pedestrians cannot cross the entire Concourse in one signal cycle.

Signage

Orientation Signage

The station entrances are far apart from each other and locational signage is lacking.
Sidewalk Circulation Issues

Sidewalk Design and Layout

*Pedestrians Waiting for Transit*  
There are three consecutive bus stops on the Grand Concourse, north of Fordham Road, that have high volumes of pedestrians waiting to load onto buses, creating congestion along the sidewalk.

*Medians*  
The narrow medians along the Grand Concourse at 188th Street do not provide adequate refuge space for pedestrians who cannot cross the entire Concourse in one signal cycle. In addition, the median at Fordham Road is not well-designed.

*Pleasant Environment*  
There are no street trees on Fordham Road.

Sidewalk Elements

*Street Furniture*  
Corners are crowded with street furniture.

*Vendors and Newsstands*  
Vendors along 188th Street, Fordham Road, and the Grand Concourse constrict pedestrian flow. Vendors on the corner of 188th Street and Fordham Road are located too close to the station entrance and interfere with pedestrians entering and exiting the station.

Bicycle Facilities

*Bicycle Parking*  
There are no bicycle parking facilities.

*Bicycle Routes*  
188th Street and Grand Concourse are both recommended bicycle routes in the New York City Bicycle Master Plan.

Subway Station

*Utilization of Entrances*  
The entrance on Fordham Road is closed for most of the day.

Community Issues

*Community*  

*Special Needs Population*  
There are numerous public facilities with large capacities near this station, including a senior center with a capacity of over 2,000, and two elementary schools with capacities of over 1,000.
The bus stop on the western side of the Grand Concourse serves three bus lines. When buses arrive simultaneously, they create vehicular and pedestrian congestion on the service road.

Conflicting Curb Uses: The BX1 and the BX2 buses unload passengers directly behind parking meters on the Grand Concourse, north of Fordham Road. Some conflict occurs when cars pull into the metered spots.

Medians: The median at Fordham Road would benefit from an improved design.

Utilization of Entrance: The entrance on Fordham Road is closed for most of the day.
Sight Distance: Southbound vehicles on the Grand Concourse approach the East 188th Street intersection below grade, obscuring the visibility of the east-west crosswalk.

Bus Stop Placement: Pedestrians waiting for transit: The bus stop on the western side of the Grand Concourse serves three bus lines. When buses arrive simultaneously, they create vehicular and pedestrian congestion on the service road.

Sight Distance: Southbound vehicles on the Grand Concourse approach the East 188th Street intersection below grade, obscuring the visibility of the east-west crosswalk.

Medians: The narrow medians along 188th Street at the Grand Concourse do not provide adequate refuge space for pedestrians.

Signal Timing: Pedestrians may not be able to cross the entire Concourse in one signal cycle.

Vendors and Newsstands: Vendors on the corner of East 188th Street and Fordham Road are located too close to the station entrance and interfere with pedestrians entering and exiting the station.

Bus Stop Placement: Pedestrians waiting for transit: The bus stop on the western side of the Grand Concourse serves three bus lines. When buses arrive simultaneously, they create vehicular and pedestrian congestion on the service road.

Vendors and Newsstands: Vendors on the corner of East 188th Street and Fordham Road are located too close to the station entrance and interfere with pedestrians entering and exiting the station.

Medians: The narrow medians along 188th Street at the Grand Concourse do not provide adequate refuge space for pedestrians.

Signal Timing: Pedestrians may not be able to cross the entire Concourse in one signal cycle.
The entrance to the Gun Hill Road station on the Dyre Avenue line is located inside a building. The mid-block placement of the entrance encourages jaywalking. The streets surrounding this station also have concerns with stop signs and channelization.

Street Traffic Issues

**Bus Operations**

*Bus Stop Placement*  
The Bx28 bus stop on the north side of Gun Hill Road is located mid-block and its placement encourages pedestrians to jaywalk from the station entrance.

**Curb Regulations & Use**

*Passenger Loading/Unloading*  
Passenger loading and unloading occurs frequently at the station entrance.

Pedestrian/Vehicular Traffic Issues

**Traffic Controls**

*Stop Signs*  
There is no stop sign preceding the crosswalk at Seymour Avenue and Gun Hill Road. Additionally, there are no traffic controls for vehicles turning left onto Seymour Avenue from eastbound Gun Hill Road.

Sidewalk Circulation Issues

**Roadway Design**

*Channelization and Traffic Patterns*  
The painted traffic triangles at the intersection of Seymour Avenue and Gun Hill Road, and Knapp Street and Gun Hill Road, create confusion about the channelization.

**Sidewalk Design and Layout**

*Pleasant Environment*  
There is a lack of landscaping around this historic station, which was at one time part of the New York, Westchester and Boston Railroad.

**Sidewalk Elements**

*Street Furniture*  
The northwest corner of Seymour Avenue and Gun Hill Road, and the corner of Dewitt Place and Gun Hill Road, are cluttered with street furniture, which constricts pedestrian flow during peak hours.

*Vendors and Newsstands*  
Sidewalk vendors located directly in front of the station entrance reduce the effective sidewalk width.
Sidewalk Circulation Issues

Subway Station

Placement of Entrances
The station entrance is located mid-block, which encourages jaywalking.

Station Entrance Lighting
Lighting is insufficient at the eastern entrance.

Community Issues

Community

On-Going Projects
This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Channelization and Traffic Patterns: The painted traffic triangles create confusion about channelization.

Placement of Entrances: The station entrance is located mid-block, which encourages jaywalking.

Stop Signs: There are no stop signs preceding the crosswalks. Additionally, there are no traffic controls for vehicles turning left onto Seymour Avenue from eastbound Gun Hill Road.

Stop Signs: There are no stop signs preceding the crosswalks. Additionally, there are no traffic controls for vehicles turning left onto Seymour Avenue from eastbound Gun Hill Road.

Bus Stop Placement: The placement of the Bx28 bus stop encourages pedestrians to jaywalk from station to entrance.

Channelization and Traffic Patterns: The painted traffic triangles create confusion about channelization.

Vendors and Newsstands: Sidewalk vendors located directly in front of the station entrance reduce the effective sidewalk width.

Street Furniture: This corner is cluttered with street furniture, which constricts pedestrian flow during peak hours.

Street Furniture: This corner is cluttered with street furniture, which constricts pedestrian flow during peak hours.

Placement of Entrances: The station entrance is located mid-block, which encourages jaywalking.

Street Furniture: This corner is cluttered with street furniture, which constricts pedestrian flow during peak hours.

Stop Signs: There are no stop signs preceding the crosswalks. Additionally, there are no traffic controls for vehicles turning left onto Seymour Avenue from eastbound Gun Hill Road.
Station: Gun Hill Road - WPR  ☑ Elevated  ☐ Intermodal  ☑ Building/Traffic Island

The Gun Hill Road station on the White Plains Road line is an elevated station with both entrances located on a traffic island and within a building. The primary concerns with the streets surrounding this station are channelization, bus stop placement, and placement of entrances.

Street Traffic Issues

Roadway Design

- **Excess Roadbed**: There is excess roadbed along the western side of northbound White Plains Road.
- **Blocked Visibility**: The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.
- **Drainage**: Storm water runoff from the elevated structure accumulates in the intersection. The ponding obstructs pedestrian flow.

Traffic Flow

- **Traffic Volume**: Both Gun Hill Road and White Plains Road are truck routes and have high volumes of vehicular traffic.
- **Accident Location > 20 per year**: At the intersection of White Plains Road and southbound East Gun Hill Road there were a total of 101 accidents from 1996 through 1998. Thirty-eight of these accidents were reportable vehicular, and eight of them were reportable pedestrian. The largest proportion of vehicular accidents, 34% or 13 accidents, involved rear end collisions. Four of the reportable accidents involved pedestrians that were crossing with the traffic signal.

  At the intersection of White Plains Road and northbound East Gun Hill Road a total of 42 accidents occurred, nine of which are reportable pedestrian accidents, and six of which are reportable vehicular accidents. Four of these reportable accidents involved pedestrians that were crossing with the traffic signal.

- **Traffic Speed**: Vehicular speeds are high among vehicles turning right onto southbound White Plains Road from eastbound Gun Hill Road, even though there is a crosswalk at the traffic triangle. Vehicular speeds are also high on the southbound lanes of White Plains Road.
Issues and Opportunities

Street Traffic Issues

Bus Operations

*Bus Stop Placement* Passengers must cross White Plains Road when transferring between any of the buses and subway. The bus stops are heavily used and their locations encourage pedestrians to jaywalk.

The Bx41 bus stops along northbound White Plains Road are located about a block away from the nearest crosswalk.

*Bus Routes* Northbound buses on White Plains Road must move from the right lane to the left lane and then make a tight u-turn to continue southbound on White Plains Road.

Curb Regulations & Use

*Truck Loading/Unloading* Frequent truck loading and unloading occurs on the east side of White Plains Road.

*Passenger Loading/Unloading* Passenger loading and unloading is heavy near the eastern station entrance.

*Illegal Parking* Double parking is frequent along White Plains Road.

*Conflicting Curb Uses* Metered parking along White Plains Road is frequently used for passenger loading and unloading. This often results in double parking.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

*Stop Signs* The right turn from eastbound Gun Hill Road to southbound White Plains Road is not controlled by a stop sign, leaving pedestrians in the marked crosswalks unprotected.

*Signal Placement* It may be unclear whether the right turn only lane is controlled by the traffic signal on southbound White Plains Road.

Signage

*Orientation Signage* The station entrance is located in the middle of a traffic island and pedestrians unfamiliar with the station may have difficulty locating the entrance without orientation signage.

Lighting

*Street and Sidewalk Lighting* Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours.
Subway-Sidewalk Interface Project

Sidewalk Circulation Issues

Roadway Design

Channelization and Traffic Patterns

The western lane of northbound White Plains Road is very wide and undefined causing confusion among motorists, and ends abruptly with a column in the roadway.

Sidewalk Design and Layout

Pleasant Environment

There is a lack of landscaping around the station and the traffic island is not well-designed.

Sidewalk Elements

Vendors and Newsstands

Street vendors on White Plains Road contribute to pedestrian congestion on sidewalks.

Subway Station

Condition of Elevated Structure

The elevated structure needs repainting.

Placement of Entrances

The entrances to this station are located within a building in the center of a traffic island. The doorways have posts in the middle of them which constrict pedestrian flow. The crosswalks nearest to the station entrances are approximately 200 feet away, thereby encouraging pedestrians to jaywalk across the street.

Sanitation

Birds perched in the elevated structure leave guano on the street below.

Station Entrance Lighting

Lighting is insufficient at the station entrances.

Community Issues

Community

Special Needs Population

Observations from field work indicate that numerous senior citizens use this station. A nearby senior center has a capacity of over 2,000. Additionally, there are three elementary schools nearby with a combined capacity of more than 1,600 students.

On-Going Projects

The Gun Hill Road Intermodal Study (NYCT CM-1046), commissioned as part of the reconstruction of the Gun Hill Road Station/WPR, is an on-going project focusing on creating a intermodal site design at the station. Work on this project may supercede recommendations for the Subway-Sidewalk Interface Project.
Excess Roadbed, Channelization and Traffic Patterns: There is excess roadbed along the western side of northbound White Plains Road. The wide roadway terminates abruptly with a column in the roadbed.

Bus Stop Placement: The BX41 bus stops along northbound White Plains Road are a considerable distance from the nearest crosswalk.

Passed Visibility: Elevated support columns in the roadbed block visibility for both pedestrians and motorists.

Traffic Speed, Stop Signs: High vehicular speed was observed among vehicles turning right onto southbound White Plains Road from eastbound Gun Hill Road.

Bus Stop Placement: Passengers must cross White Plains Road when transferring between buses and subway.

Passenger Loading/Unloading: A significant amount of passenger loading and unloading occurs near the station entrance. Passenger Loading/Unloading: A significant amount of passenger loading and unloading occurs near the eastern station entrance.

Traffic Speed, Stop Signs: High vehicular speed was observed among vehicles turning right onto southbound White Plains Road from eastbound Gun Hill Road.

Fence

Street and Sidewalk Lighting, Pleasant Environment: Lighting is insufficient beneath the elevated structure. There is also a lack of landscaping surrounding the station and the traffic island.

Street and Sidewalk Lighting, Pleasant Environment: Lighting is insufficient beneath the elevated structure. There is also a lack of landscaping surrounding the station and the traffic island.

Surveyed: May 9th, 2000

Mapped: June 5th, 2000

Department of City Planning Transportation Division
2 Lafayette, RM 1200
New York, NY

Transportation Division

DEPARTMENT OF CITY PLANNING
TRANSPORTATION DIVISION
2 LAFAYETTE, RM 1200
NEW YORK, NY

Surveyed: May 9th, 2000

Mapped: June 5th, 2000

Department of City Planning Transportation Division
2 Lafayette, RM 1200
New York, NY
### Station: Pelham Parkway - Dyre

- **Elevated**: 
- **Intermodal**: 
- **Building/Traffic Island**: 

The Pelham Parkway station along the Dyre Avenue line has an entrance located within a building on a median. This station is difficult to access due to a lack of crosswalks connecting the median to other sidewalks at intersections. Another matter of concern with the streets surrounding this station is the need for a continuous maintenance schedule of, and an improved design for, the traffic island.

### Street Traffic Issues

#### Curb Regulations & Use

- **Passenger Loading/Unloading**: Passenger loading and unloading on Esplanade, between Astor Avenue and Pelham Parkway North, interferes with traffic flow in the only travel lane.
- **Illegal Parking**: Double parking or parking where it is not permitted is frequent.

### Pedestrian/Vehicular Traffic Issues

#### Signage

- **Orientation Signage**: The station lacks orientation signage. Pedestrians become easily confused or disoriented because the station entrance is in the middle of a traffic median north of Pelham Parkway.

#### Crosswalks

- **Crosswalk Issues**: There are no crosswalks at Laconia Avenue, Esplanade, and Pelham Parkway North, or at Esplanade, Astor Avenue, and Yates Avenue, even though stop signs control both intersections.

#### Lighting

- **Street and Sidewalk Lighting**: This station is located in a residential neighborhood and lighting is insufficient.

### Sidewalk Circulation Issues

#### Roadway Design

- **Channelization and Traffic Patterns**: Channelization is poor at the meeting of Laconia Avenue, Esplanade, and Pelham Parkway North.

#### Sidewalk Design and Layout

- **Pleasant Environment**: The traffic island is poorly landscaped. This is an historic station which was at one time part of the New York, Westchester and Boston Railroad.
Issues and Opportunities

Sidewalk Circulation Issues

Subway Station

Placement of Entrances  The entrance is in the middle of a traffic island, which has no crosswalks connecting it to the opposite sides of the street.

Station Entrance Lighting  The station needs moderate lighting improvements.

Community Issues

Community

On-Going Projects  The NYC Departments of City Planning and Parks & Recreation prepared a grant application to the Great American Station Foundation to have the grassy malls in front of and behind the station incorporated into the Greenstreets Program. Unfortunately, the project was not chosen for funding. Some pedestrian improvements may be implemented as part of the reconstruction of Pelham Parkway.
Channelization and Traffic Patterns, Crosswalk Issues: There is a channelization issue at the meeting of Laconia Avenue, Esplanade, and Pelham Parkway North. There are also no crosswalks at the intersection.

Pleasant Environment: The traffic island could benefit from an improved design, including a long-term maintenance plan.

Passenger Loading / Unloading, Placement of Entrances: A significant amount of passenger loading and unloading along Esplanade interferes with the traffic flow. There are also no crosswalks connecting the traffic island to the other side of the street.
Passenger Loading / Unloading, Placement of Entrances: A significant amount of passenger loading and unloading along Esplanade interferes with the traffic flow. There are also no crosswalks connecting the traffic island to the other side of the street.

Crosswalk Issues: There are no crosswalks at Esplanade, Astor Avenue, and Yates Avenue. NYC DOT is currently addressing this issue.

Pleasant Environment: The traffic island could benefit from an improved design, including a long-term maintenance plan.

Crosswalk Issues: There are no crosswalks at Esplanade, Astor Avenue, and Yates Avenue. NYC DOT is currently addressing this issue.

Pleasant Environment: The traffic island could benefit from an improved design, including a long-term maintenance plan.
Station: Pelham Parkway - WPR

The Pelham Parkway station on the White Plains Road line is an elevated station with columns embedded in the roadway. In addition to the typical concerns at most elevated stations, such as blocked visibility, insufficient illumination, and bus stop placement. The streets surrounding this station also have issues with discontinuous sidewalks, bicycle routes, and channelization.

Street Traffic Issues

Roadway Design

- Excess Roadbed
  The roadbed between the parking lane and elevated support columns is used ambiguously and is excess road space.

- Blocked Visibility
  The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.

- Drainage
  Storm water runoff from the elevated structure accumulates in the intersection. The ponding obstructs pedestrian flow.

Traffic Flow

- Traffic Volume
  The Pelham Parkway service roads and White Plains Road are truck routes and carry heavy traffic volumes.

- Accident Location > 20 per year
  At the intersection of Boston Road and Pelham Parkway North 132 accidents occurred from 1996 through 1998. Thirty-one of these accidents were reportable vehicular and two were reportable pedestrian. Nine of the reportable accidents involved rear end collisions, and eight involved left turns against a vehicle.

  At the intersection of Pelham Parkway North, and White Plains Road a total of 172 accidents occurred, 46 of which were reportable vehicular, 18 of which were reportable pedestrian, and four of which were reportable bicycle accidents. Seventeen of the reportable accidents involved right angle collisions, and 12 involved rear end collisions.

- Traffic Speed
  Pelham Parkway carries vehicles that travel at high speeds.

Bus Operations

- Bus Stop Placement
  Buses traveling beneath the elevated structure load and unload passengers in the travel lane, since the elevated support columns prevent them from stopping at the curb.

Curb Regulations & Use

- Truck Loading/Unloading
  Truck loading and unloading is frequent along White Plains Road, which is a commercial street.
Issues and Opportunities

Street Traffic Issues

Curb Regulations & Use

Illegal Parking
Double parking is frequent along White Plains Road.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Conflicting Movements
The southern shoulder of Pelham Parkway North is partially landscaped and partially covered with asphalt, creating conflict among motorists and pedestrians about the function of this space.

Crosswalks

Crosswalk Issues
There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

Crosswalk Obstructions
Elevated support columns are located in the crosswalks traversing White Plains Road.

Lighting

Street and Sidewalk Lighting
Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours.

Sidewalk Circulation Issues

Roadway Design

Channelization and Traffic Patterns
The traffic pattern on the Pelham Parkway North Service Road is discontinuous. West of White Plains Road the service road travels eastbound, and east of White Plains Road the service road travels westbound.

Sidewalk Design and Layout

Pedestrians Waiting for Transit
A high volume of pedestrians wait at the westbound Bx12 bus stop, on the north side of Pelham Parkway North, where they constrict the sidewalk.

Discontinuous sidewalks
Sidewalks are not continuous along eastbound and westbound Pelham Parkway. The Department of Parks and Recreation is planning to install and repair sidewalks along the medians.

Medians
At White Plains Road there is no provision for bicyclists riding on the greenway to safely cross from one side of the median to the other.
## Sidewalk Circulation Issues

### Sidewalk Elements

*Vendors and Newsstands*

Retail displays constrict the sidewalk along White Plains Road, north of Pelham Parkway.

### Bicycle Facilities

*Bicycle Routes*

There are no signs on the greenway along Pelham Parkway indicating that it is intended for shared use by both bicyclists and pedestrians.

### Subway Station

*Condition of Elevated Structure*

The elevated structure needs repainting.

*Utilization of Entrances*

The northern station entrances are not open all day and are used less frequently.

*Entrance Stairwell*

The raised platforms at the landing of the stairwells are difficult to see.

*Station Entrance Lighting*

Station entrance lighting is insufficient beneath the elevated structure.

## Community Issues

### Community

*Special Needs Population*

There is a large senior center with a capacity of 1,750 located near this station.

*On-Going Projects*

This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Excess Roadbed: The roadbed between the parking lane and elevated support columns is used ambiguously and is excess road space.

Blocked Visibility: The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.

Conflicting Movements: The southern shoulder of Pelham Parkway North is partially landscaped and partially covered with asphalt. This creates conflict among motorists and pedestrians about the function of this space.

Discontinuous Sidewalks: Sidewalks are not continuous on the north side of westbound Pelham Parkway.
Channelization and Traffic Patterns: The traffic pattern on the Pelham Parkway North Service Road is discontinuous.

Crosswalk Issues: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

Discontinuous Sidewalks: Sidewalks are not continuous on the north side of westbound Pelham Parkway.

Utilization of Entrances: The northern station entrances are not open all day and are used less frequently.

Crosswalk Obstructions: Columns are located in the crosswalks traversing White Plains Road.

Discontinuous Sidewalks: Sidewalks are not continuous on the north side of westbound Pelham Parkway.

Medians and Bicycle Routes: At White Plains Road there is no provision for bicyclists riding on the greenway to safely cross from one side of the median to the other. In addition, there are no signs along the greenway indicating that it is intended for shared use by both bicyclists and pedestrians.

Pedestrian Signal: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

Newspaper Box: There is no provision for bicyclists riding on the greenway to safely cross from one side of the median to the other. In addition, there are no signs along the greenway indicating that it is intended for shared use by both bicyclists and pedestrians.

Public Transportation: The northern station entrances are not open all day and are used less frequently.

Street Tree: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

TRASH CAN: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

BIKE RACK: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

STREET LIGHT: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

PARK BENCH: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

FENCE: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

SIGNAGE: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

PEDESTRIAN SIGNAL: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

NEWSPAPER BOX: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

DUMPSTER: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

MAIL BOX: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

FIRE HYDRANT: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

PHONE: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

PARKING METER: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.

BIKE RACK: There are no crosswalks at White Plains Road and the Pelham Parkway North Service Road.
The Third Avenue station is an intermodal station located adjacent to a six-legged intersection with irregular street geometry. The issues with the streets surrounding this station, such as channelization, vehicular signage, and conflicting movements, primarily result from the street geometry. Other issues, such as orientation signage, queuing space, and crosswalk issues result from the heavy pedestrian usage.

**Street Traffic Issues**

**Traffic Flow**

The subway station is located in a commercial area along two truck routes, Third Avenue and East 149th Street. Traffic flow is heavy.

**Traffic Volume**

Between the years 1996 and 1998, the intersection of Third Avenue, Willis Avenue and 149th Street had a total of 93 accidents, 16 of which were reportable vehicular accidents and 22 of which were reportable pedestrian accidents. The largest proportion of reportable vehicular accidents involved rear ending and overtaking (31%, or five accidents each). The largest proportion of pedestrian accidents at this intersection (45%, or 10 accidents) occurred while pedestrians were crossing with the traffic signal.

The intersection of 150th Street, Third Avenue and Westchester Avenue had a total of 41 accidents, six of which were reportable pedestrian accidents and six of which were reportable vehicular accidents. Seven of the reportable accidents involved pedestrians crossing with the traffic signal.

At the intersection of Courtland Avenue and East 149th Street there were a total of 33 accidents, seven of which were reportable pedestrian accidents. Five of these accidents (or 71%) involved pedestrians crossing where there is no traffic signal or crosswalk.

The intersection of East 149th Street and East Bergen Avenue had a total of 29 accidents, six of which were reportable pedestrian accidents. Four (or 67%) of these accidents involved pedestrians crossing against the traffic signal.

**Bus Operations**

**Bus Stop Placement**

The Bx41/Bx21 bus stop, located on the Roberto Clemente Plaza traffic triangle, is difficult to access from the east since there is no crosswalk traversing Willis Avenue. Many pedestrians cross Willis Avenue anyway in order to reach the bus stop, creating a potentially dangerous situation. The Bx15 and Bx55 bus stop on Willis Avenue, between East 148th and East 149th Streets, becomes very congested with buses, causing traffic to spill back onto East 148th Street.

**Bus Routes**

Buses have difficulty turning right from East 148th Street onto Willis Avenue, particularly when the stop is congested. During periods of high
Issues and Opportunities

Street Traffic Issues

Bus Operations

congestion, traffic spills back onto East 148th Street.

Curb Regulations & Use

Truck Loading/Unloading
Significant amounts of truck loading and unloading occur throughout the area. (Since there are no loading/unloading zones, trucks frequently receive parking tickets.)

Passenger Loading/Unloading
Passenger loading and unloading take place in the bus stops, particularly on Third Avenue, interfering with bus operations.

Illegal Parking
Double parking on East 149th Street is frequent, as are vehicles stopped in bus stops on Willis and Third avenues.

Conflicting Curb Uses
The bus stops on Third Avenue are frequently used for truck and passenger loading and unloading.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Stop Signs
There is no stop sign controlling northbound Willis Avenue traffic at East 148th Street.

Conflicting Movements
All turns to and from East 149th Street conflict with pedestrians crossing the street. Illegal turns are frequent.

Signage

Vehicular Signage
Vehicles make illegal right turns from East 149th Street onto Third Avenue. Vehicular signage may be unclear to motorists, since buses are permitted to make this turn.

Orientation Signage
Signage indicating which entrances are for downtown and uptown trains is unclear. In addition, the station lacks general orientation signage indicating the numerous station entrances and nearby bus stops.

Crosswalks

Crosswalk Issues
Crosswalks at the six-legged intersection of East 149th Street, Third Avenue, Melrose Avenue, and Willis Avenue, do not appear wide enough for the pedestrian platoons. Pedestrians spill into the street, even though the crosswalks are approximately 20 feet wide. In addition, there are no crosswalks at the intersection of Willis Avenue and East 148th Street or at Roberto Clemente Plaza, even though they are desire lines. As a result, frequent jaywalking occurs.
Pedestrian/Vehicular Traffic Issues

**Lighting**

*Street and Sidewalk Lighting*  
Street and sidewalk lighting is insufficient during evening hours.

Sidewalk Circulation Issues

**Roadway Design**

*Channelization and Traffic Patterns*  
The six-legged intersection of East 149th Street, Third Avenue, Melrose Avenue, and Willis Avenue, creates confusing channelization and traffic patterns for both motorists and pedestrians.

**Sidewalk Design and Layout**

*Sidewalk Dimensions*  
Elevators recently installed for ADA purposes along East 149th Street, west of Third Avenue, narrow the effective sidewalk widths. There is very heavy pedestrian congestion on East 149th Street, west of Third Avenue, during the afternoon peak hours, despite the fact that sidewalks are approximately 20 feet wide.

*Pedestrians Waiting for Transit*  
The bus stops on Roberto Clemente Plaza and on Willis Avenue between East 148th and East 149th streets become congested due to a high volume of passengers.

*Pleasant Environment*  
Street trees are lacking along area sidewalks. In addition, the median is poorly designed.

**Sidewalk Elements**

*Street Furniture*  
The northwest corner of East 149th Street and Melrose Avenue is particularly cluttered and constricted.

*Vendors and Newsstands*  
Illegal vendors on East 149th Street, west of Third Avenue, and a newsstand on the northwest corner of East 149th Street and Melrose Avenue, severely constrict pedestrian flow, particularly during peak hours.

**Bicycle Facilities**

*Bicycle Parking*  
There are no bicycle parking facilities.

*Bicycle Routes*  
Melrose Avenue, Willis Avenue, and East 149th Street are all recommended bicycle routes in the New York City Bicycle Master Plan.

**Subway Station**

*Placement of Entrances*  
Elevator entrances have been placed in high traffic areas and severely constrict pedestrian flow.
Issues and Opportunities

Sidewalk Circulation Issues

Subway Station

    Entrance Stairwell

    Raised platforms at the top of the stairwells are difficult to see.

Community Issues

Community

    Special Needs Population

The area surrounding the Third Avenue/149th Street station was observed to be a special needs population. The Melrose-Mott Haven Senior Center has a capacity of over 2,000, and the local Alfred E. Smith High School has a capacity of more than 1800.
Channelization and Traffic Patterns: The six-legged intersection of East 149th Street, Third Avenue, Melrose Avenue, Willis Avenue, creates confusing channelization and traffic patterns for both motorists and pedestrians.

Bus Stop Placement: The Bx41/Bx21 bus stop, located on the Roberto Clemente Plaza traffic triangle, is difficult to access from the east since there is no crosswalk traversing Willis Avenue. The Bx15 and Bx55 bus stop on Willis Avenue, between East 148th and East 149th Streets, becomes very congested with buses, causing traffic to spill back onto East 148th Street.

Pedestrians Waiting for Transit: The bus stops on Roberto Clemente Plaza and on Willis Avenue between East 148th Street and East 149th Street become congested due to a high volume of passengers.

Passenger Loading/Unloading and Conflicting Curb Uses: Private vehicles load and unload passengers in the bus stops, particularly on Third Avenue, thereby interfering with bus operations.

Vehicular Signage: Vehicles make illegal right turns from East 149th Street onto Third Avenue. Vehicular signage may be unclear to motorists, since buses are permitted to make this turn.

Sidewalk Dimensions: Elevators along East 149th Street narrow the sidewalks. There is heavy pedestrian congestion on East 149th Street during afternoon peak hours, despite the fact that sidewalks are approximately 20 feet wide.
Bus Routes: Buses have difficulty making the left turn from East 148th Street onto Willis Avenue, particularly when the stop is congested. During periods of high congestion, traffic spills back onto East 148th Street.

Bus Stop Placement: The Bx41/Bx21 bus stop, located on the Roberto Clemente Plaza traffic triangle, is difficult to access from the east since there is no crosswalk traversing Willis Avenue.

The Bx15 and Bx55 bus stop on Willis Avenue, between East 148th and East 149th Streets, becomes very congested with buses, causing traffic to spill back onto East 148th Street.

Passenger Loading/Unloading and Conflicting Curb Uses: Private vehicles load and unload passengers in the bus stops, particularly on Third Avenue, thereby interfering with bus operations.

Pedestrians Waiting for Transit: The bus stops on Roberto Clemente Plaza and on Willis Avenue between East 148th Street and East 149th Street become congested due to a high volume of passengers.

Vehicular Signage: Vehicles make illegal right turns from East 149th Street onto Third Avenue. Vehicular signage may be unclear to motorists, since buses are permitted to make this turn.

Sidewalk Dimensions: Elevators along East 149th Street narrow the sidewalks. There is heavy pedestrian congestion on East 149th Street during afternoon peak hours, despite the fact that sidewalks are approximately 20 feet wide.

Vehicular Signage: Vehicles make illegal right turns from East 149th Street onto Third Avenue. Vehicular signage may be unclear to motorists, since buses are permitted to make this turn.
Subway-Sidewalk Interface Project

Station: 7th Avenue

The 7th Avenue station is a standard sub-grade subway station and cannot be placed into any of the three categories listed above. The irregular street geometry at the intersection adjacent to the station creates a concern with channelization. In addition, the intersection is difficult for pedestrians to navigate due to discontinuous sidewalks, lack of crosswalks, and poor orientation signage.

Street Traffic Issues

Traffic Flow

Traffic Volume
There is a high volume of traffic, especially trucks, on Flatbush Avenue.

Traffic Speed
There are high traffic speeds on Flatbush Avenue during some periods of the day.

Curb Regulations & Use

Parking Regulations
There is one metered parking spot on Carlton Avenue, between Flatbush Avenue and Park Place, and one on Park Place, between Flatbush Avenue and Carlton Avenue. The irregular street geometry creates short blocks and irregular parking regulations.

Passenger Loading/Unloading
Many commuter vans load and unload passengers in the bus stops on Flatbush Avenue.

Conflicting Curb Uses
The commuter vans and MTA buses on Flatbush Avenue all load and unload passengers in the bus stops.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Stop Signs
There is no stop sign directing traffic on Flatbush Avenue as cars turn onto Carlton Avenue.

Conflicting Movements
The vehicles bearing right from Flatbush Avenue onto Carlton Avenue conflict with pedestrians since there is no stop sign directing this movement until vehicles reach Carlton Avenue and Park Place. In addition, vehicles turning right from Park Place onto Flatbush Avenue conflict with pedestrians crossing Flatbush Avenue.

Signage

Orientation Signage
Pedestrians unfamiliar with the station may have difficulty locating the eastern entrance. The station lacks orientation signage.
Pedestrian/Vehicular Traffic Issues

Crosswalks

Crosswalk Issues
There are no crosswalks at the intersection of Carlton Avenue and Park Place.

Lighting

Street and Sidewalk Lighting
There is a current program for lighting replacement.

Sidewalk Circulation Issues

Roadway Design

Channelization and Traffic Patterns
The intersection of Flatbush Avenue, 7th Avenue, Carlton Avenue, and Park Place has irregular street geometry.

Sidewalk Design and Layout

Pedestrians Waiting for Transit
The western station entrance has a high volume of pedestrians waiting to enter the station where they constrict the sidewalk.

Discontinuous sidewalks
There is no sidewalk on the southern side of the traffic triangle at Flatbush Avenue, 7th Avenue, and Park Place. This encourages pedestrians to cross Flatbush Avenue at the southern side of Park Place, where there is a conflict with vehicles turning right from Park Place onto Flatbush Avenue.

Pleasant Environment
The island at Carlton Avenue and Park Place could benefit from an improved design.

Sidewalk Elements

Street Furniture
Many street corners are cluttered with street furniture.

Vendors and Newsstands
The convenience store near the western entrance displays merchandise on the sidewalk.

Subway Station

Utilization of Entrances
The eastern entrance is less utilized.

Station Entrance Lighting
The eastern entrance is not adequately illuminated.
Channelization and Traffic Patterns, Stop Signs: The right turn off of Flatbush Avenue onto Carlton Avenue is uncontrolled and conflicts with pedestrians crossing the street.

Pedestrians Waiting for Transit, Vendors and Newsstands: The western station entrance has a high volume of pedestrians waiting to enter the station where they constrict the sidewalk. The vendor near this entrance displays merchandise on the sidewalk, further constricting circulation.

Passenger Loading and Unloading, Conflicting Curb Uses: Many commuter vans load and unload passengers in the bus stops along Flatbush Avenue, which creates conflicting curb uses.

Parking Regulations: The irregular street geometry creates short blocks and irregular parking regulations. This is evidenced by a single metered parking spot on Carlton Avenue, between Flatbush Avenue and Park Place, and one on Park Place, between Flatbush Avenue and Carlton Avenue.

Pedestrians Waiting for Transit, Vendors and Newsstands: The western station entrance has a high volume of pedestrians waiting to enter the station where they constrict the sidewalk. The vendor near this entrance displays merchandise on the sidewalk, further constricting circulation.

Discontinuous Sidewalks: There is no sidewalk along the southern side of the traffic triangle at Flatbush Avenue, 7th Avenue, and Park Place. This interrupts the continuity of the sidewalk network.

Crosswalk Issues: No crosswalks guide pedestrians walking along Flatbush Avenue, at the intersection of Flatbush and Carlton Avenues, or at the intersection of Park Place and Carlton Avenue.

Underutilization of Entrances, Stallion Entrance Lighting: The eastern entrance is underutilized. Lighting at this entrance is inadequate which could be contributing to its underutilization.

7TH AVE
BRIGHTON LINE
DEPARTMENT OF CITY PLANNING
TRANSPORTATION DIVISION
2 LAFAYETTE, RM 1200
NEW YORK, NY
SURVEYED: JUNE 22ND, 1999
MAPPED: JUNE 29TH, 1999
REVISIONS: DECEMBER 17TH, 1999

0 25 50 100
1 INCH=50 FEET

DISCONTINUOUS SIDEWALKS

Pedestrians Walking for Transit, Vendors and Newsstands: The western station entrance has a high volume of pedestrians waiting to enter the station where they constrict the sidewalk. The vendor near this entrance displays merchandise on the sidewalk, further constricting circulation.

Passenger Loading and Unloading, Conflicting Curb Uses: Many commuter vans load and unload passengers in the bus stops along Flatbush Avenue, which creates conflicting curb uses.

Parking Regulations: The irregular street geometry creates short blocks and irregular parking regulations. This is evidenced by a single metered parking spot on Carlton Avenue, between Flatbush Avenue and Park Place, and one on Park Place, between Flatbush Avenue and Carlton Avenue.

Pedestrians Waiting for Transit, Vendors and Newsstands: The western station entrance has a high volume of pedestrians waiting to enter the station where they constrict the sidewalk. The vendor near this entrance displays merchandise on the sidewalk, further constricting circulation.

Discontinuous Sidewalks: There is no sidewalk along the southern side of the traffic triangle at Flatbush Avenue, 7th Avenue, and Park Place. This interrupts the continuity of the sidewalk network.

Crosswalk Issues: No crosswalks guide pedestrians walking along Flatbush Avenue, at the intersection of Flatbush and Carlton Avenues, or at the intersection of Park Place and Carlton Avenue.

Underutilization of Entrances, Stallion Entrance Lighting: The eastern entrance is underutilized. Lighting at this entrance is inadequate which could be contributing to its underutilization.

There is no sidewalk along the southern side of the traffic triangle at Flatbush Avenue, 7th Avenue, and Park Place. This interrupts the continuity of the sidewalk network.
The 36th street station is a standard sub-grade subway station and cannot be placed into any of the three categories listed above. The station has a significant amount of passenger loading and unloading from private and livery vehicles. Other concerns include narrow sidewalk widths and illegal parking.

Street Traffic Issues

Traffic Flow

Traffic Volume
Traffic volume is heavy along 4th Avenue.

Traffic Speed
Traffic speeds are high along 4th Avenue.

Bus Operations

Bus Stop Placement
The connection between the B70 bus and the subway is not obvious because the bus stop on 36th Street is difficult to see from 4th Avenue.

Curb Regulations & Use

Passenger Loading/Unloading
Significant passenger loading and unloading activity occurs on 4th Avenue.

Illegal Parking
Frequent double parking takes place along 4th Avenue.

Pedestrian/Vehicular Traffic Issues

Lighting

Street and Sidewalk Lighting
Lighting was observed to be insufficient during evening hours, particularly adjacent to the cemetery.

Sidewalk Circulation Issues

Sidewalk Design and Layout

Sidewalk Dimensions
Sidewalks on the east side of 4th Avenue are narrow.

Medians
The medians are long and could benefit from landscaping. However, due to the configuration of subway vents, there may be limitations to landscaping. In addition, the curb cuts do not line up with the crosswalks. NYCDOT has plans to realign the curb cuts with the crosswalks.

Pleasant Environment
The medians are simple concrete, with no landscaping or other neighborhood amenities. In addition, the curb cuts do not line up with the crosswalks.
Sidewalk Circulation Issues

Sidewalk Design and Layout

Sidewalk Elements

Street Furniture

Street furniture blocks pedestrian pathways along the medians. In addition, the corners on the west side of 4th Avenue are crowded with street furniture.
Pleasant Environment: The medians are plain concrete and could benefit from landscaping. However, due to the configuration of subway vents, there may be limitations to landscaping.

Sidewalk Dimensions: The sidewalks are narrow next to the cemetery.

Street and Sidewalk Lighting: The sidewalk next to the cemetery is dark in the evening.

Passenger Loading and Unloading: Many for-hire vehicles pick up and drop off passengers here.

Passenger Loading and Unloading: Illegal Parking: Many private vehicles double park here while dropping off and picking up subway passengers, blocking traffic.

Medians: The curb cuts on the medians do not line up with the crosswalks.
The Bedford Avenue station is a standard sub-grade subway station and cannot be placed into any of the three categories listed above. The station’s primary issue is the lack of bicycle parking. This station is highly used by bicyclists who do not have sufficient facilities to park their bicycles.

**Sidewalk Circulation Issues**

**Sidewalk Design and Layout**

**Sidewalk Dimensions**

The sidewalk is constricted because of the station entrances and bicycle parking.

**Pedestrians Waiting for Transit**

Since the station entrances do not open toward the intersection, pedestrians must make a 180 degree turn in order to enter the station. This creates congestion at peak hours. In addition, the sidewalk adjacent to the B61 bus stop on Bedford Avenue is constricted by pedestrians waiting to load onto the bus.

**Sidewalk Elements**

**Street Furniture**

The dumpsters and pay telephones constrict pedestrian flow near the Bedford Avenue entrances. There are dumpsters lining the amenity strip along Bedford Avenue between 6th and 7th Streets.

**Bicycle Facilities**

**Bicycle Parking**

Although some bicycle parking is provided as part of NYCDOT’s City Racks program, the area is overwhelmed by the volume of bicyclists who ride to the train and park their bikes for the day.

**Subway Station**

**Utilization of Entrances**

The Driggs Avenue entrances are underutilized, while the Bedford Avenue entrances are congested. The metrocard only Driggs Avenue entrances are open for a limited number of hours during the day, from 5:30 AM to 10:30 PM on weekdays.

**Entrance Stairwell**

Raised platforms at the top of the stairwells are difficult to see.

**Community Issues**

**Community**

**On-Going Projects**

This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Pedestrians Waiting for Transit: The sidewalk adjacent to the B61 bus stop on Bedford Avenue is congested by pedestrians waiting to load onto the bus.

Sidewalk Dimension, Bicycle Parking, Pedestrians Waiting for Transit: The 180 degree turn that pedestrians make in order to enter the station creates congestion at peak hours. The problem is exacerbated by narrow sidewalks and many bicycles that are parked around the station entrances.

Entrance Stairwell: The top of the stairwells have a platform which may be difficult for pedestrians to see.

Utilization of entrances: The Driggs Avenue entrances are underutilized, while the Bedford Avenue entrances are congested. The Driggs Avenue entrances are open on a limited basis, from 5:30am to 10:30 pm on weekdays.

Entrance Stairwell: The top of the stairwells have a platform which may be difficult for pedestrians to see.

Street Furniture: The dumpsters and pay phones constrict pedestrian flow near the Bedford Avenue entrances.

Pedestrians Waiting for Transit: The sidewalk adjacent to the B61 bus stop on Bedford Avenue is congested by pedestrians waiting to load onto the bus.
The Church Avenue station is a heavily used intermodal station that provides connections to two of the most used bus lines in the City. The primary concerns at this station are vendors reducing effective sidewalk width, crowded corners, and bus stop placement.

### Street Traffic Issues

#### Traffic Flow

- **Traffic Volume**: Both Church and Nostrand avenues carry high traffic volumes.

- **Accident Location > 20 per year**: At the intersection of Church Avenue and Nostrand Avenue, a total of 94 accidents occurred from 1996 through 1998. Twenty-eight of these accidents were reportable vehicular and 13 were reportable pedestrian.

  The largest proportion of reportable accidents, nine, involved pedestrians crossing with the traffic signal. The next largest proportion, eight, involved rear end collisions.

#### Bus Operations

- **Bus Stop Placement**: Passengers that travel to the station via the B35 bus in the morning unload on Church Avenue west of Nostrand. They must then cross Nostrand Avenue to enter the Manhattan-bound trains. The reverse occurs during the evening peak hours. Passengers exit the station on the west side of Nostrand Avenue and then they must cross Nostrand Avenue in order to reach the bus stop on Church Avenue, east of Nostrand Avenue.

#### Curb Regulations & Use

- **Truck Loading/Unloading**: Frequent truck loading and unloading occurs throughout the study area.

- **Passenger Loading/Unloading**: Passenger loading and unloading is frequent throughout the study area.

- **Illegal Parking**: Frequent double parking occurs throughout the study area.

### Pedestrian/Vehicular Traffic Issues

#### Signage

- **Orientation Signage**: The station lacks orientation signage.

#### Crosswalks

- **Crosswalk Issues**: Pedestrian volumes are high yet there are only standard crosswalks at Church and Nostrand avenues.
## Issues and Opportunities

### Sidewalk Circulation Issues

#### Sidewalk Design and Layout

**Pleasant Environment**

Trees and landscaping are lacking north of Church Avenue.

#### Sidewalk Elements

- **Street Furniture**
  
  The northwest corner of the intersection is particularly cluttered with street furniture.

- **Vendors and Newsstands**
  
  A retail display near the station entrance (on the southeast corner) reduces the effective sidewalk width to less than four feet.

### Community Issues

#### Community

- **Special Needs Population**

  The area surrounding the Church Avenue station has numerous elementary and middle schools. IS 246 has a capacity of 1,351 students alone. The other schools have a combined capacity of 570 students.
Crosswalk Issues: Pedestrian volumes were observed to be high.

Bus Stop Placement: In the morning, passengers of the B35 bus unload onto Church Avenue, west of Nostrand Avenue. In order to access Manhattan-bound trains they must first cross Nostrand Avenue. The reverse occurs during the evening peak hours. Passengers are then forced once again to cross Nostrand Avenue in order to catch the eastbound bus.
The Jay Street/Borough Hall station is both a major transit hub in Downtown Brooklyn and an expanding retail and office location. Intermodal transfers between buses and the subway are frequent at this station and orientation signage is confusing. Other concerns include illegal parking, which interferes with bus operations, and bus stop placement.

**Street Traffic Issues**

**Traffic Flow**

*Traffic Volume*  
Jay Street carries high traffic volumes.

*Accident Location > 20 per year*  
At the intersection of Jay Street and Willoughby Street, a total of 45 accidents occurred between 1996 and 1998. Eleven of these accidents were reportable pedestrian, and five were reportable vehicular. Eighty-two percent of all reportable accidents occurred while the road was dry, and 76 percent occurred during daylight. Eight of the reportable accidents involved pedestrians that were crossing with the traffic signal and two involved pedestrians that were crossing against the traffic signal.

**Bus Operations**

*Bus Stop Placement*  
There is not enough curb space allocated for the bus stops.

**Curb Regulations & Use**

*Illegal Parking*  
Illegal parking is frequent in the bus stops, which interferes with bus operations.

*Conflicting Curb Uses*  
Cars and buses all compete for passenger loading space in the bus stops.

**Pedestrian/Vehicular Traffic Issues**

**Signage**

*Orientation Signage*  
Orientation signage is lacking in the study area. There are numerous bus stops throughout the study area and it is difficult to determine where they stop. In addition, the station entrances are difficult to locate from Fulton Mall, a major destination in the area.

**Crosswalks**

*Crosswalk Issues*  
The crosswalks are not wide enough. Pedestrians spill into the street.
Pedestrian/Vehicular Traffic Issues

**Lighting**

*Street and Sidewalk Lighting*  
Sidewalk lighting is poor beneath the scaffolding at 330 Jay Street.

Sidewalk Circulation Issues

**Sidewalk Design and Layout**

*Sidewalk Dimensions*  
The sidewalks along Jay Street are of insufficient width for the volume of pedestrian traffic. Congestion on the sidewalk is a concern at the Fulton Mall entrance. In addition, the permanent scaffolding at 330 Jay Street creates obstacles.

*Pleasant Environment*  
Landscaping is missing from the planters near 330 Jay Street.

**Sidewalk Elements**

*Street Furniture*  
The elegant and coordinated street furniture design along MetroTech is not continued on Jay Street and Willoughby Street.

Bicycle Facilities

*Bicycle Parking*  
There is no bicycle parking.

*Bicycle Routes*  
Myrtle Avenue is a recommended bicycle route in the New York City Bicycle Master Plan.

Subway Station

*Utilization of Entrances*  
The Fulton Mall entrance is narrow and very heavily used.

*Station Entrance Lighting*  
Station entrance lighting is insufficient at the entrance near 330 Jay Street.

Community Issues

**Community**

*Land Use Changes*  
There are land use changes involving 330 Jay Street, the MTA building, and the court complex. Also, there is a rezoning project to increase residential and commercial opportunities in Downtown Brooklyn, dormitories are planned for Polytechnic University and Brooklyn Law School, and Marriott’s Renaissance Plaza Hotel will be expanded and the plaza renovated. In addition, there will be several changes to existing roadways as part of the Downtown Brooklyn Traffic Calming project and the Reconstruction of Willoughby Street.

*On-Going Projects*  
The Downtown Brooklyn Traffic Calming Project, commissioned by the Brooklyn Borough President’s office, is currently testing its pilot program and developing the area-wide strategy. Some elements of this
Community Issues

This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.

project may supercede recommendations for the Subway-Sidewalk Interface Project.
Illegal Parking: Illegal parking was observed to be frequent in the bus stops, which interferes with bus operations.
Illegal Parking: Illegal parking was observed to be frequent in the bus stops, which interferes with bus operations. As a result, cars and buses compete for passenger loading space in bus stops.

Illegal Parking, Conflicting Curb Uses: Illegal parking was observed to be frequent in the bus stops, which interferes with bus operations. As a result, cars and buses compete for passenger loading space in bus stops.

Crosswalk Issues: The crosswalks are not wide enough. Pedestrians spill into the street.

Station Entrance Lighting: Lighting could be improved at the southern entrance beneath 330 Jay Street.

Illegal Parking: Illegal parking was observed to be frequent in the bus stops, which interferes with bus operations.

Sidewalk Dimensions: The sidewalks along Jay Street are of insufficient width for the volume of pedestrian traffic. This is particularly an issue at the Fulton Mall entrances and around the scaffolding at 330 Jay Street.

Utilization of Entrances: The Fulton Mall entrance on the eastern side of Jay Street is narrow and heavily used.
Illegal Parking: Illegal parking was observed to be frequent in the bus stops, which interferes with bus operations.

Crosswalk Issues: The crosswalks are not wide enough. Pedestrians spill into the street.

Sidewalk Dimensions: The sidewalks along Jay Street are of insufficient width for the volume of pedestrian traffic. This is particularly an issue at the Fulton Mall entrances and around the scaffolding at 330 Jay Street.

Utilization of Entrances: The Fulton Mall entrance on the eastern side of Jay Street is narrow and heavily used.
Station: Kings Highway

The Kings Highway station is an elevated and intermodal station with entrances located in a building. While the support columns of the elevated structure do not lie within the roadbed, the station exhibits many issues prevalent at other elevated stations, such as insufficient lighting and sanitation. In addition, one entrance is located adjacent to an intersection without crosswalks, making the entrance difficult to access.

Street Traffic Issues

Roadway Design

- Blocked Visibility
  - The elevated support columns obscure the vision of motorists.

- Drainage
  - Storm water runoff from the elevated structure accumulates in the intersection. The ponding obstructs pedestrian flow.

Traffic Flow

- Traffic Volume
  - Traffic volumes on Kings Highway are high considering its narrow width.

Bus Operations

- Bus Stop Placement
  - There is a terminal bus stop on Quentin Road that blocks traffic. In addition, the bus stop on East 16th Street blocks the pedestrian view of the Quentin Road entrance.

Curb Regulations & Use

- Truck Loading/Unloading
  - Truck loading and unloading is frequent along Kings Highway.

- Passenger Loading/Unloading
  - Passenger loading and unloading is frequent along Kings Highway and East 16th Street.

- Illegal Parking
  - Double parking is frequent along Kings Highway.

- Conflicting Curb Uses
  - Buses, livery vehicles and private vehicles all compete for the same curb space to load and unload passengers.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

- Stop Signs
  - There is no stop sign on East 16th Street at the intersection of Quentin Road.

- Conflicting Movements
  - Buses turning left onto East 16th Street from Quentin Road have to travel all the way to the right hand lane of East 16th Street in order to load and unload passengers. This movement conflicts with vehicles traveling on southbound East 16th Street.
Issues and Opportunities

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Signage
  Vehicular Signage The elevated clearance signage is too small and may be easily overlooked.

Crosswalks
  Crosswalk Issues There are no crosswalks traversing East 16th Street at Quentin Road. Therefore, pedestrians must cross East 16th Street from the station entrance in order to reach the bus stop on Quentin Road.

Lighting
  Street and Sidewalk Lighting Lighting is insufficient beneath the elevated structure which casts the street and sidewalks below in shadows during day and evening hours.

Sidewalk Circulation Issues

Sidewalk Design and Layout
  Sidewalk Dimensions The sidewalks on the southern side of Kings Highway are constricted because of the elevated support columns.
  Pleasant Environment There is a blank brick wall along the Rainbow shop on the western side of East 16th Street. This area needs improved landscaping.

Sidewalk Elements
  Street Furniture The corners are cluttered with street furniture.
  Vendors and Newsstands Vendors on the south side of Kings Highway constrict pedestrian traffic.

Subway Station
  Placement of Entrances The station entrances are located mid-block, which encourages jaywalking.
  Sanitation Birds perched along the elevated structure leave guano on the street below.
  Station Entrance Lighting The lighting is poor at both entrances, particularly beneath the elevated structure along Kings Highway.
Community Issues

Community

On-Going Projects

This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Bus Stop Placement: Buses that stop along East 16th Street obscure the station entrance on Quentin Road.

Bus Loading/Unloading: This activity frequently occurs on Kings Highway and East 16th Street, south of Quentin Road.

Stop Signs and Crosswalk Issues: There is no stop sign controlling through traffic on East 16th Street at Quentin Road and there are no crosswalks at this intersection. There is a high volume of pedestrians transferring from bus to subway at this intersection and pedestrians must jaywalk in order to reach the station entrance.

Pleasant Environment: There is a blank brick wall along the west side of East 16th Street. This portion of the street is poorly designed and there is a lack of street trees.
The Nostrand Avenue station is an intermodal station, located at a slightly skewed intersection of two busy streets. Automobile and pedestrian activity are high at this intersection, creating difficulty for bus operations.

### Street Traffic Issues

**Traffic Flow**

**Traffic Volume**

Traffic volumes are high throughout the study area.

**Accident Location > 20 per year**

At the intersection of Nostrand Avenue and Fulton Street there were a total of 96 accidents from 1996 through 1998. Twenty-nine of these accidents were reportable vehicular, 11 were reportable pedestrian, and five were reportable bicycle accidents (among Subway-Sidewalk Interface sites, this intersection had the highest number of reportable bicycle accidents). The largest proportion of reportable accidents involving vehicles, nine, involved overtakings. The largest proportion of reportable accidents involving pedestrians occurred while crossing with the traffic signal.

**Bus Operations**

**Bus Stop Placement**

The bus stop north of the intersection, on the western side of Nostrand Avenue, is partially obstructed by parking meters. Therefore, the buses are forced to pull up past the stop which obscures the pedestrian's visibility of traffic in the intersection.

**Bus Routes**

B44 buses traveling southbound on Nostrand Avenue have difficulty maneuvering the irregular street geometry. Buses must pick up passengers on the west side of Nostrand Avenue, north of Fulton Street, and then merge across two travel lanes while in the Fulton Street intersection.

**Curb Regulations & Use**

**Truck Loading/Unloading**

Frequent truck loading and unloading occurs, particularly in "No Standing" zones.

**Illegal Parking**

Vehicles frequently park in the "No Standing" zones, which interferes with traffic flow.

**Conflicting Curb Uses**

Trucks load in "No Standing" zones and vehicles load passengers in the bus stops. Vehicles that stand along the west side of Nostrand Avenue, south of the intersection, interfere with bus navigation.
Sidewalk Circulation Issues

Roadway Design

Channelization and Traffic Patterns
Vehicles traveling southbound on Nostrand Avenue effectively lose one lane of roadway after Fulton Street (to parking and standing vehicles). This requires vehicles to merge in the intersection of Fulton Street and Nostrand Avenue. The merge can be complicated because the roadway on the south side of the intersection is offset approximately 30 feet from the north side.

Sidewalk Design and Layout

Sidewalk Dimensions
The effective sidewalk widths on Fulton Street can be narrow considering the high volumes of pedestrians and street activity. The northwest corner of Nostrand Avenue and Fulton Street has a grade as well.

Pedestrians Waiting for Transit
The B44 bus stops directly in front of the subway entrance on Nostrand Avenue and creates congestion as pedestrians wait to load onto buses.

Sidewalk Elements

Vendors and Newsstands
Many street vendors can be found on Fulton Street, creating a market atmosphere.
Channelization and Traffic Patterns and Bus Routes: Vehicles traveling southbound in the western lane on Nostrand Avenue must merge into the middle lane south of the intersection. The merge can be complicated, especially for buses, because the roadway south of the intersection is offset approximately 30 feet from the north side.

Bus Stop Placement: Parking meters are located alongside the bus stop north of the intersection, on the west side of Nostrand Avenue. Therefore, the buses are forced to pull up past the stop obscuring pedestrian visibility of the intersection.

Pedestrians Waiting for Transit: The B44 bus stops directly in front of the subway entrance on Nostrand Avenue and creates congestion as pedestrians wait to load onto the bus.

Vendors and Newsstands: There are numerous street vendors on Fulton Street reducing the effective sidewalk width.

Truck Loading/Unloading, Illegal Parking and Conflicting Curb Uses: Frequent truck loading and unloading, and illegal parking was observed, particularly in "No Standing" zones. This activity creates conflicting curb uses.

Pedestrians Waiting for Transit: The B44 bus stops directly in front of the subway entrance on Nostrand Avenue and creates congestion as pedestrians wait to load onto the bus.
**Station:** Sheepshead Bay  
☑ Elevated ☑ Intermodal ☑ Building/Traffic Island

The Sheepshead Bay station is an elevated and intermodal station, with an entrance located in a building. The primary issues at this station are channelization, bus routes, and queuing space at bus stops.

**Street Traffic Issues**

### Roadway Design

- **Excess Roadbed**
  
  A portion of the roadbed at the northwest corner of Sheepshead Bay and East 15th Street has been striped.

- **Blocked Visibility**
  
  The elevated structure, and its support columns embedded in the sidewalk near the Sheepshead Bay entrance, reduce the visibility of motorists and pedestrians.

- **Drainage**
  
  Storm water runoff from the elevated structure accumulates in the intersection. The ponding obstructs pedestrian flow.

### Traffic Flow

- **Traffic Volume**
  
  Traffic volume is heavy on Sheepshead Bay Road.

- **Accident Location > 20 per year**
  
  At the intersection of Sheepshead Bay Road and East 16th Street there were a total of 23 accidents from 1996 through 1998, six of which were reportable pedestrian, and five of which were reportable vehicular. Eighty-three percent of all reportable accidents occurred while the road was dry.

  Two of the reportable accidents involved pedestrians crossing against the traffic signal, an additional two involved pedestrians crossing where there was no signal or crosswalk, and one occurred while the pedestrian was crossing on the crosswalk.

### Bus Operations

- **Bus Stop Placement**
  
  At certain locations, buses must stop and load passengers in the middle of the roadway due to the narrow roadway and congestion.

- **Bus Routes**
  
  The narrow roadway at Sheepshead Bay Road causes difficult roadway maneuvers, particularly at the intersections.

### Curb Regulations & Use

- **Passenger Loading/Unloading**
  
  A significant amount of passenger loading and unloading occurs at this station.
Issues and Opportunities

Street Traffic Issues

Curb Regulations & Use

Illegal Parking
Double parking is frequent on Sheepshead Bay Road.

Conflicting Curb Uses
Buses, livery vehicles, and private vehicles all compete for the same curb space.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Stop Signs
There are no stop signs at East 16th Street and Sheepshead Bay Road.

Signal Placement
The traffic signal at East 15th Street and Sheepshead Bay Road is difficult for westbound vehicles to see.

Signage

Orientation Signage
It is difficult for pedestrians unfamiliar with the station to locate bus stops. Signage for the station is obstructed by the elevated structure, and the signage at the Voorhies Avenue entrance is insufficient.

Crosswalks

Crosswalk Issues
There are no crosswalks at Sheepshead Bay Road, East 16th Street and Jerome Avenue despite high pedestrian volumes. In addition, there is a lack of crosswalks at the Voorhies Avenue entrance.

Lighting

Street and Sidewalk Lighting
Lighting is insufficient at Sheepshead Bay Road under the elevated structure, despite recent improvements.

Sidewalk Circulation Issues

Roadway Design

Channelization and Traffic Patterns
The narrow roadbed on Sheepshead Bay Road causes congestion particularly with buses and frequent double parking.

Sidewalk Design and Layout

Sidewalk Dimensions
The sidewalk in front of the Sheepshead Bay Road entrance is narrow due to the columns on the sidewalk.

Pedestrians Waiting for Transit
The bus stops on Sheepshead Bay Road at East 15th Street can become congested due to high volumes of passengers.

Discontinuous sidewalks
There is a missing sidewalk on the southern side of Voorhies Avenue.
Sidewalk Circulation Issues

Sidewalk Design and Layout

*Pleasant Environment* The area needs improved landscaping.

Sidewalk Elements

*Street Furniture* The stairway of the pedestrian bridge, and other street furniture, narrow the sidewalk at Voorhies Avenue to eight feet.

Subway Station

*Placement of Entrances* The Voorhies Avenue entrance is located mid-block, which encourages jaywalking.

*Utilization of Entrances* The Voorhies Avenue entrance is underutilized.

*Sanitation* Birds perched along the elevated structure leave guano on the street below.

*Station Entrance Lighting* Both entrances are dimly lit, despite recent improvements.

Community Issues

Community

*Land Use Changes* A new building may be built as-of-right at the intersection of East 15th Street and Sheepshead Bay Road.
Excess Roadbed: There is excess roadbed at the northwest corner of Sheepshead Bay and 15th Street, however, the area may be needed for turning buses.

Passenger Loading/Unloading, Bus Stop Placement: Pedestrians Waiting for Transit. A significant amount of passenger loading and unloading was observed at this station. Buses must stop and load passengers in the middle of the roadway due to the narrow roadway and congestion. The bus stops on Sheepshead Bay Road at East 15th Street can become congested due to high volumes of passengers.

Blocked Visibility, Sidewalk Dimension: The elevated structure and its support columns embedded in the sidewalk near the Sheepshead Bay Road entrance may reduce the visibility of motorists and pedestrians. The sidewalk in front of the Sheepshead Bay Road entrance is narrow due to the columns on the sidewalk.
Excess Roadbed: There is excess roadbed at the northwest corner of Sheepshead Bay and 15th Street, however, the area may be needed for turning buses.

Stop Signs, Crosswalk Issues: Lack of stop signs at 16th Street and Sheepshead Bay Road does not allow for crosswalk at Sheepshead Bay Road, East 16th Street and Jerome Avenue despite high pedestrian volumes. In addition, there is a lack of crosswalks at the Voorhies Avenue entrance.

Blocked Visibility, Sidewalk Dimension: The elevated structure and its support columns embedded in the sidewalk near the Sheepshead Bay Road entrance may reduce the visibility of motorists and pedestrians. The sidewalk in front of the Sheepshead Bay Road entrance is narrow due to the columns on the sidewalk.
Placement of Entrances: The Voorhies Avenue entrance is located mid-block, which encourages jaywalking.

Street Furniture: The stairway of the pedestrian bridge, and other street furniture, narrow the sidewalk at Voorhies Avenue to eight feet.

Discontinuous Sidewalks: There is a missing sidewalk on the southern side of Voorhies Avenue.
**Station:** Utica Avenue/Crown Heights  ☑ Elevated ☑ Intermodal ☑ Building/Traffic Island

The Utica Avenue/Crown Heights station is an intermodal station with entrances located on traffic islands. The concerns at this station are placement of entrances, which encourages jay-walking, livery cars loading and unloading passengers in bus stops and crosswalks, and the underutilization of some entrances. NYCDOT has conducted the Weeksville/Utica Avenue Transportation Study, which has resulted in many recent improvements in this area.

**Street Traffic Issues**

**Traffic Flow**

**Traffic Volume**

Both Utica Avenue and Eastern Parkway have high traffic volumes.

**Accident Location > 20 per year**

Two intersections and one mid-block location at the Utica Avenue station were high accident locations from 1996 through 1998. The locations are:
- Eastern Parkway and Utica Avenue
- Eastern Parkway and Schenectady Avenue
- Eastern Parkway between Utica and Schenectady avenues

The intersection of Eastern Parkway and Utica Avenue had 270 accidents, including 2 fatalities, from 1996 through 1998 (75 reportable vehicular, 36 reportable pedestrian, and four reportable bicycle accidents). Sixty-five percent of all reportable accidents occurred while road conditions were dry. Twenty-five of the reportable accidents involved rear end collisions, 13 involved an overtaking, another 13 involved a left turn against a car, and ten involved a right angle collision. Fifteen reportable accidents involved a pedestrian crossing with the traffic signal, six occurred while crossing against the traffic signal, and three occurred where there was no signal or crosswalk.

At the intersection of Eastern Parkway and Schenectady Avenue a total of 68 accidents occurred, 29 of which are reportable vehicular, one of which was reportable pedestrian, and four of which were reportable bicycle accidents. Sixty-two percent of the reportable accidents occurred while the road was dry, and 65 percent occurred during daylight. Seven of the reportable accidents involved rear end collisions, six involved a left turn against a car, four involved a right angle collision, one involved a right turn against a car, and another one involved a head on collision.

The mid-block location between the intersections of Eastern Parkway and Utica Avenue and Eastern Parkway and Schenectady Avenue, had a total of 65 accidents, including one fatality. Twenty-three of the reportable accidents were vehicular and nine pedestrian. Seventy-nine percent of all reportable accidents occurred while the weather was dry. Eight of the reportable accidents involved a rear end collision and four involved an overtaking. Two reportable accidents involved pedestrians crossing against the traffic signal, another two involved pedestrians crossing where there was no signal or crosswalk, and one involved a pedestrian crossing with the traffic signal.
Issues and Opportunities

### Street Traffic Issues

#### Traffic Flow

**Traffic Speed**

Traffic speeds are high along Eastern Parkway.

#### Bus Operations

**Bus Stop Placement**

The southbound B46 bus is located on the southern side of the intersection, which encourages use of the congested southern station entrances. Another concern with bus stop placement is that during periods of high congestion the eastbound B14 bus stops on the main thoroughfare of Eastern Parkway because it cannot get through the service roads.

**Bus Routes**

The B17 has a tight right turn from the Eastern Parkway Service Road onto Utica Avenue.

#### Curb Regulations & Use

**Truck Loading/Unloading**

Significant truck loading and unloading was observed on Utica Avenue, particularly south of Eastern Parkway.

**Passenger Loading/Unloading**

A significant amount of passenger loading and unloading was observed along Utica Avenue and the Eastern Parkway service roads. This activity interferes with traffic flow, particularly when commuter vans and livery vehicles load and unload passengers in the bus stops, crosswalks and along the southern Service Road on Eastern Parkway.

**Illegal Parking**

Double parking was observed along both Utica Avenue and the Service Roads.

**Conflicting Curb Uses**

Buses, trucks, livery cabs, and commuter vans all use the bus stops and crosswalks to load and unload.

### Pedestrian/Vehicular Traffic Issues

#### Traffic Controls

**Signal Timing**

While the signal timing is sufficient to cross the main thoroughfare, it is not sufficient to cross the entire Eastern Parkway in one signal cycle.

**Conflicting Movements**

As traffic becomes backed up along southbound Utica Avenue, traffic on the eastbound service road of Eastern Parkway cannot flow through.
Pedestrian/Vehicular Traffic Issues

Signage

Orientation Signage
Signage should indicate the practice of buses stopping on the main thoroughfare of Eastern Parkway. In addition, the standard signage may not be sufficient at these entrances since they are located in the middle of traffic medians that are also used as a bicycle route. Passengers unfamiliar with the station could lose their orientation easily.

Crosswalks

Crosswalk Issues
There are no crosswalks at the southern mall traversing Schenectady Avenue, but there are curb cuts.

Sidewalk Circulation Issues

Sidewalk Design and Layout

Pedestrians Waiting for Transit
The B17/B14 bus stop, on the southwest corner of Utica Avenue and Eastern Parkway, becomes congested during peak hours. In addition, the station entrances located on the southern mall have high volumes of pedestrians waiting to enter, thereby constricting the circulation space.

Medians
The medians are too congested at the southern entrances. In addition, there is very little separating the bicycle lane from the pedestrian path.

Sidewalk Elements

Vendors and Newsstands
There are illegal vendors on the southern median by the entrance, and on southwest corner of Utica Avenue and Eastern Parkway. These vendors interfere with pedestrian circulation, particularly on the southern mall.

Bicycle Facilities

Bicycle Parking
There is none even though Eastern Parkway is a bicycle route.

Bicycle Routes
Eastern Parkway is a bicycle route.

Subway Station

Placement of Entrances
The entrances are located on traffic medians, in the middle of a bicycle lane.

Utilization of Entrances
The northern entrances and Schenectady Avenue entrances are underutilized.

Station Entrance Lighting
Station entrance lighting could be improved.
Issues and Opportunities

Community Issues

Community

On-Going Projects

NYCDOT is currently conducting the Weeksville/Utica Avenue Transportation Study which assesses the traffic and transportation needs of the area. The recommendations of this study may supersede the recommendations from the Subway-Sidewalk Interface Project.

This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements. In addition, NYCDOT is conducting the Weeksville/Utica Avenue Transportation Study in this area.
Bus Stop Placement: The location of the southbound B46 bus stop encourages use of the congested southern station entrances. Additionally, during periods of high congestion along the eastbound service road, the eastbound B14 bus stops on the main thoroughfare of Eastern Parkway.

Bus Routes: The B17 bus has a tight turn from the Eastern Parkway service road onto Utica Avenue.

Pedestrian Waiting for Transit, Vendors and Newsstands: The B46 bus stop is congested during peak hours. Illegal vendors on the southern mall and sidewalk display merchandise adjacent to the bus stop, thereby exacerbating this issue.

Passenger Loading and Unloading, Conflicting Curb Uses: This activity was observed to be heavy along Utica Avenue and the southern service road of Eastern Parkway. This activity interferes with traffic flow, particularly when commuter vans and livery vehicles load and unload passengers in the bus stops, resulting in conflicting curb uses.

Truck Loading and Unloading: This activity was observed to be heavy, particularly along Utica Avenue, south of Eastern Parkway.

Utilization of Entrances: The northern entrances and Schenectady Avenue entrances are underutilized.
Crosswalk Issues: There is no crosswalk traversing Schenectady Avenue at Eastern Parkway.
The Myrtle/Wyckoff Avenues station is an elevated and intermodal station with entrances located in a building. The adjacent intersection has irregular street geometry which causes conflicting movements and channelization issues. Other concerns at this station include insufficient lighting, confusing bus signage, and lack of queuing space at bus stops.

### Street Traffic Issues

**Roadway Design**

- **Excess Roadbed**
  The roadbed on Palmetto Street is very wide. In addition, there is excess roadbed surrounding the support column at Palmetto Street, Wyckoff and Myrtle avenues.

- **Blocked Visibility**
  The elevated support columns obscure the vision of motorists and pedestrians.

- **Drainage**
  Storm water runoff falls from the elevated structure directly onto the pedestrians on the Palmetto Street sidewalk waiting for buses.

**Traffic Flow**

- **Traffic Volume**
  There is a high volume of trucks and buses, particularly on Myrtle Avenue.

**Bus Operations**

- **Bus Stop Placement**
  Signage for the bus stop on Wyckoff Avenue, south of Myrtle Avenue, may be ambiguous to some. It reads as follows: "11:00 PM to 5:00 AM Q58, B13 and B26 will board passengers at B52 bus stop Palmetto and Myrtle Avenue."

- **Bus Routes**
  Buses have to make difficult turns through the 5-way intersection.

**Curb Regulations & Use**

- **Passenger Loading/Unloading**
  A significant amount of passenger loading and unloading occurs in the study area.

- **Conflicting Curb Uses**
  Passenger unloading occurs in bus stops, especially on Palmetto Street.

### Pedestrian/Vehicular Traffic Issues

**Traffic Controls**

- **Stop Signs**
  There are no stop signs directing Wyckoff Avenue traffic at Gates Avenue.
Issues and Opportunities

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Signal Placement
A pedestrian signal faces the wrong direction at the 5-way intersection. This signal encourages jaywalking.

Conflicting Movements
At this six-legged intersection there are many conflicting movements when cars turn.

Signage

Orientation Signage
The inadequate bus signage makes it difficult for pedestrians to locate the correct bus since bus stops are spread all around the station area. In addition, station signage is difficult to see.

Crosswalks

Crosswalk Issues
There are no crosswalks at Gates Avenue and Wyckoff Avenue.

Lighting

Street and Sidewalk Lighting
The elevated structure casts the street and sidewalks below in shadows during day time and evening hours. As a result lighting is insufficient beneath the elevated structure.

Sidewalk Circulation Issues

Roadway Design

Channelization and Traffic Patterns
Channelization is a concern at the 5-way intersection of Palmetto Street, Myrtle and Wyckoff avenues, due to the irregular street geometry.

Sidewalk Design and Layout

Sidewalk Dimensions
The sidewalk along Palmetto Street is very narrow. In addition, several station entrances constrict sidewalk width.

Pedestrians Waiting for Transit
The sidewalks along Palmetto Street are narrow north of Wyckoff Avenue. They become constricted as pedestrians wait in large numbers to load onto buses.

Pleasant Environment
The area could benefit from improved landscaping. In addition, there are numerous empty lots in the area which contribute to an unpleasant environment.

Sidewalk Elements

Vendors and Newsstands
The newsstand on Palmetto Street and Wyckoff Avenue constricts the southwest corner.
Sidewalk Circulation Issues

Bicycle Facilities
- Bicycle Parking
  There are no bicycle parking facilities.
- Bicycle Routes
  Myrtle and Gates avenues are recommended bicycle routes in the New York City Bicycle Master Plan.

Subway Station
- Condition of Elevated Structure
  The elevated structure needs repainting.
- Placement of Entrances
  The Gates Avenue entrance is difficult to locate.
- Utilization of Entrances
  The Gates Avenue entrance is underutilized.
- Sanitation
  Birds perched in the elevated structure leave guano on the street below.
- Station Entrance Lighting
  Station entrance lighting is insufficient beneath the elevated structure.

Community Issues

Community
- Special Needs Population
  The Bushwick High School near this station has a capacity of over 2,600 students.
- On-Going Projects
  This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Excess Roadbed: Palmetto Street is very wide and there is excess roadbed surrounding the support column at Palmetto Street, Wyckoff, and Myrtle Avenues.

Stop Signs and Crosswalk Issues: There are no crosswalks or stop signs on Wyckoff Avenue at Gates Avenue.

Vendors and Newsstands: The newsstand on the corner of Palmetto Street and Wyckoff Avenue narrows the sidewalk.

Placement of Entrances and Utilization of Entrances: The Gates Avenue entrance is difficult to locate and is underutilized.
Excess Roadbed: Palmetto Street is very wide and there is excess roadbed surrounding the support column at Palmetto Street, Wyckoff, and Myrtle Avenues.

Vendors and Newsstands: The newsstand on the corner of Palmetto Street and Wyckoff Avenue narrows the sidewalk.

Sidewalk Dimensions:
Pedestrians Waiting for Transit: The sidewalks along Palmetto Street are very narrow. The sidewalks along Palmetto Street are narrow north of Wyckoff Avenue. They become congested as pedestrians wait in large numbers to load onto buses.

Stop Signs and Crosswalk Issues: There are no crosswalks or stop signs on Wyckoff Avenue at Gates Avenue.

Channelization and Traffic Patterns: Irregular street geometry creates a concern with channelization at the five-way intersection of Palmetto Street, Wyckoff and Myrtle Avenues.

Bus Stop Placement: The signage for this bus stop indicates the following: “11:00 PM to 5:00 AM Q58, B13 and B26 will board passengers at B52 bus stop Palmetto and Myrtle Avenue.” This may be ambiguous to some passengers.

Pleasant Environment: Street trees are lacking along Wyckoff Avenue and Palmetto Street, south of Myrtle Avenue.
Excess Roadbed: Palmetto Street is very wide and there is excess roadbed surrounding the support column at Palmetto Street, Wyckoff, and Myrtle Avenues.

Stop Signs and Crosswalk Issues: There are no crosswalks or stop signs on Wyckoff Avenue at Gates Avenue.

Sidewalk Dimensions, Pedestrians Waiting for Transit: The sidewalks along Palmetto Street are very narrow. The sidewalks along Palmetto Street are narrow north of Wyckoff Avenue. They become congested as pedestrians wait in large numbers to load onto buses.

Channelization and Traffic Palisades: Irregular street geometry creates a concern with channelization at the five-way intersection of Palmetto Street, Wyckoff and Myrtle Avenues.

Bus Stop Placement: The signage for this bus stop indicates the following: "11:00 PM to 5:00 AM Q58, B13 and B26 will board passengers at B52 bus stop Palmetto and Myrtle Avenue." This may be ambiguous to some passengers.

Vendors and Newsstands: The newsstand on the corner of Palmetto Street and Wyckoff Avenue narrows the sidewalk.
Station: 30th Avenue

The 30th Avenue station is an elevated station with columns embedded in the roadway. The streets surrounding this station have many of the same issues found at other elevated stations, such as blocked visibility, excess roadbed, and sanitation. In addition, the station has a channelization issue, due to irregular street geometry and unclear parking regulations.

Street Traffic Issues

Roadway Design

Excess Roadbed
The roadbed between the parking lane and elevated support columns is used ambiguously and is excess road space.

Blocked Visibility
The elevated support columns in the roadbed block the visibility of both pedestrians and motorists.

Drainage
Storm water runoff from the elevated structure accumulates in the intersection. The ponding obstructs pedestrian flow.

Traffic Flow

Traffic Volume
There is a significant volume of traffic at this station.

Accident Location > 20 per year
At the intersection of 30th Avenue and 31st Street there were a total of 70 accidents from 1996 through 1998. Thirteen of these accidents were reportable vehicular and six were reportable pedestrian. Thirteen of the reportable accidents occurred during daylight and six involved rear end collisions.

At the intersection of 30th Avenue, 33rd Street, and Newtown Avenue there were a total of 51 accidents, seven of which were reportable vehicular and 17 of which were reportable pedestrian. Sixteen of the total reportable accidents involved pedestrians crossing with the traffic signal.

Curb Regulations & Use

Parking Regulations
'No Parking' regulations appear to conflict with a designated taxi stand.

Truck Loading/Unloading
Truck loading and unloading is prevalent in this commercial area. Trucks frequently back up to the curb under the elevated structure rather than parallel park.

Passenger Loading/Unloading
There is a taxi stand at the corner of 30th Avenue and 31st Street

Illegal Parking
Double parking is frequent.
Issues and Opportunities

**Street Traffic Issues**

**Curb Regulations & Use**

*Conflicting Curb Uses* Since the function of the space between the parked cars and the elevated support columns is ambiguous, both pedestrians and motorists compete for it. Pedestrians use it to wait for the bus or to shorten their crossing distance, while motorists use it to double park, load/unload passengers or as a right turn lane.

**Pedestrian/Vehicular Traffic Issues**

**Traffic Controls**

*Signal Placement* The elevated support columns in the crosswalk obstruct views of pedestrian traffic signals.

**Signage**

*Vehicular Signage* Signage indicating that left turns from 31st Street are prohibited during certain times of the day may be confusing, since what those times are is unclear. Left turns are permitted from 30th Street at all times, but may cause vehicular congestion. The sign indicating the clearance height of the station may be unclear.

*Orientation Signage* This station lacks orientation signage.

**Crosswalks**

*Crosswalk Obstructions* Elevated support columns are located in the crosswalk.

**Lighting**

*Street and Sidewalk Lighting* Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours.

**Sidewalk Circulation Issues**

**Sidewalk Elements**

*Street Furniture* Corners are crowded with street furniture.

**Subway Station**

*Condition of Elevated Structure* The elevated structure needs repainting.

*Entrance Stairwell* The raised platform landing at the stairwells are difficult to see.

*Sanitation* Birds perched in the elevated structure leave guano on the street below.
Excess Roadbed, Conflicting Curb Uses: The roadbed between the curb and the column is not wide enough for a moving lane, but too wide for a parking lane. Pedestrians stand in this area while waiting to cross the street, and motorists use it as a right turn lane.

Blocked Visibility: Columns in the roadbed block visibility for pedestrians, bicyclists and motorists.

Crosswalk Obstructions, Signal Placement: The columns at the intersection obstruct the crosswalk and obscure visibility of pedestrian signals.

Entrance Stairwell: The small concrete steps at the base of the stairwells are difficult for exiting and entering passengers to see.

Parking Regulations, Passenger Loading/Unloading: There is a conflict between vehicles using this space as a taxi stand, and those parking.

Vehicular Signage: Signs indicating when vehicles can turn left, and the height of the structure, could be more clear.
The 33rd Street station is an elevated station with entrances located on a traffic island in the middle of Queens Boulevard. The entrances are difficult to access due to the width of Queens Boulevard. In addition, the Queens Boulevard median lacks sufficient space for pedestrians waiting to cross the street, which forces pedestrians into the roadway while waiting for the traffic signal.

**Street Traffic Issues**

**Roadway Design**

*Blocked Visibility* The columns defining the median parking area block the visibility of motorists and pedestrians, particularly those making left-hand turns at the intersection under the elevated structure.

**Traffic Flow**

*Traffic Volume* Queens Boulevard carries very heavy volumes of traffic, including traffic bound for the Queensboro Bridge.

*Accident Location > 20 per year* Two intersections at the 33rd Street station had an average of more than twenty accidents per year from 1996 through 1998. These intersections are:
- Queens Boulevard and Van Dam Street
- Queens Boulevard and Thompson Avenue

At the intersection of Queens Boulevard and Van Dam Street there were 297 accidents, 64 of which were reportable vehicular and six of which were reportable pedestrian. Seventeen of the reportable accidents involved right angle collisions, and 15 involved rear end collisions.

At the intersection of Queens Boulevard and Thompson Avenue, 380 accidents occurred. 109 of which were reportable vehicular, and nine of which were reportable pedestrian. One of these reportable accidents resulted in a fatality. The largest proportion of reportable accidents, 30, involved right angle collisions, and the second largest proportion, 28, involved rear end collisions. Five of the reportable accidents involved pedestrians crossing against the traffic signal.

*Traffic Speed* High traffic speeds on Queens Boulevard were observed.

**Pedestrian/Vehicular Traffic Issues**

**Traffic Controls**

*Stop Signs* Stop signs are placed so that motorists cannot see the pedestrian flow.
### Pedestrian/Vehicular Traffic Issues

**Lighting**

*Street and Sidewalk Lighting* Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours.

### Sidewalk Circulation Issues

**Roadway Design**

*Channelization and Traffic Patterns* The channelization of traffic is confusing in the parking area beneath the elevated structure.

**Sidewalk Design and Layout**

*Sidewalk Dimensions* The sidewalks along the median parking area are extremely narrow, less than four feet wide.

*Pedestrians Waiting for Transit* The station entrances are located on the narrow median islands. Pedestrians use it to enter the subway station and to wait to cross the street.

*Medians* The median islands do not provide adequate pedestrian refuge space nor do they have curb cuts.

**Sidewalk Elements**

*Street Furniture* There are many unused meters along the narrow sidewalks of the median parking area.

*Vendors and Newsstands* A vendor on the median island at 33rd Street blocks pedestrian traffic.

**Subway Station**

*Placement of Entrances* Subway riders must cross this busy arterial to enter the station located on Queens Boulevard traffic medians.

*Utilization of Entrances* The 34th Street entrances are underutilized.

*Station Entrance Lighting* Station entrance lighting beneath the elevated structure and within the stairwells is insufficient.

### Community Issues

**Community**

*Land Use Changes* Several new traffic-generating projects are planned near the station.

*On-Going Projects* This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators.
Community Issues

Community and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Blocked Visibility, Stop Signs: The station entrances obscure the vision of both pedestrians and motorists. The problem is compounded by stop signs which force the motorists to stop behind the station entrance.

Pedestrians Waiting for Transit, Medians: The station entrances are located on narrow median islands. Pedestrians use it to enter the subway station and to wait to cross the street. There are also no curb cuts.

Pedestrians Waiting for Transit, Medians: The station entrances are located on narrow median islands. Pedestrians use it to enter the subway station and to wait to cross the street. There are also no curb cuts.

Underutilization of Entrances: The 34th Street entrances are underutilized.
Station: 40th Street

The 40th Street station is an elevated station with entrances located on a traffic island in the middle of Queens Boulevard. The entrances are difficult to access due to the width of Queens Boulevard. In addition, the Queens Boulevard median lacks sufficient space for pedestrians waiting to cross the street, which forces pedestrians into the roadway while waiting for the traffic signal.

Street Traffic Issues

Roadway Design

Blocked Visibility
The columns defining the median parking area block the visibility of motorists and pedestrians, particularly those making left-hand turns under the elevated structure.

Sight Distance
There is a crest at 41st Street that obscures motorists views from the east.

Traffic Flow

Traffic Volume
Queens Boulevard carries an extremely heavy volume of traffic, including traffic bound for the Queensboro Bridge.

Accident Location > 20 per year
At the intersection of 40th Street and Queens Boulevard, 60 accidents occurred from 1996 through 1998, 20 of which were reportable vehicular and nine of which were reportable pedestrian.

More than half of the total reportable accidents occurred during daylight hours. Seven of the reportable accidents involved rear end collisions and five involved an overtaking. The largest proportion of the accidents involving pedestrians occurred while they were crossing against the traffic signal.

Traffic Speed
Traffic speeds are high along Queens Boulevard.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

Stop Signs
Stop signs are placed so that motorists cannot see the pedestrian flow.

Lighting

Street and Sidewalk Lighting
Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours.
Issues and Opportunities

**Sidewalk Circulation Issues**

**Roadway Design**

*Channelization and Traffic Patterns*  
The channelization of traffic is confusing in the parking area beneath the elevated structure.

**Sidewalk Design and Layout**

*Sidewalk Dimensions*  
The sidewalks along the median parking area are extremely narrow, less than four feet wide.

*Pedestrians Waiting for Transit*  
The station entrances are located on the narrow median islands. Pedestrians use it to enter the subway station and to wait to cross the street.

*Medians*  
The median islands do not provide adequate pedestrian refuge space, nor do they have curb cuts.

**Sidewalk Elements**

*Street Furniture*  
The street furniture along the narrow sidewalks of the median parking area.

**Subway Station**

*Placement of Entrances*  
Subway riders must cross this busy arterial to enter the station located on the Queens Boulevard traffic medians.

*Station Entrance Lighting*  
Station entrance lighting beneath the elevated structure and within the stairwells is insufficient.

**Community Issues**

**Community**

*On-Going Projects*  
This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Blocked Visibility, Stop Signs: The station entrances obscure the vision of both pedestrians and motorists. The problem is compounded by stop signs which force the motorists to stop behind the station entrance.

Pedestrians Waiting for Transit, Medians: The station entrances are located on narrow median islands. Pedestrians use it to enter the subway station and to wait to cross the street. There are also no curb cuts.

Channelization and Traffic Issues, Crosswalk Issues: The channelization of traffic in the parking area beneath the elevated structure is confusing.
NYCDOT has done a considerable amount of work along Queens Boulevard as a result of the Queens Boulevard Pedestrian Safety Study. However, the streets surrounding the 71st/Continental avenues station carry heavy traffic volumes, have a significant amount of passenger loading, and have narrow sidewalks adjacent to some bus stops.

### Street Traffic Issues

#### Traffic Flow

**Traffic Volume**

Traffic volumes on Queens Boulevard are very heavy.

**Accident Location > 20 per year**

Two intersections at the 71st/Continental avenues station had an average of more than twenty accidents per year from 1996 through 1998. The intersections are:

- 71st Avenue and Queens Boulevard
- 70th Road and Queens Boulevard

At the intersection of 71st Avenue and Queens Boulevard there were 114 accidents, 30 of which were reportable vehicular, and 11 of which were reportable pedestrian. One of the reportable accidents involved a fatality.

Seventy-nine percent of all reportable accidents occurred during daylight. The largest proportion of reportable accidents, eight, involved rear end collisions. Other accidents also involved an overtaking (six accidents), left turns against a car (six accidents), and right angle collisions (five accidents). Five of the reportable accidents involved pedestrians that were crossing against the traffic signal.

At the intersection of 70th Road and Queens Boulevard, 39 accidents occurred, 16 of which were reportable vehicular and six of which were reportable pedestrian. One of these accidents resulted in a fatality. Four of the reportable accidents involved rear end collisions and an additional four involved right angle collisions. Three of the reportable accidents involved pedestrians crossing against the traffic signal.

**Traffic Speed**

Vehicular speeds on Queens Boulevard are high, particularly along the main thoroughfare.

#### Bus Operations

**Bus Stop Placement**

There are two bus stops in front of a station entrance on the triangular block bounded by 70th Road, 108th Street, and Queens Boulevard. This triangular block does not appear to have sufficient space for both bus stops.
Issues and Opportunities

Street Traffic Issues

Curb Regulations & Use

* Truck Loading/Unloading*  
There is a moderate amount of truck loading and unloading on Continental Avenue.

* Passenger Loading/Unloading*  
There is a significant amount of passenger loading and unloading, particularly at the taxi stand on the south side of Queens Boulevard.

* Conflicting Curb Uses*  
The taxi stand on the southern side of Queens Boulevard conflicts with eastbound traffic.

Pedestrian/Vehicular Traffic Issues

Traffic Controls

* Conflicting Movements*  
The intersection of 71st Avenue, Queens Boulevard, and 108th Street is configured as a "T", although pedestrian traffic moves in a triangular pattern; pedestrians cross from island to island parallel to Queens Boulevard traffic.

Signage

* Orientation Signage*  
This station lacks orientation signage within the station that indicates to pedestrians which exit to use to get to the bus stop they want. Signage could also direct pedestrians to the underground passageway that crosses Queens Boulevard.

Sidewalk Circulation Issues

Sidewalk Design and Layout

* Sidewalk Dimensions*  
The sidewalk at the station entrance on the east side of Continental Avenue is very narrow.

* Pedestrians Waiting for Transit*  
The bus stops on the east side of Continental Avenue (except for the bus stops between 70th Road and 108th Street) have high volumes of pedestrians waiting to load onto buses, constricting the sidewalk.

Sidewalk Elements

* Vendors and Newsstands*  
The newsstand on Continental Avenue abutting the station entrance substantially reduces the effective sidewalk width, especially in concert with the bus shelter; the newsstand on Queens Boulevard west of 70th Road severely constricts the sidewalk near the entrance.

Bicycle Facilities

* Bicycle Parking*  
There is one bicycle parking area on the west side of Continental Avenue.
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<td>Bicycle Facilities</td>
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Bus Stop Placement: The allocated curb space does not appear to be sufficient for the two buses that stop at the bus stop.

Conflicting Movements: The intersection of 71st Avenue, Queens Boulevard, and 108th Street is configured as a "T", although pedestrian traffic moves in a triangular pattern; pedestrians cross from island to island parallel to Queens Boulevard.

Truck Loading and Unloading: There is a moderate amount of truck loading and unloading along Continental Avenue.

Passenger Loading and Unloading, Conflicting Curb Uses: There is a significant amount of passenger loading and unloading along Queens Boulevard, particularly at the taxi stand. The taxi stand also conflicts with eastbound traffic.

Utilization of Entrances: The entrance on the north side of Queens Boulevard, west of 70th Road, is relatively underutilized.

Vertical Parking: There is one bicycle parking area on the west side of Continental Avenue.

Sidewalk Dimensions: The sidewalk at the station entrance on the east side of Continental Avenue is very narrow.

Vendors and Newsstands: The newsstand on Continental Avenue, working in conjunction with the bus shelter, severely constrains the effective sidewalk width.
The 90th Street station is an elevated station with an entrance located on a traffic island. The primary concerns with the streets surrounding this station are accessibility to the entrance on the traffic island, channelization, and queuing space at station entrances.

### Street Traffic Issues

#### Roadway Design

**Blocked Visibility**

Vehicles turning right from Roosevelt Avenue to Case Street have obstructed views of crossing pedestrians due to the elevated support columns located in the street and the cars parked at the curbside.

#### Traffic Flow

**Traffic Volume**

Roosevelt Avenue is a truck route with high traffic volumes.

**Accident Location > 20 per year**

At the intersection of Case Street and Roosevelt Avenue, a total of 15 accidents occurred from 1996 through 1998. One of these accidents was a reportable vehicular and seven were reportable pedestrian.

Four of the pedestrian accidents involved pedestrians that were crossing on the crosswalk, one involved a pedestrian crossing with the traffic signal, and an additional one involved a pedestrian emerging from a parked vehicle.

#### Curb Regulations & Use

**Truck Loading/Unloading**

This is a commercial area and truck loading and unloading occurs throughout the day.

**Passenger Loading/Unloading**

There is a significant amount of passenger loading and unloading at most streets, including the traffic island.

**Conflicting Curb Uses**

Metered parking extends all the way to the curb at the intersection of 90th Street and Roosevelt Avenue. This area is also used for truck loading and unloading and vehicles frequently double park here.

### Pedestrian/Vehicular Traffic Issues

#### Traffic Controls

**Stop Signs**

There is no stop sign or other traffic controls preceding the crosswalk at Roosevelt Avenue and Case Street.

**Signal Placement**

Traffic signals hanging from the elevated structure may be difficult for motorists to see at Roosevelt Avenue and Elmhurst Avenue.
Issues and Opportunities

Pedestrian/Vehicular Traffic Issues

Signage

Orientation Signage
The road signs at the corner of Elmhurst Avenue and Case Street are reversed.

Crosswalks

Crosswalk Issues
There are no crosswalks at Case Street and Elmhurst Avenue.

Crosswalk Obstructions
The support columns on the sidewalk obstruct the crosswalk traversing Roosevelt Avenue west of Elmhurst Avenue.

Lighting

Street and Sidewalk Lighting
Lighting is insufficient at the traffic island.

Sidewalk Circulation Issues

Sidewalk Design and Layout

Sidewalk Dimensions
The sidewalks near the entrances on 90th Street are just nine feet wide.

Pedestrians Waiting for Transit
Pedestrians wait to enter the station entrance located on the traffic triangle.

Pleasant Environment
The traffic island is not well-designed.

Sidewalk Elements

Street Furniture
The telephones on the traffic island constrict pedestrian flow.

Vendors and Newsstands
Numerous vendors constrict pedestrian movement.

Subway Station

Condition of Elevated Structure
The elevated structure needs repainting or cleaning.

Placement of Entrances
Many pedestrians jaywalk across Roosevelt Avenue to enter and exit the station entrance on the traffic island.

Entrance Stairwell
The raised platform at the top of the stairwell of the northwest entrance at 90th Street and Roosevelt Avenue is difficult to see.

Sanitation
Birds in the elevated structure leave guano on the street below.
Blocked Visibility, Channelization and Traffic Patterns: Vehicles turning right from Roosevelt Avenue to Case Street have difficulty seeing pedestrians due to the parked cars and columns along the curbside. There is no traffic signal regulating the turns from Roosevelt Avenue onto Case Street.

Conflicting Curb Uses: At the intersection of 90th and Roosevelt Avenue, metered parking extends all the way to the curb. This area is also used for truck loading and unloading. Vehicles often double park here.

Crosswalk Obstructions: The support columns on the sidewalk obstruct the crosswalk traversing Roosevelt Avenue.

Crosswalk Issues: There are no crosswalks at Case Street and Elmhurst Avenue.

Pleasant Environment: The traffic island is not well designed.

Stop Signs: There is no stop sign or other traffic controls preceding the crosswalk at Roosevelt Avenue and Case Street.
The 179th Street station is a large intermodal station with fifteen entrances. The station lacks orientation signage and sufficient queuing space at bus stops. Additionally, the designated bus lanes are used by private vehicles to load and unload passengers.

**Street Traffic Issues**

**Traffic Flow**

**Traffic Volume**

Hillside Avenue carries a high volume of traffic including trucks and buses.

**Bus Operations**

**Bus Stop Placement**

Several bus stops are too close to station entrances, thereby constricting pedestrian flow.

**Curb Regulations & Use**

**Passenger Loading/Unloading**

Passenger loading and unloading from livery vehicles occurs frequently.

**Illegal Parking**

The livery vehicles frequently park illegally even though there is a taxi stand on 179th Place.

**Conflicting Curb Uses**

Private and livery vehicles all use the bus lanes to load and unload passengers. There is a designated taxi stand but taxis use other locations as well.

**Pedestrian/Vehicular Traffic Issues**

**Traffic Controls**

**Signal Timing**

The signal timing allows pedestrians to cross Hillside Avenue as vehicles turn right onto Hillside Avenue from Midland Parkway.

**Conflicting Movements**

At the T intersection of Midland Parkway and Hillside Avenue, vehicles must make a right or left off of Midland Parkway. During the green signal, pedestrians crossing Hillside come into conflict with the right turning vehicles from Midland Parkway. Vehicles expect to have the right of way at this intersection since the crosswalk is approximately fifty feet away from the corner.

**Signage**

**Orientation Signage**

The station lacks orientation signage. There are 15 entrances and numerous bus stops located along the four blocks.
Pedestrian/Vehicular Traffic Issues

Crosswalks

Crosswalk Issues

There is no crosswalk from the northwest corner of Midland Parkway and Hillside Avenue to the southeast corner of 180th Street and Hillside Avenue.

Sidewalk Circulation Issues

Roadway Design

Channelization and Traffic Patterns

Midland Parkway does not line up with 180th Street so channelization through this intersection is confusing.

Sidewalk Design and Layout

Pedestrians Waiting for Transit

During peak hours the bus stops have a high volume of passengers. As a result, pedestrians waiting to load onto buses constrict the sidewalk.

Pleasant Environment

The area lacks landscaping and trees.

Subway Station

Placement of Entrances

The entrances are widely scattered and often hidden around corners, off of Hillside Avenue. Nine of the 15 entrances are not open 24-hours.

Community Issues

Community

On-Going Projects

This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Channelization and Traffic Patterns: Midland Parkway does not line up with 180th Street, so channelization is confusing through the intersection.

Bus Stop Placement: Several bus stops are too close to station entrances, thereby constricting pedestrian flow.

Signal Timing, Conflicting Movements, Crosswalk Issues: The signal timing allows pedestrians to cross Hillside Avenue as vehicles turn right onto Hillside Avenue from Midland Parkway. Vehicles turning right off Midland Parkway expect to have the right of way since the crosswalk is approximately 50 feet away. Subsequently, there is no crosswalk connecting the northwest corner of Midland Parkway and Hillside Avenue to the southeast corner of 180th Street and Hillside Avenue.
Bus Stop Placement: Several bus stops are too close to station entrances, thereby constraining pedestrian flow.
The primary concerns with the streets surrounding the Metropolitan Avenue station are the insufficient queuing space at the station entrance, the confusing bus and orientation signage, and the discontinuous sidewalks.

### Street Traffic Issues

**Roadway Design**
- **Excess Roadbed**
  Metropolitan Avenue widens in front of the mall which allows for truck and bus loading and unloading.

**Traffic Flow**
- **Traffic Volume**
  Traffic volume is heavy during peak hours.

**Accident Location > 20 per year**
At the intersection of Metropolitan and 69th Street, a total of 56 accidents occurred from 1996 through 1998. Nineteen of these accidents were reportable vehicular and six were reportable pedestrian.

The largest proportion of the pedestrian accidents (four accidents) involved pedestrians that were crossing with the traffic signal at the time of the accident. One accident involved a pedestrian that was crossing against the traffic signal, and another occurred while the pedestrian was walking along the roadway with traffic.

**Bus Operations**
- **Bus Stop Placement**
  Buses stop at the subway entrance, even though the marked stop is 100 feet away. In addition, the loading and unloading practices of the buses are inconsistent: some use the pull-in area in front of the mall, others use the travel lane.

### Pedestrian/Vehicular Traffic Issues

**Signage**
- **Orientation Signage**
  The area lacks orientation signage that directs subway passengers to the mall and mall users to the subway.

**Lighting**
- **Street and Sidewalk Lighting**
  Street and sidewalk lighting is insufficient, particularly on the north side of Metropolitan Avenue along the cemetery.
Issues and Opportunities

Sidewalk Circulation Issues

Roadway Design

Channelization and Traffic Patterns
The intersection of Rentar Plaza and Metropolitan Avenue has an irregular traffic pattern. In addition, vehicles must merge from a wider roadway to a narrower roadway as they travel east on Metropolitan Avenue.

Sidewalk Design and Layout

Sidewalk Dimensions
The sidewalk on the north side of Metropolitan Avenue is only eight feet wide. The effective sidewalk width is even less, due to lampposts along the sidewalk. In addition, the sidewalk on the south side of Metropolitan Avenue tapers down to ten feet in front of the station entrance, thereby constricting pedestrian flow.

Pedestrians Waiting for Transit
The bus stop located directly in front of the station entrance becomes highly congested during peak hours.

Discontinuous sidewalks
On the east side of Rentar Plaza, the sidewalk stops and pedestrians must walk in the street in order to enter the mall.

Pleasant Environment
The median at Rentar Plaza is poorly designed. In addition, a small area on the southeast corner of Rentar Plaza and Metropolitan Avenue provides an opportunity for improvement.

Subway Station

Placement of Entrances
The only entrance to this station is located on a narrow sidewalk.

Station Entrance Lighting
Station entrance lighting is insufficient.

Community Issues

Community

Special Needs Population
Observations during field work indicate that a large number of high school students use this station. The students attend Christ the King High School on Metropolitan Avenue, which is a large school with an enrollment of more than 1700 students.
Excess Roadbed: The roadway widens in front of the mall entrance to allow for truck and bus loading.

Sidewalk Dimensions: The narrow sidewalk on the north side of Metropolitan Avenue is eight feet wide. The sidewalk in front of the station entrance on the southern side of Metropolitan Avenue tapers to ten feet.

Street and Sidewalk Lighting: Lighting is insufficient on the north side of Metropolitan Avenue along the cemetery. However, the lighting along this stretch will be upgraded during the second quarter of 2002.

Pleasant Environment: The plaza and median at Rentar Plaza are devoid of pedestrian amenities and are plain concrete.

Street and Sidewalk Lighting: The narrow sidewalk on the north side of Metropolitan Avenue is eight feet wide. The sidewalk in front of the station entrance on the southern side of Metropolitan Avenue tapers to ten feet.

Bus Stop Placement: Buses stop in front of the subway entrance even though the marked stop is 100 feet east of the entrance.

Pedestrians Waiting for Transit: The bus stop in front of the station entrance becomes highly congested during peak hours.
Street and Sidewalk Lighting: Lighting is insufficient on the north side of Metropolitan Avenue along the cemetery. However, the lighting along this stretch will be upgraded during the second quarter of 2002.
The Rockaway Park/Beach 116th Street station is an intermodal station with an entrance located in a building. Despite the station’s heavy use in the summer time, it lacks a connection to the beach. The station could benefit from orientation signage guiding pedestrians to the area's main attraction, the waterfront. The station also has concerns with stop signs and medians.

### Street Traffic Issues

#### Traffic Flow

*Accident Location > 20 per year*  
During peak hours the bus stops located at the northeast corner of Rockaway Beach Boulevard and Beach 116th Street have a high volume of passengers. As a result, pedestrians waiting to load onto buses constrict the sidewalk and buses often arrive simultaneously.

#### Bus Operations

*Bus Stop Placement*  
The bus stops located at the northeast corner of Rockaway Beach Boulevard and Beach 116th Street do not have enough queuing space when all buses arrive at the same time.

#### Curb Regulations & Use

*Truck Loading/Unloading*  
There is some truck loading and unloading along Beach 116th Street.

*Passenger Loading/Unloading*  
There is some passenger loading and unloading along Beach 116th Street.

*Illegal Parking*  
There is frequent illegal parking along Beach 116th Street.

*Conflicting Curb Uses*  
Vehicles frequently stand in the bus stops, particularly when there is no parking available and motorists wait for a spot to become available.

### Pedestrian/Vehicular Traffic Issues

#### Traffic Controls

*Signal Timing*  
The intersection of Beach Channel Drive and Beach 116th Street could be considered for an all pedestrian phase in order to prevent pedestrians crossing Beach Channel Drive from conflicting with vehicles turning from Beach 116th Street.

*Stop Signs*  
There is no stop sign at the DOT parking lot/strip mall access point from Beach 116th Street. This is a desire line and pedestrians must jaywalk in order to cross the street.

*Conflicting Movements*  
When the traffic signal at the intersection of Newport Avenue and Beach 116th Street favors Beach 116th Street north, the motorists must
Pedestrian/Vehicular Traffic Issues

Traffic Controls

turn right or left. This is the only time pedestrians can cross Beach Channel Drive.

Signage

Orientation Signage

The station lacks subway and bus signage, particularly south of the station. In addition, the station lacks signage directing pedestrians to beach access points.

Lighting

Street and Sidewalk Lighting

Street and sidewalk lighting is insufficient.

Sidewalk Circulation Issues

Sidewalk Design and Layout

Medians

It is difficult for pedestrians to walk along the medians since there is no pedestrian path. Passage space is narrow with trees and follows a zigzag pattern. In addition, the median has been extended by striping on the asphalt. Pedestrians use this space for refuge while crossing the street. Due to the design of the median, street cleaning vehicles can not properly clean them.

Pleasant Environment

The area needs improved landscaping and street furniture given the proximity to the beach and other attractions.

Bicycle Facilities

Bicycle Parking

There is no bicycle parking.

Bicycle Routes

Beach 116th Street is a designated bicycle route by the New York City Bicycle Master Plan.

Subway Station

Placement of Entrances

The entrance is located mid-block which encourages jaywalking. Additionally, the entrance is located inside of a building, which obscures the entrance.
Community Issues

Community

On-Going Projects

This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Medians: There is insufficient pedestrian space on the medians. Due to the design of the medians, street cleaning vehicles cannot properly clean them.

Placement of Entrances: The entrance is located mid-block which encourages jaywalking. Additionally, its placement within a building makes it difficult to locate.
There are painted extensions of the median towards the intersection.

Bus Stop Placement, Conflicting Curb Uses: During peak hours the bus stops located at the northeast corner of Rockaway Beach Boulevard and Beach 116th Street have a high volume of passengers. As a result, passengers waiting to load onto buses constrict the sidewalk and buses often arrive simultaneously.

Placement of Entrances: The entrance is located mid-block which encourages jaywalking. Additionally, its placement within a building makes it difficult to locate.

Medians: There is insufficient pedestrian space on the medians.
Street Traffic Issues

Roadway Design

- **Blocked Visibility**: The elevated support columns obscure the vision of motorists turning onto Liberty Avenue.

- **Drainage**: Storm water runoff from the elevated structure accumulates in the intersection. The ponding obstructs pedestrian flow.

Traffic Flow

- **Accident Location > 20 per year**: At the intersection of Lefferts Boulevard and Liberty Avenue, a total of 80 accidents occurred between 1996 and 1998. Twenty-five of these accidents were reportable vehicular and six were reportable pedestrian.

  - The largest proportion of these accidents (11) involved rear end collisions. Four of the accidents involved left turns against a car, an additional four involved right angle collisions, and three involved an overtaking. Three of the accidents involved pedestrians crossing in the crosswalk at the time of the accidents.

Curb Regulations & Use

- **Parking Regulations**: There is a taxi stand at the intersection of Lefferts Boulevard and Liberty Avenue that seems to conflict with the two hour parking regulations.

- **Truck Loading/Unloading**: A significant amount of truck loading and unloading occurs along Liberty Avenue.

- **Passenger Loading/Unloading**: A significant amount of passenger loading and unloading occurs near the eastern entrances of the station.

- **Illegal Parking**: A significant amount of illegal and double parking occurs throughout the study area as vehicles wait to pick up passengers.
# Pedestrian/Vehicular Traffic Issues

## Traffic Controls

### Signal Timing
The traffic signals installed at 118th Street and Liberty Avenue do not have an amber phase.

### Signal Placement
There are no pedestrian signals at 118th Street and Liberty Avenue, and 116th Street and Liberty Avenue. In addition, the signals are placed very low so they are frequently blocked by trucks.

## Signage

### Orientation Signage
Bus stops are not adequately identified with signage.

## Crosswalks

### Crosswalk Issues
There are no crosswalks at 117th Street and Liberty Avenue. NYCDOT is currently addressing this issue.

## Lighting

### Street and Sidewalk Lighting
Lighting is insufficient beneath the elevated structure, which casts the street and sidewalks below in shadows during day and evening hours.

## Sidewalk Circulation Issues

### Sidewalk Elements

#### Street Furniture
The northwest and southwest corners of Lefferts Boulevard and Liberty Avenue are particularly cluttered with street furniture.

### Bicycle Facilities

#### Bicycle Parking
There is no bicycle parking at this station.

## Subway Station

### Condition of Elevated Structure
The elevated structure needs repainting.

### Utilization of Entrances
The western entrance at 116th Street is underutilized.

### Sanitation
Birds perched in the elevated structure leave guano on the street below.

### Station Entrance Lighting
The lighting at the station entrances needs improvement.
Community Issues

Community

On-Going Projects

This station has been scheduled for rehabilitation and the streetscape around this station may be modified through the addition of elevators and ramps, as well as the addition, removal, or relocation of street stairs and other elements.
Signal Placement: There are no pedestrian signals at the intersection of 116th Street and Liberty Avenue. The pedestrian signals are visually obstructed by trucks due to their low placement.

Crosswalk Issues: There are no crosswalks at 117th Street and Liberty Avenue. NYC DOT is addressing this issue.

Utilization of Entrances: The western entrances are underutilized.
Blocked Visibility: The elevated support columns obscure the vision of motorists making turns onto Liberty Avenue.

Signal Timing, Signal Placement: The signals at the intersection of 118th Street and Liberty Avenue do not have an amber phase. In addition, they are placed very low, which allows trucks to obscure their visibility. NYC DOT is addressing this issue through another project.

Parking Regulations: A taxi stand at the corner of Lefferts Boulevard and Liberty Avenue seems to conflict with the two hour parking regulations.

Passenger Loading and Unloading: A significant amount of passenger loading and unloading was observed around the eastern entrances of the station.
The Woodhaven Boulevard station has an entrance located on a traffic island. This entrance is difficult to access since there are no crosswalks connecting the island to other sidewalks at the intersection. In addition, the station has numerous entrances and could benefit from improved orientation signage.

### Street Traffic Issues

#### Roadway Design

**Excess Roadbed**

Queens Boulevard North between the service road for the Long Island Expressway and 90th Street has a wide right lane.

The large curb radius at the eastern corner of Woodhaven Boulevard and Queens Boulevard encourages pedestrians to stand in the roadbed while waiting for the light to change, and enables motorists to turn at higher than typical speeds.

#### Traffic Flow

**Traffic Volume**

Queens Boulevard carries six lanes of traffic in each direction and Woodhaven Boulevard carries four lanes of traffic in each direction. Both arterials are truck routes.

**Accident Location > 20 per year**

There are four intersections surrounding the Woodhaven Boulevard station that had an average of more than 20 vehicular or six pedestrian accidents from 1996 through 1998.

The intersection of the Queens Boulevard eastbound service road, Woodhaven Boulevard and 59th Avenue had a total of 343 accidents, 86 of which were reportable vehicular and 11 of which were reportable pedestrian. Seventy-six percent of all reportable accidents at this intersection occurred while the road was dry. The highest proportion of the accidents (25) involved rear end collisions, 20 accidents involved a left turn against a car, 17 involved an overtaking, and 13 involved a right angle collision.

The intersection of the Queens Boulevard westbound service road and 59th Avenue had 99 total accidents, 23 of which were reportable vehicular, and four of which were reportable pedestrian. The highest proportion of reportable pedestrian accidents (10) were rear end collisions, five involved a left turn against a car, and three involved right angle collisions.

At the intersection of 57th Avenue and Queens Boulevard there were a total of 164 accidents, one of which involved a fatality. Of the reportable accidents at this intersection 58 were vehicular and seven were pedestrian. Seventy-six percent of all reportable accidents occurred while the road was dry. The highest proportion of reportable vehicular accidents (22) involved rear end collisions and 16 involved...
**Street Traffic Issues**

**Traffic Flow**

right angle collisions. Four reportable accidents involved pedestrians that were crossing with the traffic signal, and an additional 4 involved pedestrians crossing against the traffic signal.

At the intersection of 92nd Street and 59th Avenue a total of 58 accidents occurred, seven of which were reportable vehicular and six of which were reportable pedestrian. Ninety-four percent of all reportable accidents at this intersection occurred while the road was dry, and 75 percent occurred during daylight. Four of the reportable accidents occurred while pedestrians were crossing with the traffic signal, and one occurred where there was no signal or crosswalk.

**Traffic Speed**

Traffic speeds are high on Queens Boulevard and Woodhaven Boulevard.

**Bus Operations**

**Bus Routes**

On the median of Queens Boulevard there is a striped area next to the curb where buses idle.

**Curb Regulations & Use**

**Conflicting Curb Uses**

Queens Boulevard has a wide curb lane that begins at the Long Island Expressway off-ramp and has 'No Standing' signs. However, it is used for loading and unloading, right turns and short term parking.

Likewise, in front of the Queens Center mall, the Q29, Q53,Q59 and Q63 buses have designated stops. However the wide curb lane is also used for passenger and freight loading and unloading.

**Pedestrian/Vehicular Traffic Issues**

**Traffic Controls**

**Signal Timing**

At the intersection of 59th Avenue and Queens Boulevard North motorists in the combined right turn and through movement lane are often confused by the signal which allows only through movements for a portion of the cycle. However, this signal timing scheme benefits pedestrians.

**Stop Signs**

Pedestrians frequently cross the Long Island Expressway off-ramp at 92nd Street where there is no intersection control.

**Conflicting Movements**

At the intersection of Woodhaven Boulevard and Queens Boulevard South, large volumes of turning vehicles complicate the pedestrian crossing.
Pedestrian/Vehicular Traffic Issues

**Signage**

*Orientation Signage*  
There are many entrances to this station and they are spread far apart from each other. The station lacks orientation signage.

**Crosswalks**

*Crosswalk Issues*  
Pedestrians frequently cross the Long Island Expressway off-ramp at 92nd Street where there is no intersection control.

Sidewalk Circulation Issues

**Sidewalk Design and Layout**

*Sidewalk Dimensions*  
The entrances reduce the effective sidewalk widths.

*Discontinuous sidewalks*  
At the intersection of Queens Boulevard and Woodhaven Boulevard, pedestrians cut through the grass and follow an unpaved desire path.

*Pleasant Environment*  
The station needs landscaping improvements.

**Sidewalk Elements**

*Street Furniture*  
The corners are cluttered with street furniture.

*Vendors and Newsstands*  
The entrance west of Woodhaven Boulevard, which exits onto a narrow triangle, has a newsstand that further narrows the sidewalk.

**Bicycle Facilities**

*Bicycle Parking*  
There is no bicycle parking.

*Bicycle Routes*  
Sixty-Third Road, 62nd Drive and the eastbound lane of Horace Harding Boulevard are all designated bicycle routes by the New York City Bicycle Master Plan.

**Subway Station**

*Placement of Entrances*  
The far eastern entrance is located on an island which is not connected to the nearby sidewalks with crosswalks. Pedestrians unfamiliar with the station could easily become disoriented when exiting the station on this island.

*Entrance Stairwell*  
Several of the entrances have a step at the base, which subway riders could fail to notice.

Raised platforms at the top of the stairwells are difficult to see.
Issues and Opportunities

Community Issues

Community

Land Use Changes
A new expansion of the Queens Mall and movie theater are planned for the area. Sidewalk widenings and roadway adjustments have and will be implemented as part of a mitigation program.

On-Going Projects
The Queens Center Mall Expansion and the Elmhurst Multiplex development projects, located adjacent to the station are required to install traffic improvement measures as part of their construction. These measures will need to be taken into account for any Subway-Sidewalk Interface Project recommendations.
Stop Signs, Crosswalk Issues, Placement of Entrances:
Pedestrians frequently cross the Long Island Expressway off-ramp at 92nd Street where there is no intersection control.

Conflicting Curb Uses, Excess Road Bed: While the wide curb lane that begins at the Long Island Expressway off-ramp has 'No Standing' signs, it is used for loading and unloading, right turns and short term parking.

Discontinuous Sidewalks: At the intersection of Queens Boulevard and Woodhaven Boulevard, pedestrians cut through the grass and follow an unpaved desire path.

Entrance Stairwell: This entrance has a riser with a low step, and exiting passengers may not notice the step.

Excess Roadbed: The large curb radius at the eastern corner of Woodhaven Boulevard encourages pedestrians to stand in the roadbed while waiting for the light to change, and enables motorists to turn at higher than typical speeds.
Conflicting Curb Uses: In front of the Queens Center mall, the Q29, Q53, Q59 and Q63 buses have designated stops. However, the wide curb lane is also used for passengers and freight loading and unloading.

Conflicting Movements: Large volumes of turning vehicles make this crossing difficult.

Medians: The crosswalk on the south side of Queens Boulevard is long, and the adjacent median does not extend into the crosswalk.

Signal Timing, Channelization: Motorists in the combined left turn and through movement lane are often confused by the signal which allows only through movements for a portion of the cycle.

Channelization and Traffic Patterns: Signage and markings indicating the proper lane position for motorists could alleviate congestion and erratic lane changes.
APPENDIX A: MATRICES

The following matrices have been developed in order to identify and categorize the issues at each of the thirty subway stations.
<table>
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<th>Third Ave</th>
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## ISSUES AND OPPORTUNITIES

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APPENDIX B: ACCIDENT ANALYSIS

The accident data, provided by the New York State Department of Transportation, have been analyzed for the years 1996 through 1998 for this report. High accident locations were selected if the intersection or mid-block location had at least 60 vehicular accidents, or at least six pedestrian accidents over the three year period.

New York State classifies accidents as either reportable or non-reportable. Accidents involving a death, an injury or vehicle property damage exceeding $1,000 are considered reportable. Detailed information is recorded for reportable accidents, while only limited information is recorded for non-reportable accidents. All accidents in the database, regardless of type, involve a motor vehicle.

The ‘general’ section in the following charts summarizes information about all accidents, while the ‘detailed’ section refers to reportable accidents only. The ‘pedestrian action’ section of the charts refers to a pedestrian action at the time of the vehicular accident, whether or not the accident is classified as a ‘pedestrian’ accident or not.
Bronx

231st Street
Intersection: BROADWAY & W 231ST ST

<table>
<thead>
<tr>
<th>General</th>
<th>Detailed Data for Reportable Accidents</th>
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<tbody>
<tr>
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<td>Vehicular 5</td>
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<tr>
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<td>Crossing W/ Signal 2</td>
</tr>
<tr>
<td>Non-Reportable</td>
<td>Bicycle 1</td>
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</tr>
<tr>
<td>Fatalities</td>
<td>Fixed Object 0</td>
<td>Ped Not Involved 4</td>
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<td>Injuries</td>
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<td>Other 2</td>
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233rd Street
Intersection: WHITE PLAINS RD & E 233RD ST

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<tr>
<td>Total Cases</td>
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<td>Vehicular 32</td>
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<tr>
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<td>Pedestrian 7</td>
<td>Crossing W/ Signal 0</td>
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<tr>
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<td>Bicycle 1</td>
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<td>Fixed Object 2</td>
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<td>Injuries</td>
<td>Other 1</td>
<td>Other 4</td>
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Burnside Avenue
Intersection: E BURNSIDE AVE & W BURNSIDE AVE & JEROME AVE

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<td>Pedestrian 7</td>
<td>Crossing W/ Signal 4</td>
</tr>
<tr>
<td>Non-Reportable</td>
<td>Bicycle 2</td>
<td>Emerge from behind 0</td>
</tr>
<tr>
<td>Fatalities</td>
<td>Fixed Object 1</td>
<td>Ped Not Involved 9</td>
</tr>
<tr>
<td>Injuries</td>
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<td>Other 2</td>
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### Fordham Road
**Intersection:** GRAND BLVD AND CONCOURSE & E 188TH ST

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### Intersection: CRESTON AVE & E FORDHAM RD

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<td><strong>Reportable</strong></td>
<td><strong>Fatalities</strong></td>
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### Intersection: E 188TH ST & CRESTON AVE

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<td><strong>Fatalities</strong></td>
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**APPENDIX B-3**
### Fordham Road
**Intersection:** E FORDHAM RD & GRAND BLVD AND CONCOURSE

<table>
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<tr>
<td>Reportable</td>
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<td>Non-Reportable</td>
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<tr>
<td>Vehicular</td>
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<td>Daylight</td>
<td>Left Turn 0</td>
<td>Crossing W/ Signal 7 Emerge from behind</td>
</tr>
<tr>
<td></td>
<td>Wet/Mud</td>
<td>Dawn/Dusk</td>
<td>Right Angle 1</td>
<td>Head On Rear End 0 Working in Roadway 0</td>
</tr>
<tr>
<td></td>
<td>Ice/Snow</td>
<td>Night</td>
<td>Overtaking 1</td>
<td>Against Other Car 1 Not in Roadway 0</td>
</tr>
<tr>
<td></td>
<td>Other</td>
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<td>Right Turn 0</td>
<td>No Signal or Crosswalk 0 Playing in Roadway 0</td>
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### Gun Hill Road/WPR
**Intersection:** E GUN HILL RD & WHITE PLAINS RD

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<th>Pedestrian Action at Time of Vehicular Accident</th>
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<tbody>
<tr>
<td>Vehicular</td>
<td>Dry</td>
<td>Daylight</td>
<td>Left Turn 0</td>
<td>Crossing W/ Signal 4 Emerge from behind</td>
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<tr>
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<td>Dawn/Dusk</td>
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<td>Against Other Car 1 Not in Roadway 0</td>
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<tr>
<td></td>
<td>Other</td>
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<td>Right Turn 0</td>
<td>No Signal or Crosswalk 1 Playing in Roadway 0</td>
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<tbody>
<tr>
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<td>Daylight</td>
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<tr>
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<td>Wet/Mud</td>
<td>Dawn/Dusk</td>
<td>Right Angle 2</td>
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<td>Ice/Snow</td>
<td>Night</td>
<td>Overtaking 1</td>
<td>Against Other Car 1 Not in Roadway 0</td>
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<tr>
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<td>Other</td>
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<td>Right Turn 0</td>
<td>No Signal or Crosswalk 1 Playing in Roadway 0</td>
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### Pelham Parkway/WPR

**Intersection:** PELHAM PKWY N & WHITE PLAINS RD

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<tr>
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### Intersection: BOSTON RD & PELHAM PKWY N

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### 3rd Avenue

**Intersection:** 3RD AVE & WESTCHESTER AVE & E 150TH ST

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<tr>
<td>Total Cases</td>
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</tr>
<tr>
<td>Reportable</td>
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<td>Non-Reportable</td>
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<tr>
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### 3rd Avenue

**Intersection: BERGEN AVE & E 149TH ST**

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<tr>
<td>Total Cases</td>
<td>Vehicular</td>
<td>Dry</td>
<td>Daylight</td>
<td>Left Turn</td>
<td>Crossing W/ Signal</td>
</tr>
<tr>
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<td>Dawn/Dusk</td>
<td>Right Angle</td>
<td>Crossing Against Signal</td>
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<tr>
<td>Injuries</td>
<td>0</td>
<td>Ice/Snow</td>
<td>Night</td>
<td>Right Turn</td>
<td>Crossing on Crosswalk</td>
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<td>Other</td>
<td>Not Reported</td>
<td>Left Turn</td>
<td>Other</td>
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### WILLIS AVE & 3RD AVE & E 149TH ST/MELROSE AVE

**Intersection: WILLIS AVE & 3RD AVE & E 149TH ST/MELROSE AVE**

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<th>Light Conditions</th>
<th>Vehicular Collision Type</th>
<th>Pedestrian Action at Time of Vehicular Accident</th>
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</thead>
<tbody>
<tr>
<td>Total Cases</td>
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<td>Dry</td>
<td>Daylight</td>
<td>Left Turn</td>
<td>Crossing W/ Signal</td>
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<td>Crossing Against Signal</td>
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<td>Fatalities</td>
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<td>Ice/Snow</td>
<td>Night</td>
<td>Right Turn</td>
<td>Crossing on Crosswalk</td>
</tr>
<tr>
<td>Injuries</td>
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<td>Other</td>
<td>Not Reported</td>
<td>Left Turn</td>
<td>Other</td>
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### CURTLAND AVE & E 149TH ST

**Midblock: CURTLAND AVE & E 149TH ST**

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<tr>
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<td>Daylight</td>
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<td>Crossing W/ Signal</td>
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<td>Dawn/Dusk</td>
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<td>Crossing Against Signal</td>
</tr>
<tr>
<td>Fatalities</td>
<td>0</td>
<td>Ice/Snow</td>
<td>Night</td>
<td>Right Turn</td>
<td>Crossing on Crosswalk</td>
</tr>
<tr>
<td>Injuries</td>
<td>14</td>
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<td>Not Reported</td>
<td>Left Turn</td>
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# Brooklyn

## Church Avenue
**Intersection:** CHURCH AVE & NOSTRAND AVE

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<td>Vehicular</td>
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## Jay Street, Borough Hall
**Intersection:** JAY ST & WILLOUGHBY ST

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## Nostrand Avenue
**Intersection:** FULTON ST & NOSTRAND AVE

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<td>Vehicular</td>
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### Sheepshead Bay
**Intersection: E 16TH ST & SHEEPSHEAD BAY RD**

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<tbody>
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<td>Total Cases</td>
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<td>Pedestrian</td>
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<tr>
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### Utica Avenue/Crown Heights
**Intersection: EASTERN PKWY & UTICA AVE**

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### Midblock: EASTERN PKWY & UTICA AVE
**EASTERN PKWY & SCHNECTADY AVE**

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### Utica Avenue/Crown Heights
**Intersection:** EASTERN PKWY & SCHNECTADY AVE

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### Detailed Data for Reportable Accidents

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<td>Other</td>
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- **Eastern PKWY & Schenectady Ave:**
- **Total Cases:** 68
- **Reportable:** 34
- **Non-Reportable:** 34
- **Fatalities:** 0
- **Injuries:** 72
Queens

**30th Avenue**
**Intersection:** 30TH AVE & NEWTOWN AVE & 33RD ST

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**33rd Street**
**Intersection:** QUEENS BLVD & VAN DAM ST

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### 33rd Street
**Intersection:** QUEENS BLVD & THOMPSON AVE & VAN DAM ST

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<td>Sideswipe</td>
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<td>Left Turn</td>
<td>Pedestrian Action at Time of Vehicular Accident</td>
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### 40th Street
**Intersection:** 40TH ST & NY25 & QUEENS BLVD

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### 71st/Continental Avenues
**Intersection:** 71ST AVE & NY25 & QUEENS BLVD

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<td>Accident Type</td>
<td>30</td>
<td>11</td>
<td>1</td>
<td>1</td>
<td>33</td>
<td>7</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>114</td>
<td>43</td>
<td>71</td>
<td>1</td>
<td>49</td>
</tr>
<tr>
<td>Road Surface</td>
<td>34</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>Light Conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicular Collision Type</td>
<td>Left Turn</td>
<td>Rear End</td>
<td>Right Angle</td>
<td>Head On</td>
<td>Overtaking</td>
<td>Sideswipe</td>
<td>Against Other Car</td>
<td>Right Turn</td>
<td>Left Turn</td>
<td>Pedestrian Action at Time of Vehicular Accident</td>
<td>Crossing W/ Signal</td>
<td>Crossing Against Signal</td>
<td>Crossing on Crosswalk</td>
<td>No Signal or Crosswalk</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td></td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>2</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Detailed Data for Reportable Accidents includes specific accident types, road conditions, light conditions, and pedestrian actions.
- The table provides a breakdown of accident types, reportable cases, fatalities, injuries, and specific details for each category.
### 71st/Continental Avenues
#### Intersection: 70TH RD & NY25 & QUEENS BLVD

<table>
<thead>
<tr>
<th>General</th>
<th>Detailed Data for Reportable Accidents</th>
<th>Pedestrian Action at Time of Vehicular Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accident Type</td>
<td>Road Surface</td>
</tr>
<tr>
<td>Total Cases</td>
<td>39</td>
<td>Vehicular</td>
</tr>
<tr>
<td>Reportable</td>
<td>22</td>
<td>Pedestrian</td>
</tr>
<tr>
<td>Non-Reportable</td>
<td>17</td>
<td>Bicycle</td>
</tr>
<tr>
<td>Fatalities</td>
<td>1</td>
<td>Fixed Object</td>
</tr>
<tr>
<td>Injuries</td>
<td>25</td>
<td>Other</td>
</tr>
</tbody>
</table>

### 90th Street
#### Intersection: CASE ST & ROOSEVELT AVE

<table>
<thead>
<tr>
<th>General</th>
<th>Detailed Data for Reportable Accidents</th>
<th>Pedestrian Action at Time of Vehicular Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accident Type</td>
<td>Road Surface</td>
</tr>
<tr>
<td>Total Cases</td>
<td>15</td>
<td>Vehicular</td>
</tr>
<tr>
<td>Reportable</td>
<td>8</td>
<td>Pedestrian</td>
</tr>
<tr>
<td>Non-Reportable</td>
<td>7</td>
<td>Bicycle</td>
</tr>
<tr>
<td>Fatalities</td>
<td>0</td>
<td>Fixed Object</td>
</tr>
<tr>
<td>Injuries</td>
<td>10</td>
<td>Other</td>
</tr>
</tbody>
</table>

### Metropolitan Avenue
#### Intersection: 69TH ST & METROPOLITAN AVE

<table>
<thead>
<tr>
<th>General</th>
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<th>Pedestrian Action at Time of Vehicular Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accident Type</td>
<td>Road Surface</td>
</tr>
<tr>
<td>Total Cases</td>
<td>56</td>
<td>Vehicular</td>
</tr>
<tr>
<td>Reportable</td>
<td>26</td>
<td>Pedestrian</td>
</tr>
<tr>
<td>Non-Reportable</td>
<td>30</td>
<td>Bicycle</td>
</tr>
<tr>
<td>Fatalities</td>
<td>0</td>
<td>Fixed Object</td>
</tr>
<tr>
<td>Injuries</td>
<td>31</td>
<td>Other</td>
</tr>
</tbody>
</table>
### Rockaway Park/Beach 116t St
**Intersection:** BEACH 116TH ST & ROCKAWAY BEACH BLVD

<table>
<thead>
<tr>
<th>General</th>
<th>Accident Type</th>
<th>Road Surface</th>
<th>Light Conditions</th>
<th>Vehicular Collision Type</th>
<th>Pedestrian Action at Time of Vehicular Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cases</td>
<td>Vehicular</td>
<td>36</td>
<td>Dry</td>
<td>Left Turn</td>
<td>Crossing W/ Signal</td>
</tr>
<tr>
<td>Reportable</td>
<td>Pedestrian</td>
<td>17</td>
<td>Dawn/Dusk</td>
<td>Right Angle</td>
<td>0</td>
</tr>
<tr>
<td>Non-Reportable</td>
<td>Bicycle</td>
<td>19</td>
<td>Night</td>
<td>Overtaking</td>
<td>4</td>
</tr>
<tr>
<td>Fatalities</td>
<td>Fixed Object</td>
<td>0</td>
<td>Ice/Snow</td>
<td>Against Other Car:</td>
<td>1</td>
</tr>
<tr>
<td>Injuries</td>
<td>Other</td>
<td>17</td>
<td>Other</td>
<td>Right Turn</td>
<td>0</td>
</tr>
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</table>

### Ozone Park/Lefferts Boulevard
**Intersection:** LEFFERTS BLVD & LIBERTY AVE

<table>
<thead>
<tr>
<th>General</th>
<th>Accident Type</th>
<th>Road Surface</th>
<th>Light Conditions</th>
<th>Vehicular Collision Type</th>
<th>Pedestrian Action at Time of Vehicular Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cases</td>
<td>Vehicular</td>
<td>80</td>
<td>Dry</td>
<td>Left Turn</td>
<td>Crossing W/ Signal</td>
</tr>
<tr>
<td>Reportable</td>
<td>Pedestrian</td>
<td>31</td>
<td>Dawn/Dusk</td>
<td>Right Angle</td>
<td>4</td>
</tr>
<tr>
<td>Non-Reportable</td>
<td>Bicycle</td>
<td>49</td>
<td>Night</td>
<td>Overtaking</td>
<td>1</td>
</tr>
<tr>
<td>Fatalities</td>
<td>Fixed Object</td>
<td>0</td>
<td>Ice/Snow</td>
<td>Against Other Car:</td>
<td>1</td>
</tr>
<tr>
<td>Injuries</td>
<td>Other</td>
<td>41</td>
<td>Other</td>
<td>Right Turn</td>
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### Woodhaven Boulevard
**Intersection:** 59TH AVE & NY25 & QUEENS BLVD

<table>
<thead>
<tr>
<th>General</th>
<th>Accident Type</th>
<th>Road Surface</th>
<th>Light Conditions</th>
<th>Vehicular Collision Type</th>
<th>Pedestrian Action at Time of Vehicular Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cases</td>
<td>Vehicular</td>
<td>343</td>
<td>Dry</td>
<td>Left Turn</td>
<td>Crossing W/ Signal</td>
</tr>
<tr>
<td>Reportable</td>
<td>Pedestrian</td>
<td>100</td>
<td>Dawn/Dusk</td>
<td>Right Angle</td>
<td>13</td>
</tr>
<tr>
<td>Non-Reportable</td>
<td>Bicycle</td>
<td>243</td>
<td>Night</td>
<td>Overtaking</td>
<td>17</td>
</tr>
<tr>
<td>Fatalities</td>
<td>Fixed Object</td>
<td>0</td>
<td>Ice/Snow</td>
<td>Against Other Car:</td>
<td>0</td>
</tr>
<tr>
<td>Injuries</td>
<td>Other</td>
<td>118</td>
<td>Other</td>
<td>Right Turn</td>
<td>0</td>
</tr>
</tbody>
</table>
### Woodhaven Boulevard
Intersection: 59TH AVE & NY25 & QUEENS BLVD

<table>
<thead>
<tr>
<th>General</th>
<th>Detailed Data for Reportable Accidents</th>
<th>Pedestrian Action at Time of Vehicular Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cases</td>
<td>Accident Type</td>
<td>Light Conditions</td>
</tr>
<tr>
<td></td>
<td>Vehicular</td>
<td>Road Surface</td>
</tr>
<tr>
<td>Total Cases</td>
<td>99</td>
<td>23</td>
</tr>
<tr>
<td>Reportable</td>
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<td>4</td>
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<td>Non-Reportable</td>
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<td>1</td>
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<tr>
<td>Injuries</td>
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### Intersection: 57TH AVE & NY25 & QUEENS BLVD

<table>
<thead>
<tr>
<th>General</th>
<th>Detailed Data for Reportable Accidents</th>
<th>Pedestrian Action at Time of Vehicular Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cases</td>
<td>Accident Type</td>
<td>Light Conditions</td>
</tr>
<tr>
<td></td>
<td>Vehicular</td>
<td>Road Surface</td>
</tr>
<tr>
<td>Total Cases</td>
<td>164</td>
<td>58</td>
</tr>
<tr>
<td>Reportable</td>
<td>68</td>
<td>7</td>
</tr>
<tr>
<td>Non-Reportable</td>
<td>96</td>
<td>3</td>
</tr>
<tr>
<td>Fatalities</td>
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<td>0</td>
</tr>
<tr>
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<td>88</td>
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### Intersection: 59TH AVE & 92ND ST

<table>
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<tr>
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<th>Pedestrian Action at Time of Vehicular Accident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cases</td>
<td>Accident Type</td>
<td>Light Conditions</td>
</tr>
<tr>
<td></td>
<td>Vehicular</td>
<td>Road Surface</td>
</tr>
<tr>
<td>Total Cases</td>
<td>58</td>
<td>7</td>
</tr>
<tr>
<td>Reportable</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>Non-Reportable</td>
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<td>2</td>
</tr>
<tr>
<td>Fatalities</td>
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<td>0</td>
</tr>
<tr>
<td>Injuries</td>
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<td>1</td>
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</table>
APPENDIX C: SPECIAL NEEDS POPULATION ANALYSIS

A special needs population analysis was performed to determine the nature and size of public facilities surrounding each of the selected subway stations, with the understanding that all New York City subway stations have special populations nearby. This analysis provided an information base for the ‘special needs’ issue, one of 42 issues taken into consideration in this report.

Each public facility listed in the Department of City Planning facilities database within a quarter-mile radius of a selected subway station was examined. Only schools, hospitals and senior centers are included in this report. Under each station heading there is a list of all facilities, along with both the type and capacity of each facility ranked according to its function, capacity and distance from the station. At the end of each chart there is a summary of the number of facilities and their total capacity.
### Issues and Opportunities

**Utica Avenue**

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 167 PARKWAY SCHOOL</td>
<td>Elementary School</td>
<td>1024</td>
</tr>
<tr>
<td>S.D.A. EBENEZER SCHOOL</td>
<td>Elementary School</td>
<td>182</td>
</tr>
<tr>
<td>MOUNT MORIAH CHRISTIAN ACAD</td>
<td>Elementary School</td>
<td>56</td>
</tr>
<tr>
<td>DAVID GRAYSON CHRISTIAN SCHOOL</td>
<td>Elementary School</td>
<td>114</td>
</tr>
<tr>
<td><strong>4 Facilities</strong></td>
<td></td>
<td><strong>1376</strong></td>
</tr>
</tbody>
</table>

**Church Avenue**

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<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 246 WALT WHITMAN IS</td>
<td>Middle School</td>
<td>1351</td>
</tr>
<tr>
<td>PS 399</td>
<td>Elementary School</td>
<td>493</td>
</tr>
<tr>
<td>JOHNSON PREP SCHOOL</td>
<td>Elementary School</td>
<td>70</td>
</tr>
<tr>
<td>FIRST IMPRESSIONS SCHOOL</td>
<td>Elementary School</td>
<td>13</td>
</tr>
<tr>
<td><strong>4 Facilities</strong></td>
<td></td>
<td><strong>1927</strong></td>
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</table>

**Nostrand Avenue**

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<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 93 WILLIAM H. PRESCOTT SCHOOL</td>
<td>Elementary School</td>
<td>695</td>
</tr>
<tr>
<td>JHS 258 DAVID RUGGLES JHS</td>
<td>Middle School</td>
<td>792</td>
</tr>
<tr>
<td>ANOINTED MINDS CHRISTIAN ACAD</td>
<td>K-12 School</td>
<td>127</td>
</tr>
<tr>
<td>COLLEGE OF NEW ROCHELLE - BROOKLYN</td>
<td>Post Secondary Degree</td>
<td>739</td>
</tr>
<tr>
<td><strong>4 Facilities</strong></td>
<td></td>
<td><strong>2353</strong></td>
</tr>
</tbody>
</table>

**Myrtle Avenue**

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUSHWICK HS</td>
<td>High School</td>
<td>2614</td>
</tr>
<tr>
<td>ST BRIGID SCHOOL</td>
<td>Elementary School</td>
<td>285</td>
</tr>
<tr>
<td><strong>2 Facilities</strong></td>
<td></td>
<td><strong>2899</strong></td>
</tr>
</tbody>
</table>
### Sheepshead Bay

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 254 DAG HAMMARSkjold School</td>
<td>Elementary School</td>
<td>528</td>
</tr>
<tr>
<td>ST Mark School</td>
<td>Elementary School</td>
<td>242</td>
</tr>
<tr>
<td><strong>2 Facilities</strong></td>
<td></td>
<td><strong>770</strong></td>
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### 36th Street

<table>
<thead>
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<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 24</td>
<td>Elementary School</td>
<td>767</td>
</tr>
<tr>
<td>IS 136 C.O. DEWEY</td>
<td>Middle School</td>
<td>885</td>
</tr>
<tr>
<td>PS 371 Lillian L. Rashkis School</td>
<td>Special School</td>
<td>222</td>
</tr>
<tr>
<td><strong>3 Facilities</strong></td>
<td></td>
<td><strong>1874</strong></td>
</tr>
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</table>

### Bedford Avenue

<table>
<thead>
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<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 17 Woodworth ES</td>
<td>Elementary School</td>
<td>638</td>
</tr>
<tr>
<td>ST Vincent De Paul School</td>
<td>Elementary School</td>
<td>146</td>
</tr>
<tr>
<td>Holy Ghost Ukranian Catholic School</td>
<td>Elementary School</td>
<td>76</td>
</tr>
<tr>
<td>Northside Senior Citizen Center</td>
<td>Senior Center</td>
<td>2646</td>
</tr>
<tr>
<td>Harry Van Arsdale HS</td>
<td>High School</td>
<td>1960</td>
</tr>
<tr>
<td><strong>5 Facilities</strong></td>
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### 7th Avenue

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<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
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</thead>
<tbody>
<tr>
<td>PS 340 (CSD of jurisdiction 17)</td>
<td>Middle School</td>
<td>297</td>
</tr>
<tr>
<td>Berkeley-Carroll School</td>
<td>K-12 School</td>
<td>662</td>
</tr>
<tr>
<td>Park Slope Senior Center</td>
<td>Senior Center</td>
<td>1875</td>
</tr>
<tr>
<td>PS 77</td>
<td>Special School</td>
<td>268</td>
</tr>
<tr>
<td><strong>4 Facilities</strong></td>
<td></td>
<td><strong>3102</strong></td>
</tr>
</tbody>
</table>
### Jay Street

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACIFIC HS</td>
<td>High School</td>
<td>472</td>
</tr>
<tr>
<td>MARY MCDOWELL CTR FOR LEARNING</td>
<td>Special School</td>
<td>73</td>
</tr>
<tr>
<td>BROOKLYN LAW SCHOOL</td>
<td>Post Secondary Degree</td>
<td>1471</td>
</tr>
<tr>
<td>ST FRANCIS COLLEGE</td>
<td>Post Secondary Degree</td>
<td>2136</td>
</tr>
<tr>
<td>GEORGE WESTINGHOUSE VOC &amp; TECH HS</td>
<td>High School</td>
<td>4005</td>
</tr>
<tr>
<td>ST JOSEPH HS</td>
<td>Senior High School</td>
<td>293</td>
</tr>
<tr>
<td>BROOKLYN FRIENDS SCHOOL</td>
<td>K-12 School</td>
<td>435</td>
</tr>
<tr>
<td>NYC TECHNICAL COLLEGE (CUNY)</td>
<td>Post Secondary Degree</td>
<td>10896</td>
</tr>
<tr>
<td>INSTITUTE OF DESIGN &amp; CONSTRUCTION</td>
<td>Post Secondary Degree</td>
<td>192</td>
</tr>
<tr>
<td>POLYTECHNIC UNIVERSITY</td>
<td>Post Secondary Degree</td>
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10 Facilities 23266

### Kings Highway

<table>
<thead>
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<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNOS ISRAEL OF EAST FLATBUSH</td>
<td>K-12 School</td>
<td>502</td>
</tr>
<tr>
<td>BET YAKOV ATERET TORAH HS</td>
<td>Senior High School</td>
<td>100</td>
</tr>
<tr>
<td>PROSPECT PARK BNOS LEAH HS</td>
<td>Senior High School</td>
<td>411</td>
</tr>
<tr>
<td>PROSPECT PARK YESHIVA</td>
<td>Elementary School</td>
<td>795</td>
</tr>
<tr>
<td>YESHIVA AHAVAS TORAH</td>
<td>Elementary School</td>
<td>244</td>
</tr>
<tr>
<td>MESORAH SCHOOL</td>
<td>Special School</td>
<td>14</td>
</tr>
<tr>
<td>THREE HIERARCHS SCHOOL</td>
<td>Elementary School</td>
<td>122</td>
</tr>
</tbody>
</table>

7 Facilities 2188
### 33rd Street

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIDDLE COLLEGE HS</td>
<td>High School</td>
<td>542</td>
</tr>
<tr>
<td>INTNTL HS</td>
<td>High School</td>
<td>452</td>
</tr>
<tr>
<td>FIORELLO H LAGUARDIA COMM COLLEGE (CUNY)</td>
<td>Post Secondary Degree</td>
<td>10640</td>
</tr>
<tr>
<td>QUEENS VOC HS</td>
<td>High School</td>
<td>1140</td>
</tr>
<tr>
<td><strong>4 Facilities</strong></td>
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<td><strong>12774</strong></td>
</tr>
</tbody>
</table>

### 40th Street

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 150</td>
<td>Elementary School</td>
<td>1084</td>
</tr>
<tr>
<td>SUNNYSIDE COMMUNITY SERVICE CENTER</td>
<td>Senior Center</td>
<td>3604</td>
</tr>
<tr>
<td><strong>2 Facilities</strong></td>
<td></td>
<td><strong>4688</strong></td>
</tr>
</tbody>
</table>

### 90th Street

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>0 Facilities</strong></td>
</tr>
</tbody>
</table>

### Woodhaven Boulevard

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATHEDRAL PREP SEMINARY</td>
<td>Senior High School</td>
<td>196</td>
</tr>
<tr>
<td>CATHOLIC MEDICAL CENTER ST JOHNS QNS DIV</td>
<td>Hospital</td>
<td>358</td>
</tr>
<tr>
<td>LOST BATTALION SENIOR CENTER</td>
<td>Senior Center</td>
<td>2313</td>
</tr>
<tr>
<td><strong>3 Facilities</strong></td>
<td></td>
<td><strong>2867</strong></td>
</tr>
</tbody>
</table>
## Issues and Opportunities

### 71st - Continental Avenues

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUR LADY QUEEN OF MARTYRS</td>
<td>Elementary School</td>
<td>293</td>
</tr>
<tr>
<td>BRAMSON ORT TECHNICAL INSTITUTE</td>
<td>Post Secondary Degree</td>
<td>878</td>
</tr>
</tbody>
</table>

| 2 Facilities                               |                        | 1171     |

### 179th Street

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMMACULATE CONCEPTION SCHOOL</td>
<td>Elementary School</td>
<td>397</td>
</tr>
<tr>
<td>MARY LOUIS ACAD (THE)</td>
<td>Senior High School</td>
<td>901</td>
</tr>
<tr>
<td>PS 95 EASTWOOD SCHOOL</td>
<td>Elementary School</td>
<td>1455</td>
</tr>
<tr>
<td>IS 238 SUSAN B. ANTHONY SCHOOL</td>
<td>Middle School</td>
<td>1690</td>
</tr>
</tbody>
</table>

| 4 Facilities                               |                        | 4443     |

### 30th Avenue

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 17 O. HENRY / D. THOREAU SCHOOL</td>
<td>Elementary School</td>
<td>1658</td>
</tr>
<tr>
<td>ST DEMETRIOS GREEK AMERICAN SCHOOL</td>
<td>K-12 School</td>
<td>595</td>
</tr>
<tr>
<td>WESTERN QNS COMMUNITY HOSPITAL</td>
<td>Hospital</td>
<td>235</td>
</tr>
</tbody>
</table>

| 3 Facilities                               |                        | 2488     |

### Lefferts Boulevard

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

| 0 Facilities                               |                        |          |
## Rockaway Park

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>STELLA MARIS HS</td>
<td>Junior/Senior High School</td>
<td>469</td>
</tr>
</tbody>
</table>

1 Facility: 469

## Metropolitan Avenue

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHRIST THE KING RGNL HS</td>
<td>Senior High School</td>
<td>1715</td>
</tr>
</tbody>
</table>

1 Facility: 1715
## 231st Street

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS  7 KINGSBRIDGE SCHOOL</td>
<td>Elementary School</td>
<td>903</td>
</tr>
<tr>
<td>ST JOHN SCHOOL</td>
<td>Elementary School</td>
<td>288</td>
</tr>
<tr>
<td>PS 207</td>
<td>Elementary School</td>
<td>651</td>
</tr>
<tr>
<td>MARBLE HILL NRSY SCHOOL &amp; KNDG</td>
<td>Elementary School</td>
<td>10</td>
</tr>
<tr>
<td>FORT INDEPENDENCE SENIOR CENTER</td>
<td>Senior Center</td>
<td>833</td>
</tr>
</tbody>
</table>

5 Facilities 2685

## 3rd Avenue - 149th Street

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS  1 THE COURTLAND SCHOOL</td>
<td>Elementary School</td>
<td>746</td>
</tr>
<tr>
<td>JHS 149 E. D. CLARK JHS</td>
<td>Intermediate/Junior High School</td>
<td>729</td>
</tr>
<tr>
<td>ALFRED E. SMITH HS</td>
<td>High School</td>
<td>1874</td>
</tr>
<tr>
<td>IMMACULATE CONCEPTION SCHOOL</td>
<td>Elementary School</td>
<td>643</td>
</tr>
<tr>
<td>ST PIUS V HS</td>
<td>Senior High School</td>
<td>187</td>
</tr>
<tr>
<td>COLLEGE OF NEW ROCHELLE-SOUTH BX</td>
<td>Post Secondary Degree</td>
<td>872</td>
</tr>
<tr>
<td>MELROSE-MOTT HAVEN SENIOR CENTER</td>
<td>Senior Center</td>
<td>2083</td>
</tr>
<tr>
<td>PATTERSON HOUSES</td>
<td>Senior Center</td>
<td>833</td>
</tr>
</tbody>
</table>

8 Facilities 7967

## Pelham Parkway (White Plains Road)

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PELHAM PARKWAY NORTH LUNCH PROGRAM</td>
<td>Senior Center</td>
<td>1750</td>
</tr>
</tbody>
</table>

1 Facility 1750
## 233rd Street

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 103 PARKWAY</td>
<td>Elementary School</td>
<td>1218</td>
</tr>
<tr>
<td>OUR LADY OF MERCY MED. CTR</td>
<td>Hospital</td>
<td>429</td>
</tr>
<tr>
<td><strong>2 Facilities</strong></td>
<td></td>
<td><strong>1647</strong></td>
</tr>
</tbody>
</table>

## Gun Hill Road (Dyre)

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOLY ROSARY SCHOOL</td>
<td>Elementary School</td>
<td>602</td>
</tr>
<tr>
<td>MISS FRANCINE DAY SCHOOL</td>
<td>Elementary School</td>
<td>14</td>
</tr>
<tr>
<td>ACAD OF LEARNING</td>
<td>Elementary School</td>
<td>17</td>
</tr>
<tr>
<td>JACOBI MEDICAL CENTER</td>
<td>Hospital</td>
<td>774</td>
</tr>
<tr>
<td><strong>4 Facilities</strong></td>
<td></td>
<td><strong>1407</strong></td>
</tr>
</tbody>
</table>

## Burnside Avenue

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BURNSIDE MENNONITE HS</td>
<td>Group Day Care</td>
<td>20</td>
</tr>
<tr>
<td>IS 306</td>
<td>Elementary School</td>
<td>1656</td>
</tr>
<tr>
<td>CAB MORRIS SENIOR CENTER</td>
<td>Senior Center</td>
<td>2708</td>
</tr>
<tr>
<td>PS 79 CRESTON</td>
<td>Elementary School</td>
<td>1191</td>
</tr>
<tr>
<td>PS / IS 279</td>
<td>Elementary School</td>
<td>946</td>
</tr>
<tr>
<td><strong>5 Facilities</strong></td>
<td></td>
<td><strong>6521</strong></td>
</tr>
</tbody>
</table>
## Issues and Opportunities

### Parkchester - East 177th Street

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT HAND SENIORS CENTER</td>
<td>Senior Center</td>
<td>3083</td>
</tr>
<tr>
<td>JASA AT PARCHESTER</td>
<td>Senior Center</td>
<td>1063</td>
</tr>
<tr>
<td>JASA - YOUNG ISRAEL/PARKCHESTER</td>
<td>Senior Center</td>
<td>271</td>
</tr>
<tr>
<td><strong>3 Facilities</strong></td>
<td></td>
<td><strong>4417</strong></td>
</tr>
</tbody>
</table>

### Fordham Road

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 33 TIMOTHY DWIGHT SCHOOL</td>
<td>Elementary School</td>
<td>1062</td>
</tr>
<tr>
<td>PS 85</td>
<td>Elementary School</td>
<td>1265</td>
</tr>
<tr>
<td>MS 319</td>
<td>Middle School</td>
<td>903</td>
</tr>
<tr>
<td>MONROE BUSINESS INSTITUTE</td>
<td>Post Secondary Degree</td>
<td>3425</td>
</tr>
<tr>
<td>UNION HOSPITAL OF THE BRONX</td>
<td>Hospital</td>
<td>198</td>
</tr>
<tr>
<td>OLDER ADULT LUNCHEON CLUB</td>
<td>Senior Center</td>
<td>2083</td>
</tr>
<tr>
<td>FORDHAM LUTHERAN SR. CTR</td>
<td>Senior Center</td>
<td>625</td>
</tr>
<tr>
<td>OUR LADY OF MERCY SCHOOL</td>
<td>Elementary School</td>
<td>390</td>
</tr>
<tr>
<td><strong>8 Facilities</strong></td>
<td></td>
<td><strong>9951</strong></td>
</tr>
</tbody>
</table>

### Gun Hill Road (White Plains Road)

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS 41 GUN HILL ROAD SCHOOL</td>
<td>Elementary School</td>
<td>852</td>
</tr>
<tr>
<td>YELVERTON SCHOOL (THE)</td>
<td>Elementary School</td>
<td>124</td>
</tr>
<tr>
<td>IMMACULATE CONCEPTION SCHOOL</td>
<td>Elementary School</td>
<td>676</td>
</tr>
<tr>
<td>GUNHILL SENIOR CENTER</td>
<td>Senior Center</td>
<td>2083</td>
</tr>
<tr>
<td><strong>4 Facilities</strong></td>
<td></td>
<td><strong>3735</strong></td>
</tr>
</tbody>
</table>
## Pelham Parkway (Dyre)

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Type</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST CATHARINE ACAD</td>
<td>Senior High School</td>
<td>980</td>
</tr>
<tr>
<td>NY INST FOR SPEC EDUC</td>
<td>K-12 School</td>
<td>161</td>
</tr>
<tr>
<td><strong>2 Facilities</strong></td>
<td></td>
<td><strong>1141</strong></td>
</tr>
</tbody>
</table>


APPENDIX D: BIBLIOGRAPHY

Executive Order No. 22, Sidewalk Corner Clearances, Mayor’s Office of Transportation, April 13, 1995.


New York City Administrative Code, Title 6 - Department of Consumer Affairs.

New York City Bicycle Master Plan, NYC Department of City Planning, NYC Department of Transportation, May 1997.


NYCDOT Pedestrian Improvements, Mayor’s Office of Transportation, July 22, 1999.

NYCDOT Traffic Rules, New York City Department of Transportation, revised edition as of October 6, 2000.


Credits

Department of City Planning
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Richard Barth, Executive Director
Sandy Hornick, Deputy Executive Director, Strategic Planning

Transportation Division
Jack Schmidt, Director
Kevin Olinger, Deputy Director
Scott Wise, Bicycle, Pedestrian, and Greenway Projects Team Leader
Anne-Marie Turner, Former Project Manager
Karen Blatt, Project Manager
Rex Hodgson
Ted Wright

Brooklyn Borough Office
Regina Myer, Director
Richard Jacobs

Queens Borough Office
John Young, Director
Debbie Carney, Deputy Director
Victor L’Eplattenier

Bronx Borough Office
Purnima Kapur, Director
Nestor Danyluk

Department of Transportation
Iris Weinshall, Commissioner
Kerry Gould-Schmit, Deputy Chief of Staff

Michael Primeggia, Deputy Commissioner Traffic Operations

Lori Ardito, Acting Brooklyn Borough Commissioner
Joseph Cannisi, Queens Borough Commissioner
Constance Moran, Bronx Borough Commissioner

Anne-Marie Turner, Chief of Design and Construction
Dan Orlando, Chief of Alternative Transportation Modes
Randy Wade, Director of Pedestrian Projects
Holly Haff, Planning Division
Alan Borock, Director of Signal Engineering