

Bronx East-West Bicycle Corridors



New York City Department of City Planning
Transportation Division

Bronx East-West Bicycle Corridors

Final Report

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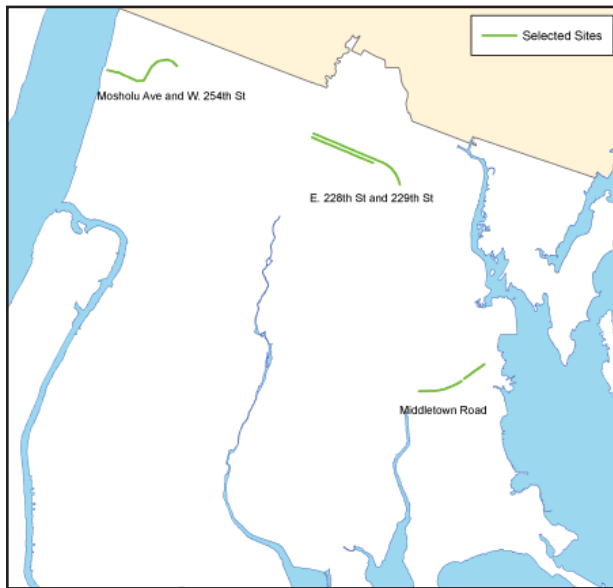
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Executive Summary



The New York City Department of City Planning's (DCP) Transportation Division has conducted the Bronx East-West Bicycle Corridors project. This project is a study of three east-west corridors in the Bronx to determine the feasibility of installing Class II bicycle lanes or shared lanes on the streets. A Class II bicycle lane is a striped five-foot wide on-street lane located between the parking lane and travel lane. Three corridors were selected for this study: East 228th and East 229th streets, located in Williamsbridge; West 254th Street and Mosholu Avenue, located in North Riverdale; and Middletown Road, located in Pelham Bay. All three corridors provide important connections to destinations such as parks, greenways, and transit. The recommendations presented in this report are listed below.

Middletown Road: A challenge to implementing this bicycle route is that the Bruckner Expressway bisects the corridor. As a result, three alternatives have been examined for the bicycle route along Middletown Road. The first alternative utilizes an overpass straddling the Bruckner Expressway located at Roberts Avenue. The second alternative utilizes an overpass located at Buhre Avenue. The third alternative recommends a two-way eight-foot wide bicycle lane along the Bruckner Expressway service road, providing access to both overpasses.

Use of the Roberts Avenue overpass would take cyclists from Westchester Avenue all the way across the Bruckner Expressway and onto Middletown Road. Use of the Buhre Avenue overpass would take cyclists from Westchester Avenue across the Bruckner Expressway and lead them directly into Pelham Bay Park. The optimal route depends on the destination of the cyclist.

East 228th Street and East 229th Street: A challenge to implementing this route could be approximately 50 feet of angled parking along the north side of East 229th Street, west of Laconia Avenue. The angled parking is used by the police station located on the northwest corner of East 229th Street and Laconia Avenue.

The recommended eastbound route begins at the Bronx River Greenway and travels east along East 229th Street to Needham Avenue. The westbound route travels west along East 229th Street to Laconia Avenue, turns south on Laconia for one block and then west onto East 228th Street to the Bronx River Greenway.

Mosholu Avenue and West 254th Street: The challenges to implementing this route are as follows: First, while Mosholu Avenue can easily accommodate a Class II bicycle lane, West 254th Street is much narrower and can only accommodate a shared lane. Second, West 254th Street travels along a very steep hill which would likely be used by advanced riders only. Third, cyclists may only

bring their bicycles on Metro North trains during off-peak hours, and a permit must be obtained in advance. Lastly, there are infrastructure problems on West 254th Street which must be addressed before implementing a shared bicycle path along this route.

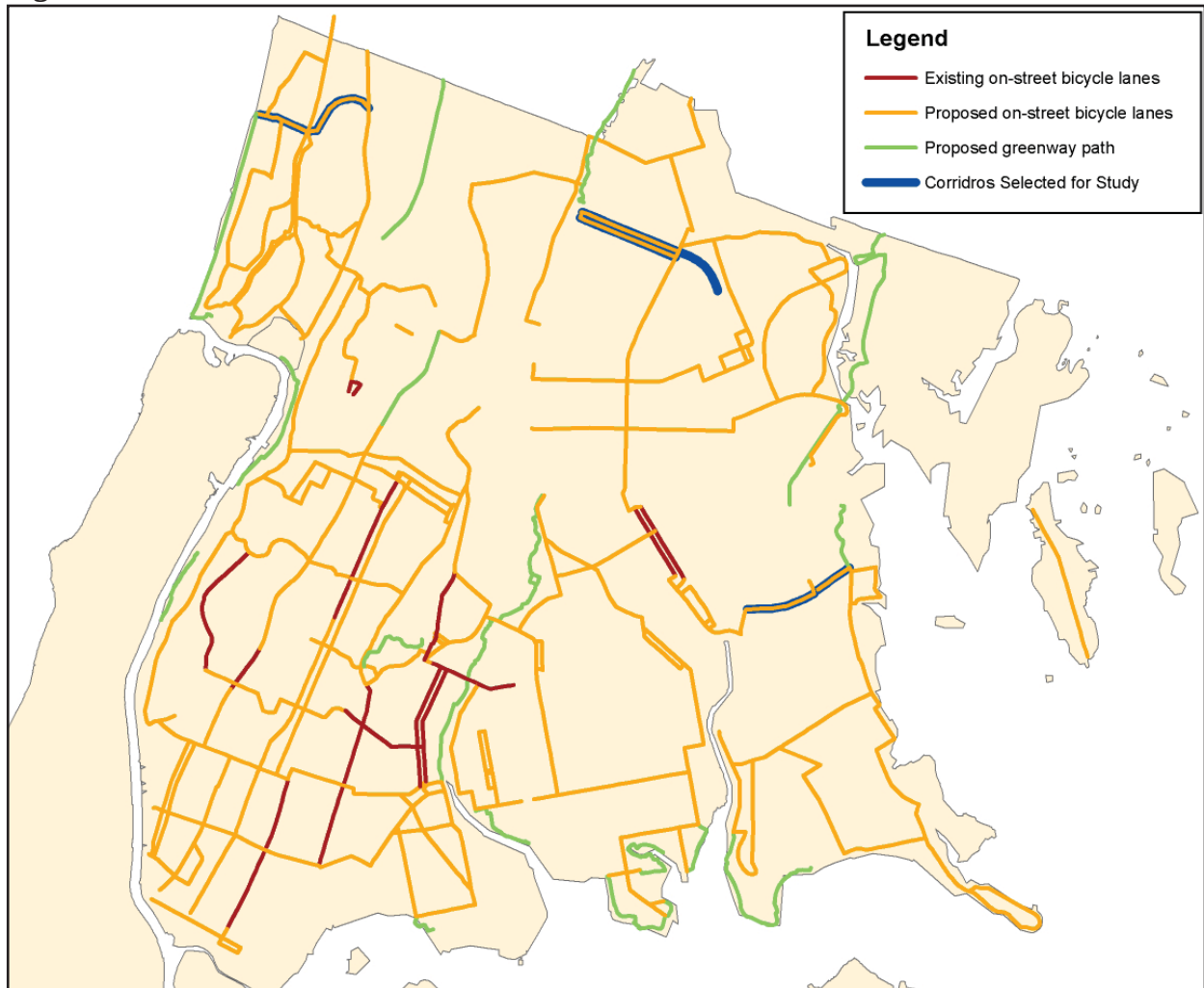
The recommended route would begin at the Riverdale Metro North station and travel east along W. 254th Street, which turns into Mosholu Avenue. Cyclists would travel along Mosholu Avenue until they reach Van Cortlandt Park. The recommended westbound route follows the same streets. Traffic calming measures are also recommended for the intersection of Mosholu and Liebig avenues and Mosholu Avenue and Broadway.

Introduction

The New York City Department of City Planning's (DCP) Transportation Division has conducted the Bronx East-West Bicycle Corridors project. This project is a study of three east-west corridors in the Bronx to determine the feasibility of installing bicycle lanes adjacent to the vehicular lanes (Class II bicycle lanes) or shared lanes on the streets.

The purpose of this project is to build upon the existing bicycle network in the Bronx and establish connections to major destinations such as parks and transit. The current NYC Bicycle Master Plan was examined and where feasible, the proposed route is recommended. If the route proposed in the NYC Bicycle Master Plan is not feasible an alternative route is recommended.

Figure 0.1



The first phase of this project involved a site selection process which included a list of several east-west corridors that were good candidates for bicycle lanes because the streets are wide enough to accommodate a Class II lane, or because they provide a good east-west route for cyclists to travel, or because they provide connections to the existing bicycle network, transit or parks. Other considerations were that the corridor has observably low traffic volumes and a low number of vehicular accidents. Table 1 on the following page, lists the criteria used for site selection.

After the initial field work was conducted, several corridors were eliminated from consideration because they are too narrow, traffic volumes were observed to be high or accident data revealed that the vehicular accident numbers are very high.

While not reflected in the criteria matrix, it was important that the selected sites were located in three different communities in the Bronx. Special consideration was given to neighborhoods that are underserved in transportation facilities.

Table 0.1

		Site Selection Criteria				
		Sufficient width*	Observably low traffic volumes	Low number of vehicular accidents	Connections to existing route or transit	Proposed in NYC Bicycle Master Plan
Corridors	Selected Corridors					
	E. 228th / 229th streets	✓	✓	✓	✓	✓
	Middletown Road	✓	✓	✓	✓	✓
	Mosholu Avenue / W. 254th Street	✓	✓	✓	✓	✓
	Eliminated from Consideration					
	E. 165th / 161st streets				✓	✓
	E. Tremont Avenue	✓			✓	
	Allerton Avenue				✓	✓
	Burke Avenue				✓	✓
	E. Gun Hill Road				✓	
	Lafayette Avenue	✓	✓	✓	✓	✓
	Manhattan College Parkway		✓	✓	✓	✓

* Minimum sufficient width is five feet for a bicycle lane, seven feet for a parking lane, and ten feet for a travel lane. If this criteria has not been met a traffic analysis may be necessary to determine the feasibility of removing a lane of traffic or parking.

Among the challenges of this project are the geography and topography of the Bronx. The Bronx is bisected by several parks and highways which prevent most corridors from traversing the entire borough. Additionally, many streets in the Bronx follow the topography of the land as opposed to a grid, thereby interrupting the east-west traffic flow. The corridors that do traverse the borough are so congested that a bicycle lane would not be feasible.

Several east-west corridors were considered for study under this project, however many were eliminated from consideration after conducting preliminary fieldwork (see Figure 2). The criteria for site selection include the following: sufficient width; observably low traffic volumes; low number of vehicular accidents; connections to an existing bicycle route, transit or destination; routes proposed in the NYC Bicycle Master Plan. The corridors which are not being studied as part of this project are listed below.

Allerton Avenue / Bartow Avenue

Allerton Avenue is 60 feet wide from Bronx Park East to Kingsland Avenue. The street is bidirectional with two travel lanes in each direction. Parking is permitted on both sides of the street. Bartow Avenue varies in width and carries heavy traffic volumes since it provides access to

the New England Thruway and it is the only major arterial bisecting Co-op City. This corridor was eliminated from consideration because it is not wide enough to fit a bicycle lane without eliminating parking or a travel lane.

Burke Avenue

Burke Avenue is 60 feet wide from Bronx Park East to Bouck Avenue. The street is bidirectional with two travel lanes in each direction. East of Bouck Avenue the street narrows to 43 feet and has one travel lane in each direction. Parking is permitted on both sides of the street. There is a connection to the Bronx River Greenway on the west end of the corridor.

This corridor was eliminated because it is not wide enough to fit a bicycle lane without eliminating parking or a travel lane. Additionally, it is not possible to travel the entire length of Burke Avenue since it terminates at Kingsland Avenue and starts again at Gunther Avenue. This would be a circuitous path for cyclists and is therefore not optimal.

East Gun Hill Road

East Gun Hill Road is 60 feet wide from the Bronx River Parkway to New England Thruway. The street is bidirectional with two travel lanes in each direction. Parking is permitted on both sides of the street.

This corridor was eliminated from consideration because it is not wide enough to fit a bicycle lane without eliminating parking or a travel lane. Additionally, cyclists must use stairs in order to connect to the Bronx River Greenway at the west end of the corridor.

Lafayette Avenue

Lafayette Avenue is 70 feet wide. The street is bidirectional with two travel lanes in each direction. Parking is permitted on both sides of the street. This corridor would connect to the Soundview Park Greenway west of the corridor.

This corridor was eliminated from consideration because at the time data was being collected for this study, NYCDOT had planned to install a bicycle lane at this location in September 2007. The bicycle lane was installed as planned.

Manhattan College Parkway

Manhattan College Parkway is 30 feet wide from Broadway to the Henry Hudson Parkway service road. The street is bidirectional with one travel lane in each direction. Parking is permitted on the eastbound side of the street between W. 242nd St and W. 244th St. There is a connection to Van Cortlandt Park east of the corridor.

Although the number of vehicular accidents along this corridor is low it was eliminated from consideration because it is very curvy and, therefore, not ideal for cycling conditions. Vehicles need a wider travel lane to negotiate the turns along curvy roads and there would not be enough space to install a bicycle lane. Additionally, while the speed limit is only 15 mph, vehicles frequently travel at higher speeds because there are no signalized intersections.

The following two corridors were considered possible candidates for their excellent connections but they were determined to be not suitable for this project. These corridors are listed below.

East 161st Street

East 161st Street is a bidirectional street with parking permitted on both sides of the street. The street widths and number of lanes vary along the corridor. Due to the heavy vehicular congestion on the west end of the corridor a bicycle lane is not likely to fit. An alternate route could be East 165th Street; however most of the street is too narrow and a shared lane would be required. The street is 74 feet wide from Walton Avenue to Sherman Avenue and then it narrows to 33 feet for the rest of the corridor.

Connections to this corridor are the Jerome Avenue shared lane to the west and the St Ann's bicycle lane to the east. If this bicycle lane were implemented a shared lane would be required for most of its length and it would be indirect.

East Tremont Avenue

East Tremont Avenue is 70 feet wide from Westchester Avenue to Morris Park Avenue. The street is bidirectional with two travel lanes in each direction. Parking is permitted on both sides of the street. There is a 2 foot-wide median in the center of the road from Castle Hill Avenue to White Plains Road. There is enough space to install a Class II bicycle lane on the street without removing parking or a travel lane. There are connections to a proposed greenway to the west and the Hutchinson Greenway to the east.

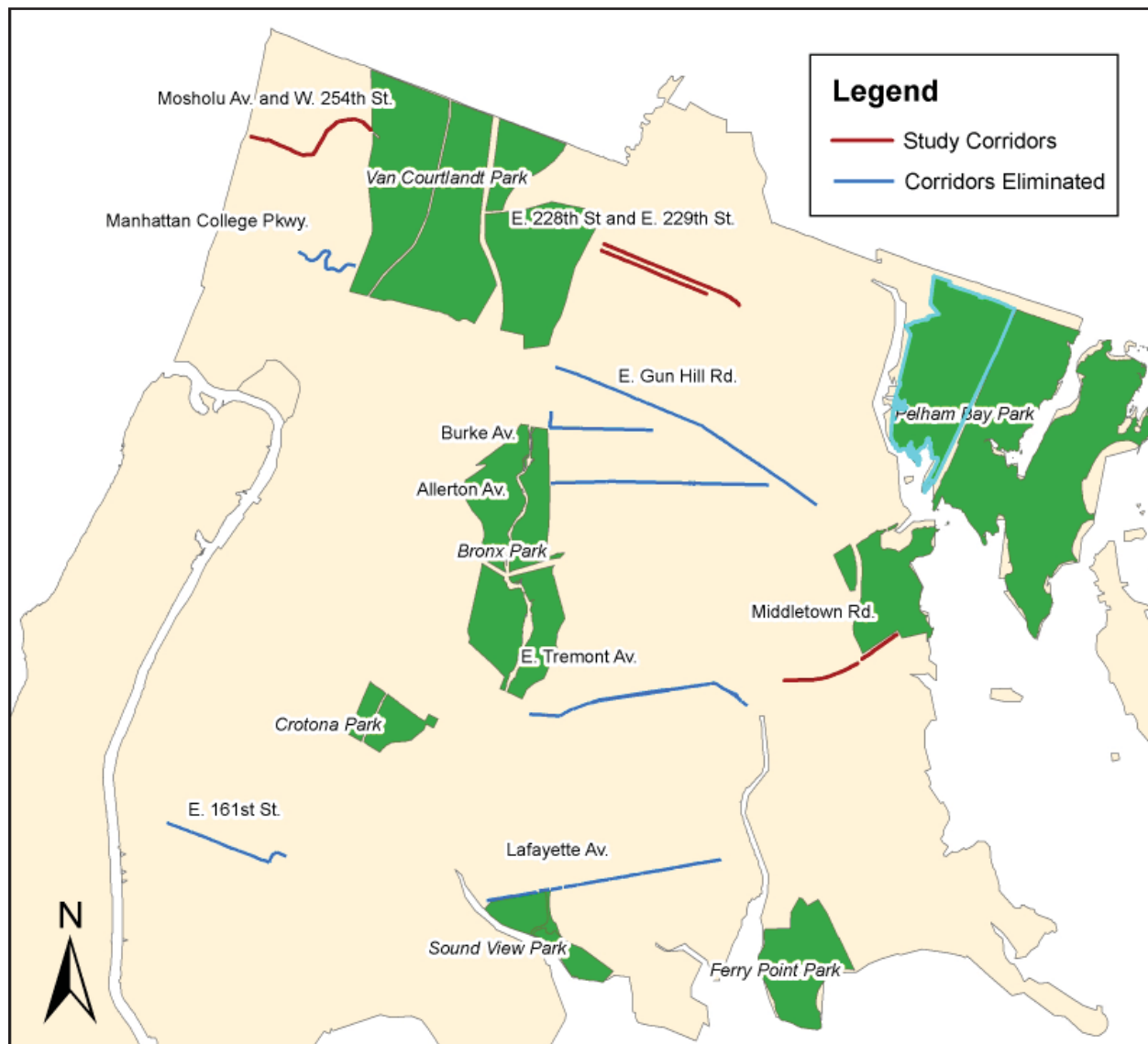
This corridor may be difficult for cyclists to navigate since there have been several vehicular accidents. Additionally, vehicles travel at high speeds, and there are few signalized intersections.

The corridors chosen as the best candidates for this project are listed below and illustrated in Figure 2 on the following page.

- Middletown Road
- East 228th and 229th Streets
- West 254th Street and Mosholu Avenue

East 228th and East 229th streets are located in Williamsbridge, an area located in close proximity to Bronx Park and Pelham Bay Park, with no existing bicycle facilities providing access to them. West 254th Street and Mosholu Avenue are located in North Riverdale, a remote area in the northwest Bronx that is not located near the subway. The area primarily has high-cost transit options such as Metro-North or an express bus, or commuters can opt for a longer ride and take the NYCT bus to the subway. Additionally, there are no bicycle lanes in the entire Riverdale section of the Bronx. Middletown Road, located in Pelham Bay, is also a remote area south of Pelham Bay Park. The corridor is bisected by the Bruckner Expressway, thereby making it difficult to access the subway.

Figure 0.2



Existing Conditions Data Sources

All of the following data were taken into account when selecting the study areas and helped to inform the recommendations in this study.

Truck Routes

Truck movements within New York City are currently governed by the traffic rules and regulations contained in the Rules of the City of New York, Volume II, Chapter 4-13. These regulations apply to vehicles which are designated for the transportation of property and have either of the following characteristics: two axles and six tires or three or more axles.

There are two truck route designations: through and local truck routes. Through truck routes are designated for trucks having neither an origin nor a destination within the local area. Local truck routes are designated for trucks with origins or destinations within an area for the purpose of delivery, loading, or providing services.

Accidents

Accident data was compiled from the New York State Department of Transportation's Local Accident Surveillance Project (LASP) for the years 2004 through 2006. The information that was gathered from LASP includes total accidents and pedestrian accidents, which are defined as follows:

- Total reportable accidents are the number of accidents in which a police report was taken at the scene of the accident. The site of the accident may either be at an intersection or at a mid-block location between two intersections.
- Pedestrian or bicycle accidents are accidents in which a pedestrian or bicycle was involved.

Zoning

Zoning data were taken from the current New York City Zoning Resolution. The data is updated anytime the City Planning Commission approves a rezoning and the City Council affirms the vote.

Land Use

Land use data is based on Real Property Address Directory (RPAD) data from the Department of Finance. The data was last updated in 2005.

Demographics

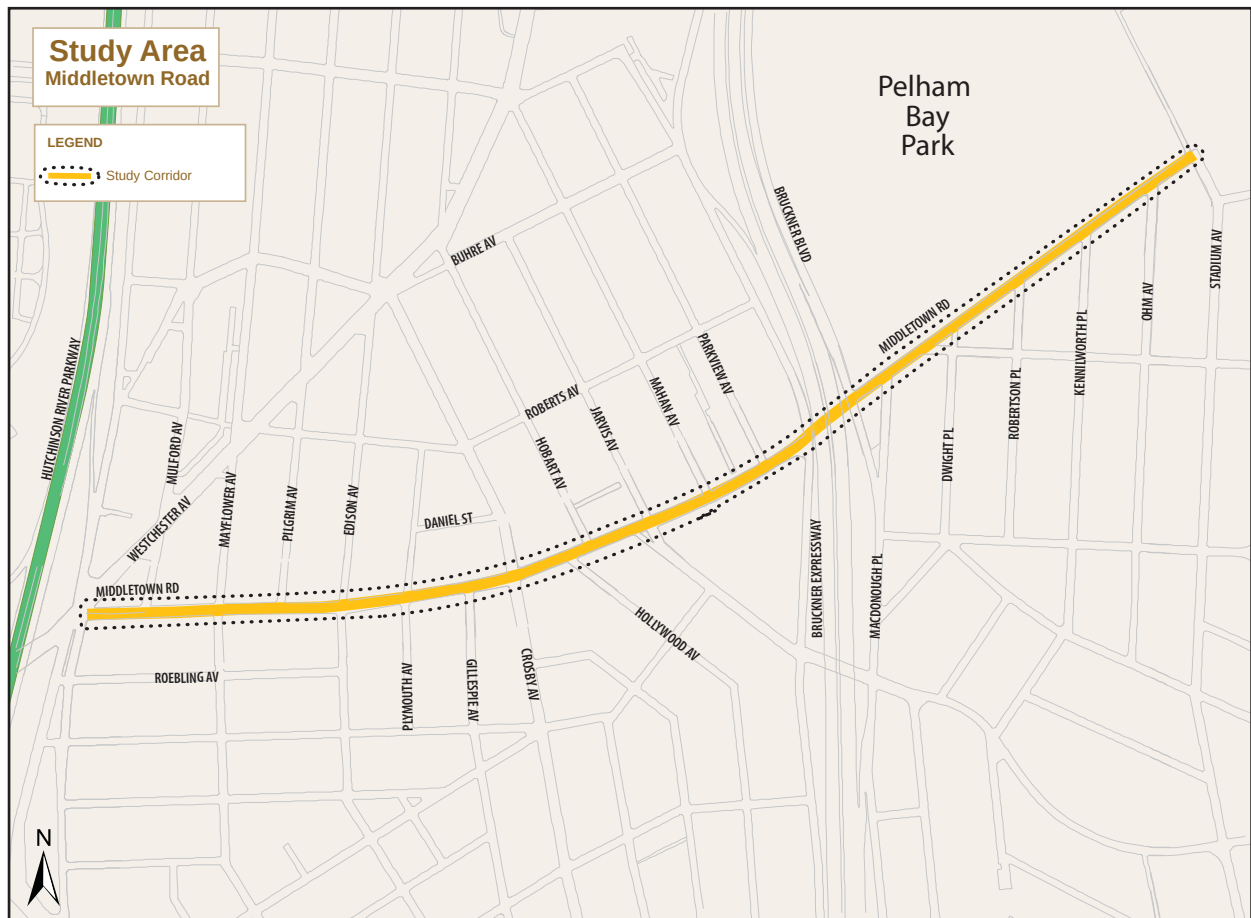
Demographic data was taken from the 2000 US Census Bureau's STF-3 tables. Data was extracted for census tracts that intersect the study corridors. Journey to work modal split analyses were done for both the local resident labor force and the people who traveled into the study area to work. As part of the Census Bureau's disclosure avoidance process numbers are rounded in order to protect the privacy of participants. This process generates deviations of three percent or less among the Journey to Work tables.

1. Existing Conditions: Middletown Road

Study Area

The Middletown Road corridor is located in the Pelham Bay section of the Bronx and stretches from the Hutchinson River Parkway to Stadium Avenue. The corridor crosses the Bruckner Expressway and travels along the south side of Pelham Bay Park. See Figure 1.1 below.

Figure 1.1



Street Network

Roadway Characteristics

Middletown Road is a bidirectional street with one travel lane in each direction. From the Hutchinson River Parkway to the Bruckner Expressway the street is approximately 44 feet wide. Two-hour metered parking is permitted on both sides of the street along this section of the corridor. From the Bruckner Expressway to Stadium Avenue the street is approximately 34 feet wide. Parking is permitted on both sides of the street. Signs indicating parking regulations are not posted along this section of the corridor.

Highways

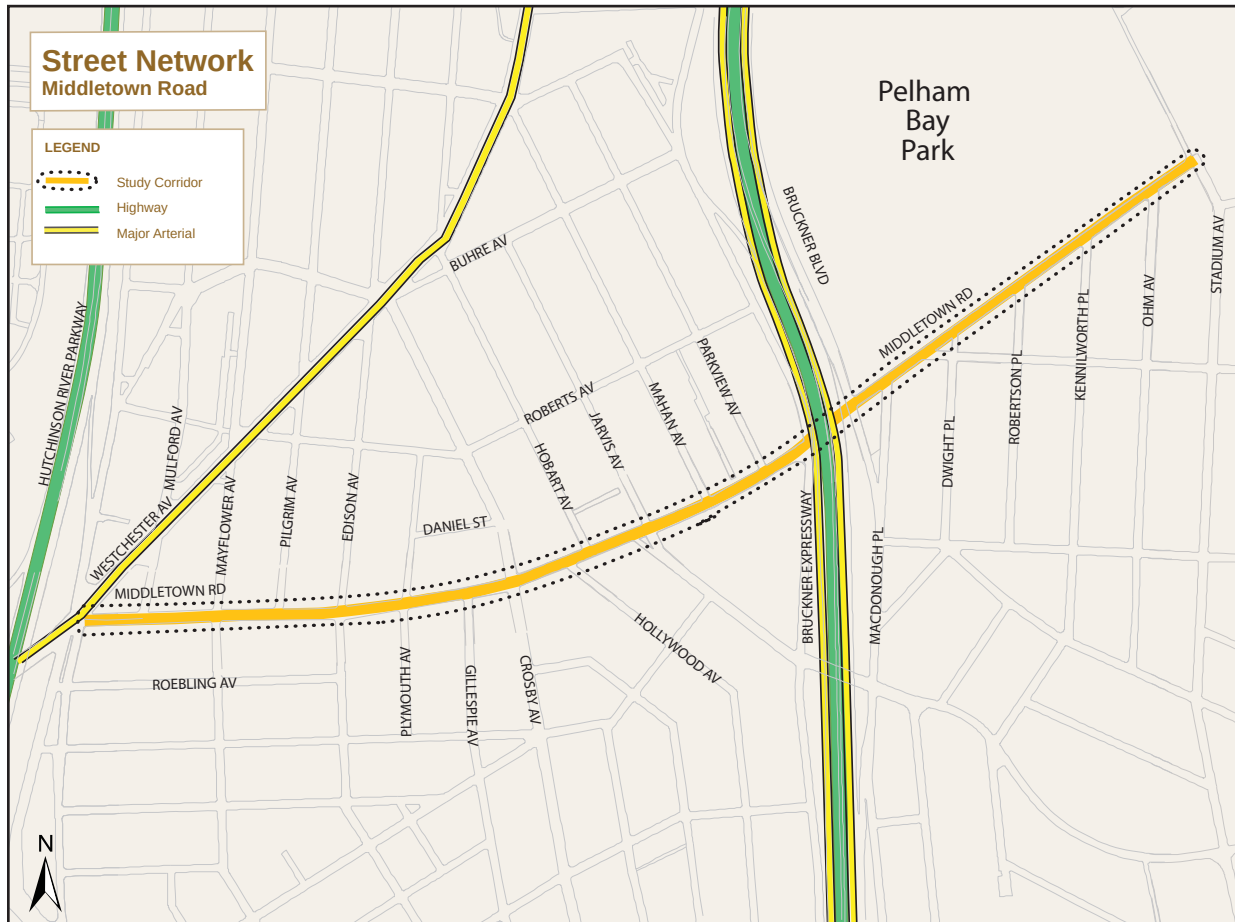
There are several limited access highways in the vicinity of Middletown Road. The west end of the corridor reaches the Hutchinson River Parkway which stretches from the Throgsneck Bridge

to Westchester. The Bruckner Expressway, also known as I-95, traverses the corridor in the center. The Expressway stretches from the South Bronx and becomes the New England Thruway. The Cross Bronx Expressway is located a mile and a quarter south of the study area and Pelham Parkway is located almost a mile to the north. The Throgs Neck Expressway runs from exit 7B of the Cross Bronx Expressway to the Throgs Neck Bridge, which is located two miles south of the study corridor.

Major Arterials

Westchester Avenue is a major arterial that runs across most of the borough from Melrose to Pelham Bay Park. The elevated 6 subway line travels over the street and has columns embedded in the roadway. Bruckner Boulevard, the service road for the Bruckner Expressway, bisects the study area in the center. The street trails the entire length of the expressway from the Third Avenue Bridge to Pelham Bay Park. See Figure 1.2 below.

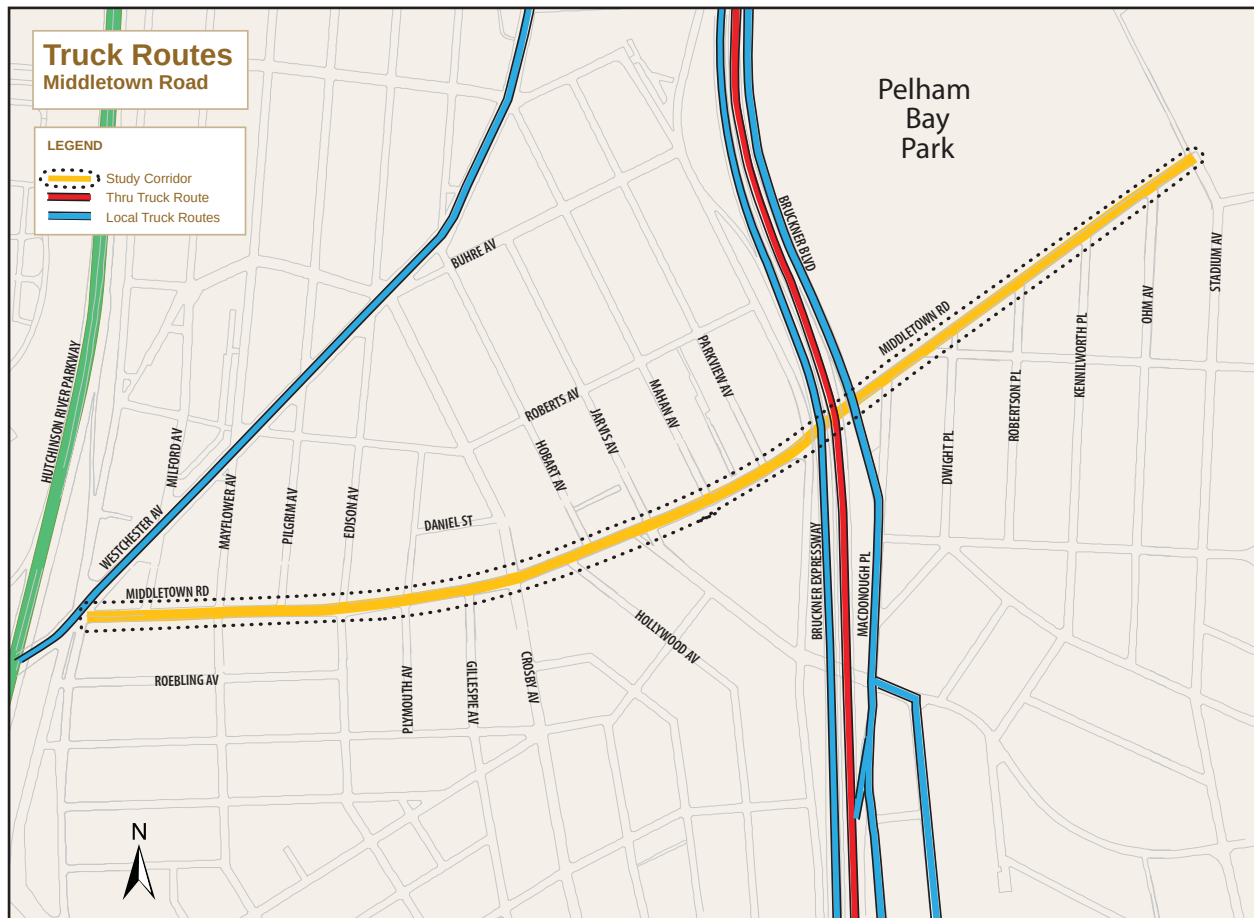
Figure 1.2



Truck Routes

The local truck routes near the corridor include Westchester Avenue and E. Tremont Avenue to the west, and Bruckner Boulevard which runs through the center along the Bruckner Expressway. The through truck routes include the Bruckner Expressway, the Cross Bronx Expressway, Hutchinson River Parkway, south of the Cross Bronx Expressway only, and the Throgs Neck Expressway.

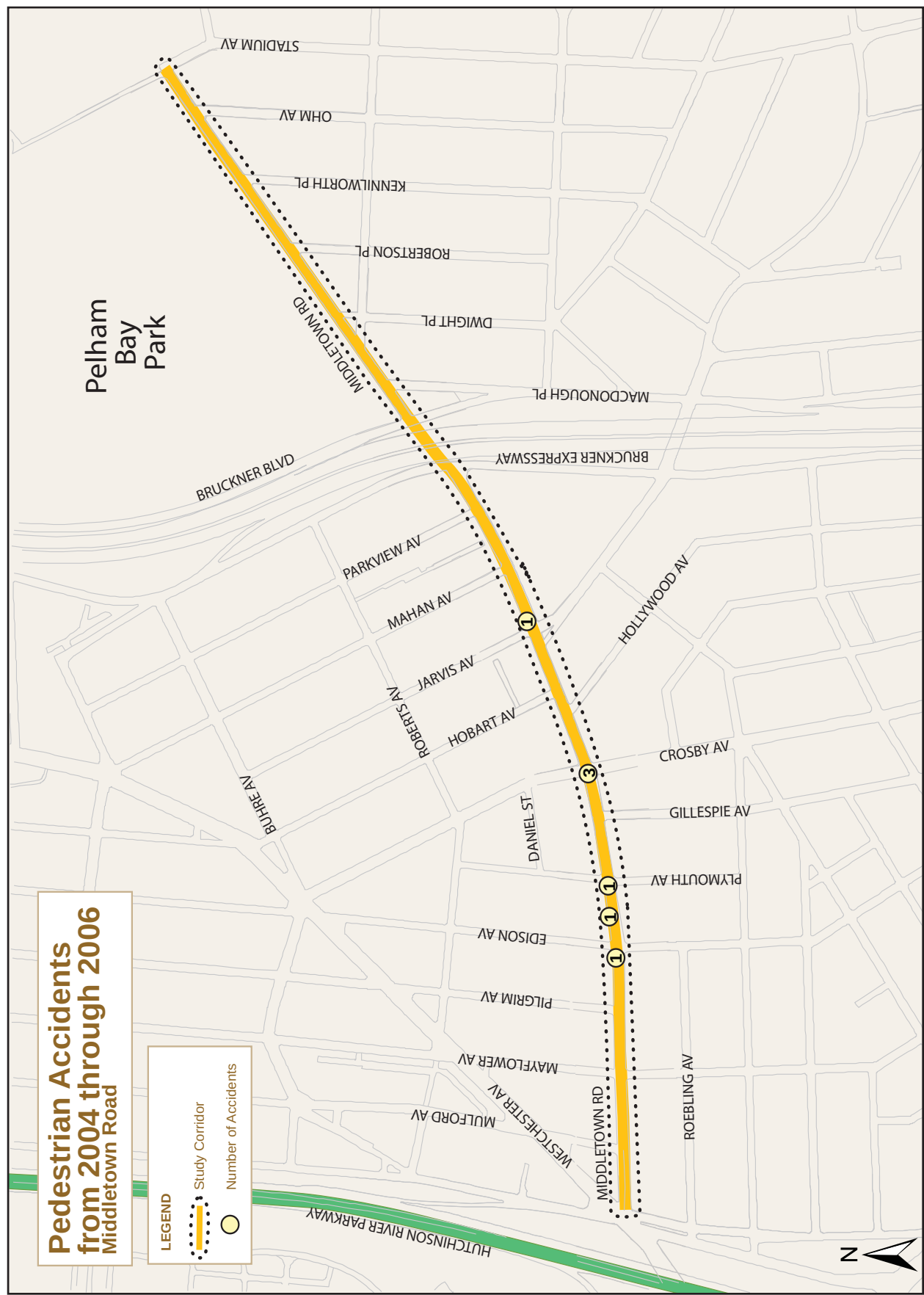
Figure 1.3



Accidents

The intersection with the highest number of accidents from the years 2004 through 2006 is Crosby Avenue, where seven accidents occurred. This intersection was also the site of three pedestrian accidents during the same period, also the highest number in its category along the entire corridor. There were no bicycle accidents along the corridor during the same period. See Figures 1.4 & 1.5 on pages 10 and 11.

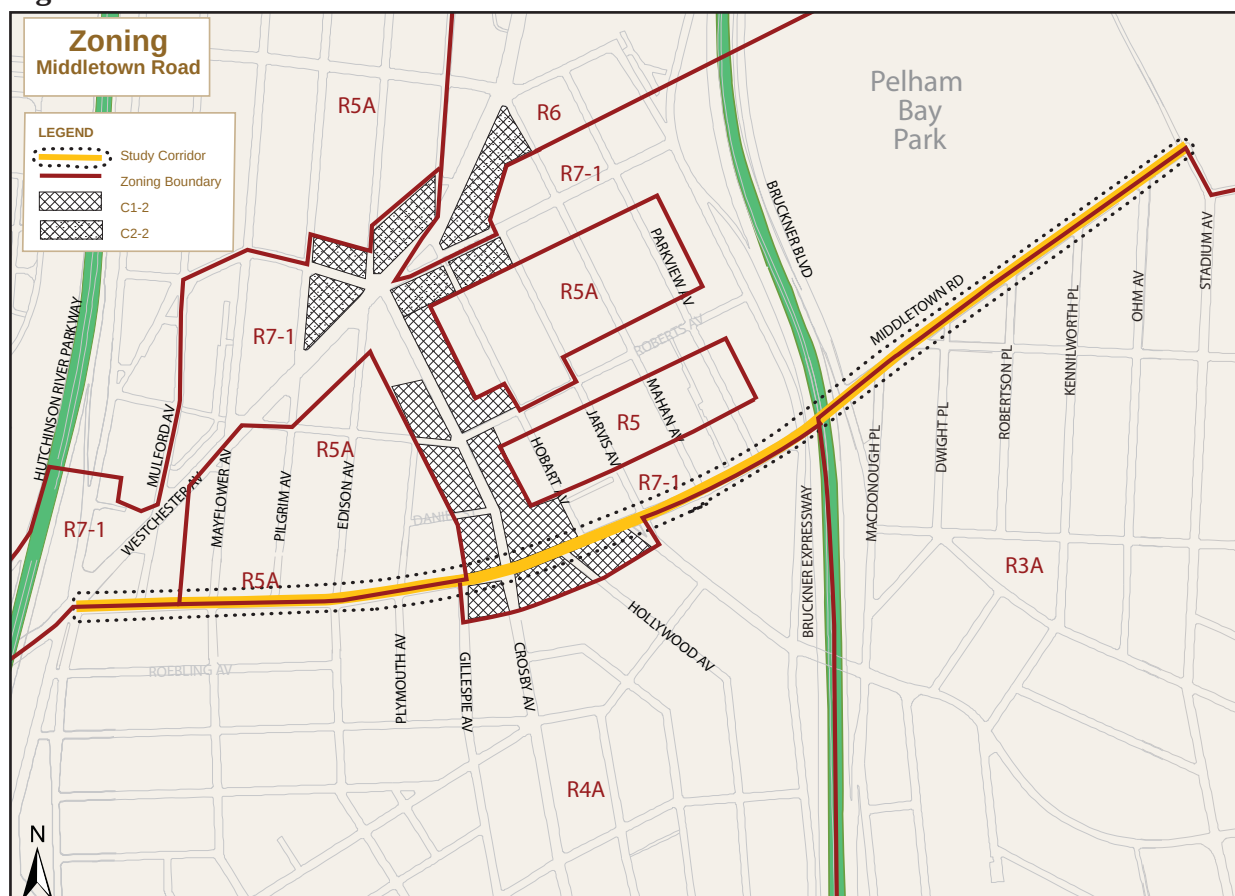
Figure 1.5



Zoning

Middletown Road, from the Hutchinson River Parkway to the Bruckner Expressway, is a patchwork of medium density residential districts and commercial overlays. The south side of Middletown Road is R4A west of the Bruckner Expressway and R3A east of the Bruckner Expressway. The north side of Middletown Road is R7-1 with the exception of a few blocks from Mayflower Avenue to Crosby Avenue. The corridor is comprised of small apartment buildings as well as one- and two-family homes ranging from two to three stories in size. Retail establishments are located within the C1-2 and C1-4 commercial overlays on the western edge and towards the eastern portion of Middletown Road. See Figure 1.6 below.

Figure 1.6

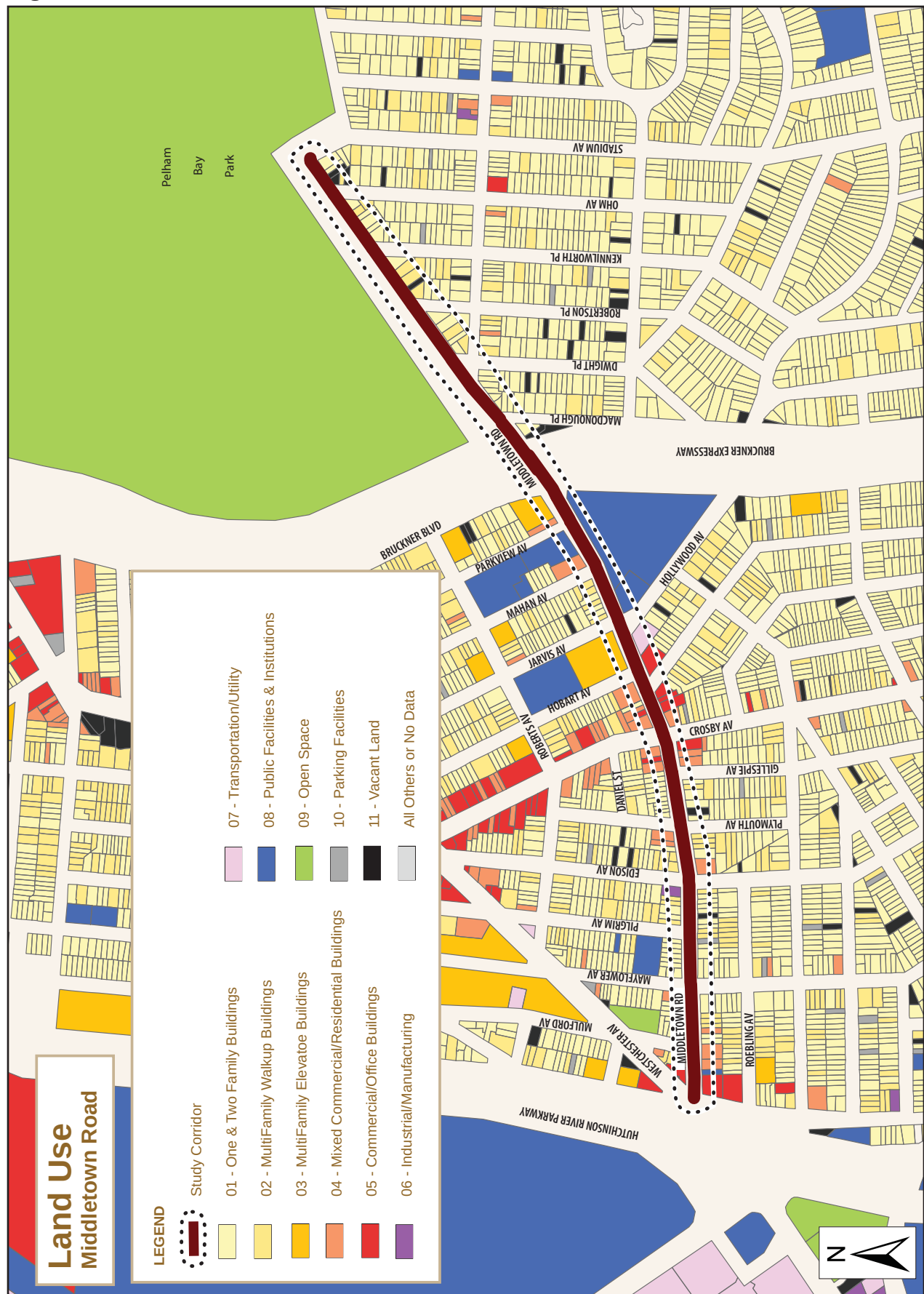


Land Use

The west side of the corridor from Westchester Avenue to the Bruckner Expressway is primarily comprised of one- and two-family homes and mixed commercial and multi-family buildings with ground floor commercial space. Much of the commercial space is located at Crosby Avenue, a commercial corridor which intersects the west side of Middletown Road in the center. The Hutchinson River Greenway runs along the Hutchinson River Parkway at the western edge of Middletown Road and provides access to Samuel H. Young Park just south of the study corridor.

The east side of the corridor from the Bruckner Expressway to Stadium Avenue is primarily comprised on one- and two-family homes on the south side and Pelham Bay Park on the north side.

Figure 1.7

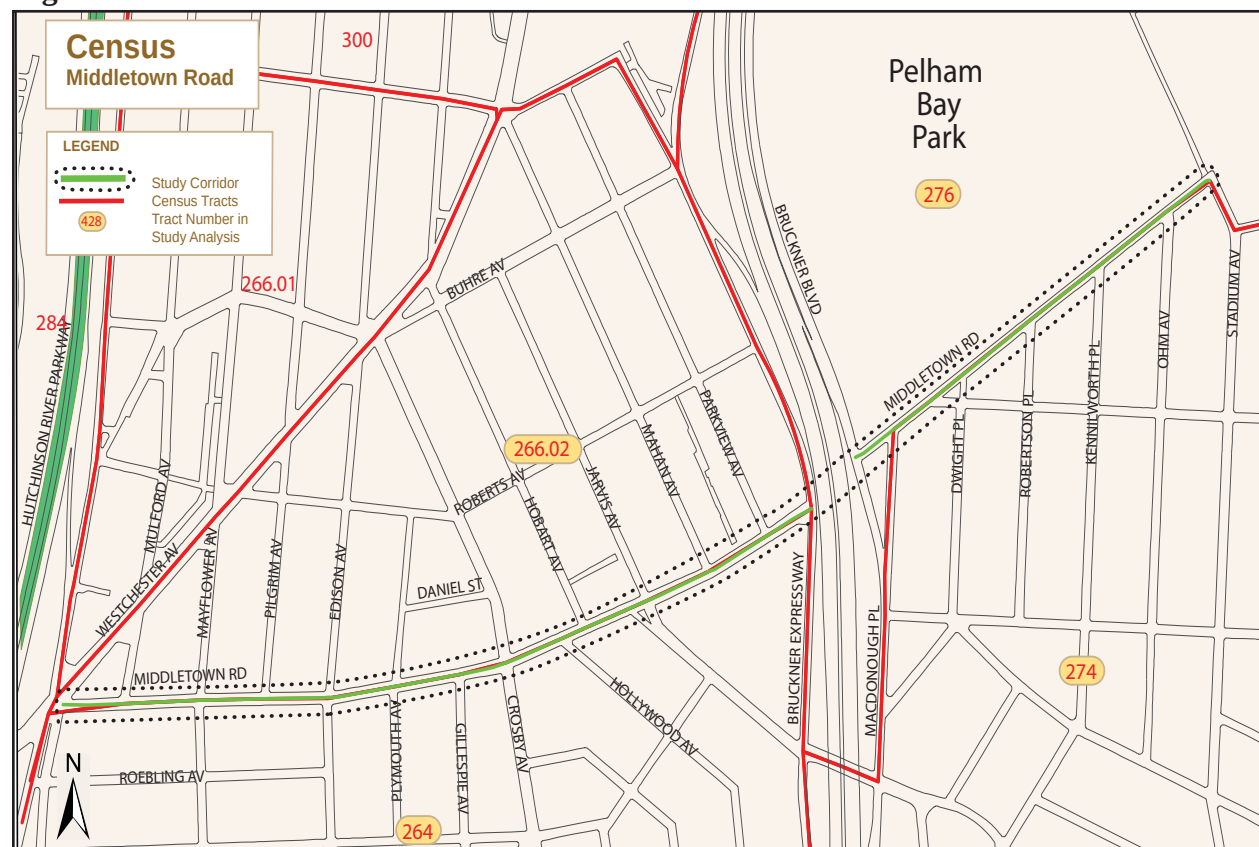


A greenway is proposed for Pelham Bay Park and would start at Stadium Avenue. See Figure 1.7 on page 13.

Demographics

Four census tracts intersect this study corridor. One census tract, 276, is entirely composed of Pelham Bay Park. While there are no places of residence within the park, a handful of people have listed this tract as their residence. Additionally, the park is a place of work for some. See Figure 1.8 below.

Figure 1.8



Population

According to the US Census, in the year 2000, 20,560 people lived near the study corridor. This is a population increase of 7.5% from 1990. See Table 1.1 below.

Table 1.1
Study Area Population Change Between 1990 and 2000

Census Tract	Population		Change in Population	Change in Population
(Bronx)	1990	2000	(Number)	(Percent)
264	4,286	4,798	512	11.9%
266.02	5,162	5,266	104	2.0%
274	7,683	8,489	806	10.5%
276	5	7	2	40.0%
Total	19,126	20,560	1,434	7.5%

Journey to Work

The 2000 Census data indicates that the local residential labor force within the study area was composed of 7,938 workers over the age of 16. Of this population, 4,694 (59%) traveled to work by car, truck or van; 779 (10%) traveled to work by bus; 1,900 (25%) traveled to work by subway and 385 (5%) walked to work. The remaining population either used another means of travel to commute to work or they worked from home. See Table 1.2 below.

Table 1.2
Modal Split for Workers 16 and Older Who Reside Within the Study Area

Place of Residence (CT)	Mean of Transportation														Total
	Car, Truck or Van	Drove Alone	Carpool	Public Transportation	Bus, Streetcar, or Trolley	Subway	Rail Road	Ferryboat	Taxicab	Motorcycle	Bicycle	Walk	Other Means	Work at Home	
264	1,130	905	225	785	215	540	0	0	30	0	0	90	10	15	2,030
266.02	959	650	309	1,195	240	940	0	0	15	0	0	205	0	0	2,359
274	2,605	2,115	490	759	324	420	0	0	15	0	0	90	25	70	3,549
276	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4,694	3,670	1,024	2,739	779	1,900	0	0	60	0	0	385	35	85	7,938
Percent	59.1			34.5						0	0	4.9	0.4	1.1	100

Out of the 7,914 commuters who resided within the study area, 82% (6,497) of them worked within the New York City area. Of the remaining labor force, 14% (1,116) worked within New York State outside of the New York City area, 1% (73) worked in Connecticut, 2.5% (199) worked in New Jersey and less than one percent (29) worked elsewhere. See Table 1.3 below.

Table 1.3
Place of Work for Workers 16 and Older Who Reside Within the Study Area

Census Tract	Place of Work													Total
	New York City	New York County	Kings County	Queens County	Bronx County	Richmond County	New York State (Outside NYC)	Long Island	Westchester	New York Upstate	Connecticut State	New Jersey State	Work Elsewhere	
264	1,779	869	49	84	777	0	237	25	208	4	0	24	0	2,040
266.02	2,030	958	77	97	898	0	266	55	186	25	0	54	4	2,354
274	2,688	821	134	100	1,633	0	613	60	511	42	73	121	25	3,520
276	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	6,497	2,648	260	281	3,308	0	1,116	140	905	71	73	199	29	7,914
Percent	82	--	--	--	--	--	14	--	--	--	1	3	0	100

As reported by the 2000 Census data 2,077 people traveled into the study area to work. Of those that traveled into the study area, 1,113 (54%) workers commuted by car, truck or van; 275 (13%) commuted by bus; 230 (11%) commuted by subway; 320 (15%) walked to work; 44 (2%) commuted by taxicab; 10 (.5%) people commuted by railroad; and the remaining people worked from home. See Table 1.4 below.

Table 1.4
Modal Split for Workers 16 and Older Who Travel Into the Study Area to Work

Place of Work (CT)	Mean of Transportation														Total
	Car, Truck or Van	Drove Alone	Carpool	Public Transportation	Bus, Streetcar, or Trolley	Subway	Rail Road	Ferryboat	Taxicab	Motorcycle	Bicycle	Walk	Other Means	Work at Home	
264	200	180	20	150	65	55	0	0	30	0	0	45	0	15	410
266	634	505	129	324	170	140	10	0	4	0	0	205	0	0	1,163
274	279	210	69	65	30	25	0	0	10	0	0	70	0	70	484
276	0	0	0	20	10	10	0	0	0	0	0	0	0	0	20
Total	1,113	895	218	559	275	230	10	0	44	0	0	320	0	85	2,077
Percent	53.6			26.9						0	0	15.4	0	4.1	100

Out of a total 1,999 people who commuted into the study area to work, 80% (1,592) of them lived within the New York City area. Of the remaining commuters, 16% (323) lived within the state of New York outside of the New York City area, 1% (16) lived in Connecticut and 3% (68) lived in New Jersey. See Table 1.5 below.

Table 1.5
Place of Origin for Workers 16 and Older Who Travel Into the Study Area to Work

Census Tract	Place of Origin													Total
	New York City	New York County	Kings County	Queens County	Bronx County	Richmond County	New York State (Outside NYC)	Long Island	Westchester	New York Upstate	Connecticut State	New Jersey State	Work Elsewhere	
264	305	10	14	30	251	0	42	24	4	14	4	40	0	391
266.02	866	116	10	38	702	0	215	52	151	12	8	24	0	1,113
274	401	10	4	10	377	0	66	28	30	8	4	4	0	475
276	20	10	10	0	0	0	0	0	0	0	0	0	0	20
Total	1,592	146	38	78	1,330	0	323	104	185	34	16	68	0	1,999
Percent	80	--	--	--	--	--	16	--	--	--	1	3	0	100

Car Ownership

The 2000 US Census data indicates that 28% of the households within the study area did not have a vehicle available to them. The remaining 72% of the households within the study area had one or more vehicles available. See Table 1.6 below.

Table 1.6
Number of Vehicles Available in the Study Area

Census Tract	Vehicles Available				Total Households	Vehicles per Household
	None	One	Two	Three +		
264	545	975	400	95	2015	1.02
266.02	1,140	1,095	255	85	2575	0.72
274	490	1,320	1,060	315	3185	1.38
276	0	0	0	0	0	--
Total	2,175	3,390	1,715	495	7,775	--
Percent	28%	44%	22%	6%	100%	--

Public Transportation

The study corridor is located in the Pelham Bay section of the Bronx which is a remote area and transit options are limited. See Figure 1.9 below.

Bus

There is no east-west bus service on Middletown Road. The Bx5 and Q-BX1 cross Middletown Road along Bruckner Boulevard, the Bx14 crosses the corridor at both Bruckner Boulevard and Westchester Avenue. The Bx8 crosses the corridor on Crosby Avenue and again at Westchester Avenue.

Express bus

The BxM-7A Express bus stops on Middletown Road and Jarvis Avenue and provides service to 23rd Street along the east side of Manhattan.

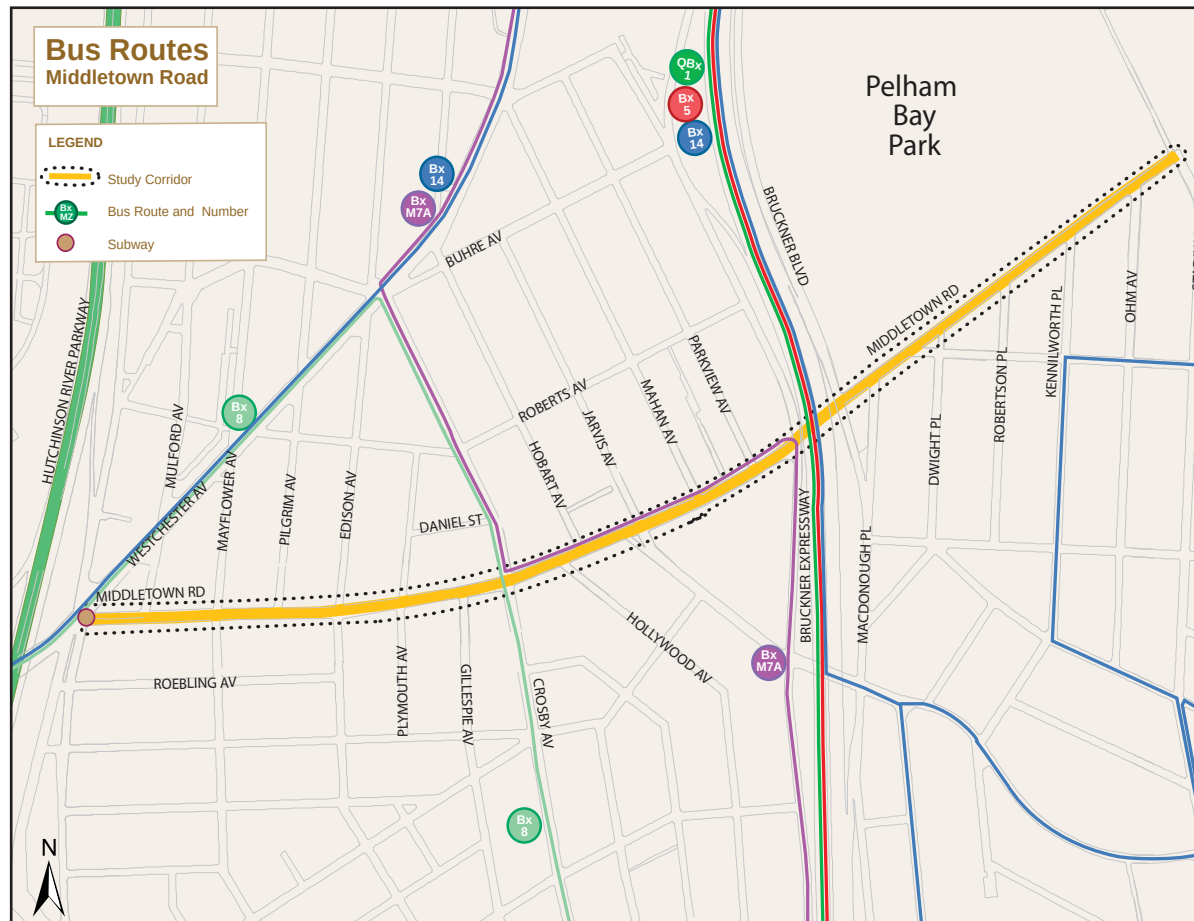
Subway

The 6 elevated line stops at Middletown Road and Westchester Avenue at the west side of the corridor. This is the only part of the corridor which has subway access. The corridor east of the Bruckner Expressway is inaccessible by subway.

Commuter Rail

There is no commuter rail service in the vicinity of the study corridor.

Figure 1.9

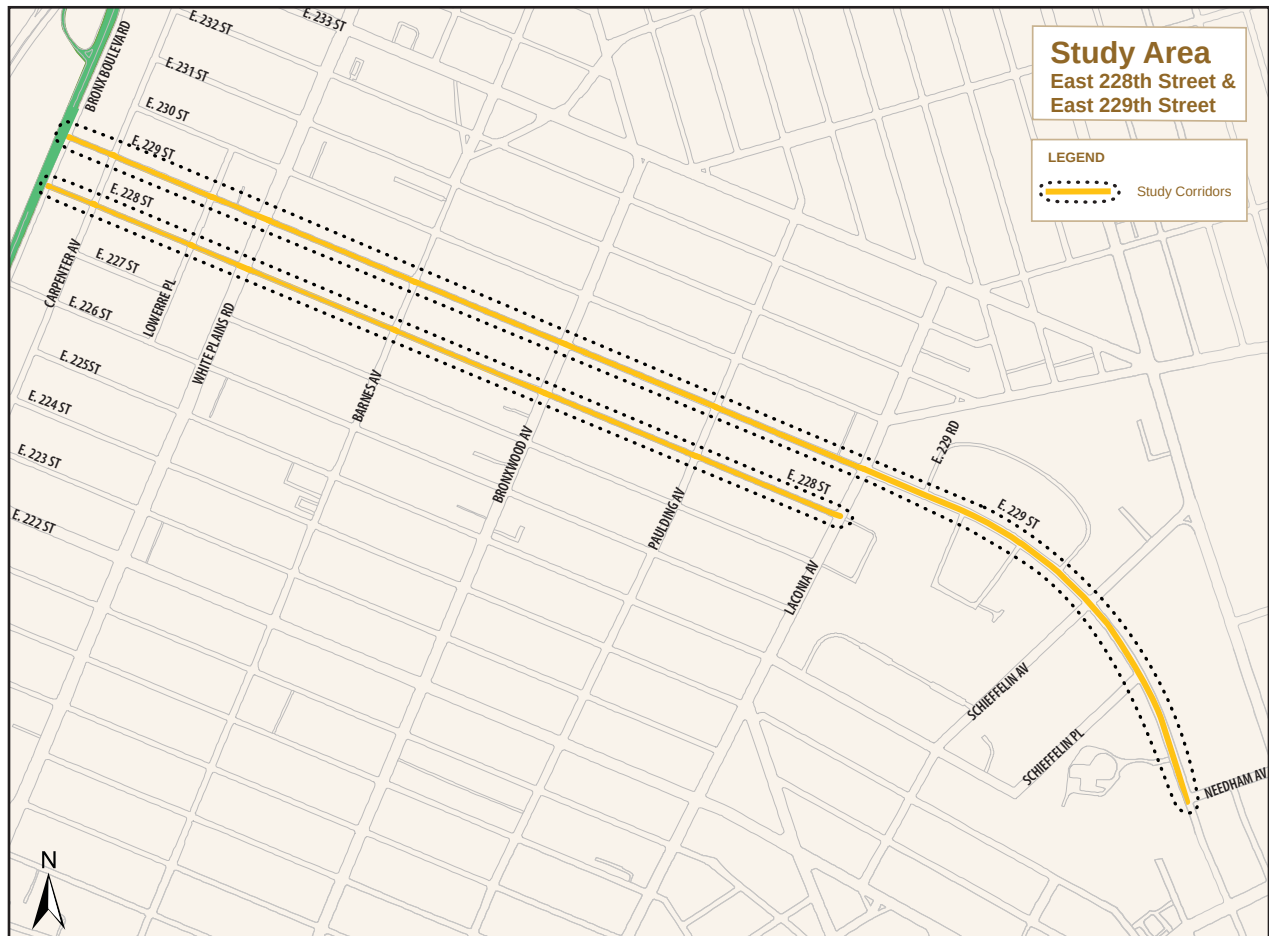


2. Existing Conditions: East 228th and 229th Streets

Study Area

East 228th and East 229th streets are located in the Williamsbridge section of the Bronx. The corridor travels from the Bronx River Parkway at the west, intersects with the proposed Laconia Avenue bicycle lane and terminates at Needham Avenue to the east. The eastern end of the corridor terminates near a high school and a retirement home and assisted living facility. See Figure 2.1 below.

Figure 2.1



Street Network

Roadway Characteristics

East 228th Street is a westbound street with one travel lane. From Laconia Avenue to Bronxwood Avenue the street is 30 feet wide. West of Bronxwood Avenue the street is 25 feet wide. Parking is permitted on both sides of the street.

East 229th Street is an eastbound street with one travel lane from Bronx Boulevard to Laconia Avenue. East of Laconia Avenue the street becomes bidirectional with one travel lane in each direction. From Bronx Boulevard to Bronxwood Avenue the street is 30 feet wide, from Bronxwood

Avenue to Laconia Avenue the street is 33 feet wide, and from Laconia Avenue to Needham Avenue the street is 50 feet wide. Parking is permitted on both sides of the street with the exception of the intersection of Laconia Avenue where a police station is located. Angled parking is permitted for authorized vehicles only on the northwest corner of the intersection and on the east side of Laconia Avenue, north of East 229th Street.

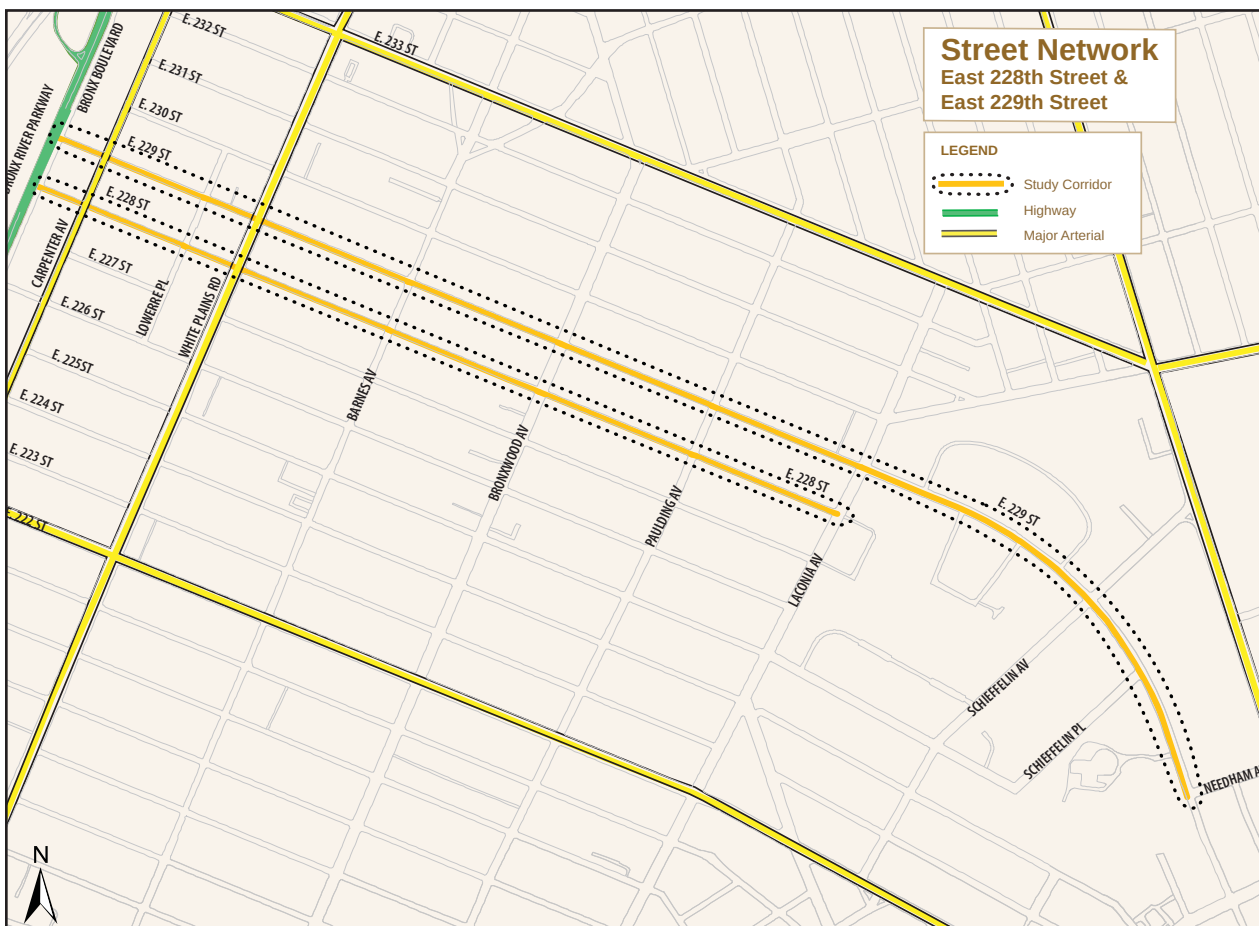
Highways

The Bronx River Parkway runs north-south at the west end of the study corridors. The parkway stretches from the Bruckner Expressway to Westchester County. The Bruckner Expressway is located approximately three quarters of a mile east of the East 229th Street corridor.

Major Arterials

There are several major arterials near the study area. Bronx Boulevard intersects the western border of the study area. This street runs north-south from East 233rd Street down to Bronx Park, where it becomes Bronx Park East. White Plains Road also runs north-south from Yonkers down to the Bruckner Expressway. East 233rd Street is an east-west corridor that runs from Boston Road to Van Cortlandt Park. East 222nd Street runs east-west from the New England Thruway to White Plains Road. East Gun Hill Road also runs east-west from the New England Thruway all the way to Mosholu Parkway along the south side of Van Cortlandt Park. See Figure 2.2 below.

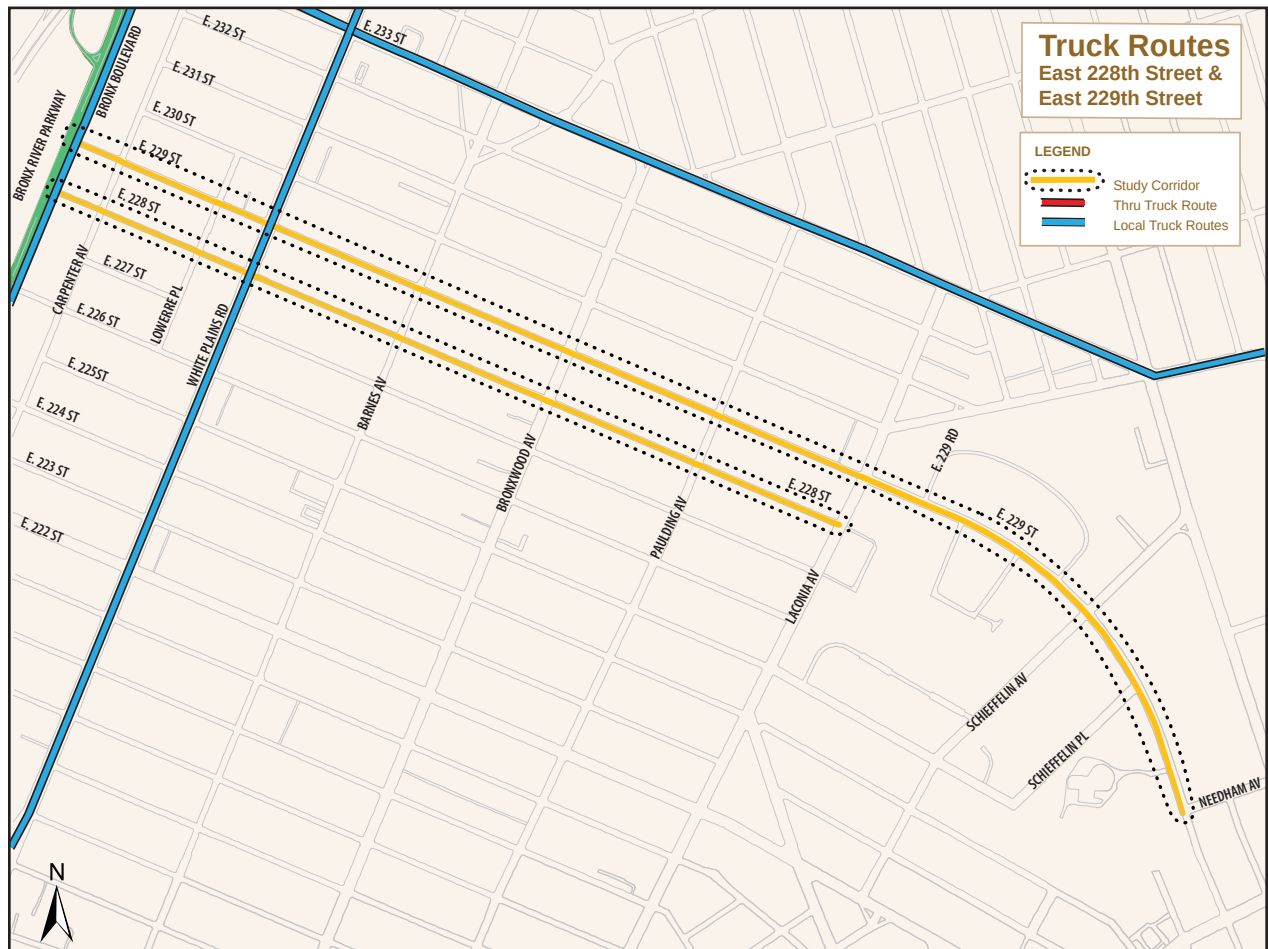
Figure 2.2



Truck Routes

The local truck routes near the corridor include White Plains Road and East 233rd Street, north of the corridor. Other local truck routes within the vicinity of the study corridors include Gun Hill Road and Boston Road to the south, and Baychester Avenue to the east. The closest through truck route is the Bruckner Expressway, located approximately three quarters of the mile to the east. See Figure 2.3 below.

Figure 2.3



Accidents

The intersection with the highest number of accidents along the study corridor from the years 2004 through 2006 is East 228th Street and Carpenter Avenue. This intersection also had the highest number of pedestrian accidents, two, during the same period. There were three bicycle accidents along the corridor during this three year period, one at East 228th Street and Bronx Boulevard, one at East 229th Street and Laconia Avenue, and one on East 229th Street between Laconia Avenue and Paulding Avenue. See Figures 2.4, 2.5 & 2.6 on pages 22-24.

Figure 2.4

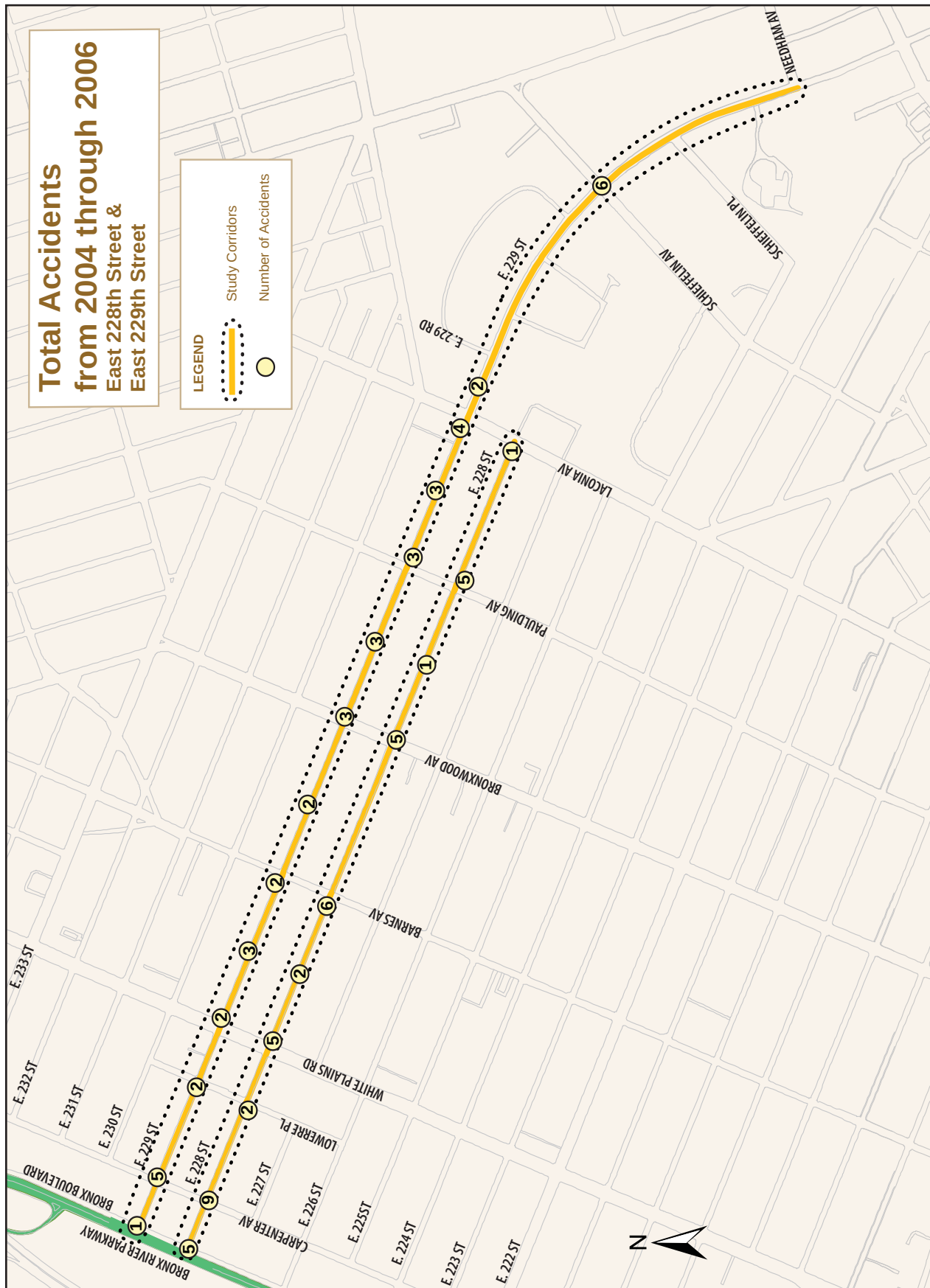
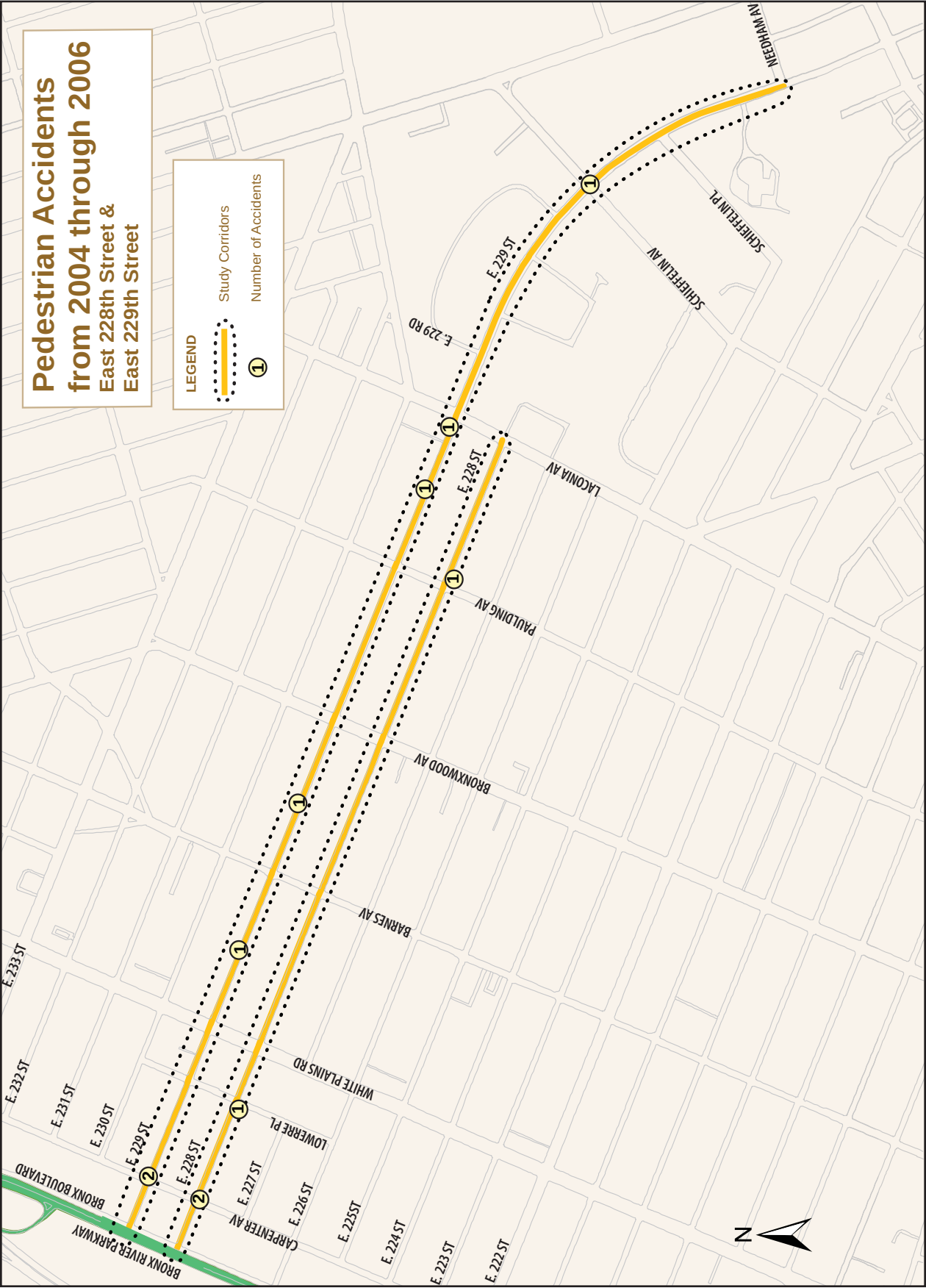
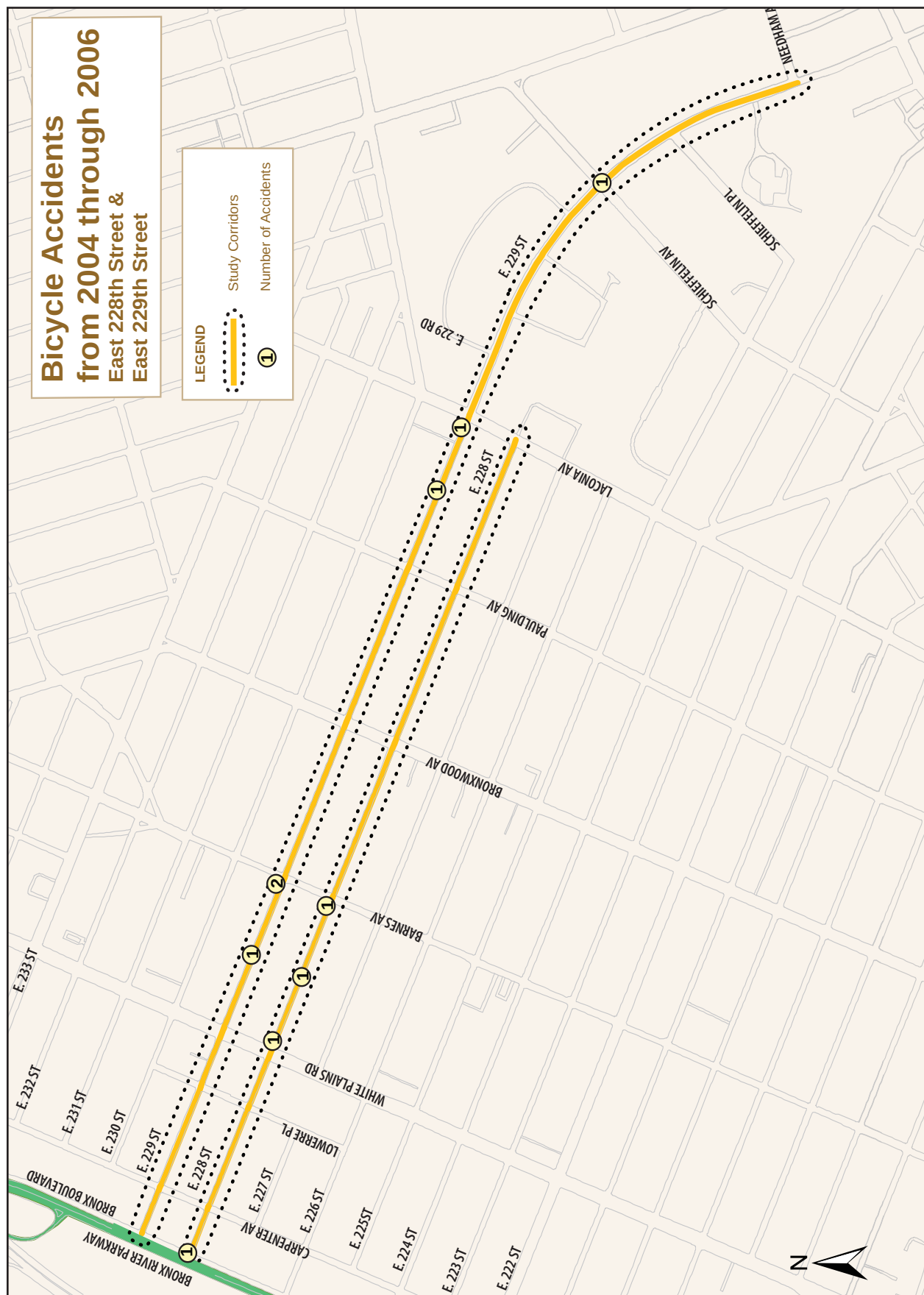


Figure 2.5



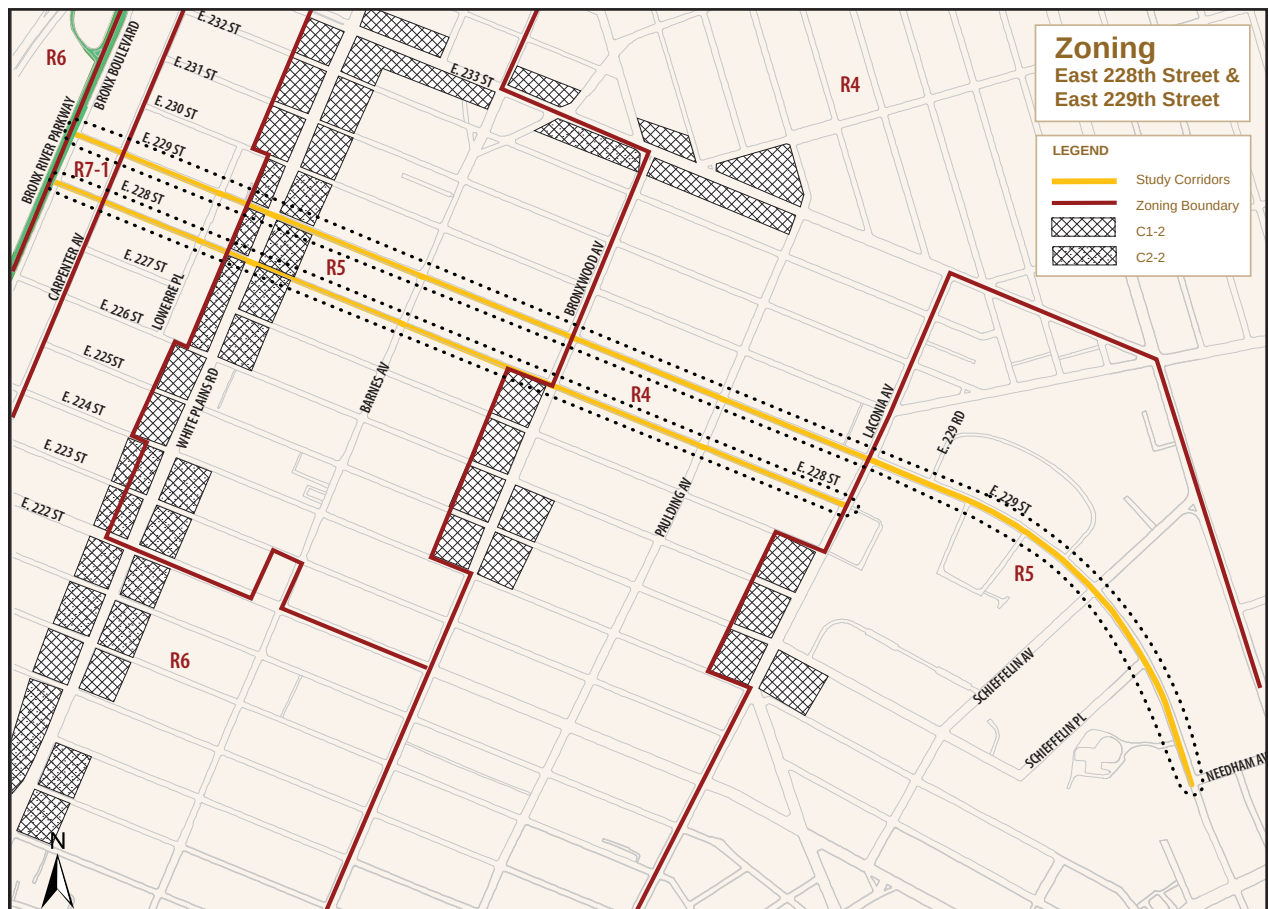
Bicycle Accidents from 2004 through 2006



Zoning

East 228th and East 229th streets, from the Bronx River Parkway to Needham Avenue, pass through R6, R5 and R4 residential districts. These medium density residential districts are comprised of attached and semi-detached homes and small apartment houses. R6 districts allow tall residential towers; lot size and open space requirements affect the size of the building. A C2-2 commercial overlay is mapped over the R5 residential district along White Plains Road. The commercial overlay serves the neighborhoods retail needs by providing grocery stores, restaurants and repair services. See Figure 2.7 below.

Figure 2.7

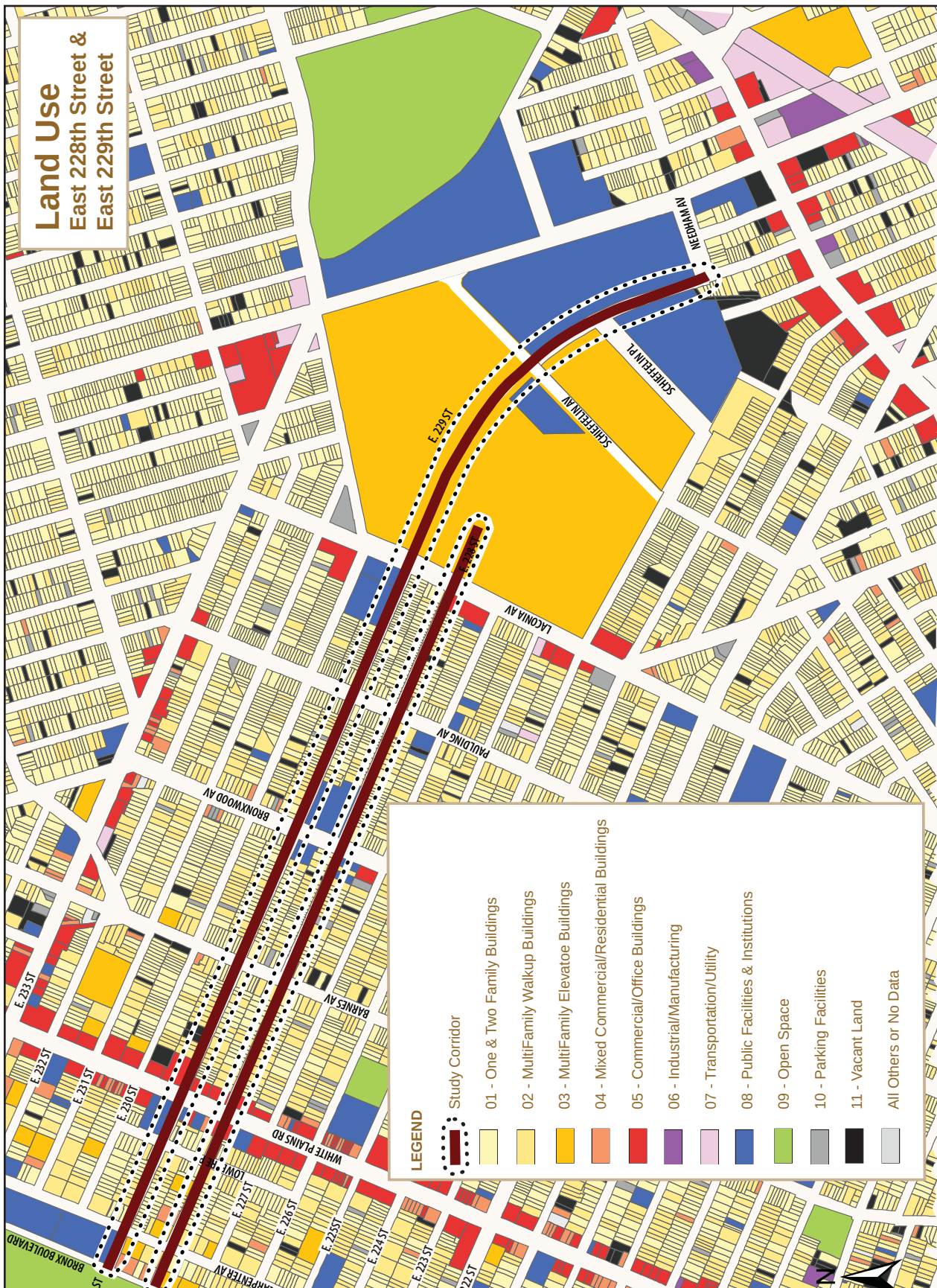


Land Use

East 228th Street and East 229th Street are primarily residential in nature with one- and two-family homes and multi-family walkup buildings. White Plains Road is the commercial corridor in the area with mixed-use residential and commercial buildings, commercial and office buildings. East of Laconia Avenue there is a large multi-family elevator building complex.

The study corridor has little open space, however, the Bronx River Greenway intersects East 228th and East 229th streets providing an opportunity to enhance the connections to Bronx Park which is located a few blocks south of the corridor. See Figure 2.8 on page 26.

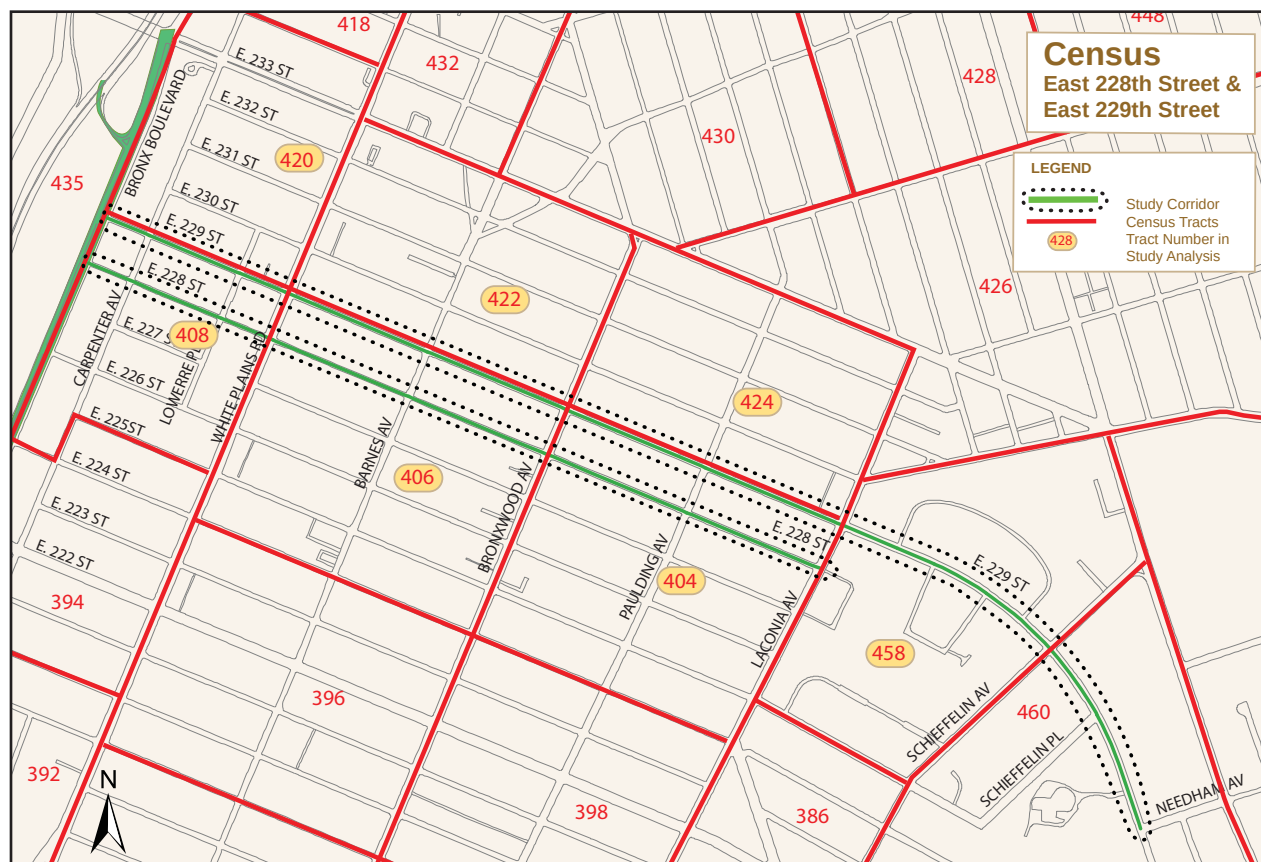
Figure 2.8



Demographics

Seven census tracts intersect this study corridor. The census tracts included in this analysis are highlighted in Figure 2.9 below.

Figure 2.9



Population

According to the Census Data, in the year 2000 there were 26,697 people living in the study area. This figure is a 14.6% increase in population since 1990. See Table 2.1 below.

Table 2.1
Study Area Population Change Between 1990 and 2000

Census Tract	Population		Change in Population	Change in Population
(Bronx)	1990	2000	(Number)	(Percent)
404	2,371	2,904	533	22.5%
406	3,079	3,398	319	10.4%
408	3,586	4,014	428	11.9%
420	3,019	3,788	769	25.5%
422	2,494	2,694	200	8.0%
424	1,954	2,570	616	31.5%
458	6,790	7,329	539	7.9%
Total	23,293	26,697	3,404	14.6%

Journey to Work

According to the 2000 US Census data, there were 8,910 workers over the age of 16 that composed the local residential labor force within the study area. Of this population, 3,549 (40%) traveled to work by car, truck or van; 1,725 (19%) traveled to work by bus; 2,520 (28%) traveled to work by subway; 290 (3%) traveled to work by railroad; 115 (1.3%) traveled to work using a taxicab; 14 (.2%) rode a bicycle to work; and 515 (5.8%) walked to work. The remaining population either used another means of travel to commute to work or they worked from home. See Table 2.2 below.

Table 2.2
Modal Split for Workers 16 and Older Who Reside Within the Study Area

Place of Residence (CT)	Mean of Transportation														Total
	Car, Truck or Van	Drove Alone	Carpool	Public Transportation	Bus, Streetcar, or Trolley	Subway	Rail Road	Ferryboat	Taxicab	Motorcycle	Bicycle	Walk	Other Means	Work at Home	
404	560	405	155	495	140	300	55	0	0	0	0	45	10	25	1,135
406	595	400	195	740	215	480	30	0	15	0	0	50	10	4	1,399
408	519	360	159	850	310	490	30	0	20	0	10	80	0	65	1,524
420	425	270	155	635	290	320	25	0	0	0	4	130	50	4	1,248
422	495	325	170	515	90	330	85	0	10	0	0	55	0	0	1,065
424	535	390	145	425	165	180	30	0	50	0	0	15	0	4	979
458	420	350	70	990	515	420	35	0	20	0	0	140	0	10	1,560
Total	3,549	2,500	1,049	4,650	1,725	2,520	290	0	115	0	14	515	70	112	8,910
Percent	39.8			52.1						0	0.2	5.8	0.8	1.3	100

Out of the 8,722 commuters who resided within the study area, 82% (7,159) of them worked within New York City. Among the remaining labor force, 15% (1,299) worked within New York State outside of the New York City area, 1% (68) worked in Connecticut, 2% (156) worked in New Jersey and approximately 1% (40) worked elsewhere. See Table 2.3 below.

Table 2.3
Place of Work for Workers 16 and Older Who Reside Within the Study Area

Census Tract	Place of Work													Total
	New York City	New York County	Kings County	Queens County	Bronx County	Richmond County	New York State (Outside NYC)	Long Island	Westchester	New York Upstate	Connecticut State	New Jersey State	Work Elsewhere	
404	931	407	34	55	435	0	122	29	93	0	10	40	0	1,103
406	1,077	373	74	20	610	0	210	10	196	4	14	44	10	1,355
408	1,330	486	58	85	701	0	157	0	147	10	0	8	0	1,495
420	794	337	10	54	393	0	383	0	359	24	0	44	30	1,251
422	859	407	4	87	361	0	137	0	112	25	20	20	0	1,036
424	790	356	40	55	339	0	131	0	121	10	14	0	0	935
458	1,378	291	85	59	928	15	159	10	139	10	10	0	0	1,547
Total	7,159	2,657	305	415	3,767	15	1,299	49	1,167	83	68	156	40	8,722
Percent	82	--	--	--	--	--	15	--	--	--	1	2	1	100

As reported by the 2000 Census data 4,787 people traveled into the study area to work. Of those that traveled into the study area, 2,871 (60%) of the workers commuted by car, truck or van; 619 (13%) commuted by bus; 600 (13%) commuted by subway; 460 (10%) walked to work; 12 (.25%) commuted by taxicab; 69 (1.4%) people commuted by railroad; 25 (.52%) rode a bicycle to work and the remaining population either used another means of travel or they worked from home. See Table 2.4 below.

Table 2.4
Modal Split for Workers 16 and Older Who Travel Into the Study Area to Work

Place of Work (CT)	Mean of Transportation														Total
	Car, Truck or Van	Drove Alone	Carpool	Public Transportation	Bus, Streetcar, or Trolley	Subway	Rail Road	Ferryboat	Taxicab	Motorcycle	Bicycle	Walk	Other Means	Work at Home	
404	59	35	24	48	29	15	0	0	4	0	0	0	0	25	132
406	145	100	45	80	20	60	0	0	0	0	0	15	0	4	244
408	95	45	50	50	50	0	0	0	0	0	0	45	0	65	255
420	1,814	1,525	289	784	365	370	45	0	4	0	25	300	15	4	2,942
422	214	135	79	145	35	90	20	0	0	0	0	45	0	0	404
424	380	335	45	80	55	25	0	0	0	0	0	15	4	4	483
458	164	145	19	113	65	40	4	0	4	0	0	40	0	10	327
Total	2,871	2,320	551	1,300	619	600	69	0	12	0	25	460	19	112	4,787
Percent	60.0			27.2							0.5	9.6	0.4	2.3	100

Out of the 4,628 people who commuted into the study area, 71% (3,263) of them lived within the New York City area. The remaining 25% (1172) of the commuters lived within New York State outside of the New York City area, 1% (43) lived in Connecticut and 3% (140) lived in New Jersey. See Table 2.5 below.

Table 2.5
Place of Origin for Workers 16 and Older Who Travel Into the Study Area to Work

Census Tract	Place of Origin													Total
	New York City	New York County	Kings County	Queens County	Bronx County	Richmond County	New York State (Outside NYC)	Long Island	Westchester	New York Upstate	Connecticut State	New Jersey State	Work Elsewhere	
404	115	4	4	0	107	0	10	0	10	0	0	0	0	125
406	128	0	0	14	114	0	108	8	80	20	0	4	0	240
408	219	0	0	10	209	0	18	4	14	0	0	0	0	237
420	1,924	153	44	65	1,662	0	798	42	653	103	24	101	0	2,847
422	309	30	10	35	234	0	68	24	44	0	0	20	10	407
424	296	0	18	40	238	0	142	0	67	75	0	15	0	453
458	272	14	14	0	244	0	28	4	0	24	19	0	0	319
Total	3,263	201	90	164	2,808	0	1,172	82	868	222	43	140	10	4,628
Percent	71	--	--	--	--	--	25	--	--	--	1	3	0	100

Car Ownership

The 2000 US Census data indicates that 58% of the households within the study area did not have a vehicle available to them. The remaining 42% of the households within the study area had one or more vehicles available. See Table 2.6 below.

Table 2.6
Number of Vehicles Available in the Study Area

Census Tract	Vehicles Available				Total Households	Vehicles per Household
	None	One	Two	Three +		
404	410	475	145	19	1,049	0.78
406	650	370	145	60	1,225	0.69
408	750	490	145	24	1,409	0.60
420	850	355	75	10	1,290	0.41
422	595	415	105	40	1,155	0.65
424	300	310	150	40	800	0.91
458	1,850	495	100	20	2,465	0.31
Total	5,405	2,910	865	213	9,393	--
Percent	58%	31%	9%	2%	100%	--

Public Transportation

The study corridor is located in Williamsbridge, an area of the north Bronx which may be accessed by bus, subway and commuter rail. See Figure 2.10 below.

Bus

There is no east-west bus service on East 228th Street. The Bx31 travels along East 229th Street from Laconia Avenue to Schieffelin Place, traversing the East 233rd subway station. The Bx41 traverses the study corridors at White Plains Road, traveling beneath the elevated 2 and 5 lines. The Bx8 terminates at East 226th Street and White Plains Road, just south of the study corridors.

Express Bus

The BxM-11 Express bus stops along White Plains Road at E. 241st Street and E. Gun Hill Road and provides service to 23rd Street along the east side of Manhattan.

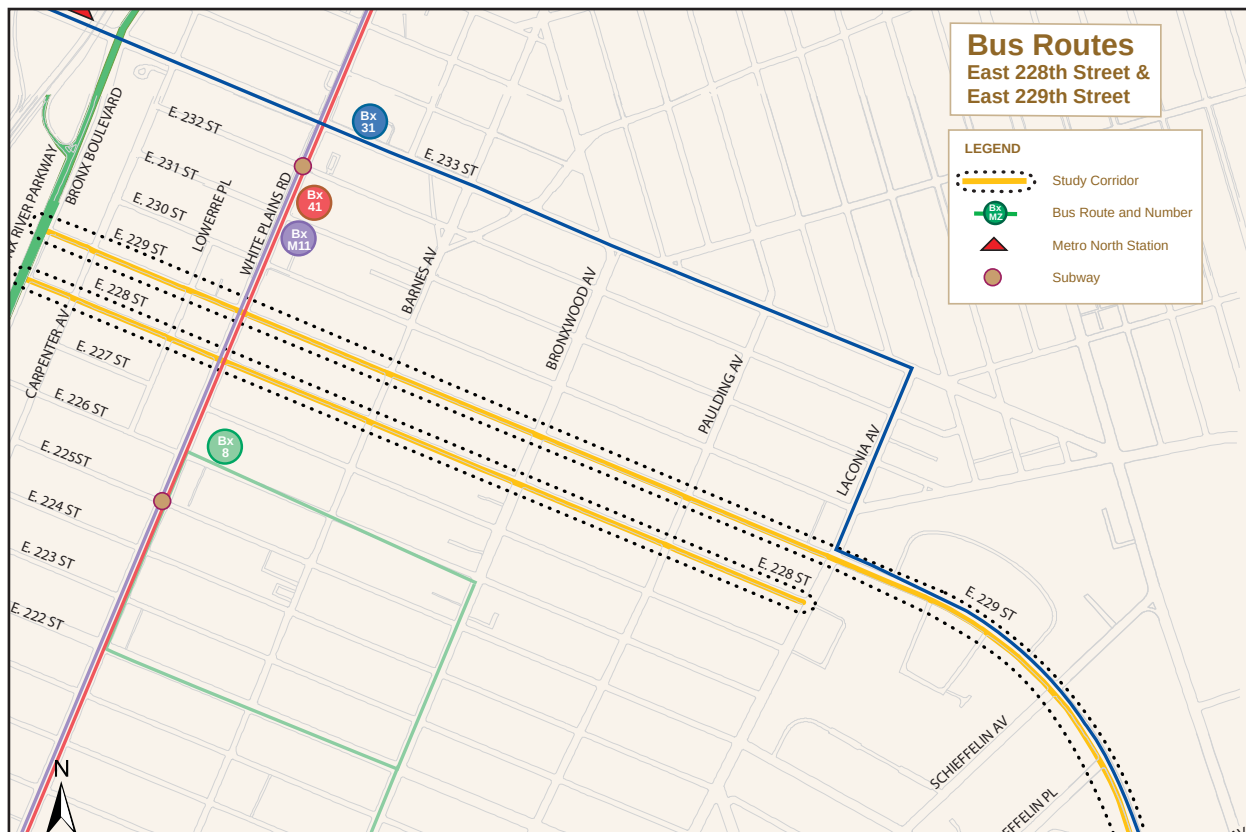
Subway

The 2 and 5 elevated lines stop at East 233rd and East 225th streets at White Plains Road. This is the only subway service along the corridor.

Commuter Rail

The nearest commuter rail is the Woodlawn Metro North station which serves the Harlem line and stops at East 233rd Street between Webster Avenue and Bronx Boulevard.

Figure 2.10

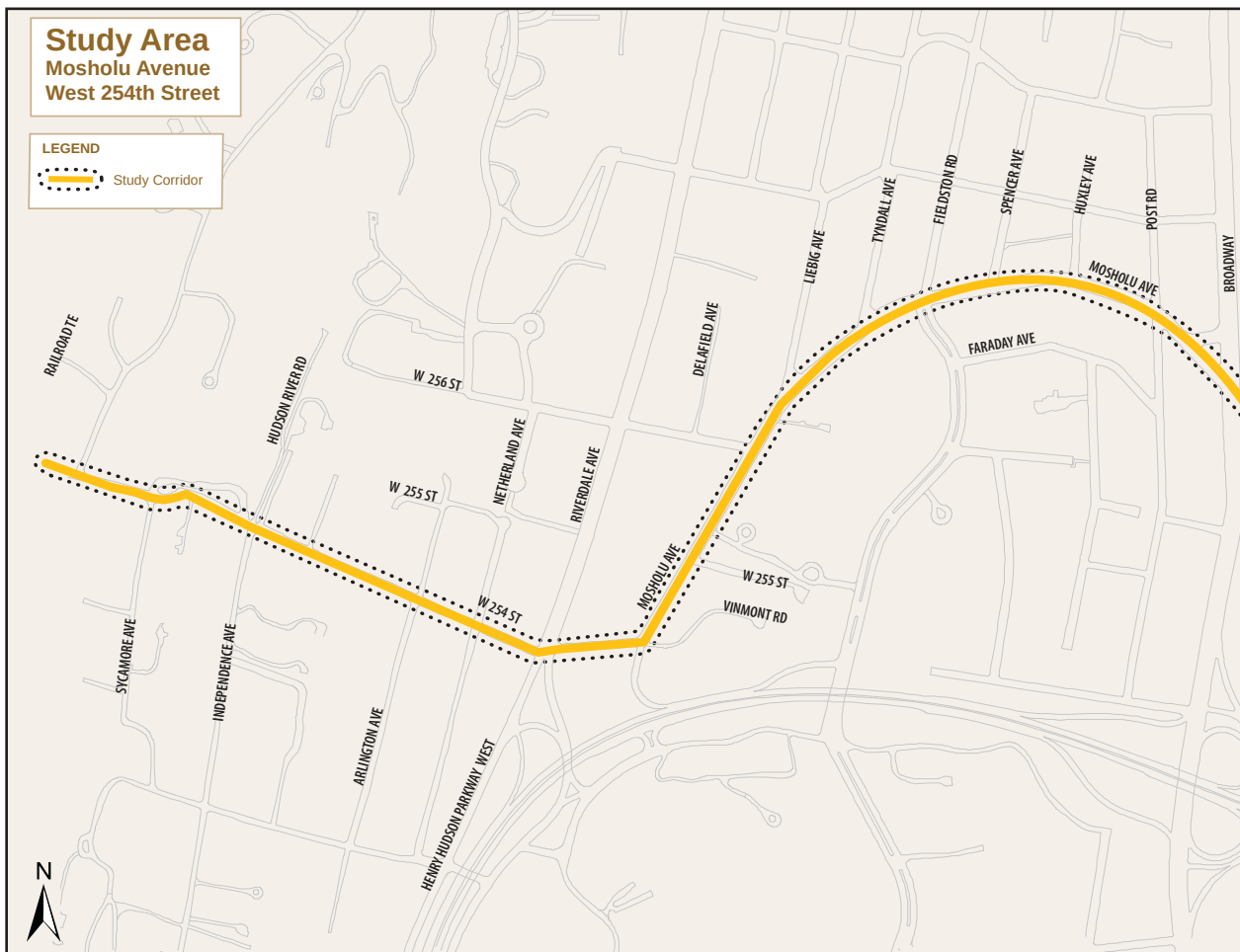


3. Existing Conditions: West 254th Street and Mosholu Avenue

Study Area

West 254th Street and Mosholu Avenue are located in the North Riverdale section of the Bronx. West 254th Street runs from the Metro North station near the Hudson River to Broadway on the west side of Van Cortlandt Park. Mosholu Avenue runs from West 254th Street to Broadway on the west side of Van Cortlandt Park. A bicycle route along these streets would provide an excellent connection from the Metro North station at the western edge of the corridor to Van Cortlandt Park at the eastern edge of the corridor. See Figure 3.1 below.

Figure 3.1



Street Network

Roadway Characteristics

Mosholu Avenue is a bidirectional street with one travel lane in each direction. The street is 50 feet wide east of West 256th Street. The street gradually tapers to approximately 40 feet wide between West 256th Street and West 254th Street. Parking is permitted on both sides of the street, with one-hour meters on the south side. See Figure 3.2 on the following page.

West 254th Street is a bidirectional street with one travel lane in each direction. The street varies in width from 30 feet to 34 feet wide. Parking regulations also vary along the street. Parking is not

permitted from Mosholu Avenue to Riverdale Avenue, parking is permitted from Riverdale Avenue to Netherland Avenue, parking is permitted on the south side of the street from Netherland Avenue to Independence Avenue, parking is not permitted from Independence Avenue to Palisade Avenue, and parking is permitted on the south side of the street from Palisade Avenue to the Metro North station at the end of the corridor.

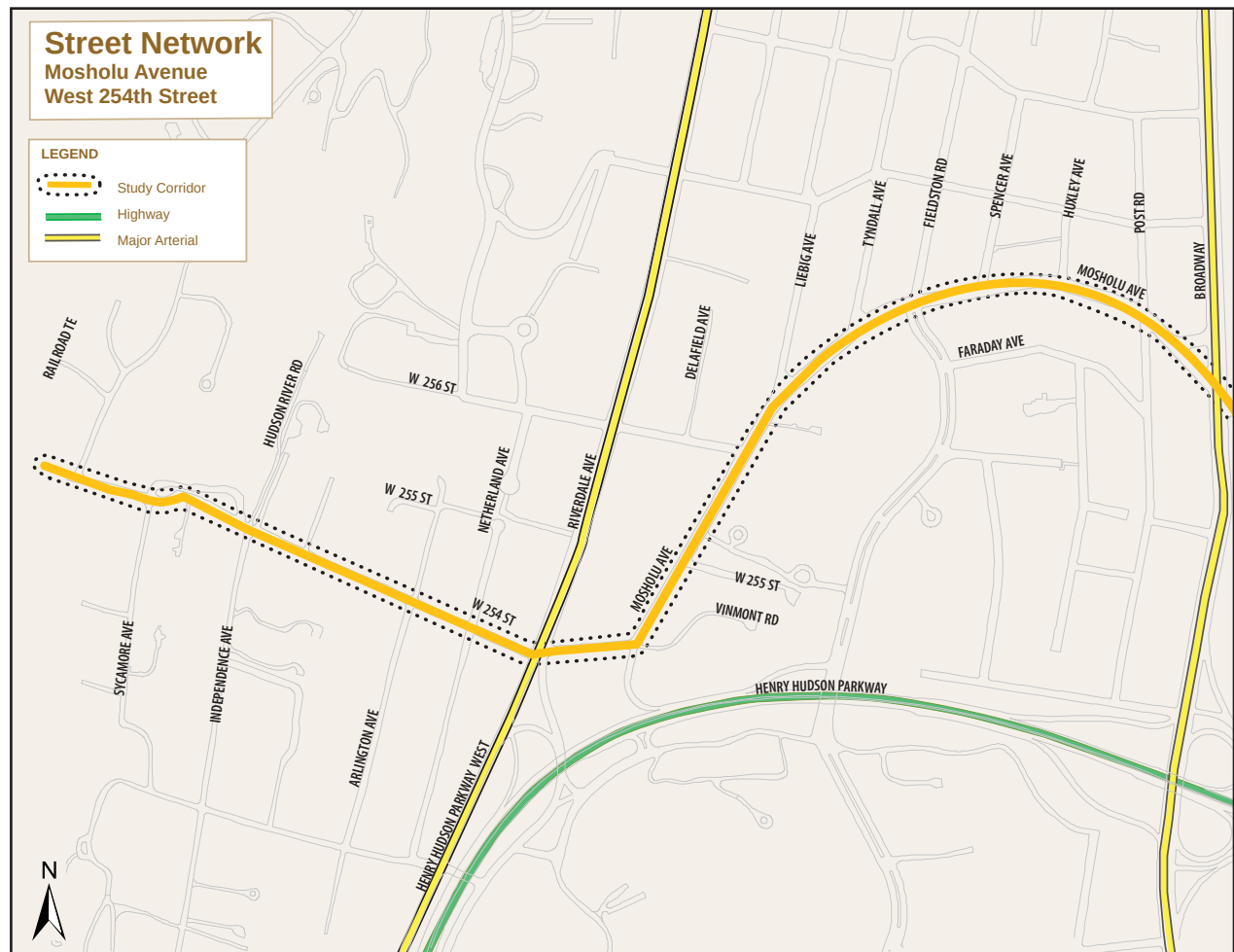
Highways

The study corridor is located just north of exit 22 on the Henry Hudson Parkway, also known as Route 9A, which runs from the west side of Manhattan to Westchester where it becomes the Saw Mill River Parkway. Mosholu Parkway, which runs from the Bronx Botanical Garden to the Saw Mill River Parkway is located one-half of a mile east of the study corridor. The Major Deegan Expressway, also known as I-87 is located just over one mile south of the Study Corridor.

Major Arterials

Riverdale Avenue is a major north-south arterial that carries a significant amount of traffic from Yonkers to the Henry Hudson Parkway at W. 254th Street. The street continues south in Riverdale, however, the street narrows and volumes appear to be lower. Broadway, which runs north-south at the eastern border of the study area travels from Yonkers to Manhattan.

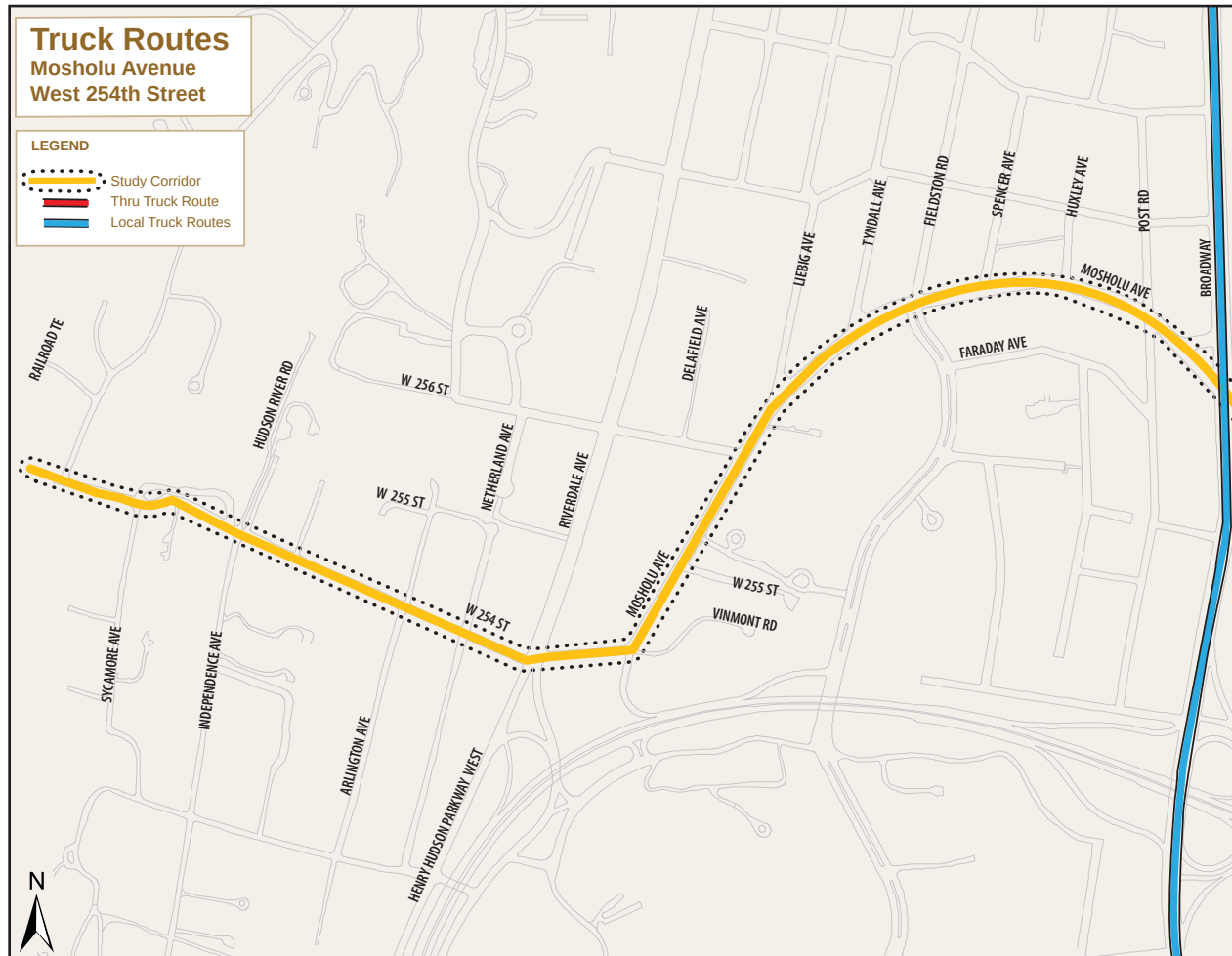
Figure 3.2



Truck Routes

Broadway, which runs along the west side of Van Cortlandt Park, and West 240th Street, which runs along the south side of Van Cortlandt Park are both local truck routes. The Major Deegan Expressway is a through truck route which runs just over a mile south of the study corridor. See Figure 3.3 below.

Figure 3.3



Accidents

This study corridor is characterized by a very low number of total accidents from 2004 through 2006. The intersection with the highest number of total accidents along the corridor is Mosholu Avenue and Fieldston Road, with three accidents. None of the accidents involved a pedestrian or bicycle. One pedestrian accident occurred at West 254th Street and Arlington Avenue. There were no bicycle accidents along the corridor during the same period. See Figure 3.4 and 3.5 on the following pages.

Figure 3.4

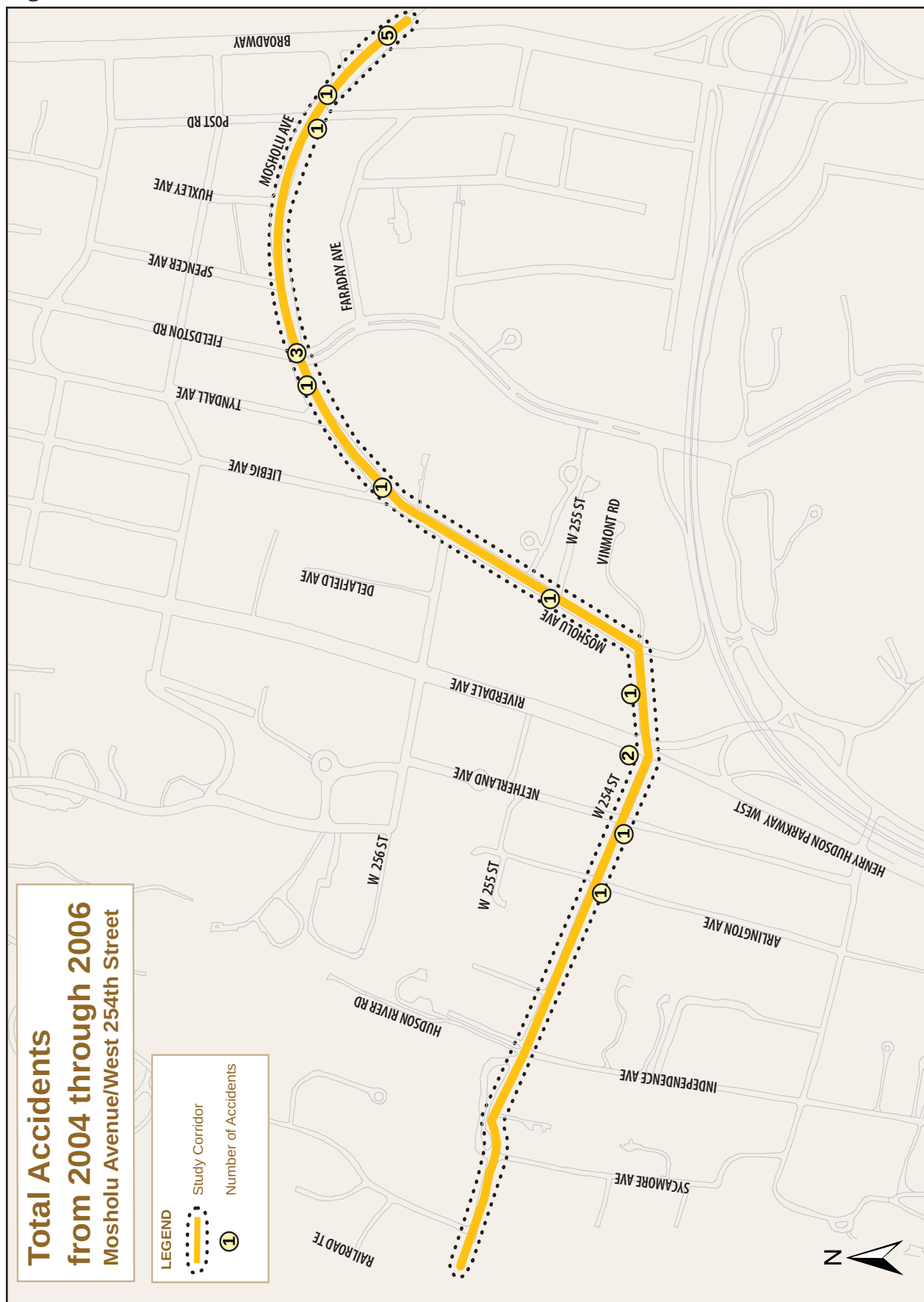
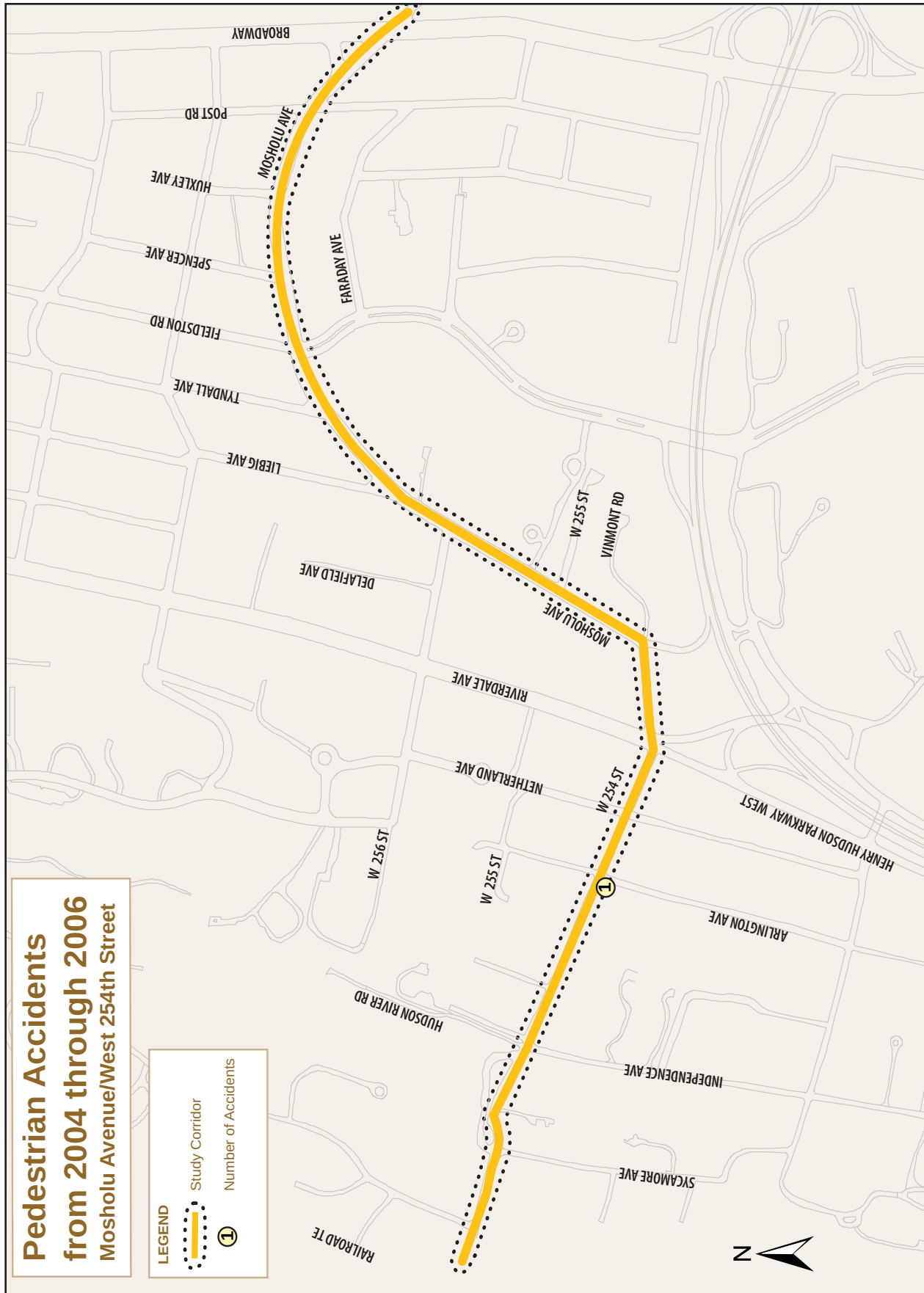


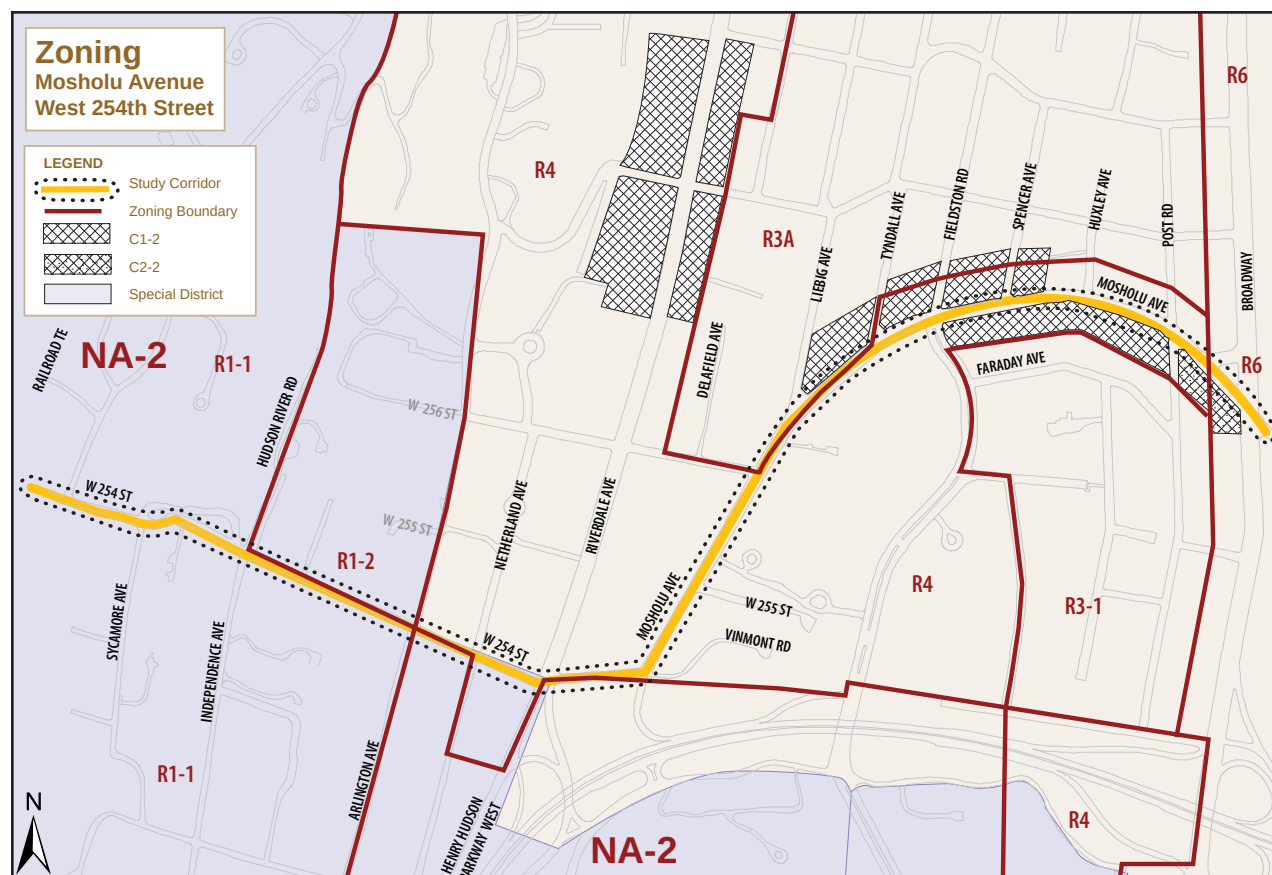
Figure 3.5



Zoning

The majority of Mosholu Avenue is situated within an R4 residential district with a commercial overlay. R4 residential districts are comprised of detached and semi-detached dwellings that can rise to three stories. The C1-2 commercial overlay starts 200 feet northwest of the Mosholu Avenue and 256th Street intersection and continues along Mosholu Avenue to Broadway. Typical retail uses permitted in this district include grocery stores, small dry cleaners and restaurants. The commercial overlay separates Mosholu Avenue from an R3-1 district south of the corridor. R3-1 districts are the lowest density residential districts which allow semi-detached-one- and two-family residences along with detached residences. A R3A district which permits single and two-family detached homes is mapped on the northern side of Mosholu Avenue from West 256th Street until Tyndall Avenue. A denser residential R6 district is mapped along Broadway perpendicular to Mosholu Avenue. R6 districts allow for a range in housing, from row houses to tall residential towers. See Figure 3.6 below.

Figure 3.6



Land Use

The west side of the corridor, from the Riverdale Metro North station to Riverdale Avenue, is primarily one-family homes. There is a large elementary school on the north side of West 254th Street between Independence Avenue and Palisade Avenue. There are a few multi-family elevator buildings on Netherland and Riverdale avenues. The land use changes east of Riverdale Avenue. Mosholu Avenue is mixed commercial and residential with one, two and multi-family buildings. See Figure 3.7 on the following page.

Figure 3.7

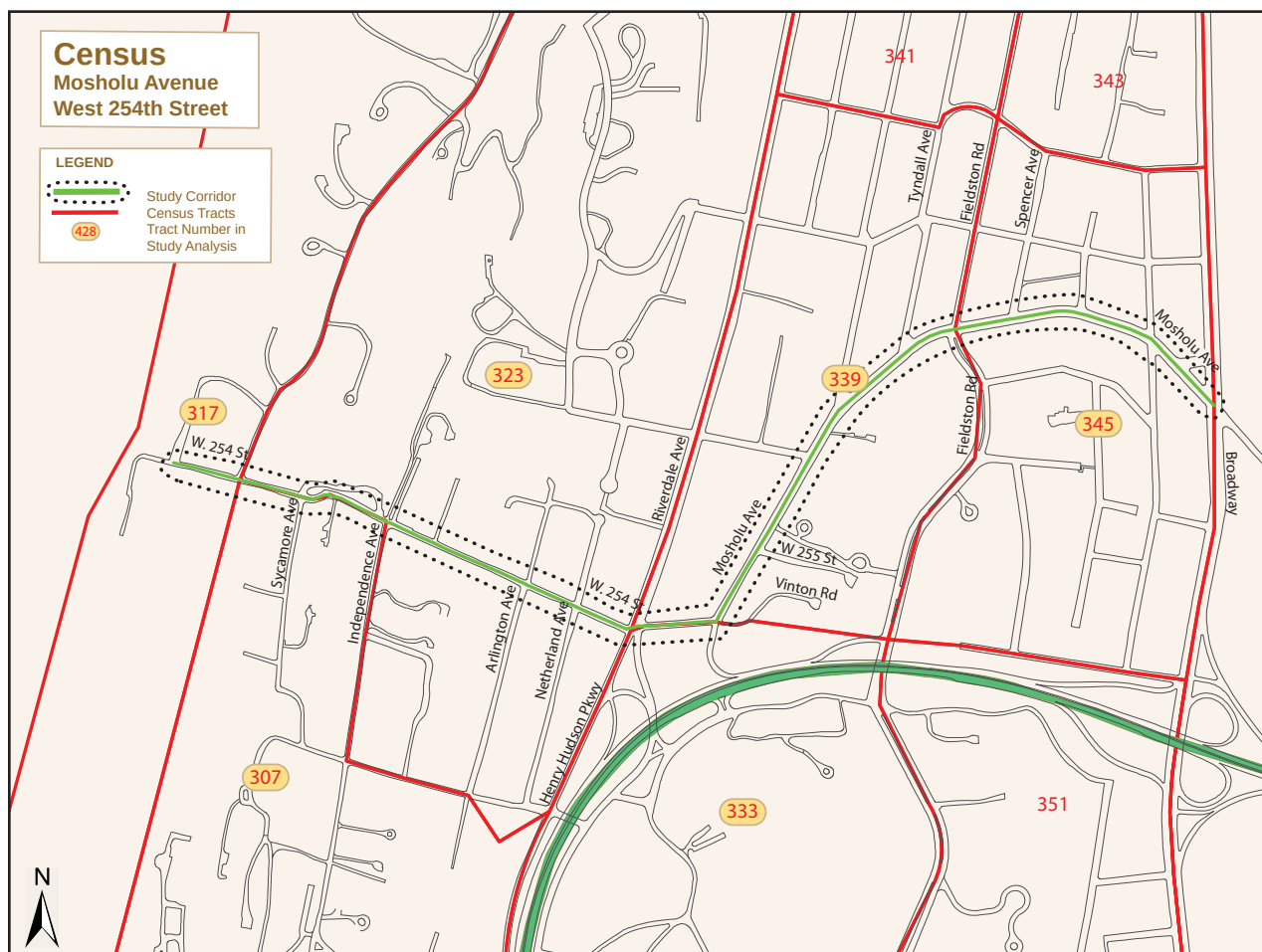


There is a significant amount of open space along the corridor. Riverdale Park is located between the Metro North station and Palisade Avenue on the south side of West 254th Street. Wave Hill is located just east of Riverdale Park between Independence and Palisade avenues. East of Riverdale Avenue Vinmont Veteran Park is located on the north side of West 254th Street and Hackett Park is located on the south side of West 254th Street. Van Cortlandt Park is located on the eastern edge of the corridor.

Demographics

Six census tracts intersect this study corridor. The census tracts included in this analysis are highlighted in Figure 3.8 below.

Figure 3.8



Population

According to the US Census data, 19,501 people live within the census tracts that overlap the study corridor. In 1990, the Census reported that 19,500 people lived in these census tracts. There has been no percentage change in the population during this ten year period. See Table 3.1 below.

Table 3.1
Study Area Population Change Between 1990 and 2000

Census Tract	Population		Change in Population	Change in Population
(Bronx)	1990	2000	(Number)	(Percent)
307	8,397	8,260	-137	-1.6%
317	1,054	1,047	-7	-0.7%
323	5,277	5,189	-88	-1.7%
333	444	435	-9	-2.0%
339	1,017	1,071	54	5.3%
345	3,311	3,499	188	5.7%
Total	19,500	19,501	1	0.0%

Journey to Work

According to the 2000 Census data, the local residential labor force within the study area was composed of 9,262 workers over the age of 16. Of this population, 5,020 (54%) traveled to work by car, truck or van; 1,175 (13%) traveled to work by bus; 1,489 (16%) traveled to work by subway; 780 (8%) traveled to work by railroad; 39 (.42%) traveled to work by taxicab; 10 (.11%) people rode a bicycle to work and 440 (5%) walked to work. The remaining population either used another means of travel to commute to work or they worked from home. See Table 3.2 below.

Table 3.2
Modal Split for Workers 16 and Older Who Reside Within the Study Area

Place of Residence (CT)	Mean of Transportation														Total
	Car, Truck or Van	Drove Alone	Carpool	Public Transportation	Bus, Streetcar, or Trolley	Subway	Rail Road	Ferryboat	Taxicab	Motorcycle	Bicycle	Walk	Other Means	Work at Home	
307	2,164	1,730	434	1,420	515	585	305	0	15	0	0	220	20	115	3,939
317	20	20	0	15	0	0	15	0	0	0	0	0	0	4	39
323	1,350	895	455	1,245	380	535	330	0	0	0	10	120	0	110	2,835
333	127	85	42	59	0	4	35	0	20	0	0	10	0	10	206
339	370	285	85	180	80	60	40	0	0	0	0	30	0	20	600
345	989	825	164	564	200	305	55	0	4	0	0	60	0	30	1,643
Total	5,020	3,840	1,180	3,483	1,175	1,489	780	0	39	0	10	440	20	289	9,262
Percent	54.2			37.6						0	0.1	4.8	0.2	3.1	100

Out of the 9,179 commuters who resided within the study area, 86% (7,899) of them worked within the New York City area. Of the remaining labor force, 11% (969) worked within New York State outside of the New York City area, .9% (79) worked in Connecticut, 2.4% (222) worked in New Jersey and .1% (10) worked elsewhere. See Table 3.3 below.

Table 3.3
Place of Work for Workers 16 and Older Who Reside Within the Study Area

Census Tract	Place of Work													Total
	New York City	New York County	Kings County	Queens County	Bronx County	Richmond County	New York State (Outside NYC)	Long Island	Westchester	New York Upstate	Connecticut State	New Jersey State	Work Elsewhere	
307	3,351	2,050	119	105	1,057	20	373	74	269	30	24	156	10	3,914
317	30	20	0	0	10	0	0	0	0	0	0	4	0	34
323	2,484	1,462	79	73	860	10	296	30	266	0	25	24	0	2,829
333	185	125	0	4	56	0	16	4	8	4	0	0	0	201
339	461	194	4	18	245	0	99	0	95	4	0	4	0	564
345	1,388	775	69	39	505	0	185	4	177	4	30	34	0	1,637
Total	7,899	4,626	271	239	2,733	30	969	112	815	42	79	222	10	9,179
Percent	86	--	--	--	--	--	11	--	--	--	1	2	0	100

There were 4,508 people that traveled into the study area to work as reported by the 2000 US Census. Of those that traveled into the study area, 2,636 (59%) workers commuted by car, truck or van; 610 (14%) commuted by bus; 350 (8%) commuted by subway; 32 (.7%) commuted by railroad; 540 (12%) walked to work; 22 (.5%) commuted by taxicab; 10 (.2%) people rode a bicycle to work; and the remaining population either traveled to work by another means or they worked from home. See Table 3.4 below.

Table 3.4
Modal Split for Workers 16 and Older Who Travel Into the Study Area to Work

Place of Work (CT)	Mean of Transportation														Total
	Car, Truck or Van	Drove Alone	Carpool	Public Transportation	Bus, Streetcar, or Trolley	Subway	Rail Road	Ferryboat	Taxicab	Motorcycle	Bicycle	Walk	Other Means	Work at Home	
307	775	640	135	310	150	140	20	0	0	0	0	265	15	115	1,480
317	664	570	94	268	185	75	4	0	4	0	0	35	4	4	975
323	513	360	153	159	85	60	4	0	10	0	0	55	0	110	837
333	155	85	70	39	20	15	0	0	4	0	0	25	0	10	229
339	295	230	65	179	125	50	0	0	4	0	10	135	0	20	639
345	234	200	34	59	45	10	4	0	0	0	0	25	0	30	348
Total	2,636	2,085	551	1,014	610	350	32	0	22	0	10	540	19	289	4,508
Percent	58.5			22.5						0	0.2	12.0	0.4	6.4	100

Of the 4,340 people who commuted into the study area, 77% (3,323) of the commuters lived within the New York City area. The remaining 18% (798) lived within New York State outside of the New York City area, less than one percent (16) lived in Connecticut and 4% (185) lived in New Jersey. See Table 3.5.

Table 3.5
Place of Origin for Workers 16 and Older Who Travel Into the Study Area to Work

Census Tract	Place of Origin													Total
	New York City	New York County	Kings County	Queens County	Bronx County	Richmond County	New York State (Outside NYC)	Long Island	Westchester	New York Upstate	Connecticut State	New Jersey State	Work Elsewhere	
307	1,192	87	49	121	925	10	190	8	158	24	4	43	0	1,429
317	626	43	8	10	565	0	268	4	254	10	0	62	4	960
323	595	54	32	43	466	0	143	15	124	4	8	46	0	792
333	160	4	10	4	142	0	48	0	44	4	0	0	4	212
339	497	20	4	56	417	0	85	29	56	0	4	10	10	606
345	253	34	14	20	185	0	64	18	36	10	0	24	0	341
Total	3,323	242	117	254	2,700	10	798	74	672	52	16	185	18	4,340
Percent	77	--	--	--	--	--	18	--	--	--	0	4	0	100

Car Ownership

The 2000 US Census data indicates that 30% of the households within the study area did not have a vehicle available to them. The remaining 70% of the households within the study area had one or more vehicles available. See Table 3.6 below.

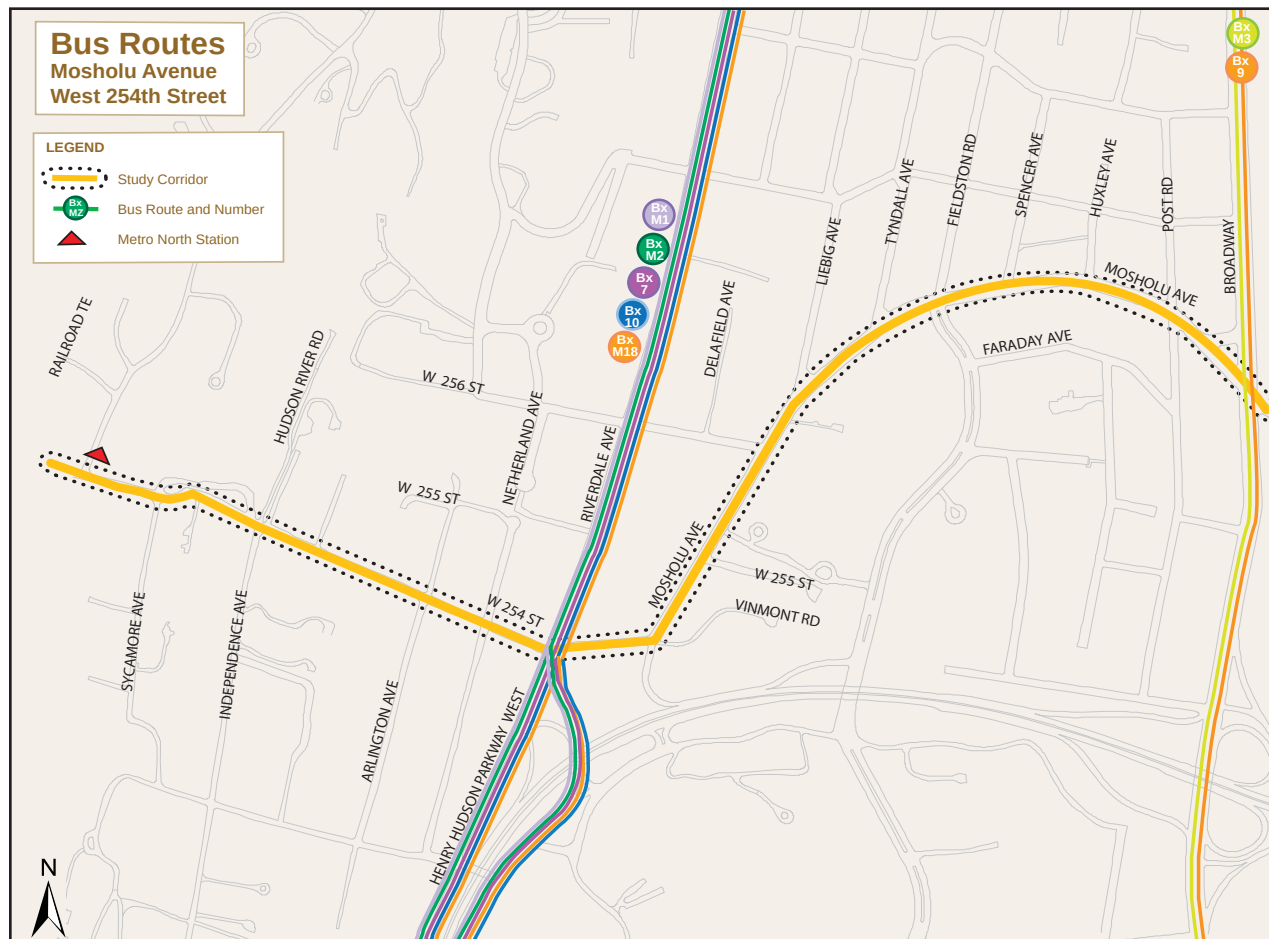
Table 3.6
Number of Vehicles Available in the Study Area

Census Tract	Vehicles Available				Total Households	Vehicles per Household
	None	One	Two	Three +		
307	1,070	2,305	575	95	4,045	0.92
317	150	25	4	25	204	0.53
323	955	1,450	275	75	2,755	0.81
333	15	40	85	10	150	1.60
339	120	225	135	15	495	1.09
345	430	760	260	69	1,519	0.98
Total	2,740	4,805	1,334	289	9,168	--
Percent	30%	52%	15%	3%	100%	--

Public Transportation

The study corridor is located in North Riverdale, an area of the north Bronx which may be accessed by bus and commuter rail. There is no direct subway access to this corridor. See Figure 3.9 below.

Figure 3.9



Bus

There is no east-west bus service on Mosholu Avenue or West 254th Street. The only bus access is on Broadway, where the Bx9 traverses Mosholu Avenue and on Riverdale Avenue, where the Bx7 and Bx10 traverse West 254th Street. The Bx9 travels along Broadway stopping at all the elevated stations on the 1 line. The Bx7 and Bx10 stop at the West 231st Street elevated station on the 1 line.

Express Bus

Both the BxM-1, 2, and 18 Express buses stop on Riverdale at West 254th Street. The BxM-1 provides service to Midtown along the east side of Manhattan and the BxM-2 provides service to midtown along the west side of Manhattan. The BxM-18 provides service to downtown Manhattan. The BxM-3 Express bus stops on Broadway and 260th Street and provides service to East 26th Street in Manhattan.

Rail Link

The Hudson Rail Link is a bus service run by the MTA which terminates at the Metro-North station in Riverdale. There are several buses that make stops along Broadway, Mosholu Avenue and Riverdale Avenue.

Subway

There is no direct subway access from the study corridor. The elevated stations on the 1 line along Broadway may be accessed by the Bx7, Bx9 and Bx10 buses.

Commuter Rail

The Riverdale Metro North station is located on the west end of the corridor and serves the Hudson line.

4. Evaluation of Existing Conditions: All Study Corridors

Vehicular Traffic

Level of Service Analysis and Methodology

The operation of signalized intersections within the study area was analyzed applying the methodologies presented in the 2000 *Highway Capacity Manual* (HCM2000). These procedures evaluate signalized intersections for average delay per vehicle and level of service (LOS).

Signalized Intersections

The capacity analysis methodology separates an intersection approach into lane groups on the basis of the movements occurring during each signal phase. The lane groups are then analyzed to determine the specific vehicular capacity and LOS. This analysis requires the following input parameters: intersection geometry, lane utilization, number of travel lanes, width of travel lanes, on-street parking conditions, locations of bus stops, number of buses stopping per hour, vehicle turning movements, vehicle classification, conflicting pedestrian movements, traffic signal cycle length, and allocation of green time.

The operating characteristics of signalized intersections can be estimated and evaluated by analyzing capacity and performance. The capacity of an intersection represents the throughput of a facility (i.e., the maximum number of vehicles that can be served in one hour). The capacity analysis results in a volume-to-capacity ratio (v/c ratio) which presents the proportion of capacity (supply) utilized by the existing traffic volume (demand). High v/c ratios (>0.85) indicate some traffic congestion, and low v/c ratios (<0.60) indicate smooth traffic flow.

The performance of an intersection is based on the estimated average delay time (i.e., the average stopped time per vehicle) for each vehicle utilizing a roadway segment. Delay time is determined by the capacity of a lane group, the amount of green time allotted to a lane group, and the signal cycle length. Delay time is the factor which determines the LOS for a lane group.

Short delays receive a good LOS while long delays receive a poor LOS. For example, an average delay of up to ten seconds per vehicle corresponds to LOS A, while an average delay of 45 seconds corresponds to LOS D. Table 4.1 describes the LOS definitions for signalized intersections, and Table 4.2 describes the LOS definitions for un-signalized intersections.

Table 4.1
Level of Service Definitions for Signalized Intersections

Flow Quality	Description
Level A	Describes operation with very low delay, i.e., less than or equal to 10 seconds per vehicle. This occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
Level B	Describes operation with delay in the range of >10-20 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
Level C	Describes operation with delay in the range of >20-35 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although some may still pass through the intersection without stopping.
Level D	Describes operation with delay in the range of >35-55 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, longer cycle lengths, or high v/c ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
Level E	Describes operation with delay in the range of >55-80 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
Level F	Describes operation with delay in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with saturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.
Source: <i>Highway Capacity Manual</i> , Transportation Research Board, National Research Council, Washington, D.C., 2000	

Table 4.2
Level of Service Definitions for Unsignalized Intersections

Level of Service	Control Delay (sec/veh)
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

Intersection Analysis

Two intersections were selected for analysis along each of the three study corridors. Along Middletown Road the intersections selected were Crosby Avenue, which is signalized and Robertson Place, which is un-signalized. Along East 228th Street and East 229th Street the intersections selected were White Plains Road and Laconia Avenue, both of which are signalized. Along Mosholu Avenue and West 254th Street the intersections selected were Fieldston Road and Riverdale Avenue, both of which are signalized. Figures 4.1, 4.2 and 4.3 illustrate the locations of these selected intersections along the study corridors. Three time periods during the weekday were analyzed for this study, 7:00 AM to 9:00 AM, 12:00 PM to 2:00 PM, and 4:00 PM to 6:00 PM.

Figure 4.1

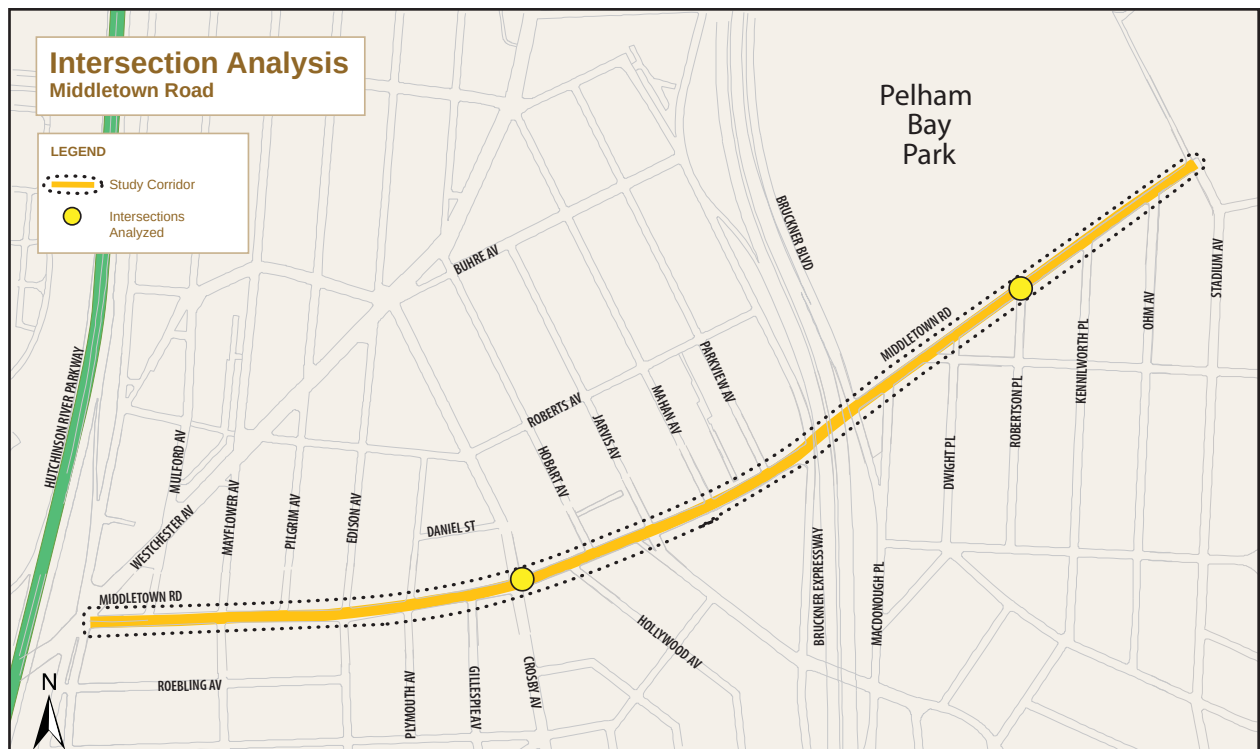


Figure 4.2

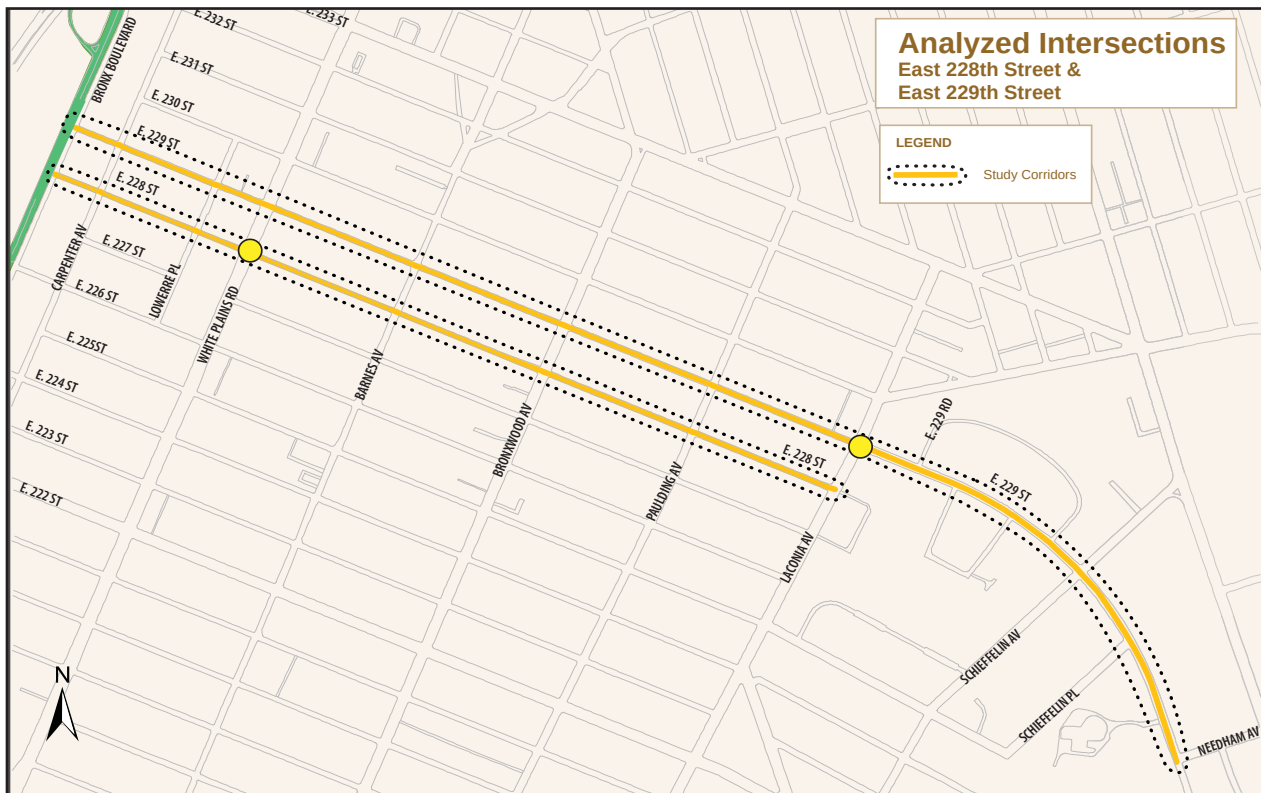
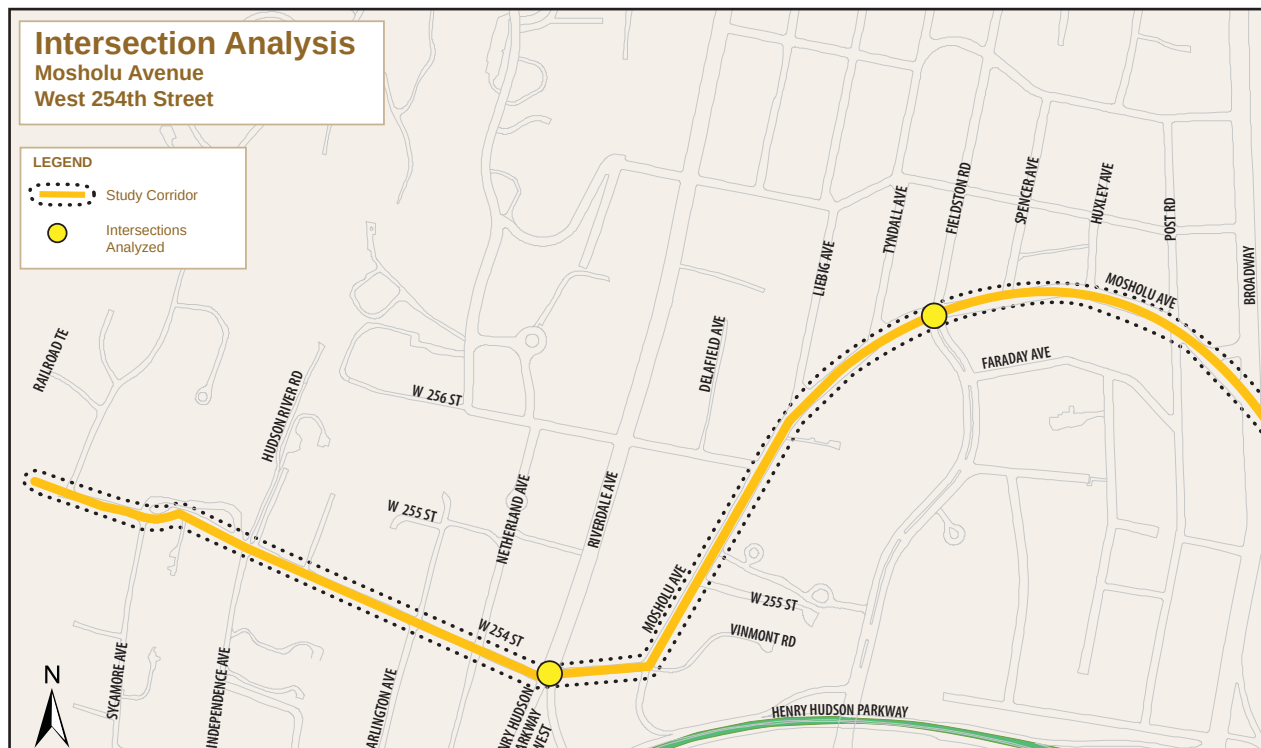


Figure 4.3



Existing Level of Service Conditions

The traffic analysis for this study focused on the peak hour of traffic volume. The peak hour typically represents the most critical period of operation and has the highest capacity requirements.

Traffic volume, turning movement, and vehicle classification counts were performed during the weekday morning, midday, and evening within the study area. The peak hour was identified as 7:45 to 8:45AM for the morning period, 12:15 to 1:15PM for the midday period and 5:00 to 6:00PM for the evening period. Tables 4.3 and 4.4 present the existing LOS conditions for the selected signalized and un-signalized intersections within the study area.

Table 4.3
2007 Existing Conditions - Signalized Intersections

Intersection	Approach	AM			Midday			PM		
		v/c	Delay	LOS	v/c	Delay	LOS	v/c	Delay	LOS
Mosholu Av & Fieldston Rd	Eastbound LTR	0.38	9.2	A	0.25	8.1	A	0.29	8.3	A
	Westbound LTR	0.17	7.6	A	0.18	7.5	A	0.22	7.7	A
	Northbound LTR	0.29	16.0	B	0.24	15.4	B	0.34	16.5	B
	Southbound LTR	0.32	16.1	B	0.15	14.3	B	0.14	14.2	B
		Inter.Delay= 11.9 , LOS= B			Inter.Delay= 10.4 , LOS= B			Inter.Delay= 10.9 , LOS= B		
Laconia Av & E. 229th St	Eastbound LTR	0.39	27.9	C	0.25	25.7	C	0.22	25.3	C
	Westbound LR	0.83	50.8	D	0.41	29.0	C	0.46	30.1	C
	Northbound TR	0.21	8.9	A	0.14	8.4	A	0.20	8.8	A
	Southbound LT	0.29	9.6	A	0.17	8.6	A	0.26	9.4	A
		Inter.Delay= 20.9 , LOS= C			Inter.Delay= 15.0 , LOS= B			Inter.Delay= 14.3 , LOS= B		
W. 254th St & Riverdale Av	Eastbound LTR	0.42	14.2	B	0.18	11.2	B	0.32	12.7	B
	Westbound LTR	0.87	31.1	C	0.52	15.7	B	0.48	14.9	B
	Northbound LTR	0.77	21.6	C	0.40	12.8	B	0.47	13.5	B
	Southbound LTR	0.57	14.8	B	0.38	12.5	B	0.50	13.8	B
		Inter.Delay= 20.8 , LOS= C			Inter.Delay= 13.2 , LOS= B			Inter.Delay= 13.8 , LOS= B		
Middletown Rd & Crosby Av	Eastbound LTR	0.48	14.5	B	0.51	14.9	B	0.60	16.7	B
	Westbound LTR	0.65	18.1	B	0.46	14.1	B	0.60	16.7	B
	Northbound LTR	0.61	17.1	B	0.42	13.5	B	0.50	14.7	B
	Southbound LTR	0.36	12.8	B	0.35	12.6	B	0.42	13.4	B
		Inter.Delay= 16.1 , LOS= B			Inter.Delay= 13.9 , LOS= B			Inter.Delay= 15.6 , LOS= B		

Table 4.4
2007 Existing Conditions - Unsignalized Intersections

Intersection	Appr.	AM			Midday			PM		
		v/c	Delay	LOS	v/c	Delay	LOS	v/c	Delay	LOS
E. 228th St & White Plains Rd (2W-STOP)-N/S	Eastbound									
	Westbound									
	LTR	0.27	16.2	C	0.17	16.0	C	0.19	15.4	C
	Northbound									
	LT	0.01	8.1	A	0.02	8.4	A	0.01	8.2	A
	Southbound									
		WB App Delay=16.2, LOS=C								
Roberston Pl & Middletown Rd (2W-STOP)-E/W	Eastbound									
	Westbound									
	LT	0.00	7.8	A	0.00	7.8	A	0.00	7.9	A
	Northbound									
	LR	0.01	11.4	B	0.00	11.0	B	0.01	11.8	B
	Southbound									
		NB App Delay=11.4, LOS=B								

The existing traffic volumes for weekday morning, midday, and evening peak hours are presented in Figures 4.4, 4.5 and 4.6, respectively on the following pages. Data was collected by Transportation Division Staff on June 12, 2007. For each signalized intersection, the signal timing, cycle length, and phasing were obtained from the New York City Department of Transportation (NYCDOT).

The HCM summary sheets, which document the existing signal timing, phasing, allowed traffic movements, traffic volumes, peak hour factors, percent of heavy vehicles, LOS by approach, and LOS for the entire intersection, are on file at the NYCDCP.

The capacity analysis indicates that all intersections operate at acceptable levels of service with LOS C or better for all peak periods. Based on this analysis Transportation Division staff has determined that all of the corridors are suitable for cyclists.

Figure 4.4

Existing AM Traffic Volumes for Intersections Analyzed

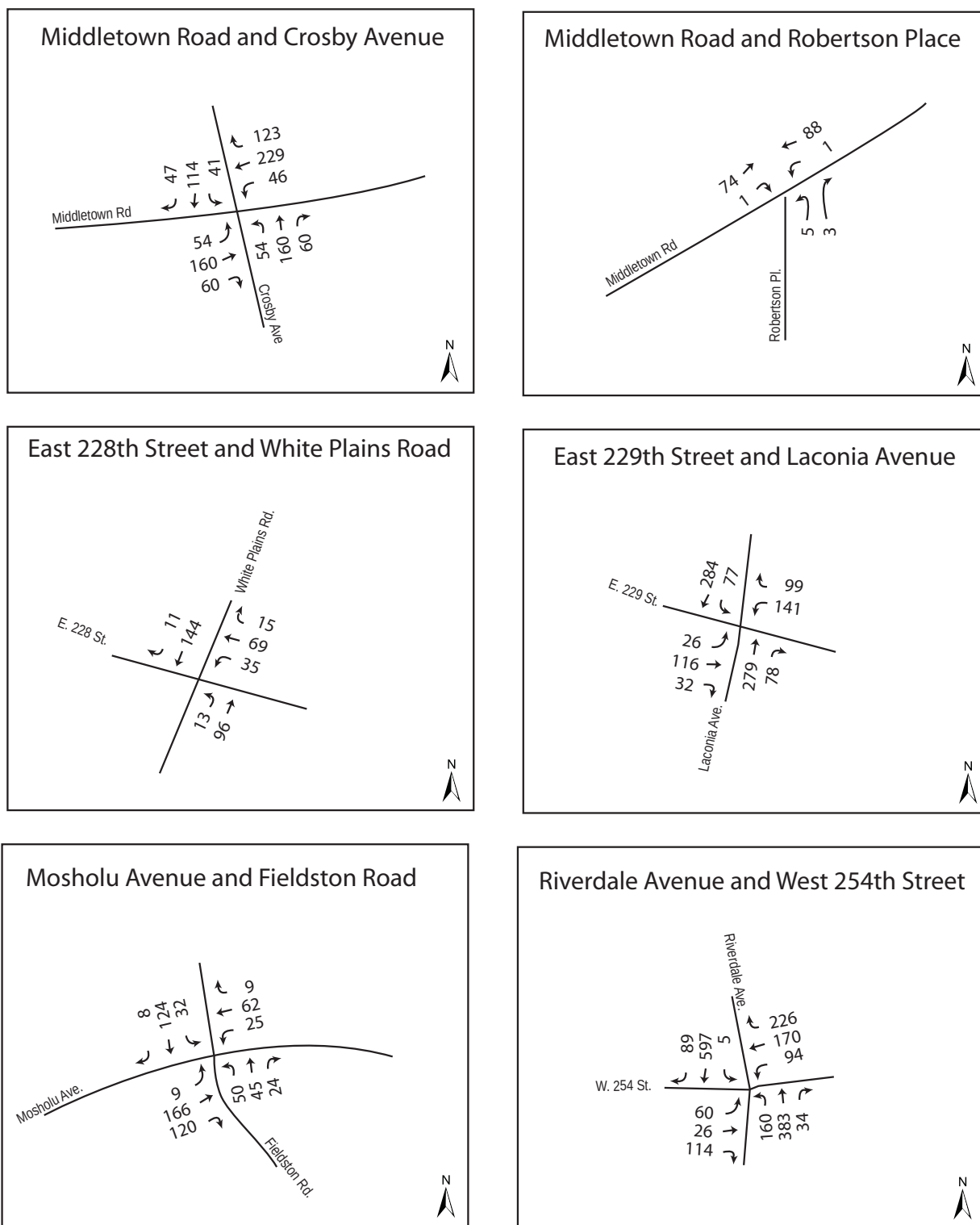


Figure 4.5

Existing Midday Traffic Volumes for Intersections Analyzed

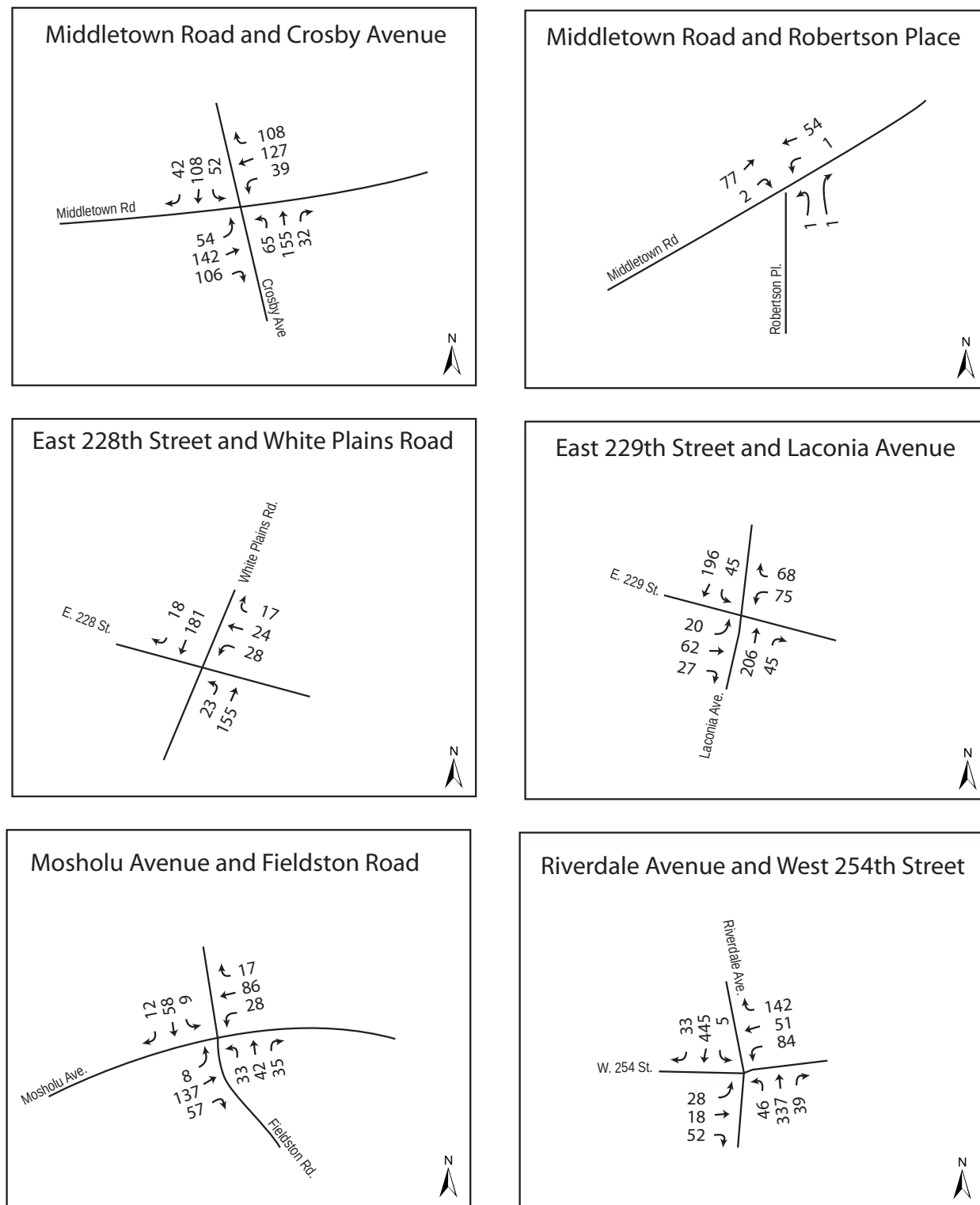
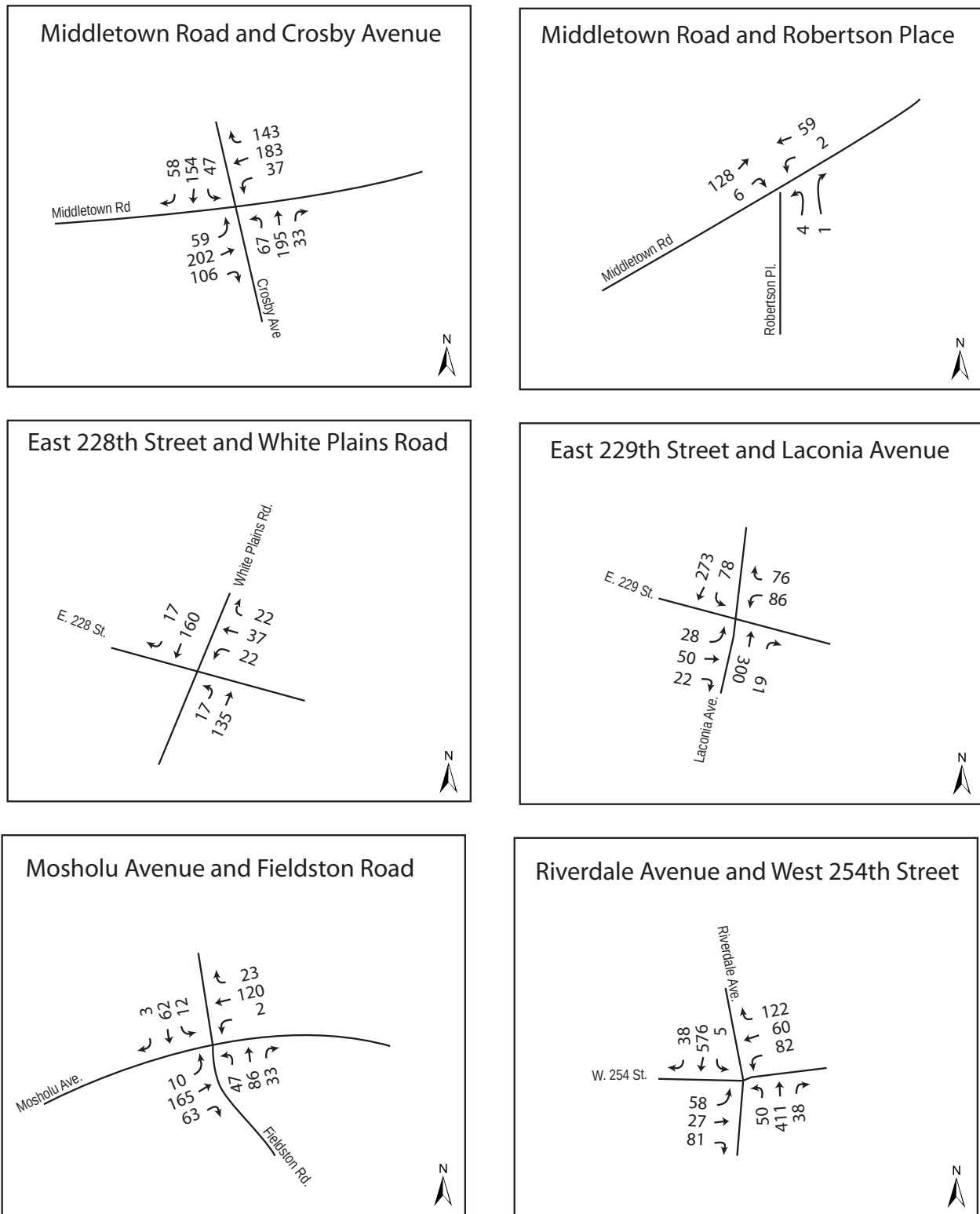


Figure 4.6

Existing PM Traffic Volumes for Intersections Analyzed



5. Recommendations

Middletown Road

The goal in designing this route was to connect cyclists from the Hutchinson River Greenway and the subway to Pelham Bay Park, and the proposed greenway that runs through it. The challenges of designing this route are that the Bruckner Expressway bisects the corridor thereby isolating Pelham Bay Park. Additionally, the streets to the north and south of this corridor are mostly one-way, making a direct route across the expressway and back impossible. As a result of the geographic challenges of this corridor, three alternatives have been examined for the bicycle route along Middletown Road.

There are two pedestrian overpasses traversing the Bruckner Expressway. One overpass has an entrance ramp located at Buhre Avenue, west of the Bruckner and terminates in Pelham Bay Park, east of the Bruckner. The second overpass is located to the south and has an entrance ramp at Roberts Avenue and terminates at Middletown Road east of the Bruckner. Alternative A utilizes the Roberts Avenue overpass and Alternative B utilizes the Buhre Avenue overpass. Alternative C utilizes both overpasses, connecting them with a two-way bicycle lane along the southbound Bruckner Expressway service road.

Alternative A - See Figure 5.7 for the bicycle route

This alternative will take eastbound cyclists from the western edge of the study corridor to Mahan Avenue, which is approximately 29 feet wide, where cyclists would turn onto the one-way northbound street and travel for one block (See Figure 5.1 on the following page). At Roberts Avenue cyclists would turn onto the one-way eastbound street and travel for two blocks (see Figure 5.2 on the following page) where the Roberts Avenue overpass would take them across the Bruckner and onto Middletown Road. Roberts Avenue is approximately 30 feet wide with parking permitted on both sides of the street.

Photo 5.1

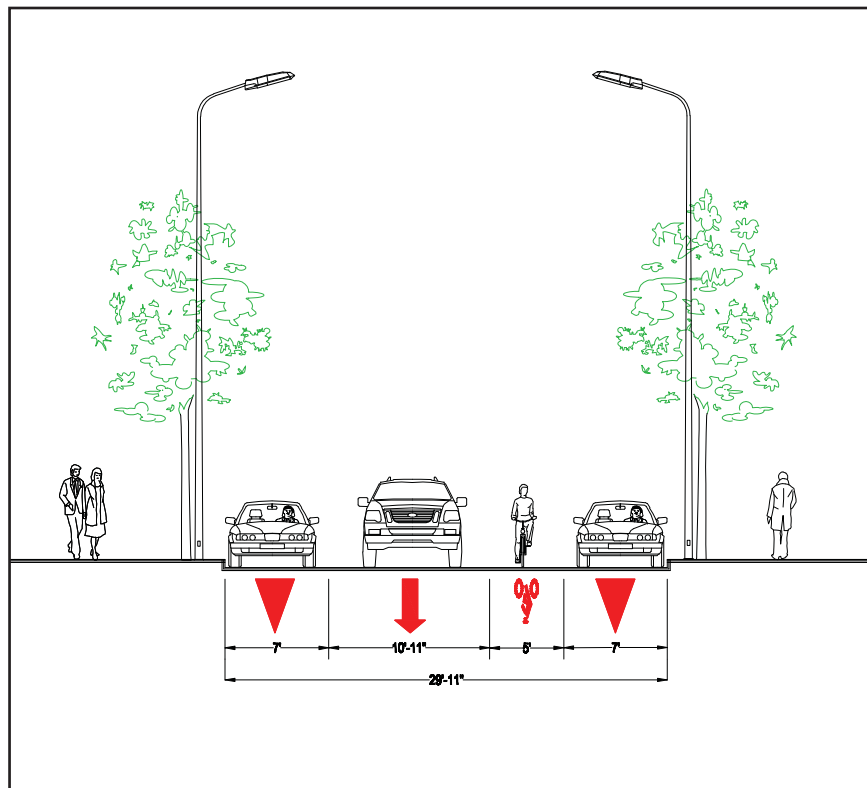


Roberts Avenue overpass, Middletown Road
east of Bruckner.

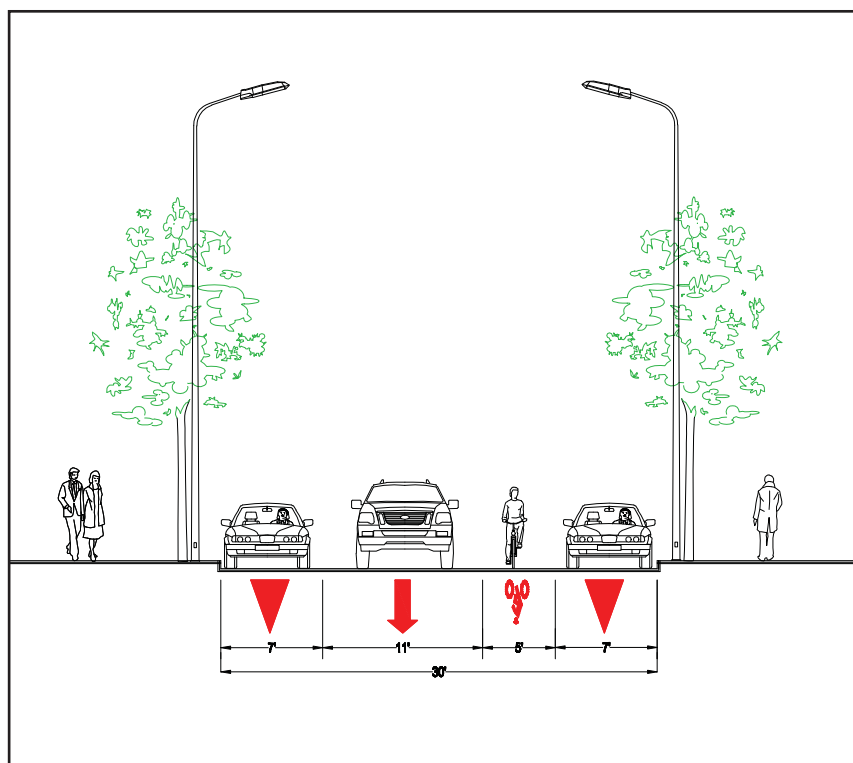
Photo 5.2



Roberts Avenue overpass, Middletown Road
west of Bruckner.

Figure 5.1

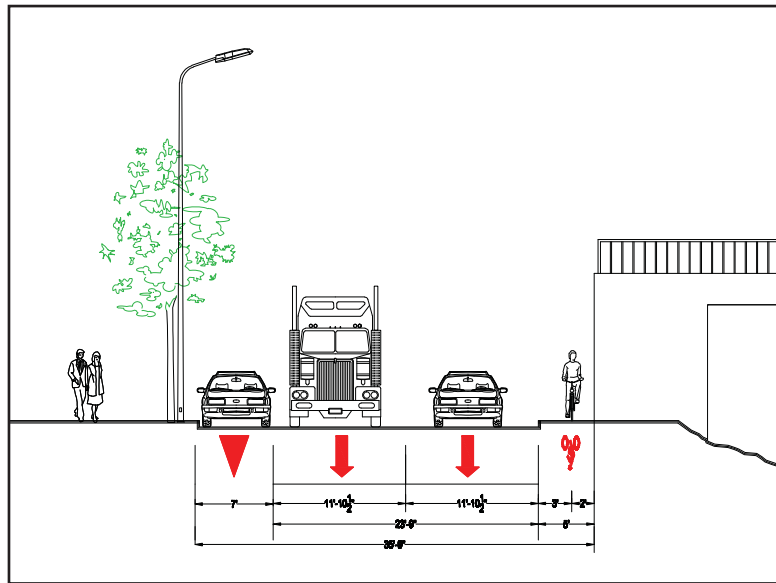
Bicycle Lane Section: Mahan Avenue

Figure 5.2

Bicycle Lane Section: Roberts Avenue

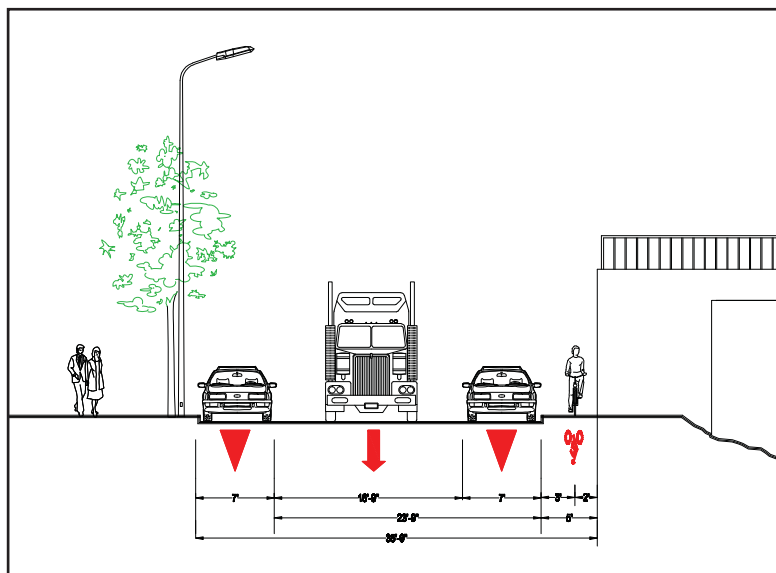
The westbound route would be different since cyclists cannot travel counterflow on one-way streets. Westbound cyclists would cross the Roberts Avenue overpass and turn onto the southbound service road for the Bruckner Expressway and travel for one block. See Figure 5.3, which illustrates the 7:00AM to 7:00PM time period when there will be two travel lanes, and Figure 5.4, which illustrates the 7:00PM to 7:00AM time period when there will be one travel lane. At Middletown road cyclists would turn west and travel to the end of the corridor. See Figures 5.5 and 5.6 on the following page which illustrates the bicycle lane striped on the service road or the curb extended to provide a bicycle lane protected by parked vehicles.

Figure 5.3

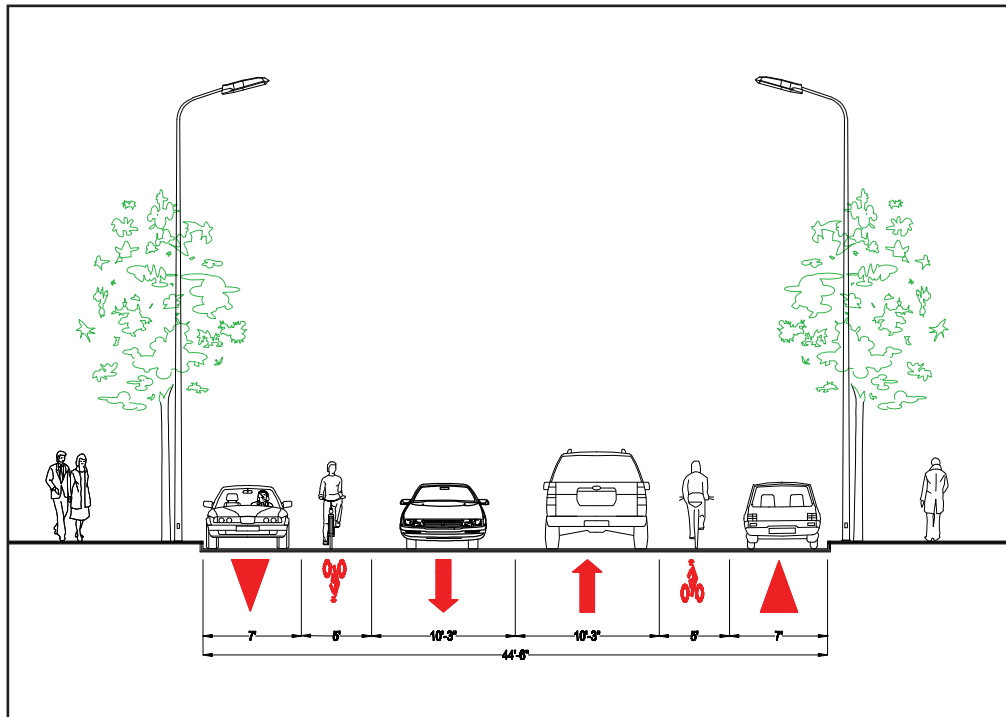


Bicycle Lane Section: Bruckner Expressway Service Road, One-way Lane 7:00AM-7:00PM

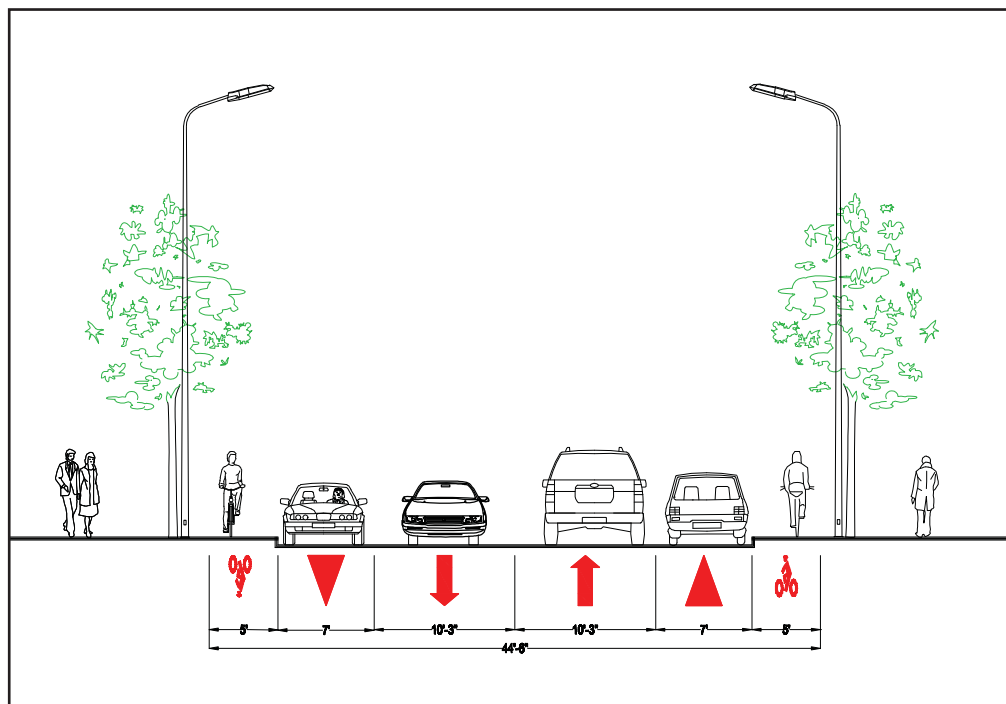
Figure 5.4



Bicycle Lane Section: Bruckner Expressway Service Road, One-way Lane 7:00PM-7:00AM

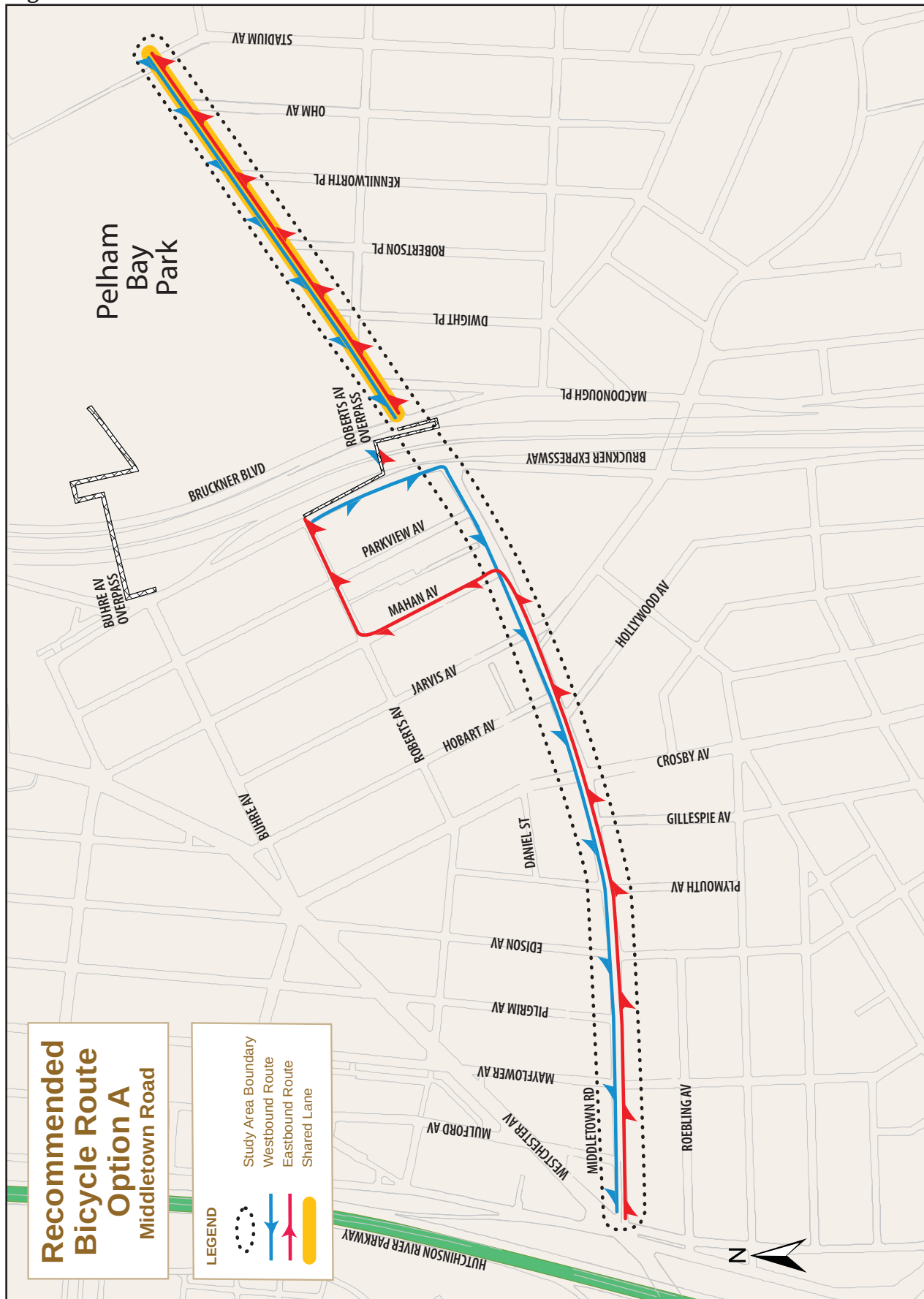
Figure 5.5

Bicycle Lane Section: Middletown Road, Striped Class II Lane

Figure 5.6

Bicycle Lane Section: Middletown Road, Protected Lane

Figure 5.7



Alternative B - See Figure 5.9 for the bicycle route

This alternative will take eastbound cyclists from the western edge of the study corridor to Mahan Avenue, where cyclists would turn onto the one-way northbound street and travel for two blocks. At Buhre Avenue cyclists would turn east onto the two-way street and travel for two blocks where the Buhre Avenue overpass would take them across the Bruckner and directly into Pelham Bay Park.

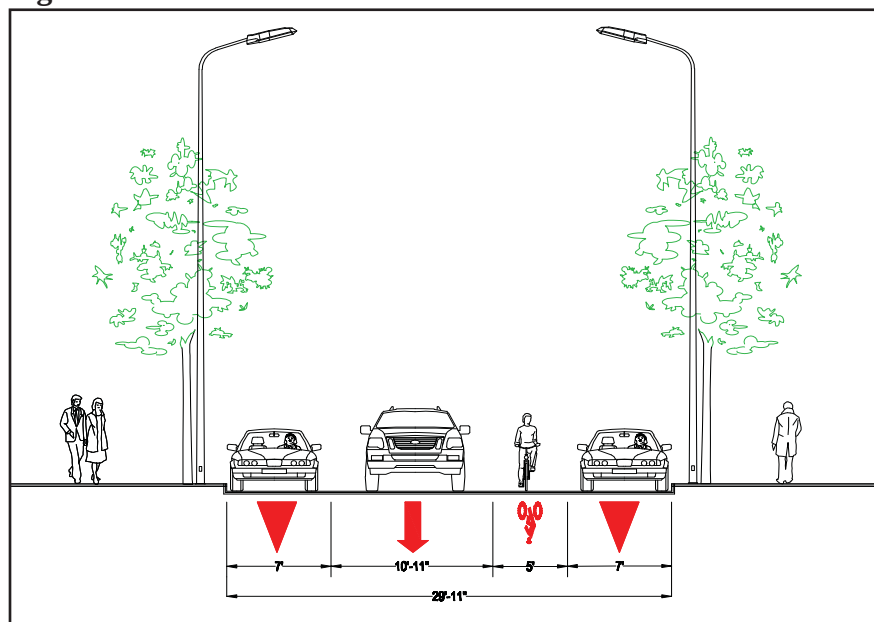
Photo 5.3

Buhre Avenue overpass east of Bruckner

Photo 5.4

Buhre Avenue overpass west of Bruckner

Westbound cyclists would cross the Buhre Avenue overpass and travel west on Buhre Avenue for one block until Parkview Avenue where cyclists would turn onto the one-way southbound street and travel for two blocks (See Figure 5.8). At Middletown Road cyclists would turn west and travel to the end of the corridor.

Figure 5.8

Bicycle Lane Section: Parkview Avenue

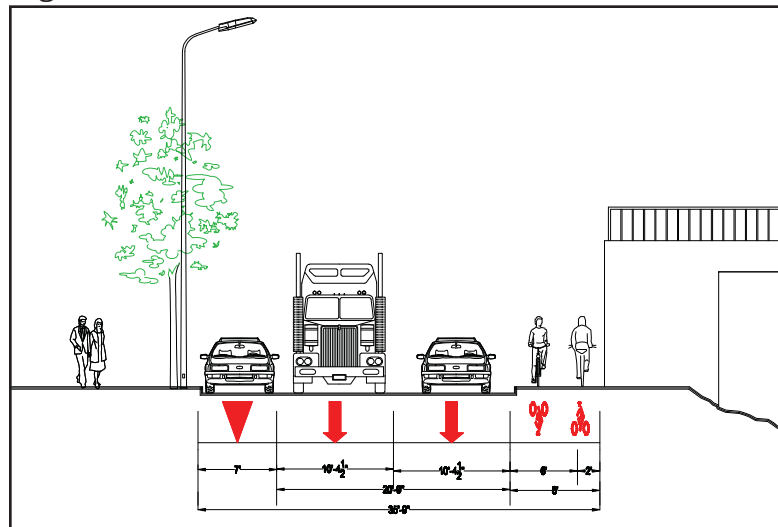
Figure 5.9



Alternative C - See Figure 5.12 for the bicycle route

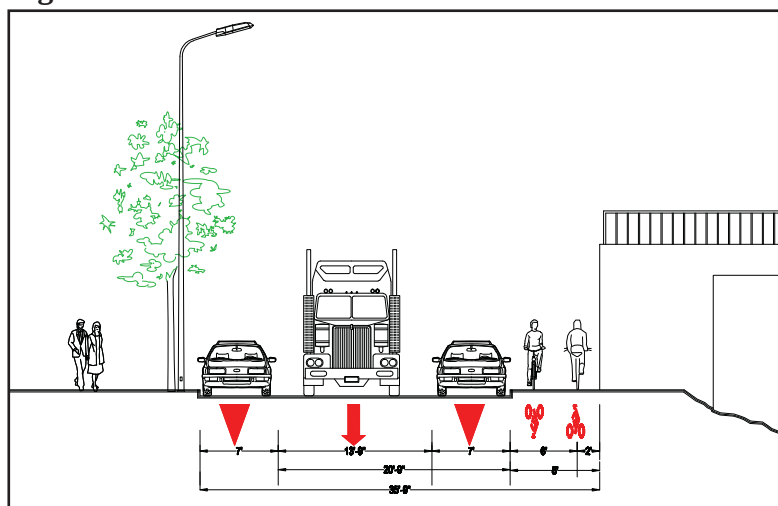
This alternative will take eastbound cyclists from the western edge of the study corridor to the southbound Bruckner Expressway service road, where cyclists will turn north onto the counterflow bicycle lane running from Middletwon Road to Buhre Avenue. Cyclists would have the option of using the Roberts Avenue overpass or the Buhre Avenue overpass, to cross the Bruckner Expressway. The two-way bicycle lane would be grade-separated from the roadbed, however, there is no space for a buffer and the remaining travel lanes along the southbound Bruckner Expressway service road would be 10.5 feet wide. These two travel lanes will not be striped, rather it will appear as one wide travel lane that will operate as two lanes. The parking regulations will not change, however, from 7:00 PM to 7:00 AM, when parking is permitted on the east side of the service road, there will only be one 14-foot wide travel lane. See the Figures below, which illustrate a protected two-way bicycle lane with an extended curb. Two scenarios are depicted, one for 7:00AM to 7:00PM, when parking is not permitted (depicted in Figure 5.10), and one for 7:00PM to 7:00AM when parking is permitted (depicted in Figure 5.11).

Figure 5.10



Bicycle Lane Section: Bruckner Expressway Service Road, Two-way Lane 7:00AM-7:00PM

Figure 5.11



Bicycle Lane Section: Bruckner Expressway Service Road, Two-way Lane 7:00PM-7:00AM

Figure 5.12



While this alternative is the most direct route and would give cyclists the most flexibility, it is also a truck route and the resulting travel lanes will be narrow. Additionally, transition signage and striping would be necessary north of Buhre Avenue and south of Middletown Road since the service road will lose a travel lane from 7:00PM to 7:00AM. Data obtained from the New York City Department of Transportation indicates that volumes on the southbound Bruckner Expressway service road between 7:00AM and 9:00AM range from 544 to 1077. The volumes between 4:00PM and 6:00PM range from 810 to 1338. The complete Automatic Traffic Recorder counts are on file at the NYC Department of City Planning, File Number 04-0216.

East 228th Street and East 229th Street - See Figure 5.15 for the bicycle route

This route is recommended in the NYC Bicycle Master Plan and would provide an on-street connection to the Bronx River Greenway and the residential area in the northeast Bronx. A challenge to implementing this route could be approximately 50 feet of angled parking along the north side of East 229th Street, west of Laconia Avenue. The angled parking is used by the police station located on the northwest corner of East 229th Street and Laconia Avenue. If it is not possible for NYCDOT to remove this angled parking and replace it with standard parallel parking for this 50-foot section of E. 229th Street, the bicycle will have to become a shared lane.

Photo 5.5



View of Bronx River Greenway connection from
E. 229th Street

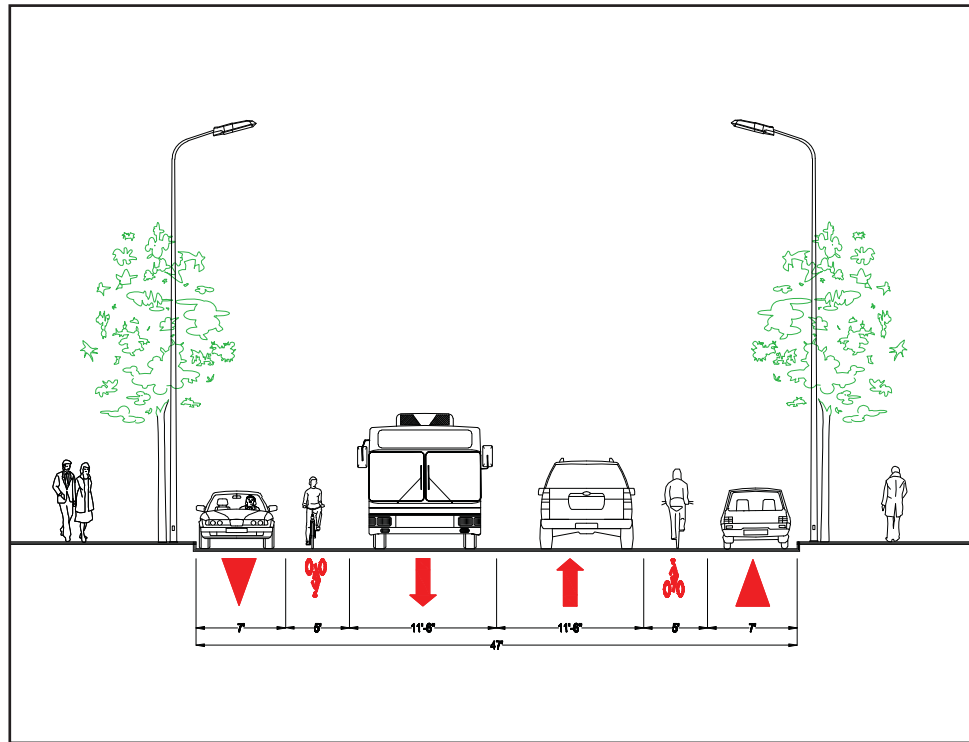
Photo 5.6



Police station on northwest corner of E. 229th Street and
Laconia Avenue

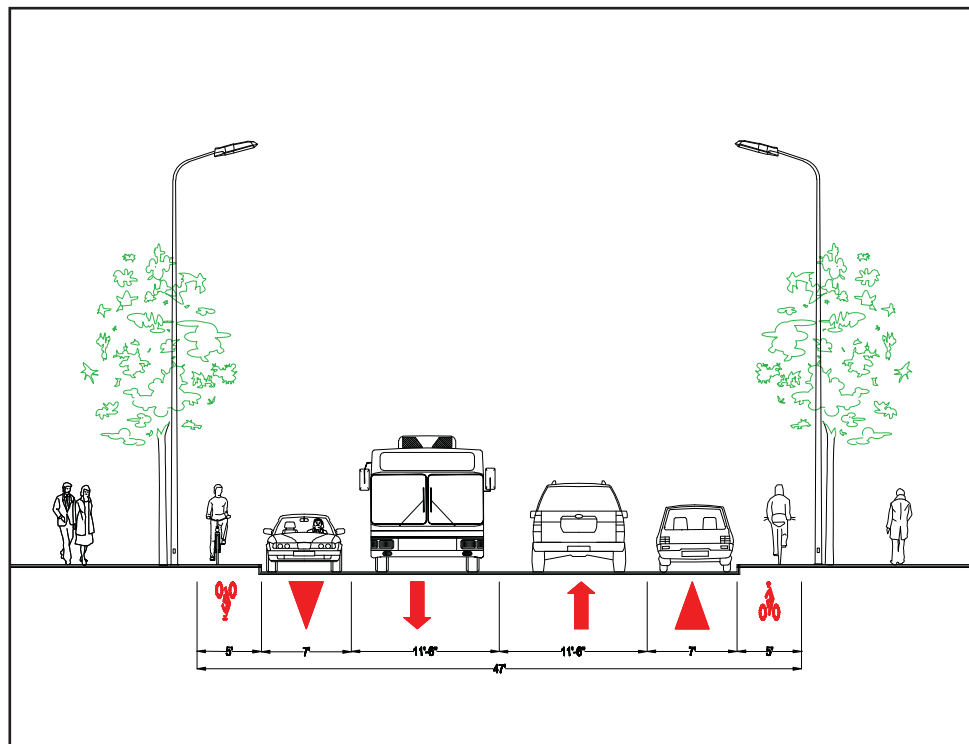
The recommended eastbound route begins at the greenway and travels east along East 229th Street to Needham Avenue. (See Figures 5.13 and 5.14, which illustrates a bicycle lane striped and the curb extended to provide a protected bicycle lane.) The westbound route travels west along East 229th Street to Laconia Avenue, turns south on Laconia for one block and then west onto East 228th Street to the Greenway. The recommended route is a Class II bicycle lane along the entire length of East 229th Street and for a portion of East 228th Street. The route becomes a shared lane east of Bronxwood Avenue along East 228th Street, where the road narrows significantly to 24 feet wide.

Figure 5.13



Bicycle Lane Section: E. 229th Street, Striped Class II Lane

Figure 5.14



Bicycle Lane Section: E. 229th Street, Protected Lane

Mosholu Avenue and West 254th Street - See Figure 5.20 for the bicycle route

This route is recommended in the NYC Bicycle Master Plan. The route would provide an important connection between the Riverdale Metro North station and Van Cortlandt Park. However, there are some challenges to implementing this route. Firstly, while Mosholu Avenue can accommodate a Class II bicycle lane, West 254th Street is much narrower and can only accommodate a shared lane. Additionally, West 254th Street travels along a steep east-facing slope which would likely be used by advanced riders only. Lastly, cyclists may only bring their bicycles on Metro North trains during off-peak hours, and a permit must be obtained in advance.

Photo 5.7

View of steep hill along W. 254th St. facing east

There are also infrastructure problems on West 254th Street which must be addressed before implementing a shared bicycle lane along this route. In many places the demarcation between the street and sidewalk is indistinguishable, in other places the curb or pavement is in poor condition. These maintenance conditions can create difficulties for both cyclists and motorists and should be repaired. The photos below depict the poor pavement conditions along West 254th Street.

Photo 5.8

Roadway conditions along W. 254th St.

Photo 5.9

Sidewalk Conditions along W. 254th St.

Although Mosholu Avenue can easily accommodate a Class II bicycle lane, we have identified two locations where the integration of traffic calming measures can make traveling along Mosholu Avenue safer for both pedestrians and cyclists.

At the junction of Mosholu Avenue and Broadway the southbound right turn lane from Broadway is approximately 50 feet wide, with a single travel lane and a bus stop. At its existing width, vehicles are able to make high-speed right turns. Narrowing the roadway by extending the width of the traffic triangle will reduce the speed of vehicles turning onto Mosholu Avenue from Broadway. The traffic triangle is currently being used as green space. Extending the width of the plaza will allow for the planting of additional street trees which will enhance the gateway onto Mosholu Avenue and will assist the city in attaining its goal laid out in the PlaNYC 2030 initiative to plant one million trees throughout the five boroughs within the next 10 years.

Figure 5.16



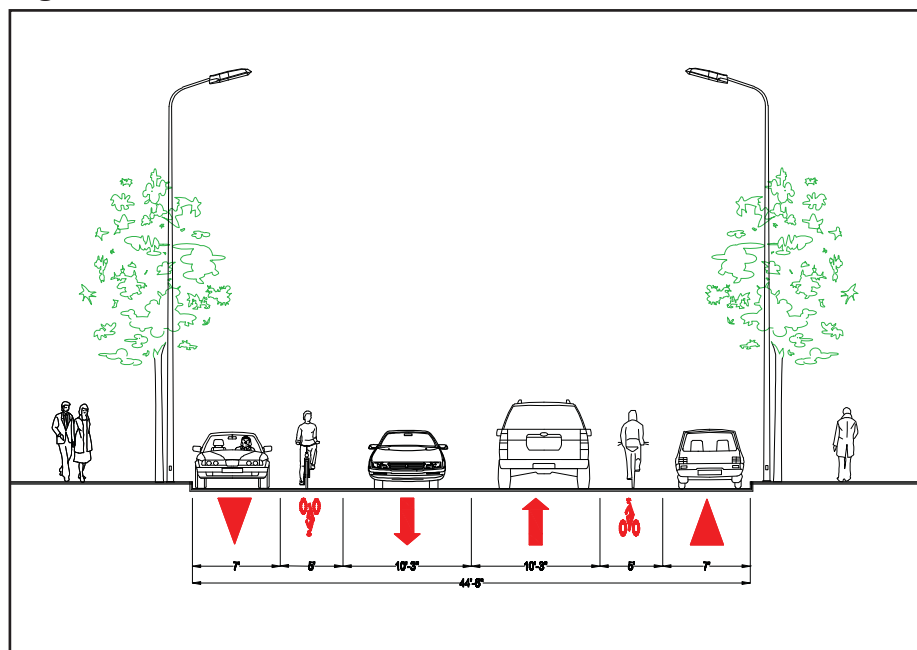
Another traffic calming measure is recommended for the intersection of Mosholu Avenue and Liebig Avenue. The obtuse angle at which Liebig Avenue intersects with Mosholu Avenue encourages vehicles to turn onto Mosholu Avenue at high speeds. With the installation of a bicycle lane along Mosholu Avenue, there is an increased risk of conflict between high-speed right turning vehicles and cyclists using the on-street bicycle lane. There is currently a stop sign at this intersection, however, reconstructing the curb with a tighter turning radius will encourage vehicles approaching the intersection to slow down and will improve the visibility of pedestrians and cyclists as well.

Figure 5.17



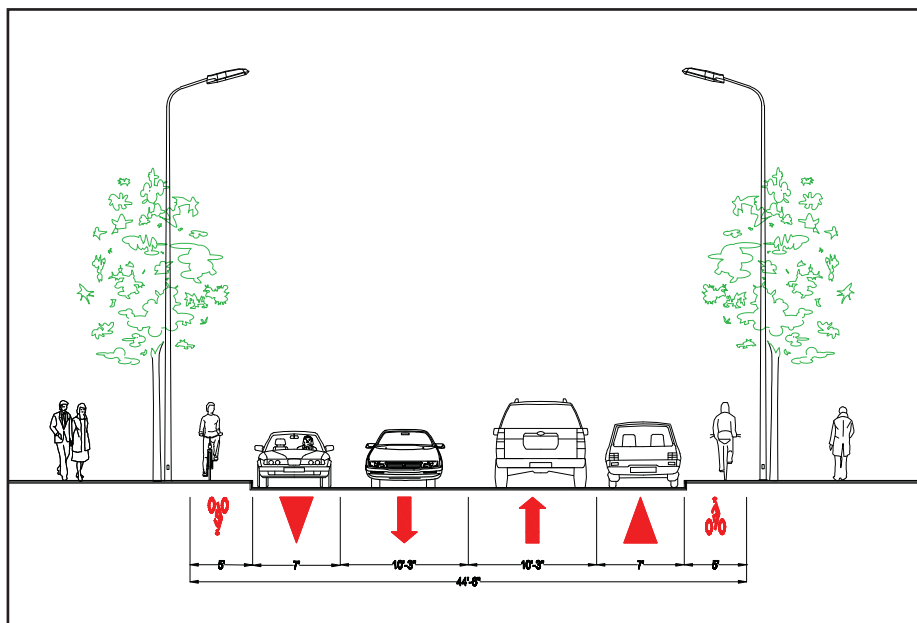
Challenges aside, this route would be the only bicycle lane in the Riverdale section of the Bronx, which is isolated from the subway. This connection would make Van Cortlandt Park and the Riverdale Metro North station more accessible to cyclists. Since both Mosholu Avenue and West 254th Street are both two-way streets the recommended eastbound and westbound routes are the same. (See Figures 5.18 and 5.19 which illustrate a bicycle lane striped adjacent to the travel lane, or the curb extended to provide a protected bicycle lane.)

Figure 5.18



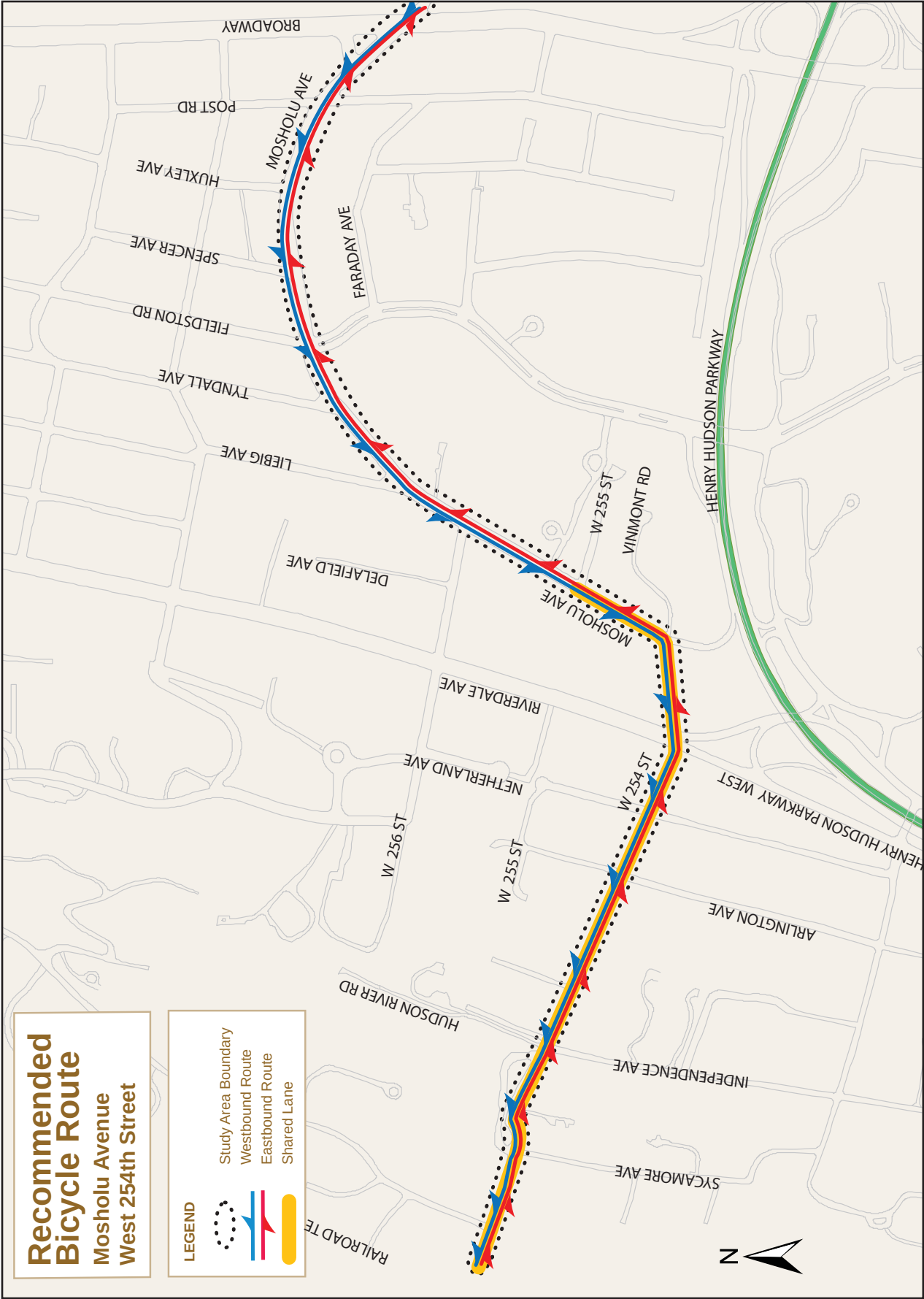
Bicycle Lane Section: Mosholu Avenue, Striped Class II Lane

Figure 5.19



Bicycle Lane Section: Mosholu Avenue, Protected Lane

Figure 5.20



Conclusion

This study recommends the implementation of portions of the Bicycle Master Plan along east-west corridors in the Bronx. The corridors selected for study build upon the existing bicycle network in the Bronx and establish connections to major destinations such as parks and transit.

A traffic analysis was conducted along each corridor to determine the impact a bicycle lane would have on the Level of Service along the three corridors selected for this study. The proposed design recommendations include the following, where appropriate:

- Five-foot wide striped Class II bicycle lanes
- Protected bicycle lanes between the curb and parking lane
- On-street shared lanes where designated bicycle lanes are not feasible
- Traffic calming measures to improve rider safety at specific intersections

The New York City Department of City Planning is committed to working with the New York City Department of Transportation, the community, and any relevant agencies to implement the recommendations presented in this study. If implemented, the three east-west corridors will enhance connectivity to the existing and proposed Greenway system throughout the borough assisting in the completion of the 1800-mile bike lane master plan as presented in the PlaNYC 2030 initiative.

Finally, The New York City Department of Transportation as the designated agency for implementing bicycle lanes will review and further evaluate the recommendations of this study.

Appendix A:
Literature Review

Title: Cyclists Push for Paths Circling Bronx

Author: Ethan Wilensky-Lanford, *The Bronx Beat*, Columbia University Graduate School of Journalism

Date: May 7, 2007

Study Area: Bike network connecting the South Bronx to the North Bronx

This article documents proposed greenway bike paths throughout the Bronx. Currently bicycle paths that connect the South Bronx to the North Bronx are limited. Bike advocates are encouraging a Bronx greenway system that would enable bicyclists to navigate the borough. The proposed routes are as follows:

- Bronx River Greenway – Scheduled to begin construction in 2008. The path will follow the Bronx River from the Concrete Plant Park, pass the Bronx Zoo and connect to the Pelham Parkway Greenway.
- Creation of Starlight Park, located between Westchester and East Tremont avenues stretching from 172nd Street to 174th Streets. The Bronx River Greenway will pass through future park.
- South Bronx Greenway, which will go around Hunts Point Terminal Market and Port Morris to Mott Haven with a possible extension to Randall's Island.
- Greenway connecting Roberto Clemente State Park to High Bridge at 169th Street.
- High Bridge – Mayor Bloomberg plans to reopen the bridge which will provide another bike connection between the Bronx and Manhattan.

Title: Pelham Bay Rezoning (C 060179 ZMX)

Author: NYC DCP, City Planning Commission

Date: February 8, 2006

Study Area: Pelham Bay neighborhood of the Bronx bounded by Pelham Parkway South on the north, the Bruckner Expressway to the east, the Hutchinson River Parkway to the west and Middletown Road to the south.

The Pelham Bay community was concerned that the recently approved contextual low density rezoning of the neighboring Throgs Neck area would result in out-of-scale development in their neighborhood. Pelham Bay is a low-density neighborhood comprised of large one- and two-family detached homes. Some of the wider avenues are lined with multi-family elevator buildings and retail establishments. The current zoning scheme has been in place since 1985 when much of the area was changed from R7-1 to R5 or R6 except along wider corridors such as Westchester and Crosby avenues.

Commercial uses and multi-family or single-family residences line the northern side of Middletown Road. Prior to the rezoning, Middletown Road from Westchester Avenue to just west of Mayflower Avenue were zoned R7-1, the western side of Mayflower Avenue to Gillespie Street was zoned R5, and Gillespie Street to the Bruckner Expressway was zoned R7-1. After the rezoning, the existing R7-1 areas remained unchanged and the R5 district was rezoned to R5-1. The zoning change affects FAR along this section. R5 areas have a 1.25 maximum FAR allowing 3-story attached houses and small apartment buildings. R5-1 areas restrict FAR to 1.1 allowing one and two-family residences.

Community Board 10 approached the NYC Department of City Planning after the contextual rezoning to preserve the existing, low-density character of Throgs Neck. The City Planning Commission agreed that the current zoning did not follow development patterns of Pelham Bay. Much of the area was rezoned to preserve the character of the neighborhood and prevent new out-of-scale development. The rezoning proposal completed the Uniform Land Use Review Procedure (ULURP) and received a negative declaration after completing the SEQRA and CEQR procedures.

Title: Special Natural Area District (N 050093 ZRY)

Author: New York City Planning Commission

Date: January 5, 2005

Study Area: Special Natural Area Districts

The Department of City Planning filed a zoning text amendment pertaining to the four Special Natural Area Districts located in Staten Island, Queens and the Bronx. These districts are characterized as well preserved natural areas with steep slopes, rock outcroppings, forests, wetlands and pond and stream corridors located in low-density residential areas with few commercial uses. Each zoning text amendment proposed will preserve and enhance the Special Natural Area Districts. There are amendments prescribed for the following natural features found within a Special Natural Area District:

- Hillsides and steep slopes
- Private roads and driveways and Tier II Sites
- Elimination of grandfather
- As-of-right development for small flat lots with few trees
- Site planning standards for controlling erosion and run-off
- Preservation of trees and more guidelines for replanting trees
- Procedural modifications to ease approvals for lesser lots

Community boards in the Bronx and a task force in Staten Island worked with the Department of City Planning to enhance the Special Natural Area District standards. The initial project was pursued in order to further preserve lots in these districts. Small flat lots with little natural value are no longer required to follow the procedures like they were before.

The Department of City Planning concluded that approving these amendments would not significantly impact the environment and the amendments are consistent with the WRP policies.

Title: Riverdale-on-Hudson Rezoning (C 050480 ZMX)

Author: New York City Planning Commission

Date: September 26, 2005

Study Area: West 261st Street to the North, Riverdale Avenue / Henry Hudson Parkway to the East, West 230th Street to the South and the Hudson River to the West.

This CPC report approves the rezoning of 23 blocks of Riverdale-on-Hudson from R1-2 to R1-1 zoning in order to preserve the current neighborhood character and restrict future development. The rezoning was first set forth by the 197-a plan developed by Community Board 8: *CB 8: 2000: A River to Reservoir Preservation Strategy*. The 197-a plan was approved by the City Planning Commission and City Council in the fall of 2003.

In 1975, this area was designated as a Special Natural Area District (NA-2). In 2005, the City Planning Commission adopted the zoning text amendment, N 050093 ZRY, requiring reviews of previously grandfathered lots.

The existing R1-2 zone allows the development of large single-family detached homes and a 0.5 max FAR with a total area of 5,700 square feet. Community facility FAR is restricted to 0.5. The proposed R1-1 zone permits single family detached dwellings on lots at least 100 feet wide and with an area of 9,500 square feet. The new zoning will not affect use, housing type or max FAR of residential or community facilities.

This project complied with SEQRA and CEQR and received a negative declaration. The zoning application was certified as complete by the City Planning Commission and referred to Community Board 8 and the Borough President. Both CB 8 and the Borough President recommended approval of the rezoning. On August 10, 2005, the City Planning Commission held a hearing where four spoke in favor of the project and none spoke against. The rezoning is in compliance with the New York City Waterfront Revitalization Program (WRP) and consistent with *CB 8 2000: A River to Reservoir Preservation Strategy*. The City Planning Commission found the rezoning caused no significant impacts on the environment and adopted the zoning change on September 26, 2005.

Title: North Riverdale Rezoning (C 050043 ZMX)

Author: NYC DCP, City Planning Commission

Date: November 3, 2004

Study Area: North Riverdale neighborhood in the Bronx bounded by the Yonkers City line to the north, Broadway to the east, Mosholu Avenue to the south, and Riverdale Avenue to the west.

Portions of the North Riverdale neighborhood were rezoned from R3-1 and R3-2 to R3A, except for a commercial overlay section, in order to preserve the existing character and prevent out-of-scale development in the neighborhood. Development trends in the neighborhood have not utilized the full FAR available under R3-1 and R3-2 districts. The new R3A district is reflective of development trends in the neighborhood.

An R3-2 district north of Mosholu Avenue from west of Delafield Avenue and east of Broadway was changed to R3A. There is commercial overlay within this district from Tyndall Avenue past Post Road along Mosholu Avenue. An area south of Mosholu Avenue and west of Broadway is rezoned from R3-2 to R3-1. The different zoning districts permit the following:

- R3-1 and R3-2 districts have a maximum residential FAR of .5 with an additional .1 attic allowance. The community facility FAR is 1.0. Both districts are comprised of detached, semi-detached, attached dwellings. R3-2 districts also allow multifamily dwellings.
- R3A districts allow one and two-family detached homes with a maximum residential FAR of .6. The community facility FAR remains the same.

The existing zoning, dated from 1961, did not reflect the community of one- and two- family homes north of Mosholu Avenue and detached and semi-detached homes south of Mosholu Avenue. Changes in zoning follow Community Board 8's 197-a plan. The rezoning completed the Uniform Land Use Review Procedure (ULURP). It received a negative declaration for environmental impact after completing SEQRA and CEQR procedures. The City Planning Commission agreed that the rezoning is more reflective of the neighborhood's development trends and wishes to preserve the character of the neighborhood.

Title: *CD8 2000: A River to Reservoir Preservation Strategy*

Author: New York City Planning Commission

Date: October 22, 2003

Study Area: Bronx Community District 8

Community Board 8 started developing a comprehensive plan for Community District 8 in 1997. In June of 2000, the community board submitted their comprehensive plan entitled *CD8 2000: A River to Reservoir Preservation Strategy, A 197-A Community Plan for Bronx Community District 8* to the Department of City Planning.

The following neighborhoods which comprise Community District 8 are Fieldston, Kingsbridge, Kingsbridge Heights, Marble Hill, Riverdale, Spuyten Duyvil and Van Cortlandt Village. The comprehensive plan included modifications to the following topics in order to preserve and enhance the character of the community district:

- Zoning
- Historic Resources
- Housing
- Parks and Recreation
- Economic Development
- Schools, Education and Employment
- Transportation

The 197-a plan was accepted by the Department of City Planning and the Borough President with modifications. Community Board 8 proposed zoning changes that could be achieved by enhancing the existing zoning through contextual zoning. Additionally, all parties agreed to enhance and preserve the Special Natural Area District (SNAD) currently in place.

The plan is consistent with WRP policies. CPC found no significant impacts on the environment as a result of the plan and it received a negative declaration according to SEQRA and CEQR guidelines. The City Planning Commission agreed to work with Community Board 8 in order to preserve the character of the neighborhood and encourage new development that is sensitive to the character of the neighborhood.

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