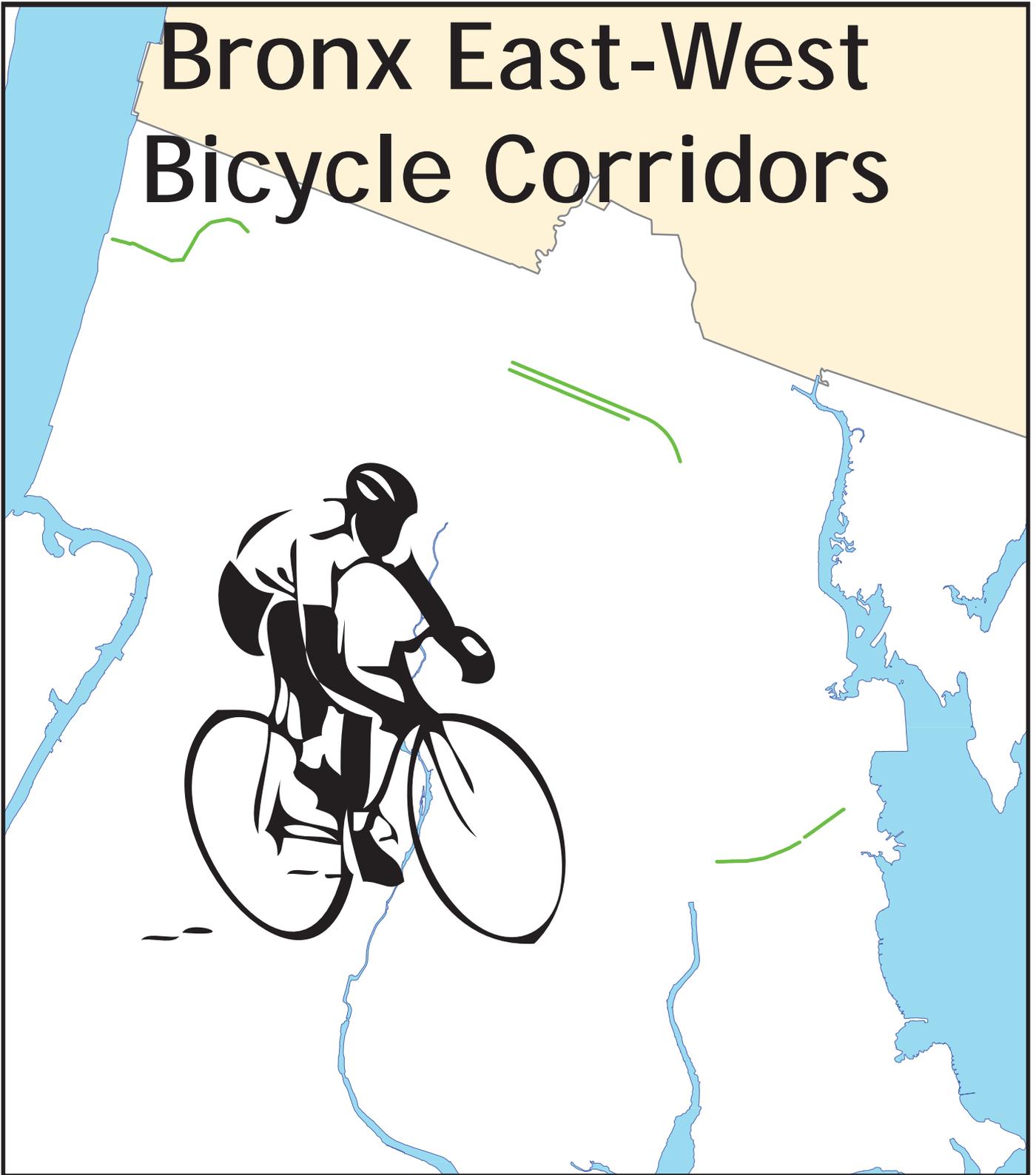


Bronx East-West Bicycle Corridors



New York City Department of City Planning
Transportation Division

Bronx East-West Bicycle Corridors

Final Report

April, 2008

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City of New York

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This study was funded by a matching grant from the Federal Highway Administration, under NYSDOT Pin PTCP07G00.03, FHWA under the Subregional Transportation Planning Program, year 2007/2008.

The preparation of this report was financed in part through funds from the U.S. Department of Transportation, Federal Highway Administration. This document is disseminated under the sponsorship of the Department of Transportation in the interest of Transportation exchange. The contents of this report reflect the view of the author who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official view or policies of the Federal Highway Administration or the New York Metropolitan Transportation Council. This report does not constitute a standard, specification or regulation.

Contents

Executive Summary	I
Introduction	1
1. Existing Conditions: Middletown Road	7
Study Area	7
Street Network	8
Zoning	12
Land Use	12
Demographics	14
Public Transportation	18
2. Existing Conditions: East 228th and East 229th Streets	19
Study Area	19
Street Network	19
Zoning	25
Land Use	25
Demographics	27
Public Transportation	31
3. Existing Conditions: Mosholu Avenue and West 254th Street	32
Study Area	32
Street Network	32
Zoning	37
Land Use	37
Demographics	39
Public Transportation	43
4. Evaluation of Existing Conditions	45
Vehicular Traffic	45
Intersection Analysis	47
Existing Level of Service Conditions	49
5. Recommendations	54
Middletown Road	54
East 228th and 229th Streets	64
Mosholu Avenue and West 254th Street	67
Conclusion	72
Appendix A: Literature Review	73

Figures

0.1. NYC Bicycle Master Plan	1
0.2. Corridors Selected for and Eliminated from Study	5
1.1. Study Area: Middletown Road	7
1.2. Street Network: Middletown Road	8
1.3. Truck Routes: Middletown Road	9
1.4. Total Accidents: Middletown Road	10
1.5. Pedestrian Accidents: Middletown Road	11
1.6. Zoning: Middletown Road	12
1.7. Land Use: Middletown Road	13
1.8. Census Tracts: Middletown Road	14
1.9. Bus Routes: Middletown Road	18
2.1. Study Area: E. 228th and E. 229th Streets	19

- 2.2. Street Network: E. 228th and E. 229th Streets.. 20
- 2.3. Truck Routes: E. 228th and E. 229th Streets 21
- 2.4. Total Accidents: E. 228th and E. 229th Streets..... 22
- 2.5. Pedestrian Accidents: E. 228th and E. 229th Streets 23
- 2.6. Bicycle Accidents: E. 228th and E. 229th Streets..... 24
- 2.7. Zoning: E. 228th and E. 229th Streets 25
- 2.8. Land Use: E. 228th and E. 229th Streets 26
- 2.9. Census Tracts: E. 228th and E. 229th Streets 27
- 2.10. Bus Routes: E. 228th and E. 229th Streets 31
- 3.1. Study Area: Mosholu Avenue and W. 254th Street..... 32
- 3.2. Street Network: Mosholu Avenue and W. 254th Street 33
- 3.3. Truck Routes: Mosholu Avenue and W. 254th Street 34
- 3.4. Total Accidents: Mosholu Avenue and W. 254th Street..... 35
- 3.5. Pedestrian Accidents: Mosholu Avenue and W. 254th Street 36
- 3.6. Zoning: Mosholu Avenue and W. 254th Street 37
- 3.7. Land Use: Mosholu Avenue and W. 254th Street 38
- 3.8. Census Tracts: Mosholu Avenue and W. 254th Street 39
- 3.9. Bus Routes: Mosholu Avenue and W. 254th Street 43
- 4.1. Intersection Analysis: Middletown Road..... 47
- 4.2. Intersection Analysis: E. 228th Street and E. 229th Street 48
- 4.3. Intersection Analysis: Mosholu Avenue and W. 254th Street..... 48
- 4.4. Existing AM Traffic Volumes for Intersections Analyzed 51
- 4.5. Existing Midday Traffic Volumes for Intersections Analyzed 52
- 4.6. Existing PM Traffic Volumes for Intersections Analyzed..... 53
- 5.1. Bicycle Lane Section: Mahan Avenue. 55
- 5.2. Bicycle Lane Section: Roberts Avenue..... 55
- 5.3. Bicycle Lane Section: Bruckner Expressway Service Road, One-way Lane 7:00AM-7:00PM 56
- 5.4. Bicycle Lane Section: Bruckner Expressway Service Road, One-way Lane 7:00PM-7:00AM 56
- 5.5. Bicycle Lane Section: Middletown Road, Striped Class II Lane 57
- 5.6. Bicycle Lane Section: Middletown Road, Protected Lane 57
- 5.7. Recommended Bicycle Route Option A: Middletown Road..... 58
- 5.8. Bicycle Lane Section: Parkview Avenue 59
- 5.9. Recommended Bicycle Route Option B: Middletown Road..... 60
- 5.10. Bicycle Lane Section: Bruckner Expressway Service Road, Two-way Lane 7:00AM-7:00PM..... 61
- 5.11. Bicycle Lane Section: Bruckner Expressway Service Road, Two-way Lane 7:00PM-7:00AM..... 61
- 5.12. Recommended Bicycle Route Option C: Middletown Road..... 62
- 5.13. Bicycle Lane Section: E. 229th Street, Striped Class II Lane 65
- 5.14. Bicycle Lane Section: E. 229th Street, Protected Lane 65
- 5.15. Recommended Bicycle Route: E. 228th Street and E. 229th Street 66
- 5.16. Mosholu Avenue Traffic Calming: Broadway 68
- 5.17. Mosholu Avenue Traffic Calming: Liebig Avenue 69
- 5.18. Bicycle Lane Section: Mosholu Avenue, Striped Class II Lane 70
- 5.19. Bicycle Lane Section: Mosholu Avenue, Protected Lane 70
- 5.20. Recommended Bicycle Route: Mosholu Avenue and W. 254th Street..... 71

Tables

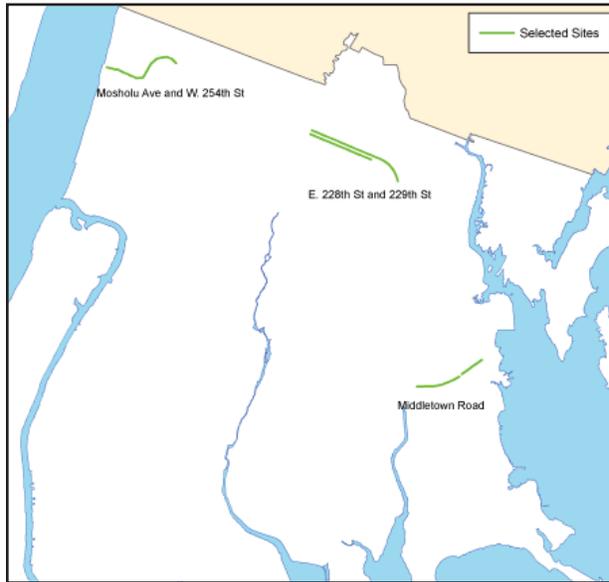
0.1. Site Selection Criteria	2
1.1. Study Area Population Change Between 1990 and 2000	14
1.2. Modal Split for Workers 16 and Older Who Reside Within the Study Area	15
1.3. Place of Work for Workers 16 and Older Who Reside Within the Study Area.....	15
1.4. Modal Split for Workers 16 and Older Who Travel Into the Study Area to Work.....	16
1.5. Place of Origin for Workers 16 and Older Who Travel Into the Study Area to Work	16
1.6. Number of Vehicles Available in the Study Area.....	17
2.1. Study Area Population Change Between 1990 and 2000	27
2.2. Modal Split for Workers 16 and Older Who Reside Within the Study Area	28
2.3. Place of Work for Workers 16 and Older Who Reside Within the Study Area.....	28
2.4. Modal Split for Workers 16 and Older Who Travel Into the Study Area to Work.....	29
2.5. Place of Origin for Workers 16 and Older Who Travel Into the Study Area to Work	29
2.6. Number of Vehicles Available in the Study Area.....	30
3.1. Study Area Population Change Between 1990 and 2000	40
3.2. Modal Split for Workers 16 and Older Who Reside Within the Study Area	40
3.3. Place of Work for Workers 16 and Older Who Reside Within the Study Area.....	41
3.4. Modal Split for Workers 16 and Older Who Travel Into the Study Area to Work.....	41
3.5. Place of Origin for Workers 16 and Older Who Travel Into the Study Area to Work	42
3.6. Number of Vehicles Available in the Study Area.....	42
4.1. Level of Service Definitions for Signalized Intersections	46
4.2. Level of Service Definitions for Unsignalized Intersections	46
4.3. 2007 Existing Conditions - Signalized Intersections.....	49
4.4. 2007 Existing Conditions - Unsignalized Intersections.....	50

Photos

5.1. Roberts Avenue overpass, Middletown Road east of Bruckner Expy	54
5.2. Roberts Avenue overpass, Middletown Road west of Bruckner Expy	54
5.3. Buhre Avenue overpass east of Bruckner Expy	59
5.4. Buhre Avenue overpass west of Bruckner Expy	59
5.5. View of Bronx River Greenway connection from E. 229th Street	64
5.6. Police station on northwest corner of E. 229th Street nad Laconia Avenue	64
5.7. View of steep hill along W. 254th St. facing east	67
5.8. Roadway coniditions along W. 254th St.	67
5.9. Sidewalk Conditions along W. 254th St.	67

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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.

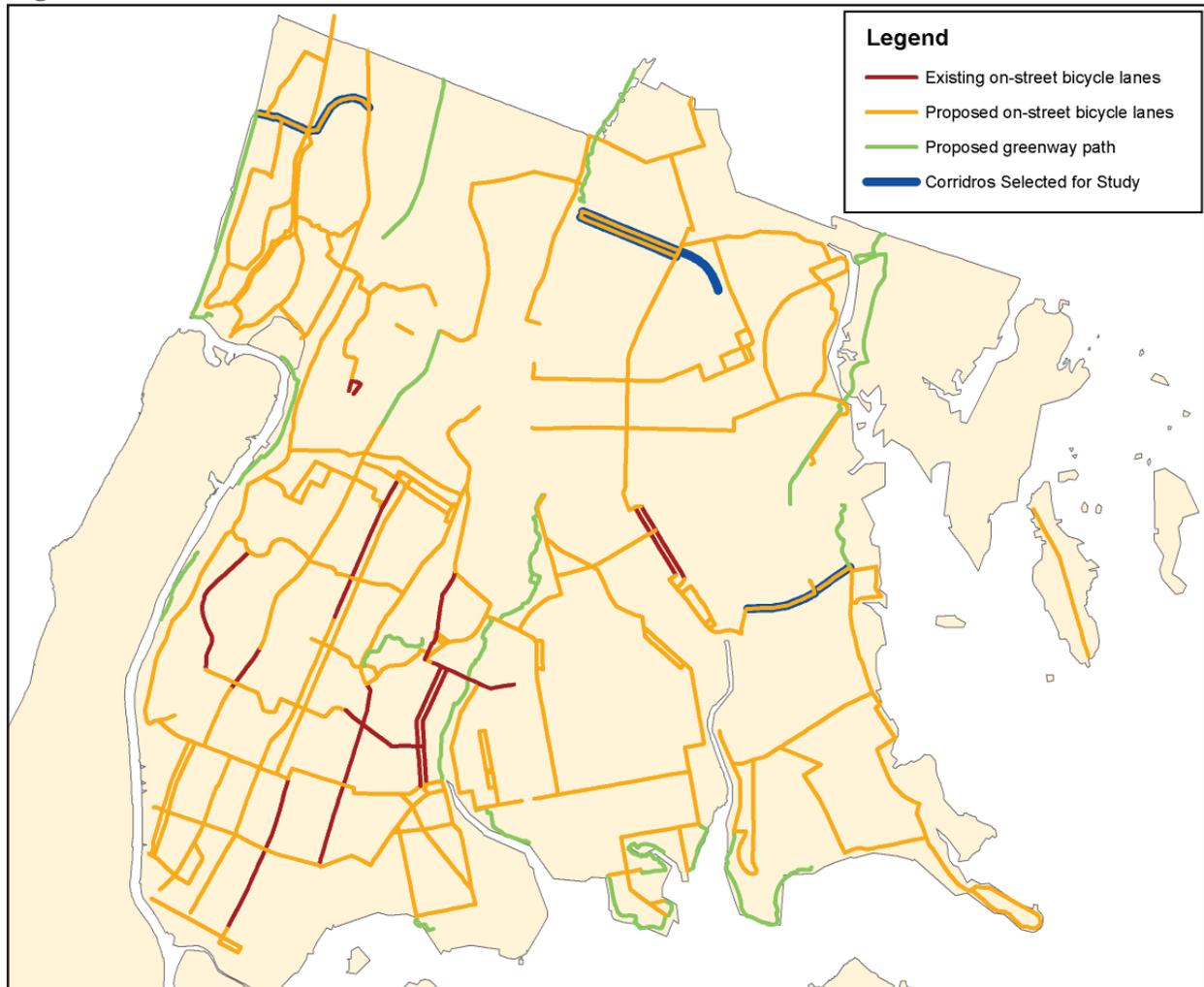
The recommended route would begin at the Riverdale Metro North station and travel east along W. 254th Street, which turns into Mosholu Avenue. Cyclists would travel along Mosholu Avenue until they reach Van Cortlandt Park. The recommended westbound route follows the same streets. Traffic calming measures 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
Selected Corridors						
E. 228th / 229th streets		✓	✓	✓	✓	✓
Middletown Road		✓	✓	✓	✓	✓
Mosholu Avenue / W. 254th Street		✓	✓	✓	✓	✓
Eliminated from Consideration						
Corridors	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.

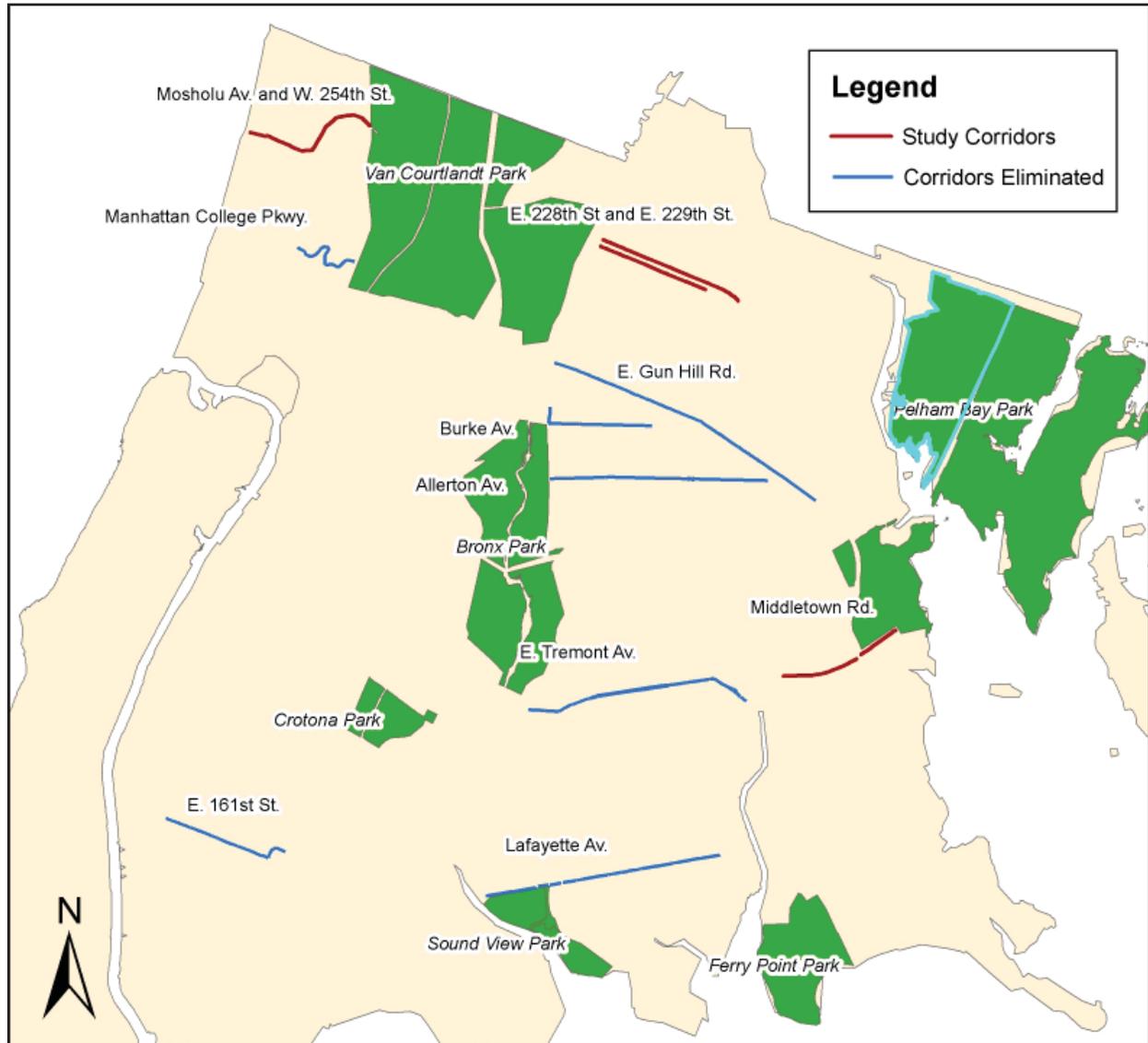
This corridor may be difficult for cyclists to navigate since there have been several vehicular accidents. Additionally, vehicles travel at high speeds, and there are few signalized intersections.

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.