

The On-Street Network

In an effort to increase the level of cycling by improving bicycle facilities, the BND Project has developed a proposal for a city-wide network of 900 miles. The components of the network are as follows:

Existing Facilities	miles
Multi-Use Paths:	51
Seasonal Bicycle Paths/Lanes: (Central & Prospect Park Loop Roads)	11.5
On-street Bicycle Lanes:	41
Signed Bicycle Routes:	8
Bike Accessible Bridges:	7.5
Subtotal	119
Proposed Network	miles
Recommended Routes: (Streets which do not contain bicycle facilities but are suitable for cycling, or would be suitable with minimal capital investment i.e., striping and/or signage.)	678
Capital Investment Routes: (On and off-street locations appropriate for cycling with capital investment, i.e., path construction, striping and signage.)	112
Subtotal	790
Total Mileage:	909

Planning Process

The Network methodology for on-street bicycle lanes, described below, generally follows a methodology recommended by the Federal Highway Administration (FHWA):

Identify the major destinations

The identification of destinations is based on the assumption that commuters using bicycles wish to travel to the same places as those using automobiles and public transportation. The major destinations include the central business districts, universities, hospitals and educational and cultural institutions. Given the strong recreational component of cycling, parks were also identified as major destinations.



Educational institutions are major destinations for cyclists.

Identify travel corridors

The travel corridors are those routes which directly link the major origins and destinations. It logically follows that the travel corridors tend to follow the city’s major traffic arteries. The travel corridors can also be thought of as “desire lines” - they may not represent where cyclists are today, but rather the most direct route which cyclists wish to follow.

Cycling skill levels

The FHWA identifies three types of skill levels - A (advanced); B (moderate); and C (beginner). The network is designed primarily for B and C cyclists who, according to the FHWA, value accessible, direct roadways, designated bicycle facilities and lower traffic volumes.

Select specific routes

Routes were selected within the travel corridors based on the following “performance criteria”:

1. *Accessibility* and *directness* to major origins and destinations.
2. *Connections* with other routes.
3. *Attractiveness* of the route.
4. *Low conflict* with other modes.
5. *Feasibility* of implementation.
6. *Safety* to cyclists and pedestrians: A stress level methodology, described below, was developed in an attempt to rank the safety, or suitability, of existing roadways.

Stress level methodology

The “stress level” is based on a methodology developed by the Traffic Institute at Northwestern University and the Madison, Wisconsin Department of Transportation. The following five stress levels were identified:

1. *Low* - Suitable for all cyclists (except children under age 10).
2. *Moderate* - Suitable for A and B cyclists; alterations may be needed to accommodate younger cyclists.
3. *Significant* - Suitable for A cyclists; alterations may be needed to accommodate B cyclists; not recommended for C cyclists.
4. *Demanding* - Alterations may be needed to accommodate A cyclists; not recommended for B and C cyclists.
5. *Severe* - Not suitable for bicycles.

The following variables were identified as affecting a cyclist’s stress level:

1. Curb lane width
2. Curb lane traffic volume
3. Vehicle speed

By riding the entire network, the BND Project was able to evaluate the route stress level.

See Appendix C for more detailed information on stress level methodology.

Public Outreach

The network has been developed with extensive consultation with other City agencies, advocacy organizations, community boards, elected officials, and the bicycle community. Listed below are the Project's primary public outreach efforts.

Technical Advisory Committee

Since the beginning of the BND Project in the summer of 1994, seven Technical Advisory Committee (TAC) meetings have been held. The purpose of each meeting was to report on the Project's progress, and to solicit review and comments from TAC members. For a list of the TAC members, see Appendix B.

Borough Subcommittees

Following TAC meetings, BND Project staff met with TAC members and other interested groups and individuals on a borough-by-borough basis. This format allowed for detailed discussions on recommended routes with borough-based planners and cyclists.

Borough and Community Boards

Presentations of the draft network were made to the Borough Boards. The Borough Board members encompass the Borough President, community board chairs, and local and state elected officials. As the design of specific routes advances, presentations will be made to the affected community boards. The new on-street lane on St. Nicholas Avenue in Upper Manhattan was approved by the affected community boards prior to implementation.

Volunteers

To reach out to those who are familiar with cycling in the City, but may not be active members of the bicycle community, the Project posted notices On-line and in the Transportation Alternatives' newsletter *City Cyclist* seeking additional input. In addition, the Project coordinated the *European Experience*, an all-day FHWA seminar on European bicycle and pedestrian facilities, and has made presentations to such advocacy organizations as Transportation Alternatives and The New York Cycling Club.

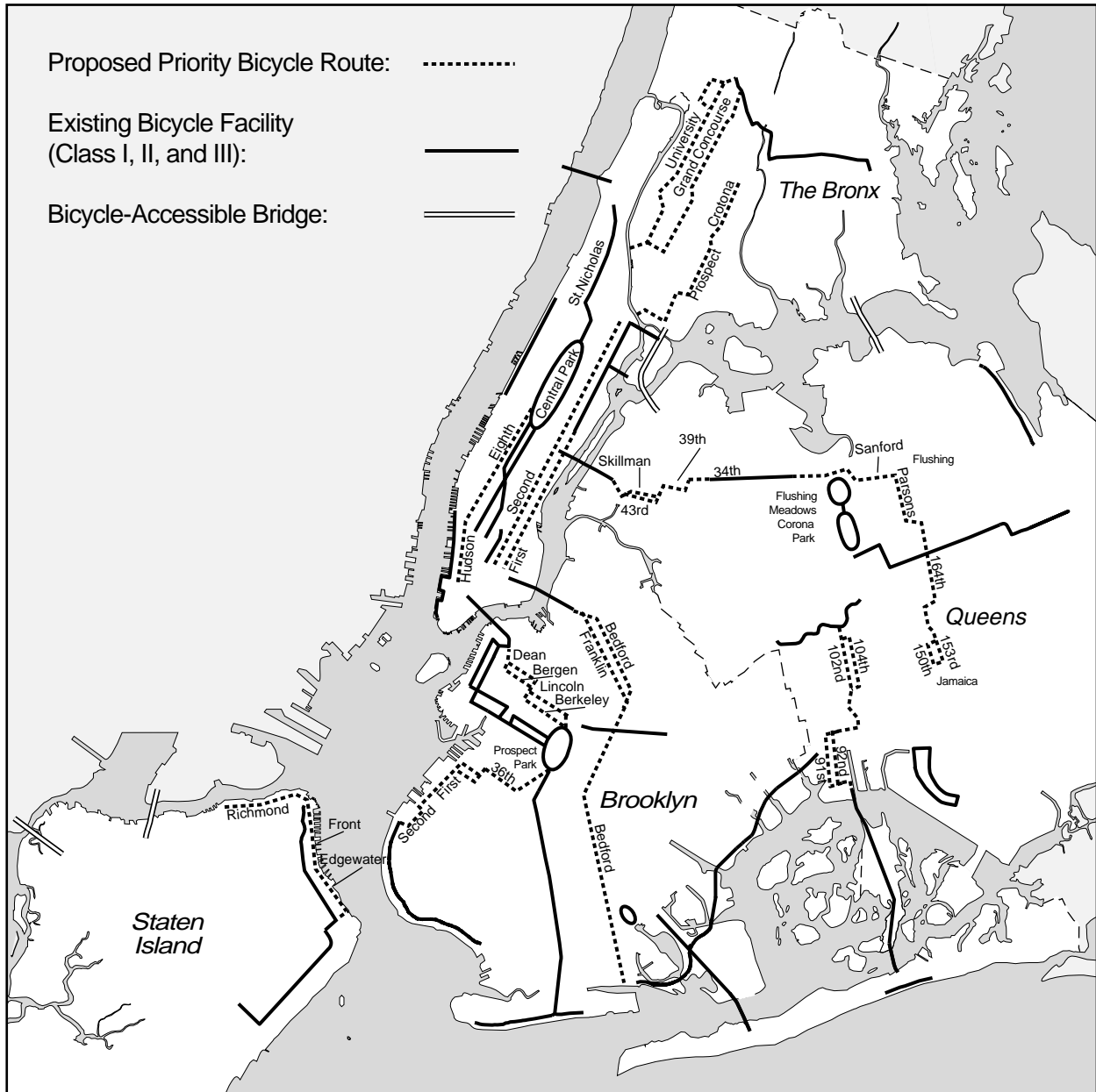
Implementation of on-street routes

With an identified city-wide network, the implementation of bicycle facilities will follow a designated plan. Prior to implementation, however, DOT completes the following analysis:

- Street and traffic data collection
- Existing motor vehicle level of service analysis (LOS)
- Projected LOS with proposed bicycle facility design
- Community outreach
- Technical drawings
- Pre- and post-implementation bicycle counts

See Appendix D for a more detailed discussion of the DOT implementation process.

Priority Routes: On-Street



The BND Project has identified priority routes based on the following criteria.

- Potential for connecting to and expanding an existing system.
- Potential for a high volume of use because of proximity to major employment, retail, cultural or educational centers, or regional parks.
- Geographic balance throughout the city.
- Reasonable implementation cost, funded through existing capital projects or agency operational budgets.

The following pages describe the priorities. At least five of these routes (one per borough) will be implemented by the BND Project.

The Bronx



Grand Concourse

Grand Concourse

In an effort to improve the safety of this wide north-south thoroughfare, DOT has received funding (separate from BND) for its redesign. The design will consider all modes of transportation, including bicycles and pedestrians.

Crotona-Prospect Avenue

This north-south route was originally proposed in *The Bronx Greenway Plan* by the Bronx Borough President. The route provides a connection to Fordham University and links some of the City's major open space resources: Randall's Island, St. Mary's, Crotona and Bronx Parks, the New York Botanical Gardens and the Bronx Zoo.

University Avenue

This north-south route connects the Moshulu-Pelham Greenway and Van Cortlandt Park to the north and Manhattan via the Macombs Dam Bridge to the south.

Brooklyn



Bergen Street

Prospect Park to Brooklyn Bridge

This proposed route links the city's most popular cycling bridge with the Borough's major park. The route travels through Boerum Hill and Park Slope via Adams, Bergen, Dean, 5th, Lincoln and Berkeley.

College and Hospital connections

The Bedford and Franklin Avenue pair is a critical north-south route, linking Brooklyn and Medgar Evers Colleges, Pratt Institute, Long Island University, Brooklyn Law School and the Long Island Hospital. The proposed route is located within the Flatbush travel corridor.

Sunset Park Connector

DOT has received funding to construct an on-street link between Prospect Park, Sunset Park and the Shore Parkway bicycle path.

Manhattan



Queensboro Bridge bicycle path

Linkage to East River Bridges

Improved access is needed to all of the East River crossings. The following routes are proposed:

Queensboro: First and Second Avenues to 59th Street.

Manhattan: Allen Street (north) and Pike Street (south).

Brooklyn: Wagner-Pearl and Spruce-Dover to Centre Street.

Williamsburg: Ridge and Pitt to Houston (north), and Madison to East River Park (south).

St. Nicholas Avenue

The St. Nicholas Avenue route, which was implemented in Spring 1996, connects Central Park with Harlem, the George Washington Bridge multi-use path and the Bronx via the Broadway Bridge over the Harlem River.

Hudson Street and Eighth Avenue

This proposed north-bound route connects the West Side of Lower Manhattan to Central Park. Major destinations along the route include Penn Station and the Port Authority Bus Terminal, the Greenwich Village and Tribeca Historic Districts, and the local commercial, cultural and tourist attractions in Clinton, Chelsea, Greenwich Village and Tribeca. CDOT is currently studying this route's feasibility.

First and Second Avenues

This critical north-south route currently has an on-street lane on First Avenue from 72nd Street to 125th Street. Additional study is needed to determine the feasibility of lanes along the entire length of First and Second Avenues.

Queens



Unisphere, Flushing-Meadows-Corona Park

Improved Access to Flushing-Meadows-Corona Park

Access to the paths located within the park would be improved via upgraded existing entrances at 34th Avenue and 114th Street and by the Brooklyn-Queens Greenway routes.

Flushing/Jamaica Corridor

This proposed route links two major commercial districts of the borough via Sanford, Parsons Blvd, Oak, 164th Street, 84th Rd, Parsons Blvd, 89th and 88th avenues, and 150th and 153rd Streets.

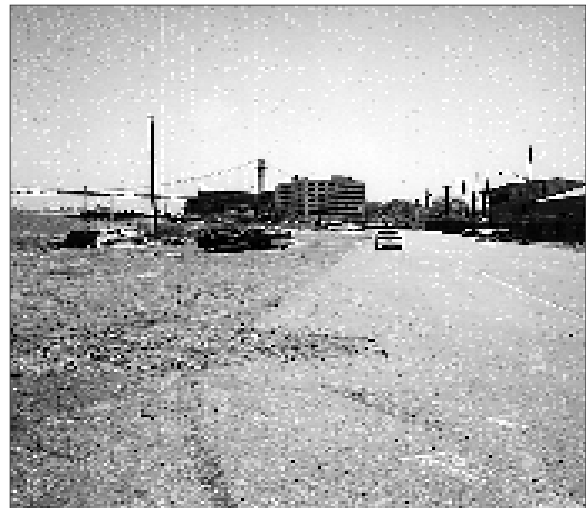
Northern Boulevard Corridor

Northern Boulevard is a priority corridor due to its cross-borough connection, linking Long Island City in the west, Flushing Meadows-Corona Park in the center and Alley Pond Park/Little Neck Bay in the east. Due to heavy traffic on Northern Blvd, a parallel route is proposed along Skillman, 43rd and 39th avenues in Sunnyside Gardens, and the recently implemented bicycle lane on 34th Avenue in Jackson Heights. The proposed extension of the 34th Avenue bicycle lane will connect to Flushing Meadows-Corona Park and the Queens portion of the Brooklyn-Queens Greenway.

Woodhaven / CrossBay Boulevard Corridor

This proposed route links Forest Park with Jamaica Bay via 102nd and 104th Streets, 103rd, Hawtree, Centreville, Cohancey Street bridge, 157th, 92nd and 91st streets and the Cross Bay Blvd. Bridge bicycle lane.

Staten Island



Front Street, East Shore waterfront

East Shore Waterfront Route

This proposed route serves as both a commuter and recreational route, bringing cyclists to the Staten Island Ferry and the Alice Austen House. Spectacular waterfront views are found along the entire route.

St. George Ferry Terminal

As one of the city's intermodal hubs, the St. George Ferry Terminal is in need of such improvements as directional signage, improved connections between the SIRTOA trains and the ferries, and bicycle parking on ferries and in the terminal.

Richmond Terrace

Sufficient space exists on most portions of the St. George-Snug Harbor segment of Richmond Terrace to accommodate a bicycle facility. The route will provide cyclists with connections to the major civic, commercial and intermodal resources at St. George and the open space and cultural facilities at Snug Harbor.