

3

**RECOMMEN-
DATIONS**

3.1 DEVELOPMENT OF ALTERNATIVES

After the completion of the Existing Conditions Report, the study team turned its attention to using the compiled data up to that point to develop recommendations for improving bicycle and pedestrian connectivity. These recommendations were divided into short-term and long-term windows. The study team was guided by the following principles:

- *Physical viability.* The short-term recommendations must be easily achievable within a reasonable time frame. Generally, this resulted in actions that could improve mobility and safety through the use of pavement striping, improved signage and curb cut modifications. The longer-term concepts involve more substantial changes to the study area, which, while physically possible, would involve a larger political and capital commitment.
- *Ease of use.* The primary purpose of this project is to make the short journey between Ocean Parkway/Church Avenue and Prospect Park easier and more intuitive for cyclists and pedestrians. While the study area continues beyond the bounds of Ocean Parkway, the historic path of the bikeway remains the simplest, most direct route to and from Prospect Park. However, in some cases, an alternate route – Caton Place – was examined as a potential travel option due to its unusual width and potential for connectivity for cyclists, pedestrians and horse traffic.
- *Aesthetic appeal.* With its historic nature and malls, Ocean Parkway south of Church Avenue provides green space to nearby communities. North of Church Avenue,

the Prospect Expressway eliminated much of the parkway's original intention and roadway design. None of the short-term recommendations can seriously remedy this condition, and only a complete rethinking of the Prospect Expressway's southern end could restore part of Ocean Parkway's northern end to its original purpose. However, some of the long-term possibilities for the flyover, Caton Place and Park Circle could transform this part of the study in attractive new ways.

- *Cost.* Specific cost estimates are beyond the scope of this study. However, the project team was acutely aware of both the immediate economic crisis faced by the City and the long-term costs of maintaining any proposed improvements. The short-term improvements discussed in Section 3.2 are meant to yield immediate and inexpensive improvements. Section 3.3, however, contains recommendations which are more ambitious and expensive, but could more significantly improve bicycle, pedestrian and equestrian circulation while benefitting the surrounding communities.

As DCP was concluding this study, the New York City Department of Transportation (NYCDOT) developed plans for improving Park Circle and its immediate environs in the short term for motorists, equestrians, bicyclists and pedestrians. NYCDOT intends to implement these strategies sometime in the fall of 2009. Ultimately NYCDOT, in conjunction with the New York City Department of Parks and Recreation, is responsible for implementing any improvements at Park Circle. DCP will work with both NYCDOT and NYCDPR in coordinating these efforts.

3.2 SHORT-TERM RECOMMENDATIONS

This section contains descriptions of a variety of recommendations that can improve connectivity along the corridor relatively quickly and at low cost. In general, the alterations described within these recommendations are limited to moving, removing or installing signage; new pavement striping or markings; or alteration of curb cuts.

While many of these recommendations are grouped together graphically, they are not intended to be an “all or nothing” set of options. Each one can be implemented independently of the others, if desired.

Church Avenue

Clearer wayfinding signage at the intersection of Church Avenue and Ocean Parkway

Cyclists and pedestrians entering, exiting or passing through the intersection of Church Avenue and Ocean Parkway have little signage to guide them along the greenway.

Greenway directional signage should be installed at the following five locations:

1. On the bikeway immediately south of the intersection of Church Avenue and Ocean Parkway, upon the grassy strip between the bike path and the Ocean Parkway main road.
2. On the east mall immediately south of the intersection of Church Avenue and Ocean Parkway, upon the lamppost immediately south of the western curb cut.
3. On the east mall immediately north of the intersection of Church Avenue and the Prospect Expressway, upon the cobblestoned strip between the bike path and the Ocean Parkway service road.
4. On Church Avenue immediately west of Ocean Parkway.
5. On Church Avenue immediately east of Ocean Parkway, at the bus stop

Signage at the first three of the above locations would be bidirectional, i.e. northbound signs would occupy the west side of sides of a pole, while southbound cyclists would be guided by signage on the north side of the same pole. See Figure 3-A.

Installation of “Watch for Bicyclists Ahead” signs on Church Avenue and the Prospect Expressway

Motorists along Church Avenue should be alerted the presence of cyclists at this intersection – especially since a sizeable percentage of cyclists are entering, exiting or passing through the area on Church Avenue itself. During 8 hours of bicycle counts conducted in July 2008, of the 347 cyclists counted in the western half of the intersection, 136 (or 39.1 percent) were coming from or going to Church Avenue west of the intersection. Of the 326 cyclists counted during the four count periods in the eastern half of the intersection, 173 (or 53.1 percent) were coming from or going to Church Avenue east of the intersection.

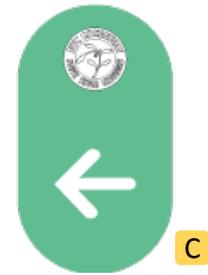
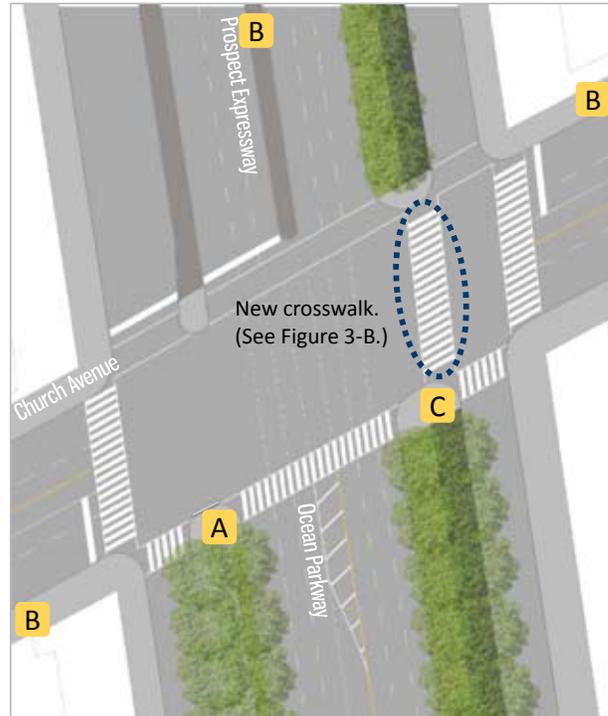
Yellow “Watch for Bicyclists Ahead” signs which include bicycle iconography should be installed at Church Avenue and East 5th Street; at Church Avenue and East 7th Street; and at the south end of the Prospect Expressway and Church Avenue.

New crosswalk striping across Church Avenue between east mall to south and greenway to north

No matter what recommendations are chosen south of Church Avenue, cyclists will have to access the east mall to continue north towards Prospect

FIGURE 3-A: CHURCH AVENUE AND OCEAN PARKWAY INTERSECTION SIGNAGE

- + Clearer wayfinding signage
- + “Watch for Bicyclists” signage on Church Avenue and Prospect Expressway



*Northbound signage shown here. Corresponding signage for southbound users would also be installed.

Park. Right now, no crosswalk exists connecting the east malls north and south of Church Avenue. If existing crosswalk striping is any indication, the expectation is that, from south to north, cyclists are supposed to cross from the west to east mall along the southern Church Avenue crosswalk, continue east to the main service road sidewalk, cross Church Avenue, then turn west to access the east mall. The presence of east mall curb cuts that empty out onto Church Avenue from both the north and south undercuts this implied path.

A ladderred north-south crosswalk connecting the east malls north and south of Church Avenue would be installed. See Figure 3-B. Eastbound turns onto Church Avenue from either Ocean Parkway northbound or the Prospect Expressway southbound already are not permitted.

Caton Avenue

New Caton Avenue crosswalk striping connecting greenway paths

A similar situation to the Church Avenue/Ocean Parkway intersection exists a block to the north, at

Caton Avenue. From south to north, cyclists are supposed to cross from the west to east mall along the southern Caton Avenue crosswalk, continue east to the main service road sidewalk, cross Caton Avenue, then turn west to access the east mall. The curb cut at this intersection is more ambiguously placed than it is at Church Avenue, spilling out on a diagonal that partially accommodates both north-south and east-west bike/pedestrian traffic. However, a clearly striped stop line for eastbound Caton Avenue traffic already acts as a safeguard for motorized traffic at this signalized intersection.

A ladderred crosswalk should be installed connecting the east malls north and south of Caton Avenue. See Figure 3-B.

Removal of west mall curb cut at Church Avenue, and placement of barrier dividing curb edge and street bed

Curb cuts serve a beneficial purpose, easing the transition from sidewalk to street bed and crosswalk for cyclists, pedestrians, those with pushcarts and strollers, and the mobility impaired. However, the curb cut at the north end of Ocean Parkway's

west mall, on the south side of Church Avenue serves no obvious purpose (except to allow Parks Department maintenance vehicles to access this mall from the north) and encourages unsafe bicycle and pedestrian movements across an accident-prone location. This curb cut simply empties out into a busy intersection, without a crosswalk or a corresponding mall at the opposite end of the intersection to guide walkers and cyclists.

This curb cut should be eliminated. To further discourage north-south crossings at this location, a decorative fence, similar to the ones used to discourage pedestrian crossings at some Midtown Manhattan intersections, would be erected across the northern edge of the west mall. Parks Department maintenance vehicles would continue to be able to access this mall from Beverly Road, but would have to back out of the mall once their work is completed. See Figure 3-B.

Removal of curb cut at Caton Avenue north of the more westerly intersection with East 8th Street*

Similar to the Ocean Parkway west mall and Church Avenue, a pair of curb cuts at Caton Avenue and the westerly intersection with East 8th Street encourage an unsafe pedestrian movement.²⁰ Caton Avenue angles northward just west of this location, and while the intersection with East 7th Street is controlled by a traffic signal, sight lines for west-bound motorists are not ideal for a crosswalk at this location. Both pedestrians and motorists are not well served by this crosswalk.

These curb cuts should be removed.

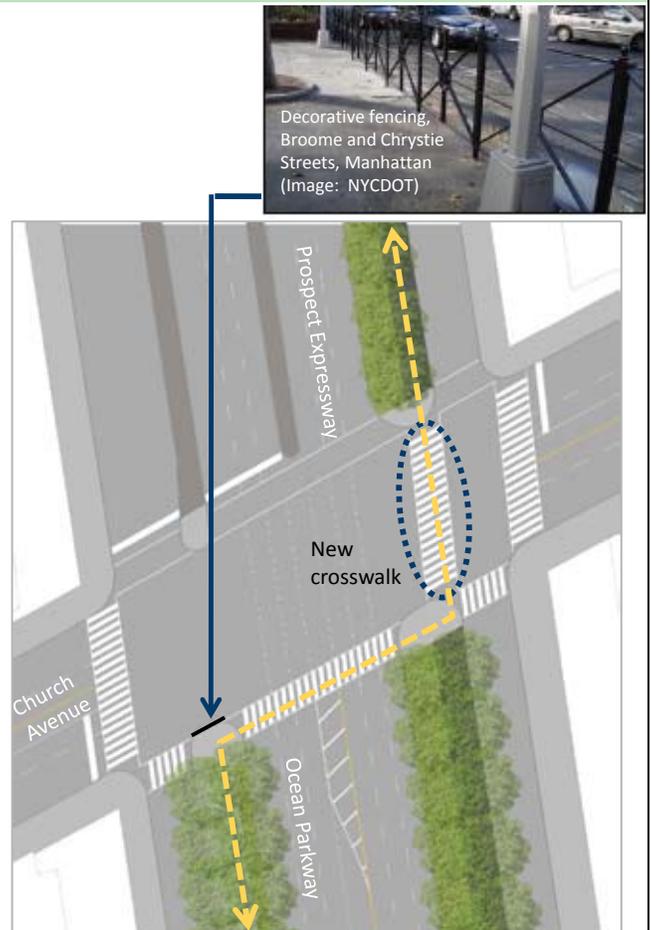
Reorientation of Caton Avenue curb cuts to align them with the crosswalks

The curb cuts at Caton Avenue and the Ocean Parkway east service road spill out into the intersection on a diagonal that partially accommodates both

²⁰At this location, East 8th Street runs at an angle to most north-south roads in this street grid. From south to north, East 8th Street is tilted west north of Church Avenue, so much so that north of Caton Avenue this version of East 8th Street ends and a road to the east is designated with the same name.

FIGURE 3-B: CURB CUTS AND STRIPING

- + Crosswalk connecting East malls at Church Avenue and Caton Avenue
- + Extension of Caton Avenue bikeways across overpass
- + Removal of unnecessary curb cuts at north end of the West Mall and East 8th Street/Caton Avenue
- + Decorative fencing at north edge of West Mall to discourage crossing Church Avenue at that location



north-south and east-west bike/pedestrian traffic. They should either be extended so that they allow cyclists and pedestrians to cross the intersection in a straight line or replaced with two curb cuts per corner that accomplish the same thing. See Figure 3-B.

Extension of Sunset Park Class 2 bikeways along Caton Avenue to Ocean Parkway Greenway

The Sunset Park Greenway is a Class 2 bikeway. Striped bicycle paths exist along both sides of Caton Avenue as it approaches Ocean Parkway from the west. Although the greenway's eastern endpoint is the intersection of Ocean Parkway's east service road with Caton Avenue, striping for the bikeway inexplicably ends at the intersection with the west service road, and does not continue along the concrete-decked Caton Avenue overpass across the Prospect Expressway.

NYCDOT has informed the project staff that thermoplastic striping does not stick to a concrete deck, but to encourage connectivity throughout the bicycle network, the Class 2 bikeway lanes should be extended in some other way along the deck to the

Ocean Parkway eastern service road. Some substitute material – such as abrasive or adhesive-coated markings, or a set of shallow inlaid brick pavers – might successfully delineate these bike lanes. See Figure 3-B. Marking design and materials selection for the extended greenway will require coordination with NYCDOT Bicycle Program.

Ocean Parkway east service road

Reconfiguring of tree pits

At some locations, especially south of Caton Avenue, tree pits cut into the greenway. Since the pits provide room for the existing trees to grow, paving over the portions of the pits not occupied by the tree trunks could be a dubious short-term benefit which could jeopardize the long-term health of these plants. In the long run, as these trees mature, this new pavement could break up anyway. Reconfiguring the tree pits to make them rectangular could provide the same amount of rainwater absorption while maintaining the greenway at a more consistent width. One to two feet of the cobblestone adjacent to the tree pits can be removed in exchange for filling the parts of the pits

FIGURE 3-C: INCONSISTENT BIKEWAY WIDTHS ON EAST SERVICE ROAD

- + Lengthen existing tree pits by removing adjacent cobblestones
- + Place cautionary signs for cyclists



Ocean Pkwy Greenway and east service road

that protrude into the bikeway. See Figure 3-C.

Cautionary signs for cyclists on Ocean Parkway Greenway north of Church Avenue

Even excluding the tree pits, the greenway width along the Ocean Parkway east mall north of Church Avenue fluctuates from 7'3" to 8'0". (The accepted minimum standard width for a low-traffic Class 1 greenway is 8'0".) The tree pits further reduce the available bikeway width to 6'0" to 6'4". Standard bikeway signage would be used where appropriate to advise cyclists of narrow greenway widths, with language to the effect of "Caution: Narrow Greenway. Pass With Care." See Figure 3-C.

Enhanced Class 2 bikeway with specific signage directing cyclists onto Ocean Parkway's east service road

The Class 1 greenway path ends west of Sherman Overpass. (A bridle path runs along the east mall to Park Circle.) At the bicycle path's endpoint, a greenway sign near the curb directs park-bound cyclists with a diagonal arrow. It is not clear where this arrow is supposed to point. While the bicycle route is clearly signed east of the overpass as

continuing on-street, the sign west of the overpass could also be interpreted as pointing cyclists onto the Sherman Overpass. Park-bound cyclists crossing the overpass then find themselves riding contraflow along the Ocean Parkway west service road fragment and Park Circle to reach Prospect Park.

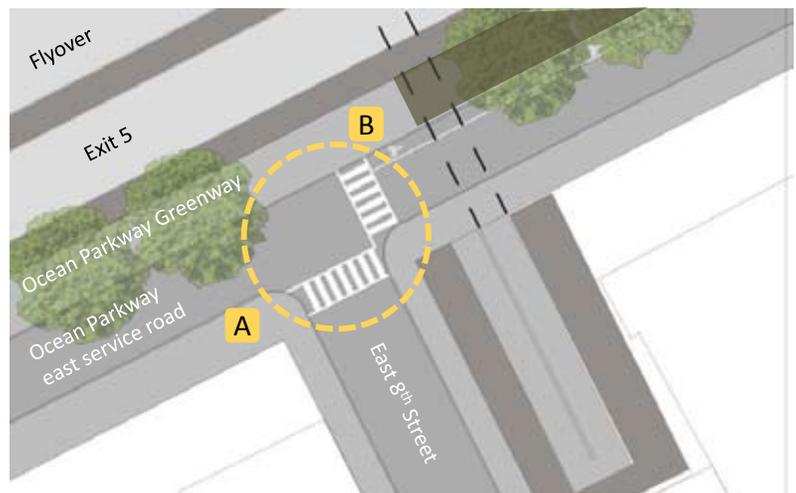
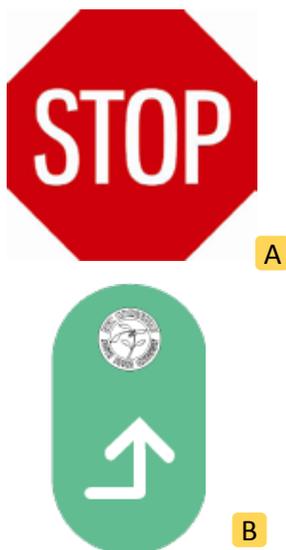
The existing sign would be removed. A new sign would be located at the Class 1 bikeway endpoint's centerline, and would direct cyclists with a zig-zag arrow and text to the effect of "Caution: On-Street Bikeway." NYCDOT, as part of its short-term Park Circle improvement plan, is proposing a striped, painted, two-way on-street bikeway in the roadbed adjacent to the Ocean Parkway east service road's northern curb. See Figure 3-D.

Analysis of proposed crosswalks and stop signs at Ocean Parkway east service road and East 8th Street

A miniature stop sign is posted beneath the ambiguous greenway sign described above, but this intersection has no crosswalks or stop signs, despite greenway signage clearly directing southbound cyclists coming off of the Sherman Overpass across

FIGURE 3-D: INDISTINCT BIKEWAY WEST OF PARK CIRCLE

- + Replace ambiguous Greenway sign with Sign B below, specifically directing cyclists onto Ocean Parkway east service road Class 3 bikeway
- + Perform analysis investigating viability of striped crosswalks and stop sign at Ocean Parkway east service road and East 8th Street



the street and onto the Class 1 Greenway. Motorists using the Ocean Parkway east service road face no traffic signals, flashing lights, stop signs or crosswalks between Caton Avenue and Park Circle, which encourages travel at relatively higher speeds. Equestrian traffic also frequently crosses the east service road at this intersection. A stop sign does exist for northbound traffic on East 8th Street.

NYCDOT should conduct an analysis of this intersection to determine whether it should be equipped with all-way stop signs for park-bound vehicular traffic on the east service road and for northbound traffic on East 8th Street. The need for laddered crosswalks along the southern and eastern edges of this intersection should also be analyzed. If NYC-DOT determines that this intersection meets the standards for stop sign and crosswalk placement at this intersection, then they should be installed. See Figure 3-D.

As an alternative to stop signs and crosswalks, a speed hump could be installed on the service road.

Placement of curb cuts and a non-laddered crosswalk at south end of Sherman Street

Cyclists and pedestrians crossing the intersection of Sherman Street and the Ocean Parkway west service road encounter an intersection without curb cuts. Since Sherman Overpass makes its northern landfall next to this intersection, the absence of curb cuts is particularly conspicuous.

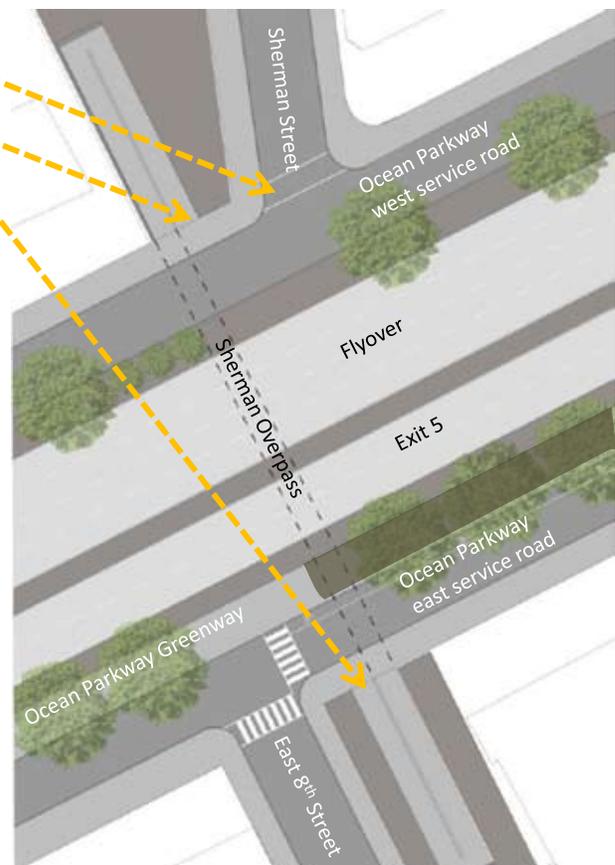
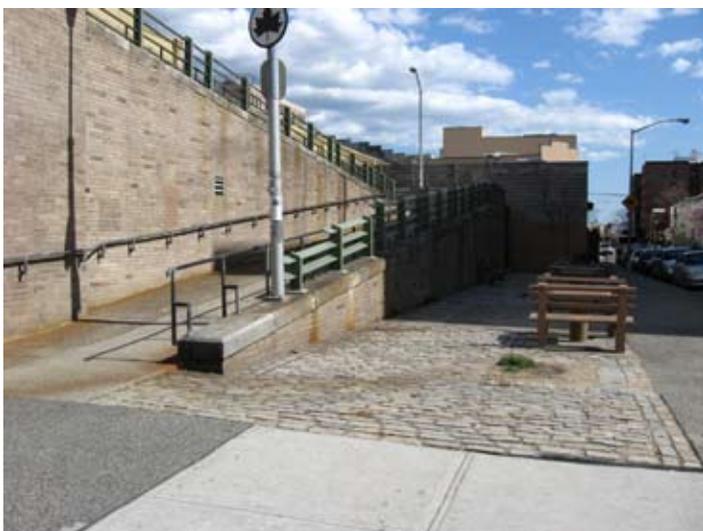
The northeast and northwest corners of this intersection would be provided with curb cuts.

Sherman Street operates one way northbound from Ocean Parkway. A laddered crosswalk would serve little purpose here, but a standard crosswalk would provide an effective visual cue for westbound drivers on Ocean Parkway turning right onto Sherman Street to watch for pedestrians.

A standard crosswalk running east-west would be created at the southern end of Sherman Street. See Figure 3-E. However, some sort of traffic control for the intersection (a stop sign, speed hump, or button activated signal like the one on a block to the west at East 7th Street) would be needed to allow

FIGURE 3-E: SHERMAN OVERPASS

- + Install curb cuts and crosswalks at Sherman Street
- + Install “Cyclists Dismount” signs at both ends of overpass



a safe crosswalk. This would require analysis by NYCDOT.

Installation of “Cyclists Dismount” signs at both ends of overpass

Cyclists are not supposed to be riding on the overpass, since the crossing is primarily meant for pedestrians.

Signs asking cyclists to dismount would be installed at both ends of Sherman overpass. See Figure 3-E.

Caton Place

Analysis of proposed four-way stop signs at Caton Place and East 8th Street

Although lightly trafficked, this intersection has the unusual distinction in 21st century Brooklyn of being located at an active horse stable. Caton Place is regulated by stop signs in both directions, but East 8th Street is not.

NYCDOT should conduct an analysis of this intersection to determine whether it should be equipped with stop signs regulating north-south traffic along

East 8th Street. If NYCDOT determines that this intersection meets the standards for four-way stop signs, then they should be installed. See Figure 3-F.



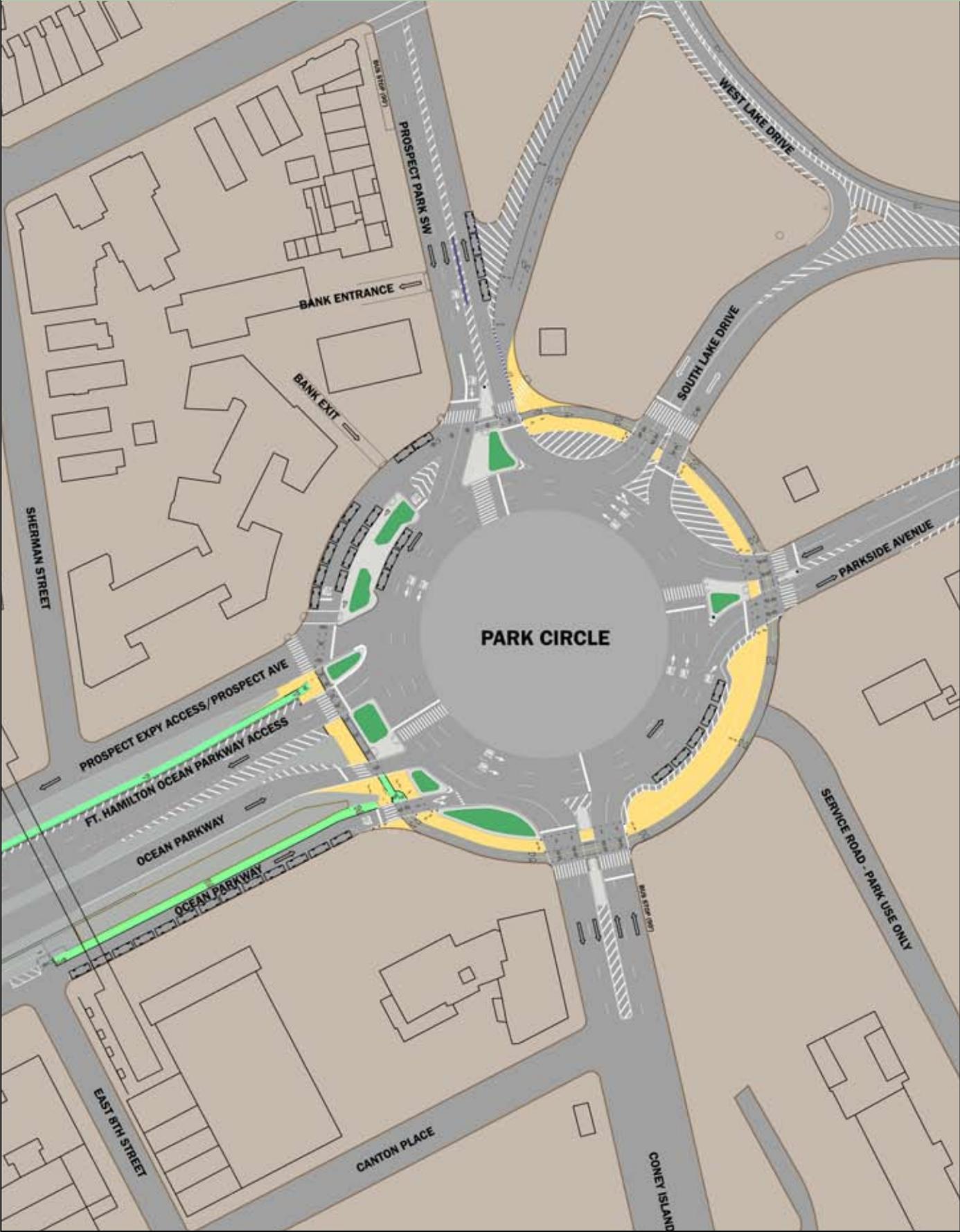
Planned NYCDOT Short-Term Changes to Park Circle

NYCDOT is undertaking efforts to make short-term improvements to Park Circle that can be implemented in the fall of 2009. These short-term plans for improving the circle and its immediate surroundings, were presented to the community by NYCDOT at a June 2009 meeting. The improvements, shown in Figure 3-G, include the following:

- 1. A 10-foot-wide painted Class 1 bidirectional bikeway around the outermost perimeter of the circle's southwest, southeast and northeast quadrants;*
- 2. A mixed Class 1/Class 3 counterclockwise-only bikeway along the circle's northwest quadrant;*
- 3. A 12-foot-wide painted bidirectional equestrian path immediately adjacent to the bikeway around the circle's southwest, southeast and northeast quadrants;*
- 4. Several striped and planted areas to be installed around much of the circle's perimeter, to better channel vehicular traffic;*
- 5. A new, signal-protected crosswalk along the entire western perimeter of the circle, along with wider pedestrian medians (See #17 below);*
- 6. Realignment of the crosswalk at the circle's north end to a route that approximates a standard perpendicular crosswalk;*
- 7. Conversion of the original main entrance of the park (at the middle of the circle's northeast quadrant) to two-way traffic operation;*
- 8. Closing of the exit-only roadway that merges with Prospect Park Southwest immediately north of the circle to vehicular traffic (but not to bicyclists, pedestrians and horses);*
- 9. Signal placement and timing modifications within the circle;*
- 10. New striped crosswalks from the west, north and east to the circle's center;*
- 11. A separate travel lane for local traffic and parking along the northwest quadrant, separated from the rest of the circle by concrete islands;*
- 12. A divider along the median of Prospect Park Southwest preventing northbound traffic from crossing the road's southbound lanes to access the bank;*
- 13. A new, one-way traffic plan for the bank;*
- 14. A new signage plan for the circle, making it easier for drivers to navigate;*
- 15. Striping and "No Standing" regulations creating two lanes of traffic in each direction on Parkside Avenue immediately east of the circle;*
- 16. A bidirectional "enhanced Class 2" bikeway (striped and painted but unseparated by barriers from the street) along the northern edge of the Ocean Parkway east service road from the Sherman Overpass to Park Circle;*
- 17. Tapering of Exit 5 to one lane and the flyover to two lanes at the western edge of the circle, creating wider, more sharply-defined pedestrian refuges; and*
- 18. Conversion of the northernmost flyover lane to a Class 1 bikeway.*

NYCDCP is coordinating its long-term recommendations related to Park Circle with NYCDOT's short-term efforts.

FIGURE 3-G: ANTICIPATED NYC DOT PARK CIRCLE IMPROVEMENTS, 2009



3.3 LONG-TERM RECOMMENDATIONS

Unlike the short-term options described in Section 3.2, the following scenarios are more capital-intensive and involve a more comprehensive rethinking of how the roadway system within the study area functions. These scenarios generally provide a greater, more secure benefit to bicycle, pedestrian and equine mobility than the short-term options by removing, regrading, separating or reconfiguring travel lanes. Overbuilt portions of the roadway system, which are not carrying traffic at levels that justify their outlays of space, would be partially removed or dedicated to other purposes such as Class 1 bicycle lanes or bridle paths.

While most of these scenarios can be implemented independent of other options described here, an alternate plan for bicycle access west of Park Circle to the existing Ocean Parkway Greenway via Caton Place is presented here. Implementing this option makes other improvements along the east service road of Ocean Parkway redundant. Other scenarios would supersede short-term remedies described in Section 3.2.

Ocean Parkway

Reverse Ocean Parkway Mall functions between Beverly Road and Church Avenue.

North of Church Avenue, the Ocean Parkway Greenway continues along the east mall service road. South of Church Avenue, cyclists use the west mall. This option would allow cyclists to transition between Ocean Parkway's east and west malls at Beverly Road, one block south from where they currently do. The west mall would be converted to pedestrian-only use – essentially reversing the functions of the two malls along the block between Beverly Road and Church Avenue.

According to NYCDOT's accident data, 80 reportable accidents resulting in 72 injuries occurred at Ocean Parkway and Church Avenue/Prospect Expressway between 2005 and 2007. However, a block to the south, 21 reportable accidents resulting in 33 injuries occurred at Ocean Parkway and Beverly Road during the same period. For bicycles and pedestrians, 10 reportable accidents resulting in two injuries occurred at Ocean Parkway and Church Avenue; five reportable accidents resulting in no injuries occurred at the intersection with Beverly Road. See Figure 3-H.

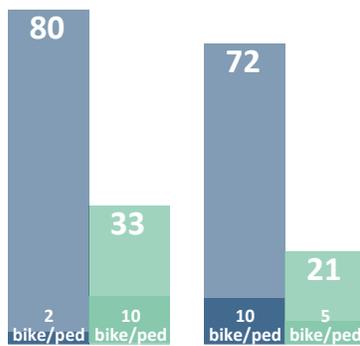
While the accident rate at Beverly Road is relatively high, it is markedly lower than at Church Avenue. Ocean Parkway and Beverly Road is also a less complicated intersection to navigate than the crossing to the north, which includes the endpoint of an expressway and a major east-west commercial strip and truck route.²¹

If this recommendation is implemented, cyclists traveling up the west mall bikeway from south to north would be guided to the east mall by signage. Removable bollards would be placed immediately to the north of the northern east-west crosswalk on the west mall to discourage cyclists and encourage pedestrians to use the west mall north to Church Avenue. Similarly, bollards would be placed immediately to the south of the southern east-west

²¹While the intersection of Ocean Parkway and Church Avenue processes more motor vehicles than the intersection of Ocean Parkway and Beverly Road, it is unlikely that there is a significant difference between the amount of north-south cyclists along Ocean Parkway at these two intersections. Similarly, it is unlikely that moving the transition between the east and west malls from Church Avenue to Beverly Road would profoundly alter the ratio of accidents between the two intersections, especially since the vast majority of these accidents solely involve motor vehicles.

FIGURE 3-H: REVERSE MALL FUNCTIONS BETWEEN BEVERLY ROAD AND CHURCH AVENUE

2005-2007 accident data (NYCDOT)



Accidents

Injuries

- Church Avenue/Ocean Parkway
- Beverly Road/Ocean Parkway

- + The transition for cyclists between the East and West malls could take place at Beverly Road
- + Removable bollards and bike signage could guide cyclists between the malls at Beverly Road



crosswalk on the east mall to guide southbound cyclists to the west mall. Signage would also guide southbound cyclists from the east mall to the west.

In all other respects, the relocated east mall bicycle path would be identical to the west mall bike paths to the south, with a 9'8" bike path and a 5'10" pedestrian lane, possibly separated by a 2-inch-thick railing.

The presence of several chess tables and benches, which jut out into the east mall pedestrian walkway, creates an additional complication. These tables and benches are 5'1.5" wide – exactly half of the path's lateral walkway clearance of 10'3". Under this option, the chess tables would all be relocated to the west mall. See Figure 3-I.

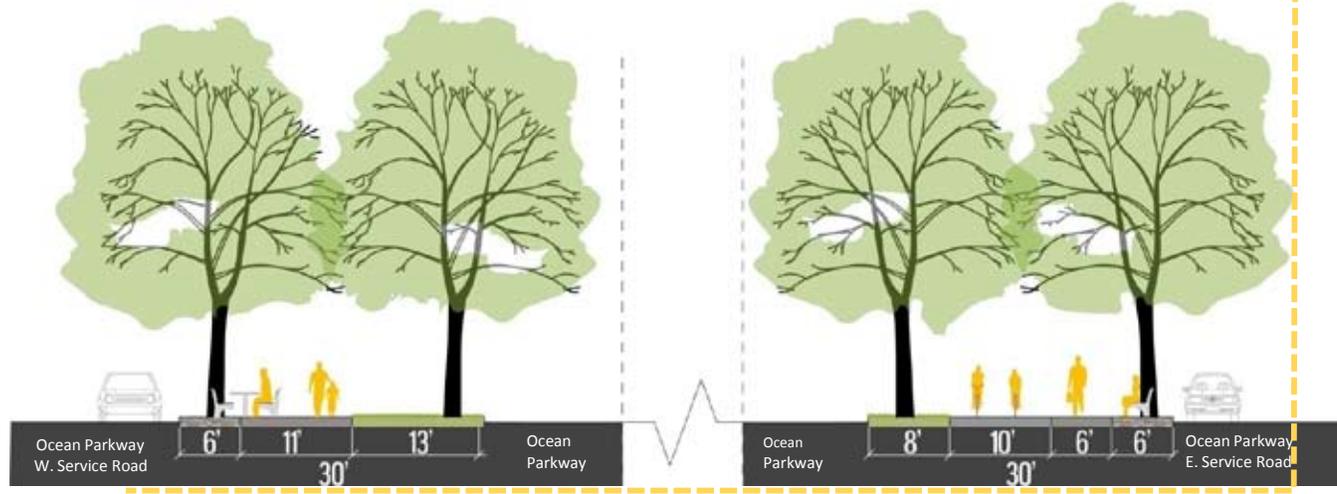
The total paved width of the west mall bikeway and pedestrian path is 15'10," but this path tapers to 11'6" at Church Avenue. To encourage bicycle use along this block on the east mall and discourage cyclists on the west mall, the east mall pathway would be widened from 10'3" to 15'10" and the west mall pathway reduced to 10'3" along the

entire block length.

Inverting the roles of these two malls along this one block would create a simpler, more intuitive route for cyclists crossing Church Avenue, and would encourage a simpler transition between east and west at a safer intersection than the one currently used for this purpose.

FIGURE 3-I: REVERSE MALL FUNCTIONS BETWEEN BEVERLY ROAD AND CHURCH AVENUE

- + From Church Avenue to Beverly Road the roles of the two malls would be reversed
 - East Mall – bike and pedestrian access
 - West Mall – pedestrians only (including chess tables and outer benches)



Caton Place

Caton Bypass option – Class 1 bikeway

The standard side street roadbed within the study area is approximately 29'8". Some narrower streets (such as Friel Place) have roadbeds approximately 6 feet narrower. However, Caton Place – one block south of the north end of the Ocean Parkway east service road, and home to Kensington Stables – has a roadbed width of 36'0". The reasons for this are unknown.

Caton Place is lightly traveled – its average AM and PM eastbound peak traffic flows in May 2008 were 41-42 vehicles per hour. Potential exists to make use of this excess width by sequestering a southern strip of roadbed immediately north of the parking lane and creating a Class 1 bicycle path to Coney Island Avenue.

To provide sufficient room for the Class 1 bikeway, Caton Place would be made one-way eastbound along its entire length.

At Coney Island Avenue, a new signal would be installed at Caton Place to provide safe crossing to the Parade Grounds. Any signal would have to be in phase with the existing traffic light at Coney Island Avenue and Park Circle, immediately to the north. Crosswalks and a stop sign would need to be installed at the Ocean Parkway east service road for this option to be viable. See Figure 3-J.

FIGURE 3-J: CATON PLACE CLASS 1 GREENWAY ALTERNATIVE



Park Circle

Close northeast quadrant of Park Circle; convert remainder to two-way traffic; sod excess roadbed and graft Park Circle to Prospect Park.

The most capital-intensive – and transformational – alternative for Park Circle would eliminate most of Park Circle’s northeast quadrant roadbed, completely integrating the circular green space at the center of the circle into Prospect Park, in effect adding to the park’s acreage. Doing this would allow pedestrians, cyclists and equestrians to cross only a single street to enter or exit Prospect Park, no matter where their origin or destination is. See Figure 3-K.

To compensate for this significant change in traffic flow, the remaining three-fourths of Park Circle would be converted to two-way traffic, with two lanes in each direction. Medians would divide the two directions of traffic, except at locations where traffic would need to cross them for access to and from intersecting roads.

Using the existing circle’s roadbed, the Ocean Parkway west service road approach would be separated from the mainline roadway for nearly half of the distance to Prospect Park Southwest. An exit from the bank parking lot in the northwest quadrant would be channeled onto a westbound service road. Access to and from the mainline at this location would be protected by stop lines and flashing red lights.

The peripheral bicycle and horse lanes resulting from the NYCDOT short-term improvements would be maintained. Crosswalks to and from the expanded park would be located at the east and west sides of Coney Island Avenue, south of the Ocean Parkway east service road, north of the flyover, and at a new pedestrian island southwest of the endpoint of Prospect Park Southwest. The crosswalk at Prospect Park Southwest realigned as part of NYCDOT’s short-term initiatives would be retained. The existing exit-only road from the park drive would be largely torn up, with one paved lane remaining for a bicycle path and an additional lane converted to a

FIGURE 3-K: INTEGRATION OF PARK CIRCLE INTO PROSPECT PARK

- + Only one crossing needed to enter and exit Prospect Park
- + Northeast quadrant of Park Circle closed and center of Park Circle integrated into Prospect Park
- + Remaining portions of Park Circle would become two-way traffic with medians, additional crosswalks and signage
- + Center of Park Circle landscaping would continue to be done by community
- + Further study and traffic modeling needed



dirt bridle path. A two-way park access road would continue to exist in the northeast quadrant.

Figure 3-K also incorporates the elimination of two flyover lanes and one Exit 5 travel lane approaching Park Circle from the west.

Traffic signals would be repositioned to protect the crosswalks and reprogrammed to provide a reasonable balance between keeping vehicular speeds manageable and preventing queuing.

While the net addition of one traffic lane could be interpreted as an expansion of vehicular capacity, this scenario would add medians, which, in conjunction with the repositioned traffic signals, would reduce traffic speeds and create a safer pedestrian, cyclist and equestrian environment.

The design in Figure 3-K is conceptual and would require detailed traffic modeling to test its feasibility. In light of the imminent changes at Park Circle, the long-term recommendations included in this report deserve further study. The proposal should be revisited following the implementation of the

NYCDOT's redesign of Park Circle.

Sherman Overpass

“Stable Brooklyn” option: Slight regrading of Exit 5; at-grade pedestrian crossing & signal between East 8th Street and Sherman Street; dismantle Sherman Overpass

This option is largely identical to one proposed by the *Stable Brooklyn* report, which is discussed in Appendix A: Literature Review.

The area south and east of Ocean Parkway bounded by Caton Avenue to the south and Coney Island Avenue to the east has limited access to the surrounding neighborhoods of Kensington and Windsor Terrace to the north and west. A pedestrian overpass across Ocean Parkway and the flyover at East 8th Street and Sherman Street partially mitigates this isolation, but as the data described elsewhere in this report points out, many cyclists and pedestrians instead cross the western edge of Park Circle, despite it being a substandard intersection for walking and cycling. (NYCDOT's proposed short-

FIGURE 3-L: REMOVE SHERMAN OVERPASS (STABLE BROOKLYN OPTION)

- + The flyover from Park Circle to Ocean and Ft. Hamilton Parkways is a barrier to north-south travel
- + DCP counts in July 2008 found that approx **59%** of cyclists and **43%** of pedestrians were ignoring Sherman Overpass and crossing at street level near Park Circle
- + This barrier could be overcome by:
 - Re-grading Exit 5
 - Installing a signalized, striped crosswalk between East 8th Street and Sherman Street
 - Dismantling the overpass



term redesign of Park Circle would, however, create a signal-protected crosswalk along the circle's western perimeter.)

To improve connectivity, Exit 5 would be slightly regraded to allow for a level pedestrian crossing between East 8th Street to the south and Sherman Street to the north. A pedestrian crosswalk, protected by traffic signals, would span both Ocean Parkway service roads, the Exit 5 ramp and the flyover. The Sherman Overpass would then be demolished. See Figure 3-L.

The design in Figure 3-L is conceptual and would require detailed traffic modeling to test its feasibility.

Condense Exit 5 to one lane; use space to create side-by-side bike & bridle paths

The Exit 5 ramp off of the northbound Prospect Expressway fans out from one lane to two as it curves east towards Park Circle. NYCDOT traffic counts conducted in May 2008 found that an average of 248 vehicles used the exit during the AM peak hour, or just over four vehicles a minute. (The PM peak hour had an average of 217 vehicles.) The greenway path, which is divided from Exit 5 by a copiously wide cobblestone lane and a retaining wall, abruptly ends to the west of Sherman Overpass, and a short bridle path follows in its place from East 8th Street to Park Circle. This bridle path narrows appreciably near the edge of the circle.

Existing traffic volumes on Exit 5 do not require two lanes. The space where one of those lanes now is could be put to other uses.

In this alternative, the southerly 8 feet of Exit 5's southern lane would be closed; the remainder of the lane would be converted to a shoulder. The retaining wall would be demolished above surface level, and the cobblestoned strip would be filled to match the grade of the Ocean Parkway east service road and landscaped. At the western end of the two-lane section of Exit 5, the grassy area would form a slope from the grade of the existing Ocean Parkway east service road to the grade of the exit lane, but approaching Park Circle the slope would level out as Exit 5 approaches the surface. Near Park Circle, where the exit is level with the surrounding land, the median would be contoured in the shape of a berm, except at its extreme eastern

edge (to allow cyclists and pedestrians to cross the western edge of the circle). Optional decorative fencing could keep pedestrians and cyclists off of the exit road. See Figure 3-M.

On the approach to Park Circle, two options are possible: the existing greenway would angle over to the area where the cobblestones are today, eventually running immediately north of the existing bridle path; or the greenway would stay where it is, and the bridle path would cross the greenway at East 8th Street and run north of the greenway to Park Circle.

Either way, the surviving, more northerly Exit 5 lane would curve into Park Circle at a location approximately 20 feet east of where it now does, prolonging the straightaway and reducing the need to narrow the bikeway/bridle path as it approaches Park Circle.

At Park Circle, elimination of a lane benefits cyclists, pedestrians and horse traffic by narrowing a road and widening a median which can be used when crossing the western edge of the circle.

Condense flyover to two lanes by converting northernmost lane to Class 1 bikeway and eliminating southernmost lane

NYCDOT traffic counts conducted in May 2008 found that an average of 680 vehicles used the four-lane flyover to Ocean Parkway and Fort Hamilton Parkway during the PM peak hour, or approximately 2.83 vehicles per lane per minute. (The AM peak hour had an average of 584 vehicles.) In contrast, the one-lane Ocean Parkway west service road, which provides access to the Prospect Expressway, carried an average of 725 vehicles in the AM peak (and an average of 446 in the PM peak.)

The flyover is overbuilt for the traffic it carries. Two of its lanes can be eliminated. (See Figure 3-N.) At Park Circle, elimination of these lanes benefits cyclists and pedestrians by narrowing a road and widening a median which can be used when crossing the western edge of the circle.

Traffic volumes counted by NYCDOT in July 2008 are roughly equally split between vehicles destined for Ocean Parkway and Fort Hamilton Parkway, though there is some fluctuation in these proportions based on time of day. One lane of traffic each

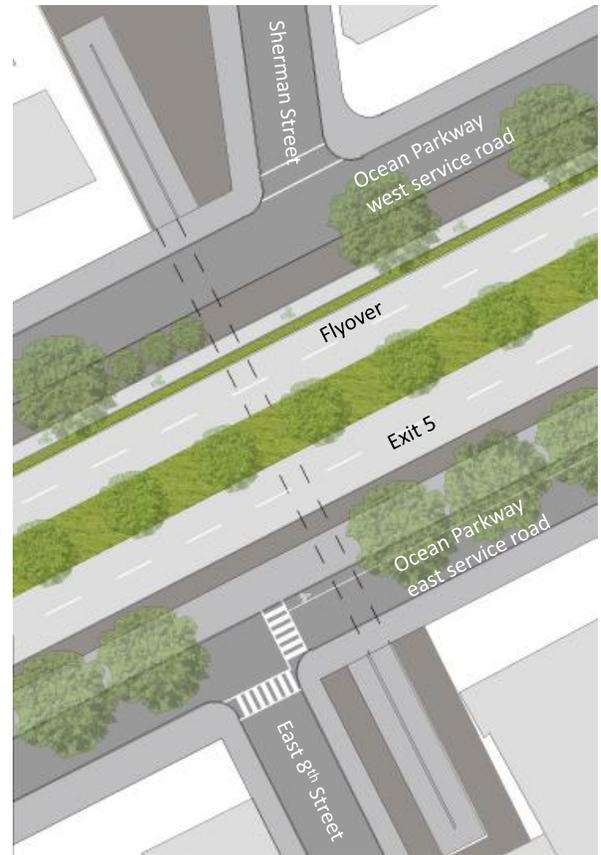
FIGURE 3-M: CONDENSE EXIT 5 TO ONE LANE

- + Traffic levels on the Exit 5 offramp do not justify two lanes. In May 2008, **248** vehicles used the ramp in the AM peak hour
- + The southern two-thirds of the ramp's southern lane would be closed; the remainder would become a shoulder
- + The area between shoulder and retaining wall would be re-graded to the level of Ocean Parkway, creating room for expanded bikeway, bridle path and plantings



FIGURE 3-N: TWO LANE FLYOVER

- + Traffic levels on the flyover do not justify four lanes. In May 2008, **680** vehicles used the ramp in the PM peak hour
- + The southern flyover lane would be eliminated and re-graded to provide a slope to Exit 5, and planted
- + The northern flyover lane would be converted to a dedicated Class I bikeway and separated from traffic by a planted median
- + In July 2008, **40%** of cyclists on the flyover used the roadway
- + DCP projects that vehicles would still encounter a B level of service to Fort Hamilton Parkway



would continue to access Fort Hamilton Parkway and Ocean Parkway. As seen in Section 2.5, removing one of the two lanes to Fort Hamilton Parkway would not materially affect motorists. The flyover would continue to operate at LOS B, and drivers would experience delays of approximately 3 seconds at the signalized intersection with East 5th Street during peak hours.

Closing the southernmost lane would have fewer direct traffic impacts than closing the northernmost one, since the Ocean Parkway entrance ramp transitions from two lanes to one anyway southwest of the flyover. Planting, landscaping and regarding of the closed lane could also replace the existing retaining wall with a softer, more sloped transition between the flyover and Exit 5, and could reduce stormwater runoff. However, since the closed section of roadway would simply peter out in midair near the Prospect Expressway, opportunities for active reuse of the lane would be extremely limited.

NYCDOT is planning to convert the northernmost flyover lane from Park Circle to East 5th Street into a Class 1 bicycle lane as part of its short-term Park Slope improvements. In the longer term, a planted, 4-foot-wide median could separate the repurposed 8-foot-wide bicycle lane from the flyover's remaining two traffic lanes. The median immediately north of the flyover retaining wall could also be used to extend the pedestrian overpass that currently ends at East 7th Street back towards Park Circle.

Caton Place

Alternate Caton Place bridle path plus bridle path along inner edge of southeast quadrant of Park Circle

This option would take advantage of Caton Place's unusually wide roadbed not for cyclists but for equestrians. Unlike the Class 1 and Class 2 bicycle paths discussed earlier in the report, the bridle path would be located along the northernmost edge of the roadbed (the side of Caton Place where Kensington Stables is located), and run only from East 8th Street to Coney Island Avenue. The roadbed would be sequestered from the main roadway in a manner similar to the new bicycle path on 9th Avenue in Manhattan. Appropriate surfacing for the bridle path would need to balance the needs of

horses and pedestrians, who would be crossing the path to reach parked vehicles.

To provide sufficient room for the bridle path, Caton Place would be made one-way eastbound along its entire length.

At Coney Island Avenue, a new signal would be installed at Caton Place to provide safe crossing to the Parade Grounds. This signal could be a full, two-phase traffic light, a flashing red/yellow signal, or a button-activated hybrid. Any signal, however, would have to be in phase with the existing traffic light at Coney Island Avenue and Park Circle, immediately to the north.

Other Long-Term Scenarios for Further Study

The easternmost endpoints of both the Ocean Parkway east service road, Exit 5, and the existing bridle path also provide opportunities to examine other creative reworkings. The east service road could be angled north and merged with a one-lane Exit 5 at the western edge of Park Circle. This consolidated roadway could serve the dual purpose of simplifying north-south pedestrian travel along the western edge of Park Circle, and opening up considerable space in the existing east service road's alignment for realigning the bridle path, extending the Class 1 greenway, and new landscaping.

3.4 CONCLUSION AND NEXT STEPS

Although reconfigured almost beyond recognition by the early 1960s, the portion of Ocean Parkway between Church Avenue and Park Circle nonetheless holds great potential. While the recommendations contained in this study are primarily geared towards making bicycle, pedestrian and equestrian travel easier and more intuitive, motor vehicles would also benefit from signage that alerts them to the presence of other roadway users, and a more easily navigable study area, particularly at Park Circle.

NYCDCP, along with our partners at NYCDOT, and NYCDPR, looks forward to being active partners in the improvement of conditions for all of the study area's uses and users.

A

APPENDICES

A LITERATURE REVIEW

Introduction

This appendix summarizes reports and descriptions of the study area done over several decades. Each selection provides historical context, but from the differing vantage points of municipal agencies, community groups and individual researchers. Some of the following excerpts also include recommendations (both proposed and implemented) for improving various aspects of traffic flow. Over time, the definition of “improvement” shifted from enhancing bicycle access to making motor vehicle traffic through the study area more efficient. In recent years, this emphasis has come full circle, with a renewed focus on improving the bicycle, pedestrian and equestrian travel experience through the area.

These reports are included in reverse chronological order.

A.1: Excerpts from Prospect Expressway, Historic Overview, www.nycroads.com (as stated on website)

The Prospect Expressway, which links central Brooklyn with I-278 and the Brooklyn Battery-Tunnel (I-478), marks the beginning of the 120-mile long Route 27. The six-lane limited access route with flanking service roads runs parallel to Prospect Avenue, ending at Ocean Parkway (an at-grade surface boulevard) just southwest of Prospect Park. The route of NY 27 continues east through Brooklyn along Linden Boulevard.

The expressway was first proposed in 1941 by the New York City Planning Department. In 1944, the New York State Department of Public Works (NYSD-PW) added the Prospect Expressway to its postwar

program. The actual construction of the expressway began in 1953 at the junction of the Gowanus Expressway. The expressway was mostly complete by 1960, with the exception of the interchange at Fort Hamilton Parkway and Ocean Parkway. Two years later, this interchange was completed. The 2.1-mile long Prospect Expressway took nine years and \$28 million to construct.

According to the NYSDOT, the Prospect Expressway handles approximately 85,000 vehicles per day (AADT).

Prospect Expressway Unbuilt: An Extension to Southern Brooklyn

In 1963, New York City Arterial Coordinator Robert Moses proposed a \$10.5 million conversion of the existing Ocean Parkway into an expressway. The 4.2-mile long project would have provided a six-lane expressway with flanking service roads between Prospect Park and Coney Island. Future connections were to be provided with the east-west Cross-Brooklyn Expressway.

In its 1966 report *Transportation 1985: A Regional Plan*, the Tri-State Transportation Commission recommended a Prospect Expressway extension along a different route, along Flatbush Avenue southeast to the Marine Parkway-Gil Hodges Memorial Bridge. The Commission stated the purpose and benefits of the Prospect Expressway extension as follows:

“The proposed Prospect Expressway Extension, a north-south route through Brooklyn to the Rockaways, will fill the need for highway access in a large, unserved area. It will extend an existing stub-end route, better utilizing existing capacity. When completed, it will assist in the development

of industrial sites in Brooklyn and recreational areas in the Rockaways.”

“Both expressway proposals were scheduled for completion by 1975. However, in the wake of disruption caused by expressway construction elsewhere in New York City, neither proposal to extend the Prospect Expressway was approved. With the departure of Robert Moses from his official posts in the late 1960’s, attention shifted toward improving transit in the region.”

A.2: New York City Bicycle Lane and Trail Inventory (3rd Edition), NYCDCP, October 2007.

This document was a comprehensive inventory of New York City’s Class II on-street bike lanes and Class I off-street bike trails. It was meant to be used to assist with the planning and implementation of a networked system of on-street and off-street bicycle facilities. The report included existing conditions data collected from June 2006 to March 2007 for all New York City bike lanes and trails; Manhattan bike lane counts; 2005 bicycle lane accident data, and a photographic inventory of all lanes and trails. An assessment was included of the pavement condition, lane striping, signs and pavement symbols for the bicycle lanes and trails.

For the Ocean Parkway trail from Caton Avenue to Seabreeze Avenue (5.3 miles), 16 bicycle accidents were reported along the Ocean Parkway trail in 2005. Two each were reported at the Foster Avenue and Avenue W intersections, and one reported at 12 other intersections.

Eighteen signs were located along the entire trail. Seventy-nine percent of signage along the trail was reported to be in good condition, 15 percent in fair condition, and 6 percent in poor condition. A sign was deemed in “good” condition if it had no graffiti, was not vandalized bent, or worn, and was clearly visible. “Fair” signage had minor defects, was slightly worn, or had a small amount of graffiti on its surface that did not obstruct the text. Signage graded “poor” was bent, distorted, vandalized, worn, or had graffiti covering over 25 percent of its surface.

A total of 231 symbols, or on-pavement markings,

were located throughout the trail. These symbols’ conditions were graded as either “acceptable” (in good condition, clearly visible), or “poor” (worn, incomplete, distorted, or indistinguishable). Forty-nine percent of symbols along the trail were graded “acceptable,” while 51 percent were graded “poor.” Borough-wide, 62 percent of symbols were graded “acceptable” and 38 percent “poor.”

The trail’s pavement condition fared better than its symbols did. Fifty-eight percent of the trail had pavement in “good” condition and 42 percent was in “fair” condition, but none of the trail’s pavement was graded “poor.” “Good” pavement was regarded to have a smooth surface and in excellent condition, resulting in a comfortable ride. A segment was deemed “fair” if less than a quarter of the section contained potholes, bumps, uneven pavement, wide and/or deep cracks, or utility covers/grates not flush with the pavement surface. However, the relatively isolated, infrequent nature of these defects resulted in a “fair” instead of a “poor” rating.

A.3: Stable-izing Brooklyn: Making the Links to Stable Brooklyn, Hunter College Center for Community Planning & Development (CCPD), July 2006.

In 2005, the Stable Brooklyn Community Group was formed to address the issues associated with the growing development in the Stable Brooklyn neighborhood in Brooklyn. In response to the development of a new wave of residential condos, the community realized the necessity of being proactive in the planning process. They came together out of concern that many of the new residential buildings were inconsistent with the existing scale of development. In workshops, residents discussed land use and zoning policy and strengthening connections with Prospect Park and Windsor Terrace. This planning document summarizes the results of the two workshops and includes specific proposals developed by the planning team at the Hunter College Center for Community Planning and Development.

Stable Brooklyn Today

The area defined as “Stable Brooklyn” (due to the presence of one current and several former horse stables in the area) is the seven-block area surrounded by Windsor Terrace to the north, Kensing-

ton to the south and west, and Flatbush to the east. It is bounded by major roadways on four sides; the Ocean Parkway service road to the north and west, Caton Avenue to the south, and Coney Island Avenue to the east. Before The Prospect Expressway and the flyover to the Ocean Parkway west service road were built, the area's ties to Windsor Terrace to the north were much stronger. Now, a pedestrian bridge spans eight lanes of roadway (including two lanes of service road), which make access to the north difficult. The expressway to the west is a deep cut separating the neighborhood from other residential blocks. Caton Avenue to the south is a major two-lane east-west truck route that limits ties to Kensington. Coney Island Avenue and Park Circle separate the neighborhood from Prospect Park.

Population and Land Use

The total population of the neighborhood was 1,349, as reported in the 2000 U.S. Census. The predominant land use is residential. There are two major housing types in the neighborhood: two- and three-story row houses, and large apartment houses. Until recently, all of the multifamily buildings were three to six stories. A new building on Coney Island Avenue has nine stories. In addition to the residential uses are Kensington Stables (the only such business remaining), a small warehouse adjacent to the stables, two large church facilities, and two schools on Coney Island Avenue. All of the non-residential uses are concentrated in the northeastern end of the area. There are no retail or service facilities in the area.

The report listed the following stabilizing forces:

- The area is within walking distance of Prospect Park and Parade Grounds.
- The stable gives it a unique identity.
- The interior streets are safe and pleasant places to walk through.
- On-street parking is often adequate, though at times difficult.

The report listed the following issues that the residents are concerned about:

- The effects of traffic and out of scale development on the Kensington Stables. Poor traffic controls on local streets and Park

Circle create unsafe conditions for riders. Growing development pressures limit space available for expansion and parking.

- Out-of-scale development. New speculative high-rise development was being encouraged by developer-initiated rezoning and variances, and by the existing R6 and C8-2 zoning. There were concerns about preserving the existing low-rise housing, and the development of new affordable and low-income housing.
- Three major traffic issues were identified.
 1. Speeding Traffic on Ocean Parkway Service Road. This narrow one-way street has parking on both sides and has a lot of cars taking a shortcut between Ocean Parkway and Park Circle. This is perceived as dangerous. In particular, the intersection of East 8th Street and the service road is dangerous because it is where drivers speed up after making the turn at the same location where horses enter traffic to reach the bridle path.
 2. Park Circle. This large circle presents an obstacle for pedestrians, bicyclists, and horses going to Prospect Park. Traffic patterns within the circle are confusing to motorists, and pathways through the circle and onto the surrounding streets are not clear.
 3. Truck Traffic and Parking on Caton Avenue. While Caton Avenue is a major truck route, the volume and speed of trucks can sometimes create difficult conditions for pedestrians. Trucks often double-park on Caton Avenue, obstructing and slowing traffic. Trucks also take away parking spaces from local residents.
- Bus Service. Bus service is important but not frequent enough.
- Parking. The lack of on-street parking is increasingly a problem, especially with new residential development in the area. This is complicated by the lack of retail and services in the neighborhood, which stimulates more driving. For every parking space in the neighborhood there are about two resident-owned cars.

Recommendations for Traffic and Transportation Short-Term Changes: To improve safety and traffic circulation in the neighborhood, four-way stop

signs should be installed at Caton Place and the Ocean Parkway Service Road, and at Caton Place and East 8th Street. Speed humps and speed tables should be installed on streets with significant problems of speeding through traffic, including the Ocean Parkway Service Road and East 8th Street, especially near the Stables. Also, there should be a left turning lane from eastbound Caton Avenue to Coney Island Avenue to help mitigate congestion.

NYCDOT should consider ways to deter or prevent through traffic on the Ocean Parkway Service Road. This may include signage at Caton Avenue, speed humps, and other traffic calming devices.

Long-Term Changes: (These measures could be undertaken independently from each other.)

1. Permanently close the service road between East 8th Street and Park Circle.
2. Convert the roadway to pedestrian and cycle paths, and a small park.
3. A sign at the intersection of Caton Avenue and the service road should state “Not a Thru Street to Park Circle.”
4. The marked bikeway/greenway on the southern sidewalk should be improved so that it is easier for cyclists to locate the entrance. This bikeway connects the Ocean Parkway Greenway with Prospect Park.

Redesign of Park Circle

Park Circle needs to be redesigned to channelize traffic and facilitate safety. More space needs to be dedicated to pedestrian, bicycle and horse crossings. Redesign of the circle would best be part of a more comprehensive redesign of the access roads to Ocean Parkway and Fort Hamilton Parkway, as proposed in the final section of the report, but could also be done independently of that larger project. The redesign of Bartel-Pritchard Circle at the west entrance to Prospect Park, planned by NYCEDC, offers many positive examples of what could be done.

Redesign of Park Circle should incorporate the following elements:

1. An expanded central rotary and corresponding reduction of traffic lanes.
2. A clearly marked bridle path through the circle using appropriate surface materials, on-demand crossing signals, and appropriate

signage for motorists and riders.

3. Wider pedestrian crossings with textured pavements.
4. A landscaped median on Coney Island Avenue between Park Circle and Caton Avenue. Many pedestrians cross Coney Island Avenue at the Circle and at Caton Avenue to reach the renovated Parade Grounds facilities. Upgrading the crosswalks and installing a median would enhance pedestrian safety.
5. Improvement of pedestrian and bicycle entrances to Prospect Park so they are more clearly separated from vehicular access.
6. Special priority to improving crosswalks on Coney Island Avenue.
7. Reengineering of the Commerce Bank entrance at the north end of Park Circle to improve safety, and development of excess pavement for open space.
8. Use of the open spaces in front of the bank and church for activities such as greenmarkets or passive open space.

A.4: New York City Bicycle Master Plan, NYCDOP, NYCDOT, May 1997.

This document was the final report of the first phase of the Bicycle Network Development (BND) Project, a joint Department of City Planning (DCP) and Department of Transportation (DOT) effort. The goal of the BND project was to increase bicycle ridership in New York City, and the purpose of the *Plan* was to articulate the City’s action plan. The BND Project was partially financed through the Congestion Mitigation Air Quality (CMAQ) program of the federal Intermodal Surface Transportation Efficiency Act (ISTEA).

The objective of the *New York City Bicycle Master Plan* is to encourage cycling as a mode of transportation. The goals of the *Plan* are as follows:

- Implement and maintain the city’s bicycle network and greenway system
- Improve bicycle safety
- Provide bicycle parking and support facilities
- Improve bicycle access on bridges and mass transit facilities
- Institutionalize cycling in public agencies and private organizations

Consistent with these goals, the *Plan* identifies a 909 mile, city-wide bicycle network and proposes design guidelines to assist in the implementation of the network.

The *Bicycle Master Plan* is divided into nine sections:

- The Benefits of Cycling
- Cycling in New York City
- The On-Street Network
- Bridges
- The Greenway System
- Access to Mass Transit
- A Comprehensive Bicycle Program
- Design Guidelines
- Next Steps

A brief description of each section follows.

The Benefits of Cycling

The bicycle is one of the most environmentally efficient and economic modes of transportation, using much less space than an automobile, and is considerably more quiet than other modes of transportation. The bicycle also has tremendous health benefits. By using it regularly one can maintain an acceptable level of fitness. Cycling can be informative and pleasurable. While traveling, the rider becomes part of the environment, getting to know different neighborhoods and attractions that could be missed in an automobile.

Cycling in New York City

There were approximately 119 miles of bicycle facilities in New York City when the *Plan* was published, which were distributed among all five boroughs, ranging from multi-use park paths to on-street lanes and signed routes. Bicycle use in New York City had increased substantially since 1980 when DOT began monitoring bicycle travel across a screenline at several key locations. Statistics show that daily bicycle use in 1995 had increased by 124% over the 1980 levels. However, despite the increase in cycling in New York City, the comparative number of cyclists remains low. The low number is due in large part to the difficult cycling conditions and absence of sufficient facilities.

A 1990 survey conducted by DOT indicates signifi-

cant potential bicycle ridership. According to the survey, nearly 50% of the 688 Manhattan office workers living within 10 miles of their job and responding to the survey would cycle to work if provided with the following amenities:

- On-street bicycle lanes
- Building access for secure bicycle parking
- Facilities to shower and change clothes

Developing comprehensive bicycle programs, including investing in bicycle facilities are key elements for the promotion of cycling within the city. New York City's comprehensive bicycle program is proposed in the final section of this *Plan*.

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, including existing and proposed network components. Listed under the existing facilities, the seasonal bicycle paths/lanes include Central and Prospect Park Loop Roads (11.5) miles.

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 priorities in Brooklyn were included in the study, with the potential for implementation by the BND Project: Prospect Park to Brooklyn Bridge and Sunset Park Connector which entails the construction of an on-street link between Prospect Park, Sunset Park and the Shore Parkway bicycle path.

Bridges

New York City has 43 major water crossings. Bicycle access over the bridges is critical to the establishment of a successful bicycle network. Existing

access over the bridges ranges from safe and scenic to dangerous and difficult to non-existent. A number of the major bridges are under reconstruction, and bicycle/pedestrian access improvements have been included in these efforts. The BND Project has identified a number of potential capital projects to create or enhance bridge access that is described in the report.

The Greenway System

A greenway is generally defined as a multi-use pathway for non-motorized transportation along natural and manmade linear spaces such as rail and highway rights-of-way, river corridors, waterfront spaces, parklands and, where necessary, city streets. In 1993, DCP released *A Greenway Plan* for New York City, which identifies a city-wide greenway system. Since the completion of the DCP plan, over \$61 million has been allocated by federal, state and city agencies for the implementation of the greenway system. These individual projects have been included in the 900 mile network. The Ocean Parkway bicycle/pedestrian corridor was included in the New York City Funded Greenway Projects. Improved access to Prospect Park at Park Circle, the Park's southern terminus is included.

Access to Mass Transit

Improving bicycle access to, from and on mass transit can increase both bicycle and mass transit ridership. When combined, bicycles and transit provide a more flexible, inexpensive, environmentally-friendly, and often faster alternative to the auto. With certain restrictions, subways, ferries and commuter rail lines in New York City provide cyclists with a range of transit options.

A Comprehensive Bicycle Program

The overall aim of the Comprehensive Bicycle Program is to encourage cycling in New York City through promotional literature and events, develop and maintain appropriate facilities, enhance bicycle safety and respect for the cyclist's rightful place on the road, and the prevention of theft and policing of bicycle facilities. Implementation of a comprehensive program is required if cycling is to become a significant component of the city's transportation system.

Design Guidelines

Design standards are a critical component in the

Network implementation process. They help ensure a consistent, safe level of service for users and protect local government agencies from liability issues in the event of injury. At the time of this study, NYC DOT was in the process of developing Bicycle Facility Standards. Most local design guidelines have been based in whole or in part on national and state standards. They are: *Guide to the Development of Bicycle Facilities*, AASHTO, *Manual on Uniform Traffic Control Devices* (MUTCD), *Guidelines for Greenways, Design & Maintenance Manual for Multi-use Trails*, and *Guidelines for Establishing In-Line Skate Trails in Park and Recreation Areas*. The design standards for bicycle facilities are divided into the following three categories: multi-use path, on-street bicycle lane, and signed bicycle route.

Next Steps

A long-range vision for New York City as a place of increased bicycle use and less motorized vehicle use would result in quieter streets, enhanced parks and open space, cleaner air and more pedestrian-friendly neighborhoods. Building on the momentum of increased bicycle use in New York City, the BND Project (two years old at the time of this report) made significant inroads toward the goal of increased cycling. In addition, the project was scheduled to distribute the *New York City Cycling Map*, the City's first bicycle map, in conjunction with the release of the *Plan*. The map will encourage cycling for recreation and commuting and inform users on regulations and appropriate behavior.

There has been opposition expressed by some of the city's communities to proposals for on-street bicycle lanes. However, with the New York City Bicycle Master Plan, the city can follow a logical, cohesive plan in its efforts to increase cycling. (Appendix A of the report has a summary list of the *Plan's* recommendations.) New York City is committed to making cycling part of the City's transportation system and encourages individuals and communities to participate in the implementation of this *Plan*.

A.5: Program - Centennial Celebration for the Ocean Parkway Bicycle Path, June 15, 1995, sponsored by the New York City Department of Parks and Recreation.

A Historical Perspective

Ocean Parkway established a new concept in road building. The road is about 6 miles long and stretches from Coney Island to just south of Prospect Park. It evolved from an idea expressed by Frederick Law Olmstead and Calvert Vaux in their 1866 report to the park commissioners of Brooklyn on their plans for Prospect Park. Under the section entitled “Suburban Connections,” they suggested that the shaded “pleasure” drive on the western side of Prospect Park be extended from the park to the ocean. The road should be “of a picturesque character ... neither very straight nor very level, and should be bordered by a small belt of trees and shrubbery.”

This very simple scheme was further elaborated two years later in the 1868 report by Olmsted and Vaux in which they coined the word “parkway.” Their parkway plan was, to a certain extent, influenced by Barron Haussmann’s Avenue Foch in Paris and Unter den Linden in Berlin, but they considered their parkway an advance over these boulevards. Olmsted and Vaux proposed that a mall, similar to the one on Unter den Linden, be divided down the center by a road to be used for “pleasure-riding and driving.” The normal traffic roads which provided access to the houses fronting the parkway were to run along outside the malls. There were to be walks with spaces for benches and rows of trees along both sides of each road.

On May 11, 1869, an act was passed in the New York State Legislature and amended in 1872 to give authority to the Brooklyn Parks Commissioners to “lay out, open and improve a public highway or avenue from Prospect Park, in the City of Brooklyn, towards Coney Island.”

The 210 foot-wide parkway was divided into a central roadway 70 feet wide, two malls 20 feet wide, two side roads both 25 feet wide and two sidewalks each 15 feet wide. Originally, the Brooklyn Parks Commission had control over an extra 30 feet on either side of the parkway. The parkway is lined with maple, oak, sycamore, elm and some ginkgo trees

and is provided with benches, playing tables and a bicycle path, all of which are heavily used by nearby residents. A bridle path on the western mall provided pleasure for countless citizens for many years. While the central roadway can no longer be considered a “pleasure drive,” the original intention of a promenade and green belt for the residents of the neighboring communities has been realized.

The Ocean Parkway bicycle path was the first of its kind constructed in the United States. It was laid in the fall of 1894, and formally opened on June 15, 1895. Ten thousand cyclists attended the opening celebration, cheered on by huge crowds along the route.

A.6: The Brooklyn-Queens Greenway Guide, New York City Department of Parks and Recreation.

The Brooklyn-Queens Greenway (BQG) is a 40-mile, continuous pedestrian and cyclist route from Coney Island in Brooklyn to Fort Totten on the Long Island Sound in Queens. The BQG presents the cyclist or pedestrian with a wide range of amenities, cultural offerings, and urban experiences – linking 13 parks, two botanical gardens, the New York Aquarium, the Brooklyn Museum, the New York Hall of Science, two environmental education centers, four lakes, and numerous ethnic and historic neighborhoods.

The Brooklyn-Queens Greenway is part of the larger New York City Greenway System, an interconnected network of bicycle and pedestrian pathways linking parks and communities throughout the five boroughs. The Department of City Planning’s 1993 publication *A Greenway Master Plan for New York City*, which outlined 350 miles of potential trails, noted that greenways are “... at once the parks for the 21st century and a part of the transportation infrastructure, providing for pleasant, efficient, healthful and environmentally sound travel by foot, bicycle or skates.” New York City Department of Parks & Recreation worked closely with the NYC-DOT and NYCDCP on the planning and implementation of the City’s Greenway Network.

The guide described the nine segments that form the Brooklyn-Queens Greenway from Coney Island in Brooklyn to Alley Pond Park to Fort Totten in Queens. Below is a trip description of the two seg-

ments in the guide – Ocean Parkway and Prospect Park – that pertain to this study.

Ocean Parkway

The length of this segment of the greenway is 5.9 miles (one way). Biking takes 45 minutes and walking takes 2 hours to complete it. Ocean Parkway starts a block away from the Coney Island Boardwalk. The bike path runs along the western mall of the parkway, with the eastern side reserved for pedestrians only. Olmsted and Vaux designed Ocean Parkway to extend all the way to the entrance to Prospect Park but with the construction of the Prospect Expressway during the Robert Moses era, Ocean Parkway (as a parkway) ends abruptly at Church Avenue. At Church Avenue, it is necessary to cross to the eastern side of the parkway and turn north across Church Avenue. The path continues on the eastern service road of Ocean Parkway, running alongside the Prospect Expressway. The bike path ends near the pedestrian bridge at East 8th Street, but the service road continues to Park Circle, which if followed counter-clockwise leads to the Prospect Park entrance.

Prospect Park

The length of this segment is 1.6 miles for half of the loop, and 3.2 miles for the entire park loop. Biking takes 15 minutes and walking takes one hour to complete. When traveling the Greenway from the south, the entrance into Prospect Park is at Park Circle. For the half loop that ends at Grand Army Plaza, a right turn onto South Lake Drive is required, which flows into the East Lake Drive. If traveling the Greenway from north to south, enter the Park at Grand Army Plaza, turn onto the West Drive, and follow the West Drive to the Park Circle exit.

A.7: A Greenway Plan for New York City, NYCDP, Fall 1993.

This report presented the city’s vision for the nation’s most ambitious urban greenway system – 350 miles of landscaped bicycle and pedestrian paths crisscrossing New York City. It marked the beginning of a multi-year effort to create new public recreational opportunities, increase the mobility of cyclists, walkers, and joggers, and enrich the lives of New Yorkers. A preliminary planning framework for an integrated greenway system was developed

through the cooperative efforts of city, state and federal agencies, borough president’s offices, and open space, pedestrian and bicycle constituency groups. Priority routes were identified and funding was secured to advance some of them.

The plan built on New York’s substantial legacy of greenways, which were part of every era of open space development in the city. Frederick Law Olmsted, architect of Central and Prospect parks, was the first to design a “parkway” for scenic carriage drives and bicycles in the late 19th century pre-automotive era. Olmsted planned Eastern and Ocean parkways as boulevards linking the great new urban green space of Brooklyn’s Prospect Park with its surrounding communities and the beaches and open spaces beyond.

In the 1930s Robert Moses vastly expanded the park system, and also built bicycle paths along many roadways, such as Shore Parkway in Brooklyn, to satisfy those petitioning for bicycle tracks, exclusive lanes, and use of roadways during hours when automobile traffic is very light. Use as an alternative transportation option was an extra dividend during the World War II years when gasoline was rationed.

In the 1980s the Neighborhood Open Space Coalition saw an opportunity to develop a 40-mile Brooklyn- Queens Greenway for walkers and cyclists. Their detailed plan would connect Brooklyn’s Coney Island with Fort Totten in Queens, using Ocean and Eastern parkways and a series of 12 parks along the way. The route passed a myriad of cultural institutions, including the Brooklyn Museum and the Brooklyn Botanic Garden, Shea Stadium and many of the city’s parks.

The other Greenway routes cited in the report for improvements included the Hudson River Greenway Trail, East River Esplanade, Staten Island Railroad Trail, Putnam Railroad Trail, Mosholu-Pelham Greenway, Hutchinson River Parkway Trail, Shore Parkway Bikeway, Rockaway-Gateway Greenway, Brooklyn Queens Greenway, Queens East River Greenway, and Verrazano-Narrows Bridge/North and South Shore Greenways.

A.8: The Brooklyn/Queens Greenway: A Design Study, by Tom Fox & Anne McClellan, 1988.

In 1987, the Neighborhood Open Space Coalition released a proposal to create a 40-mile bicycle/pedestrian path from Coney Island to Fort Totten, connecting major parks and cultural facilities in Brooklyn and Queens. The Brooklyn/Queens Greenway was in a way the continuation of the work begun by Frederick Law Olmstead and Calvert Vaux and expanded by Robert Moses with the creation of Flushing Meadow-Corona Park, Kissena Park and the corridors connecting these two facilities to Cunningham Park.

The design study identified 18 different sections of the route that required special attention to create the Brooklyn/Queens Greenway. The recommendations were design solutions that were examined from a social, political and technical perspective with contributions from planners, landscape architects, engineers, park administrators, transportation experts and urban designers. An overview and design recommendations for section 3 (Ocean Parkway to Park Circle), Section 4 (Park Circle), and Section 5 (Prospect Park) – the sections that pertain to this study – are described below.

Section 3: Ocean Parkway to Park Circle

Ocean Parkway, was designed to bring people to Prospect Park via a park like setting. (A historical overview of the parkway similar to others in this literature review is included in this study.) Until 1974 there was a bridle path on the East Mall. The pedestrian lanes on the east and west malls are lined with benches at regular intervals and provide a place to stroll.

Before the Prospect Expressway, Ocean Parkway was intact through Park Circle, but with the construction of the expressway, the historic link was severed at Church Avenue. The bicycle link created at that time is circuitous, confusing, and poorly marked.

Recommendations: All bicycle and pedestrian paths would meet at the northern terminus of the Mall. Pedestrians would use the existing sidewalks and crosswalks. Bicycles would cross to the easternmost side of the Prospect Expressway entrance.

Existing traffic lights would ensure safety, and appropriate curb cuts would facilitate access. Proper stenciling and signage would be necessary in this area.

There was a one-foot-wide grass strip between the curb and an 8-foot-tall wrought iron fence at the Prospect-Expressway. The area had trees located close to the curb and an area covered with grass and weeds which was currently unused. The installation of an 8-foot-wide asphalt path would accommodate a two-way Class I bicycle path. Although this is tight space for a two-way path, it meets minimum requirements. Planting new trees in barren areas along this half mile route would enhance it greatly. Climbing vines along the fence would reduce the noise on the Prospect Expressway for BQE users and residents across the Ocean Parkway Service Road.

Section 4: Park Circle

Park Circle was acquired in 1867 and built in conjunction with Prospect Park and Ocean Parkway. It was a heavily trafficked area, with Ocean Parkway, Fort Hamilton Parkway, Coney Island Avenue, Prospect Park Drive, Parkside Avenue and Prospect Park Southwest intersecting here.

The 30-acre Parade Grounds, used for a variety of sports, was located east of the Circle, directly south of Prospect Park. Prospect Park South, constructed around 1898, was one of the country's first suburban developments. The Culmitt stables were located on the corner of Caton Place and East 8th Street, where horses could be rented or boarded for use in Prospect Park.

The northbound service road was narrow, with one traffic lane. There was a parking lane on either side of the street and a sidewalk on the east side of the roadway.

Recommendations: The bicycle trail from Church Avenue would continue on the east shoulder of Ocean Parkway until the intersection of East 8th Street, one block from Park Circle. Parking adjacent to the equestrian trail would be prohibited and an eight-foot-wide two-way bicycle path would replace the parking lanes. Striping and logo stenciling would be used to designate the path. Equestrian use of the existing path would be continued.

Park Circle presented an obstacle for bicyclists and equestrians entering and exiting Prospect Park. The center of Park Circle was a grassy area unofficially used by equestrians to access the park. Pedestrians used the sidewalks and crosswalks around the perimeter on the Circle's roadbed. A bicycle/equestrian traffic light would be added at both sides of the circle. As an interim measure, the equestrian path would remain, and four-foot-wide paths installed on either side of it to accommodate separated bicycle lanes. The trees in the circle would be pruned to accommodate this slight widening. Pedestrians would use the existing crosswalks and sidewalks. As a permanent treatment, the New York City Department of Parks and Recreation was developing plans to incorporate a recreational lane for bicyclists, equestrians and pedestrians that would run along the Circle's outermost lane.

Section 5: Prospect Park

Frederick Law Olmsted considered Prospect Park, with its 526 acres of woods, water, and meadows, his finest achievement. The Park not only offered bicyclists a scenic ride, but provided an opportunity for boating, bird-watching, horseback riding, kite flying, ice skating, fishing, and picnicking, as well as a myriad of other outdoor activities. It contains a zoo, a carousel, and the Tennis Center, which is the home of the Prospect Park Environmental Center. At the time of this report Prospect Park had been undergoing a renewal with \$17 million in capital improvements and recent reconstruction of several facilities within the Park. The Prospect Park Alliance, a nonprofit organization, was formed to support the revitalization of the park.

A 3.25-mile Park Drive provided a circular route within the park. Two vehicular lanes and one permanent Class II bicycle lane ran counterclockwise. Motor vehicles were allowed on the drive only during weekday rush hours. An informal dirt path, along the edge of the road, had been created by joggers adjacent to the bicycle lane. A variety of pedestrian paths were located throughout the park.

Recommendations: The existing system for bicycling on Park Drive functioned well, but the roadway would be repaved and stenciled. It was suggested that a narrow jogging trail be formalized

on the dirt path next to the curb to provide joggers with an all-season, resilient and water-permeable running surface. Various pedestrian paths would be upgraded, with special attention to the stairs.

There were many ways to walk to and from Grand Army Plaza. Bicycles, however, had no way of exiting from the inner bicycle lane, especially when there were motor vehicles in the Park. The pedestrian paths leading from the park would be restored and appropriate signage would discourage use by bicycles. Any solution to the bicycle exit would have required New York City Landmarks Preservation Commission review and approval. It was recommended that the center median of the Park Drive entrance be expanded to create a two-way Class I bicycle path (12'). The roadbed would be narrowed to create two inbound and two outbound lanes for motor vehicles (the Drive has two lanes). The existing traffic light would allow bicyclists safe passage from the Park Drive bicycle lane to the newly created bicycle lane.

A.9: Landmark Designation of Ocean Parkway, Borough of Brooklyn by the Landmarks Preservation Commission, January 28, 1975.

On January 28, 1975 The Landmarks Preservation Commission designated Ocean Parkway as a landmark. This account of the designation is as stated in LP-0871.

The property bounded on the north by the south side of Church Avenue, on the west by the western curb line of the western side of the road of Ocean Parkway, on the south by the north side of Seabreeze Avenue, and on the east by the eastern curb line of the eastern side road of Ocean Parkway.

The Parkway is lined with deciduous trees and is provided with benches, playing tables and a bicycle path, all of which are heavily used by nearby residents. A bridle path on the western mall provided pleasure for many. For many people in Brooklyn, Ocean Parkway is the only large, open space with trees and grass that is available to them.

Because Prospect Expressway merges with Ocean Parkway at Church Avenue, the central roadway can no longer be considered a "pleasure drive."

But the original intention that the parkway should also serve as a promenade and greenbelt for the residents of the neighboring communities has, to a degree, been realized.

In the Findings and Designation portion of the report it is stated that The Commission further finds that, among its important qualities, Ocean Parkway was the first road of its kind built in the United States, that it established a new concept in road building, and that it is a large open space with grass and trees that serves many residents of Brooklyn as a promenade and greenbelt.

A.10: Landmark Designation of Prospect Park, Borough of Brooklyn by the Landmarks Preservation Commission, November 25, 1975.

On November 25, 1975 The Landmarks Preservation Commission designated Prospect Park as a landmark. This account of the designation is as stated in LP-0901.

The Prospect Park Scenic Landmark consists of the property bounded by the eastern curb line of Prospect Park West, Bartel-Pritchard Circle roadway, the inner curb line of Bartel-Pritchard Circle enclosing the central island, Bartel-Pritchard Circle roadway, the northern and eastern curb lines of Prospect Park Southwest, Park Circle roadway, the inner curb line of Park Circle enclosing the central island, Park Circle roadway, the northern curb line of Parkside Avenue, the western curb line of Ocean Avenue, the western curb line of Flatbush Avenue, Grand Army Plaza roadway, the inner curb lines of the outer roadway enclosing the raised mall area of Grand Army Plaza, Grand Army Plaza roadway, to the eastern curb line of Prospect Park West.

Prospect Park consisting of 526 acres was designed in 1865 by Frederick Law Olmstead and Calvert Vaux. It was Brooklyn's answer to New York's Central Park, as well as a response to the needs of the people in the City of Brooklyn.

The growth of the public park movement in this country was a reaction to increasing urbanization and industrialization of American cities in the 19th century. These cities had originally made no provision for open green space or recreational areas.

England and other parts of Europe already had experienced the effects of industrialization before the United States.

Olmstead and Vaux believed that the future health of society and our cities depended on the spiritual health of the people which could be insured by re-establishing their link with nature that had been broken by rapid growth and industrialization of urban centers. Moreover, Olmstead felt it was the obligation of a democratic society to provide facilities to re-establish such a link with nature.

The success of Central Park spurred interest among prominent citizens of Brooklyn for a similar facility for their city. By 1855, Brooklyn, with over 200,000 inhabitants, was the third largest city in the United States. There was a desire to compete with New York as well as to attract more people to the advantages of Brooklyn living, and to bring relief from the urban environment for many city dwellers. The first part of the park was completed in October of 1867, and allowed the first park visitors to be admitted to the eastern section of the park.

Olmstead and Vaux devised a carefully planned circulation system as they had in Central Park, keeping carriage drives, bridle paths, and walks completely separate from each other. Unlike Central Park, Prospect Park has no transverse roads. Instead, the park is surrounded by drives connected to parkways leading one section of Brooklyn to another.

A.11: New York City Arterial Progress, Triborough Bridge and Tunnel Authority, February 23, 1965.

This report discussed the arterial progress that took place in the 1950s and 1960s in New York and New Jersey. It cited the official opening of the Verrazano-Narrows Bridge on November 21, 1964, which connected Staten Island with the rest of the City and provided a new route to New Jersey. The approach highways to the Verrazano-Narrows Bridge within the City extended from the Brooklyn-Battery Tunnel to the Goethals Bridge connection with New Jersey. In Brooklyn, the Shore Parkway and BQE now led to the Verrazano-Narrows Bridge. Three of the arterials in Brooklyn (and part of the study area for the Prospect Park-Ocean Parkway Greenway Study) mentioned in The Arterial Highway Program

include:

- Brooklyn-Queens Expressway Extension: This link between the Verrazano-Narrows Bridge and the Brooklyn-Battery Tunnel, including widening of existing viaduct sections (formerly Gowanus Parkway) and a new route along 7th Avenue and Fort Hamilton Parkway, was opened November, 1964.
- Prospect Expressway: This connection was completed in stages between 1953 and 1962.
- Ocean Parkway: Ultimate reconstruction of the parkway to provide grade separations of major cross streets has been proposed.
-

A.12: Thirty-Fifth Annual Report of the Department of Parks of the City of Brooklyn and of the County of Kings for the Year 1895, printed for the Commissioner, 1896.

The Bicycle Pathway (As stated in the report)

The Bicycle pathway, constructed during the fall of 1894, was formally opened, from the Park to Coney Island, on the fifteenth day of June of this year. The event awakened great interest among bicycle riders, as this was a historic event, the road being the first one constructed in the United States exclusively for the use of wheelmen. A reviewing stand was built at Parkville, where were gathered the city officials.

The parade was composed of three divisions: The Long Island Clubs, the New York, New Jersey and Visiting Clubs and Members of Good Roads Association, Members of L.A.W., and Unattached Wheelmen. The Procession attracted thousands of people, who lined the route and warmly applauded the wheelmen.

When the parade reached the end of Eastern Parkway and swept across the Park Plaza beside the Memorial Arch and into the main entrance of the Park it was a most imposing spectacle. The route was along the West Drive to the Coney Island Gate, thence to the Bicycle Pathway, past the reviewing stand at Parkville, where Foh's regimental band was stationed to cheer the riders on to Coney Island, where the parade terminated

The celebration was a decided success in every

particular. The pathway has been very popular since its construction. Many of the wheelmen have urged the building of a return pathway on the eastern side of the Parkway. That, however is a subject for careful consideration. While a return pathway is desirable, if the pastime of wheeling continues to be as popular as it now is, it would be really well for the city authorities to take into consideration the advisability of constructing it, so as not to encroach too much upon the rights of pedestrians, by arranging for a flagged sidewalk on each side of the Parkway in front of the courtyard line.

B ON-STREET PARKING AND STREET WIDTH NOTES

B.1: On-Street Parking Notes

The following notes describe specific conditions observed in the study area.

- *Southeast corner of the eastern Ocean Parkway service road and Beverly Road:* The presence of a hydrant and yellow curb striping implies that no standing is allowed, but the area is unsigned.
- *East side of the eastern Ocean Parkway service road between Church Avenue and Beverly Road:* No sign delineates the northern limit of the No Parking Anytime regulation posted to the south.
- *West side of the western Ocean Parkway service road between Caton Avenue and Al-bemarle Road:* The No Parking from 8:00am to 6:00pm Mondays through Fridays regulation specifically exists in front of 120 Ocean Pkwy. and 160 Ocean Pkwy.
- *East side of the eastern Ocean Parkway service road between Caton Avenue and Church Avenue:* The No Parking from 8:00am to 6:00pm Mondays through Fridays regulation specifically exists in front of the northernmost quarter of 135 Ocean Pkwy. and between the front doors of 175 and 179 Ocean Pkwy.
- *In front of PS 130, on both East 5th Street and Ocean Parkway:* The southerly signs delineating the boundaries of school day-only parking restrictions post exemptions for faculty vehicles or the Board of Education; the northerly signs do not.
- *South side of Friel Place, immediately west of Coney Island Avenue:* A “Meters Are Not In Effect Above Times” sign is posted below the No Parking from 11:30am to 1:00pm

Tuesdays sign, but it is not clear whether this exemption applies only to this sign or also to the one above it, which delineates the eastern limit of a No Standing Anytime Except Truck Loading and Unloading regulation from 7:00am to 4:00pm Mondays Through Fridays.

- *South Side of Kermit Place, between East 7th Street and East 8th Street:* From west to east:
 - No Standing Anytime: East 7th Street to west edge of 46 Kermit Pl.
 - No Parking 11:30am to 1:00pm Fridays: to the midpoint of 52 Kermit Pl.
 - No Standing Anytime: to about 10 feet east of the edge of the driveway for 70 East 8th St.
 - No Parking 11:30am to 1:00pm Fridays: to the corner of East 8th Street.

B.2: Street Width Notes

- *The Ocean Parkway service road widths are essentially identical to each other. All of them, however, are narrower than the standard width of a side road within the study area. (See below.)*
- *The two blocks of Church Avenue between East 5th and East 7th streets are significantly wider than the rest of the avenue in the study area. This is due to a trolley tunnel beneath Ocean Parkway which was in use until 1956 and subsequently filled in.*
- *Caton Avenue is significantly wider between Ocean Parkway and Coney Island Avenue than it is to the east and west. One particular location (identified as Note 3 in Figure*

- 2-P) bulbs out to nearly 100 feet wide.
- *The roadbeds of three streets within the study area are considerably narrower than a standard side street.* While East 5th, East 7th, East 8th (north of Caton Avenue), and East 10th streets all are just under 30 feet wide, Friel Place, Kermit Place, and East 8th Street south of Caton Avenue are all approximately 23 feet, 7 inches wide. The narrowness of these streets could be seen as either an impediment to cycling or an asset, since vehicles navigating them are naturally slowed down by the need to safely pass cars parked on both sides of these streets.
 - *The Coney Island Avenue roadbed is approximately 70 feet wide.* This avenue sees busy peak-directional traffic, but its width and relative lack of activity north of Church Avenue may be an untapped multi-use asset.

CREDITS

New York City Department of City Planning

Amanda M. Burden, AICP, *Director*

Richard Barth, *Executive Director*

Sandy Hornick, *Deputy Executive Director, Strategic Planning*

Howard Slatkin, *Assistant to the Deputy Executive Director, Strategic Planning*

Elizabeth Mackintosh, *Director, Planning Coordination*

New York City Department of City Planning, Transportation Division

Jack Schmidt, *Director*

Kevin Olinger, *Deputy Director*

Stratos Prassas, *Team Leader*

Erik Seims, *Project Manager*

Kay Cheng, *City Planner**

Stephen Johnson, *City Planner*

Alan Ripps, *City Planner*

Judith Ross, *City Planner*

Dorian Statom, *Urban Designer*

*former DCP employee

The project team also thanks the numerous Transportation Division staff who assisted with traffic counts for the study in July 2008, and Kelsey Walko at NYCDOT for providing traffic count data.