

**CHAPTER 3:**  
**PHASING AND IMPLEMENTATION PLAN**  
BROOKLYN WATERFRONT GREENWAY



# chapter 3

The previous chapter describes the proposed route of the 14-mile Greenway and offers suggestions for how the path may be built. This chapter breaks the 14-mile route down into a series of Discrete Capital Projects for phased implementation by NYCDOT, as funding becomes available. Future Enhancement Projects (FEPs) are long-term projects, typically located directly on the waterfront, on land not under the jurisdiction of NYCDOT.

A total of 23 Discrete Capital Projects and 6 Future Enhancement Projects (FEPs) have been identified. Each is listed in the table and shown on the maps on the following pages. Projects were defined based on a number of factors including:

- Individual neighborhood needs and constraints
- Political and agency jurisdiction
- Street geometry, grid orientation and physical barriers to development
- Realistic roadway reconstruction expectations
- The presence of other recently completed projects and proposed new capital projects on or adjacent to the route

For each capital project, physical project limits, including start and end points, and the approximate length of affected streets are specified. NYCDOT reserves the right to change proposed project limits and route. To assist in phasing the implementation of these capital projects over time, the table also includes the following information for each project:

- “Order-of-Magnitude” Estimated Construction Cost (ECC)
- A summary of the unique permits, approvals and special agency reviews required
- A description of the work proposed
- A listing of other recent and/or proposed capital projects within or adjacent to the project limits

The ECC is based on standard costs per linear foot of typical roadway reconstruction. These costs are based on existing pay items as defined by the Bidscope Item Price List set by the New York City Department of Design and Construction (DDC). This linear foot cost has been applied to each discrete capital project and adjusted to account for unique components and geometry within the limits.

The linear foot cost does not include replacement of sewers, water mains or relocation of power and telephone services that may otherwise be considered part of a typical roadway reconstruction, because it is unclear whether such utility work will be necessary when the project is undertaken. If utility work is required, it is assumed that there will be a separate budget for the utility operator’s share of the capital cost.

With the exception of designated NYC Historic Districts, for which a cost escalation factor for premium materials has been applied, costs exclude special materials such as granite, pavers, etc. Also excluded are costs for landscaping (other than standard street trees), benches, bike racks and other street furniture. These costs will likely be added when each capital project is developed and the design is finalized.

The final cost is expressed in the table as an order-of-magnitude cost. Technical assumptions are described in the column labeled Description of Work. The table lists special approvals and agency reviews required for each Discrete Capital Project. Below is a list of abbreviations used:

<b>ACE</b>	Army Corp of Engineers
<b>BAT</b>	Brooklyn Army Terminal
<b>BBPC</b>	Brooklyn Bridge Park Corporation
<b>BNYDC</b>	Brooklyn Navy Yard Development Corporation
<b>DEC</b>	New York State Department of Environmental Conservation
<b>DEP</b>	NYC Department of Environmental Protection
<b>DOS</b>	NYC Department of Sanitation
<b>DOT Bridges</b>	NYCDOT Bridges
<b>DPR</b>	NYC Department of Parks and Recreation
<b>EDC</b>	NYC Economic Development Corporation
<b>EPA</b>	US Environmental Protection Agency
<b>LPC</b>	Landmarks Preservation Commission
<b>NYCDOT</b>	NYC Department of Transportation
<b>NYSDOT</b>	New York State Department of Transportation
<b>PANYNJ</b>	Port Authority of New York and New Jersey
<b>PST</b>	Passenger Ship Terminal
<b>SBIC</b>	Southwest Brooklyn Industrial Corporation
<b>SBMT</b>	South Brooklyn Marine Terminal
<b>USCG</b>	US Coast Guard

In addition to special approvals and agency reviews, the following standard NYC agency reviews will be required for all projects:

- **New York City Department of Transportation (NYCDOT):** In-house development and review of each project will be conducted by appropriate divisions.
- **New York City Department of Design and Construction (DDC):** Preliminary and final design and administration of the construction of the capital projects identified, for which individual scopes of work have been developed by NYCDOT.
- **New York City Department of Parks and Recreation (DPR):** Review and approval of all proposed changes to and/or impacts to existing street trees and Greenstreet plantings as well as review and approval of all proposed new street trees and Greenstreet plantings for which DPR will assume maintenance responsibility.
- **New York City Department of Environmental Protection (DEP):** Review and approval of all proposed Greenway designs that may affect existing drainage structures and/or existing storm water flow rates and/or proposed new storm water drainage facilities relating to the Greenways, water main, and related work.
- **Public Design Commission (PDC) and/or Landmarks Preservation Commission (LPC):** Review requirements for non-standard items, features or amenities. LPC has jurisdiction over PDC inside designated Historic Districts and pertaining to Individual Historic Landmarks.
- **Community Board:** Review and comment on proposed Greenway designs within each Community District prior to seeking PDC or LPC approval.
- **Private Utility Companies:** Review and approval of Greenway design impacts on:
  - Cable, telephone, fiber-optic and other data services
  - Above- and below-ground electrical services
  - Gas and steam lines

\*Included in the Appendix is the Leventhol Memorandum, which summarizes maintenance responsibilities for greenways in NYC.

**1** Ash/Box Street and Commercial Street

**Locations**

- Ash/Box St between McGuinness Boulevard & Manhattan Ave/Commercial St
- Commercial St between Manhattan Ave & Dupont St

**1a** Future Enhancement Project: Newtown Creek Bicycle & Pedestrian Bridge

**3** Franklin Street

**Locations**

- Franklin St between N 14th St & Calyer St
- Calyer St between West St & Franklin St
- Quay St between West St & Franklin St

**3a** Future Enhancement Project: Bushwick Inlet Park

**5** Kent Avenue South

**Locations**

- Kent Ave between Clymer St & Williamsburg St West

**7** Navy Yard Greenway Upgrade

**Locations**

- Flushing Ave between Williamsburg St West & Navy St
- Navy St between Flushing Ave & York St

**9** Plymouth/Water Street Pair

**Locations**

- Plymouth St between Hudson Ave & Main St
- Water St between Hudson Ave & Anchorage Pl
- Anchorage Pl between Water St & Brooklyn Bridge Park

**9a** Future Enhancement Project: John Street Waterfront Connector

**11** Columbia Street Greenway Upgrade

**Locations**

- Atlantic Ave between Brooklyn Bridge Park & Columbia St
- Columbia St between Atlantic Ave & Degraw St
- Degraw St between Columbia St & Van Brunt St



**2** West Street

**Locations**

- West St between Eagle St & Quay St

**4** Kent Avenue Greenway Upgrade

**Locations**

- Kent Ave between N 14th St & Clymer St

**6** Williamsburg Street West Greenway Upgrade

**Locations**

- Williamsburg St West between Kent Ave & Flushing Ave

**8** Vinegar Hill Connector

**Locations**

- Hudson Ave between York St & Plymouth St

**10** Brooklyn Bridge Park

**Locations**

- Brooklyn Bridge Park between Anchorage Pl & Atlantic Ave

**12** Atlantic Basin Connector

**Locations**

- Van Brunt St between Degraw St & Hamilton Ave
- Summit St between Hamilton Ave & Imlay St
- Imlay St between Summit St & Bowne St

**13** Atlantic Basin

**Locations**

- Bowne St between Imlay St & Commercial Wharf
- Alternative: Imlay St between Bowne St & Verona St
- Commercial Wharf between Verona St & Pioneer St

**15** Erie Basin Park Greenway Upgrade

**Locations**

- Erie Basin Park between Dwight St & Columbia St

**17** Red Hook Recreation Area

**Locations**

- Halleck St extended between Columbia St & Court St

**19** Gowanus Connector/ Hamilton Avenue

**Locations**

- Hamilton Ave between Smith St & 18th St
- Third Ave between 18th St & 29th St

**19a** Future Enhancement Project: Gowanus Bicycle & Pedestrian Bridge & 19th Street Connector

**21** Bush Terminal Connector

**Locations**

- 39th St between Second Ave & First Ave
- First Ave between 39th St & 51st St

**21a** Future Enhancement Project: Marginal Street/Bush Terminal Piers Park

**23** Owl's Head Connector

**Locations**

- 58th St between First Ave & Second Ave
- Second Ave between 58th St & Wakeman Place
- Wakeman Place between Second Ave & Colonial Rd/Owls Head Park



Photo: Bing

**14** Valentino Pier Connector

**Locations**

- Conover St between Pioneer St & Beard St
- Alternative: Ferris St between Pioneer St & Valentino Pier
- Beard St between Conover St & Dwight St

**14a** Future Enhancement Project: Buttermilk Channel Waterfront & Fairway & Erie Basin Waterfront

**16** Columbia Street Extension

**Locations**

- Columbia St between Gowanus Industrial Park/Erie Basin Park entrance & Halleck St

**18** Smith Street

**Locations**

- Halleck St between Court St & Smith St
- Smith St between Halleck St & Hamilton Ave

**20** Sunset Park North

**Locations**

- 29th St between Second Ave & Third Ave
- Second Ave between 29th St & 39th St

**22** Sunset Park South

**Locations**

- First Ave between 51st St & 58th St

**Legend**

- Discrete Capital Project Divisions
- Existing Route
- ⋯ Planned Route
- ⋯ Alternative Planned Route
- ⋯ Future Enhancement Project
- ← - - - - - → Inland Connectors

### 3.1 GREENPOINT - WILLIAMSBURG DISCRETE CAPITAL PROJECTS

ID	PROJECT	LOCATION	PROJECT BEGINS	PROJECT ENDS	OVERVIEW OF WORK	SPECIAL PERMITS, APPROVALS & AGENCY REVIEW	APPROX. LENGTH (LF)	ESTIMATED CONSTRUCTION COST (ECC)	DESCRIPTION OF WORK	RECENTLY COMPLETED AND/OR PROPOSED CAPITAL PROJECTS
GREENPOINT-WILLIAMSBURG										
1	Ash/Box Street and Commercial Street	Ash/Box Street	McGuinness Boulevard	Manhattan Avenue (Ash Street) and Commercial Street (Box Street)	Class 2/3 – Refresh bicycle lane and shared lane markings		600	\$250,000 <sup>1</sup>	Repair sidewalks, plant trees and refresh the existing bicycle lane and shared lane markings on Box and Ash Streets, respectively. Examine the feasibility of upgrading Ash Street to a Class 2 bicycle lane.	HWK701A - Ash Street & Manhattan Avenue (2008 & 2011) - Manhattan Ave Park from Ash Street to Bulkhead at Newtown Creek including New Park; Kent Ave from North 14th St to the Brooklyn Queens Expressway (BQE); Franklin St from North 14th St to Commercial St; HWK693W - Commercial Street & Franklin Avenue (2008) - Kent Ave from North 14th St to the Brooklyn Queens Expressway (BQE); Franklin St from North 14th St to Commercial St
		Commercial Street	Manhattan Avenue	Dupont Street	Class 1 – Two-way bicycle path on west side of the street		1,600	\$4.25 Million <sup>2</sup>	Reconstruct/widen sidewalk to accommodate a two-way side-path on the west side of the street with planted buffer. Continue Greenway through DEP property from Dupont Street to Eagle Street to connect to West Street.	
1a	(FEP) Newtown Creek Bicycle and Pedestrian Bridge	Across Newtown Creek	Manhattan Avenue northern terminus (Brooklyn)	Vernon Boulevard southern terminus (Queens)	Class 1 – New operable bicycle-pedestrian bridge across Newtown Creek at Manhattan Avenue	Newtown Creek is a navigable waterway with existing water-dependant industrial uses. ACE, USCG, DCP (CEQR), DEC (SEQR)	250-300	\$5-10 Million	Construct a new operable bicycle/pedestrian-only bridge across the Newtown Creek on axis with Manhattan Avenue in Brooklyn.	
2	West Street	West Street	Eagle Street	Quay Street	Class 1 – Widen west sidewalk to include two-way bicycle path		3,150	\$8.5 Million	Existing NYCDOT/DDC Capital Project that will fully reconstruct the roadway to accommodate a physically separated two-way multi-use side path along the west side of the street.	HWK1048A - West Street between Eagle Street & Quay Street (2011) - West Street from Eagle Street to Quay Street - Phase 1 of the Brooklyn Waterfront Greenway
3	Franklin Street	Franklin Street	North 14th Street	Calyer Street	Class 2/3 – Existing bicycle lanes and shared lane markings		1,100	Existing	Pedestrians use existing sidewalks and cyclists use existing bicycle lanes and shared lane markings. Implement new shared lane markings on Quay and Calyer Streets between Franklin and West Streets. Planting of additional street trees should be coordinated with DPR.	HWK693W - Franklin Street between Calyer Street & N. 14th Street (2008) - Kent Ave from North 14th St to the Brooklyn Queens Expressway (BQE); Franklin St from North 14th St to Commercial St
		Calyer Street	Franklin Street	West Street	Class 3 – Shared lane markings		450	\$125,000 <sup>1</sup>		
		Quay Street	West Street	Franklin Street	Class 3 – Shared lane markings		350	\$100,000 <sup>1</sup>		
3a	(FEP) Bushwick Inlet Park	Bushwick Inlet Park	West/Quay Street	Kent Avenue/N. 14th Street	Class 1 – New off-street path	DPR	400	N/A	Construct a two-way shared-use path through the planned Bushwick Inlet Park. This project will be implemented by DPR.	
4	Kent Avenue Greenway Upgrade	Kent Avenue	North 14th Street	Clymer Street	Class 1 – Upgrade existing parking-protected two-way bicycle lanes		8,300	\$4.5 Million	Construct permanent raised pedestrian refuge islands with trees at either end of each 'floating' parking bay. Construct raised planted median where currently there is a striped thermoplastic buffer area between the parking bay and the bicycle lanes. Pedestrian improvements such as curb extensions will be investigated.	HWK693W - Kent Avenue between N. 14th Street & Clymer Street (2008) - Kent Ave from North 14th St to the Brooklyn Queens Expressway (BQE); Franklin St from North 14th St to Commercial St; NWBURGFL - Kent Avenue between N. 8th Street & N. 7th Street (2011) - North Williamsburg Ferry Landing; SCHAFAER - Kent Avenue between S. 7th Street & S. 8th Street (2011) - Schafer Brewing Co site
<sup>1</sup> To be constructed with NYCDOT (or other City agency) in-house resources <sup>2</sup> Cost Estimate based on full-depth roadway reconstruction <sup>3</sup> Cost Estimate includes a factor of 1.3 to account for materials required within a Historic District										



### 3.2 DOWNTOWN BROOKLYN DISCRETE CAPITAL PROJECTS

ID	PROJECT	LOCATION	PROJECT BEGINS	PROJECT ENDS	OVERVIEW OF WORK	SPECIAL PERMITS, APPROVALS & AGENCY REVIEW	APPROX. LENGTH (LF)	ESTIMATED CONSTRUCTION COST (ECC)	DESCRIPTION OF WORK	RECENTLY COMPLETED AND/OR PROPOSED CAPITAL PROJECTS
DOWNTOWN BROOKLYN										
5	Kent Avenue South	Kent Avenue	Clymer Street	Williamsburg Street West	Class 1 – Reconfigure traffic and parking to accommodate new design	BNYDC	2,000	\$2.4 Million <sup>1</sup>	Remove one travel lane in the northbound direction. Relocate south parking lane to the north side of the street. All existing curb lines and drainage structures remain. Add new street trees to existing sidewalks and roadway medians. Build new contra-flow northbound bicycle lane next to the south curb separated from traffic by striping and flexible plastic bollards.	HWK693W - Kent Avenue between Clymer Street & Williamsburg Street West/BQE (2008) - Kent Ave from North 14th St to the Brooklyn Queens Expressway (BQE); Franklin St from North 14th St to Commercial St
6	Williamsburg Street West Greenway Upgrade	Williamsburg Street West	Kent Avenue	Flushing Avenue	Class 1 – Upgrade existing path	BNYDC	900	\$4 Million <sup>2</sup>	Reconstruct the western half of the roadway, including the sidewalk, to place the bicycle path at grade with the sidewalk and construct a permanent decorative barrier curb between the bicycle path and moving lane. Reconstructed sidewalk to include a continuous tree pit/amenity strip with porous pavers to help promote tree health.	HWK472A - Williamsburg Street West/BQE & Flushing Avenue (2008)
7	Navy Yard Greenway Upgrade	Flushing Avenue	Williamsburg Street West	Navy Street	Class 1 – New two-way shared-use path on north side of the street	BNYDC for design at entrances	4,900	\$7.5 Million <sup>2</sup>	Reconstruct north half of Flushing Avenue to accommodate two-way physically separated multi-use path.	HWK472W - Flushing Avenue between Williamsburg Street West/BQE & Washington Avenue - Reconstruction of Flushing Avenue between Cypress Avenue and Flatbush Avenue; HWK472W - Flushing Avenue between Washington Avenue & Navy Street (2011) Extension
		Navy Street	Flushing Avenue	York Street	Class 1 – New two-way shared-use path on east side of the street	BNYDC for design at entrances	1,100	\$3.5 Million <sup>2</sup>	Reconstruct east half of Navy Street to accommodate two-way physically separated multi-use path. Resurface/restripe balance of street, as required.	HWK472A - Navy Street & Sands Street (2011)
8	Vinegar Hill Connector	Hudson Avenue	York Street	Front Street	Class 3 – Curbside bicycle route with shared lane markings	LPC	420	\$150,000 <sup>12</sup>	Install Class 3 bicycle route with shared lane markings placed next to the existing curbs.	HWD101K02 - Hudson Avenue between Front Street & John Street (2011) - Vinegar Hill Belgian Block Restoration grant received from NYC Council Member Letitia James.
		Hudson Avenue	Front Street	Plymouth Street	Class 2 (modified) – On-street two-way smooth cobble bicycle lane		480	\$1.5 Million <sup>23</sup>	Full roadway reconstruction as a shared-street or bicycle boulevard; cobblestones to remain.	
9	Plymouth/Water Street Pair	Plymouth Street	Hudson Avenue	Main Street	Class 2 (modified) – On-street curbside smooth cobble bicycle lane	LPC	2,670	\$6.7 Million <sup>23</sup> (long-term)	Short-term – Reconstruct roadway to install on-street one-way smooth-cobble bicycle lanes adjacent to existing curb. Long term (estimated) – Investigate feasibility of eliminating curbs altogether and creating 'shared-street' experience by integrating/alternating street trees with car parking.	
		Water Street	Hudson Avenue	Anchorage Place			1,800	\$4.5 Million <sup>23</sup> (long-term)		
		Anchorage Place	Water Street	Brooklyn Bridge Park			665	\$1.7 Million <sup>23</sup> (long-term)		
9a	(FEP) John Street Waterfront Connector	John Street	Hudson Avenue	Jay Street	Class 1 – Widen existing north sidewalk to accommodate path	BBPDC, LPC, DEP/DEC for permit to build over East River at end of Jay Street, Con Edison, private property owner at northwest corner of John and Jay Streets	1,500	\$6 Million	Construct a physically separated, two-way shared-use path along the north side of John Street from Hudson Avenue to proposed new Brooklyn Bridge Park entrance at Jay Street (does not exist yet). Requires coordination with Con-Edison to open the one block section of John Street between Bridge and Gold Streets. NYCDOT will work with Brooklyn Bridge Park to continue the path through the park to connect with the existing route.	
		Jay Street	John Street	Brooklyn Bridge Park	Class 1 – Reconstruct street-end to create access to proposed park		50	\$500,000		
		Hudson Avenue	Plymouth Street	John Street	Class 2 (modified) – On-street center-aisle two-way smooth-cobble bicycle lane		260	\$650,000		
10	Brooklyn Bridge Park	Brooklyn Bridge Park	Anchorage Place	Atlantic Avenue	Class 1 – Off-street path to be included in final construction of Brooklyn Bridge Park	All work to be completed by BBPDC	--	--	When construction is completed, there will be a continuous shared-use path in Brooklyn Bridge Park from Jay Street to Atlantic Avenue.	

<sup>1</sup> To be constructed with NYCDOT (or other City agency) in-house resources

<sup>2</sup> Cost Estimate based on full-depth roadway reconstruction

<sup>3</sup> Cost Estimate includes a factor of 1.3 to account for materials required within a Historic District



### 3.3 RED HOOK DISCRETE CAPITAL PROJECTS

ID	PROJECT	LOCATION	PROJECT BEGINS	PROJECT ENDS	OVERVIEW OF WORK	SPECIAL PERMITS, APPROVALS & AGENCY REVIEW	APPROX. LENGTH (LF)	ESTIMATED CONSTRUCTION COST (ECC)	DESCRIPTION OF WORK	RECENTLY COMPLETED AND/OR PROPOSED CAPITAL PROJECTS
RED HOOK										
11	Columbia Street Greenway Upgrade	Columbia Street	Atlantic Avenue	Degraw Street	Class 1 – Landscape existing two-way shared-use path	PANYNJ	2,300	\$1.5 Million	Construct planted buffer (width varies 5-20 feet) on container-port property (owned by PANYNJ) west of existing fence line (and move fence back).	
		Degraw Street	Columbia Street	Van Brunt Street	Class 1 – Upgrade and extend existing path to Van Brunt Street	PANYNJ	700	\$1 Million	Reconstruct the street to move the curb and widen the existing two-way shared-use asphalt pathway to create a tree-lined amenity strip between the path and the parked cars. Complete the path to Van Brunt Street.	HWK700A - Degraw Street between Columbia Street & Van Brunt Street (2008 & 2011) - Columbia Street Area, Columbia Street from Hamilton Avenue to Atlantic Avenue, DeGraw Street from Columbia Street to Van Brunt Street, Van Brunt Street from DeGraw Street to Hamilton Avenue
12	Atlantic Basin Connector	Van Brunt Street	Degraw Street	Hamilton Avenue/Summit Street	Class 1 – New two-way shared-use path with landscaped buffer	ASI, PANYNJ, EDC	1,050	\$3.6 Million <sup>2</sup>	Reconstruct the streets to widen the existing sidewalk on the west/north sides of these streets to create a new tree-lined two-way, shared-use path. Requires one-way conversion of Summit and Imlay Streets.	HWK700A - Van Brunt Street between Degraw Street & Hamilton Avenue (2008 & 2011) - Columbia Street Area, Columbia Street from Hamilton Avenue to Atlantic Avenue, DeGraw Street from Columbia Street to Van Brunt Street, Van Brunt Street from DeGraw Street to Hamilton Avenue
		Summit Street	Van Brunt Street	Imlay Street			250	\$750,000 <sup>2</sup>		
		Imlay Street	Hamilton Avenue	Bowne Street			520	\$1.15 Million <sup>2</sup>		
13	Atlantic Basin	Bowne Street	Imlay Street	Commercial Wharf	Class 3 – Shared route	EDC, PANYNJ, PST	450	\$50,000 <sup>1</sup>	Construct physically separated (striped buffer and flexible plastic delineators) two-way shared-use path along the south side of the existing vehicle lanes on Commercial Wharf, entering at the Bowne Street gate and exiting onto Conover Street at a new gate to be constructed at Pioneer Street. As an alternative to entering Atlantic Basin at Bowne Street, the Greenway could continue on Imlay Street and enter at Verona Street. This alternative would require a one-way conversion of Imlay Street.	
		Imlay Street (Alternative Route)	Bowne Street	Verona Street	Class 1 – New two-way shared-use path		1,000	\$500,000 <sup>2</sup>		
		Commercial Wharf	Verona Street	Pioneer Street			550	\$50,000 <sup>1</sup>		
14	Valentino Pier Connector	Conover Street	Pioneer Street	Beard Street	Class 3 – Designate (signed) bicycle route with smooth cobbles		1,600	\$1 Million <sup>1</sup>	Reconstruct Conover Street and Beard Street to include shared lane treatment.	
		Beard Street	Conover Street	Dwight Street			1,800	\$5.4 Million <sup>2</sup>		
14a	Buttermilk Channel, Fairway and Erie Basin FEP's	Buttermilk Channel Waterfront, Valentino Park, Fairway Esplanade to Erie Basin Waterfront	Pier 11 PST @ Pioneer/Conover Streets	Erie Basin Park	Class 1 – New two-way shared-use path	EDC, PST, multiple private property owners, DPR (Valentino), DEC for reconstruction of marine structures, Fairway, Van Brunt Street Pier ownership, Ikea PANYNJ	--	\$10-20 Million	Long-term waterfront alternative involving construction of shared-use path to and along the water's edge. The route would require easements, bulkhead reconstruction and access to and reconstruction of existing waterfront esplanades that are currently 'pedestrian-only'. All improvements through the cruise ship terminal will have to be agreed to by PANYNJ.	
15	Erie Basin Park Greenway Upgrade	Erie Basin Park (Continuous Park Property)	Dwight Street	Gowanus Industrial Park	Class 1 – Upgrade existing path	Ikea, DPR	2,500	\$250,000	Install signage and pavement markings to create a visual connection to the neighborhood and to designate this waterfront promenade as part of the Greenway. A new curb cut onto Columbia Street would be required.	
16	Columbia Street Extension	Columbia Street	Gowanus Industrial Park/ Erie Basin Park entrance.	Halleck Street	Class 1 – New two-way shared-use path		1,300	\$3.6 Million <sup>2</sup>	Widen the sidewalk (as necessary) on the east side of Columbia Street and construct a landscaped two-way shared-use path along the eastern edge of Columbia Street.	
17	Red Hook Recreation Area	Halleck Street	Columbia Street	Clinton Street	Class 1 – Upgrade existing and create new two-way shared-use path	DPR; DEP (Haz-Mat remediation in abandoned Halleck Street ROW)	1,600	\$2.1 Million <sup>2</sup>	Widen existing pedestrian paths and install signage and pavement markings in Red Hook Recreational Area (DPR) between Columbia Street and Clinton Street.	
		Halleck Street	Clinton Street	Court Street			600	\$1.6 Million <sup>2</sup>	Construct new two-way, shared-use path in abandoned Halleck Street right-of-way between Clinton and Court Streets, adjacent to Red Hook Recreational Area. Environmental remediation costs not included in ECC.	
18	Smith Street	Halleck Street	Court Street	Smith Street	Class 1 – New two-way shared-use path	DPR	400	\$1.25 Million <sup>2</sup>	Narrow vehicular moving lane and widen southern sidewalk on Halleck and eastern sidewalk on Smith to accommodate construction of a new two-way, shared-use path.	HBKF2007 - Smith Street & Gowanus Expressway (2011) - Retrofit/upgrade of Asphalt Plant at Hamilton Avenue in Brooklyn. This is a design-build contract.
		Smith Street	Halleck Street	Hamilton Avenue			1,000	\$3 Million <sup>2</sup>		
<sup>1</sup> To be constructed with NYCDOT (or other City agency) In-house resources <sup>2</sup> Cost Estimate based on full-depth roadway reconstruction <sup>3</sup> Cost Estimate includes a factor of 1.3 to account for materials required within a Historic District										



### 3.4 SUNSET PARK DISCRETE CAPITAL PROJECTS

ID	PROJECT	LOCATION	PROJECT BEGINS	PROJECT ENDS	OVERVIEW OF WORK	SPECIAL PERMITS, APPROVALS & AGENCY REVIEW	APPROX. LENGTH (LF)	ESTIMATED CONSTRUCTION COST (ECC)	DESCRIPTION OF WORK	RECENTLY COMPLETED AND/OR PROPOSED CAPITAL PROJECTS
SUNSET PARK										
19	Gowanus Connector/ Hamilton Avenue	Hamilton Avenue	Smith Street	18th Street	Class 1 – New two-way shared-use path	NYCDOT Bridges; DOS (waste transfer station), asphalt plant, SBIC	2,800	\$8.4 Million <sup>2</sup> (long-term)	Short-term (in-house): Convert western-most curbside moving lane to a two-way bicycle path separated from moving lanes with jersey barrier and fence. Long-term (estimated): Reconstruct/widen western curb and sidewalk to permanently convert sidewalk and moving lane to physically separated, two-way, shared-use path with landscaping.	
		Third Avenue	18th Street	29th Street	Class 1 – New two-way shared-use path		2,700	\$7.5 Million <sup>2</sup>	Narrow existing moving lanes and widen sidewalk to create an at-grade two-way bicycle path with tree-lined amenity strip between parking lane and sidewalk.	
19a	(FEP) Gowanus Bicycle and Pedestrian Bridge and 19th Street Connector	Mouth of the Gowanus Canal	Halleck Street/ Smith Street	Third Avenue/19th Street	Class 1 – Private parcel acquisition and redevelopment; construction of a new bridge over the Gowanus Canal	Private property owner; DOT Bridges; USCG, ACE (navigable waterway); DEP, DEC and EPA (superfund site); Home Depot	–	\$10-15 Million	Purchase the private waterfront parcel at the south end of Smith Street and convert it to a new City park (with public/private investment and concession opportunity). Construct a new operable pedestrian/bicycle only bridge across the canal to the public esplanade land along the water behind Home Depot and connect via a new esplanade to 19th Street. Install greenway path on 19th Street to Third Avenue.	HBK1140 – Gowanus Expressway & Lorraine Street (2011) – Hamilton Avenue/Gowanus Canal (Bin) 2-24023
20	Sunset Park North	29th Street	Second Avenue	Third Avenue	Class 1 – New two-way shared-use path	Federal Department of Corrections	800	\$1.2 Million <sup>12</sup>	Construct a new two-way shared-use path with landscaping on the north sidewalk.	
		Second Avenue	29th Street	39th Street		EDC, SBMT, SBIC	2,600	\$10.25 Million <sup>2</sup>	Reconstruct western half of Second Avenue to accommodate a new two-way shared-use path with landscaped buffer adjacent to SBMT property line. Work with EDC/SBMT to include landscaped buffer adjacent to path on SBMT property.	
21	Bush Terminal Connector	First Avenue	39th Street	51st Street	Class 1 – New two-way shared-use path	EDC, NYSDOT, PANYNJ, SBIC, Bush Terminal, Meat Market	3,100	\$12.2 Million <sup>1</sup>	Construct a new two-way shared-use path with landscaping on north side of 39th Street from Second Avenue to First Avenue, on east side of First Avenue from 39th Street to 43rd Street and on west side of First Avenue from 43rd Street to 51st Street.	
		39th Street	Second Avenue	First Avenue		EDC, SBMT, SBIC	700	\$2.75 Million		
21a	(FEP) Marginal Street/Bush Terminal Piers Park	39th Street	First Avenue	Marginal Street	Class 1 – New two-way shared-use path	EDC, SBMT	670	\$3.8 Million <sup>2</sup>	Fully reconstruct the northern half of 39th Street adjacent to the SBMT to accommodate a tree-lined, off-street, two-way, shared-use path. Coordinate design of path with crossing railroad tracks.	
		Marginal Street	39th Street	43rd Street	Class 1 – New two-way shared-use path	Waterfront property owners, EDC, DEP (reconstruction of shoreline marine structures), Bush Terminal	1,000	\$10-20 Million <sup>2</sup>	Fully reconstruct deteriorating bulkhead and upland areas behind the mostly empty buildings to accommodate new public waterfront esplanade for pedestrians and cyclists to connect directly to the planned Bush Terminal Piers Waterfront Park.	
		Waterfront	43rd Street	51st Street	Class 1 – New two-way shared-use path	EDC, NYSDOT, PANYNJ (51st Street float-bridge operation), DOS (51st St M&O yard)	2,500	N/A - to be paid for by EDC	Park design already includes waterfront route from 43rd Street to 51st Street.	
		51st Street	Waterfront	First Avenue	Class 1 – Path on 51st Street		400	\$1.2 Million	Construct a physical connection from the waterfront to First Avenue via 51st Street. Reconstruct southern edge of the park and/or 51st Street to accommodate the Greenway path; Coordinate design with PANYNJ at railroad crossing.	
22	Sunset Park South	First Avenue	51st Street	58th Street	Class 1 – New two-way shared-use path	EDC, BAT, Bush Terminal, Meat Market, NYSDOT, PANYNJ, DOS, DEP, SBIC	1,900	\$7.75 Million <sup>2</sup>	Fully reconstruct the entire roadway to narrow the eastern sidewalk and widen the western sidewalk to accommodate construction of a tree-lined, off-street two-way, shared-use path on the west side of the street.	
23	Owl's Head Connector	58th Street	First Avenue	Second Avenue	Class 1 – New two-way shared-use path	BAT	800	\$2.25 Million <sup>1</sup> (long-term)	Long-term: Narrow travel lanes and move parking lane on south side of street to accommodate installation of an off-street, two-way, shared use path on widened sidewalk.	
		Second Avenue	58th Street	Wakeman Place	Class 1 – New two-way shared-use path	EDC, NYSDOT, NYCDOT Bridges DPR, DEP	2,400	\$6 Million <sup>2</sup> (long-term)	Long-term: Widen west sidewalk on Second Avenue to accommodate construction of an off-street, two-way, shared-use path with landscaping. Includes sidewalk widening across two bridges and across the mouth of a parkway exit ramp.	
		Wakeman Place	Second Avenue	Colonial Road	Class 1 – New two-way shared-use path	NYSDOT	800	\$2.25 Million <sup>2</sup>	Widen north sidewalk into roadway and construct off-street, two-way, shared-use path.	
		Intersections	Wakeman Place @ Colonial Road	68th Street @ Shore Road	Spot safety improvements at dangerous intersections	NYCDOT, NYSDOT, DPR	200	\$100,000 <sup>1</sup>	Implement traffic calming at uncontrolled Shore Parkway entrances.	

<sup>1</sup> To be constructed with NYCDOT (or other City agency) in-house resources

<sup>2</sup> Cost Estimate based on full-depth roadway reconstruction

<sup>3</sup> Cost Estimate includes a factor of 1.3 to account for materials required within a Historic District



