



The SW Ecodistrict

PROGRAMMATIC DESIGN CONCEPT SUMMARY
10TH ST, SW AND INTERIM BANNEKER CONNECTION

MARCH 2015



Table of Contents

1	PROGRAMMATIC DESIGN CONCEPTS	1
	Design Process	2
	10th Street, SW Design Framework	3
	Near-Term Improvements	4
	Interim Banneker Connection	8
	Long-Term: 10th Street, SW Design Recommendations	10
	An Urban Garden Promenade	12
2	POTENTIAL PHASING AND PRELIMINARY CONCEPTUAL BUDGET	23
	Potential Phasing	24
	Preliminary Conceptual Budget	25

The *SW Ecodistrict Plan* was prepared through the collaboration of the federal government and the District of Columbia.

The National Capital Planning Commission had primary responsibility for oversight of the project and ZGF Architects LLP, served as the principal consultant.

1

Programmatic Design Concepts

The 10th Street, SW and Interim Banneker Connection Concepts include near-and long-term concepts that advance the objectives in the *SW Ecodistrict Plan* and several precedent planning projects for the Southwest Rectangle. The objectives include:

- Design 10th Street as a walkable, vibrant mixed-use cultural corridor;
- Create a setting along the corridor and at Banneker Park that befits a national cultural destination and serves as an extension of the National Mall.
- Program the corridor for daily activity and for special exhibitions and events.
- Design the corridor to serve as the Ecodistrict's energy and water management spine.
- Use the lower level of 10th Street to accommodate energy, water, and parking infrastructure.
- Showcase state-of-the-art urban design and environmental practices to increase public awareness.

The purpose of this work is to:

- Establish a cross-section dimension for the 10th Street right-of-way that identifies sidewalks, stormwater management areas, streetscape elements, bicycle and vehicular lane locations, and on-street parking.
- Prepare conceptual designs and identify programmatic opportunities for phased near- and long-term streetscape improvements.
- Design a safe, functional and aesthetically pleasing pedestrian connection that links the Overlook at Banneker Park with the waterfront.

This document's intent is to provide a graphic overview of the programmatic concept to guide final design and projects along 10th Street, SW.

This chapter introduces the overall framework, ideas for near-term enhancements, interim improvements to Banneker, and the long-term vision for 10th Street, SW.

Design Process

The 10th Street and Interim Banneker Connection concepts were developed as part of the SW Ecodistrict Task Force partnership led by the National Capital Planning Commission. The Task Force includes 17 federal and local agencies:

- National Capital Planning Commission, Chairman and Presidential Appointee*
- District Office of Planning, Director*
- District of Columbia Deputy Mayor for Planning and Economic Development, Deputy Mayor
- District of Columbia Department of the Environment, Director
- District of Columbia Department of Transportation, Director
- Federal Aviation Administration, Director of Facilities
- National Park Service, Associate Deputy Regional Director for Lands, Resources, and Planning*
- Smithsonian Institution, Director of Facilities
- U.S. Commission of Fine Arts, Secretary
- U.S. Congress, Architect of the Capitol
- U.S. Department of Agriculture, Director of Facilities
- U.S. Department of Education
- U.S. Department of Energy, Director of Facilities
- U.S. Environmental Protection Agency, Assistant Administrator, Office of Administration and Resource Management
- U.S. Department of Housing and Urban Development, Director of Facilities
- U.S. General Services Administration, Public Buildings Deputy Administrator
- U.S. General Services Administration, Director of Planning and Design
- U.S. Postal Service, Director of Facilities

* Task Force representative also serves as NCPC Commissioner.

The Task Force met three times to define the project's scope, assess alternatives, and select a preferred concept. Each of the agencies also appointed a staff person to the SW Ecodistrict Working Group which produced work for the Task Force to review. The Working Group participated in six workshops. Public input was

obtained through NCPC's website and two public meetings. The Commission was kept informed of the Task Force's work and the status of the project in 10 Executive Director's Reports between January and December of 2013.

TASK FORCE MEETINGS

Date	Location	Meeting Topic
12/5/2012	NCPC	Final Plan and Next Steps
5/1/2013	NCPC	Review 10th St / Banneker Alternatives
11/14/2013	ZGF	Review Developed Concepts

WORKING GROUP MEETINGS

Date	Location	Meeting Topic
12/6/2012	NCPC	Project Kick-off, Design Goals
1/16/2013	ZGF	Preliminary Alternatives
2/27/2013	ZGF	Revised Alternatives
3/19/2013	ZGF	Programming and Stormwater Concepts
4/26/2013	ZGF	Three Concepts for Public Review
9/13/2013	ZGF	Refined Concepts

PUBLIC MEETINGS

Date	Location	Meeting Topic
5/21/2013	NCPC	Preliminary Concepts
11/14/2013	NCPC	Refined Concepts

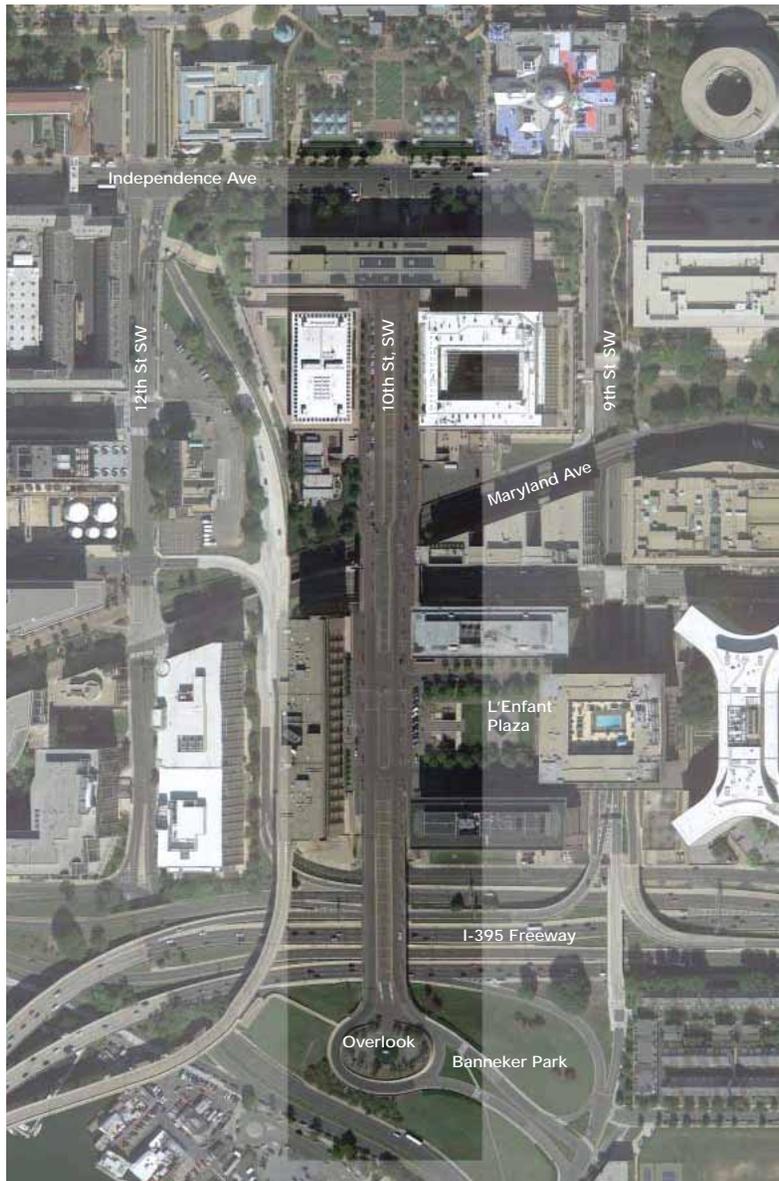
COORDINATING COMMITTEE

The Coordinating Committee reviewed the proposal and forwarded the proposed comments on concept design to the Commission with the statement that the proposal was coordinated with all participating agencies with the exception of the District of Columbia State Historic Preservation Office (DC SHPO). The DC SHPO stated that further consultation will be necessary on the project once formal Section 106 consultation is initiated at the time the project advances beyond the concept stage.

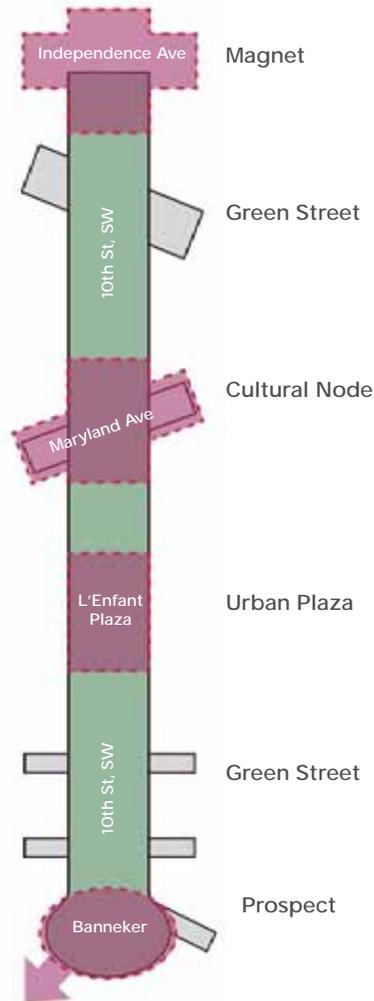
U.S. COMMISSION OF FINE ARTS

The U.S. Commission of Fine Arts (CFA) is represented on the Task Force and provided ongoing guidance on the development of the concepts and the recommendations. NCPC staff presented the drafts of the concept summary to the CFA on June 20, 2013 and November 21, 2013.

10th Street, SW Design Framework



CONCEPT DIAGRAM



The guiding design framework for the revitalization of 10th Street, SW is to create a unified, green connection from the National Mall to the waterfront. It should be highlighted with episodic features that provide opportunities for both quiet and active experiences. This can be achieved by:

- Creating a "magnet" to draw people from the Mall across Independence Avenue
- Defining a "cultural node" at the intersection with Maryland Avenue.
- Developing an "urban plaza" near the peak of the street adjacent to L'Enfant Plaza.
- Providing an opportunity for significant gathering at the current Overlook within Banneker Park with framed views to the waterfront.

Near-Term Improvements

Long-term improvements to 10th Street will likely occur in phases with major redevelopment. In the meantime, the SW Ecodistrict Task Force proposes several near-term, low cost improvements to enhance the pedestrian experience and strengthen the connection between the Mall and the waterfront. The near-term improvements are organized into four strategies:

ENTRY

- Enhance the Independence Avenue/10th Street intersection to improve pedestrian connections and visibility.

TACTICAL URBANISM

- Develop experiential public realm spaces along 10th Street that incorporate landscape, lighting, and seating.
 1. Independence Avenue
 2. U.S. Department of Energy
 3. Maryland Avenue
 4. L'Enfant Plaza

FESTIVAL PROGRAMMING

- Create areas for festival programming.

WAYFINDING

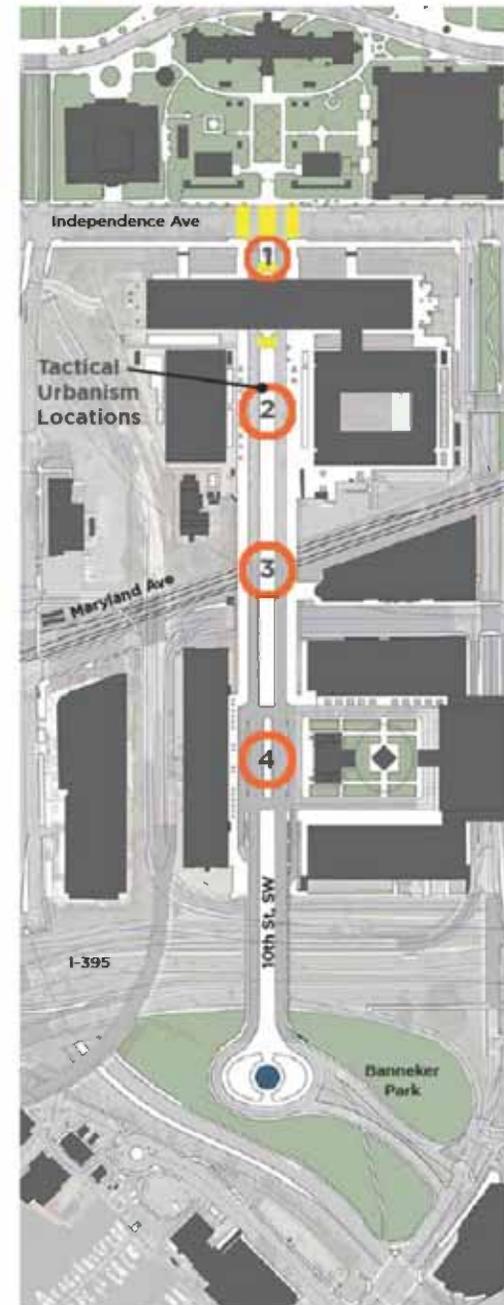
- Enhance wayfinding with lighting, signage, bike lanes, and furnishings.

Near-term improvement examples are provided on the following pages.

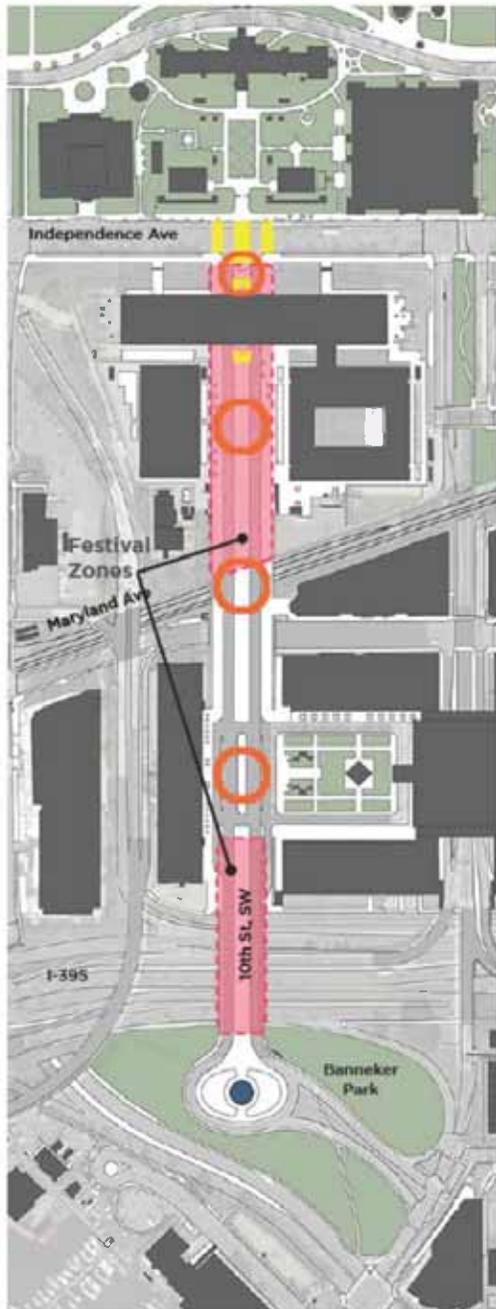
ENTRY



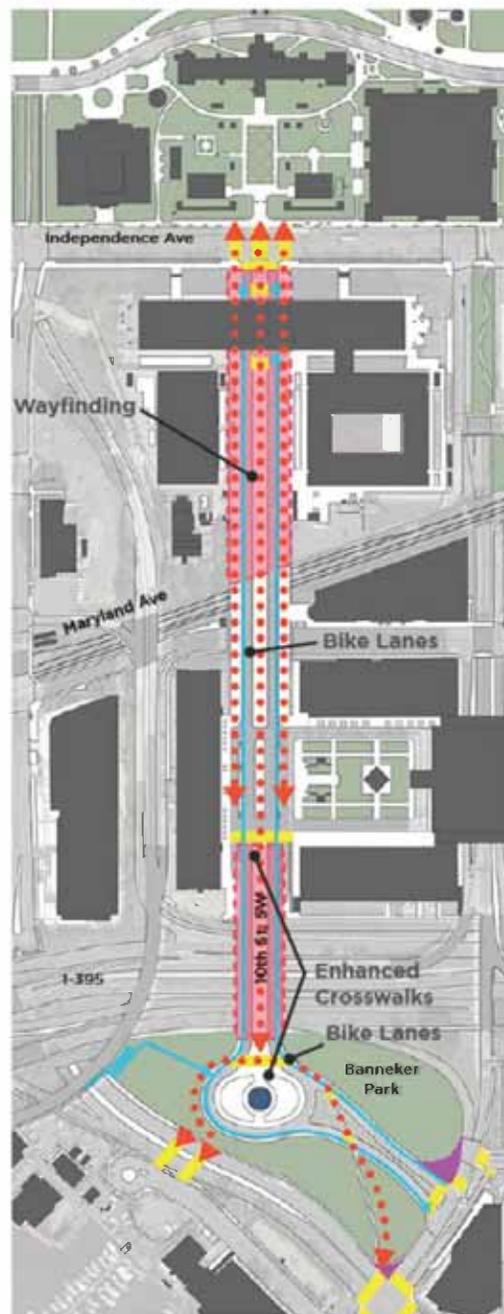
TACTICAL URBANISM



FESTIVAL PROGRAMMING



WAYFINDING



- Key
-  Enhanced Crosswalks
 -  Tactical Urbanism
 -  Area for Programming
 -  Wayfinding
 -  Bike Lanes
 -  Modified Turn Lanes

NEAR-TERM ENTRY, TACTICAL URBANISM, AND WAYFINDING

ENHANCED PEDESTRIAN CONNECTIONS AND TACTICAL URBANISM

Create opportunities for tactical urbanism at the Independence Avenue intersection and along the 10th Street corridor. These interventions, which are inexpensive and short-term, can be used to attract people and provide comfortable, usable spaces.

WAYFINDING

Use street art, lighting, and music to enhance the street;

- Enhance crosswalks, and wayfinding signs and create bike lanes.



Existing - Independence Ave. and 10th St., SW



Tactical Urbanism - paint, landscape and temporary furnishings



Wayfinding Strategies - may include signage, art, and lighting

NEAR-TERM PROGRAMMING

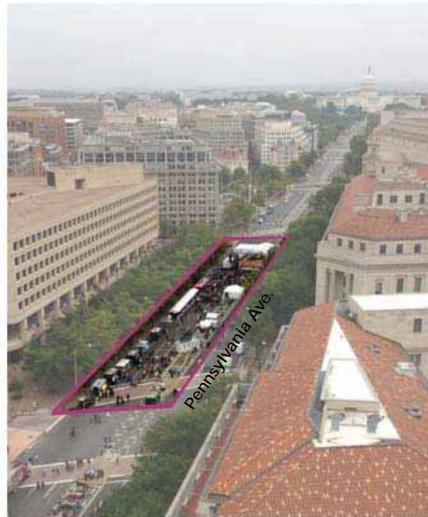
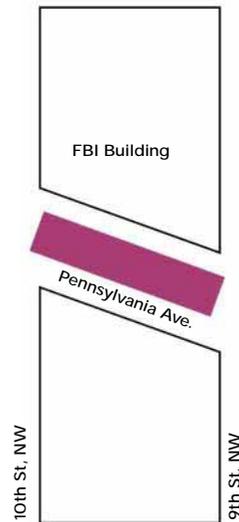
FESTIVAL PROGRAMMING

To attract festival programming and to relieve pressure on other areas of Washington, DC, such as the National Mall and Pennsylvania Avenue, NW, interested stakeholders should collaborate on promoting the 10th Street corridor as a viable festival site.

The diagrams to the right comparatively illustrate:

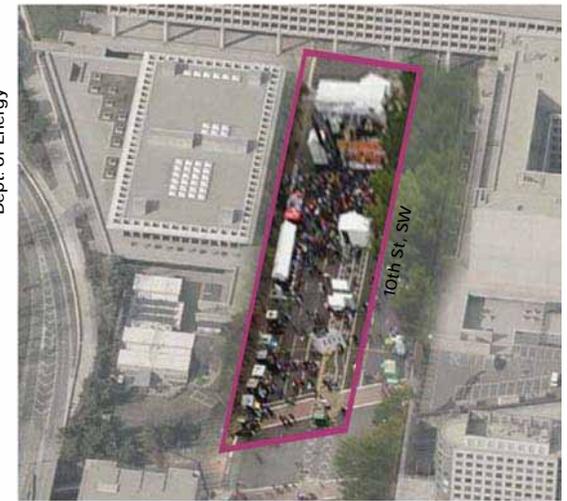
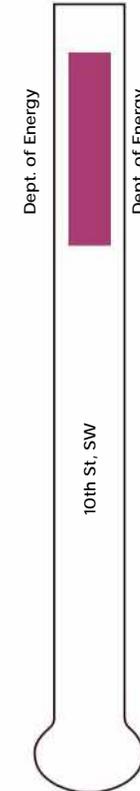
- An existing festival on Pennsylvania Avenue, NW which extends for approximately 400' in front of the F.B.I. building.
- How a similarly sized festival on 10th Street would extend from the U.S. Department of Energy building to Maryland Avenue, SW.

PENNSYLVANIA AVENUE, NW

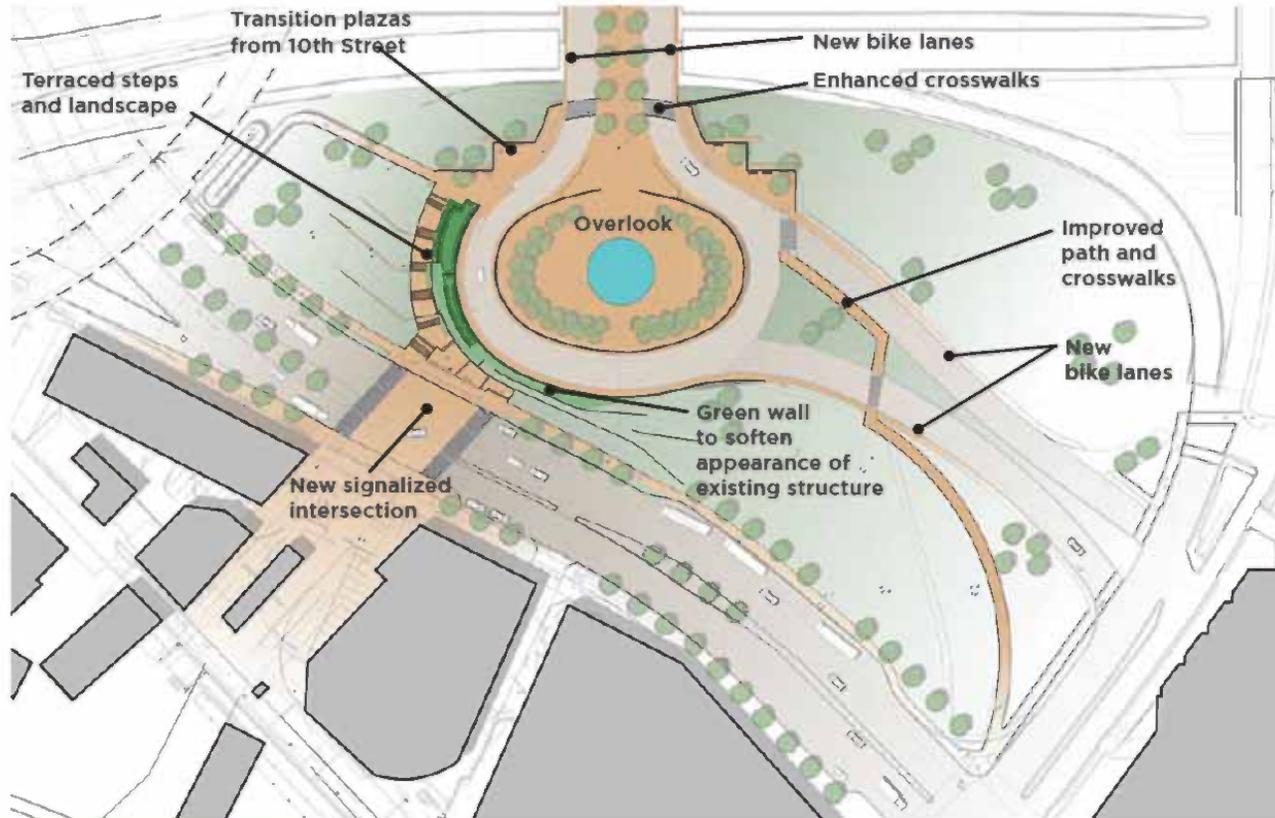


10TH STREET, SW

Independence Ave



Interim Banneker Connection



Example of potential green wall and terrace steps

PROPOSED CONCEPT

The proposed concept for the interim connection includes:

- Upgrading existing paths and crosswalks.
- Developing bike lanes by re-striping existing roadway.
- Creating terraced steps and landscape to connect the Overlook at Banneker Park with the waterfront.

The proposed steps will be terraced to allow for resting and viewing areas. The steps are located to take advantage of the protected view corridor of the river. ADA access is accommodated by upgrading the existing asphalt path that connects with the intersection of 7th Street and Maine Avenue. Bicyclists can also use this path in addition to new bike lanes

on the street around the circle. The concept proposes using landscaping and green walls to soften the existing structure and minimize visual impacts.

Further study is necessary to determine if small retaining walls are needed to stabilize the steep terrain. Similar to the proposed character of 10th Street, the elements and materials used for the interim connection should strike a balance between those used throughout the monumental core and city's streetscape palette in Southwest. Since the project is temporary, the overall design intent is intended to be simple, with clean lines, and enhanced vegetation.

CONCEPTUAL VISION - VIEW FROM THE NEW INTERSECTION, ON MAINE AVENUE LOOKING NORTH



Long-Term: 10th St, SW Design Recommendations



Existing view

RECOMMENDED DESIGN SECTION

During the development of the *SW Ecodistrict Plan*, the SW Ecodistrict Task Force identified a symmetrical boulevard design section as the preferred direction for 10th Street, SW, since it aligns the view corridor between the Smithsonian Castle and Banneker Park and offers the most flexibility for programming.

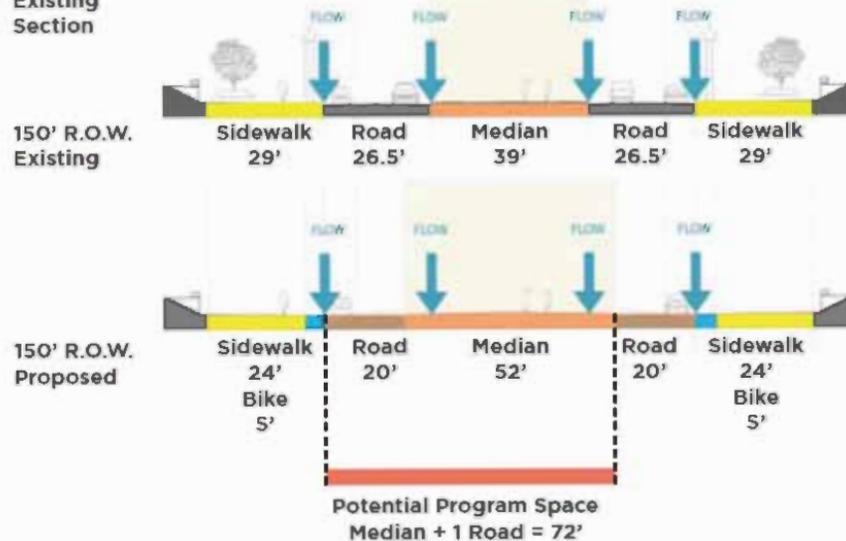
The concept study recommends maintaining the width of 10th Street at 150 feet but reconfigure it to provide a more generous median width and bike lanes. Low traffic projections on 10th Street allow for one traffic lane in each direction. While the right-of-way width will remain the same, it is expected that the new buildings will build to the property line to create an urban street building wall condition.

The Task Force recommends the following design strategies for long-term improvements:

- Increase width of median to improve use.
- Create the potential for a curbless environment.
- Minimize changes to outer curblines and drainage flow lines.



Existing Section



LONG-TERM POTENTIAL PROGRAMMING

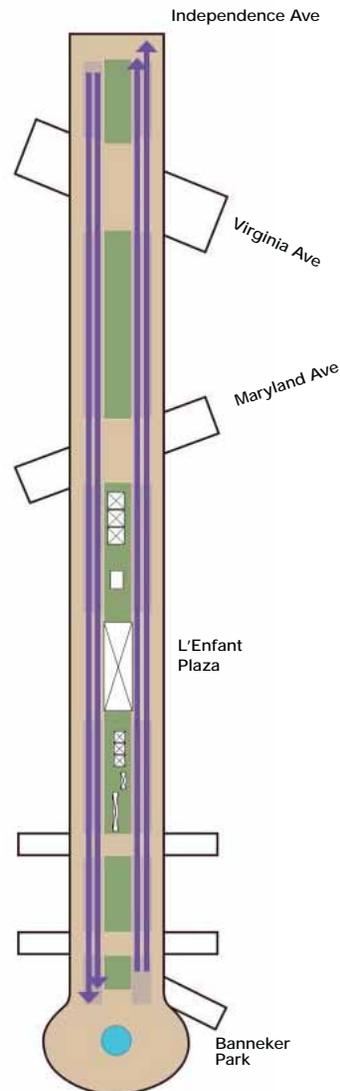
Potential future programming was considered in the design of 10th Street.

One of the *SW Ecodistrict Plan* goals is to move events from Pennsylvania Avenue and the National Mall to 10th Street. This will relieve pressure to overuse these places, as well help maintain the Mall's turf.

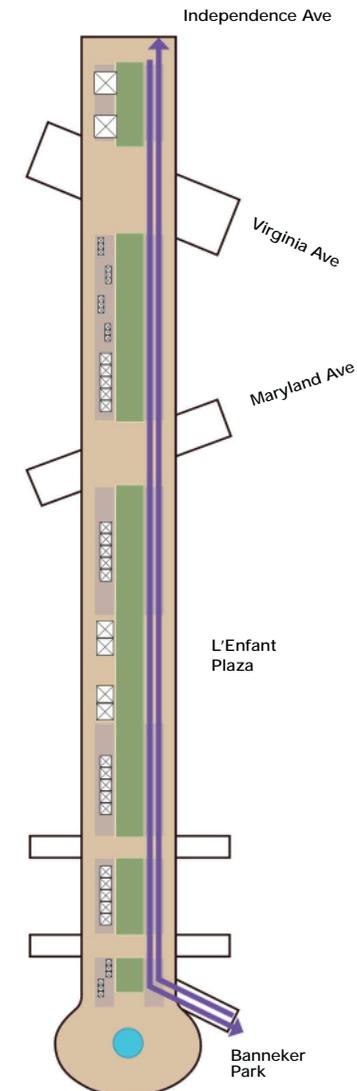
Information about the festivals' size, duration, and required facilities and utilities provided by the National Park Service was used to evaluate different street configurations.

The symmetrical center median will allow for a variety of festival programming. Smaller festivals may occupy hardscaped areas within the median. Larger festivals may be accommodated by closing traffic on one side of the median while maintaining two-directional traffic and emergency access on the other side.

SMALLER FESTIVAL
Urban Plaza -
Two One-Way Roads Remain in Use

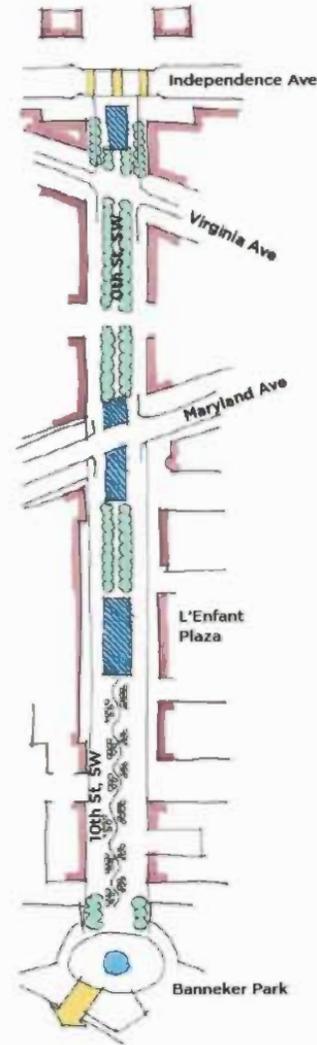


LARGER FESTIVAL
Entire Length of 10th St -
One Road Becomes Two-Way





CONCEPT SKETCH



An Urban Garden Promenade

The programmatic design concept incorporates elements of the hardscape, softscape, and waterscape concepts studied during the design process. The resulting concept is an “urban garden promenade” that functions more as a park/public space than it does a street. The promenade will serve as an extension of the National Mall, providing park space and accommodating both small and mid-sized events, while also providing vehicular and bicycle access.

The design concept includes strategies for incorporating water features and stormwater treatment, creating a tree canopy, providing enhanced pedestrian connectivity, and accommodating programming.

While the intent of this summary is not to prescribe specific details about materials and street furniture, the final concept provides guidance regarding overall character. The urban garden promenade is to be both unique with differentiating features from other parks in Washington, DC while also carrying through certain elements of the monumental core and the National Mall. These particular elements (whether it be a material or particular piece of street furniture) will be determined in later phases.

LONG-TERM DESIGN FRAMEWORK

GROUND PLANE



TREE CANOPY



PERMEABILITY



PROGRAMMING



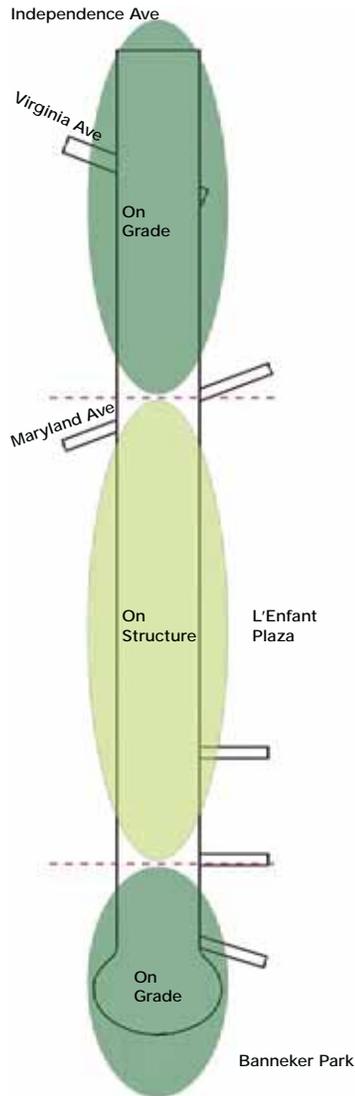
TREE CANOPY AND INTEGRATED STORMWATER MANAGEMENT

The development of the design concept evaluated the existing bridge structure to guide a strategy for creating an enhanced tree canopy where possible.

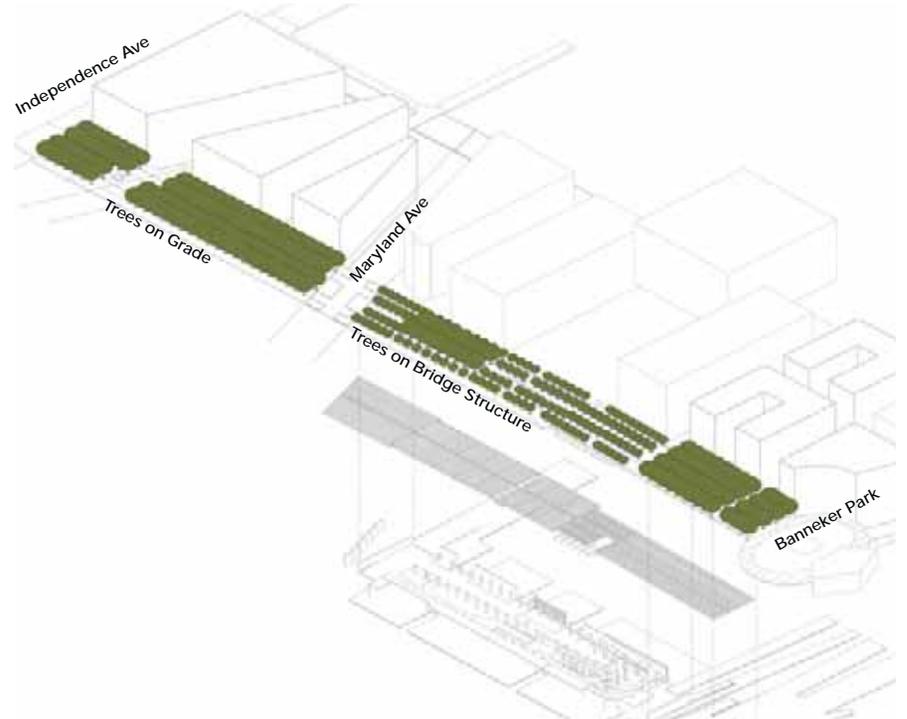
The design concept anticipates that where the road is on grade, full size trees should be planned on grade. At locations along the bridge where the midspan structure is not needed, it may be removed to create an area for increased soil capacity and stormwater management. Where the bridge structure and ramps do not allow for significant planting depth, the concept anticipates smaller trees planted in closer proximity.

To integrate stormwater into the design, the Task Force recommends locating cisterns along the corridor, where feasible, to accommodate collection and reuse strategies. For more detailed information, refer to the *SW Ecodistrict Stormwater Infrastructure Study* (<http://www.ncpc.gov/plans/SWEco-Stormwater.pdf>).

Grade vs. Structure Diagram



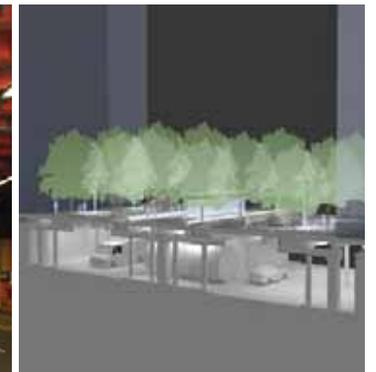
Bridge Structure / Tree Canopy Analysis Diagram



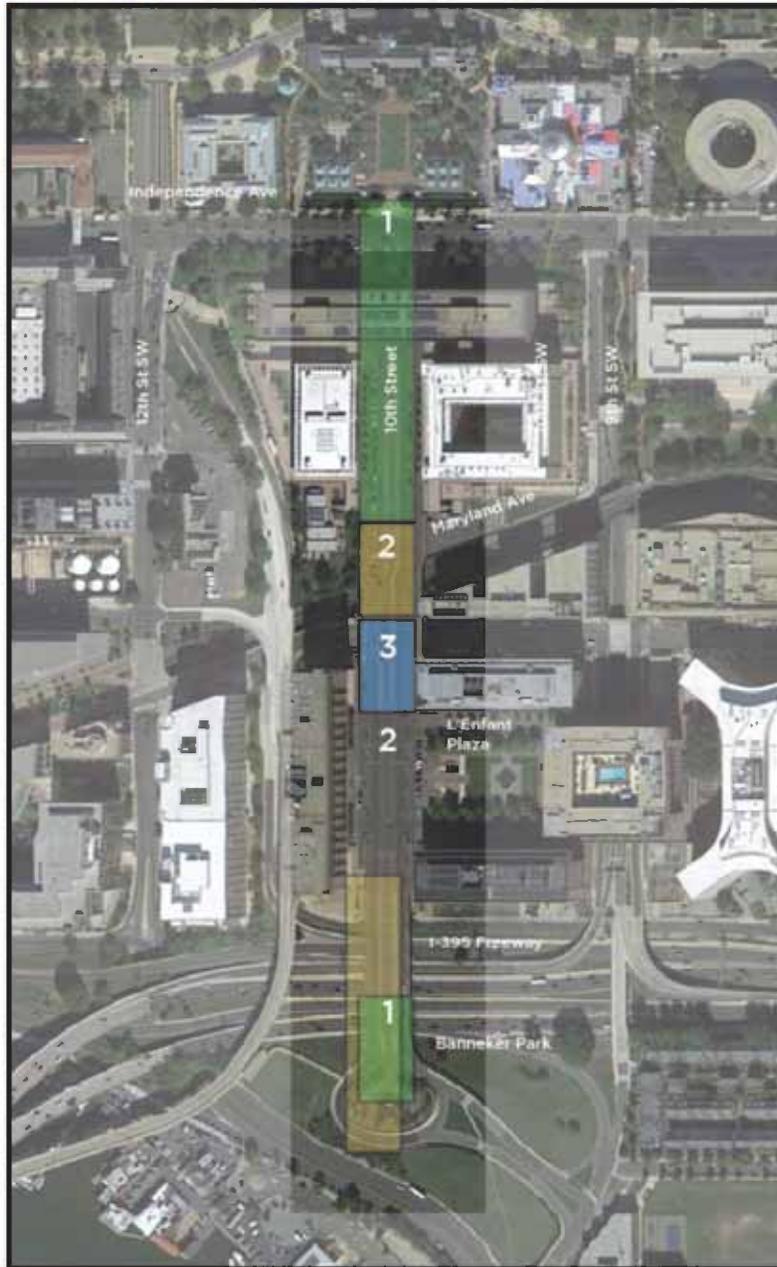
Existing bridge structure at L'Enfant Plaza



Illustration of bridge structure and potential cisterns



STRATEGY DIAGRAM



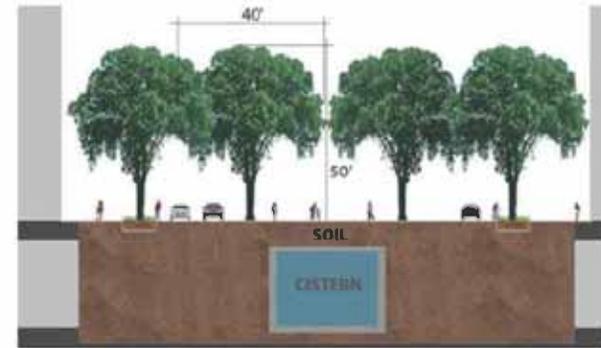
DESIGN CONCEPT SECTIONS

Key Strategy

1 Design for full growth trees where street is constructed on grade

2 Reinforce bridge structure to accommodate tree wells

3 Reconstruct bridge midspan to accommodate rainwater cistern and soil for full growth trees



An Urban Garden Promenade

AN INDEPENDENCE AVENUE "MAGNET"

At Independence Avenue and 10th Street it is envisioned that a large and engaging water feature, public art, and landscaping with tall trees will attract people to the promenade's entrance.



Preliminary design sketch - view across Independence Avenue



An interactive water feature may be used to attract people into the SW Ecodistrict

VIEW 1



THE LINEAR GARDEN

In between Virginia and Maryland Avenues, the design is a linear garden with the largest of the trees on 10th Street. The design also includes extensive landscaping, and a linear system of small scale water features and bioswales.



Existing view



Preliminary design sketch



Design concept rendering

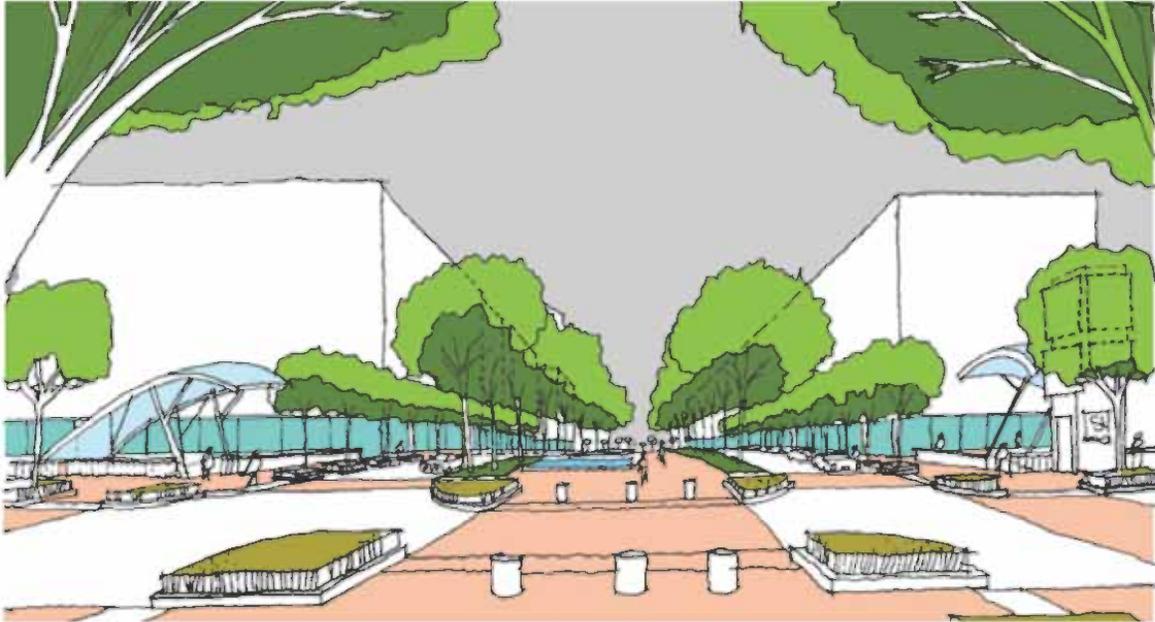
VIEW 2



An Urban Garden Promenade

MARYLAND AVENUE AND 10TH STREET WITH ACCESS TO D STREET

The intersection of Maryland Avenue and 10th Street may be a cultural node enhanced by the potential decking of Maryland Avenue with improved vertical connections for pedestrians to D Street.



Preliminary Design Sketch - view across the Maryland Avenue, SW and 10th Street, SW Intersection

VIEW 3



THE URBAN PLAZA

At the highest elevation of 10th Street between L'Enfant Plaza and the U.S. Post Office building, a major plaza may become the centerpiece of the street redesign.

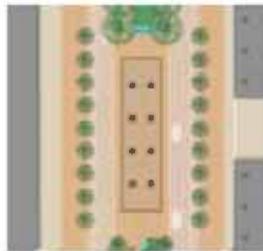


Preliminary design sketch

The Urban Plaza may be developed in a variety of approaches and built environments:



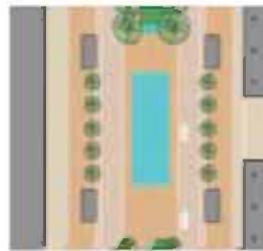
A framed water feature in the median



An architectural feature in the median



The plaza design encompasses the right-of-way



The plaza is designed from building face to building face



VIEW 4



An Urban Garden Promenade

A SERIES OF GARDEN ROOMS

Between the Urban Plaza and the Overlook at Banneker Park, 10th Street is a bridge structure. The street will become a series of garden rooms with linear, clustered plantings and cascading water elements.



Existing view



Potential design precedents



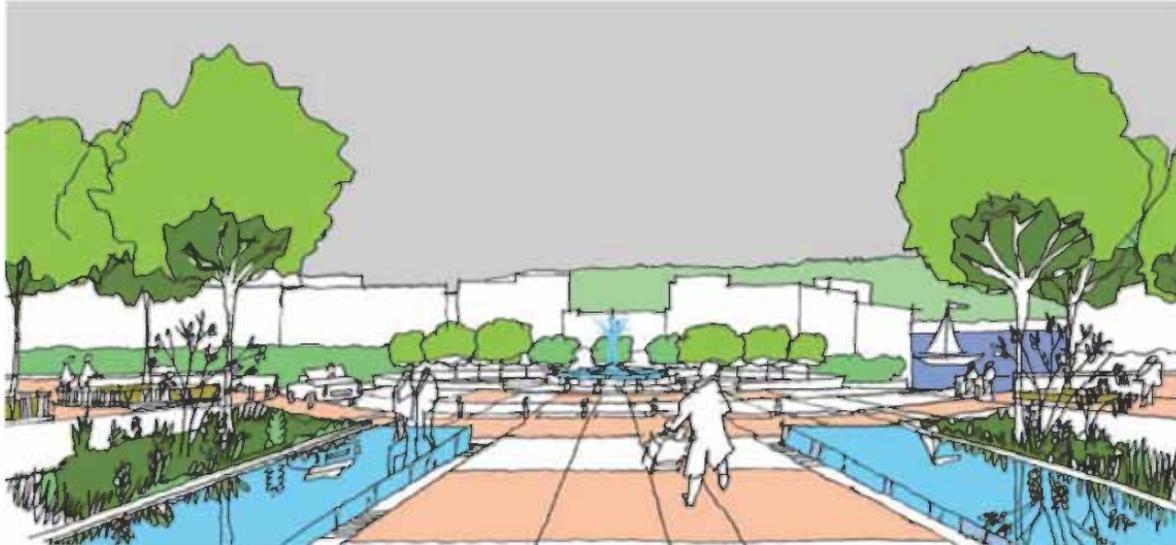
Design concept rendering

VIEW 5



THE APPROACH TO BANNEKER

Once over the freeway, the design of 10th Street will start to transition to Banneker Park and the waterfront with smaller cascading water features and landscaping.



Preliminary design sketch - view of Banneker Park and the future Wharf development



Potential design precedents

VIEW 6



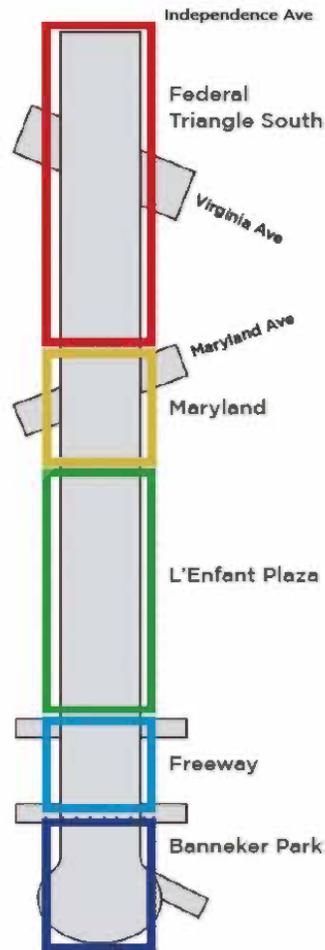


2

Potential Phasing and Preliminary Conceptual Budget



PHASING DIAGRAM



Potential Phasing

Ideally, the 10th Street streetscape should be designed and constructed as one cohesive project. However, due to complex existing conditions, it is likely that the project may be constructed over a period of several years. This makes it more important to prepare comprehensive final design and construction plans that can be implemented in phases. This will ensure a beautifully designed and cohesive street that will meet the objectives of the *SW Ecodistrict Plan*.

- The area between Independence and Maryland Avenues will likely redevelop in conjunction with GSA's Federal Triangle South project.
- The intersection of Maryland Avenue and 10th Street will likely be improved in conjunction with the establishment of Maryland Avenue, once the CSX rail tracks are decked.
- The area between Maryland Avenue and the freeway, in front of L'Enfant Plaza, will likely be constructed concurrent with JBG's proposed office building to be located in the center court of the L'Enfant Plaza complex.
- Improvements to the section over the freeway will likely be coordinated with the development of the air rights over the freeway or with improvements to Banneker Park.
- The interim connection from Banneker Park to the waterfront will be built in coordination with The Wharf development project on the waterfront. Permanent improvements to Banneker Park will occur in conjunction with future cultural or commemorative development.

Preliminary Conceptual Budget

The development of the improvements recommended in this report will require federal and District agency coordination and innovative public-private partnerships. This will allow for the SW Ecodistrict to evolve into a more livable and highly sustainable mixed-use community.

PREVIOUS STUDIES AND INTERIM IMPROVEMENTS

In 2005, an Environmental Assessment for the L'Enfant Promenade and Benjamin Banneker Park improvements identified potential improvements and necessary rehabilitation costs for 10th Street. These costs, in 2005 dollars, ranged from \$21 million for short-term rehabilitation and enhancement up to \$57 million for complete reconstruction of the L'Enfant Promenade.

In 2012, the District Department of Transportation undertook a rehabilitation of the 9th and 10th Street Bridges over the SW Freeway which included necessary repair work to girders and parapet panels on the 10th Street Bridge. Additional rehabilitation work was also performed along 10th Street, SW that included repairs to lighting and paving.

PROGRAMMATIC DESIGN CONCEPTS

The following information provides a high-level conceptual budget to inform the next steps for improving the 10th Street corridor. The following potential cost ranges were quantified based on square foot costs of comparable projects developed in Washington, DC.

Near-Term Improvements

- Tactical Urbanism Strategies: Improvements may include movable furniture, lighting, signage, tree planters and street striping/painting. The potential budget for each intervention may range from \$25,000 to \$200,000
- Interim Banneker Connection: - Improvements include enhanced crosswalks, a new stairway, an improved ADA pathway, greenwall improvements to the Banneker Fountain retaining wall, and roadway striping for new bike lanes. The potential budget range is \$2.5 to \$4 Million. This does not include any costs associated with reinforcing the existing site

walls and structure. Detailed studies of the existing facilities have not been undertaken.

Long-Term Improvements

- Stormwater Infrastructure: The recommendations for 10th Street include the implementation of a district wide stormwater system. The potential budget for this system, as detailed in the *Stormwater Infrastructure Plan*, is \$20 to \$24 million. The cost of this improvement is intended to be a shared public-private investment that can be implemented in phases as illustrated in this report.
- Bridge Structure Improvements: In order to support a healthy tree canopy and a low impact development strategy as part of the streetscape, the existing bridges (#517, #1114, #1108) will require structural enhancements. The potential costs may range from \$6 to \$8 million for reinforcing, and \$8 to \$10 million for partial reconstruction of bridge spans to accommodate full depth planting and cisterns (Design Concept 3, page 15). The bridge widening over I-395, (from the existing 100' width to 150' width to match the recommended 10th Street section) may be implemented in conjunction with air-rights development for potentially \$6 to \$7 million.
- Streetscape Improvements: Roadway, Median, Sidewalks, Landscaping, and Bike Lanes. The potential cost for recommended improvements to the 10th Street Right-of-way is \$14 to \$22 million. During the next phase of design, detailed costing for significant features such as interactive fountains, potential kiosks, and public art will need to be developed in addition to further refinement of streetscape improvements.

PROGRAMMING, OPERATIONS AND MAINTENANCE COSTS:

The conceptual budget does not include allowances for programming, operations and maintenance. The next phase of design development should incorporate these costs to ensure that investment in the public realm maintains its value and is an enhancement to the adjacent development.

