



#### ANTHONY A. WILLIAMS

September 2003

Dear Friend of the Anacostia Waterfront:

Three years ago representatives from eighteen Federal and District agencies met on the Anacostia River to join me in signing the agreement creating Anacostia Waterfront Initiative. This historic partnership seeks to connect communities across the river, clean the water, bring people to the waterfront and make the river a new center of growth for the District.

The District Department of Transportation has begun to meet these objectives with the South Capitol Gateway and Corridor Improvement Study. As presented in the study, the challenge is great for all parties. In particular, the current South Capitol Street/Frederick Douglass Bridge and associated highways, isolates people from this great resource.

Since much of the infrastructure, including South Capitol Street Bridge, has reached the end of its useful life, we have complementing opportunities: replacing the South Capitol Street Bridge will help fulfill the goals of AWI. The study proposes a new bridge that is the centerpiece for a grand boulevard and a fitting gateway to our nation's capital. In addition, to divert traffic from the bridge, the study recommends a new tunnel and interchange from 1-295 and Suitland Parkway to 1-395 and downtown.

This study could not have been completed and AWI cannot be realized without congressional and federal agency backing. In particular, I want to thank Congresswoman Eleanor Holmes Norton and Congressman Steny Hoyer for bringing the public's and Congress's attention to South Capitol Street's problems and potential. Support from the U.S. Department of Transportation and the Federal Highway Administration has also been invaluable.

Reconstruction of the South Capitol Street corridor is essential to implementing AWI. This study is a key step in assuring that future transportation improvements will benefit the corridor's neighborhoods, the District of Columbia and the nation's capital.

Anthony A. Williams

#### GOVERNMENT OF THE DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION

September 2003

Office of the Director

Dear Mayor Williams:

I am proud to present the District Department of Transportation's South Capitol Gateway and Corridor Improvement Study, a major step forward to realizing your vision for the Anacostia River as embodied in the Anacostia Waterfront Initiative.

Building on previous work by other agencies, specifically the urban design concepts from the National Capital Planning Commission and the D.C. Office of Planning, the study recommends replacing the 1950s South Capitol/Frederick Douglass Bridge and nearby highway with a new bridge and tunnel. The new signature bridge will transform the South Capitol Street corridor into a draw for people to live, work and enjoy the waterfront and the river. It will be sensitively designed to connect travelers and the neighborhoods to the river. The new tunnel and interchange will furnel commuter traffic to the city center.

Thoughtful planning, new design and construction techniques, and innovative contracting methods will allow us to build the bridge, tunnel, boulevard and light rail with reduced impacts to the community and environment. We now have the technologies to reduce noise, shorten construction time, reduce impacts to traffic, and improve the quality of steem water run-off. We intend to employ the innovation available to us and foster new innovation in promoting the health of our community and environment.

Completion of this study has been possible through the portnership of the Interagency Coordinating Committee, the U.S Department of Transportation, including the Federal Highway Administration, and the District and Federal agencies participating in AWI.

We look forward to the challenges ahead and to helping the communities along the Anacostia realize their potential.

Sincerely,

Dan Tangherlini

Director

107th Congress, First Session Report 107–108 November 30, 2001

MAKING APPROPRIATIONS FOR THE DEPARTMENT OF TRANSPORTATION AND RELATED AGENCIES FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2002, AND FOR OTHER PURPOSES

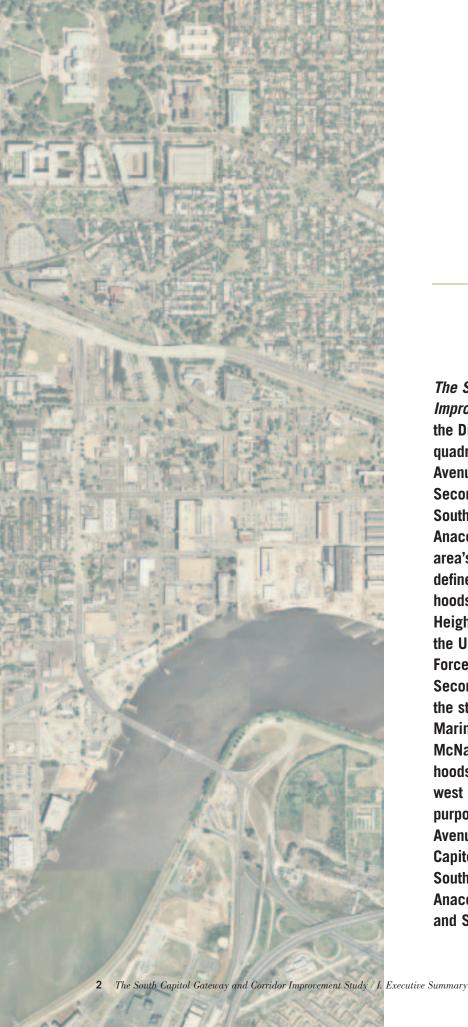
# TITLE I DEPARTMENT OF TRANSPORTATION OFFICE OF THE SECRETARY

South Capitol Gateway. The Secretary, in cooperation with the District of Columbia Department of Transportation, the District of Columbia National Capital Revitalization Corporation, and the Department of the Interior and in consultation with the National Capital Planning Commission and other interested parties, shall conduct a study of methods to make improvements to promote commercial, recreational, and residential activities and to improve pedestrian and vehicular access on South Capitol Street and the Frederick Douglass Bridge between Independence Avenue and the Suitland Parkway, and on New Jersey Avenue between Independence Avenue and M Street Southeast in Washington, DC. Not later than September 20, 2003, the Secretary shall transmit to the House and Senate Committees on Appropriations a report containing the results of the study with an assessment of the impacts (including environmental, aesthetic, economic, and historical impacts) associated with the implementation of each of the methods examined under the study.

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The South Capitol Gateway and Corridor Improvement Study considers the central spine of the District of Columbia's southeast and southwest quadrants. The U.S. Capitol and Independence Avenue mark the study area's northern edge. **Second Street SE from Independence Avenue to the** Southeast Federal Center and, across the Anacostia River, Anacostia Park constitute the area's eastern boundary. The southern edge is defined by the Barry Farm and Anacostia neighborhoods; just beyond the study area lie the Congress Heights and Washington Highlands neighborhoods, the United States Naval Reservation, Bolling Air Force Base, and Prince George's County, Maryland. Second Street SW is the western boundary; west of the study area are the Washington Channel and Marina, East Potomac Park, and Fort Lesley J. McNair. Although there are residential neighborhoods in the study area, most of the area north and west of the river is currently used for industrial purposes. The study area includes New Jersey **Avenue SE, the Southeast Federal Center, the South Capitol Street interchange with the Southeast-**Southwest Freeway (I-395), Poplar Point, the Anacostia Metrorail station area, and the I-295 and Suitland Parkway interchange.

#### I. Executive Summary



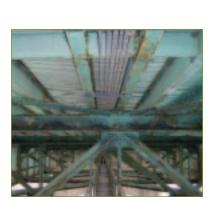
View of the new South Capitol Street toward the U.S. Capitol dome

Washington, D.C. represents the physical manifestation of America's democratic ideals. The Capitol, the White House, the Washington Monument, and the city's memorials connected by a tree-lined network of streets and parks present iconic images of the nation's political aspirations. These magnificent symbols are particularly powerful when perceived from a distance, as they dominate the skyline and the city surrounding them.

There are vistas in the nation's capital that present a very different image. The current view up South Capitol Street shows the Capitol dome obscured by a tangle of freeway and railroad overpasses. The street itself is a ragged thoroughfare lined intermittently with gas stations, fast-food restaurants, and vacant lots. A few distressed trees along the corridor are the only hints of green along narrow sidewalks. The state of South Capitol Street eclipses the U.S. Capitol's significance as Washington's most prominent building and undercuts its symbolic importance to the nation. It also demonstrates how the neighborhoods south of the U.S. Capitol have been devastated over the past fifty years.



Current view of South Capitol Street with U.S. Capitol dome from M Street SE



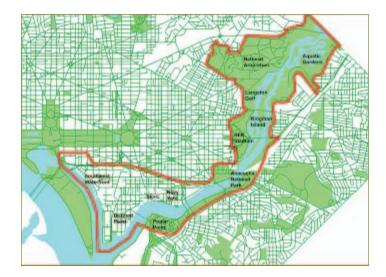
Steel corrosion in the Frederick Douglass Memorial Bridge structure



The Anacostia River and the surrounding area included in the Anacostia Waterfront Initiative

South Capitol Street's bleak appearance underscores other pressing problems. South Capitol Street does not function effectively as a local street because its freeway characteristics separate it from the neighborhood. All along South Capitol Street, the shortage of fully functional intersections combined with a long viaduct structure elevated over the neighborhood disconnects it from adjoining cross streets. As a result, local access is difficult and it is underutilized as a commercial corridor. Even though it is currently an arterial roadway designed to handle high traffic volumes, South Capitol Street is jammed during peak travel times. Some of its intersections have the District's highest accident rates. Perhaps most urgently, South Capitol Street's crumbling infrastructure—including the Frederick Douglass Memorial Bridge—is in serious need of substantial repair or outright replacement. This study has identified solutions to these problems and a course of action.

Within months of taking office in 1999, District of Columbia Mayor Anthony A. Williams acknowledged that South Capitol Street's problems were indicative of the chronic disinvestment in much of the city's southeast and southwest quadrants. Even while other parts of Washington began experiencing a remarkable resurgence during the late 1990s, South Capitol Street and its surroundings languished. As a result, the Williams administration has made the rebirth of this area a top priority.



Anacostia Waterfront Initiative study area

To achieve this goal, Mayor Williams launched the Anacostia Waterfront Initiative in 2000, which seeks to reclaim, restore, and rejuvenate the river and the 2,800 acres along its banks. The National Capital Planning Commission first proposed this vision in 1997. Subsequently, the Anacostia Waterfront Initiative has fostered an unprecedented collaboration between the District of Columbia government and numerous federal agencies including NCPC. Together, they are working to craft solutions for this long-neglected part of Washington, including South Capitol Street.

Congress and the U.S. Department of Transportation have recognized both the urgent problems along the Anacostia River and the Williams Administration's efforts to solve them. Congress allocated funds in FY2002 to study alternatives to South Capitol Street's current condition. These funds have allowed the District Department of Transportation to examine how to improve the corridor's aesthetic qualities, encourage multimodal traffic, improve local neighborhood access, and foster mixed-use development. The South Capitol Gateway and Corridor Improvement Study outlines solutions to these problems that are both technically and financially feasible.

Within the framework established by the Anacostia Waterfront Initiative, this study considers the history of South Capitol Street and its surroundings. It documents and analyzes the corridor's existing conditions. It then provides a detailed vision of how South Capitol Street can be reshaped into a welcoming street that is both beautiful and buildable.

Transforming South Capitol Street from an unsightly thoroughfare into a grand urban gateway will help unify Washington's neighborhoods and federal facilities rather than dividing them.



The Anacostia River Parks shown all together like pearls on a string



Perspective of Half Street SE showing dedicated trolley lanes



Underutilized street in southeast Washington near the South Capitol Street corridor

Replace the deteriorated Frederick Douglass Memorial Bridge with a world-class structure.

Transform South Capitol Street from a neglected corridor and high-speed thoroughfare into a gracious urban gateway with the spatial, aesthetic, and symbolic qualities worthy of a worldclass capital city. This tree-lined avenue will serve the District of Columbia, the Washington Metropolitan Region, and visitors from across the nation and around the world.

Provide an efficient, convenient, and visually pleasing transportation system that connects surrounding neighborhoods and handles commuter trips with minimal disruption to local residents. Constructing this network will require a fundamental reconfiguration of the current jumble of expressways and streets. This effort will also restore L'Enfant's original street configuration wherever possible.

Accommodate transit, cyclists, and pedestrians by removing median barriers and building at-grade intersections with crosswalks, traffic signals, and roundabouts. Signalized intersections will allow pedestrians, cyclists, and transit riders to navigate the corridor more easily. Their traffic-calming effect will make the street safer for everyone who uses it, including drivers in private vehicles.

Link South Capitol Street physically and aesthetically to Washington's Monumental Core by creating a grand and ceremonial street that will also provide the appropriate setting for future memorials, museums, and other public buildings.

Create transportation infrastructure that will encourage new housing, retail, and other amenities, making South Capitol and its surroundings a wonderful place to live, work, and shop. Such private investment will strengthen the existing communities, as well as draw new residents and visitors to the area.

Provide better access from South Capitol Street to both banks of the Anacostia River, including Buzzard Point, Poplar Point to the north, and historic Anacostia to the south.

**Ensure that South Capitol Street enhances both homeland and** national security by serving as a central, multimodal evacuation route in case of emergency and connecting Washington to nearby military installations including the Washington Navy Yard and Anacostia Annex, Fort McNair, Andrews Air Force Base, and **Bolling Air Force Base.** 

Achieve all goals through extensive and thoughtful public involvement, engaging citizens and building consensus in implementing the study's recommendations.



Perspective of South Capitol Street and Potomac Avenue



Current view of South Capitol Street from the intersection of Eye Street SW

- The South Capitol Street Corridor can provide a comprehensive solution to future transportation needs by creating new transportation facilities on land already devoted to the existing streets and by adding a new tunnel linking I-295 and I-395. South Capitol Street can become a grand urban boulevard within the existing 130-foot street section, serving as part of a balanced and sustainable transportation system. The network can include transit, bicycle, and pedestrian improvements while also handling current and future traffic volumes.
- A new Frederick Douglass Memorial Bridge can serve as both the aesthetic and functional bond between the banks of the Anacostia River. An entirely new design for the bridge will allow it to be lower, more urban in scale, more suitable for multimodal travel, and more appropriate in massing and architectural detail than the current structure. The new bridge's improved alignment would dramatically improve the vista toward the U.S. Capitol and the Monumental Core from the Anacostia River. The bridge's new location will also present new opportunities for public parks, monuments, and memorials along both banks of the river.

### Findings

- Transforming South Capitol Street into an urban gateway worthy of the nation's capital could be accomplished by removing the Southeast Freeway. This could be possible by constructing a tunnel connecting South Capitol Street's through traffic to an artery leading to I-395.
- A transportation network based on a Zone of Improvements between South Capitol Street and Van or Half Street could handle some traffic growth by increasing transportation choices in the network. This area would accommodate additional transit and potentially an intermodal transfer center at the Navy Yard Metrorail station. These improvements would handle the increase in trips predicted by 2025.
- Investing in transit is critical to accommodating future travel demands, which will inevitably increase from new development along the corridor. Expanding this system could include increasing Metrorail Green Line trains, improving access to Green Line stations, introducing light rail lines, supporting commuter bus lines, improving local bus services, building a new and expanded Metrobus garage in this part of the city, and facilitating intermodal transfer.



Light rail station in Denver

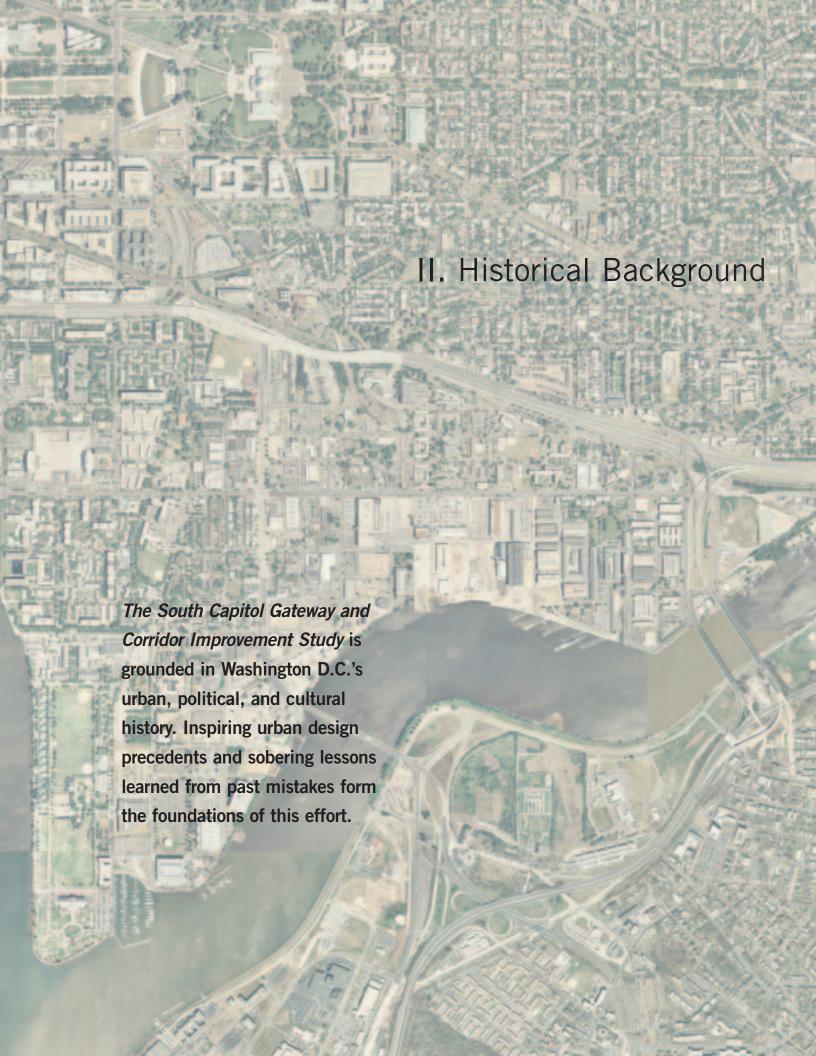
- The South Capitol Street-Suitland Parkway-I-295 interchange on Poplar Point can be radically changed to improve traffic safety and improve access to the Anacostia River. Reconfiguring the transportation infrastructure could free up 20 acres of land currently consumed by roadways. This can foster economic development while also creating new opportunities for public parks.
- Improvements to South Capitol Street would encourage mixeduse development, both along the corridor and in adjacent neighborhoods.
- Vacant and underutilized industrial properties on the east side of South Capitol Street present numerous opportunities to create a Zone of Improvements that could include a series of new parks and public spaces.
- Creating the South Capitol Street Gateway appears not to require the purchase of any private residences because existing street right-of-way can largely accommodate the needed transportation facilities with a tree-lined, six-lane boulevard with generous sidewalks.

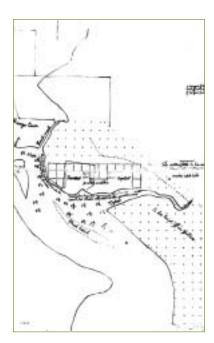


Perspective of the west bridge abutment at South Capitol Street, which allows access from the new bridge to the parkland along the Anacostia River



Current view of the Frederick Douglass Memorial Bridge with a concrete plant in the foreground





Thomas Jefferson's sketch of the Federal City, c. 1791

The city of Washington in the District of Columbia was founded in 1791 to serve as the capital of the recently formed United States of America. The Founding Fathers were not only experts in politics and government; they were also knowledgeable builders. George Washington, Thomas Jefferson, James Madison, George Mason, and Alexander Hamilton all had strong ideas about the appropriate urban and architectural character of the Federal City. After framing the civil structure of the United States, they created a capital from which the new nation could govern.

The Founders were acquainted with and influenced by European cities, from ancient Athens to modern London, Paris, and Rome. They also drew upon their first-hand knowledge of Boston, Annapolis, Philadelphia, Williamsburg, and Richmond. The Federal City had to fit within the framework established by these colonial settlements. But unlike them, it would—like the U.S. Constitution—be an entirely new and distinctly American synthesis of political ideals expressed in urban form.

George Washington and Thomas Jefferson—both surveyors and amateur architects—were instrumental in the Federal City's design. Washington personally selected its site at the confluence of the Anacostia and Potomac Rivers. Jefferson's preliminary drawing of the city demonstrates his interest in articulating the Constitution's balance of powers by locating the Capitol and the President's House in equally prominent locations near a grand open space. The Founding Fathers' ideas contributed significantly to the efforts of Pierre Charles L'Enfant, the French architect and engineer hired to develop the plan.

## II. Historical Background



Pierre Charles L'Enfant's Plan for the Federal City, 1791

L'Enfant's plan combines the grid street system typical of American cities superimposed with a network of broad avenues radiating from the Capitol, the President's House, and other ceremonial public locations. L'Enfant's ingenious juxtaposition of narrow, perpendicular streets with wide, diagonal thoroughfares created open spaces both large and small for public buildings and parks.



Thomas Circle c. 1890



Farragut Square c. 1875



New York Avenue lined with trees and streetcar tracks in the center, c. 1945

Washington quickly became punctuated with public circles and squares, and its streets planted with rows of closely spaced deciduous trees. Washington was so famous for its lush green canopy that it became known as the "City of Trees." These shaded thoroughfares carried pedestrians, horse-drawn vehicles, and by the end of the 19th century, electric streetcars.

Washington's gracious, tree-lined avenues were named for the original thirteen states. Radiating from the Capitol, for example, were avenues named for Pennsylvania, Delaware, and New Jersey. Naming the city's most important streets after prominent states was shrewd both politically and urbanistically. The former colonies had misgivings about surrendering their autonomy to this fledging nation. Their inclusion in Washington's grand plan suggests their critical role as partners with the other states in what was considered little more than a democratic experiment.

The U.S. Capitol, placed on Jenkins Hill at the highest point in the city, represents the nucleus of the L'Enfant Plan. From it, three 130-foot wide boulevards—North, South, and East Capitol Streets—and a large parade ground to the west divided the city into four quadrants. South Capitol Street was initially the most prominent of these thoroughfares, since it served as the primary entrance to the city for those arriving by boat.

Within decades of the District of Columbia's founding, South Capitol Street became the urban backbone of the city's industrial section. Although Boston, New York, New Haven, Philadelphia, and Baltimore were America's manufacturing and commercial centers during the 19th century, Washington contained dozens of ship building companies and other manufacturing enterprises along its waterfront. Many of these supported the Washington Navy Yard, which was the city's largest employer during the 19th century.



Rendering of Washington from across the Anacostia River. c. 1850



View of Washington industrial sections in southeast and southwest from 2nd Street SE, 1860s

The industrial character of South Capitol Street and its surroundings was firmly established by the outbreak of the Civil War 1861. Much of the munitions that supplied the Union Army were either manufactured or processed there. South Capitol Street and the adjacent quadrants became home to thousands of immigrants and former slaves who flocked to Washington to work in the factories there.

South Capitol Street's potential as the city's ceremonial gateway was eclipsed in the 1880s when an elevated railroad track was built over it along the alignment of Virginia Avenue. By the end of the 19th century, much of the Founding Fathers' intentions for Washington's ceremonial center had been lost. This was most apparent west of the U.S. Capitol, where L'Enfant's parade ground had been replaced with a series of picturesque gardens designed in the 1850s by A.J. Downing. The train tracks built over South Capitol Street terminated at a train station built by the Baltimore and Potomac Railroad at the foot of Capitol Hill.



View of southeast Washington down 10th Street, c. 1860



Central Washington with U.S. Capitol in the background, c. 1900



Aerial Perspective of the National Mall in Washington, D.C. by the McMillan Commission, 1901



Plan for Washington's Monumental Core by the McMillan Commission, 1901

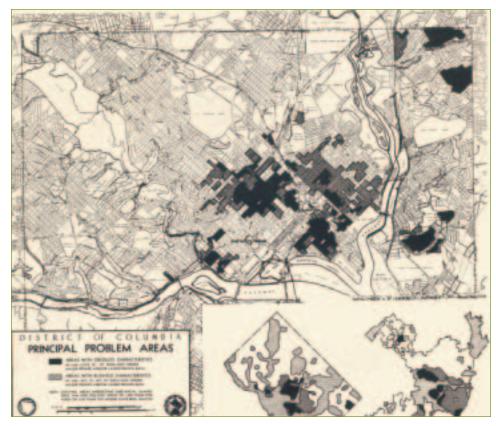


Proposed Park System as part of the McMillian Commisson, 1901

The annual meeting of the American Institute of Architects (AIA), held in Washington in 1900, focused much of the new organization's energies on the capital city's urban state of affairs. Although the United States had recently stormed onto the world stage with its victory in the Spanish-American War, its capital city did not look at all like an international center of democracy. President Theodore Roosevelt's rough rider persona had catapulted him into American politics. However, he was not inclined to govern from a city that resembled a frontier outpost.

The AIA's efforts and the support of the Roosevelt Administration led to the creation of the Senate Park Commission chaired by Michigan Senator James McMillan. Chicago architect Daniel Burnham became the lead designer on the project. He was joined by some of the most talented artisans of the day, including architect Charles Follen McKim, sculptor Augustus St. Gaudens, and landscape architect Frederick Law Olmsted, Jr.

After an extensive European study trip, the McMillan Commission produced the plan that created modern Washington's Monumental Core. McKim and his colleagues reinstated the L'Enfant Plan as the city's primary framework. L'Enfant's original parade ground was rejuvenated, clarified, and expanded. Its extension to the west included a memorial to Abraham Lincoln and a bridge over the Potomac River to Virginia, symbolizing the unity between North and South forged by the Great Emancipator. The McMillan Commission also proposed making Washington's Monumental Core just one element in an extensive park system including thousands of acres from Rock Creek Park to the banks of the Anacostia River.



District of Columbia Principal Problem Areas, National Capital Park and Planning Commission, 1950

Over the next fifty years, the McMillan Plan reshaped Washington's Monumental Core. This included moving the railroad terminal off the Mall and building Union Station just north of the Capitol on Massachusetts Avenue. During this time, several other structures were constructed along the National Mall, including the Lincoln Memorial (completed in 1920) and the National Gallery of Art (completed in 1941).

Although the McMillan Commission rejuvenated Washington's Monumental Core, it did not consider any of the city's neighborhoods. By the time the United States emerged victorious from World War II in 1945, the well-established residential communities surrounding the National Mall had thrived for over a century. However, their aging buildings and outdated infrastructure drew intense scrutiny from the planners of the day. By 1950, almost all of these neighborhoods—including those adjoining South Capitol Street—were declared blighted and earmarked for massive intervention.



SE/SW Freeway at the former intersection of 2nd and F Streets SW



2nd and F Streets SW c. 1950

The years following World War II marked the beginning of the city's decline. The period's distaste for old buildings, the desegregation of its public schools, and the tidy new houses in suburban Maryland and Virginia prompted residents to leave Washington by the thousands.



Independence Avenue and 7th Street SW today



Independence Avenue & 7th Street SW c. 1940

This mass migration to the suburbs coincided with the destruction of entire neighborhoods bulldozed in the name of urban renewal. In southwest Washington alone, over 300 acres of houses, streets, and parks were razed.

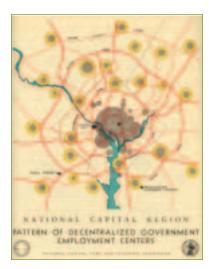
As whole neighborhoods disappeared, so did their trees. Present-day Washington bears little resemblance to its nineteenth century namesake "City of Trees." The widespread loss of trees from demolition, attrition, disease, and neglect has made the city's current street network appear even more barren.



Thoroughfare Plan for the District of Columbia, 1955

As Washington transformed from a place to live to a job center, massive highway construction projects were proposed to alleviate the postwar explosion of vehicular traffic. In 1955, in anticipation of the Defense Highways Act of 1956, the D.C., Maryland, and Virginia Highway Departments proposed constructing a 450-mile expressway system for the Washington Metropolitan Region. This included an Inner Loop within the District of Columbia linked to two suburban beltways by five elevated highways radiating from the U.S. Capitol.

The Inner Loop's South Leg (now called the Southeast-Southwest Freeway) was built in the mid-1960s where whole city blocks in the Southwest and Capitol Hill neighborhoods had recently been cleared. Like the train tracks built over South Capitol Street 100 years earlier, the elevated freeway followed the Virginia Avenue alignment, creating the current tangle of overpasses in the shadow of the Capitol dome.



1955 employment center plan



View of South Capitol Street today from Eye Street SW



8th Street SE just beyond Southeast freeway

The massive destruction and human displacement caused by the freeway's construction prompted city residents to wage an all-out battle against more elevated roadways. After nearly two decades of fierce public outcry, the highway departments scrapped their highway plans. Washington's first elected mayor, Walter Washington, announced in 1976 that the District of Columbia government would apply the federal funds earmarked for the Inner Loop toward the construction of the Metrorail system.

Although much of Washington was spared the devastation that would have resulted from constructing the Inner Loop, the damage to South Capitol Street and its adjacent neighborhoods had already been done. The few remaining fragments of working-class, industrial Washington near South Capitol Street are poignant reminders of the communities that once teemed with workers and their families, both black and white.



Potomac Avenue SE west of the 11th Street Bridge

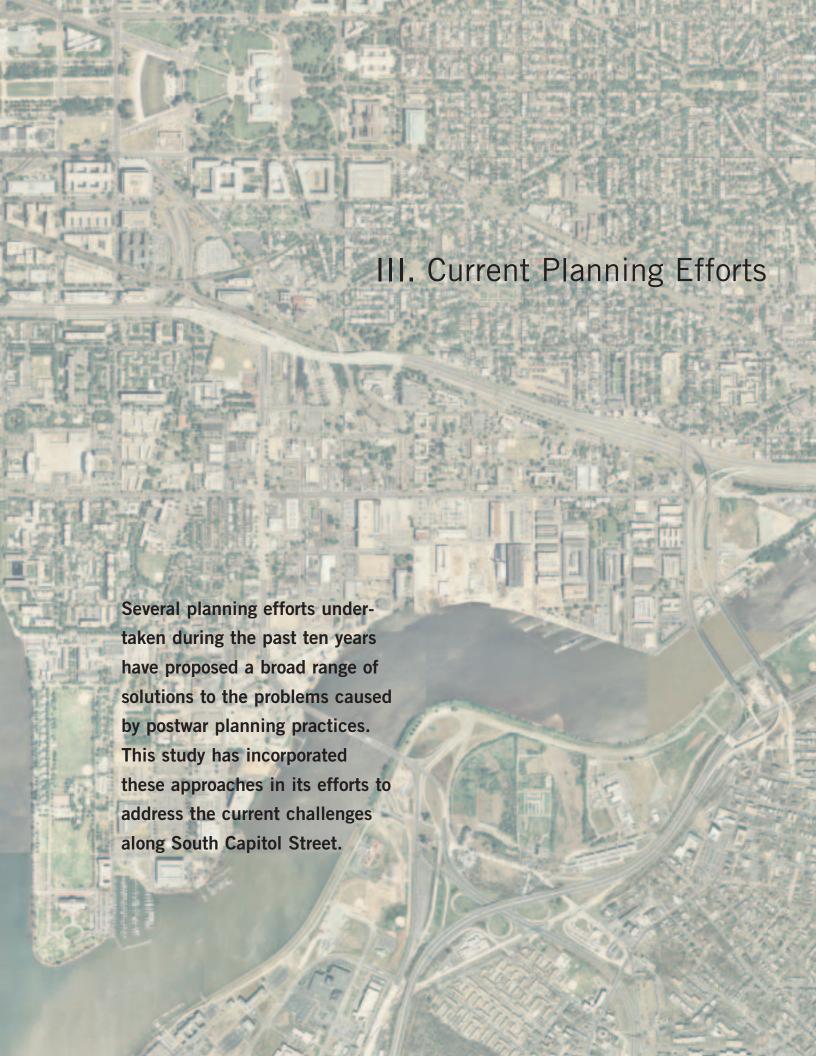


Corner of 7th and L Streets SE

South Capitol Street's gritty physical appearance, its present role as a commuter thoroughfare, and its stagnation over the past half century collectively encapsulate the District of Columbia's most pressing problems. Because South Capitol Street looks and performs like a freeway, most visitors using it to enter the nation's capital would never consider it as a destination in and of itself. The large volumes of traffic channeled through the corridor have left vast sections of land vacant and underutilized. The corridor's inhospitable atmosphere discourages private investment. The postwar demolition of neighborhoods in southeast and southwest has contributed to the city's shortage of affordable housing. Addressing the vast range of problems that have resulted from a half-century of well-intentioned but misguided decisions will be as complex and multifaceted as South Capitol Street itself.



New Jersey Avenue between L and M Streets SE





Rendering of South Capitol Street from NCPC's Legacy Plan, 1997

Current planning strategies for revitalizing southeast and southwest Washington are holistic in scope and grounded in political and economic realities. They also consider a broad range of issues, including transportation, historic preservation, economic development, and social justice.

Taken together, these initiatives have the potential to transform the nation's capital on a scale far greater than the McMillan Commission's efforts of a century ago. Because of its central role in Washington's transportation infrastructure, all planning work currently underway considers South Capitol Street's improvement essential to the city's physical, economic, and social revitalization.



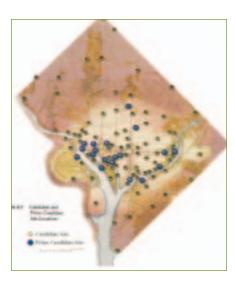
Monumental Core Framework from NCPC's Legacy Plan, 1997

### III. Current Planning Efforts

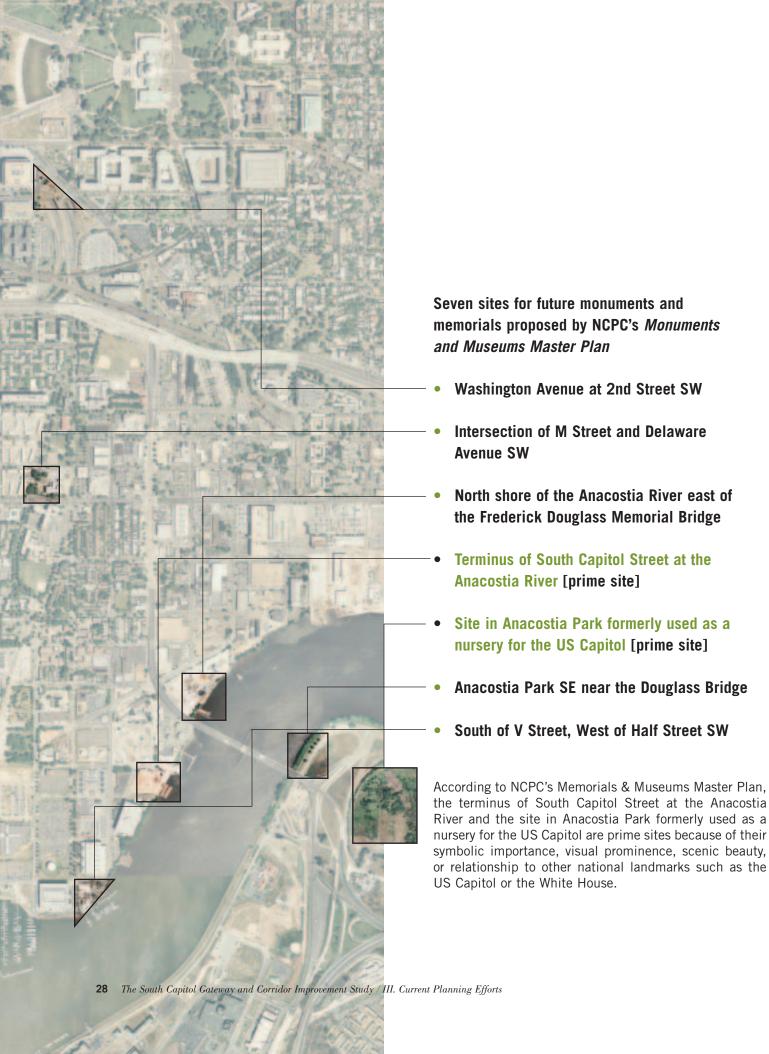
The National Capital Planning Commission (NCPC), a federal planning agency, described its vision for Washington in the 1997 publication *Extending the Legacy: Planning America's Capital for the 21st Century*. Unlike many previous planning efforts, *Legacy* seeks to preserve and enhance the buildings and public spaces contained in the Monumental Core while also improving the city as a whole. In addition to re-centering the city on the Capitol, the plan also calls for locating future museums and memorials away from the National Mall in other parts of the district. This would encourage visitors to travel into city neighborhoods, stimulating economic development in those communities. *Legacy* targets several areas that could benefit from this strategy, particularly the banks along the Anacostia and Potomac Rivers.

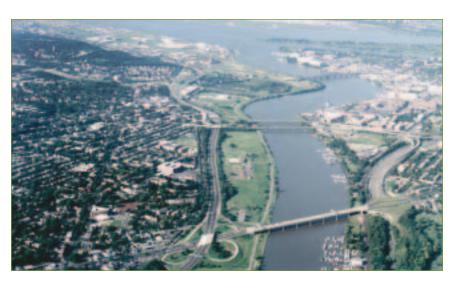
Legacy underscores the need for a comprehensive, convenient, and flexible transportation system to eliminate barriers between neighborhoods and improve movement within the city. It proposes untangling South Capitol Street from its overpasses and transforming it into a lively boulevard lined with housing, shops, public buildings, and parks. A new bridge across the Anacostia River and improvements to the street system east of the river would secure South Capitol's place as the monumental yet livable gateway to the city. Transforming South Capitol Street would also fulfill the Founding Fathers' intentions for it to serve as the city's ceremonial entrance.

Legacy laid the groundwork for NCPC's Memorials and Museums Master Plan, which was published in 2000. Created in cooperation with the Commission of Fine Arts and the National Capital Memorial Commission, this document designates over 100 sites throughout the District of Columbia for future memorials, museums, and other cultural facilities. The South Capitol Street corridor contains seven of these sites, two of which are considered prime because of their prominent locations and aesthetic potential.



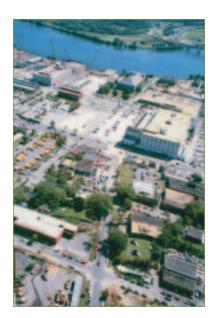
Potential memorial and museum sites in the District of Columbia designated by the National Capital Planning Commission, 2000





Aerial view of the Anacostia River from the John Philip Sousa Bridge southwest toward Haines Point

The National Capital Planning Commission recently joined seventeen other federal agencies and the District of Columbia Government in one of the most comprehensive planning project undertaken in the city's 200-year history. The Anacostia Waterfront Initiative (AWI), a 25-year, multi-billion dollar effort, seeks to transform the 2,800 acres along the Anacostia River into a world-class destination for residents and tourists alike. The AWI addressed concerns about water quality, traffic, recreation, affordable housing, and neighborhood preservation and revitalization. The process included dozens of public workshops and over a hundred meetings with church groups, civic associations, and other nonprofit and other neighborhood organizations. The plan calls for new residential, commercial, cultural, and recreational facilities from the Potomac River to the Maryland state line, unified by a continuous riverfront park featuring trails and revitalized natural habitats.



Southeast Federal Center west of the Navy Yard



Barney Circle looking over the John Philip Sousa Bridge up Pennsylvania Avenue SE



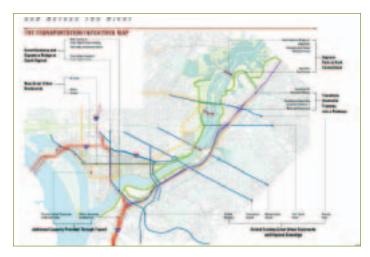
Washington Navy Yard

#### Goals of the Anacostia Waterfront Initiative:

- Restore the Anacostia River's water quality and its natural beauty by cleaning up the river and eliminating sources of pollution
- Break down barriers to the river, particularly those created by intrusive transportation infrastructure, making the Anacostia easier to reach, travel alongside, and cross
- Reclaim the river's waterfront as a magnet of activity by providing places to live, work, and shop, as well as for cultural attractions and sporting events
- Stimulate sustainable economic development in waterfront neighborhoods
- Promote design excellence in design in architecture, landscape architecture, and urban planning
- Engage all community members and stakeholders to foster river stewardship

Like *The Legacy Plan* and the *Monuments and Memorials Master Plan*, AWI underscores the importance of South Capitol Street's revitalization. AWI and NCPC both advocate removing the Southeast Freeway, relocating the adjacent railroad tracks, and constructing a new, more urban bridge on a different alignment. These improvements would allow South Capitol Street to accommodate vehicular traffic along with pedestrians, cyclists, buses, and other forms of transit. It would serve as the catalyst for development at Buzzard Point, Poplar Point, the Southeast Federal Center, and nearby neighborhoods.

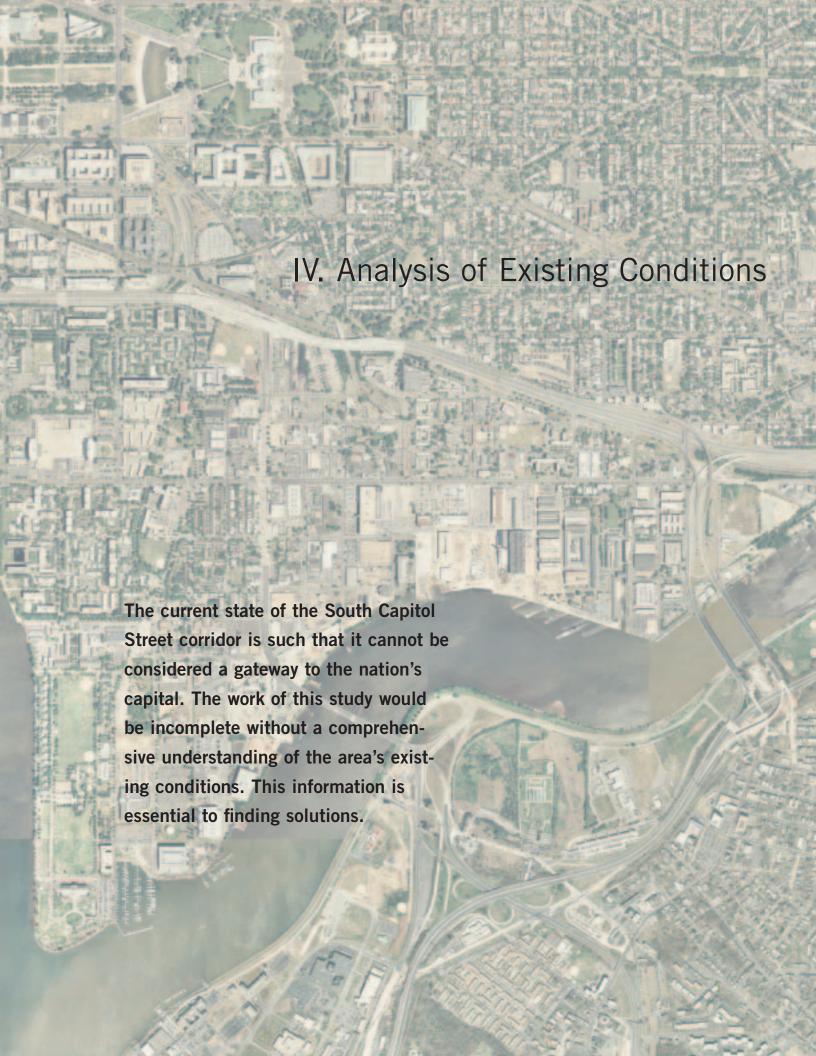
In the fall of 2002, the National Capital Planning Commission initiated a joint study to identify potential alternatives for South Capitol Street that would be further analyzed in the district's Gateway and Corridor Improvement Study. This effort concluded with publication of the *South Capitol Street Urban Design Study*, in January 2003. In addition to identifying potential urban design scenarios, this report contains detailed information on existing open space, land use, land ownership, and zoning.

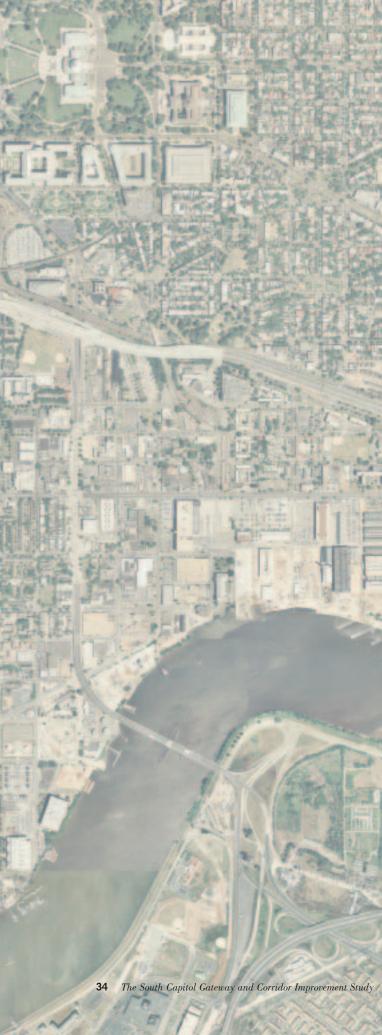


Transportation Map from the South Capitol Street Urban Design Study

The urban design study identified three conceptual scenarios for the corridor that could each accommodate a six-lane boulevard with varying configurations of open space. The first scenario would limit the public space to the existing 130-foot cross-section, and would propose more landscaping and public amenities along the slightly narrowed roadway. The second scenario proposed a 220-foot cross-section that included a 100-foot-wide tree lined center median that could accommodate small-scale memorials. The third scenario suggested a 325-foot cross-section with a linear park along the east side of South Capitol Street to provide public spaces that could, among other things, accommodate future memorials and museums. All three scenarios suggested reconfiguring the roadway east of the Anacostia River to improve access to Poplar Point.

Like the National Capital Planning Commission, the Washington Metropolitan Area Transit Authority (WMATA) has been working on long-term planning projects for many years. The WMATA Ten-Year Capital Improvement Plan, which considers extending the regional transit system, has led to other efforts that will benefit AWI in general and South Capitol Street in particular. The District of Columbia Transit Development Study, for example, proposes building a light rail line from the southwest waterfront east along M Street SE. It would cross the Anacostia River at the 11th Street Bridge as one of four priority light rail, tram, or trolley lines connecting neighborhoods across the District. WMATA, in cooperation with the District's Department of Transportation, is beginning a more detailed study of these transit corridors that includes design and environmental analysis of a potential demonstration project east of the Anacostia River. In addition to the 11th Street Bridge crossing, the study will examine the potential to incorporate rail transit into a future South Capitol Street Bridge. WMATA also recently conducted a regional bus study that includes improvements to bus service along and near South Capitol Street. Both WMATA and the Maryland Department of Transportation are also considering commuter bus lines in the corridor.





The South Capitol Gateway and Corridor Improvement Study began with the Existing Conditions Analysis, completed in early 2003. This document includes technical data that underscores the need to make fundamental changes to South Capitol Street's transportation infrastructure.

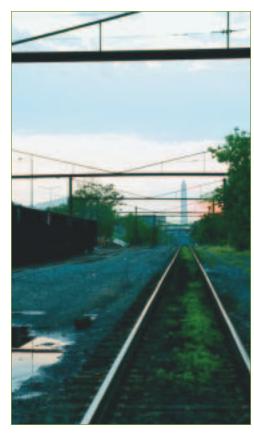
The findings of the Existing Conditions Analysis are summarized in this section. The entire document is available on the District of Columbia Department of Transportation's web site.

http://ddot.dc.gov/information/documents/ frames/south\_capitol/existing\_conditions.shtm

### IV. Analysis of Existing Conditions

The view up South Capitol Street has become an infamous symbol of failed post-World War II planning and transportation policies. This bleak vista, however, only begins to suggest the problems within the study area. Because the freeway system proposed for the District of Columbia was never finished, South Capitol Street and the Southeast-Southwest Freeway are incomplete fragments of that transportation network. Despite the massive effort to construct the freeway and make South Capitol Street an arterial thoroughfare to handle high traffic volumes, congestion is pervasive and gets worse each year.

To many, the experience of traveling on South Capitol Street is visually displeasing. However, its inability to function both as a multimodal local street and as a regional transportation artery is equally problematic. The first step toward creating the South Capitol Street gateway requires a thorough documentation and analysis of the corridor's existing conditions.



Railroad tracks along the Virginia Avenue alignment with Washington Monument to the northwest

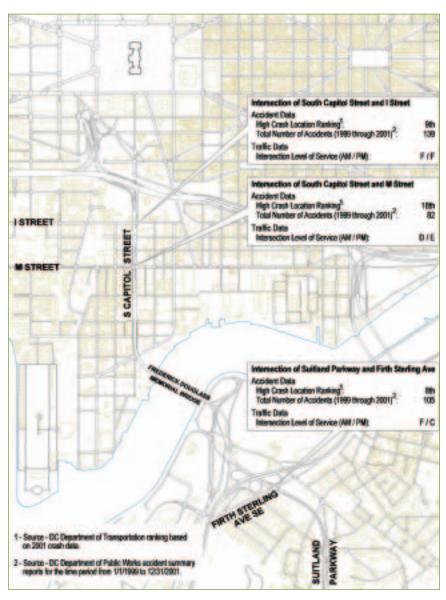


Diagram showing problem intersections along the South Capitol Street corridor

The South Capitol Gateway and Improvement Study Existing Conditions Analysis, which is summarized here, documents the corridor's physical and sociological characteristics. This includes traffic data, information on local communities, an inventory of park properties, the potential of encountering hazardous materials, and the location of cultural resources and utilities. Analysis of this data will inform the next steps in the process that will ultimately change South Capitol and adjacent streets into a working transportation network that will benefit local neighborhoods, the city, and the Metropolitan Washington Region.



Abandoned substation from the Pennsylvania Railroad near the intersection of South Capitol and Eye Streets SE



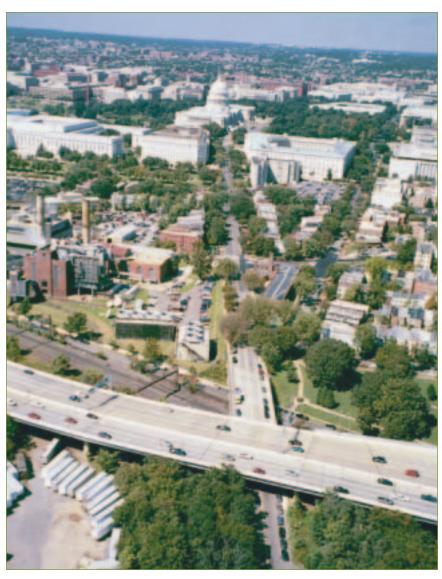
View underneath Southest Freeway's elevated ramps



South Capitol Street and Southeast Freeway with U.S. Capitol to the north

South Capitol Street reflects past efforts to make it a freeway. By design, its primary function is to carry traffic into and out of the District; other qualities have been sacrificed to this single purpose. The street is lined with concrete barriers that block cross streets, separate neighborhoods, and present a forbidding image to travelers and neighbors alike. South Capitol Street does not provide for public transportation and does not welcome pedestrians or bicyclists. Poor design characteristics create hazardous conditions for those who use the street.

One of the most important crossings of the Anacostia River, the Frederick Douglass Memorial Bridge, carries almost 70,000 vehicles on a typical weekday. Most of those vehicles are traveling between I-295 east of the Anacostia River and downtown Washington or beyond.



New Jersey Avenue SE and Southest Freeway

South of the U.S. Capitol, elevated railroad tracks and the Southeast-Southwest Freeway create a barrier that separates Capitol Hill from the city to the south. South Capitol Street's interchange with the Southeast-Southwest Freeway is a tangle of highway ramps that bracket the street, interrupting the sidewalks and obstructing access to nearby neighborhoods.

Eye Street is the first local street that crosses South Capitol Street south of the freeway. The freeway ramps make this intersection complex. Southbound traffic from the freeway encounters a traffic signal and a right-turn-only lane. Northbound traffic must weave across several lanes to reach the freeway ramps. Because of this complexity, this intersection is congested during peak traffic periods. Inadequate signs and narrow lanes contribute to the hazards at this intersection, which is ranked the ninth worst in the District because of its high number of right-angle and rear-end collisions.



New Jersey Avenue SE north of Southeast Freeway



New Jersey Avenue SE south of Southeast Freeway



Pedestrian walking along South Capitol Street near Eye Street SE



Cyclist attempting to turn onto South Capitol Street from Eye Street SE

Although traffic that merges from the Southeast-Southwest Freeway is brought to an abrupt halt at Eye Street, it is immediately encouraged to accelerate as South Capitol Street approaches M Street and dips beneath it. High volumes of turning traffic and short sight distances contribute to this intersection's ranking as the 18th worst accident location in the District of Columbia.

South of O Street, South Capitol Street approaches the Frederick Douglass Memorial Bridge on an elevated viaduct that towers over its surroundings. The viaduct was built to pass over a now-unused railroad spur in Potomac Avenue. All cross streets are blocked to both cross traffic and pedestrians between M Street and the obsolete viaduct.

The bleak condition of South Capitol Street is paralleled by that of New Jersey Avenue SE. Although one block near the Capitol is lined with trees and handsome Victorian rowhouses fronted with wrought-iron fences, most of the avenue is dominated by parking lots and abandoned buildings.



South Capitol's underpass below the intersection at M Street

Residential neighborhoods lie west of South Capitol Street and east of New Jersey Avenue. Some of the neighborhoods have low-income and minority residents, making environmental justice an especially important concern. Randall Recreation Center, which provides both open space and a place for active sports, is west of South Capitol Street between the freeway and Eye Street.

The Navy Yard Metrorail station is close by, with an entrance at M and Half Streets SE. The Southeast Division Metrobus garage is also located at this intersection, although the Washington Metropolitan Area Transit Authority is seeking to relocate its function because the garage is too small.

Present land use along South Capitol Street is mostly commercial. Warehouses, gas stations, fast-food restaurants, and a few small businesses line the blocks between the Southeast-Southwest Freeway and the Anacostia River. South of Potomac Avenue, land is either used for industrial purposes or vacant.

Several historic resources in this area must be preserved. The L'Enfant Plan is on the National Register of Historic Places, so the street pattern that it defines must be maintained. Saint Vincent de Paul Church at M Street and South Capitol Street is an important cultural resource and the rowhouses on Carrollsburg Place are historic.



Concrete plant east of South Capitol Street along the Anacostia River



Frederick Douglass Memorial Bridge steel section loss



Frederick Douglass Memorial Bridge failed bearing plate at southeast abutment



Frederick Douglass Memorial Bridge looking toward the Navy Yard from the east of the Anacostia River

The Frederick Douglass Memorial Bridge is a utilitarian structure with little architectural or historic merit. The odd number of traffic lanes—three inbound and two outbound—are the result of a 1975 widening. Pedestrians and bicyclists share the narrow walkways on both sides. The center span of the bridge swings open to allow river traffic to pass.

The bridge is in poor structural condition and will soon require replacement. The District Department of Transportation plans to carry out critical safety-related rehabilitation and preventive maintenance to extend its life approximately fifteen years.

Situated east of the Anacostia River, the interchange of South Capitol Street, Suitland Parkway, and I-295 is a complex maze of ramps and connector roads. The interchange is functionally deficient, confusing to use, and unattractive. Roadways that should provide access to the waterfront block it instead.

The I-295 interchange includes unnecessary and duplicate roadway connections. These inefficiences and redundancies consume several acres of land. The complexity of the interchange makes it difficult for drivers to navigate. The problem is compounded by inadequate signage. Although complex, the interchange is also incomplete. There is no ramp between southbound I-295 and northbound South Capitol Street. Howard Road substitutes for this missing link by conducting traffic onto a local street.

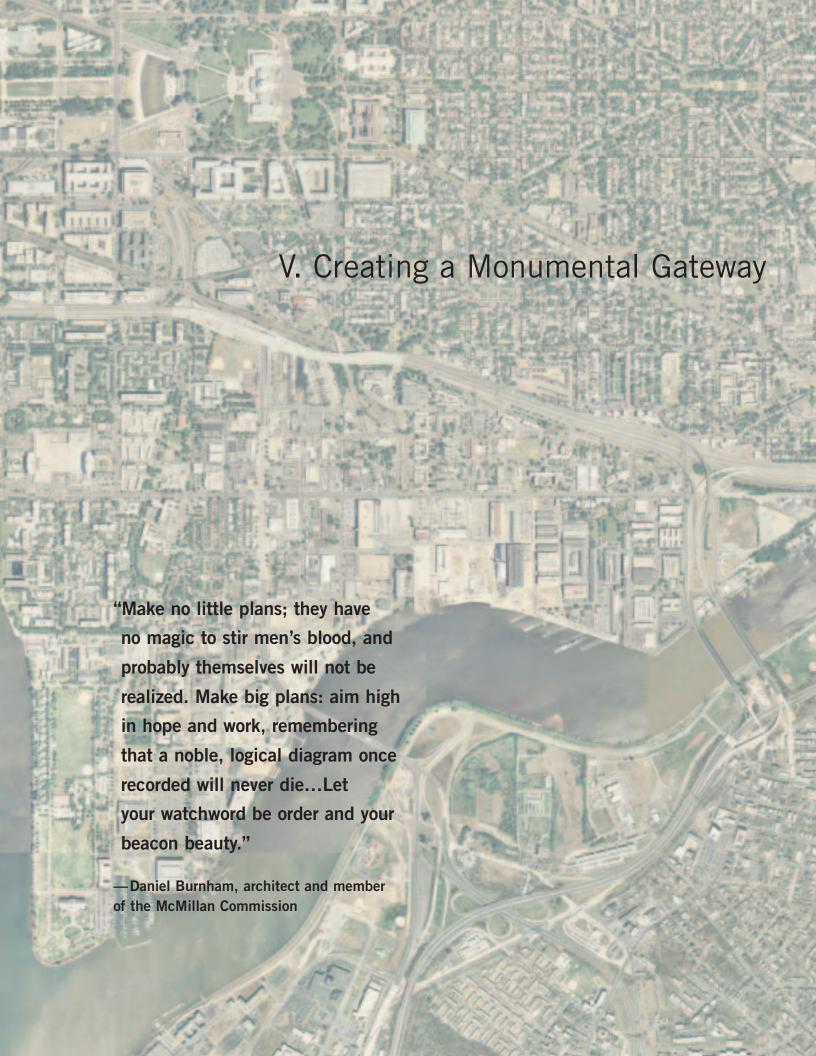
Two streets, Firth Sterling Avenue and Martin Luther King, Jr. Avenue, provide the only access across Suitland Parkway in this area. The intersection of the Suitland Parkway and Firth Sterling Avenue forces high-speed traffic from the parkway to stop. The sight distance for approaching traffic is short and signage is inadequate. These factors cause it to be the intersection with the 8th highest accident rate in the District. More importantly, it has the highest fatality rate of any District intersection. Rear-end accidents are the most common. Accidents involving pedestrians are especially frequent. Martin Luther King, Jr. Avenue is grade separated from the parkway, so it allows safe crossing but this intersection permits no access between the neighborhoods and the parkway.

The corridor has significant utilities that could limit the locations of new transportation facilities but may also provide opportunities for reconstruction coordinated with a new South Capitol Street. There are water mains, sewers, and power transmission lines under many streets. Three 60-inch sewer siphons run under the Anacostia River, connecting pumping stations on both banks. The Capitol Power Plant, which sits between South Capitol Street and New Jersey Avenue, is a coal-powered plant that provides steam heating and cooling for the Capitol complex. An electrical generating plant on Buzzard Point operates during peak electricity demand periods and uses fuel oil. An abandoned electrical substation is located east of South Capitol Street and south of the Southeast-Southwest Freeway.

Construction in the corridor would probably encounter hazardous materials because of the industrial history of the surrounding area and the presence of underground storage tanks.



Intersection at Firth Sterling Avenue and Martin Luther King, Jr. Avenue, which has the highest fatality rate in the District of Columbia





View of South Capitol Street from the corner of Eye Street SW

The L'Enfant Plan for the Federal City created a grand physical framework for the new nation's capital. In 1901, the McMillan Commission built upon that vision and formed Washington's Monumental Core. Today, the District and federal governments are working together to craft a plan to guide the city into the 21st century.

Today, the South Capitol Street corridor is unappealing visually and performs poorly as a transportation network. This study's *Existing Conditions Analysis* contains ample evidence that its decrepit infrastructure warrants immediate attention.

South Capitol Street's current failure as an urban avenue stems largely from its overemphasis on carrying vehicular traffic. When Washington's interstate highway infrastructure was built in the 1960s, moving automobiles in and out of the city took priority over everything else. Making South Capitol Street part of an arterial network, however, has caused many unforeseen problems. Ironically, this is precisely why the corridor does not work today.

Although accommodating automobiles was the only consideration during the heyday of freeway construction, solving South Capitol Street's current transportation problems must be done in conjunction with social, cultural, and economic considerations. The National Capital Planning Commission first proposed balancing transportation improvements with other urban, cultural, and economic concerns in *Extending the Legacy, Planning America's Capital for the 21st Century*. Subsequent planning efforts, including the ongoing Anacostia Waterfront Initiative, combine the full spectrum of transportation, land use, private investment, and social justice.

### V. Creating a Monumental Gateway



Sketch of a potential South Capitol Street Bridge

The framework for this study's transportation analysis was established in the *South Capitol Street Urban Design Study* with the presentation of three urban design scenarios.

Although more detailed urban design guidelines will be developed in subsequent studies, establishing the visual language of the South Capitol Street gateway early in the planning process is essential. Everything from street widths to the spacing of trees will create the physical framework for a pleasant and inspiring urban environment. The complex interplay of these elements will ensure that the District's streets will function effectively as part of an integrated transportation network.





Scenario A Scenario B



Scenario C

## South Capitol Street Urban Design Study scenarios

Scenario A: The 130-foot street section maintains South Capitol Street's present width, but limits the street to six lanes of moving traffic instead of the current eight lanes. Fewer lanes allows the street to have wider sidewalks and a generous planting strip for healthy trees. The success of this street section depends largely on the construction of a tunnel to accommodate regional through traffic.

Scenario B: Expanded 220-foot right-of-way would allow for a green median separating the six-lane boulevard. This center median may be suitable for small-scale memorials. Southbound traffic is directed into a short tunnel before connecting to the bridge.

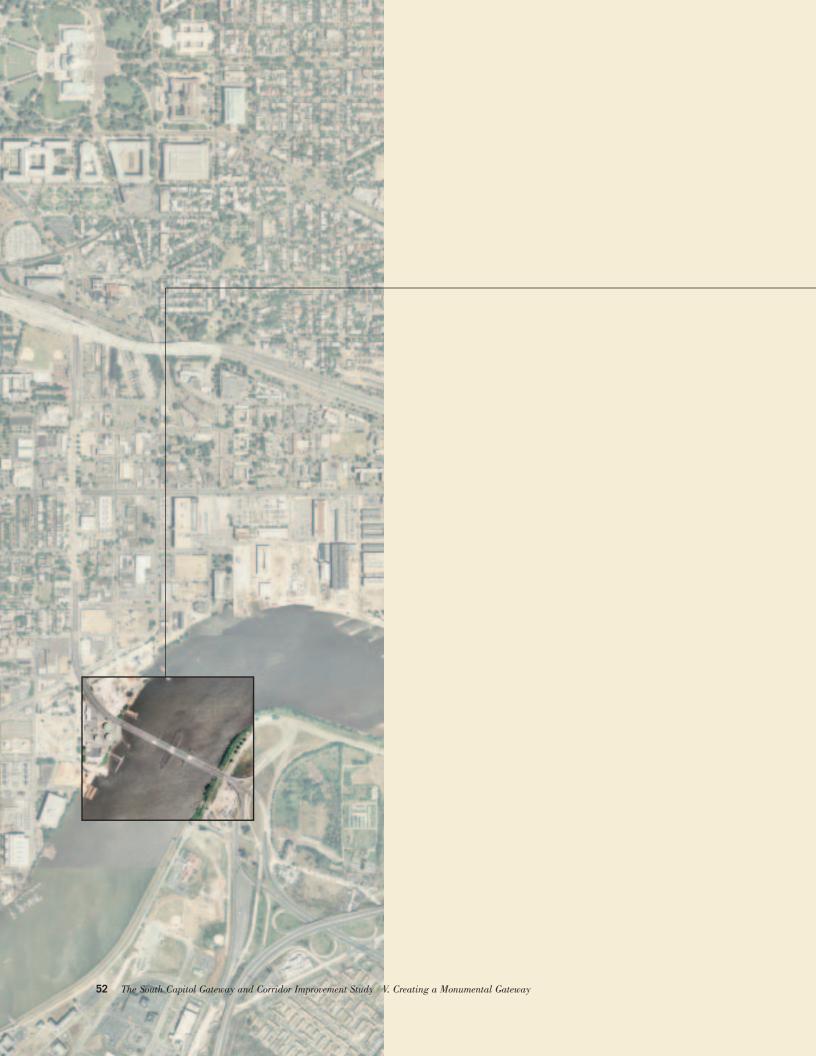
Scenario C: South Capitol Street's combined roadway and public space section would expand to 325 feet, which would include a 140-foot wide park to the east. Several new sites would be created for monuments, memorials, and museums.



Bridge and roadway improvements mapped onto South Capitol Street Corridor.

#### **Critical Flements**

- South Capitol Street is part of a much larger street system that includes Van and Half Streets, New Jersey and Potomac Avenues, and the streets and roadways north of the Anacostia River
- If the new bridge accommodated a transit line, it would improve accessibility and circulation through the corridor
- The new bridge would continue the welcoming quality of South Capitol Street east of the Anacostia River while connecting to Suitland Parkway and I-295
- South Capitol Street and the local street system should be physically distinguished from the regional **Interstate system**
- Every improvement on South Capitol Street is effectively linked to the other streets throughout the transportation network
- The proposed improvements would allow the restoration of several of L'Enfant's original streets, reconnecting neighborhoods and encouraging multimodality
- The network could include a tunnel to connect I-295 to the I-395/ Center-Leg Freeway that will remove through traffic from South Capitol Street and surrounding neighborhoods
- Transit, bus, surface light rail, and improvements to Metrorail would allow the network to accommodate the future demands of this rapidly changing area



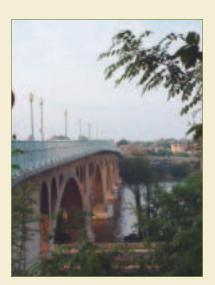
### The New South Capitol Street Bridge



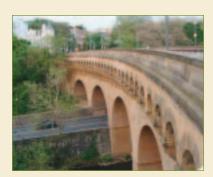
Perspective of the west bridge abutment at South Capitol Street, which allows access from the new bridge to the parkland along the Anacostia River

The need for a new bridge across the Anacostia River rests at the heart of this study. The Frederick Douglass Memorial Bridge's advanced state of disrepair is documented in the 2002 DDOT *Bridge Inspection Report*. The bridge's height of 45 feet underscores its arterial design. It caters to vehicular traffic but discourages pedestrians and bicyclists. It does not have the structural capacity to handle future transit lines. Most importantly, its freeway design prohibits its participation in urban planning improvements on both sides of the river.

The problems inherent in the bridge's design underscore the need for the new bridge to be fundamentally different. Its success or failure will stem largely from its urban design. Although the bridge's final appearance will not be determined at this point, its essential urban form—the height, width, alignment, and lane and sidewalk dimensions—will establish the physical characteristics of the area's entire street network. These specific design elements will allow the new bridge to channel vehicles, pedestrians, bicyclists, and transit to at-grade streets on both sides of the river.



Key Bridge looking northeast toward Georgetown



Dumbarton Bridge curves as it spans Rock Creek Park between Georgetown and Dupont Circle

Washington, D.C.'s most memorable bridges combine engineering and urban design in structures that function well from a transportation standpoint. They are also as visually compelling as many of the city's most famous monuments.

Key Bridge, which connects Georgetown and Virginia, demonstrates how reinforced concrete construction can be shaped into stately architectural form. Its five segmental arches articulated by an open spandrel make this structure one of the city's great public monuments.

Dumbarton Bridge, which spans Rock Creek Park between Dupont Circle and Georgetown, extends Q Street in a similarly provocative way. Its soaring height is articulated by multiple-arched masonry with a closed spandrel that makes the bridge appear rock-solid. Like Key Bridge, the span of Dumbarton Bridge includes five large arches topped with a decorative row of deep, cantilevered arches supporting the parapet. The bridge's stone belt course runs beneath sculptures of Indian heads wearing full battle dress. The four American bison flanking both ends of the bridge complete the "Buffalo Bridge's" distinctive character.

Memorial Bridge is one of the city's most distinctive spans. Its relatively low height allows the at-grade extension of the Monumental Core across the river. Its axial alignment between the Lincoln Memorial and Arlington National Cemetery provide compelling vistas of these cherished historic places.



Memorial Bridge looking southeast toward the Washington Monument

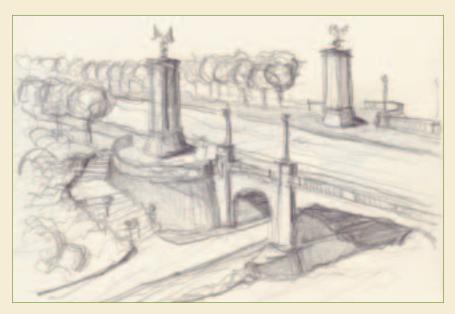
The bridge's eight reinforced concrete arches clad in granite connect it visually to the monuments to the east of it. The bridge's gracious appearance, connection to local streets, and low height collectively make it a place in and of itself. Although its vehicular lanes can handle high traffic volumes, Memorial Bridge's 15-foot wide sidewalks are used heavily by pedestrians, joggers, and cyclists.

Like Memorial Bridge, the new South Capitol Street span should be aligned perpendicular to the river. This establishes a clear formal relationship between the bridge and the street network to which it connects. Bringing its alignment perpendicular to the shore improves the approach into the city center and provides an axial view of the Washington Monument.

Lowering the bridge allows at-grade connections to the street network on both sides of the river. Unlike the current bridge, which looms above the local streets and catapults vehicular traffic well into the city center, the new bridge's relationship to the river banks will make it perform like a city street rather than a highway. This will facilitate the construction of the Anacostia Riverwalk and create new opportunities for parks and other open spaces.



Conceptual sketch of a potential bridge detail



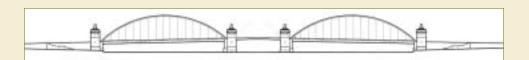
Conceptual sketch of a potential bridge

The success of the Key, Dumbarton, and Memorial Bridges as cohesive urban elements also stems from their successful synthesis of bridge engineering and civic architectural design. Building a bridge with physical characteristics comparable to Washington's finest urban bridges will ensure that the new structure will be a grand civic structure and a welcoming public place.

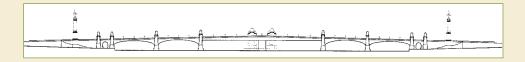
One of the requirements for the new bridge is that a movable span accommodate vertical clearance in the navigation channel. Preliminary analysis indicates that a swing span is the most feasible option for accommodating the navigation channel due to the proposed lower elevation of the bridge deck. Five potential types that would be appropriate for the new bridge span were identified. These include:



Cable-supported swing span. This dramatic use of geometry and cable-stay technology provides a lightweight solution to the movable span.



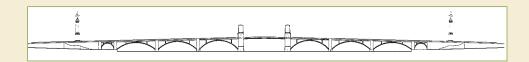
Through-arch on flanking spans. This provides verticle dimension of an appropriate scale for the South Capitol Street Corridor.



Multiple span deck arch, closed spandrel. This bridge is similar to Memorial Bridge in its height, massing, and articulation. Architectural features could include stone cladding and opportunities for sculpture.



Triangular truss. This concept also provides a vertical dimension that may allow elements of the structure to be prefabricated.



Multiple span arch, open spandrel. This bridge could be constructed of segmental, prestressed concrete or steel.



Chesaneake and Delaware Canal.



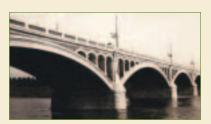
New Points Bridge, Pittsburg, Pennsylvania



Ponte Vittorio Emanuele II, Rome, Italy



St. Lawrence River, Quebec, Canada



Railway Bridge, Orleans, France



Rendering of Riverwalk from the Anacostia Waterfront Initiative Framework Plan

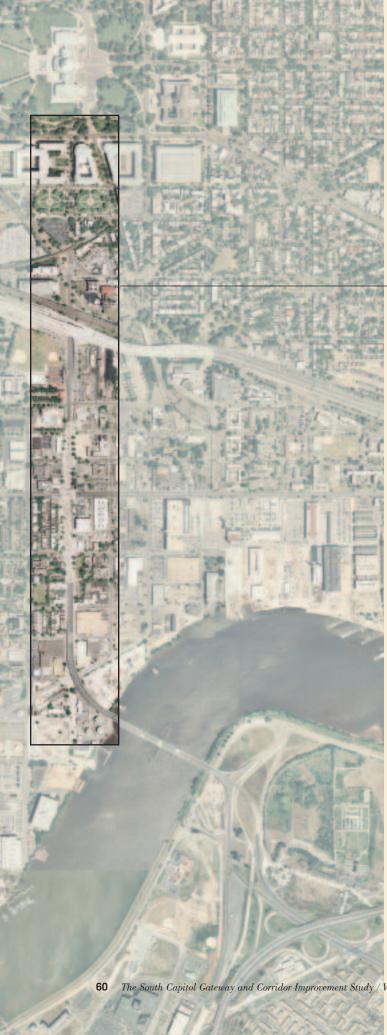
In subsequent studies, the bridge design will be refined. Then it will be evaluated in terms of its function, aesthetic and urban design quality, and environmental impacts. The new bridge will have to accommodate a navigation channel as defined by law.

The channel at South Capitol Street is relatively shallow. The longest spans required will be the two 150-foot navigation channels, so long-span bridge types will not be necessary. Arch spans, the predominant bridge type crossing the Potomac River, would be feasible for the South Capitol Street crossing.

At this time, lowering the bridge's elevation appears to be feasible, as most navigational traffic could be accommodated by a 35-foot vertical clearance. The movable span would have to open at approximately the same frequency as the current swing span.



Perspective of new bridge from Poplar Point



Washington's transportation network is a complex interplay between perpendicular streets and diagonal avenues. Narrower, local streets are intimate in scale, while the broad avenues terminated by public buildings, monuments and memorials convey the city's democratic symbolism. These differing widths establish a hierarchical relationship that allows the city's urban form to work well at large and small scales.

The improvements along the South Capitol Street corridor reflect this configuration. Like Washington's hierarchy of streets, the great streets of cities throughout the world vary in their length, scale, width, and character. But the characteristics that make them wonderful places are remarkably similar. These characteristics, in conjunction with the urban framework established by the L'Enfant Plan, have informed and inspired the urban design for South Capitol Street and its adjacent streets.

Because of its prominence in Washington and its inherent connection to the new bridge spanning the Anacostia River, South Capitol Street's urban form establishes the character that will extend throughout the rest of the transportation system.

# South Capitol Street



Perspective view up South Capitol from M Street



Section for typical Washington avenue by Montgomery Meigs, c. 1875



New Hampshire Avenue NW with trees planted approximately 20 feet on center



Shaded sidewalk near the southeast corner of the U.S. Capitol grounds

#### **Urban Design Characteristics for South Capitol Street West of the Anacostia River**

- A continuous, at-grade 130-foot street section as originally specified in the L'Enfant Plan with a narrow median and generous sidewalks
- Several at-grade intersections with traffic signals provide optimal connection and safe travel to and from adjoining cross streets
- Six lanes of moving traffic that maintain current corridor capacity, particularly during peak periods
- On-street parking during off-peak times to buffer sidewalks from moving traffic and to serve businesses along the corridor
- User-friendly signs/direction to nearby transit: buses, light rail, and Metro
- Bicycle pathways, and/or lanes, either on South Capitol Street or on a street to the east or west, connecting to regional networks
- Double rows of mighty trees with broad canopies to beautify the street, provide shade, and connect the street to parks and the Anacostia Riverwalk
- Street furniture—such as benches, waste baskets, and bicycle racks-of the highest quality

Establishing a grand boulevard along South Capitol Street's 130-foot street section is the major action from which other design decisions can be made. NCPC's South Capitol Street Urban Design Study evaluated three urban design scenarios that could each accommodate a grand boulevard with varying configurations of open space to define a distinguished right-of-way and public realm. This study also considered these options.

After careful analysis and consideration, this study has concluded that a six-lane boulevard within a 130-foot street section is the optimal street section for South Capitol Street because it satisfies the greatest number of transportation objectives and allows for the greatest number of urban design alternatives. This configuration restores the street's original spatial character and reinforces the axial relationship with the Capitol dome. Re-introduction of this boulevard, which was originally specified by the L'Enfant Plan, is the most historically appropriate. All three scenarios included in the NCPC study could accommodate this proposed boulevard.

Of the various roadway options that were considered, the six-lane boulevard balances multimodal traffic most effectively. Six lanes of vehicular traffic maintain South Capitol Street's current capacity but also allow pedestrians and cyclists to cross the street at signalized intersections with ease.

The design of the roadway and the accompanying public space is critically important to creating an inviting physical environment. Washington is filled with streets that are known for the spaces they create, and they are among Washington's most beautiful and cherished public areas.



East Capitol Street looking west toward the U.S. Capitol



Louisiana Avenue NW looking toward Union Station



Virginia and Massachusetts Avenues—named after the most prominent of the original thirteen colonies—are the only two thoroughfares in Washington that extend through three of its four quadrants. While Massachusetts Avenue has largely retained its original configuration, Virginia Avenue was obscured over a century ago when railroad tracks were built along its alignment. The freeway constructed a hundred years later followed the same right-of-way. Today, aside from a few blocks in the city's northwest quadrant, Virginia Avenue exists only in fragments, largely as frontage roads to I-395.

The restoration of Virginia Avenue in Southeast could be made possible by constructing a tunnel to carry regional through traffic beneath the South Capitol Street corridor and removing the Southeast Freeway. Replacing the 300-foot wide highway with Virginia Avenue's original 160-foot right-of-way creates new opportunities for public spaces and private development. The restoration of Virginia Avenue would accomplish far more than restoring the view of the Capitol dome; it would capture the value of the land currently consumed by highway infrastructure.

Virginia Avenue is one of several locations considered for roundabouts along South Capitol Street. Although it looks like Washington's other traffic circles, the roundabout can safely handle South Capitol Street's existing traffic volumes. According to the report Roundabouts: An Informational Guide published by the U.S. Department of Transportation, roundabouts can safely handle existing high traffic volumes but would limit pedestrian access because traffic would flow continuously.

# Virginia Avenue



Virginia Avenue and a proposed roundabout at the intersection of South Capitol Street

Although roundabouts do not have signalized intersections like most of Washington's circles, they have the potential to become magnets of urban activity at any hour of the day or night. Washington's best circles attract urban activity that gives each place a life of its own. While a roundabout handles traffic differently than a traditional Washington circle, it can be visually consistent with the city's other circles.



Aerial view of Dupont Circle looking east up P Street NW



Dupont Circle looking northwest from Connecticut



Dupont Circle: a magnet of urban activity



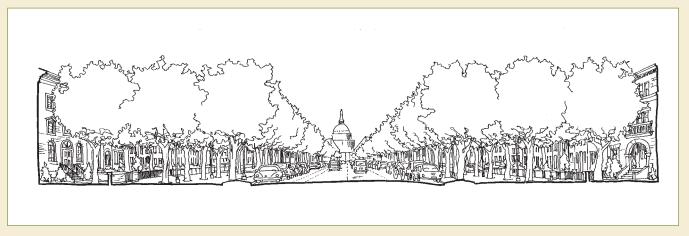
New Jersey Avenue's role in the nation's capital is changing. Redevelopment of the Southeast Federal Center will bring more traffic. Along New Jersey Avenue, new mixed-use development will add residences, commercial establishments, and vitality to now-empty blocks.

New Jersey Avenue should be remade to accommodate these changes. Additional travel between the Capitol and the Southeast Federal Center will require improved roadway, transit, bicycle, and pedestrian connections. New landscaping and street furniture are needed to create an appropriate setting for the avenue's mixed-use development.

The avenue's 160-foot-wide street section offers ample space for the needed changes. A four-lane roadway, rebuilt and repaved, would provide for vehicular traffic. Broad sidewalks will front the new buildings. Landscaping, including three rows of trees on each side of the avenue, will provide a green setting and frame the view of the Capitol dome.

Because of its width and location, New Jersey Avenue may provide a location for a new transit circulator between the Capitol and the Southeast Federal Center that could connect to other new transit links in the District. Planning for light rail and other new transit systems should address New Jersey Avenue's place in those systems.

# New Jersey Avenue SE



Cross section of improved New Jersey Avenue, SE



### Van Street SE

This street, which has a 50-foot right-of-way, is typical of the thoroughfares in L'Enfant's perpendicular grid. Its current disconnection from the street network is typical of the side streets throughout the South Capitol Street corridor. As the South Capitol Street Urban Design Study demonstrates, the blocks between South Capitol and Van Streets provide numerous opportunities for parks and squares. It would also create even more places for future monuments and memorials within the study area than the eight sites defined by NCPC's Monuments and Museums Master Plan.

### Half Street SE

Half Street is one thoroughfare east of South Capitol Street that could accommodate a transit line. The District Department of Transportation has recently begun an Alternatives Analysis and Environmental Study that will determine the most appropriate alignment for light rail or any other form of rail transit along the corridor and throughout the city.

Although dedicated transit lanes were considered for South Capitol Street, including them and maintaining current vehicular capacity would require the street to be widened significantly. This would make South Capitol Street more difficult to use for pedestrians and bicyclists. The increased width would also divide rather than unify local neighborhoods.

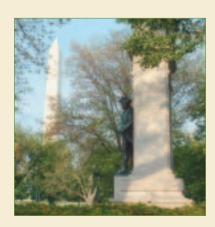
## Van Street SE / Half Street SE



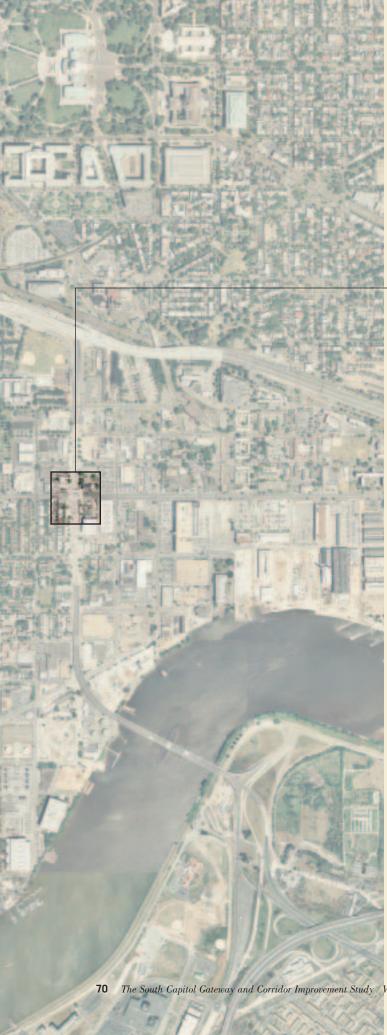
Perspective of Half Street SE with dedicated transit lanes

Half Street's 80-foot right-of-way can accommodate two dedicated light rail lanes, two vehicular lanes, and possibly two bicycle lanes. It is an ideal location for a transit center because of its proximity to the Navy Yard Metrorail station and local bus lines, which would allow passengers to transfer among buses, light rail, and Metrorail.

The existing Metrobus garage at M Street provides the opportunity for an intermodal center. The Metrobus maintenance function will be relocated.



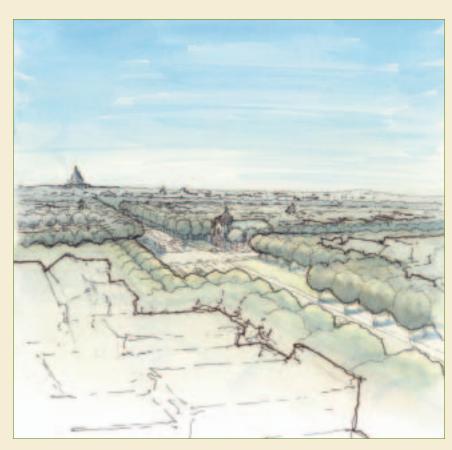
John Paul Jones Memorial on a small triangular green space southwest of the Washington Monument



Proposed improvements to the intersection of M and South Capitol Streets include reconfiguring the underpass arrangement into a signalized, at-grade intersection. This is essential to reestablishing South Capitol Street's identity as an urban boulevard. It will also provide a more dignified setting for the St. Vincent de Paul Church, one of the corridor's historic and cultural resources.

An at-grade intersection can handle existing traffic volumes at this intersection because the boulevard will provide six lanes for through traffic compared to the four lanes in the present underpass. The volume of turning traffic at this intersection will be reduced by the creation of new intersections at Potomac Avenue and at other cross streets along South Capitol Street. M Street will no longer be the only location where turns are possible.

# Intersection of M and South Capitol Streets



Perspective of M and South Capitol Streets looking northeast



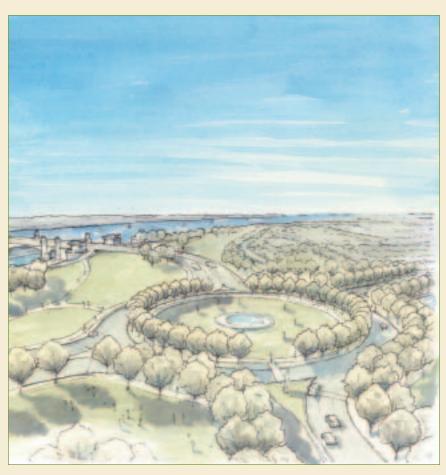
Potomac Avenue (initially named Georgia Avenue) originally ran from southwest Washington to Congressional Cemetery along the west bank of the Anacostia River. Its interruption by the Navy Yard and its discontinuation west of South Capitol Street have left only fragments of the original avenue intact.

The proposed improvements to Potomac Avenue include its extension to 2nd Street SE on the east and to Fort McNair on the west. Introducing a proper urban street into an area where none exists will spur economic development along the avenue's entire length, one of the Anacostia Waterfront Initiative's objectives for this area.

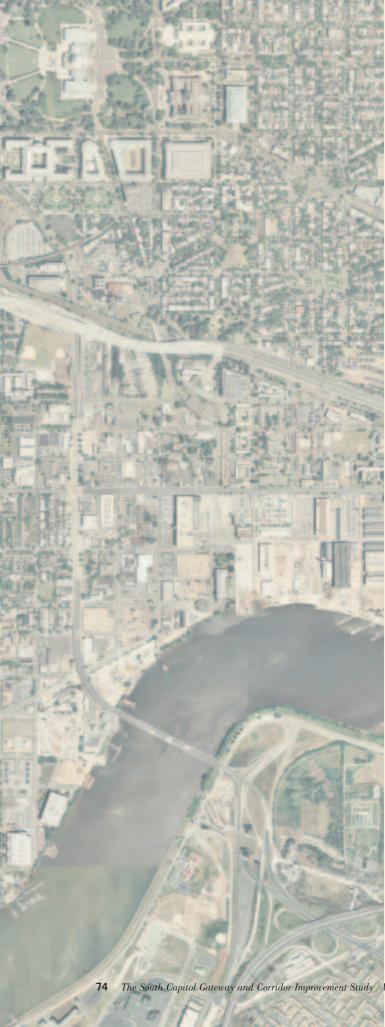
A circle for the intersection of Potomac Avenue and South Capitol Street could create a public place that will attract visitors and provide a grand setting for a future monument or memorial. It would provide continuity along South Capitol Street and coincide with other District circles in scale and form but limit pedestrian access.

East of the Anacostia River, the local street system needs to be better integrated and separated from the arterial system. The interstate infrastructure should be confined to I-295 and its interchange with the Suitland Parkway. This will have the benefit of reinstating South Capitol Street's urban identity. The park-like character of Suitland Parkway should be extended north of the I-295 interchange through Poplar Point and to the new bridge. This work would be fully integrated with improvements at Poplar Point and the Anacostia Riverwalk, which will be fully developed in subsequent studies.

# Potomac Avenue SE & SW / Improvements at Suitland Parkway and Martin Luther King Jr. Boulevard



Perspective of roundabout at the intersection of Potomac Avenue and South Capitol Street looking southwest

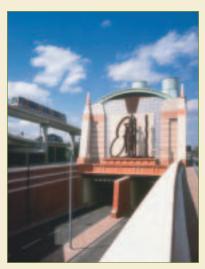


A tunnel under the South Capitol Street corridor would provide a new link in the transportation network with many benefits. Much of the traffic now on South Capitol Street consists of trips through the corridor, not to it. A tunnel between I-295 east of the Anacostia River and the existing I-395 Third Street tunnel would carry trips bound for downtown Washington and beyond, removing that traffic from the surface streets.

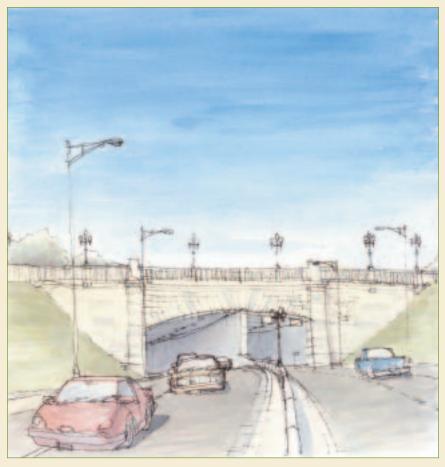
Constructing a tunnel to carry through traffic will alleviate congestion on South Capitol Street. This will be essential for South Capitol Street's transformation into the centerpiece of a pleasant and livable neighborhood. The tunnel would alleviate the burden of commuter traffic on the entire street network. Including a tunnel in the study area's improvements is the only scenario that permits the added benefit of removing the Southeast Freeway.

The tunnel portals are a critical part of the study area's urban design considerations and can be configured in many different ways. East of the river, their design must respect the Poplar Point parkland and Anacostia's historic neighborhoods. The north end of the tunnel, which connects to I-395 and the center leg tunnel, should be linked with the existing interstate system without adversely impacting the area southwest of the U.S. Capitol grounds.

# The Tunnel



Limehouse Link tunnel portal in London, England



Sketch of a tunnel portal on the east/west side of the Anacostia River

Creating a South Capitol Gateway will require a comprehensive program of transportation improvements that an appropriate entrance to Washington's Monumental Core and complement the neighborhoods, parklands, and cultural facilities envisioned by the Anacostia Waterfront Initiative. The South Capitol Corridor provides the setting for dramatic change to better serve residents of the District and the region as well as visitors to the nation's capital.

A new South Capitol Street boulevard with wide sidewalks and intersections at cross streets can serve both vehicular traffic and pedestrians, creating a pleasant precinct that reconnects the adjacent neighborhoods and encourages economic redevelopment. A Zone of Improvement can define the public realm east of the boulevard to become a new locus of memorials, museums, and public open space as well as contribute to the corridor's transportation effectiveness.

A new Frederick Douglass Memorial Bridge can forge better links across the Anacostia River and become a significant aesthetic and symbolic element of Washington's Monumental Core. Including pedestrian, bicycle, and transit in the bridge's design will create better connections through and between the neighborhoods and parklands along the river.

# The Gateway Summary

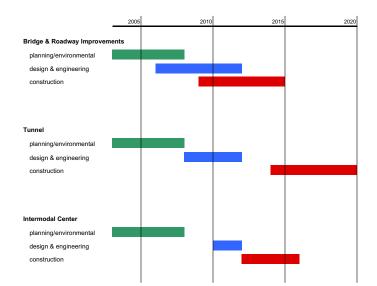
A tunnel beneath the Anacostia River for through traffic could create far-reaching opportunities for even greater change, including a notable decrease in traffic on the corridor's surface streets and the removal of the Southeast Freeway.

Emphasizing transit investment as a central component of transportation system improvement would ensure that the corridor continues to be an appropriate gateway, even as the region grows and travel increases.

Replacing the present transportation facilities would ensure that the corridor continues to provide the accessibility required for the region's and nation's security.

All these changes could be accomplished in ways that are fitting to Washington's unique character, respecting its history and innovating for the future. The boulevard can be designed to be consistent with Washington's other great streets and avenues; its connections to other streets will reestablish the dominance of the L'Enfant Plan in the corridor. The new bridge can be an exciting structure that expresses the civic aspirations of the nation's capital.





The South Capitol Gateway and Corridor Improvement Study has laid the groundwork for the next phase of work on South Capitol Street. The resulting documentation of existing conditions, compilation of traffic data for the entire study area, and other information gathered will be used to produce an environmental document analyzing how new transportation infrastructure will impact the corridor's overall conditions.

2003–2004 The next phase of planning will be a study that focuses on interchanges and roadways east of the river. This study will provide additional traffic data, which will help refine some of the design concepts introduced in *The South Capitol Gateway and Corridor Improvement Study*.

2004–2005 The subsequent planning studies will address the tunnel and the bridge to analyze specific alignments, construction methods, geologic conditions, and marine traffic patterns.

2004–2006 Rehabilitation of the existing Frederick Douglass Memorial Bridge will include structural steel repairs, lighting improvements, and preventive maintenance.

2004–2008 A first-tier environmental analysis will take a broad look at the AWI transportation network and concurrently provide clearance for the South Capitol Gateway project, including the tunnel.

2007–2012 Design and engineering of the South Capitol Gateway project will include the tunnel and bridge.

2010–2015 Construction will include the South Capitol Street boulevard from Washington Avenue south, the new bridge New Jersey Avenue, and connectivity improvements east of the Anacostia River.

2013–2016 The Southeast Bus Garage will be converted to a new intermodal center after WMATA relocates its bus maintenance function.

2015–2020 Construction of the tunnel will include its connections to the adjacent transportation network.

During this 17-year process, local residents and community members will play an integral role in the decisions being made. Gaining feedback from citizens, as well as federal and District stakeholders, is essential to the successful completion of this massive project.

# VI. Implementation

### **Project Costs**

The following estimates are partial and preliminary and would require refinement based on the extensive series of studies outlined above. The following figures begin to address the planning, design, and construction of streets, bridges, sidewalks, and other transportation facilities. They do not include the creation of a new transit line, which is still under study by the Washington Metropolitan Area Transit Authority (WMATA). They also do not include the costs of real estate, major utility relocation, new parks and memorials along the corridor. A combination of federal, state, public, and private funds would be necessary to support this substantial investment.

### Conceptual Cost Estimates

Total Project Cost

Bridge and Roadway Improvements	Estimated cost, \$ millions
Construction between the SE-SW Freeway and the river: 6-lane Boulevard on South Capitol Street, improvements to New Jersey Avenue, Van or Half	
Construction of Bridge	
Construction of improved connectivity east of the river	
Construction of connection to Suitland Parkway	47
Planning, engineering, and construction management	90
Escalation at 3.5 percent per year	75
Contract contingency	54
Total bridge and roadwa	y improvements 593
<u>Tunnel</u>	Estimated cost, \$ millions
Tunnel construction	631
Planning, engineering, and construction management	152
Escalation at 3.5 percent per year	126
Contract contingency	<u>91</u>
	Total tunnel 1000

1593



### **Proposed Studies**

- Anacostia Access Study
- Bridge Alignment Study
- Tunnel Study
- Tier I EIS

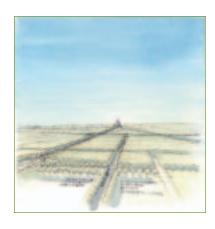
Creating a South Capitol Gateway will require a methodical program of transportation analysis, financial planning, environmental analysis, urban design, engineering, and construction, all performed in consultation with community and civic interests. The District Department of Transportation and other public agencies are working cooperatively on this program to transform the corridor's infrastructure.

- To refine solutions developed in the South Capitol Gateway and Improvement Study, DDOT will perform the Anacostia Access Study, which will focus east of the Anacostia River. Poplar Point, Anacostia Park, and the connection to Suitland Parkway include some of the most pressing problems and the greatest opportunities for improvement. The study will look in more detail at the potential characteristics of these opportunities. It will identify both short- and long-term solutions to ensure that resolving harmful conditions need not wait for major construction.
- Construction of the short-term solutions defined in the Anacostia Access Study will follow the study's completion. DDOT will build the improvements that are identified to solve immediate problems and cooperate with other agencies to improve conditions in the area.
- DDOT will lead a cooperative effort of District and federal agencies in the development of a set of urban design standards for the corridor. The standards will address such items as materials, including stone, brick, and others that will create a distinguished form and function; landscaping; lighting standards; and other design elements that define the character of the infrastructure.
- A redevelopment authority could be established to coordinate the monumental task of redeveloping the corridor and building the infrastructure. The authority would function as an umbrella over project management of the numerous efforts underway. It would assist in innovative financing for the infrastructure projects and serve as a trust for the various government agencies and nongovernmental organizations with projects in the corridor.
- One of the most important issues in defining the scale and character of the South Capitol Corridor's improvements is the corridor's role in the larger transportation network. South Capitol Street is one crossing among several that span the Anacostia River. These crossings must collectively meet the need for travel across the river, taking into account the volume and direction of trips and the mode of transportation on which they are made. Design decisions about capacity and connections to the transportation network must reflect this information as well as choices about where and how best to accommodate regional and local trips. DDOT will perform the Middle Anacostia Crossings Study to address these subjects.

# VII. Next Steps

- A DDOT bridge alignment study will look more closely at the bridge's location and configuration. Designing a bridge is a complex undertaking. The design process must consider the environmental resources that could be affected by construction, including potential hazardous materials in the river and the natural and human systems that could be affected by both the initial construction and the long-term presence of the bridge. Geologic conditions that affect the location and design of the bridge structure must be identified. Safe and practical connections to the streets and walkways on both ends of the bridge must be provided. A new bridge must accommodate the river channel and allow navigation, which has different characteristics from those that guided the design of the present bridge. The design process must explore the place of the bridge in the landscape and its physical, visual, and symbolic relationships to the Monumental Core. Finally, it must consider how construction techniques relate to bridge design.
- Similar to the bridge study is a tunnel study, as the construction of a tunnel raises some of the same issues. DDOT will perform a tunnel study that, in addition to the issues described for the bridge, will also examine the appropriate cross-section and tunnel construction methods.
- DDOT will initiate an environmental analysis to identify the impacts of creating a South Capitol Gateway. This will likely require an environmental impact statement (EIS). An EIS focuses on a project's environmental characteristics, but it also considers a broad range of planning issues. The process of performing an EIS, defined by the National Environmental Policy Act of 1969 and extensive regulatory and policy guidance, provides significant opportunities for public engagement in the design and decision-making processes.

The process will be tiered, producing an environmental document for the transportation network followed by more specific documents for individual projects. This approach will allow the environmental process to address the impacts of each project, such as the 11th Street Bridge replacement, a possible Massachusetts Avenue river crossing, and improvements to Kenilworth Avenue and I-295, as well as their interrelationships. The tiered process will also allow projects like the South Capitol Gateway that are farther along in the planning process to proceed without giving short shrift to projects that are still in the conceptual stage.



Bird's eye perspective of the Zone of Improvements west of the Anacostia River that includes South Capitol Street, Half Street, and New Jersey Avenue SE



### **Options Considered**

Improvements along South Capitol Street could take many different forms. To begin to define and narrow the range of possibilities, the South Capitol Gateway and Improvement Study analyzed five general transportation options.

The study identified the options' major characteristics, advantages, and disadvantages. It did not recommend one option, as that will require a more-detailed evaluation. An environmental impact statement, a later step in the process, will provide more information that will allow the selection of the most desirable improvements.

The scenarios developed in the National Capital Planning Commission's South Capital Street Urban Design Study provided the basis for three transportation options. Transportation system characteristics were defined that would fit the physical characteristics of each urban design scenario. The other two transportation options are a no-build option and a separate tunnel option.

In summary, the transportation options are:

Option 1: No-build. No new construction of transportation facilities; a baseline against which all other options were evaluated.

Option 2: A new bridge on South Capitol Street and transportation improvements that would approximate present traffic capacity.

Option 3: A new bridge on South Capitol Street and expanded transportation improvements that would increase traffic and transit capacity.

Option 4: Two new bridges, one on South Capitol Street for through traffic and the other for local traffic.

Option 5: A new bridge on South Capitol Street, which would serve as an atgrade boulevard, and a tunnel constructed under the river to handle through traffic.

# Appendix A: Options

#### Option 1: No-Build

No new transportation facilities would be constructed. Instead, existing facilities would be maintained and repaired, and planned capital improvements in the area would be made according to the District Department of Transportations Capital Improvement Program. It was quickly determined that the dilapidated condition of the corridor's infrastructure could not justify retaining the status quo.

In addition, new development will likely continue, placing additional demands on South Capitol Street and the other area streets. Failure to meet this increased pressure would worsen congestion and further limit access to the area.

#### Option 2: New Bridge, Same Traffic Capacity

A new bridge would carry South Capitol Street over the Anacostia River and South Capitol Street would be redesigned as a six-lane surface boulevard with generous sidewalks and bicycle facilities. This option would provide slightly more traffic capacity than the present roadway system. A transit line would run on a parallel street east of South Capitol Street; several streets are candidates for this location. East of the Anacostia River, the South Capitol Street-Suitland Parkway-I-295 Interchange would be reconfigured to reduce the land area currently consumed by roadways.



Option 1



Option 2



Option 3

#### Option 3: New Bridge, Added Traffic Capacity

As in Option 2, a new bridge would carry an at-grade South Capitol Street over the Anacostia River. In this option, however, South Capitol Street would be widened to eight lanes to increase traffic capacity. This option would require the acquisition of additional land to increase the current 130-foot right-of-way. This would allow transit to be placed on South Capitol Street. The South Capitol Street-Suitland Parkway-I-295 interchange would be reconfigured in the same manner as in Option 2.

Acquiring additional land on each side of South Capitol Street to accommodate the widened roadway could require the removal of 24 residences on the west side. Businesses on both sides of the street would be displaced, and St. Vincent de Paul church would have to be relocated. A wider South Capitol Street could also increase accidents and reduce pedestrian and bicycle safety.

#### Option 4: Two New Bridges

As in Option 2, a new bridge would carry South Capitol Street over the Anacostia River connecting I-395 to Suitland Parkway and I-295. A second bridge, located upriver, would connect to local streets and carry the transit line, bicycle, and pedestrian facilities. Like Option 3, this option would increase traffic capacity. However, this additional traffic would not be on South Capitol Street. This would result in greater service for local trips rather than regional ones. The South Capitol Street-Suitland Parkway-I-295 Interchange would be similar to the one in Options 2 and 3, and local street connections would be made through Anacostia Park to the second bridge. The second bridge in this option would add significantly to both the initial construction cost and long-term maintenance costs. By serving only local traffic, the second bridge would offer limited traffic benefits. It would also require an increase in the land devoted to highway infrastructure.



Option 4



Option 5

#### Option 5: New Bridge and New Tunnel

As in Option 2, a new bridge would carry South Capitol Street over the Anacostia River and provide access to the new six-lane boulevard. The new bridge would carry the transit line and the bicycle and pedestrian facilities. In addition, a tunnel would carry through traffic under the river to the I-395-Third Street Tunnel.

This option would increase traffic capacity but in a dramatically different way. It would also have the most positive impact on local neighborhoods, because commuter trips would largely be diverted off South Capitol Street to the tunnel. If the tunnel is constructed, the resulting traffic reduction may also be sufficient to locate a transit line on South Capitol Street. Finally, the South Capitol Street-Suitland Parkway-I-295 interchange would be reconfigured but would include new portals to the tunnel to connect to both northbound and southbound I-295.

# Appendix B: Tunnel Construction Considerations

#### **Tunnel Construction Considerations**

Constructing a tunnel in conjunction with a new bridge and street improvements is a good strategy for proceeding with this effort. A tunnel expands traffic capacity through the corridor without disrupting neighborhoods with an overly wide thoroughfare. A tunnel to carry through traffic was considered as a river crossing, but an analysis determined that the tunnel should not simply cross the river but extend through the entire study area.

Shorter tunnel concepts that would not extend as far north were also rejected. First, directing through traffic into the Center Leg Tunnel would allow it to stay off South Capitol Street. Second, a tunnel portal located on South Capitol Street would be too disruptive. Third, locating a portal anywhere along South Capitol Street would interfere with the street's alignment and block cross streets.

A tunnel could be constructed using either cut-and-cover or deep-bored construction techniques. The costs of the two techniques are comparable, but a deep-bored tunnel is probably preferable because it would be less disruptive to surface improvements.

The cut-and-cover technique involves the excavation of a trench; the construction of the floor, walls and lid of the tunnel structure; and the restoration of the surface above. In the study area, a cut-and-cover tunnel would have to be built either under South Capitol Street, an adjacent north-south street (Van or Half Street SE) or the land on one side of South Capitol Street.

Building a tunnel under South Capitol Street would require moving the underground utility lines and closing the street to traffic during construction. Rerouting traffic to some other street would be difficult because the other north-south streets in the study area are narrower and not well connected to the transportation network. Building a tunnel under another north-south street could limit the tunnel's width because of the narrower streets. Locating a tunnel under the land beside South Capitol Street would require clearing the land and demolition or relocation of buildings, although the land clearance could be integrated with other economic redevelopment steps.

Building a cut-and-cover tunnel under the Southeast-Southwest Freeway and the railroad overpasses may not be possible. A cut-and-cover tunnel would be relatively shallow and probably would not be able to pass through the piers and footings that support the freeway. Even a deep-bored tunnel would likely be affected by these supports.

A cut-and-cover tunnel would probably connect to a sunken tube to cross the river. To build a sunken tube crossing, a trench would be excavated in the riverbed and one or more prefabricated tubes moved into place and lowered to connect with the cut-and-cover sections on the shore. This construction would require disturbance of the riverbed, causing the potential disruption of contaminated sediment.

The deep-bored tunnel would disrupt the surface only at each end. A tunnel-boring machine would be assembled at one end to excavate the tunnel's entire length. A deep-bored tunnel would have less impact on traffic, would not require land clearance between the tunnel ends, and would avoid riverbed disturbance.

# Appendix C: Potential Impacts and Effects

### Land Use and Development

The improvements proposed for South Capitol Street would allow it to serve as a catalyst for redevelopment on both sides of the Anacostia River. The resulting new housing opportunities would allow more people to live close to jobs, reduce commuting distances and expand the pool of workers available to employers. Land that is now vacant or used for industrial functions would be more productively utilized. Low-impact development practices would allow the new mixed-use development to contribute to the area's quality of life.

Reconstruction of South Capitol Street, which includes beautifying the corridor and improving access, would also encourage mixed-use development on the parcels along the corridor and in the surrounding neighborhoods. The area's lack of access, poor traffic circulation, and unsightly appearance currently discourage investment.

The effects on land use would vary according to South Capitol Street's width. Widening South Capitol Street would reduce the amount of land available for private investment.

East of the Anacostia River, the reconstruction of the South Capitol Street-Suitland Parkway-I-295 interchange would foster redevelopment that would support the existing neighborhoods. The redesign of interchanges to the south would free up to as much as 20 acres of land now devoted to transportation for redevelopment as public open space or other purposes. In addition, removing through traffic from the block of Howard Road nearest to the Anacostia River and restoring it as a local street would allow its redevelopment for residential or other uses.

#### Cultural and Historic Resources

Surveys of the area by the District of Columbia Historic Preservation Office (SHPO) have identified the potential for cultural resources in the study area, including structures that merit further investigation for determination of their historic significance. Several cultural and historic resources in the study area are already listed on the District of Columbia Inventory of Historic Sites and the National Register of Historic Places, and others might be eligible.

Reconfiguring the street network throughout the South Capitol Street corridor would facilitate maintaining or restoring significant portions of Washington's L'Enfant Plan, which is listed on the National Register of Historic Places. Widening South Capitol Street would alter the original L'Enfant right-of-way of 130 feet. Widening South Capitol Street's right-of-way would also affect buildings identified in District of Columbia Historic Preservation Office records as known and potential historic resources. Determination of impacts and mitigation would be carried out with the District of Columbia Historic Preservation Office and the State Historic Preservation Officer for the District of Columbia.

Phase I will include an archaeological and architectural survey to determine to what extent historic resources would be impacted by future construction activities. Archaeological exploration carried out in conjunction with construction activities would enable the identification and investigation into potentially rich archaeological resources.

Enhancements to the study area would ultimately benefit its cultural and historic resources. The South Capitol Street corridor is in one of the city's oldest sections. The streetscape would respect the area's historic setting and structures. In addition, significant structures within the study area could be preserved and renovated as part of this effort.

Creating the South Capitol Street gateway would also create numerous new opportunities for memorials and monuments. This would reinforce the street's connection to Washington's Monumental Core. Removing roadways from Poplar Point would provide a site for a new memorial or public cultural facility. Land acquired along the east side of South Capitol Street between the U.S. Capitol and the Anacostia River may provide additional cultural and memorial sites.

### Right-of-Way Acquisition and Displacements

The South Capitol Gateway and Corridor Improvement Study was carried out with a particular emphasis on developing transportation improvement options that would not require any residential displacement. Some land acquisition would be necessary under any option that would widen South Capitol Street. Widening the street would also require the relocation of St. Vincent de Paul Church, one of the corridor's historic structures.

One potentially negative impact east of the river would be taking land in the Navy's Anacostia Annex to realign South Capitol Street. Negotiation with the Navy concerning any anticipated property acquisition or transfer would be carried out during project design. No displacements of present residents, businesses, or community facilities are anticipated east of the Anacostia River.

### Neighborhoods

South Capitol Street now creates a barrier between the District of Columbia's southeast and southwest neighborhoods. Changing it into a boulevard, reconnecting the street grid, improving pedestrian amenities, and providing safer intersections and crosswalks would substantially benefit the residents in the surrounding communities.

Other displacements would depend upon the South Capitol Street right-of-way width between the U.S. Capitol and the Anacostia River. Widening the right-of-way may necessitate the removal of twenty-four residences on the west side of South Capitol Street. In addition, businesses on both sides of the street would be displaced, including retail stores that serve the adjacent neighborhoods. However, new development in the study area, particularly along M Street, could provide new locations for existing businesses and attract new ones.

### Transportation and Traffic

The creation of the South Capitol Gateway would significantly impact the transportation system. Construction of a boulevard would change the way traffic flows through the corridor. Because all the options considered in this study would provide traffic capacity at least equal to that of the present roadway, general traffic performance would not differ dramatically from the no-build option. Traffic patterns would improve, however, as drivers could turn off South Capitol Street at the proposed new signalized intersections. Also, the traffic calming effect of roundabouts would reduce speeds.

The addition of a transit right-of-way would dramatically improve transit performance throughout the study area. Transit operations would be faster and more reliable. A dedicated transit line would provide a visual presence that would encourage transit use, and amenities at transit stations would make transit use more comfortable, convenient, and secure.

Improved bicycle facilities would encourage cycling through the study area for both commuting and recreational purposes. Improved pedestrian facilities would not only encourage walking, but would also improve neighborhood access and support development.

The construction of a tunnel under the Anacostia River would have a significant effect on traffic patterns. A tunnel would create increased capacity in a controlled-access facility to I-395 and downtown Washington. The reduction of traffic demand on the Southeast Freeway could allow its removal and the restoration of Virginia Avenue. The improved Virginia Avenue and the 11th Street Bridge would handle local traffic.

### Parklands and Public Recreational Facilities

Proposed improvements will avoid impacts to parks and recreation facilities to the extent feasible. Redesign of the interchange east of the river will affect park lands. Net effect is expected to be an increase in the area of park and recreational green space.

The Randall Recreation Center at the northwest corner of South Capitol and Eye Streets SW is impacted in the proposed design. Section 4(f) requirements will be handled during the environmental documentation process.

### Air Quality

The Washington Metropolitan Region exceeds the National Ambient Air Quality Standards (NAAQS) for ground-level ozone. For this pollutant, the region is classified as a severe non-attainment area. The Phase II Attainment Plan for Washington, DC-Maryland-Virginia, prepared by the Metropolitan Washington Council of Governments, Metropolitan Air Quality Committee, is the District's State Implementation Plan (SIP). This plan includes strategies for reducing ozone levels throughout the region.

Under the federal Clean Air Act (CAA), transportation plans, programs, and projects in a non-attainment or maintenance area that are funded or approved by the Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) must conform with the SIP through the process described in the EPA's transportation conformity regulations. By providing increased transit service and reducing both the length of time and the volume of idling cars, transportation improvements in the area have the potential to support these air quality improvement plans. Further investigations will be required to determine if the proposed improvements would be in compliance with the District's SIP.

#### **Utilities**

Any new construction should be carefully planned in relation to existing utilities. The study area contains several large utility lines and facilities, including the U.S. Capitol Power Plant and a PEPCO power plant. Sewer pumping stations are located on both sides of the Anacostia River, and large sewer lines run under Washington Avenue, South Capitol Street, New Jersey Avenue, Half Street SE, and Suitland Parkway. These utilities may limit or prevent some improvement options.

The construction of transportation facilities, however, will create opportunities for coordinating street and roadway improvements with sewer upgrades. The DC Water and Sewer Authority's draft long-term control plan for its combined sewer system includes major construction in the South Capitol Street study area.

The DC Water and Sewer Authority (WASA) plans to replace the Poplar Point Pumping Station, which is in the South Capitol Street-Suitland Parkway-I-295 interchange. A site for the station can be selected in coordination with the redesign of the interchange. WASA will rehabilitate the Main and O Street pumping stations, which are just outside the study area.

Most significantly, WASA plans to build a 95-million-gallon storage and conveyance combined sewer overflow tunnel on the west side of the Anacostia River, which will significantly improve the river's water quality. The construction of this facility could be coordinated with South Capitol Street's improvements.

Other utility impacts are also possible, depending upon the locations of a new bridge and other transportation facilities.

#### **Environmental Justice**

The communities along South Capitol Street have long endured barriers around and through their neighborhoods created by the transportation infrastructure. In addition, these neighborhoods are inadequately served by the transportation system. Community members expressed their needs and concerns at public meetings, in e-mails, and in comments throughout the South Capitol Gateway and Corridor Improvement Study. Extensive involvement by the community and agency stakeholders, matched with a commitment to no residential takings or displacements, shaped the alternatives to avoid significant negative effects to the human and natural environment.

This reflects a commitment to meeting the letter and spirit of federal environmental justice policy and guidance. Decisions made using effective environmental justice practices will:

- take into account social, economic, and environmental impacts, as well as
  equity, in dealing with the communities impacted by major transportation
  projects;
- allocate the benefits and burdens of all programs and projects in a nondiscriminatory manner;
- avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, planning all actions with the participation of the communities impacted; and
- prevent delay in the receipt of transportation benefits by communities of concern; and
- collect data on the affected communities, with a heightened sensitivity to
  where the minority and low-income populations, as well as persons with disabilities reside (community impact assessment).

#### Hazardous Waste

Encountering hazardous materials during construction is likely. Land use throughout the study area is predominantly industrial, which suggests a high potential for hazardous materials. Information provided by the District of Columbia Government indicates the presence of numerous underground storage tanks along South Capitol Street. Construction in this area would likely involve extensive remediation. Constructing a new bridge would also require moving the underground storage tanks beneath the current bridge approach and cleaning up contaminated soils. Contamination is also likely in the Anacostia River bottom. Mitigation may be necessary, depending upon the construction techniques used for a new bridge. A Phase I environmental site assessment should be conducted to better determine the potential for contamination in the study area.

# Security

South Capitol Street has an important security role in Washington's transportation system. In addition to its designation as one of the city's evacuation routes, South Capitol Street also connects nearby military installations. These include the Navy Yard, the Navy's Anacostia Annex, Fort McNair, Bolling Air Force Base, and Andrews Air Force Base. Ensuring quick and convenient transport between these facilities is in the national interest.

# Appendix D: South Capitol Street Vehicular Capacity

Capacity is the maximum vehicular flow rate on a given roadway segment. This study included vehicular capacity calculations for the five options considered for South Capitol Street between the U.S. Capitol and the Anacostia River. Keeping the present roadway with minimal enhancements is the no-build option. Each of the other four options includes transforming South Capitol Street into an at-grade boulevard in conjunction with other transportation infrastructure improvements. These calculations—prepared according to the Highway Capacity Manual procedures for analyzing arterial roadways—determined the allowable capacity, which corresponds to acceptable levels of traffic service.

The present roadway (the no-build option) has the lowest vehicular capacity of the five options. The other four options would increase vehicular capacity. The table below lists the average daily traffic (ADT) capacity for each option.

Option	Roadway Type	Capacity, ADT
1	No-Build—present roadway	45,300
2	6-lane boulevard	57,900
3	8-lane boulevard	77,200
4	6-lane and 4-lane boulevards	95,700
5	4-lane boulevard and 4-lane tunnel	115,800

# **Assumptions**

- In the no-build option, South Capitol Street is an urban arterial with a median, left-turn bays at intersections, 1.33 signalized intersections per mile, and a 45 mph posted speed limit.
- Options 2 through 5 include a boulevard with a median, left-turn bays at intersections, 6.25 signalized intersections per mile, and 35 mph free-flow speeds.
- The acceptable level of service is level of service E, or an average through travel speed of 33 percent or less of the free-flow speed.

#### I. Introduction

Justice & Sustainability Associates (JSA), in coordination with the consultant team and clients, designed and implemented a public participation plan primarily comprising four public meetings and public information and education.

#### Schedule:

Public Meeting #1: Existing Conditions Analysis, 17 October 2002 Public Meeting #2: Option Development and Evaluation Criteria,

7 December 2002

Public Meeting #3: Option Evaluation and Selection, 25 January 2003

Public Meeting #4: Study Findings Summary, 18 March 2003

The public participation component for the South Capitol Street Gateway and Improvement Study had three objectives:

- 1. Systematically inform and educate the public about the objectives, opportunities and challenges of the study.
- 2. Create a neutral environment in order to encourage and document written and verbal expression of a diverse range of public opinion.
- 3. Construct a public constituency for the short- and long-term objectives of the project.

# Appendix E: Documentation of Public Meetings

To increase public participation, JSA launched and maintained an interactive project website located at www.publicspaceforum.org. To ensure full and effective public information and education, the JSA team identified stakeholder groups and individuals having a potential interest in the study. The team's efforts targeted at least three distinct groups of stakeholder audiences.

- Near neighbors and residents of physically affected neighborhoods including Advisory Neighborhood Commissions, churches, schools, community based organizations, and businesses in the study area.
- Special interest advocates (cycling, environmental protection, commuters, etc.)
- Institutional actors (Navy Yard, WMATA, NCPC)

The goal of public information and education was to provide the public with accurate, understandable, pertinent, and timely information so that the public could contribute effectively to the study, especially by attending the public meetings. Methods included:

- PublicSpaceForum.org website
- Press releases and fact sheets
- Community calendar announcements
- DC Cable
- TV and radio interviews
- Newsletters (electronic and print)
- Flyers
- Announcement cards
- Advertisements in print media
- Phone calls and meeting visits to stakeholder groups and individuals

JSA's project manager chose public meeting locations for their easy access within or near the study area.

The post-meeting reports included tallying the sign-in sheets and summarizing the public viewpoints. Reports were posted on the PublicSpaceForum.org website. JSA staff also communicated at each meeting how public participants' input affected the decisions made by the study team. This closed communications loop helped the project team goal earn and retain the public's trust while ensuring the credibility of the study process.

# II. Public Meeting #1

# Public Kick-Off Meeting, Thursday, October 17, 2002 6:30–8:30 pm at Van Ness Elementary School, 1150 5th Street, SE

Fifty people registered as participants in the first public meeting. At this meeting, they learned about the study's area, vision, purpose, and the Congressional mandate. Consultants highlighted the conditions and issues the study would address, including the bridge, the approach to the Capitol, and neighborhood barriers. Display areas featured related studies such as the Anacostia Waterfront Initiative, the National Capital Planning Commission South Capitol Street Urban Design Study, and Washington Metropolitan Area Transit Authority studies.

#### Assessment of Community's Feedback

#### Meeting Evaluation Form

Of the 50 who signed in, 17 filled out the Meeting Evaluation Form. With 70 percent of the responses showing a good to excellent rating, the audience appreciated that the study was "holistic" and that the participants had time to ask questions and voice their opinions. The presentations were informative and gave the audience an understanding of the study process. They were ready to learn more details of the conditions and issues within the Southwest area. The respondents' comments express that the public felt listened to and the team was responsive. Participants stressed the importance of two issues in particular relating to Carrollsburg Place in Southwest Washington and bicycling.

# Carrollsburg Place

Residents needed to know that neighborhoods, such as Carrollsburg Place, will remain intact through the changes of the South Capitol corridor.

#### **Bicycling**

Cycling activists asked that cycling organizations be engaged in the process. Safety is their primary issue. They also desire a pedestrian/bike bridge from New Jersey Avenue to Poplar Point.

#### "Your Ideas" Form

The participant User Guide included a worksheet, "Your Ideas" form. Prompted by two questions, it captured what individual community members determined to be their biggest problem with and what they appreciate most about transportation around South Capitol Street.

- 1. My biggest problem(s) with transportation around South Capitol Street Three main concerns emerged from the responses:
  - inadequate bicycle and pedestrian-friendly paths
  - · concerns about the high amount of traffic and congestion
  - concerns about the future of homes on Carrollsburg Place
- 2. The things I appreciate most about transportation around South Capitol Street The three main acknowledgements:
  - bicycle paths along South Capitol Street bridge
  - the varying views of the Capitol from crossing the river
  - the connections to the major transportation routes (I-395, Suitland Parkway, and BW Parkway)

# III. Public Meeting #2

# Public Meeting #2, Saturday, December 7, 2002 9:00 am-noon at Savoy Elementary School, 2400 Shannon Place, SE

The primary purpose of the December workshop was to present and receive feedback on options for solving congestion and safety problems and for transforming the South Capitol Street Corridor into a gateway to the nation's capital. The consultants also introduced the draft evaluation criteria to the public. This draft document outlined the values and the tradeoffs when examining the options and the rights-of-way.

Assessment of Community's Feedback

#### Meeting Evaluation Form

Of the 71 who signed in, 25 percent filled out the Meeting Evaluation Form. Twothirds rated this meeting as satisfactory. The presentation was informative, but participants wanted to dialogue more. The prevailing question was "What is this going to look like?"

# IV. Public Meeting #3

# Public Meeting #3: Saturday, January 25, 2003 9:00 am-noon at Savoy Elementary School, 2400 Shannon Place, SE

At the January workshop, the study team provided newly developed material and drawings that clearly demonstrated different traffic and right-of-way possibilities. In four facilitated Learning Stations, participants evaluated five transportation options and three right-of-way conditions based on the evaluation criteria. At the Learning Stations they discussed the benefits and drawbacks of each in reference to land use and infrastructure, including regional and local transportation, neighborhood revitalization, the relationship to the Anacostia waterfront and the creation of a gateway/boulevard to the nation's capital.

#### **Evaluation Criteria**

#### Mobility and Transportation Criteria

- Create a great urban boulevard on South Capitol Street.
- Provide an acceptable level of service for existing and anticipated local and regional traffic.
- Reduce the negative impact of the transportation network on the adjacent neighborhoods.
- Improve public transit service by providing a separate public transit right-ofway through the corridor.
- Improve the safety and convenience of pedestrian and bicycle movement within and through the study area.
- Improve the potential for the future removal of the Southeast-Southwest Freeway.

#### Cultural and Aesthetic Criteria

- Improve the visual quality of the corridor.
- Create a visual environment in harmony with the monumental character of a gateway to Washington's monumental core.
- Create appropriate locations for museums and memorials.
- Minimize negative impacts to cultural and historic resources.

#### Neighborhood Criteria

- Minimize residential displacements.
- Minimize negative impacts to low-income and minority neighborhoods.
- Create a fair transportation benefit to low-income and minority neighborhoods.
- Create open space for recreational activities.
- Promote access to the Anacostia waterfront.

#### **Environmental Criteria**

- Minimize negative impacts to the natural and built environment.
- Minimize negative impacts to existing infrastructure and utilities.
- Benefit and improve the existing environment.

#### Economic Development Criteria

- Support the development of a new mixed-use employment corridor.
- Support economic opportunity for existing businesses and residents.
- Support public agency and private business plans and programs.

#### Feasibility Criteria

- Impose reasonable costs.
- Allow early completion.
- Minimize disruption during construction.
- Create a great urban boulevard in the tradition of Pennsylvania Avenue.

#### Right-of-Way West of the Anacostia River

National Capital Planning Commission's South Capitol Street Urban Design Study identified three potential conditions:

- A: 130-foot right-of-way, existing width
- B: 220-foot right-of-way widened to alleys on both sides
- C: 325-foot right-of-way widened only on east to Van Street, SE

#### **Transportation Options**

Option 1: No Build

Option 2: New Bridge, Same Capacity for Cars

- Six through lanes, median, and sidewalks on South Capitol
- Transit way and bicycle lanes on First Street, SE
- Right-of-way: A, B, or C

Option 3: New Bridge, Added Capacity for Cars

- Eight through lanes, median, and sidewalks on South Capitol
- Transit way in median
- Bicycle lanes at curb
- Right-of-way: B

Option 4: Two New Bridges, Added Capacity

- Six through lanes, median, and sidewalks on South Capitol
- Transit way and bicycle lanes on First Street, SE
- Right-of-way: A, B, or C

Option 5: New Bridge and Tunnel, Added Capacity

- Four through lanes, median, and sidewalks on South Capitol and six lanes in tunnel
- Transit way in median
- Bicycle lanes at curb
- Right-of-way: A, B, or C

#### Assessment of Community's Feedback

#### Meeting Evaluation Form

Participants gave a favorable review of the third public meeting, finding that the Learning Stations allowed for more discussion. Because of the complexity and the details of the study, the Learning Stations served to enhance the public's understanding through a more intimate setting.

#### **Evaluation Criteria Worksheets**

Participants used the evaluation criteria to judge how well each possible right-ofway and transportation option met the study goals. A ranking system was used. On a worksheet for the right-of-way west of the Anacostia River, 1 referred to the most preferred and 3 to the least preferred. On a worksheet for transportation options, 1 referred to the most preferred and 5 to the least preferred.

Right-of-way West of the Anacostia River

A. CULTURAL & AESTHETIC CRITERIA—the 325-foot right-of-way received the highest of the most preferred (1) ranking. 220-foot received the highest of the least preferred. Both the 325-foot and the 220-foot received the same number of median ranking.

- B. NEIGHBORHOOD CRITERIA—130-foot, highest most preferred. 220-foot, highest least preferred.
- C. ENVIRONMENTAL CRITERIA—130-foot, highest most preferred. 325-foot and 220-foot, equally least preferred.

D. ECONOMIC DEVELOPMENT CRITERIA—130-foot, highest most preferred. 220-foot, highest least preferred.

The 130-foot right-of-way was the most preferred overall. According to the tally, its strength is in economic development. 325-foot, the second in overall ranking, is strongest in the environmental criteria.

**Transportation Options** 

A. MOBILITY AND TRANSPORTATION CRITERIA—Option 5, most preferred. Option 1, least preferred.

- B. NEIGHBORHOOD CRITERIA—Option 2, most preferred. However Options 3, 4, and 5 are close in high preference.
- C. ENVIRONMENTAL CRITERIA—Option 2, most preferred with no one ranking it as the least preferred. Option 1, least preferred.
- D. ECONOMIC DEVELOPMENT CRITERIA—Option 1, highest number of least preferred. But five people did give it a most-preferred ranking. Option 2, highest most preferred and the lowest in least preferred. No one ranked Option 2 as the least preferred on these criteria.
- E. FEASIBILITY CRITERIA—People tended to prefer change, except in feasibility.

# V. Public Meeting #4

Public Meeting #4, Tuesday, March 18, 2003 6:30-8:30 pm at St. Augustine's Episcopal Church, 600 M Street, SW

At this final public meeting, the fewer than fifty participants included advisory neighborhood commissioners, commuters (residents from VA), a strong representation from Half Street, SW, and residents from east of the river. The meeting purpose was to present a summary of the study findings and the next steps.

Community concerns and questions included the aesthetic improvements and plans for the industrial uses, the potential ballpark site on M Street, residential displacements, and potential connections of Potomac Avenue to South Capitol Street and to New Jersey Avenue.

Assessment of Community's Feedback

#### Meeting Evaluation Form

Participants described it as a "very informative" meeting. One statement captured the intent of public participation: "Public meetings/involvement is most beneficial when citizen input is utilized. Otherwise it is not contributing to a good design plan. Please use 'good/quality' citizen input wisely."

# VI. Summary

Through the public participation component of the South Capitol Street Gateway and Improvement Study a diverse population of stakeholders became participants in meeting the goals of the study. Further, it provided a means to document extensive information and to demonstrate its capacity to create a constituency for improvements.

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# Acronyms and Abbreviations

ADT Average Daily Traffic

AIA American Institute of Architects

AICP American Institute of Certified Planners

AWI Anacostia Waterfront Initiative

CAA Clean Air Act
DC District of Columbia

DCOP District of Columbia Office of Planning

DDOT District of Columbia Department of Transportation

EIS Environmental Impact Statement FHWA Federal Highway Administration FTA Federal Transit Administration

MPH Miles per hour NE Northeast

NCPC National Capital Planning Commission NCRC National Capital Revitalization Corporation

NW Northwest

P.E. Professional Engineer

SE Southeast

SHPO State Historic Preservation Office SIP State Implementation Plan

SW Southwest

U.S. United States of America

USDOT United States Department of Transportation
WASA District of Columbia Water and Sewer Authority
WMATA Washington Metropolitan Area Transit Authority





A cooperative effort of the U.S. Department of Transportation / Federal Highway Administration, District Department of Transportation, National Park Service and National Capital Planning Commission.