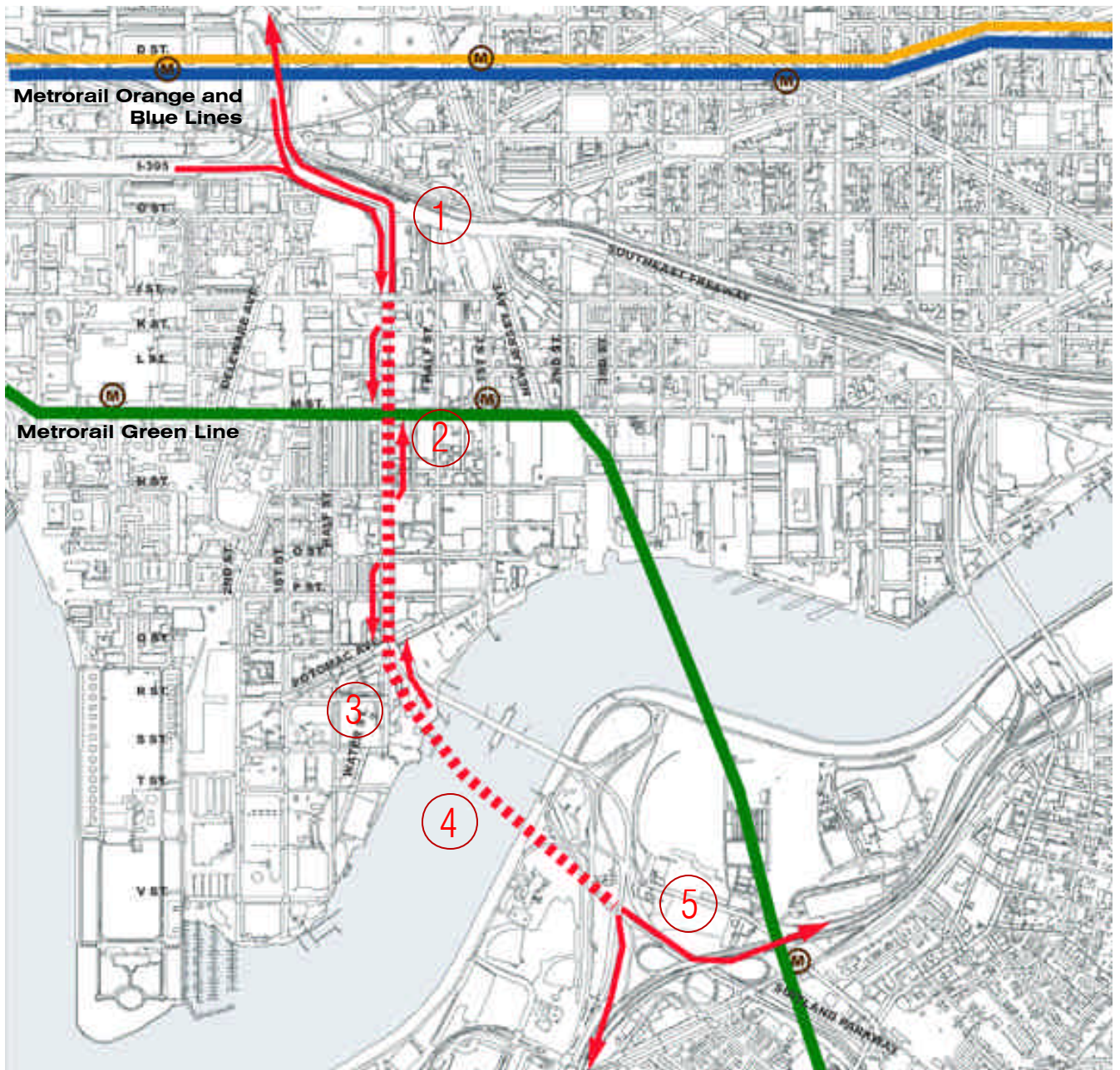


Possible tunnel configuration below South Capitol Street



Tunnel options with recommended connections to street grid at Potomac, M, and I Streets

## River Crossing and Bridge Height Considerations



*Memorial Bridge, Washington D.C.*



*Charles River, Boston*



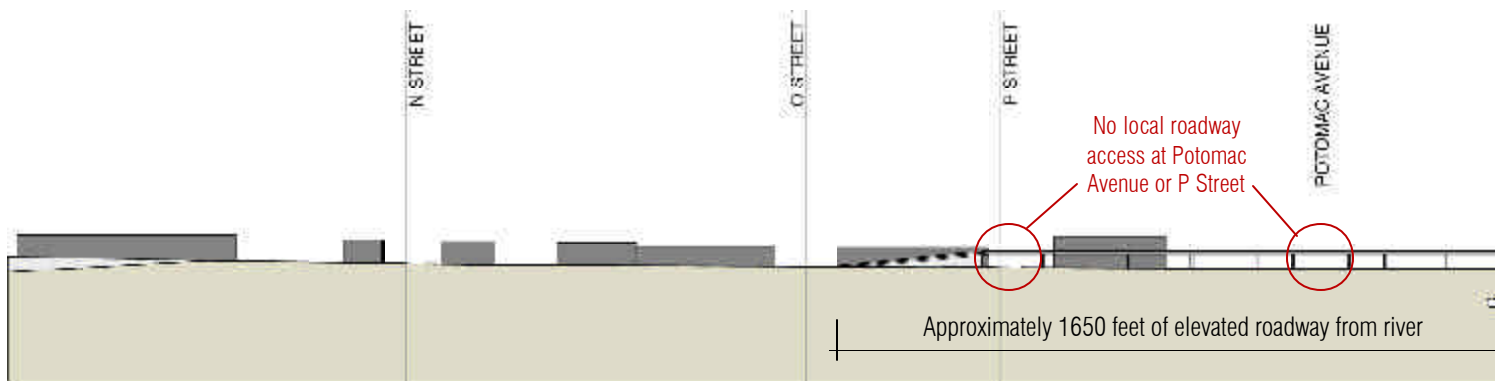
*Existing Frederick Douglass Bridge ramp*

One of the principal goals of the South Capitol Street Urban Design Study is to assess a variety of river crossing alternatives to replace the existing Frederick Douglass Bridge. The Frederick Douglass Bridge is scheduled for replacement in the next ten to fifteen years. This offers a tremendous opportunity to fundamentally alter the character of this important gateway to the city and to greatly improve conditions on both sides of the Anacostia River. Two design factors, bridge height and location, will greatly affect the urban design character, connectivity, and land use on either side of the river.

### Bridge Height

The existing Frederick Douglass Bridge rises 80 feet above the Anacostia River to accommodate the increasingly infrequent passage of large maritime vessels to and from the Navy Yard. Smaller watercraft can easily pass below the bridge and continue upriver. Heights of successive bridges quickly decrease farther upriver. The crossing of the CSX rail line, located near Congressional Cemetery, is approximately five feet above the river's surface and limits access to nearly all watercraft. Marina locations are greatly affected by crossing heights along the Anacostia River. The size and number of watercraft that can access the AWI "Heritage Basin" (see Waterfront trail system illustration on p. 31 for location) will depend upon the height of the new crossing. The future bridge height will to a great extent determine the nature of activities within this basin, but needs not be 80 feet to accommodate the vast majority of recreational boating. A 40 to 50 foot bridge height - with a moveable center span - should accommodate normal needs adequately.

The height of any new bridge will also affect connectivity to city streets for vehicles, transit, pedestrians, and cyclists crossing the river. Ramp lengths from the bridge to existing streets, governed by allowable grades, will shorten as the bridge height decreases. The current height of the bridge requires that ramps land far inland, limiting direct vehicular access to the waterfront. The Buzzard Point end of any new bridge can be shortened considerably, as it was originally extended only to clear a rail line on Potomac Avenue that is no longer used. Ramps and stairs that connect to bridge walkways close to the water's edge are desirable to connect to riverwalks and trails. A lower bridge would facilitate this transition. The Memorial Bridge in Washington D.C., at a height of approximately 30 feet above the Potomac River is easily accessible by pedestrians and cyclists. Although volumes are much lower on this bridge, it carries the same number of vehicular lanes and connects readily to the local street grid without long ramps.



*Section through existing South Capitol Street and Frederick Douglass Bridge*



*The height of the Frederick Douglass Bridge increases the length of ramps connecting to city street grid*

75' SETBACK

Approximately  
75 foot clearance



## Alternate Bridge Locations

Identifying a site for a new Frederick Douglass Bridge will be a lengthy process that involves the advice and consent of many agencies, landowners, transportation authorities, the public, and a thorough review of environmental, physical, and economic considerations.

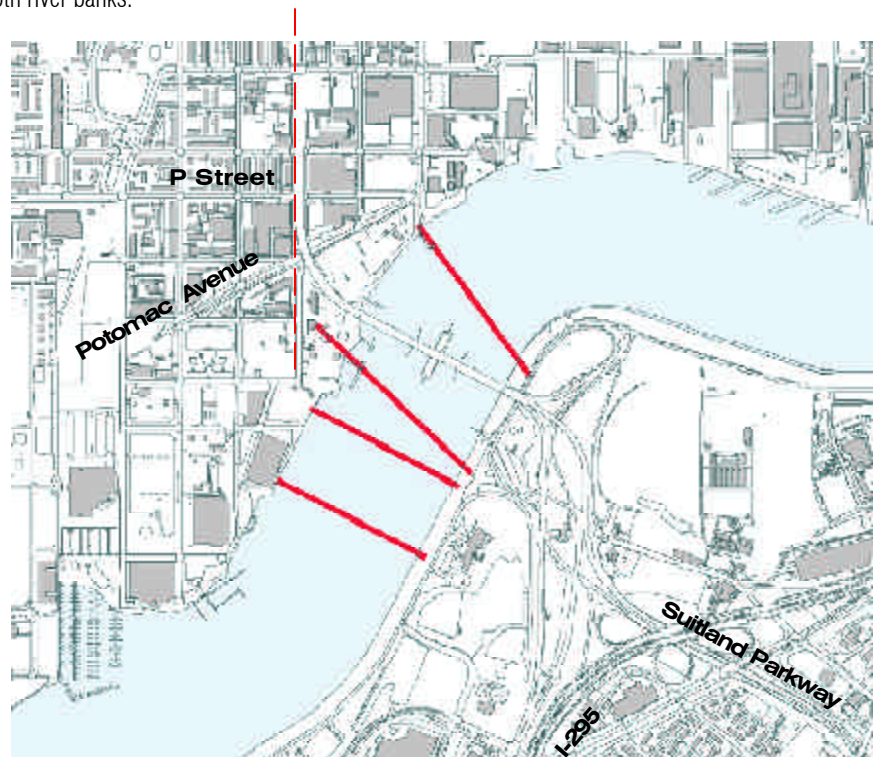
Considerations must include:

1. Recognition of the formal axis of South Capitol Street
2. Potential to recapture a significant amount of land for parks and development at Poplar Point
3. Potential to connect to local streets and waterfront trails
4. Relationship to the Anacostia Riverwalk and park system
5. Ability to accommodate transit lines serving both sides of the river

To satisfy these five goals, this study recommends locations for the new bridge crossing as far south as possible. On the Buzzard Point side of the Anacostia River the bridge landing should either celebrate the great axis from the Capitol, or be moved well away from it. Landings that occur directly at the intersection of the water and the Capitol axis will most likely not be able to provide a suitably gracious public setting. On the Poplar Point side, a southern location creates greater flexibility for any future neighborhood or open space development.

A southerly location of the new crossing can better connect new public spaces with the river and its associated trails and riverwalks. The vertical structural element of a well-designed bridge could provide a fitting icon for this important gateway to the monumental core and to the Anacostia Riverpark. The angle of Potomac Avenue favors a more southern location as well, to enable the bridge and its ramps to intersect with Potomac Avenue. Direct access to this important local avenue from a new Frederick Douglass Bridge may be impossible at more northerly alignments. The need to maintain traffic through the corridor during construction favors a crossing well away from the existing bridge.

Finally, a southerly location for a new bridge does not preclude an additional future crossing north of the existing Frederick Douglass Bridge. As recommended in the AWI Framework Plan, additional river crossings promote connections between neighborhoods that are across the river from each other, and better connect the open spaces along both river banks.



*Possible bridge locations in addition to the alignment of the existing Frederick Douglass Bridge*

## Land Use Goals

- Redirect high-volume traffic away from South Capitol Street with a new I-395 and I-295 tunnel connection.
- Accommodate transportation needs for projected land uses.
- Increase transit choices throughout study area.
- Distribute vehicles across a broader network of streets.
- Improve east-west connections across South Capitol Street.
- Accommodate light rail capability on major roadways in accordance with latest WMATA plans.
- Target existing Metro stops for increased development.
- Create broader sidewalks on South Capitol Street, appropriate to a boulevard.
- Provide direct pedestrian connections to the Anacostia Riverpark system.
- Replace the Frederick Douglass Bridge with a new bridge that is aligned south of its present location.
- Promote access to the waterfront by reducing transportation barriers separating residential neighborhoods.
- A new Frederick Douglass Bridge must accommodate several modes of transportation, e.g. vehicular, pedestrian, transit, and bicycle.
- Decrease the height of the future Frederick Douglass Bridge to a 50' height above the river. A substantial benefit of this would be shorter ramp lengths and greater ease in accommodating both transit and pedestrians.



## 5. Urban Design Scenarios

### Physical Implications of the Urban Design Principles and Goals as Applied to The Corridor

The South Capitol Street Urban Design Study is an important first step in the planning process for redevelopment of the corridor. Additional analysis and public discussion are needed to advance the full range of possibilities and their impacts for the corridor. The following scenarios illustrate how the ten urban design principles set forth can be satisfied in a variety of ways. Each scenario:

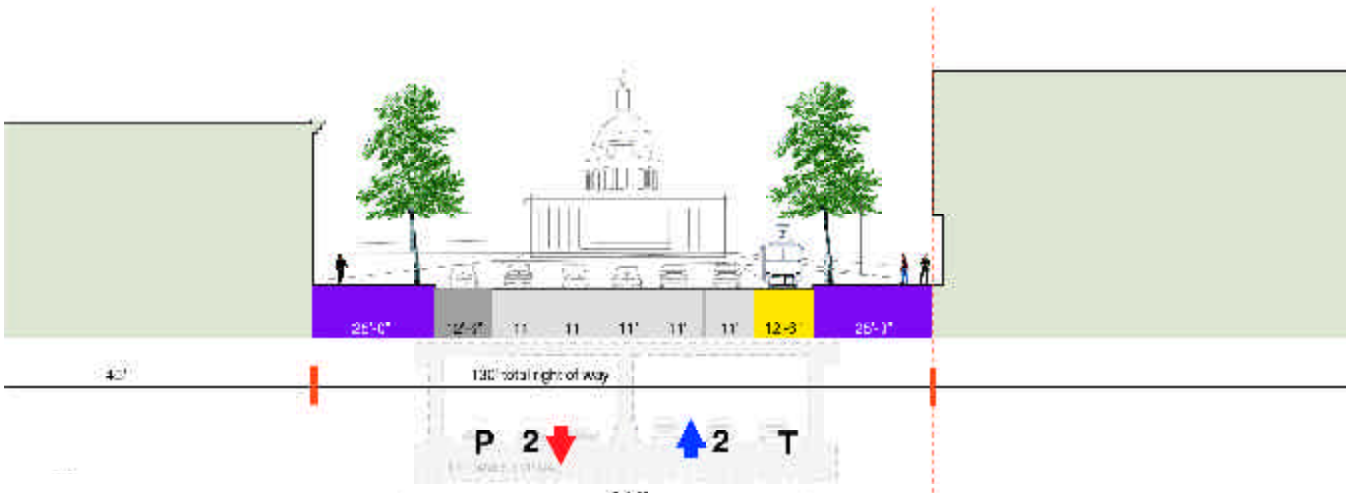
1. Transforms South Capitol Street into an urban boulevard at a different scale: from maintaining the existing right-of-way at 130 feet, to its enlargement including a continuous parallel linear park with a total right-of-way of 325 feet.
2. Creates a ceremonial public corridor that will stimulate revitalization while providing a major expansion for future civic, memorial and cultural facilities in the nation's capital.
3. Establishes a more direct public open space connection between the Mall, the Capitol and the Anacostia Riverpark system.
4. Designates a civic terminus containing a major open space and potential memorial site at the point where South Capitol meets the river.
5. Optimizes ceremonial, commuter, and local traffic needs while enhancing pedestrian amenities and providing for future public transit improvements.
6. Shifts a new Frederick Douglass Bridge southward to better align South Capitol Street with Suitland Parkway and to offer greater flexibility to develop the Buzzard and Poplar Point areas.
7. Proposes a new signature bridge across the Anacostia, at once more memorable, functional and friendly for cars, transit and pedestrians.
8. Considers future crossings, including a tunnel, to handle the large volumes of daily highway-to-highway traffic that overwhelms South Capitol Street.
9. Provides the framework for a new mixed use commercial and residential growth corridor for the city.
10. Strengthens existing neighborhoods with mixed use development, residential and neighborhood services.

The three scenarios increase in complexity (from A to C) primarily in relationship to the width of the ROW for South Capitol Street, the amount of open space created at the South Capitol Street axis and terminus at the Anacostia River, the extent of the re-alignment of the new Frederick Douglass Bridge and additional future river crossings.

## Scenario A

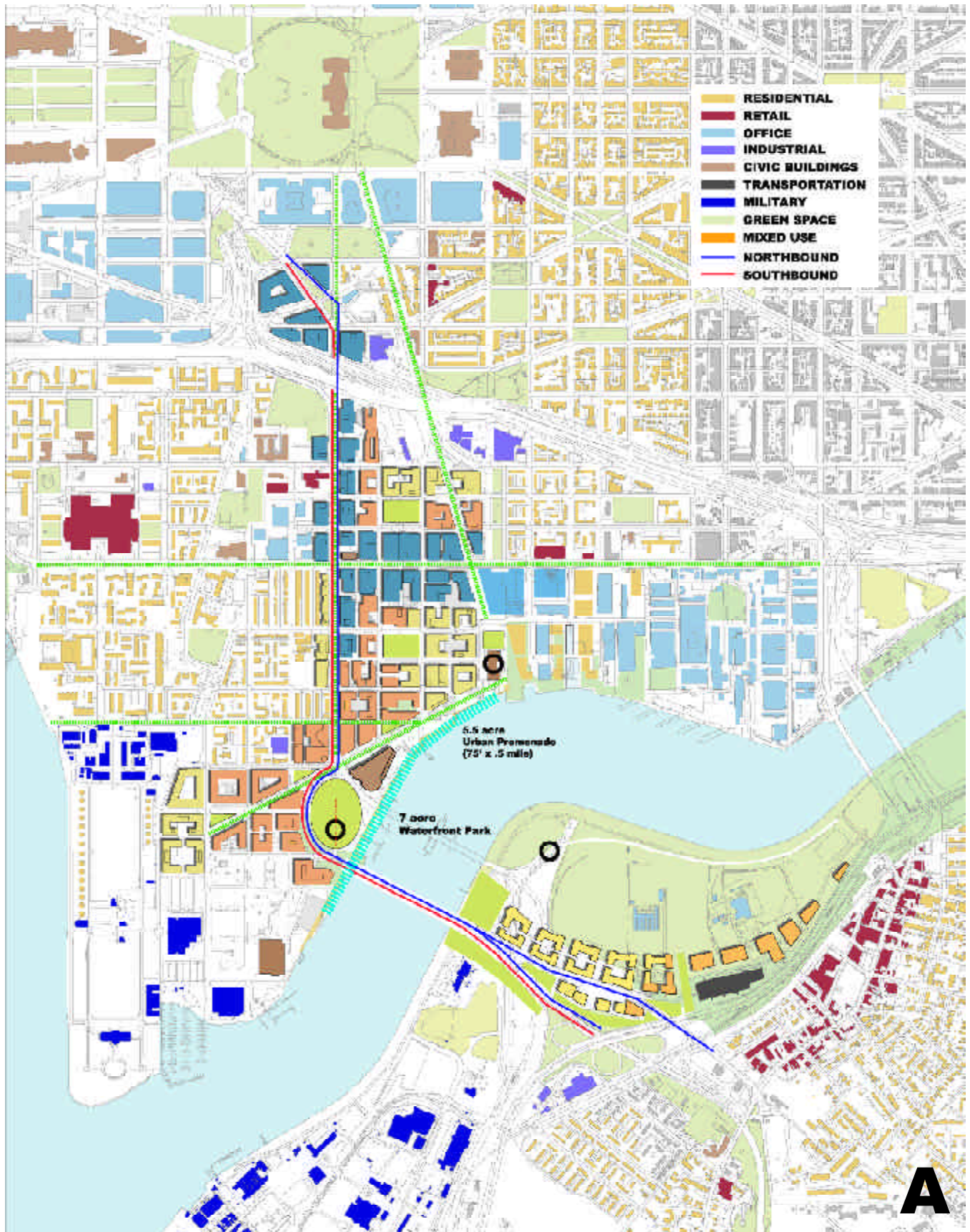
Corresponds to "Boulevard Within the Existing 130feet Right-of-Way", introduced on p. 34

This scenario maintains the present South Capitol Street public right-of-way at 130 feet, but limits the street to six lanes of moving traffic from the present eight lanes. The fewer lanes allow more landscaping and pedestrian amenities along the street (as the cross-section highlights) converting South Capitol Street from its present highway-like character into an urban boulevard. In order to achieve the reduction in lanes, a tunnel is recommended to accommodate the regional traffic between I-295 and I-395 that currently uses South Capitol Street. This scenario also creates a seven-acre public space at the intersection of the Anacostia River and the extended South Capitol Street axis. A significant memorial or civic institution can also be located at this 'terminus'. The location of the future Frederick Douglass Bridge is southward of its present alignment, and its connection to South Capitol Street helps shape the terminus park and memorial site. This scenario highlights the importance of the Florida Rock properties as settings for prominent buildings facing both the river and the terminus park. Across the river, the bridge's new alignment allows potential new mixed use residential development to line Howard Road and the proposed park at Poplar Point.



Urban Design Scenario A: View of Capitol Axis Terminus at the Anacostia River



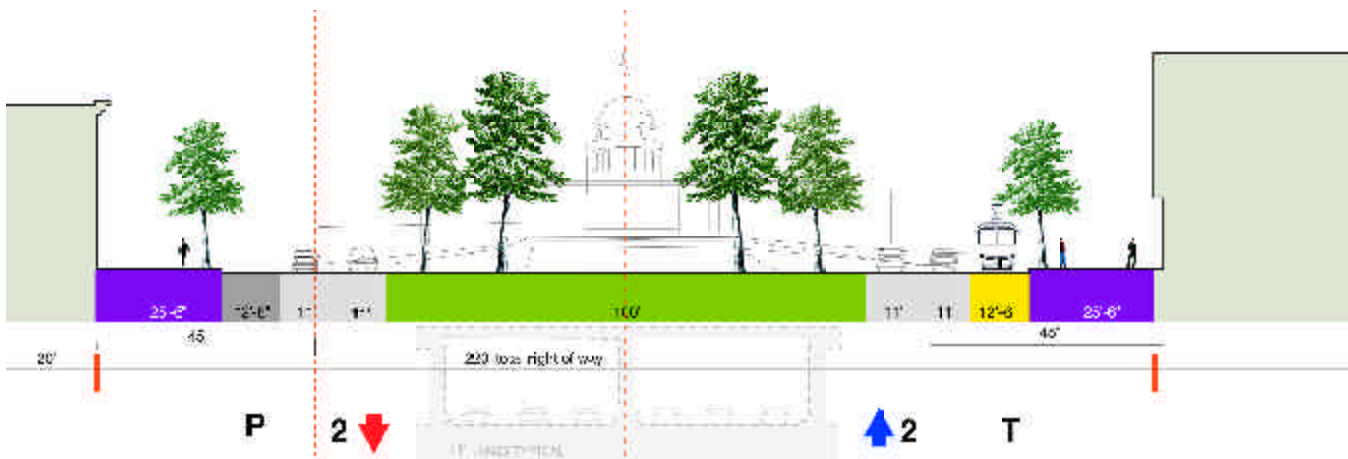


Urban Design Scenario A

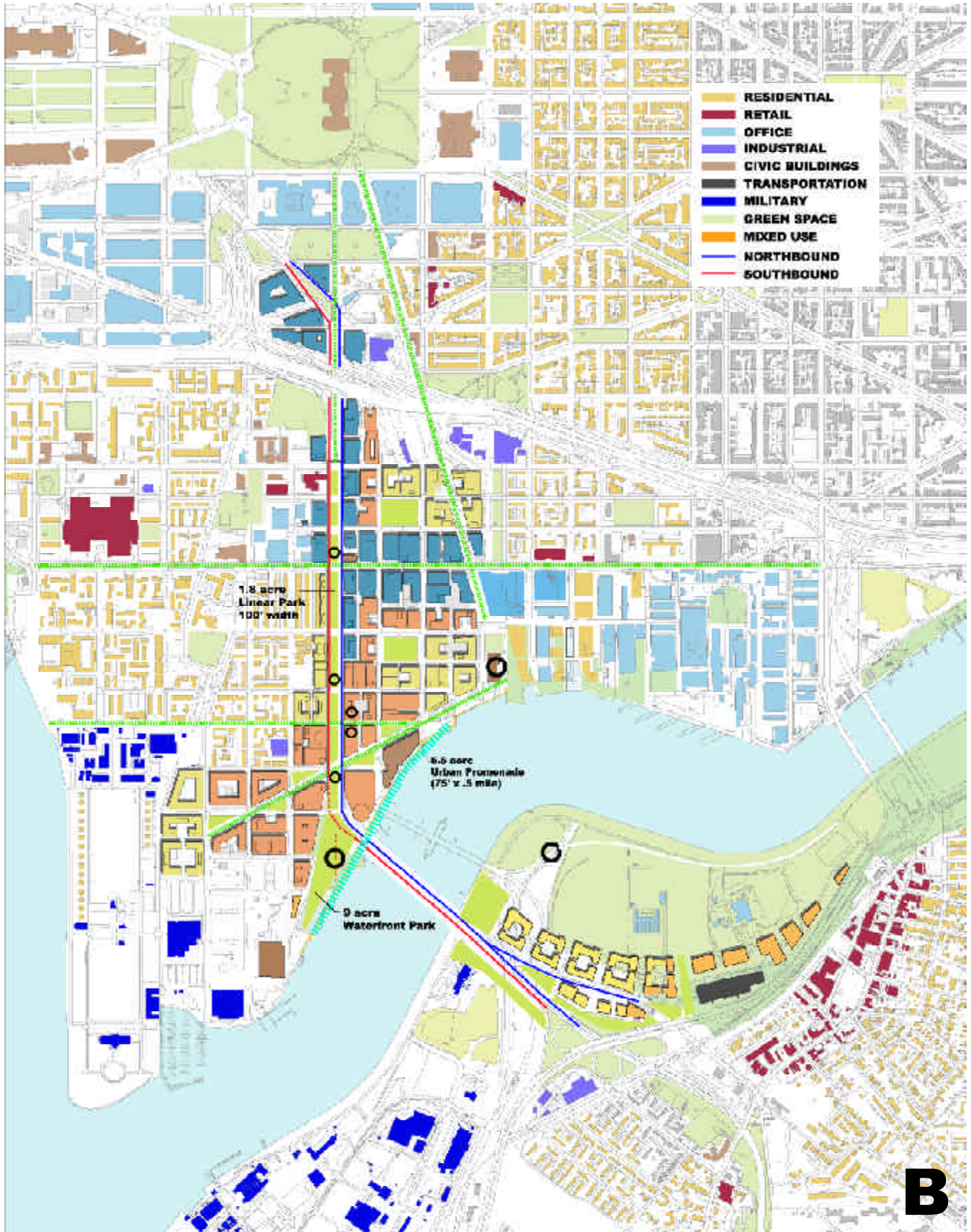
## Scenario B

Corresponds to "Center Median Boulevard with an Expanded 220 foot Right-of-Way", introduced on p. 36

Scenario B incorporates a center median boulevard in an expanded ROW terminating in a nine acre waterfront park. The park is oriented towards the confluence of the Potomac and Anacostia Rivers and creates a more spacious setting at the terminus of South Capitol Street. The bridge frames the northern approach to this park and moves transportation infrastructure well away from the terminus, which remains open for memorialization and gatherings at the river. South-bound traffic is directed into a short tunnel below the open space before connecting to the new bridge. The landscaped central median connects to the waterfront open spaces uninterrupted by major traffic. Prominent civic or private buildings should surround the waterfront park to create a graceful and active waterfront. Along South Capitol Street the ROW is expanded from 130 feet to 220 feet allowing for a substantial, 100 foot landscaped public space centered on the axis from the Capitol. This would create a grand urban avenue worthy of the L'Enfant Plan. It would provide a fine setting for small-scale memorials along the length of South Capitol Street.



Urban Design Scenario B: View of Capitol Axis Terminus at the Anacostia River

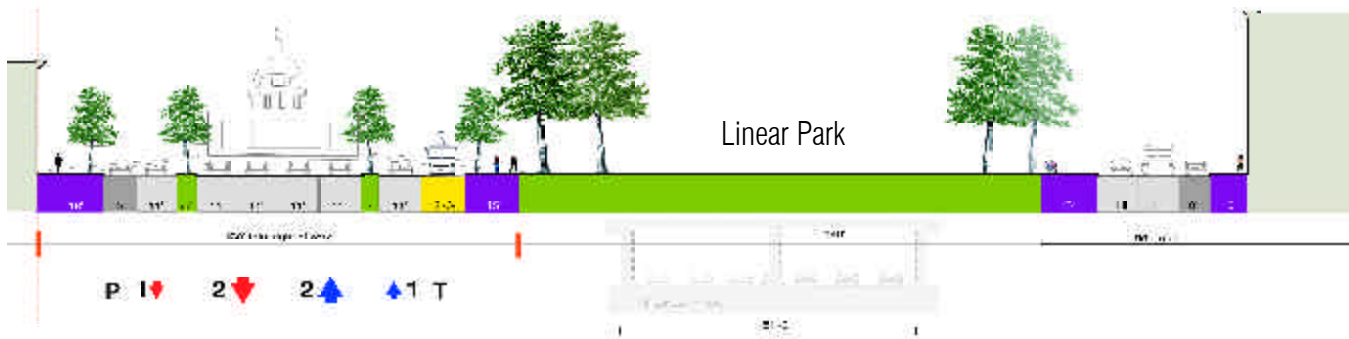


Urban Design Scenario B

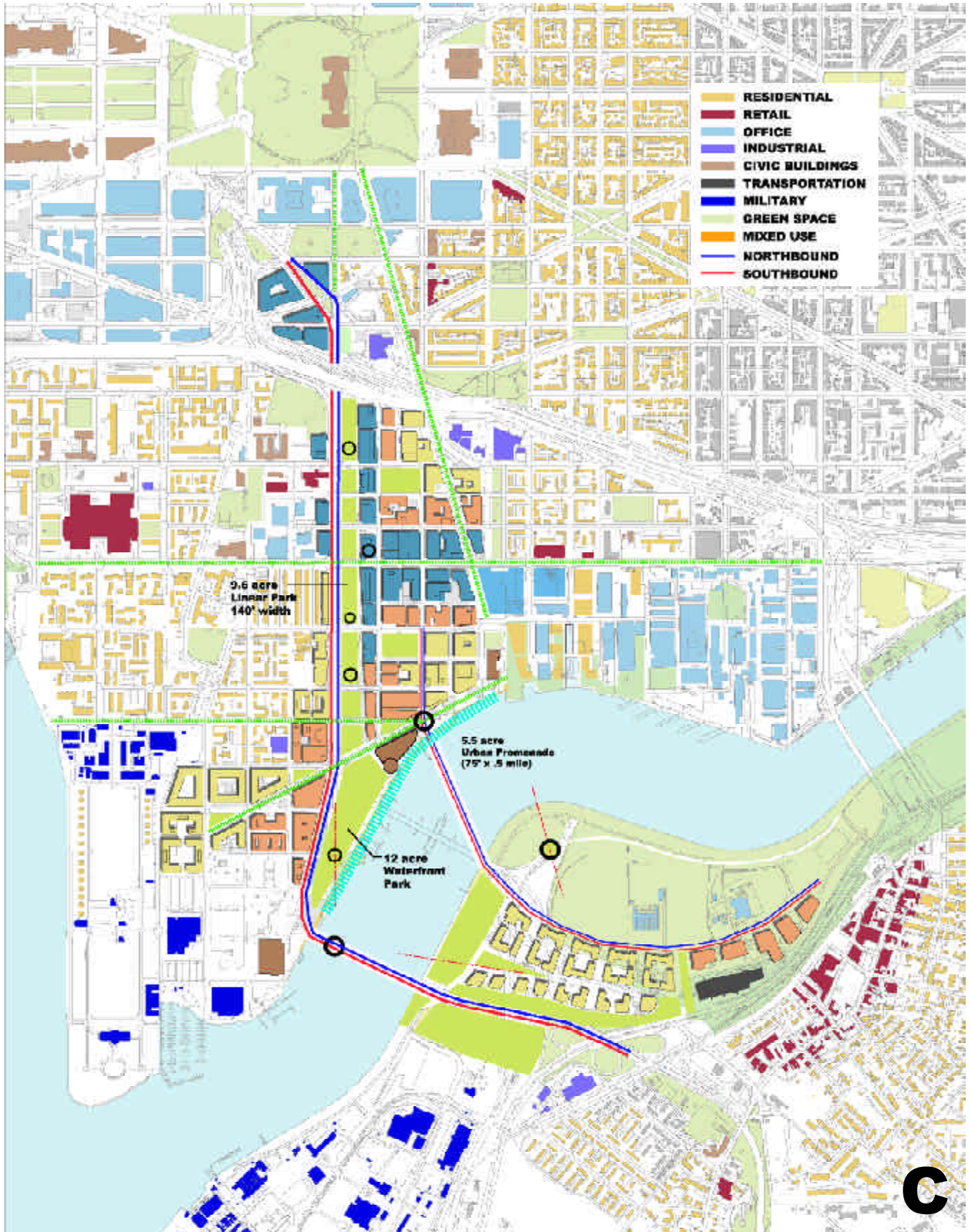
## Scenario C

Corresponds to “Boulevard Combined with an Adjoining Linear Park”, introduced on p. 38

Scenario C is the most ambitious of the three, creating monumental new public spaces in the study area. The scenario combines an urban boulevard with a linear park and a waterfront park, each with its own identity. The 140 foot wide linear park to the east of the axis of South Capitol Street connects Capital Hill and the National Mall to the Anacostia Riverpark. Locations along the park are appropriate for both memorials and museums. This scenario locates a new bridge significantly south of its existing location, creating a large amount of developable land at Poplar Point and moving transportation infrastructure away from the South Capitol Street terminus. Potomac Avenue and Water Street define a twelve-acre waterfront park with important building sites located to the north and south. A signature vertical element of the bridge could be located on the axis of the Capitol creating a landmark gateway. Additional memorials can be located within the park itself. This southern location of the new crossing could also allow an additional future bridge to connect the Anacostia Riverpark with Buzzard Point. In addition, Poplar Point can grow into a new waterfront mixed-use neighborhood that is better connected with Buzzard Point via a smaller, locally-scaled bridge. Both new bridges would benefit from a new tunnel that distributes regional traffic between I-295 and I-395, thus easing congestion throughout the corridor.



Urban Design Scenario C: View of Capitol Axis Terminus at the Anacostia River



Urban Design Scenario C

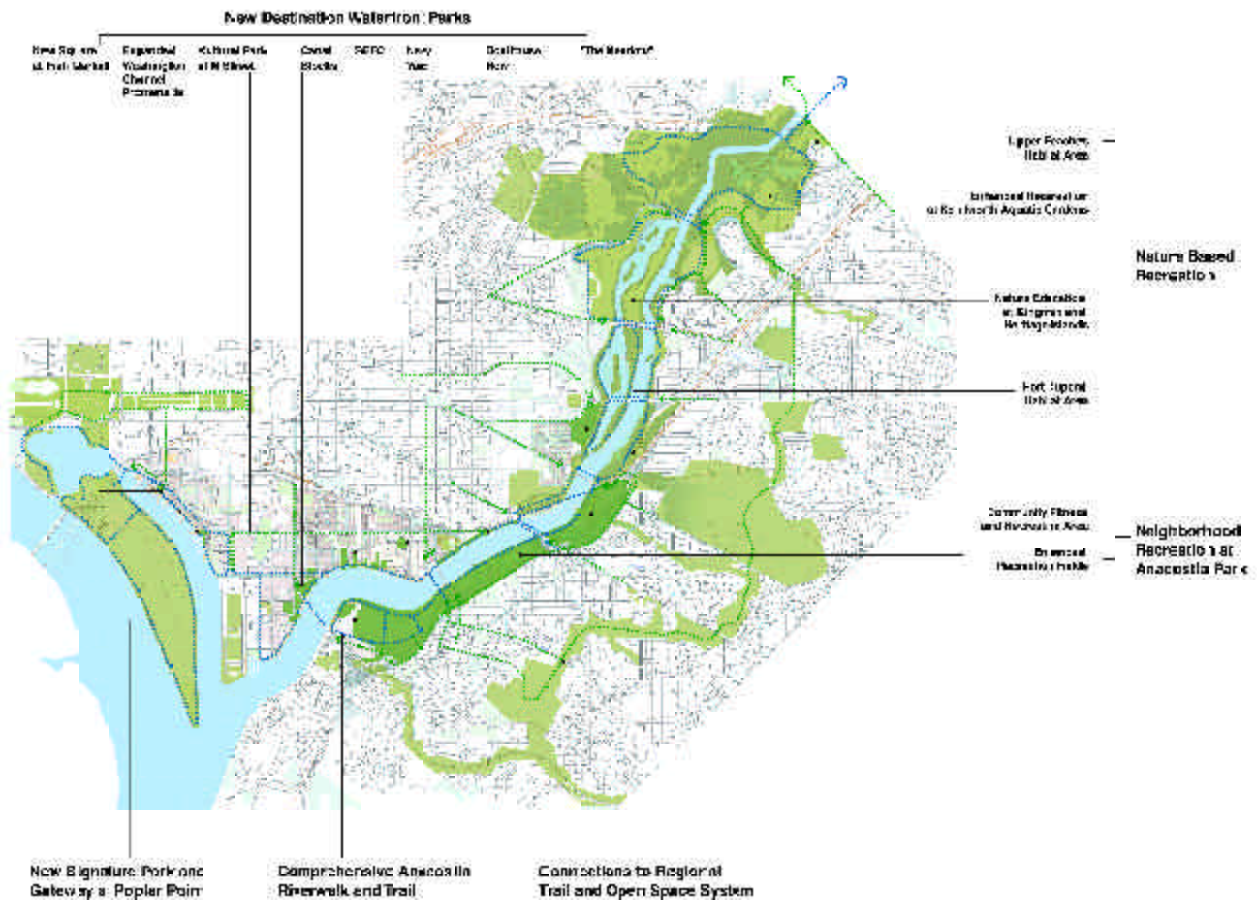


## 6. Appendix

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## Related Planning Efforts

The South Capitol Street Planning Study builds upon several planning studies and initiatives completed or nearing completion in Washington D.C. Three large planning efforts have had a direct impact upon the planning of the corridor: The Anacostia Waterfront Initiative, The Legacy Plan, and the Memorials and Museums Master Plan. Other planning studies affecting the area include the Southeast Federal Center Master Plan, the Naval District Washington Anacostia Master Plan, and the Sub-area Plan for the North End of the U.S. Naval Station, Anacostia.





## The Anacostia Waterfront Initiative

The Anacostia Waterfront Initiative (AWI) is a multi-year plan commissioned by the District of Columbia Office of Planning and supported by a host of public agencies and stakeholders. The AWI Framework Plan, to be released in January 2003, sets forth five broad themes for the approximately 2,800 acres of land along the Anacostia River corridor stretching nearly seven miles from the Potomac to the Maryland border. The Initiative establishes a comprehensive planning background for changes along the river and within six adjacent target areas. The five themes - a clean and active river, breaking down barriers and gaining access, a great riverfront park system, cultural destinations of distinct character, and building strong waterfront neighborhoods contain specific design recommendations that impact the planning of the South Capitol Street corridor, one of the six target areas. As a plan that aspires to create a great waterfront park for the 21<sup>st</sup> century, much of the AWI addresses open space planning. Specific recommendations that impact the South Capitol Street study area include:

### Land Use

- Revitalize existing neighborhoods, and create new mixed-use waterfront neighborhoods located at Buzzards Point, southern Poplar Point, and the Southeast Federal Center.
- Create places of employment at sites along the river and connect historic centers of commercial activity to public amenities.

### Open Space and Cultural Destinations

- Create linkages between the Anacostia Waterfront Park and the other major parks of D.C.: Rock Creek Park, the Potomac River, and the Mall.
- Create an active 100-acre park at Poplar Point.
- Combine the natural qualities of the river with more active urban waterfronts such as the Southeast Federal Center (SEFC) promenade.
- Promote distinct programs along the river: at Poplar Point a Cultural/Natural area may include soccer, rugby, biking, jogging, softball, an amphitheatre, and an Art Park; at the SEFC/Navy Yard programs include biking and jogging along a waterfront promenade.
- Identify basins along the river: at Poplar Point, "The Heritage Basin" should commemorate history and culture – creating new accessible sites for gardens, memorials and museums and linking the park to a vital, growing, residential and commercial neighborhood of Historic Anacostia.

### Transportation

- Create a continuous system of trails and river walks along the river accessible to pedestrians, cyclists, joggers and strollers. Integrate this system with accessible and human-scaled bridges.
- Promote public transit throughout the study area.
- Balance vehicular transportation across the River in many locations: decrease vehicle demand on 11<sup>th</sup> and 12<sup>th</sup> Street Bridges and a new Frederick Douglass Bridge with the addition of a new tunnel connecting I-295 with I-395 below South Capitol Street.
- Enhance M Street as a busy commercial corridor extending from Maine Avenue to Pennsylvania Avenue SW.



*Anacostia Riverparks trail*



*Anacostia Riverparks aerial view*



*Anacostia Riverwalk*

## Extending the Legacy: Planning America's Capital for the 21<sup>st</sup> Century

Prepared by the National Capital Planning Commission and released in 1997, *Extending the Legacy* is a vision plan that creates opportunities for new museums, memorials, and federal office buildings in all quadrants of the city. The Legacy Plan seeks to preserve the historic character and open space of Washington's traditional Monumental Core while accommodating growth and new development. Revitalization of South Capitol Street is among the plan's most ambitious proposals.



*Legacy Plan rendering of study area*

The Legacy Plan calls for redevelopment of the South Capitol Street Corridor as a fitting gateway to the U.S. Capitol and Washington's Monumental Core. The plan envisions a future South Capitol Street as a lively urban boulevard lined with a mix of uses—offices, apartments, shops, hotels, memorials, and open civic spaces. A major civic or cultural feature is proposed for the street's terminus on the Anacostia River that could accommodate a range of additional uses: restaurants, concerts, marinas, and riverfront entertainment. In NCPC's vision plan, a renewed South Capitol Street will strongly contribute to the economic vitality of the local city and serve as a destination place of symbolic significance for the nation.

The Legacy Plan's vision for South Capitol Street is closely linked to its recommendations for the future use of Washington's waterfront. The plan calls for a variety of uses along the city's 22 miles of waterfront and includes parks, plazas, bike paths, and marinas. The plan anticipates that the urban waterfront it proposes in the area around South Capitol and M Streets, the Southeast Federal Center, will generate significant economic activity that will spill over to Poplar Point and Anacostia.



*Legacy Plan rendering of South Capitol Street terminus*

To reconnect the L'Enfant City with its waterfront, the Legacy Plan establishes a long-term goal of eliminating the Southeast/Southwest Freeway and the restoration of the historic street grid. It calls for the construction of a new Frederick Douglass Bridge connecting South Capitol Street to Poplar Point that can accommodate pedestrians and bicycles.

The Legacy Plan was designed as a flexible framework that will guide long-term development while accommodating future development needs.



*Legacy Plan rendering of South Capitol Street*

## Memorials and Museums Master Plan

The Memorials and Museums Master Plan, published by the National Capital Planning Commission in 2001, provides a clear framework plan for the siting of memorials and museums in the Nation's Capital. It promotes an important strategy: the expansion of significant sites, previously assessed in terms of proximity to the Mall, to include those that have important visual and symbolic connections to the city's existing national landmarks. The four primary elements of the Master Plan framework - the waterfront crescent, commemorative focus areas, monumental corridors, and special sites - all occur within the South Capitol Street study areas. Specific recommendations are made for each of these categories, and the corridor is described as appropriate for "attractive development sites as well as prominent locations for museums and memorials." Further, the Memorials and Museums Master Plan categorizes and prioritizes 100 candidate sites in the Nation's Capital. Ten of these sites are within the South Capitol Street study area, and two are considered "prime candidate sites." These prime sites are located at the intersection of South Capitol Street and the Anacostia River, and on the Anacostia River waterfront just east of the existing Frederick Douglass Bridge. The Memorials and Museums Master Plan reinforces many of the ideas found in the Legacy Plan, namely the expansion of the federal presence along the four great axes emanating from the Capitol, and a focus on the city's "waterfront crescent."



Detail from the Memorials and Museums Mater Plan showing candidate memorial and musuem sites in the South Capitol Street Study Area



Redesign of Anacostia Metrorail Station with memorial at its forecourt



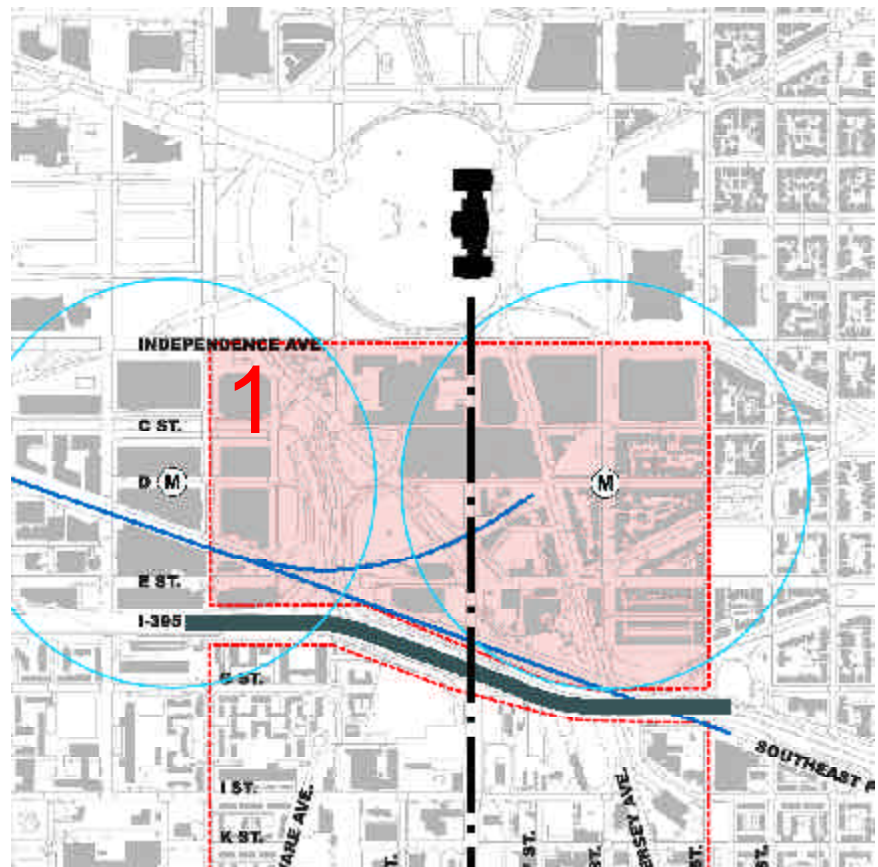
Memorials and Museums Master Plan Framework

## Existing Conditions in Detail by Subarea

### Subarea 1

The first subarea is bound by Independence Avenue to the north, I-395 to the south, 2nd Street SE to the east and 3rd Street SW to the west. This subarea most closely resembles the character of Capitol Hill and the monumental grounds of the National Mall. South Capitol Street is closed from C Street to Independence Avenue. Northbound traffic on South Capitol Street follows the diagonal of Washington Avenue (formerly called Canal Street) northwest to Independence Avenue. Land uses in the area include two large surface parking lots and the Capitol Power Plant, both of which disrupt the cohesiveness of the area. Two elevated rail lines that cross the corridor include the CSX and the Virginia Railway Express lines.

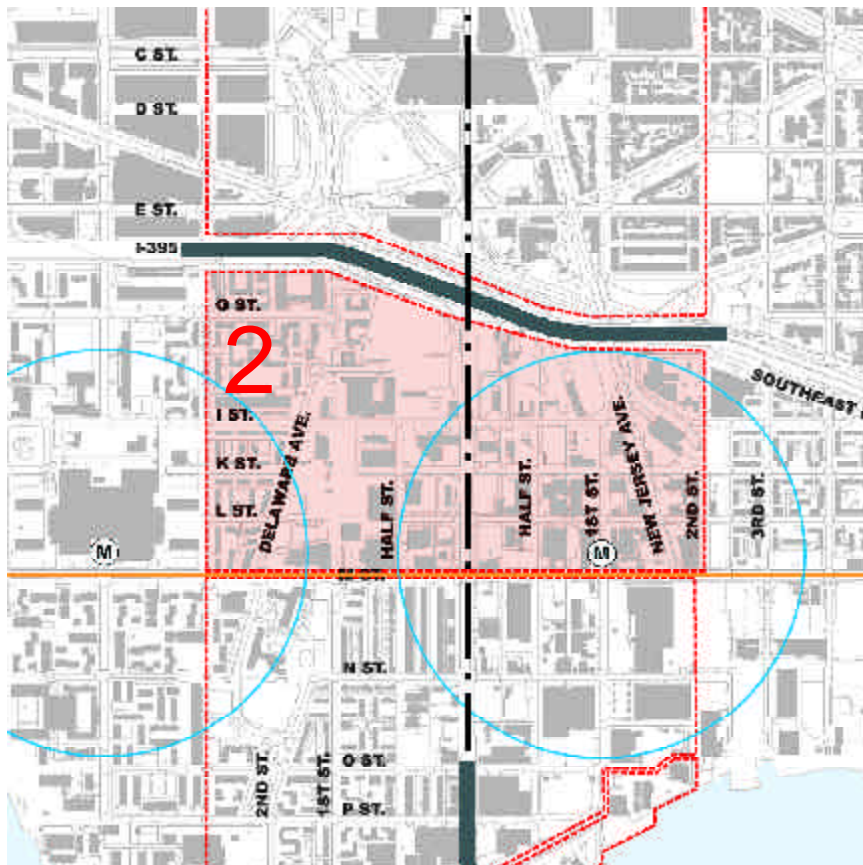
The southern end of this area is comprised of the ramps and elevated roadway intersection of I-395. Surface parking is located below the freeway to the west of South Capitol Street and the areas to the east below the freeway are largely untended and unattractive. The substantial length of the on and off ramps paralleling South Capitol Street impedes pedestrian crossing south of the freeway.



Study area 1 showing Metro stations, I-395, Rail Line

Subarea 2

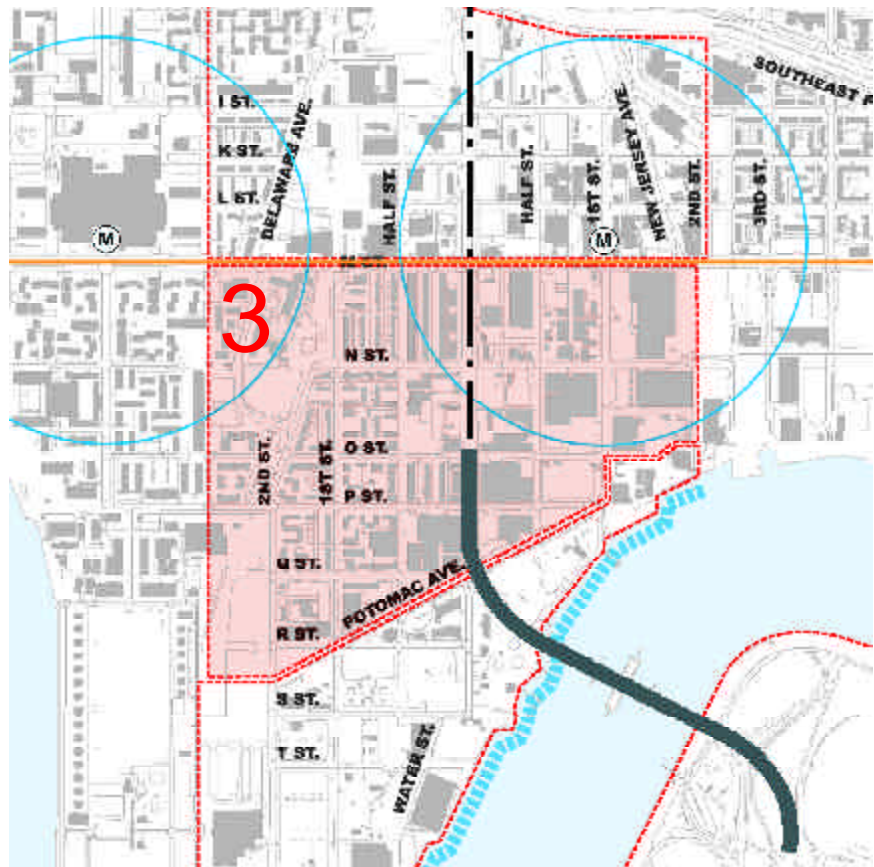
This study area extends from I-395 south to M Street, east to 2nd Street SE and west to 3<sup>rd</sup> Street SW. Land use along the corridor is characterized by surface parking lots, fast-food restaurants, and gas stations. The Capitol Power Plant is located just north of the freeway and extends into Subarea 2. A public park owned by the District is located just south of the freeway and west of South Capitol Street. To the east are nightclubs and light industrial use,s and a District Trash Transfer facility is located east of New Jersey Avenue. A District Motor Vehicle Inspection facility is located west of South Capitol Street, as well as the Millennium Arts Center, the Capital Park Town House Apartments, and a hotel.



Study area 2 showing M Street, Metro stations, I-395

### Subarea 3

Subarea 3 extends from M Street south to Potomac Avenue and from 3rd Street SW to 2nd Street SE. East of South Capitol Street, land use consists of light industrial and low-density services, and includes several storage warehouses. Areas to the west of the corridor are almost exclusively residential. One of the District's first public housing developments is located along Carrollsburg Place south of M Street and half a block west of South Capitol Street. South of N Street, construction has recently started on a residential adaptive reuse project. The five lanes of high-speed traffic that continue unsignalized through this area, combined with a grade separation below M Street, impede the east-west connections across South Capitol Street.

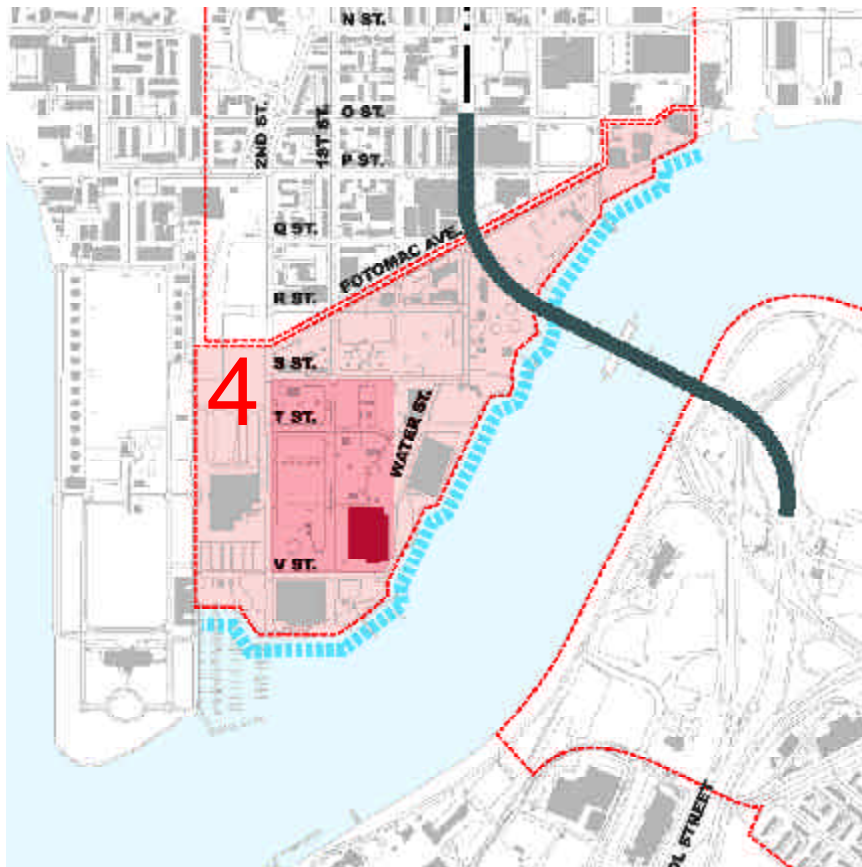


Study area 3 showing M Street, Frederick Douglass Bridge

Subarea 4

Subarea 4 extends from Potomac Avenue to the Anacostia River and from 2<sup>nd</sup> Street SE to 3<sup>rd</sup> Street SW. It includes all of the waterfront parcels along the Anacostia River. On both sides of the corridor, land use is exclusively light industrial with the exception of the Matthew Henson Conservation Center, the Earth Conservation Corps Pier, the Coast Guard headquarters (expected to vacate this facility by March 2007), and an unleased commercial building adjacent to the terminus of South Capitol Street. An operating Pepco electric plant occupies approximately six blocks west of Half Street SW. The shoreline here is substantially deteriorated and public access to the waterfront is severely limited.

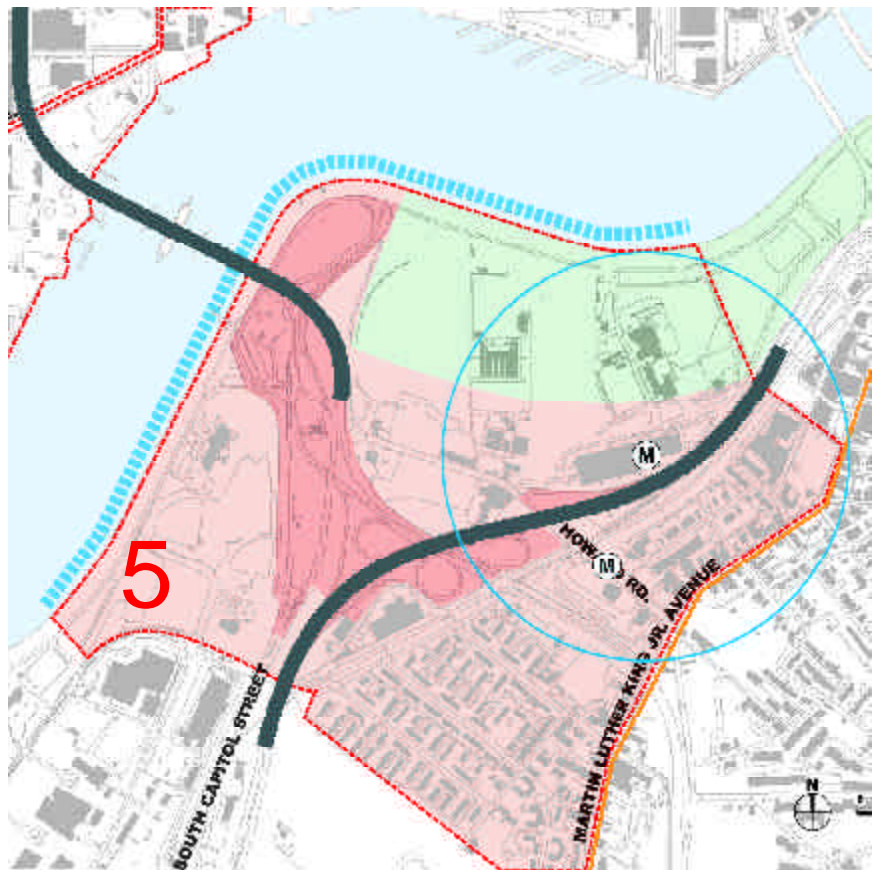
The northern span and ramp system of the Frederick Douglass Bridge touches land in Subarea 4 and the southern span and ramp system touches land on the adjacent Subarea 5. Approximately 1300 feet wide at the crossing, the bridge spans the Anacostia River, and connects to the Suitland Parkway, I-295, and Howard Road. Its present physical condition will require both short-term repair and eventual replacement. Pedestrian and bicycle paths on the bridge are extremely narrow and dangerous. Ramp configurations at Poplar Point connecting the bridge with the Suitland Parkway and I-295 are inefficient and occupy large areas of otherwise empty land. Adjacent property owners include the National Park Service, the U.S. Navy, and the District of Columbia Parks and Recreation.



Study area 4 showing Pepco, waterfront

## Subarea 5

This subarea is roughly defined by the shoreline of the Anacostia River to the north, Stevens Road and the northern edge of the U.S. Naval Station to the west, Martin Luther King, Jr. Boulevard to the south, and W Street to the east. Land uses within this study area vary greatly. The Barry Farms residential development, the U.S. Naval Station, privately owned residential and commercial properties, public transportation facilities, and park land owned by the National Park Service and the District of Columbia Parks and Recreation are all located within this study area. While the existing park roads offer public access to the waterfront, several contaminated sites in this area prohibit active uses. A substantial portion of this study area is occupied by the interchange of Suitland Parkway and I-295. The Anacostia Park and Ride Metro Station and its associated Metrobus facility are located north and south of this interchange. Major freeways segment this study area into sub-sections cut off from one another, and present a barrier for historic Anacostia neighborhoods to access the waterfront.

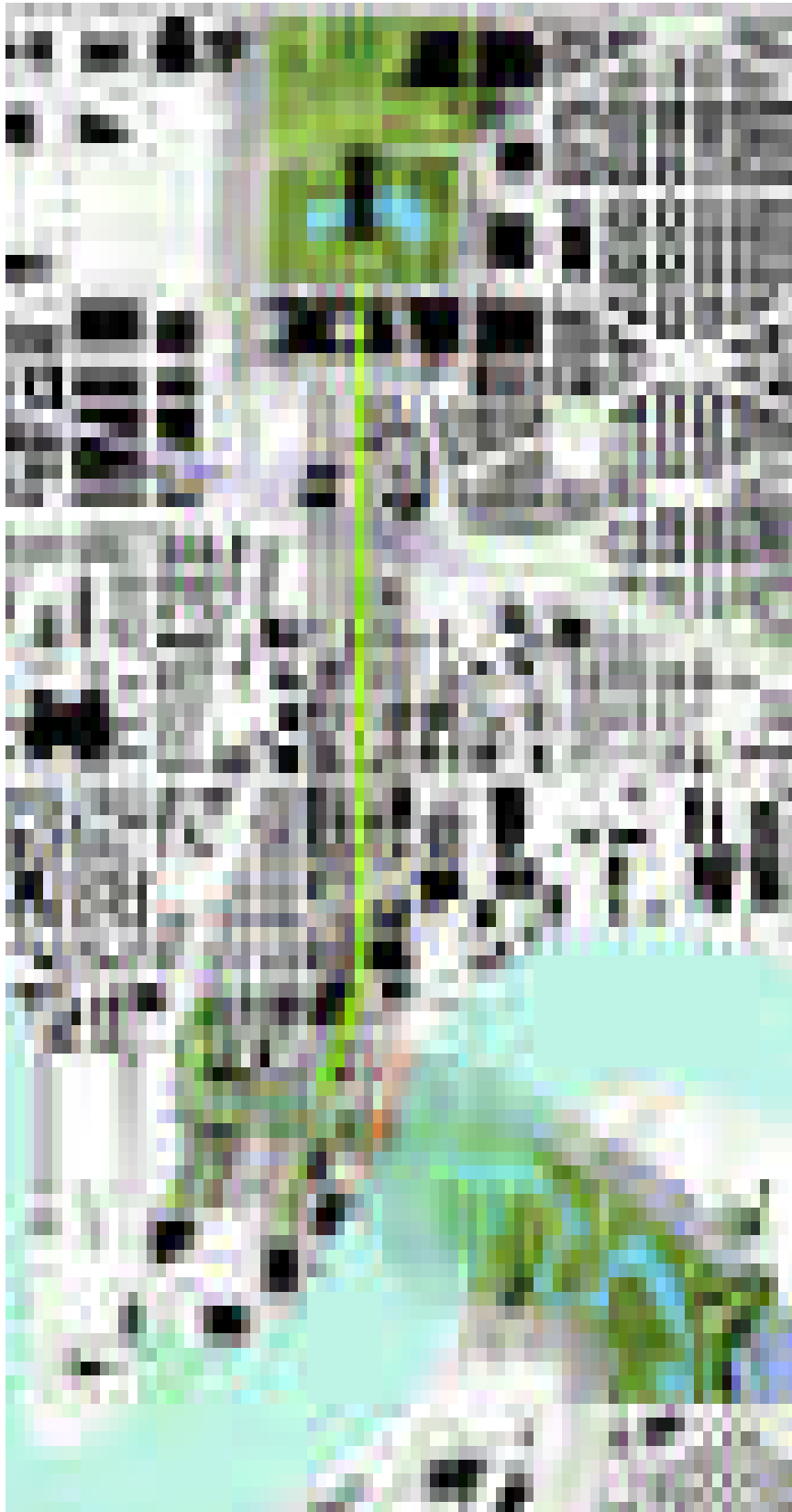


Study area 5 indicating land occupied by interchange ramps, Anacostia Park, Martin Luther King Jr. Avenue



## Appendix Scale Comparisons

### Commonwealth Avenue, Boston Massachusetts

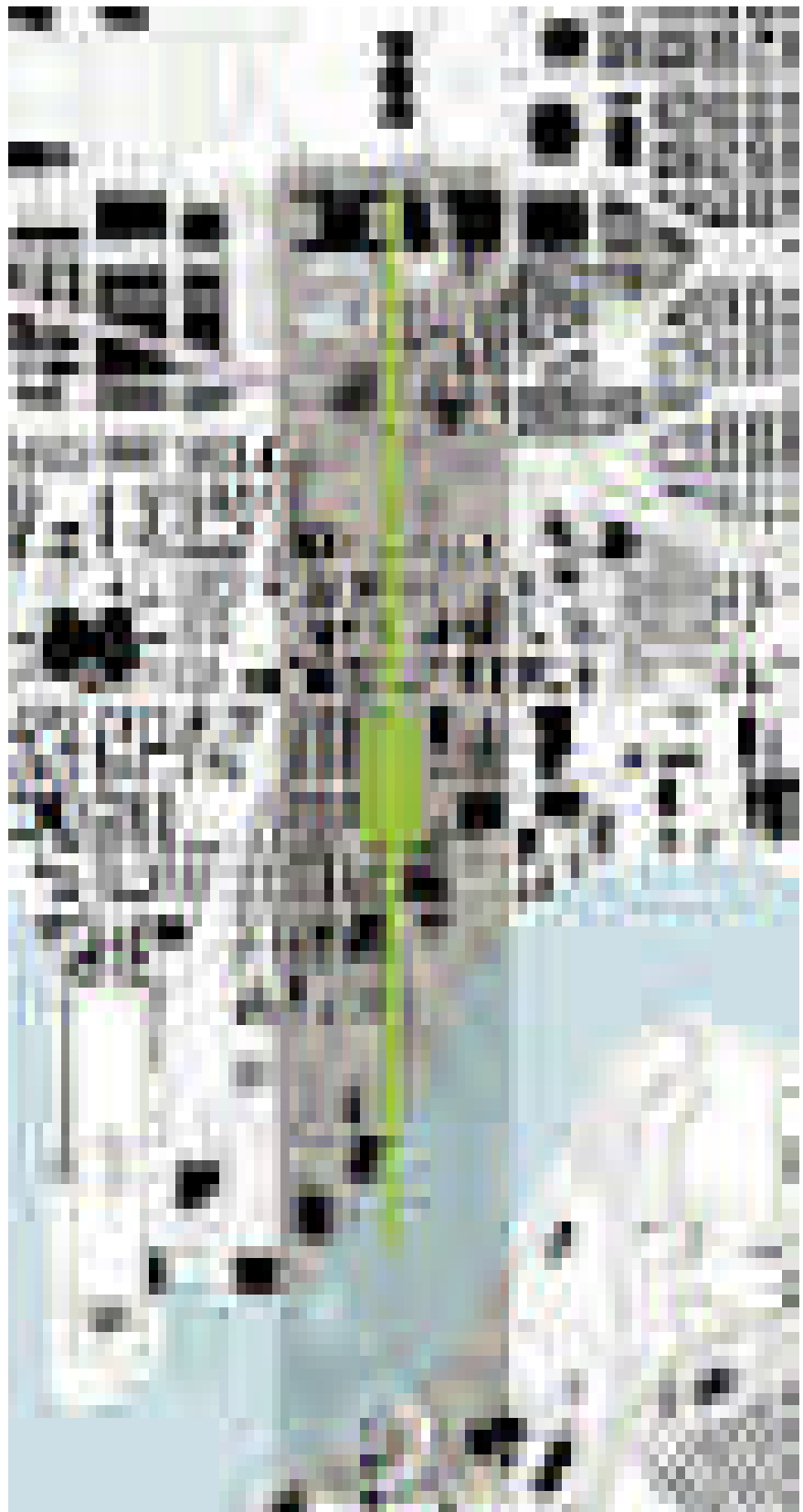
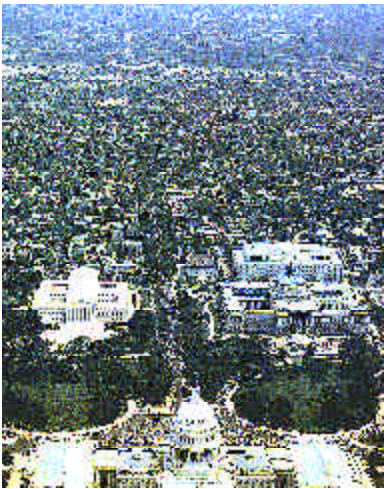


*Boston's Commonwealth Avenue superimposed at the same scale onto the South Capitol Street Corridor*

The following illustrations depict the South Capitol Street study area in relation to five well known urban boulevards or greenways. Those familiar with each of these precedents can better grasp the scale of the study area and imagine a similar character for its future development. Two of the five precedents depict Avenues within Washington, D.C.: Pennsylvania Avenue from the Capitol to the White House and East Capitol Street from the Capitol to RFK Stadium.

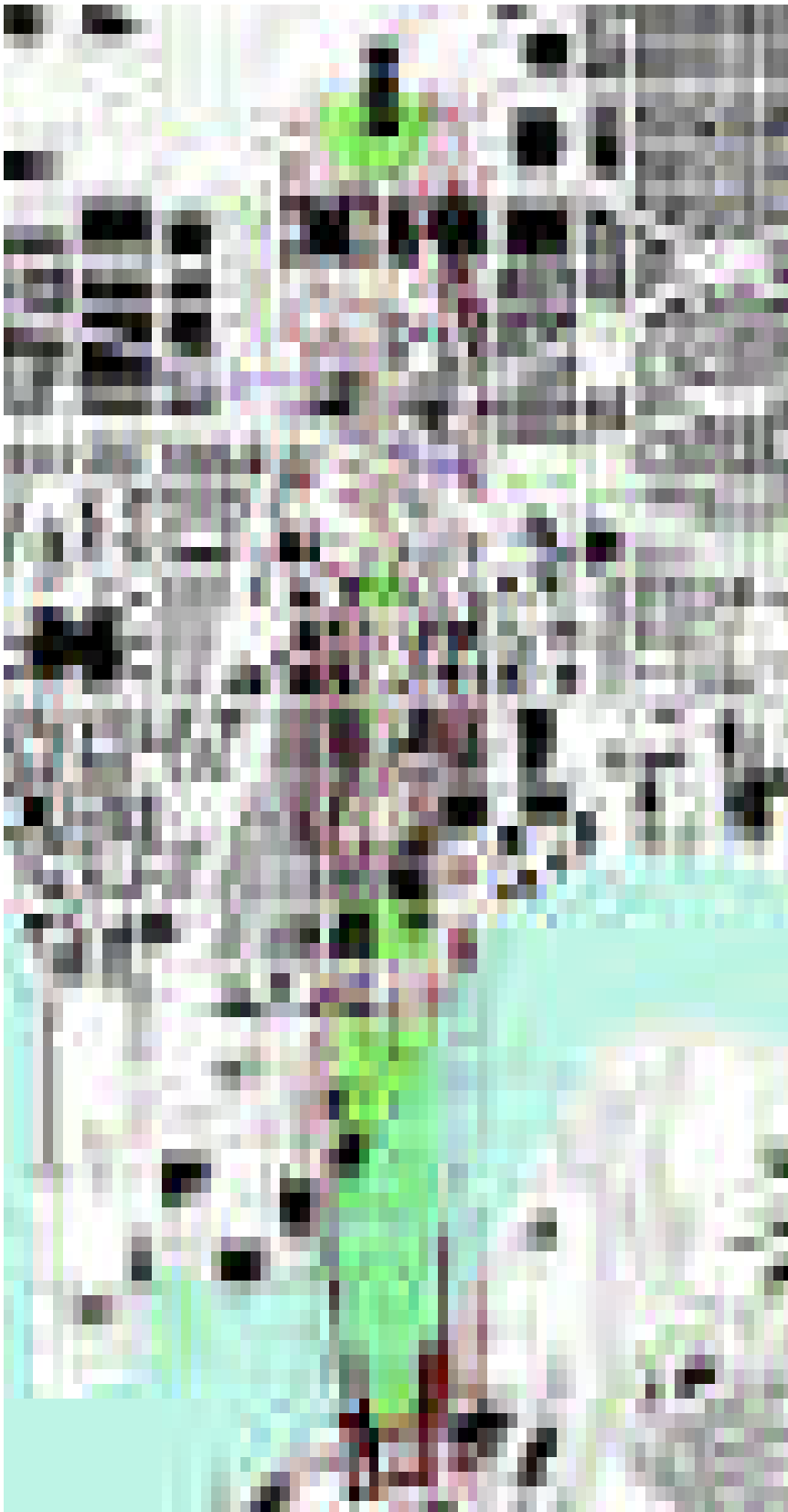


East Capitol Street, Washington D.C.



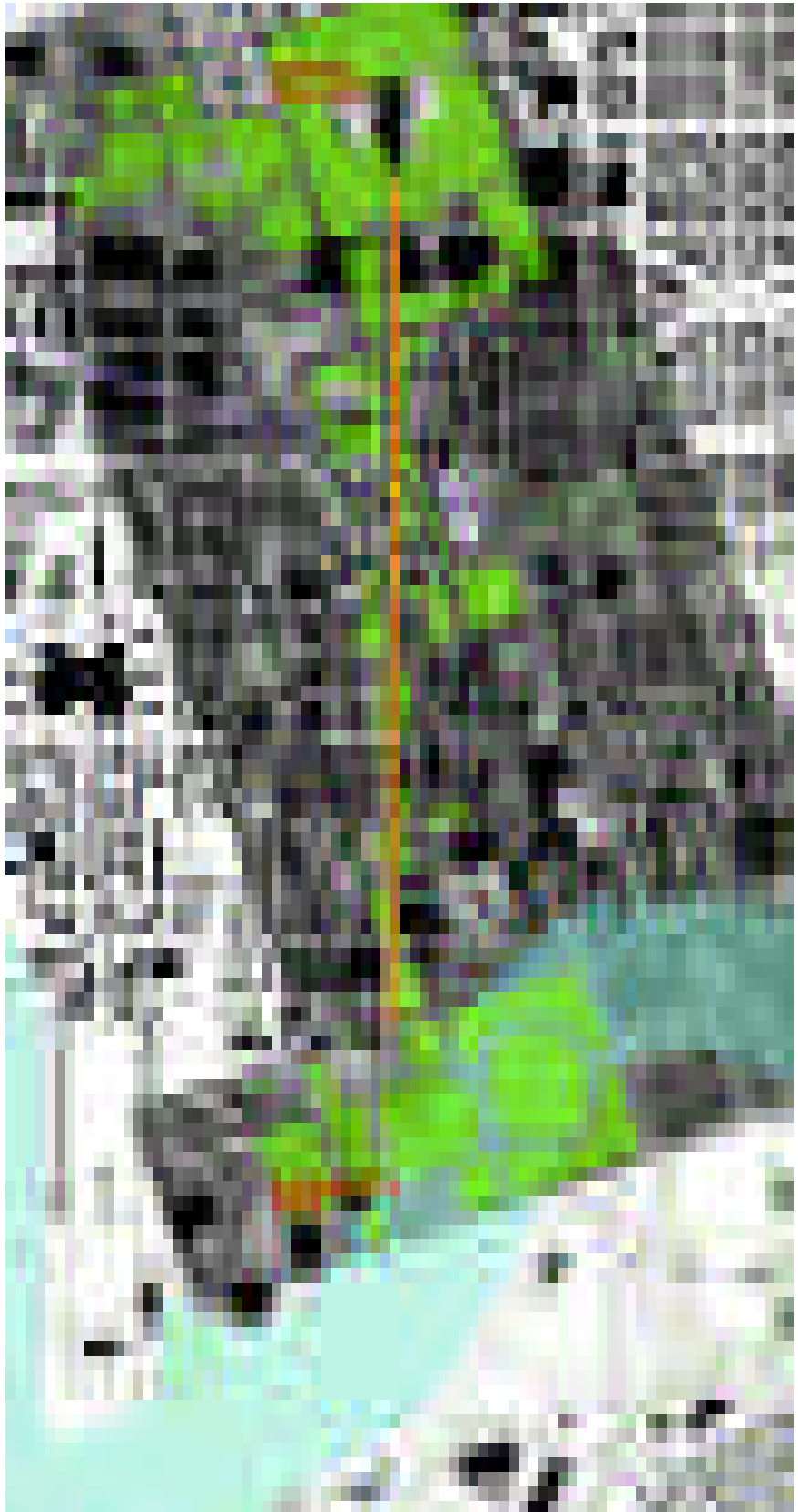
*Washington, D.C.'s East Capitol Street superimposed at the same scale onto the South Capitol Street Corridor*

Champs Elysees, Paris



*Paris' Champs Elysees superimposed at the same scale onto the South Capitol Street Corridor*

Pennsylvania Avenue, Washington D.C.

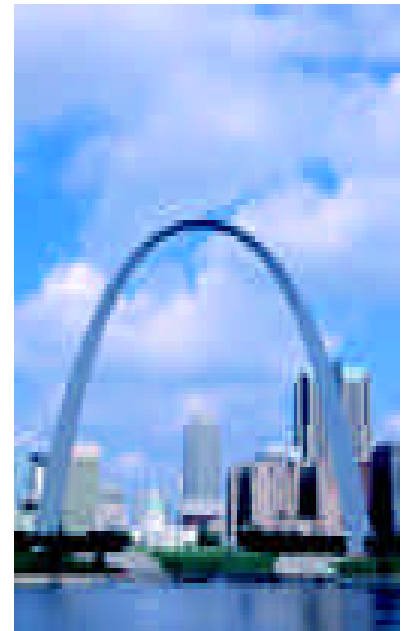


*Washington, D.C.'s Pennsylvania Avenue superimposed at the same scale onto the South Capitol Street Corridor*

Market Street , St. Louis, Missouri



*Saint Louis' Market Street superimposed at the same scale onto the South Capitol Street Corridor*



## Project Overview

ERA (Economic Research Associates) has been retained by Chan Krieger Associates to conduct a real estate and land use background study on the South Capitol Street corridor in Washington, DC. Currently, South Capitol serves largely as a connector between Suitland Parkway and Interstate 395, carrying a heavy volume of high-speed traffic between the two highways. However, the corridor has the potential to become a grand entrance from the south into the monumental core of Washington.

ERA methodology involved a visual assessment of the project area, as well as analysis of zoning, parcel size, and property ownership. Additionally, we examined redevelopment proposals in other parts of the District and produced an estimate of potential build-out in other areas, based on telephone interviews and previously completed studies. We identified potential demand in the District of Columbia for increased office space, based on both Metropolitan Washington Council of Governments (MWCOCG) employment projections, and Cushman & Wakefield historical estimates of office completions. We identified potential residential demand, based both on MWCOCG household projections and Census population projections. In addition, we identified competitive areas within the District and estimated additional build-out capacity in those competitive areas.

At the heart of the project, running through four of the five sub-areas, is a redesigned South Capitol Street gateway. The area today is an auto-oriented strip, but could be a grand boulevard under the right conditions. However, reconstruction of the roadway is not anticipated to be completed for a number of years. This could hamper development of the type of buildings sought to line a grand entryway. The prestige of the area will need to be guaranteed before developers will commit to erecting large-scale buildings with outstanding design and materials.

Using New York City as an example: Office rents recently in the area near Rockefeller Center were \$71 per square foot; a few blocks away at Times Square they were \$56 and at Penn Plaza they were \$50 per foot. Location image, aesthetics, and amenities command a higher rent, which subsidize the increased construction cost for higher quality design and materials that become necessary to compete with other high profile locations.

A densely developed, high profile urban corridor will be highly dependent upon public transportation to bring workers from throughout the metropolitan region. Such a scenario will concentrate office development within walking distance of the new Navy Yard Metro station to maximize regional access. Residential development can then fill the southern portion of the corridor toward the Anacostia River, with intensity of development dependent upon the quality of transportation access.

In addition to image, aesthetics, amenities and commuter accessibility, practical concerns such as efficient office layouts, and building servicing need to be addressed. Larger floorplates are increasingly sought after by employers, since they allow for a more flexible and interactive workspace. Additionally, a construction cost premium is added for each floor required to accommodate building square footage. Typical new office floorplates in an urban setting are 40,000 – 50,000 square feet, while suburban office park floorplates can be significantly larger.

In the absence of good transit access and an attractive environment, a less urbanist and more auto-oriented alternative plan could allow more suburban-style office buildings to create their own settings. Developers have expressed to planning officials a desire for waterfront office space with parking, though accommodating large floorplates and sufficient land area for parking will require fairly large parcel sizes. Auto-oriented office construction may also have the effect of cutting off the mixed-use/residential area from the new waterfront.

A combination of the urbanist and auto-oriented alternatives might be designed to allow some auto-dependent office development near the waterfront, but designed in such a way that the side of the offices facing into the mixed-use/residential neighborhood blend in with a more urbanist form. However, easy pedestrian riverfront access would need to be maintained, and office parking hidden as much as possible, in order to maintain the desirability of the mixed-use neighborhood behind the offices. This formula would likely result in structured parking, however, which adds significantly to development cost.

Under a premier office and high-density mixed-use/residential scenario, retail development along South Capitol can be geared toward supporting the office workers and residents in the area. This will bring people to the sidewalk, potentially creating a critical mass to become a destination for such context-sensitive uses as restaurants and theaters.

Other destination retailers, however, may also be interested in developing locations in the South Capitol area, since it is conveniently accessed from surrounding areas. Parcels large enough to accommodate a power center or other collection of big box stores maybe difficult to find. However, a stand-alone big box retailer could build a 130,000 square foot store, with one parking space per 200 square feet of floor space (at 300 square feet of parking lot per space), on roughly 7.5 acres. Some portion of the project area could be set aside for such development, provided it is located so as not to impact a future high-density urban corridor, yet provide good access and visibility.

## Future Demand Projections 2025

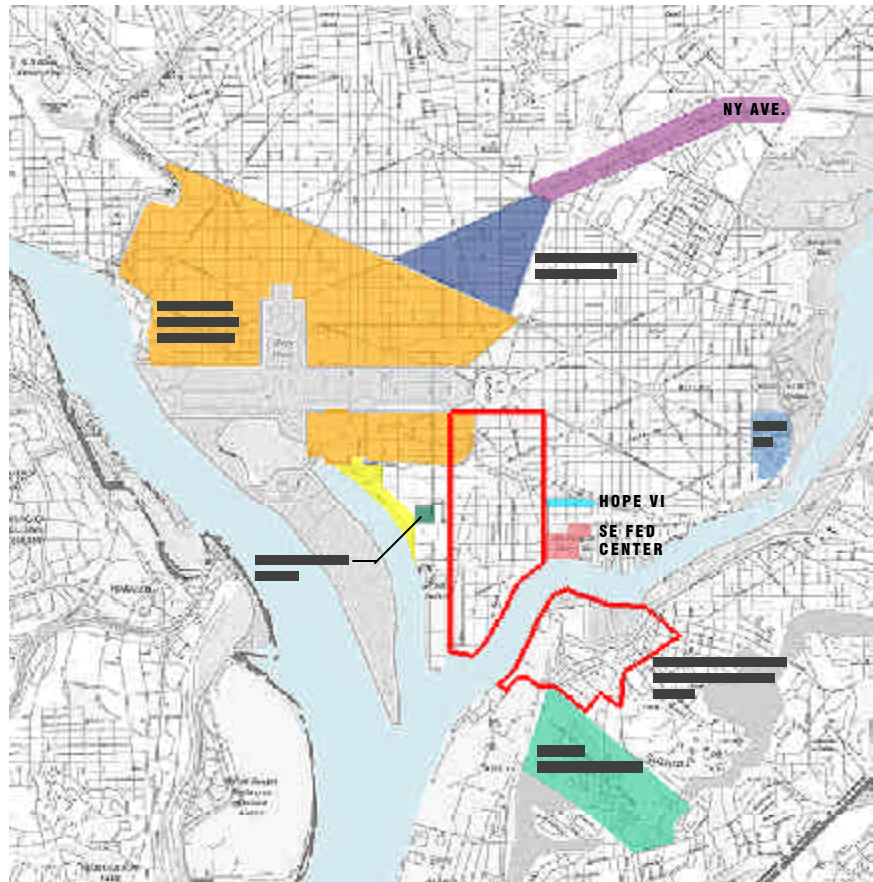
### Office Demand

Washington's Central Business District (CBD), with over 85 million square feet of office space, is surpassed by only New York and Chicago. The District's office market is also currently among the strongest in the nation, with over 5 million square feet of office space leased in 2001 and a vacancy rate well below the national average. The strong demand for space combined with a lack of suitable sites will result in continued increases in average Class A asking rents, which are expected to grow by an average annual rate of 4.9% through 2003.

Roughly half of the office stock in the CBD is Class A, which are premier office buildings characterized by superior interior mechanical systems and high-quality finishes such as marble and granite. Class B office structures may have somewhat lower-quality finishes or outdated interior systems. New office construction in a CBD tends to be of Class A buildings, which command higher rents to offset the higher land cost to the developer.

Demand for office space is expected to remain strong in Washington DC. However, without an adequate supply of new space, economic growth will be hindered. Washington's declining employment of a decade ago has turned around and the District has undergone a significant resurgence in recent years, which has slowed little during the current downturn. In fact, the Metropolitan Washington Council of Governments (MWCOC) predicts that the District will receive a sizable proportion of future regional job growth.

We have provided two alternative methods for forecasting office space demand within the District of Columbia between now and the year 2025. The first of these is a more modest estimate based on MWCOC job growth estimates for sectors that comprise the major office space users in the District, with applied estimated percentages of office-based employment within those sectors. The other, simpler method is a continuation of the average office square footage construction completions within the District over the last 10 years.





#### MWCOG Employment Projection Method

While Government and Finance/Insurance/Real Estate (FIRE) employment sectors, two primary office users, are forecast to decline between 2002 and 2020, services sector employment is forecast to grow significantly during the period. Despite a lesser tendency for services employment to be office-based (though services in the District are more office-based than other locations), the sector's growth, less the decline in Government and FIRE, could generate demand for up to 11.5 million square feet of new office space in the District by 2020. Allowing for a stabilized vacancy rate of 7%, brings the demand for new office space in 2020 to 12.4 million square feet. Straight-lining this projection forward to 2025 results in demand for 15.8 million square feet of office space through 2025.

#### Construction Completion Trend Method

Office space construction is highly cyclical. Office construction completions, on a per square foot basis, have varied a great deal annually over the last 10 years, from less than 100,000 square feet to over 3.5 million square feet, with peaks in the early 1990s and again in recent years. The overall average square footage built between 1992 and 2002 has been roughly 1.2 million square feet per year. Projecting this same annual average forward to 2025 results in an additional 28 million square feet.

Our high and low estimates for office demand in the District, therefore are 28 million square feet and 15.8 million square feet respectively. Most of the additional space will be Class A office space.

Of the estimated demand for new office space within the District, only about 1.0 million square feet can be accommodated in the heart of the CBD (between Massachusetts Avenue and the Mall), with another 1.5 million in the Capitol Hill area, and 1.0-3.0 million in the L'Enfant Plaza area, according to the director of the Downtown BID. Estimates for the NoMa area include 750,000 to 1.5 million square feet in the Mt. Vernon Triangle area and 5.0-6.0 million in the Tech district northwest of Union Station.

#### Residential Demand

Washington, D.C.'s housing market has been extremely tight in recent years, particularly for Class A apartment rentals. Apartment rental rates have been on the rise throughout the District, including in the South Capitol vicinity. Vacancy rates for Class A apartments hit historic lows of less than 1.0% in the last few years, though pressure has eased somewhat recently, with a slightly softer economy and additions of several hundred thousand square feet of rental stock. Housing demand is expected to remain strong for this type of unit.

While some private demographic data providers forecast the District's population and household base to decrease over the coming decades, the Metropolitan Washington Council of Governments (MWCOG) forecasts an increase of 46,500 residents and 34,500 households by 2020. Extending these estimates out to 2025 results in a population increase of 55,000 and a household increase of 44,000. However, the Census provides a population projection for the District of 655,000 residents in 2025, an increase of 83,000. Using the population to household ratio that MWCOG uses for 2020, assuming that declining household size stabilizes, the number of new households in the District will be 51,000 between 2000 and 2025. Since the Census estimate for 2001 changed almost imperceptibly from 2000, it can be assumed that the increases in households are from 2002. Therefore the range of household growth is 44,000 to 51,000 households by 2025. Though households are not the same as units, they can be used as a proxy.

Many of the new residents will be young professionals working in offices in the District. Demand for convenient, transportation-accessible rental apartments geared toward single young professionals seeking a vibrant urban lifestyle is expected to remain strong in the District for the foreseeable future. However, housing targeted for a range of socio-economic groups will be needed. While the concept of filtering (where wealthier residents move to newer units and their old units are occupied by people previously in less-desirable units) may occur to some extent, a tight housing market may result in little opportunity for move-up.

## South Capitol Street Corridor Sub-areas

The South Capitol Street corridor is composed of fairly distinct sub-areas: Independence Avenue to Southeast Freeway; Southeast Freeway to M Street; M Street to Potomac Street; and Potomac Street to the Anacostia River. In addition to these areas along South Capitol Street, we have included the area around the northern terminus of Suitland Parkway in our study. See the attached sub-area map.

### *Area 1: Independence Avenue to Southeast Freeway*

#### Current State

The area to the south of the Capitol Building is largely a governmental office area. Moving southeast from Independence Avenue and the governmental buildings are portions of the historic Capitol Hill residential area, which has undergone significant gentrification in recent years. The blocks of South Capitol Street just below the Capitol Building have been blocked to traffic.

#### Opportunities

An area along Washington Avenue SW, where South Capitol Street traffic is channeled north of I-395, provides one of the few development opportunities in this part of the South Capitol Street corridor. Two large parking lots cover both sides of Washington Avenue, despite good access to the South Capitol Metro station.

#### Constraints

The underdeveloped area, southwest of Washington Avenue, is impacted by Interstate 395 and freeway on-ramps, which connect with Washington Avenue adjacent to the underdeveloped area. The high volume and speed of traffic channeled onto Washington Avenue from South Capitol and traffic entering and exiting the freeway along this stretch of roadway, as well as roadway width, act as a barrier between the undeveloped parcels and the metro-accessible areas across Washington Avenue. The area also has a railroad right-of-way, which acts as a physical barrier.

### *Area 2: Southeast Freeway to M Street*

#### Current State

Most of the area between the Southeast Freeway and M Street is zoned C-3-C, which allows for office, retail, housing, and mixed-use development with 100% lot coverage and an FAR of 6.5. However, the area along South Capitol Street serves largely as an auto-oriented retail strip, with fast food outlets and gas stations predominating. Moving east and west from South Capitol, the uses tend to shift light industrial and residential, respectively. The area to the east of South Capitol Street is a receiving zone for downtown development rights.

The center lanes of South Capitol pass under M Street, a major east-west thoroughfare, with single-lane surface-level frontage roads that rejoin between K and L streets, just before traffic segregates into I-395 and through traffic. The majority of traffic enters I-395.

#### Opportunities

The intersection of South Capitol and M Street could provide a strong office node, given its proximity to the Navy Yard Metro station, and the intersection of two major roadways. This area would be the primary commercial focal point of the revitalized South Capitol Street corridor. The blocks along South Capitol Street are an ideal location for massing Class A office buildings that will create a gateway boulevard to the monumental core. This type of development could be extended along M Street, from South Capitol to the Navy Yard Metro station to tie South Capitol Street to the station. The blocks beyond those fronting on South Capitol Street could be developed at somewhat reduced densities, and/or devoted to residential or mixed use, to channel maximum commercial/office development to South Capitol Street.

#### Constraints

South Capitol's role as a conduit between Suitland Parkway and I-395, as well as the current roadway design, make auto-oriented uses almost inevitable, particularly when combined with relatively small parcel sizes and the neglected state of the areas beyond South Capitol Street.

*Area 3: M Street to Potomac Street*

Current State

The areas along both sides of South Capitol in this sub-area tend to be light industrial and commercial in nature, with a small segment of row houses along the western side of the roadway where the elevated portion begins. The areas off of South Capitol to the east and the west, however, are distinct from one another. The area to the west of South Capitol is a residential area consisting of row-house blocks with 18' minimum lot widths and some larger housing developments, both public and private, that date from the 1970s. The area to the east is a light industrial/manufacturing zone, with many cleared blocks awaiting redevelopment.

The center lanes of South Capitol run below-grade in the northern part of the sub-area, as the roadway approaches the M Street underpass. To the south the main roadway runs above grade, as it approaches the Frederick Douglass Memorial Bridge, with surface-level frontage roadways. The road runs at surface-level for a short stretch between O and N Streets.

Opportunities

As noted for Area 2, the area of South Capitol near M Street, in the northern part of the sub-area, could provide a strong office node due to proximity to the Navy Yard metro station. Desirability will taper moving away from Metro Access; however, easy access to the waterfront park could alleviate this drop-off. Similar to Area 2, above, commercial/office development could be channeled to South Capitol Street to create a gateway boulevard, while blocks moving away from South Capitol could be developed at somewhat reduced densities, and/or devoted to residential or mixed use.

Constraints

Due to the small parcels in the residential zone, this area is anticipated to improve in appearance gradually as directed by the market. The presence of public housing could hinder the pace of improvement to the residential stock in this area. Transportation linkages will also be required for large-scale redevelopment in the southern portion of the sub-area.

*Area 4: Potomac Street to Anacostia River*

Current State

The area below P Street, extending to the Anacostia River, is an old riverfront manufacturing zone. South Capitol Street makes its elevated, curving approach to the Frederick Douglass Bridge through this area, with the frontage road continuing as South Capitol Street southward to S Street.

Opportunities

This area's proximity to the Anacostia River provides an ideal opportunity for waterfront residential or mixed-use development. While the area is not well-served by the Navy Yard Metro station, improved transit access to the waterfront could create sufficient demand for an urban residential or mixed-use neighborhood.

Constraints

The area below Potomac Street is beyond a 5-minute walk to the Navy Yard Metro station, which could inhibit the intensity of development in the area, or encourage auto-oriented development, in the absence of adequate transportation infrastructure.

The area's distance from Metro hinders the type and scale of development that can be supported at this location. Substantial office development is unlikely, even with light rail installed, since other competing office submarkets within the District currently have direct Metro access, including: the core CBD; East End CBD; West End CBD; Mt. Vernon Triangle; Tech District; L'Enfant Plaza; and Capitol Hill. Additionally, competitive locations in Arlington are served directly by Metro. Requiring suburban commuters to add a third mode of transportation to their commutes, or drive in, will likely result in reduced rent, which will impact development feasibility.

The intensity of residential development will also be dependent upon transportation improvements. In order to maximize residential demand, access to other areas of the District should be improved. Light-rail will enable higher-density residential development, but may not be convenient-enough to encourage office users to locate below Potomac Street. In the absence of adequate transit infrastructure, the area may feel development pressure for more auto-oriented development. Residents of Area 4 that do not drive to work will likely transfer to Metro, requiring only two modes of transportation to commute to work. Many office workers coming onto the area, however, would have a third transportation leg added to their journey. Most office markets in the District that this area will compete with are located near Metro stations, requiring suburban commuters to rely on no more than two modes of transportation, generally. The additional transit leg could result in decreased demand discounted rents. Discounted rents will negatively impact the development of the area.

### *Area 5: South Capitol-Suitland Parkway Interchange Area*

#### Current State

The area south of the Anacostia Freeway, surrounding the Howard Road entrance of the Anacostia Metro station and bus plaza, is a collection of schools and places of worship, along with some housing developments. To the north of the Anacostia Freeway is the parking garage and kiss-and-ride for the Metro station, sandwiched between the freeway and the Anacostia Naval Annex and Anacostia River Park.

#### Opportunities

The area's convenient access to Metro could be exploited to create a residential or mixed-use neighborhood, though it is probably unlikely that redevelopment will have much impetus to jump the river until redevelopment of the Buzzard Point area has been substantially achieved. Once the desirability of Buzzard Point is fixed, the area surrounding the Anacostia Metro station will likely emerge as a less expensive alternative for residential development.

#### Constraints

The small amount of redevelopable land on the north side of the Anacostia Freeway is isolated from the areas to the south by the freeway, and the northern Metro entrance is not oriented toward the adjacent area. The prevalence of churches and schools around the southern Metro entrance may complicate redevelopment proposals in this area.

#### Future Area Developments

The South Capitol Street corridor will be positively impacted by several other public and private initiatives being undertaken in the Southwest and Near Southeast areas of Washington. These include new waterfront recreational areas, replacement of subsidized housing, Marine Corp housing, the Navy's relocation into the Navy Yards, redevelopment of Southeast Federal Center, and renovation of the Waterside Mall. Some more substantial developments are discussed below.

### *Southeast Federal Center*

#### Project Overview

The GSA's Draft Illustrative Plan calls for Southeast Federal Center (SEFC) to be built-out with: 1.2 to 1.8 million square feet of office space (in addition to the new USDOT office); 1.8 to 2.9 million square feet of residential; 160,000 to 350,000 square feet of retail; and 20,000 to 100,000 square feet of cultural space. GSA plans to begin signing development agreements in September 2003.

#### Impacts

While the SEFC will provide some competition to development in the short-term, it will also serve as a catalyst for development in the Near Southeast area. The SEFC will positively impact the Near Southeast prior to reconstruction of South Capitol Street by creating a more receptive environment, for the sort of redevelopment sought along South Capitol.

### *Navy Yard*

#### Project Overview

The Navy recently relocated NAVSEA operations from Crystal City, Virginia to the Navy Yard along the Anacostia. The Navy Yard has undergone significant renovation. Employment at the Navy Yard doubled between 1995 and 2001, to nearly 11,000 employees. The Navy is investing approximately \$235 million to restore and improve the yard—about \$130 million of that was invested in the NAVSEA project, which provided space for 4,100 employees.

## Impacts

In addition to direct impact of the Navy's NAVSEA Operations, speculative office construction has begun in the Navy Yard area to accommodate contractors who are following the Navy to the area. The Navy personnel and contractors will have a positive impact on residential and retail development in the area. Currently, 1.5 million square feet of office space are planned in the area, with a capacity for 5,000 workers. The 200,000 square foot Maritime Plaza, on M Street near the Metro station, has been fully leased and includes several contractors.

### *Hope VI*

#### Project Overview

A new mixed income housing development of 1,500 units, as well as Marine housing, will replace a large portion of the Arthur Capper public housing complex. The Hope VI development will be built in a traditional row house style that will help the neighborhood blend with the residential areas of Capitol Hill, across I-395, as well as removing a source of blight from the area.

#### Impacts

Removal of the Arthur Capper housing projects and replacement with economically integrated, physically attractive housing will not only provide housing to support the future workforce of the area, it will eliminate a detriment to redevelopment of the surrounding area.

### *Waterside Mall*

#### Project Overview

Waterside Mall, nearly adjacent to the Southwest waterfront and served by a Metro station, will be renovated and expanded from its current 1.15 million square feet of office and retail space. It will eventually include 2 million square feet of office, 100,000 square feet of retail, and 400,000 square feet of residential. The dated, uninviting exterior will be substantially replaced and the currently blocked 4<sup>th</sup> Street will be reopened.

#### Impacts

The renovated Waterside Mall will act as a catalyst for redevelopment west of South Capitol Street. While the EPA, which used to occupy space at Waterside, has vacated, the proposed 2 million square feet of office space could hold roughly 8,000 workers. These workers will have a positive impact on renovation of the residential zone between the site and South Capitol. Additionally, the renovation of the exterior will benefit the surrounding area's property values, potentially spurring renovations nearby.

## Development Competition

### *Near-term / NoMa-Mt. Vernon Triangle-Tech District*

The Mt. Vernon Triangle and Tech District areas, North of Massachusetts Avenue, will compete with the South Capitol area for development in the short-term. The area has already undergone significant redevelopment as the preferred location for technology-oriented companies in the District. The area's development prospects remain strong, despite the current technology downturn. Additionally, opportunities remain for significant future development in the NoMa area.

### *Long-term / Brentwood-New York Avenue*

The South Capitol area will see long-term development competition from the New York Avenue corridor, another redevelopment initiative in the District. The New York Avenue corridor currently exhibits many similar characteristics to the South Capitol corridor, but is significantly longer.

### *Suburban vs. Urban*

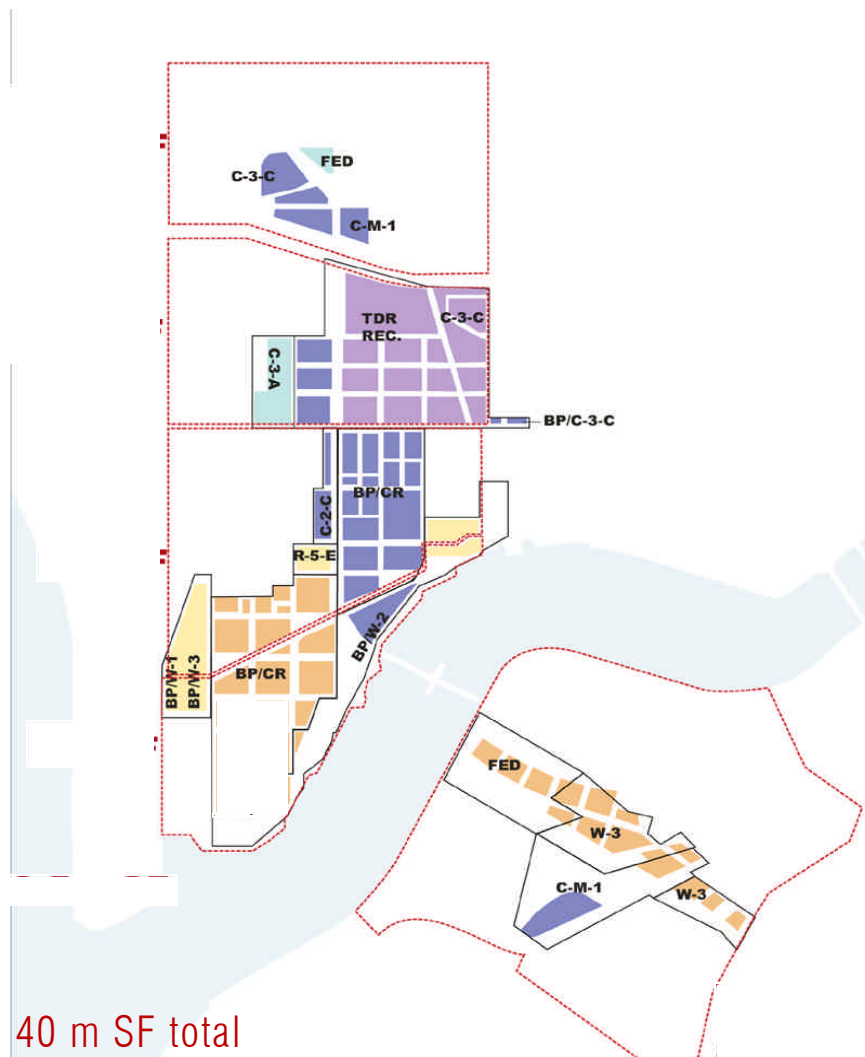
The District currently holds about 35% of the greater Washington region's office space and is the workplace for 24% of the employees, but houses only 12% of the region's population. The proportion of the region's population residing in the District is projected to decline to roughly 10% by 2020.

The continued growth of the suburbs will create competition for both residential and office development. However, the employment sectors that require Class A office space and the related residential demographics that are concentrated in the District are likely to remain and grow, provided there is sufficient opportunity to do so.

## Capacity - Real Estate Demand

Development capacity for the study area was evaluated in order to make zoning, implementation, and land use recommendations for the study area. Development capacity is simply the amount of square footage that can be built under current zoning guidelines. The following assumptions apply:

- 1 Opportunity sites: parcels were identified that were “most likely to undergo change.” These include:
  - Sites identified with high development potential in the land use analysis provided by ERA.
  - BP/CGA zoning districts – rezoned to encourage changes in land use (please refer to Appendix for definition of zoning classifications)
  - Sites with high amounts of surface parking or sites that are primarily underdeveloped.
  - Sites with structures in deteriorated conditions.
  - Sites with uses or conditions that discourage use by a wide public, for example contaminated sites, deleterious uses, and adult-entertainment venues.
  - Sites subject to recent planning efforts that indicate changes in land use, for example Poplar Point
2. A land use scenario had to be assumed in order to calculate developable areas because Floor Area Ratios (FAR) vary depending upon use. For example, in zoning district C-2-C a developer could choose between building 60,000 square feet of residential space, or only 200,000 square feet of commercial space. A broad land use scenario was assumed in order to make some estimate of development capacity. Two scenarios were created, one that favored commercial development and another that favored residential development. These are described in the Land Use section of the Report.

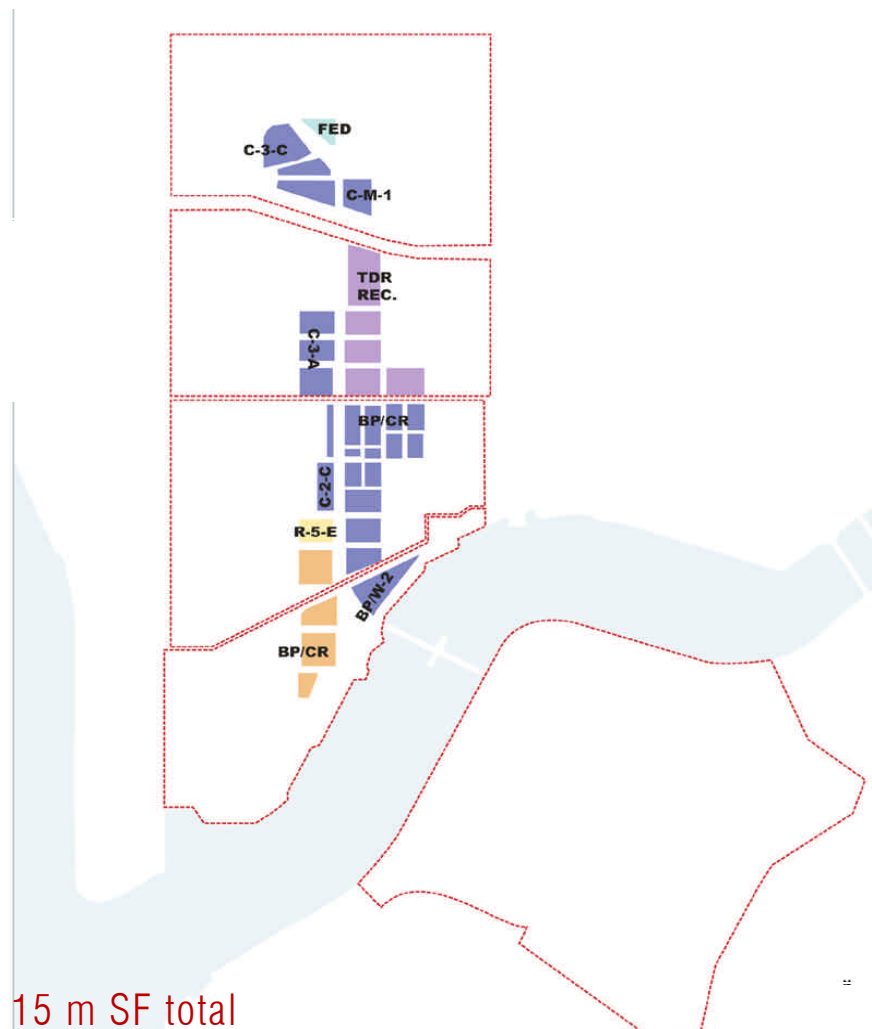


*Identifying parcels with highest redevelopment potential and calculating areas based on current zoning, the maximum capacity for the Study Area could be as high as 40 million square feet of new development*

Development capacity was then determined by assuming land use and identifying buildable parcels (subtracting roadways and parks). The areas of the parcels were determined and multiplied by the lot occupancy to arrive at the total developable area for a block. This area was multiplied by the FAR to produce all of the developable areas shown below. An enormous site capacity totaling nearly 40 million square feet of development under current zoning conditions was determined. The areas are indicated in the diagram to the left.

### Targeted Development

Realizing that the 40 million square feet of development identified above would be unrealistic for this corridor, the number of parcels identified for development were changed to reflect goals identified in the vision. The second estimate of development capacity was made incorporating the expected concentration of development along blocks adjacent to South Capitol Street and M Street. This scenario matches current planning objectives for M Street and supports a relationship between corridor investment and rising land values for adjacent blocks. As described in the report prepared by Economic Research Associates, areas at Poplar Point would follow a longer development cycle and were not included in the targeted development estimate. The capacity of the targeted area totals 15 million square feet of development under current zoning conditions. This area is indicated in the diagram below.

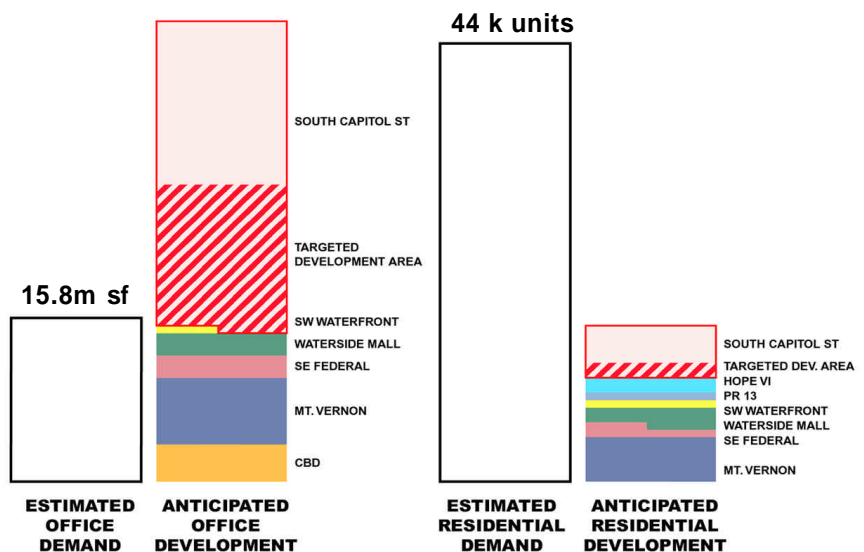


**15 m SF total**  
*Identifying parcels along the major corridors of South Capitol Street and M Street and utilizing the current zoning, this diagram indicates the location of targeted development, closer to expected real estate demand*

## Development Capacity and Forecasted Demand 2025

The charts on this page show the relationship between the conservative numbers of the forecasted demand relative to the development capacity of the South Capitol Street study area and other development areas within the city. The charts compare the 15.8 million square feet for commercial / office space and 44,000 residential units (described on pages 82 and 83) with the development capacity of various competitive sites throughout the city. These sites are indicated on the map on page 90 and can be characterized as follows:

- Established development areas with remaining capacity:
  - CBD
- Target areas identified in the AWI Framework Plan and other initiated planning projects:
  - Southwest waterfront
  - Public Reservation 13
  - Southeast Federal Center
  - Waterside Mall
  - Arthur Capper / Carrollsburg dwellings
- Short term competitive development areas with similar characteristics, such as proximity to Capitol Hill, that are well served by transit:
  - Mt. Vernon Triangle
- Long term competitive development areas (indicated on the area map - previous page, not represented below), without estimated capacities.
  - New York Avenue
  - Saint Elizabeths Hospital





Using the office-oriented Land Use scenario, both projections of development capacity for the South Capitol Street study area are represented: the red box shows full site capacity (represented in plan diagram on page 80), and the hatched red and white portion shows the targeted development area (indicated in plan diagram on page 81).

Observations:

Compared in square feet, residential demand is far higher than commercial demand. The enormous site capacity of 40m square feet for the study area far exceeds anticipated demand in the district well beyond 2025. Even the reduced estimate of 15 million square feet of the targeted development area will have to compete with other sites within the city for the estimated 2025 demand. The Central Business District, Mt. Vernon Triangle area, and the AWI targeted areas could fulfill commercial/office demand projections independent of the South Capitol Street study area for the next 25 years. Therefore the study area must be positioned competitively in order to attract commercial/office space. Improvements to the physical condition of the corridor itself may be the necessary catalyst to such development. Concentrated development of commercial/office space along prominent “addresses” may indeed be realizable given the estimated demand.

The strong demand for residential space bolsters an emphasis on new neighborhood building as identified in the second residential-oriented land use scenario. This bodes well for a land use strategy that emphasizes the creation of new residential neighborhoods in advantageous locations such as the waterfronts of the Anacostia River.

## Acknowledgments

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