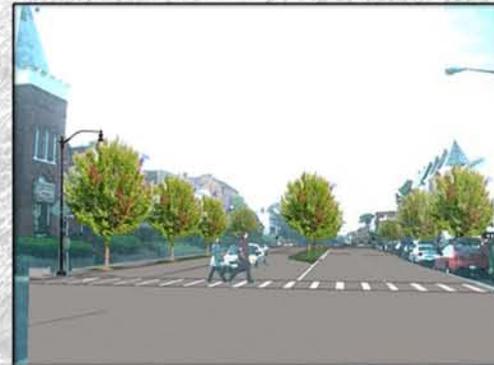


# Lower Georgia Avenue Transportation and Streetscape Improvements

December 2007

# Lower Georgia Avenue

Final Report



# Lower Georgia Avenue Transportation and Streetscape Improvements Final Report – December 2007

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# A. Executive Summary



Figure A-1: Existing Conditions on Georgia Avenue

## Project Overview

The District Department of Transportation (DDOT) commissioned a detailed study of strategic transportation improvements that could improve multimodal mobility in the Georgia Avenue corridor, while enhancing the public realm with a consistent and attractive streetscape. DDOT is committed to making major transportation investments and improvements along the corridor, including improvements to the streetscape and the public realm. DDOT and other District agencies wish to prioritize transit, economic development, overall safety, and in particular, pedestrian and bicyclist needs along the corridor.

Active collaboration and involvement with the community has been crucial for developing a consensus vision for the multimodal transportation design and management plan for Georgia Avenue presented in this document.

## Major Study Goals

- Provide a mechanism to create a comprehensive understanding of the current and future transportation system
  - Develop an overall street alignment
  - Determine the curb dynamics
  - Support the needs and growth of the local business
- Develop a transportation management and right-of-way plan that supports expanded economic development and local mobility.
- Develop transportation options that are conducive to an urban university campus environment.
- Determine impacts of changes to Georgia Avenue on efficiencies and multimodal performance of other roads in the study area system.
- Determine efficient strategies (parallel streets, Georgia Avenue retail) to develop bus rapid transit or streetcar service along the corridor.
- Develop a plan that supports the needs and desires of the business, residential, and institutional communities.

# Executive Summary

- Develop a plan to address pedestrian street crossing hazards at intersections and encourage greater pedestrian convenience and appeal.
- Examine modes of transportation such as bicycling, walking, and mass transit and how these may impact lane configurations, safety, and parking along the corridor.
- Provide options for resolving narrow sidewalks and tree spaces on Georgia Avenue and Sherman Avenue.
- Develop a plan that will serve as the guide for the implementation of streetscape, transit, safety, and adjacent roadway improvements.

## Study Area

This project examined a specific portion of the entire Georgia Avenue Great Streets corridor: Georgia and Sherman Avenues from Florida Avenue NW to New Hampshire Avenue NW. Understanding that improvements to this segment will have implications for communities along the corridor and throughout the city, DDOT also studied the impacts on adjacent corridors and communities.

### Project Boundaries (See figure A-2)

- New Hampshire Avenue NW to the north
- Florida Avenue NW to the south
- The Reservoir/4th Street NW to the east
- Sherman Avenue NW to the west

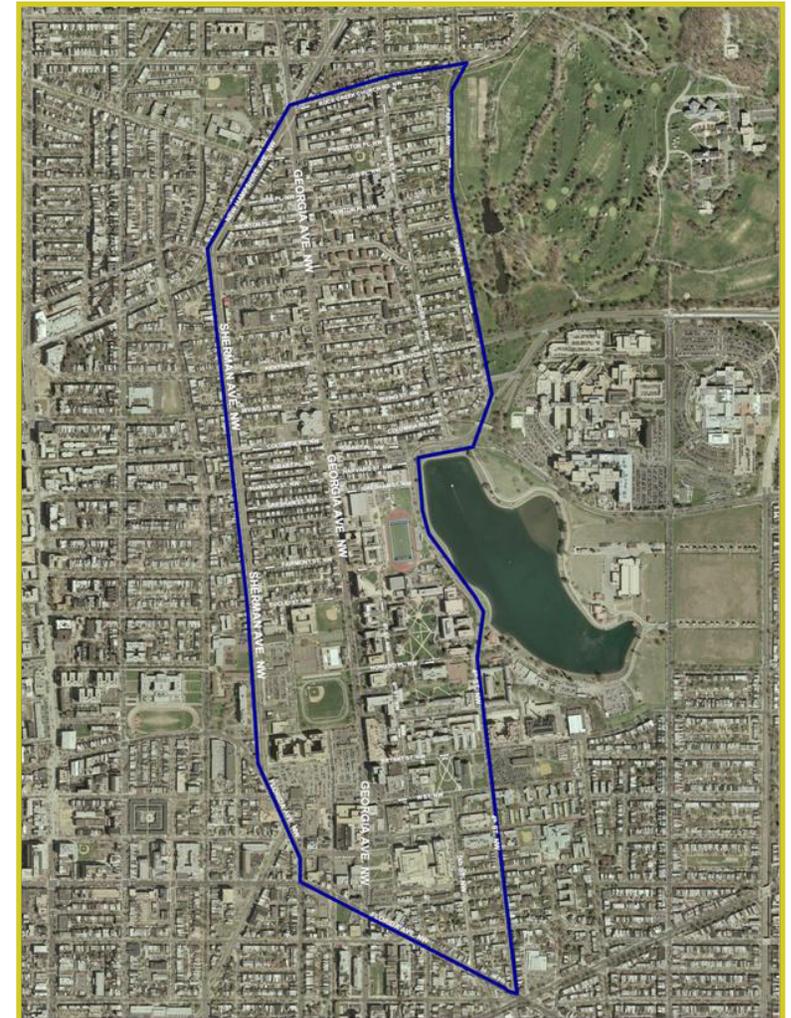


Figure A-2: Lower Georgia Avenue Study Area



Figure A-3: Example of the Possible Future Vision for an Urban Area

## Revitalization Vision for Lower Georgia Avenue

A context-sensitive transportation network that balances Georgia Avenue and Sherman Avenue should modify the character of each street. The critical aspects of this “revitalization vision” for the study area are its multimodal quality and genuine reflection and response to the changing context of the area. This study aspires to make Georgia and Sherman Avenues great places for walking, commerce, and casual interaction while effectively accommodating traffic.

The rich history of the Georgia Avenue corridor has been erased from the public realm. While physically improving mobility in the corridor, the vision is to implement improvements that draw on its African-American heritage. In particular, the historic Howard University area should be celebrated and evoked in the streetscape along Georgia Avenue between Florida Avenue and Barry Place. The entire corridor can and should be a cultural destination, with a steady rhythm of distinctive places all the way to New Hampshire Avenue. These distinctions will be made through a consistent and dignified palette of streetscape features. In addition, the Georgia Avenue and Florida Avenue intersection is an opportunity for a gateway into this cultural/historic destination.

To create a distinctive and dignified corridor, the design opportunities for Georgia Avenue were informed by the following concepts:

### **Balanced**

The transportation strategy balances travel and transportation opportunities on Georgia and Sherman Avenues.

### **Distinctive**

Both streets should have a special character that identifies them as distinctive and great places for walking, shopping, socializing, commerce, and moving traffic.

### **Walkable**

Each thoroughfare should be inviting and walkable while drawing on the area’s African-American heritage, particularly the historic Howard University.

# Executive Summary



Figure A-4: Existing Pedestrian Conditions in the Lower Georgia Avenue Area Near the Howard University Bookstore

## Safe, Efficient Operation

Design changes should be implemented to improve walkability, foster cultural and historical identity, create gateways, define corridor entrances, and ensure the efficient and safe operation of all modes of travel.

## Project Findings

### Traffic

- Double-parked vehicles along the corridor block turns, impede pedestrians, and obstruct buses.
- Traffic signal phasing at Georgia Avenue and Park Road creates vehicle conflicts.
- Lane widths between Barry Place and Florida Avenue result in inefficient traffic operations.
- Vehicles turning left at Bryant Street and Florida Avenue create queuing that blocks through-movement vehicles.

### Pedestrians

- Walkability varies considerably on both Georgia and Sherman Avenues, ranging from good to very poor.
- Some sidewalks cannot be easily widened because buildings are built up to the sidewalk.
- Many intersections have crosswalks but no traffic signals, and some have no crosswalks at all.

### Bicycles

- Bicycles travel on Georgia Avenue with traffic.
- Bicycle travel is heavy east to west crossing the Georgia Avenue corridor at Columbia Road and Harvard, W, and V Streets.

## Transit

- The 70 and 71 buses carry about 20,000 riders every day through the corridor.
- The cross-town H routes carry thousands of residents to and from work.
- Rapid bus service could reduce travel time by 16 percent.
- Buses are often blocked by double-parked vehicles.
- A reduction of lane widths in the lower section of the corridor hinders bus travel.

## Urban Design

- Georgia Avenue from Florida to New Hampshire Avenues is not one place, but several large segments with a number of smaller focal points within each segment.
- Businesses north of Harvard Street appear to serve neighborhood needs.
- Businesses south of Harvard Street appear to serve Howard University and Howard University Hospital.
- Georgia and Sherman Avenues represent different street types and several different functions.
- Sidewalk pavement, lighting fixtures, and street furnishing are inconsistent along the corridor.
- The corridor contains no clear identification of its significance to African-American culture.

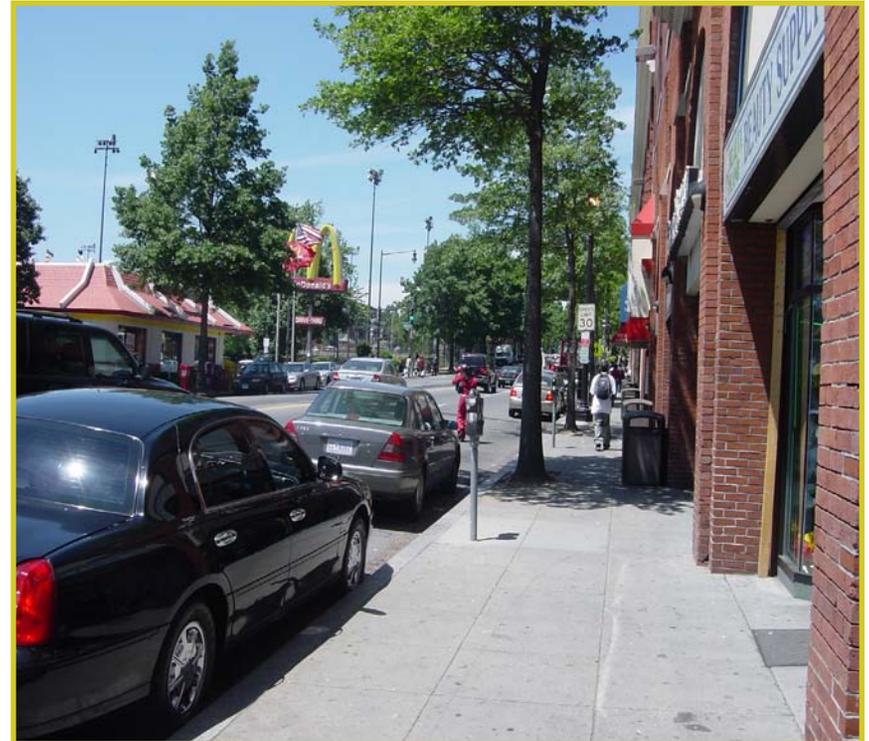


Figure A-5: Georgia Avenue Today

## Recommended Improvements

# Executive Summary



Figure A-6: Recommended Roadway Section for Georgia Avenue near Howard University

Improvements that could be phased in as funding becomes available were considered. Short-term, lower-cost improvements were prioritized.

## Basic improvements

- Mill and overlay pavement
- Re-stripe travel lanes and crosswalks
- Install striping or pavement treatment at designated parking lanes
- Stripe shared lane markings (sharrows) for cyclists, per the Manual of Uniform Traffic Control Devices (MUTCD) recommendations
- Install tree boxes/grates
- Improve landscaping
- Install consistent street furniture (trash cans, benches, bicycle racks)
- Optimize traffic signal timing
- Add countdown pedestrian signals at signalized intersections
- Increase parking enforcement along Georgia Avenue
- Add on-street parking on northbound 4th Street near the Macmillan Reservoir to substitute for parking removal along Georgia Avenue
- Work with Howard Town Center and other developments to allow public parking in their developments

These basic improvements would provide consistency for drivers, pedestrians, and cyclists and should minimize conflicts among them. These improvements would not result in an increase in automobile speeds and therefore would not subject pedestrians and bicyclists to more dangerous conditions,

More extensive improvements, such as bulb outs (extensions of the sidewalk into the roadway), will further enhance the public realm and help achieve the Great Streets nature of the corridor. More extensive improvements must include improved bus service for a highly transit-dependent population. These longer-term improvements anticipate the future Georgia Avenue will have by providing residents with safe, convenient, and comfortable pedestrian

access to retail and entertainment uses along and adjacent to the corridor.

Achievement of these objectives, however, does require a trade-off with the loss of some parking spaces. Fortunately, with the extension of W and Bryant Streets, lost parking spaces can be easily regained. In addition, new developments, such as Howard Town Center, can more conveniently supply public parking. Similar strategies have proven successful in Bethesda, Rosslyn, and Ballston.

The perceived value of parking to retailers must be balanced with a future population willing to walk to their shops.

#### **Georgia Avenue from Florida Avenue to W Street**

- Add gateway treatment at Georgia Avenue-Florida Avenue intersection (special crosswalk paving, artwork/sculpture)
- Remove parking along both sides of the street to promote efficient traffic operation
- Widen travel lanes for safe travel of vehicles
- Reconfigure lanes at Georgia Avenue-Florida Avenue intersections
- Remove hedge on east sidewalk to eliminate confined feel for pedestrians
- Improve crosswalk striping at V Street
- Install pedestrian signage at Florida Avenue and W Street

#### **Georgia Avenue from W Street to Barry Place**

- Remove parking along both sides of street to promote efficient traffic operation
- Widen travel lanes for safe travel of vehicles
- Improve crosswalk striping at W Street
- Add special crosswalk paving at Bryant Street and Barry Place
- Widen sidewalks at Georgia Avenue between Bryant Street and Barry Place
- Relocate curb cuts for McDonald's from Georgia Avenue to Barry Place
- Remove excessive trash cans on Georgia Avenue between Bryant Street and Barry Place
- Install pedestrian signage at Bryant Street and Barry Place

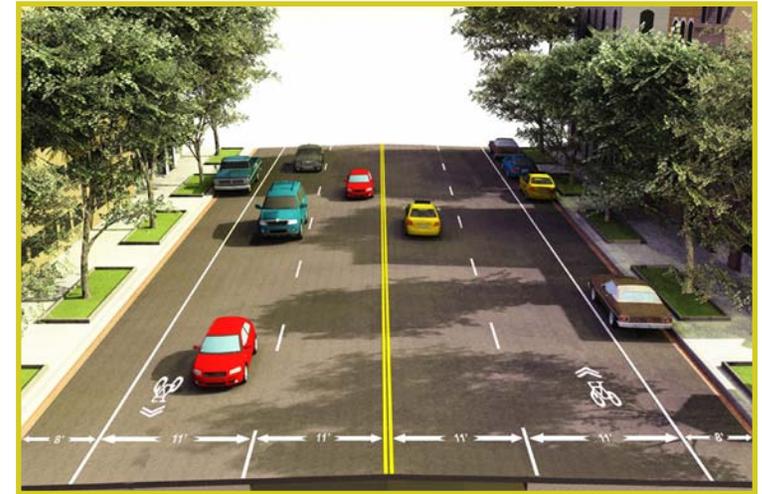


Figure A-7: Recommended Roadway Section for Georgia Avenue North of Columbia Road

## Executive Summary



Figure A-8: Recommended Roadway Section for Sherman Avenue

### Georgia Avenue from Barry Place to Euclid Street

- Add curb extension to support transit usage at Howard Place
- Install special crosswalk paving at Howard Place
- Improve crosswalk striping at Euclid Street
- Remove parking lane from Howard Place to Barry Place
- Add dedicated right-turn lane from southbound Georgia Avenue onto Barry Place
- Add art (e.g., mural, painting) on wall in front of Euclid Street
- Install pedestrian signage at Howard Place

### Georgia Avenue from Euclid Street to Columbia Road

- Remove pipe barriers between Euclid Street and Columbia Road
- Create gateway treatments at Harvard Street and Columbia Road
- Remove unnecessary street signs
- Improve pavement in alleys

### Georgia Avenue from Columbia Road to New Hampshire Avenue

- Improve crosswalk striping at Irving Street and Park Road
- Install lighted crosswalks at Lamont Street and Morton Streets
- Install pedestrian signage at Irving Street, Lamont Street, and Park Road
- Revise traffic signal phasing at Park Road to split-phase side street operations

### Sherman Avenue Corridor-Wide Improvements

- Widen sidewalks along corridor
- Install four-foot bicycle lanes along corridor
- Reduce number of travel lanes from two in each direction to one in each direction
- Add landscaped median with cut-outs for dedicated left-turn lanes

### **Sherman Avenue from U Street to Florida Avenue**

- Add pedestrian crosswalk at V Street

### **Sherman Avenue from Florida Avenue to Euclid Street**

- Construct two-lane roundabout at Sherman Avenue and the extended Bryant Street
- Add pedestrian signage at Barry Place and Euclid Street

### **Sherman Avenue from Euclid Street to New Hampshire Avenue**

- Construct two-lane roundabout at Sherman Avenue and Park Road
- Add pedestrian signage at Irving Street and Park Road

## **Recommended Streetscape Elements**

### **Intersections**

- Decorative street print pattern crosswalk with African motif at key intersections
- Bump-out sidewalk areas to improve pedestrian safety
- Secondary Intersections (all other intersections)
  - Standard painted ladder crosswalk
  - Bump-out sidewalk areas to improve pedestrian safety
  - Poured-in-place concrete wheelchair ramps

### **Roadway Surfaces**

- Special roadway surface at Howard Town Center (V Street to Barry Place)
- Standard black asphalt for standard roadway surfaces
- Parking lanes with LID treatment
- Dedicated bus lane with red-colored asphalt roadway surface and stamped texture



Figure A-9: Streetscape Improvements for Georgia Avenue at Bryant Street

# Executive Summary



Figure A-10: New Linear Entrance at Banneker Park

## Sidewalk Surfaces

- Concrete sidewalks for Georgia Avenue corner pavers

## Street Trees and Plantings

- Continuous tree pits where possible
- Ornamental fence for tree pit protection
- Tree pit ground cover
- Ornamental trees and plantings in planting beds at select corner “mini-park” locations and at select wide sidewalk areas

## Street Furniture

- Trash receptacles – standard DDOT; to be located in curb zone
- Benches – standard DDOT; to be located in curb zone
- Bicycle racks – standard U-shape bike racks to be located in curb zone or bump out zone
- News paper corrals – stackable corrals; to be located in curb zone.
- Street lights – teardrop standard at intersections, double Washington globes from Florida Avenue to Gresham Place, and single Washington globe from Gresham Place to Otis Place.
- Parking meters – multi-space devices for on-street parking
- Bus shelters

### Special Streetscape Elements

- Linear street park at Banneker Park, with 24-foot sidewalk setback into park and retaining walls that double as seating
- Cultural heritage and interpretive elements
- Historic signage
- Walk of Fame: commemorative plaques located from Fairmont Street to Barry Place
- Public art opportunities
- Accent gateway elements at Florida Avenue
  - Decorative bollards located at curb edge
  - Building lighting from street light poles
- Accent gateway elements at key Howard University entrances
- Decorative flags and flag poles at Howard Place and Fairmont Street

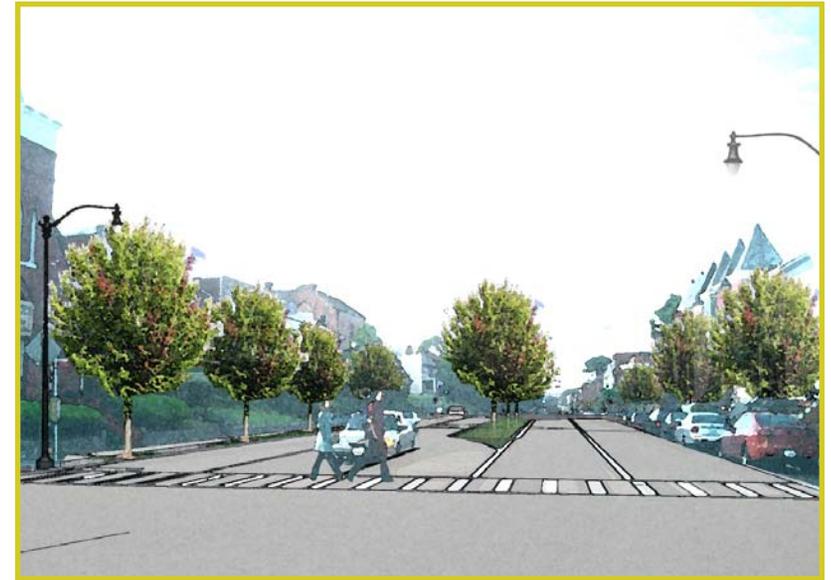


Figure A-11: New Look for Sherman Avenue

# Introduction & Background

- B. Introduction
  - i. Project Goals
  - ii. Project Timeline
  - iii. Report Organization
- C. Study Area
- D. History
  - i. History of the Corridor
  - ii. Comprehensive Plan
  - iii. Previous Studies Completed in Study Area

# B. Introduction

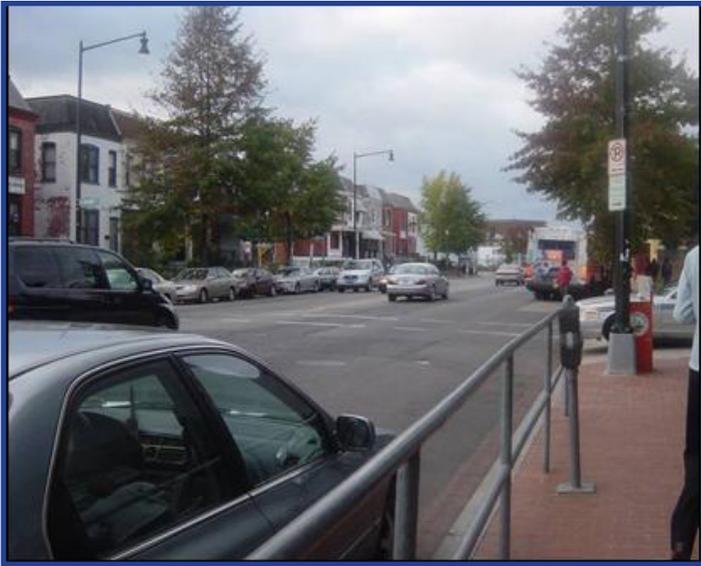


Figure B-1: Existing Conditions in the Lower Georgia Avenue Study Area

Georgia Avenue NW is a multimodal corridor striving to meet multiple demands: frequent transit service, heavy pedestrian traffic, rush-hour commuters, local auto destinations, cross-commuting bicyclists, and recurrent business deliveries. A limited right-of-way in the lower portion of the corridor serves as a bottleneck to vehicles. Pedestrian facilities are narrow and generally insufficient for demand. Bicycle facilities are nonexistent despite demand. Currently, the efficient and reliable mobility of all travel modes is compromised. This in turn presents a challenge to future development and economic expansion. The Georgia Avenue commercial corridor is part of a grid system in which primarily residential streets provide parallel routes. Efforts are now under way to reduce the impacts of auto traffic on these residential corridors.

Georgia Avenue is also in the midst of change. The Deputy Mayor for Planning and Economic Development and the Office of Planning have designated Georgia Avenue for major rezoning and redevelopment to transition the blighted community to a major destination for the city and its residents. As part of the redevelopment efforts, DDOT commissioned an in-depth examination of Georgia Avenue to improve current transportation conditions and to facilitate expanded local economic development and mobility. Since the current transportation conditions result in unacceptable mobility and movement, any additional impacts on Georgia Avenue would be equally unacceptable. DDOT is committed to making major transportation investments and improvements along the corridor, including improvements to the streetscape and the public realm, and to prioritize transit, economic development, overall safety, and, in particular, pedestrian and bicyclist needs along the corridor.

The purpose of the Lower Georgia Avenue Transportation and Streetscape Improvements Study is to develop a consensus vision for a multimodal transportation design and management plan that is supported and agreed upon by the community. The concept design should help create a vibrant, diversified corridor and commercial neighborhood while improving the efficiency of movement of all modes through this principal arterial as part of a city and regional transportation system. This report represents the work to date on this effort and presents the recommended transportation design and management plan for a revitalized Lower Georgia Avenue.

# Introduction

## Major Study Goals

Major study goals for the Lower Georgia Avenue Transportation and Streetscape Improvements Study are listed below:

- Provide a mechanism to create a comprehensive understanding of the current and future transportation system
  - Develop an overall street alignment
  - Determine the curb dynamics
  - Support the needs and growth of local businesses
- Develop a transportation management and right-of-way plan that supports expanded economic development and local mobility.
- Develop transportation options that are conducive to an urban university campus environment.
- Determine impacts of changes to Georgia Avenue on efficiencies and multimodal performance of other roads in the study area system.
- Determine efficient strategies (parallel streets, Georgia Avenue retail, etc) to develop bus rapid transit or streetcar service along the corridor.
- Develop a plan that supports the needs and desires of the business, residential and institutional communities.
- Develop a plan to address pedestrian street crossing hazards at intersections, and encourage greater pedestrian convenience and appeal.
- Examine the impact of bicycling, walking, and mass transit on lane configurations, safety, and parking along the corridor.
- Provide options for resolving narrow sidewalks and tree spaces on Georgia Avenue and Sherman Avenue.
- Develop a plan that will serve as the guide for the implementation of streetscape, transit, safety, and adjacent roadway improvements.

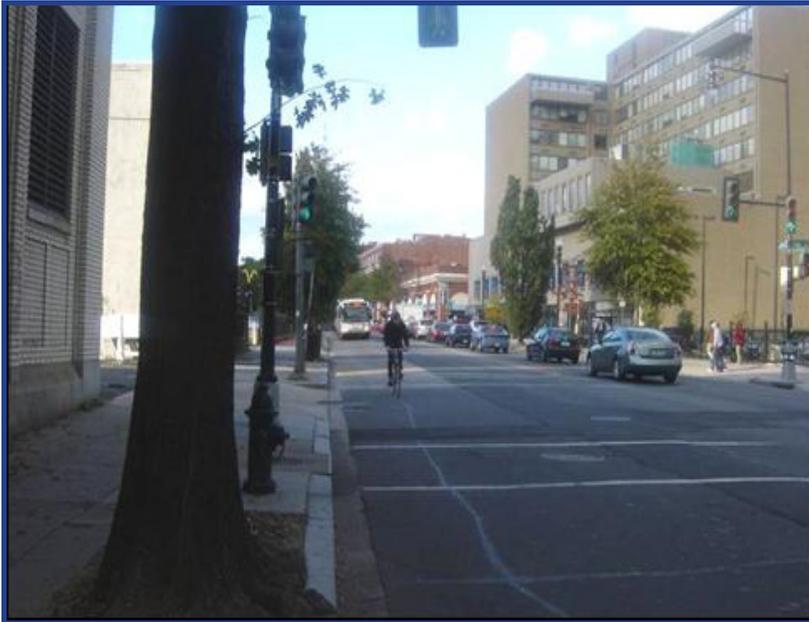


Figure B-2: Intersection Conditions Near the Howard University Hospital

## Great Streets Program

The Great Streets Program is similar to many seminal planning efforts that have helped make Washington, DC a world-class city. It is poised to redefine critical neighborhood streets as the centers of their communities and help expand the city's vitality by distributing new benefits equitably. Soon many of the neighborhood retail streets including the Great Streets program will be among the city's best places to live, work, play, and invest. All in all, these Great Streets will provide an impetus for bringing population back to Washington, generating commerce, creating jobs, expanding the District's tax base, and improving the quality of life for its residents. These corridors extend more than 20 miles and impact half the District's residents in 50 different neighborhoods. The first round of Great Streets corridors are targeted, in part, because of the well-organized community infrastructure and networks in place. All Great Streets corridors have long been a priority for their local neighborhoods. Neighborhood stakeholders advocated for improvement to these corridors through strategic neighborhood action plans (SNAPs) and other priority-setting initiatives. Active, organized neighborhood associations, or civic groups, help guide and participate in streetscape improvements. The corridors targeted by the Great Streets program have historically lacked the level of investment enjoyed by other prominent streets in the District. The targeted corridors also correspond to areas targeted under other city programs and initiatives, such as: **ReSTORE DC Main Streets, the Home Again initiative, public safety Hot Spots, and New Communities**

Great Streets bring together all these programs.

The goals of the Great Streets Program are as follows:

1. Improve the quality of life in neighborhoods along Great Streets corridors, by improving public safety, physical appearance, and personal opportunity
2. Support local demand for goods and services through economic development
3. Expand mobility choices and improve safety and efficiency of all modes of travel
4. Attract private investment through the demonstration of a public commitment to Great Streets communities



Figure B-3: Example of Great Streets Amentiy Area



# Introduction

## Project Timeline

This study represents the first phase in a three-phased approach to implement improvements for the Lower Georgia Avenue corridor. Phase 1, scheduled from Fall 2006 to Summer 2007 is the major study efforts and the development of the transportation management plan and the preferred concept design. Phase II will be the beginning and completion of the design for Lower Georgia Avenue and will extend from Fall 2007 to Spring 2008. Phase III represents the construction of the major improvements for the Lower Georgia Avenue corridor, which is anticipated to begin in Fall 2008. Overall, DDOT has committed more than \$6 million for investments on Georgia Avenue and wants to implement improvements quickly.



Figure B-4: Georgia Avenue near Wonder Plaza

# C. Study Area

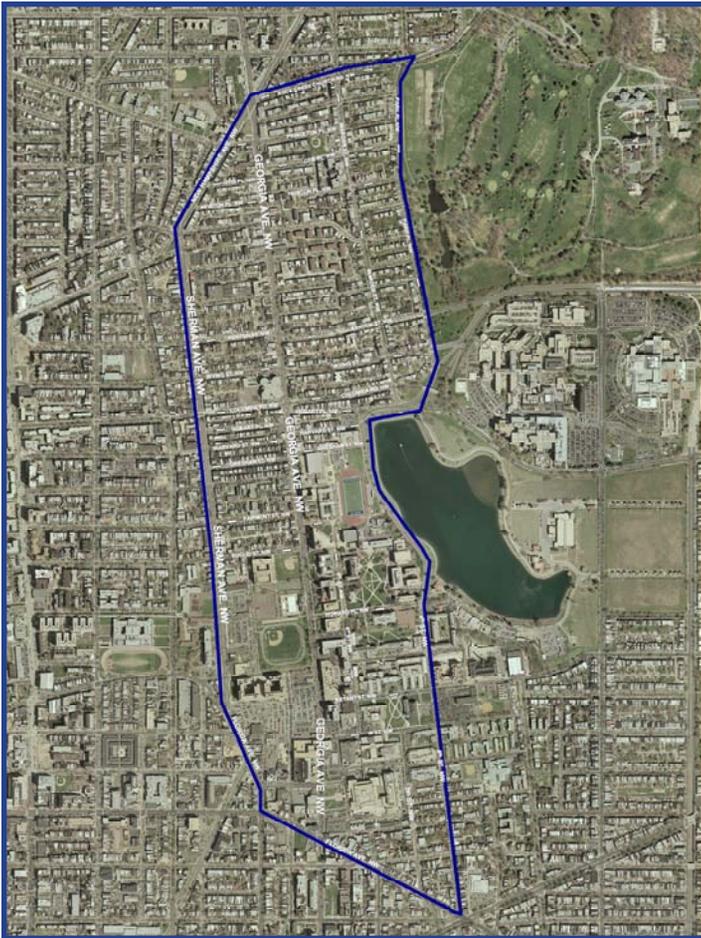


Figure C-1: Aerial View of Study Area

The Lower Georgia Avenue Transportation and Streetscape Improvements Study area is bordered by Sherman Avenue to the west, New Hampshire Avenue to the north, Florida Avenue to the south, and the McMillan Reservoir/4th Street to the east.

Geographically, the study area is within Ward 1 and overlaps the Advisory Neighborhood Commission area (ANC), 1A north of Columbia Road, and ANC 1B south of Columbia Road. Neighborhood clusters include Mount Pleasant, Columbia Heights, Park View, Howard University, Le Droit Park, and Cardozo/Shaw. The study area is approximately one mile north of the downtown and monumental core of Washington DC.

Public services within the study area include two recreation centers: Banneker Community Center on Georgia Avenue and Parkview Community Center on Otis Place. Fire Station 4 on Sherman Avenue serves the study area along with a post office on Georgia Avenue. Schools in the area include Benjamin Banneker High School on Euclid Street and Bruce Monroe Elementary School on Georgia Avenue.

Howard University and Howard University Hospital are the major employers within the study area. The student population at Howard University is more than 11,000. The hospital has served as the nation's largest hospital serving the African-American community for more than 140 years. Both the university and the hospital attract a large volume of pedestrians.

The corridor is served by both the Washington Metropolitan Area Transit Authority's (WMATA) Metrobus and Metrorail service. Metrobus routes provide service on Georgia Avenue, Sherman Avenue, New Hampshire Avenue, Irving Street, and Columbia Road. The Georgia Avenue-Petworth Metrorail Station located at New Hampshire and Georgia Avenues provide rail service on the Green and Yellow lines. The Shaw-Howard University Metro Station just south of the study area also provides access to the Green and Yellow lines.

The study area is shown in Figure C-1.

# D. History

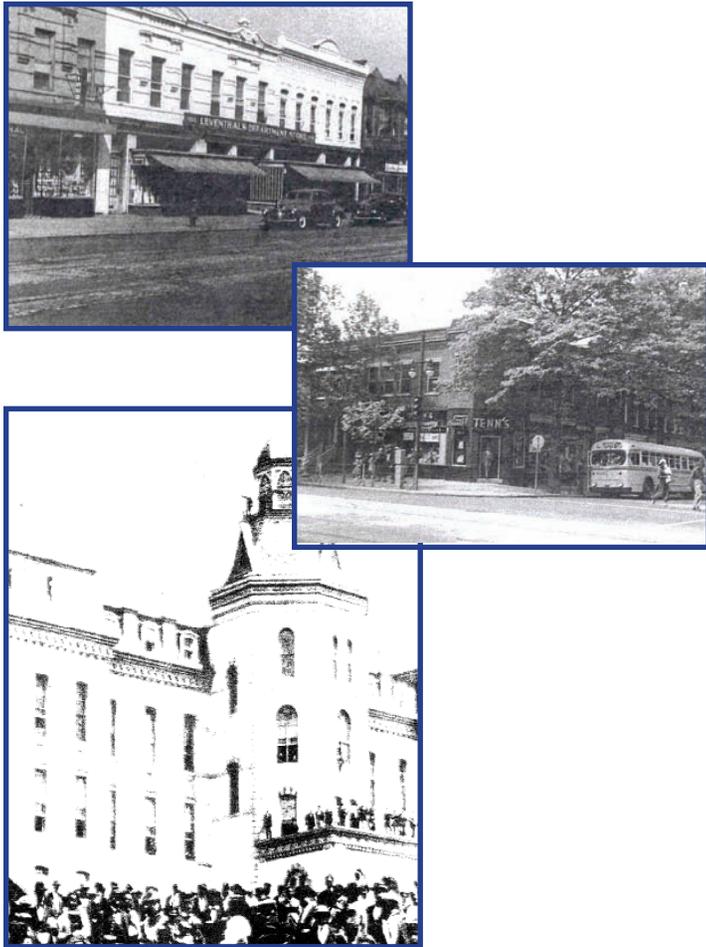


Figure D-1: Historic Photos of Georgia Avenue

## History of Georgia Avenue

Mid-20th century disinvestment and neglect have taken their toll on the corridor. Commercial establishments, which once thrived on the patronage of the residences and institutions around them, declined as competition from suburban retail grew, local residential populations declined, and American travel behavior turned more toward the convenience of the private automobile and away from the traditional modes of walking, biking, and transit.

The Georgia Avenue streetcar line was replaced by bus service in the 1930s, and by the 1960s the street had become a major automobile thoroughfare, oriented more toward shuttling commuters between Maryland and downtown Washington, DC than supporting and strengthening the local neighborhoods and retail establishments. Long-standing communities are represented along the corridor, as are more recent Caribbean, Latino, and African immigrant communities. This variety is unique in the city.

Howard University, the first university open to African-Americans in the south, is located in the heart of the study area. The university continues to be an important source for African-American history and culture.

Metrorail services were implemented in phases along the corridor, beginning with the opening of the Shaw and U Street Stations in 1991 and the Petworth Metro Station in 1999. Transit connectivity, however, remains inadequate north of the Petworth Station and improved intermodal connectivity between rail and bus is needed. One important new transit element in the corridor, designed to enhance the speed of trips both along and through the corridor, is the Metro Extra enhanced bus service, which began in spring 2007.

### Howard University

Howard University, a historical black university is a Carnegie Doctoral/Research University in Washington, DC, established in 1867 by congressional order. Notable alumni include Nobel Laureate Toni Morrison, Supreme Court Justice Thurgood Marshall (Howard University Law School), Ossie Davis, Debbie Allen, Roberta Flack, Claude Brown, Shaka Hislop, Stokeley Carmichael, Richard Smallwood, and Phylicia Rashad.

Howard University grants more Ph.Ds to African-Americans than any other university in the United States.

Much of Howard's early funding came from endowment, private benefaction, and tuition. An annual congressional appropriation administered by the Secretary of the Interior also funded the school. Today, it is a member school of the Thurgood Marshall Scholarship Fund. From its outset, the university was nonsectarian and open to people of both sexes and all races. Howard has graduate schools of law, medicine, dentistry, and divinity, in addition to its undergraduate program. The enrollment in 2003 was approximately 11,000, including 7,000 undergraduates. The university's football homecoming activities serve as one of the premier annual events in Washington.

Howard University has played an important role in American history and the civil rights movement on a number of occasions. Alain Locke, Chair of the Department of Philosophy and the first African-American Rhodes Scholar, authored *The New Negro*, which helped usher in the Harlem Renaissance. Ralph Bunche, the first Nobel Peace Prize winner of African descent, served as chair of the Department of Political Science. Stokely Carmichael, (also known as Kwame Toure), a student in the Department of Philosophy, coined the term "Black Power" and worked in Alabama, as a voting rights activist. Historian Rayford Logan served as chair of the Department of History, E. Franklin Frazier served as chair of the Department of Sociology, and Sterling Allen Brown served as chair of the Department of English.

After being refused admission to the then whites-only University of Maryland School of Law, Thurgood Marshall, a young Lincoln University graduate, enrolled at Howard University School of Law instead. There he studied under Charles Hamilton Houston, a Harvard Law School graduate and leading civil rights lawyer who at the time was dean of Howard's law school. Houston took Marshall under his wing, and the two forged a friendship that would last for the remainder of Houston's life and forever change America. Howard University was the site where Marshall and his team of legal scholars from around the nation prepared to argue the landmark *Brown v. Board of Education* case.



Figure D-2: Founders Library on the Campus of Howard University is an Iconic Building that has Been Declared a National Historic Landmark

# History

## The DC Comprehensive Plan

### Role of the Comprehensive Plan

The DC Comprehensive Plan provides a framework for the growth and revitalization of the city. It includes detailed maps and policies for the physical development of the District of Columbia and addresses social and economic issues that affect and are linked to the development of the city and its citizens. The plan allows the community to predict and understand the course of future public actions, as well as shape private-sector investment and activities. It allows the District to ensure that its resources are used wisely and efficiently and that public investment is focused in areas where it is needed most. The Comprehensive Plan provides guidance on the choices necessary to make the District a better city.

It should be noted that no single person or organization is in a position to make decisions that encompass the Comprehensive Plan. Many residents, governmental agencies, businesses, institutions, and leaders have helped shape the plan.

The Comprehensive Plan is the critical long-term planning document that underpins the Lower Georgia Avenue Study analysis. Since the last update in 2006 smaller, more focused planning efforts have expanded upon the Comprehensive Plan, giving it more texture. The Lower Georgia Avenue Study is informed by the plan's large and small efforts and seeks to design improvements to achieve the general desires of the plan.

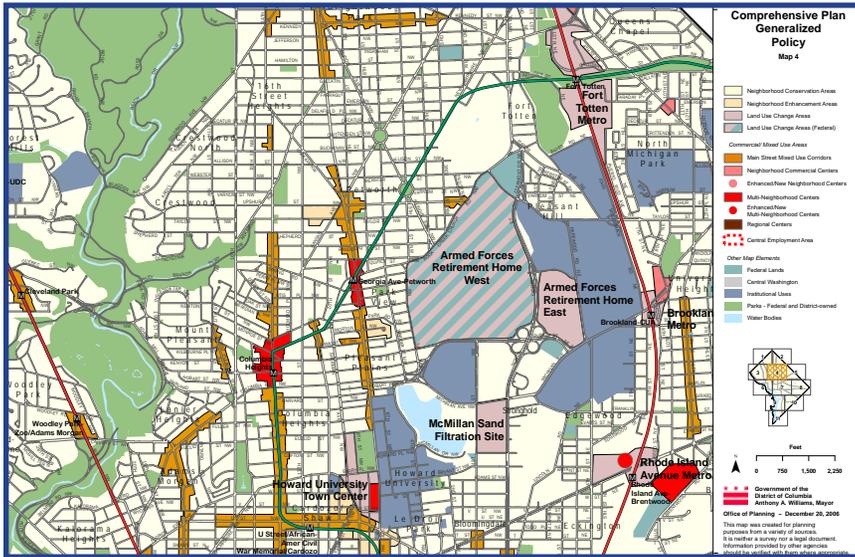


Figure D-4: Comprehensive Plan Policies for Georgia Avenue

## Previous Studies Completed in the Study Area

The primary mission of the Lower Georgia Avenue Transportation and Streetscape Improvements project is to synthesize the past planning work in the corridor into a coherent design. The team reviewed past studies listed in Figure D-4 and extracted the general objective and specific transportation-related findings.

Overall, planning documents such as the Great Streets Framework, the DUKE plan and the SNAP plans emphasize using transportation infrastructure enhancements to demonstrate public support and attention to the area, in order to draw new economic investment. The Rapid Bus Study details specific locations where bulb-outs can improve passenger boarding, and signal timing/prioritization can improve travel times. It also suggests dedicated transit lanes for improved service.

Georgia Avenue is going through a transformation. The community along this distinctive street has participated in extensive public meetings and has communicated its vision and objectives in various studies. In order to focus on design principals, the specific design recommendations in each study were identified and considered as the team developed designs for transportation and streetscape alternatives. These improvements are the first step in Georgia Avenue realizing its potential to be a Great Street.

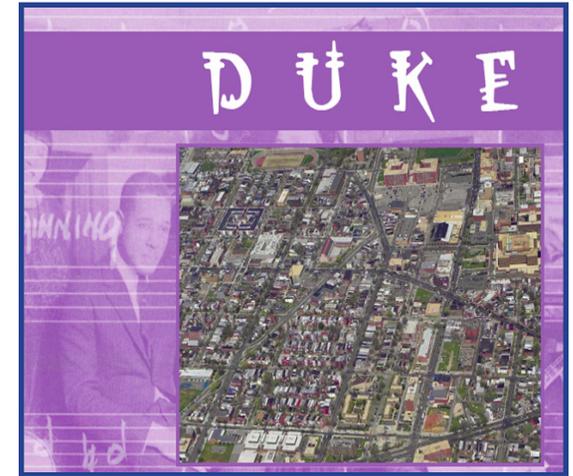


Figure D-4: Cover of the DUKE Report, one of the Previous Studies Reviewed for this Report

# History

Table D-1: Previous Studies in the Study Area

Study	General Key Finding	Key Findings Related to Georgia Avenue Study
Great Streets Framework Plan	Streetscape recommendations, transit recommendations, traffic recommendations	<ul style="list-style-type: none"> <li>• Base study of the Lower Georgia Avenue Study</li> <li>• Suggests ROW specifications (based on 4 different sections of the corridor)</li> <li>• Pedestrian facility improvements identified</li> <li>• Bicycle route proposed</li> <li>• Rapid Bus Lines suggested for the study area (suggests headway times also)</li> <li>• Planting and tree strips suggested in different areas of the corridor</li> <li>• Free standing and intersection art proposed</li> </ul>
Sherman Avenue Strip Map	Specific streetscape and transportation findings	<ul style="list-style-type: none"> <li>• Provides ROW specifications for the corridor</li> <li>• Curb dynamics and curb extensions suggested</li> <li>• Sidewalk widening</li> <li>• New bus shelter location recommendations</li> <li>• Additional parking lanes recommendations</li> <li>• Left turn lane addition recommendations within corridor</li> <li>• Green space, landscape, and low shrubs suggested</li> <li>• Stop signs and do not enter signs suggested within the study area</li> </ul>
Bicycle Master Plan	Facilities recommendations	<ul style="list-style-type: none"> <li>• Designated bicycle lanes given (4th Street, Columbia Road, Harvard Street, U Street, V Street, W Street, and T Street)</li> <li>• Bicycle Plan Route within study area identified; Streets include: Lamont Avenue, Kenyon Street, and New Hampshire Avenue</li> </ul>
DUKE Draft Development Framework for a Cultural Destination District	Parking, public realm, transit-oriented development, pedestrian, and bicycle related actions	<ul style="list-style-type: none"> <li>• Road extension proposed within study area (W Street and Bryant Street from Georgia Avenue to Florida Avenue)</li> <li>• Creation of an African-American Cultural Destination suggested</li> <li>• Coordination of transportation improvements with rapid transit for the corridor suggested</li> </ul>
New Hampshire Avenue Local Traffic Study	Specific streetscape, ROW findings	<ul style="list-style-type: none"> <li>• Reduction of the road width of Georgia and New Hampshire Avenues by installing medians suggested</li> <li>• Sidewalk, bulb out, "Share the Road" signs, and high visibility crosswalk installations suggested for the study area</li> <li>• Elimination of parking suggested in areas within the study area</li> <li>• Elimination of left turns suggested in intersections within study area</li> <li>• Tree and hedge replacement suggested</li> </ul>
Rapid Bus Study	Bus streetscape findings Curb dynamic findings	<ul style="list-style-type: none"> <li>• Curb extensions suggested</li> <li>• Passenger amenity areas suggested</li> </ul>
Georgia Avenue/Petworth Transit Area Revitalization	Specific traffic, parking, transit, key intersections, pedestrian, bicycle, and public realm findings	<ul style="list-style-type: none"> <li>• Speed reductions and traffic calming measures suggested</li> <li>• Sidewalk widening, pedestrian improvement and signal installation</li> <li>• Addition of bicycle racks suggested for areas in the study area</li> <li>• Elimination of bus bay along the west side of Georgia Avenue suggested</li> </ul>
Uptown Destination District	Parking, transit, transit-oriented development, pedestrian, bicycle, and public realm actions	<ul style="list-style-type: none"> <li>• Creation of a walkable district suggested</li> <li>• Suggestion of designing of public places for programmable activities suggested for study area</li> </ul>
Howard University Master Plan	Traffic/Parking Modifications	<ul style="list-style-type: none"> <li>• Parking management and pricing strategies suggested</li> <li>• Parking assignment percentage for Howard University suggested (10 percent of total parking supply)</li> <li>• Modification of on-campus vehicle circulation patterns</li> <li>• Inclusion of left, right and thru lanes suggested for Sherman Avenue at Euclid Avenue suggested</li> <li>• Exterior lighting improvements on Georgia Avenue and on campus</li> </ul>
Transit Alternatives Report	Transit improvement findings	<ul style="list-style-type: none"> <li>• Need for more time efficient transit identified for the study area</li> </ul>
U Street Transportation and Streetscape	Parking modification findings, traffic and streetscape modifications/recommendations	<ul style="list-style-type: none"> <li>• Parking removal and parking additions suggested within the study area</li> <li>• Green space and landscape improvements identified thru the corridor</li> </ul>

# Project Process

- E. Public Participation
  - i. Process
  - ii. Public Meetings
  
- F. Corridor Revitalization Vision and Guidelines
  - i. Great Streets Plan
  - ii. Corridor Vision Plan

# E. Public Participation



Figure E-1: Citizens Attending a Lower Georgia Avenue Community Meeting

## Public Participation Process

A comprehensive effort was made to engage local businesses and the residential community in the Lower Georgia Avenue Transportation and Streetscape Improvements Study between June 2006 and May 2007. Using a community-based planning approach, extensive outreach was conducted with stakeholders to encourage participation and invite their opinions, concerns, and ideas. The public information component was interactive and overseen by a Steering Committee consisting of a cross-section of community, civic, and business leaders. Seven meetings were held, and meeting summaries were prepared and distributed broadly via direct mail, online, and at public library displays. Considerable effort was made to ensure that communications were clear, transparent, and inclusive.

The following outreach was conducted to engage the community:

- A. Door-to-door distribution of meeting notices and face-to-face contact with every business along the Lower Georgia Avenue corridor was made prior to each of the three community meetings.
- B. Three thousand fliers were hand-delivered to residents between 4th Street and Sherman Avenue and between Florida Avenue and New Hampshire Avenue prior to each of the three community meetings. Presentations were made at ANC 1A Community Meetings.
- C. Presentations were made at ANC 1A community meetings.
- D. Telephone outreach was conducted to members of the Steering Committee and key individuals to build attendance at each Steering Committee and community meeting. Those contacted included the following:
  - Advisory Neighborhood Commissioners for ANC 1A and ANC 1B
  - Key civic and community organizations representing non-English speaking residents
  - Educational, cultural, faith, and nonprofit organizations
  - Georgia Avenue business leaders
  - Small business owners and local developers



Figure E-2: Citizens Participate at the Design Workshop in which Residents were Given a Chance to Consider Changes in the Corridor

E. Pre-event publicity was generated through media advisories and follow-up media outreach, which included the following media outlets:

The Washington Post	NewsChannel 8
WJLA - TV 7 ABC	WUSA - TV 9 CBS WOL-AM
Satellite One	XM Radio
WTOP Radio	WHUR
WMMJ	WTTG-TV 5 FOX
ABC Radio	Radio One
Clear Channel	WMAL Radio
WPFW	WRC -TV 4 NBC
Current Newspapers	El Tiempo Latino
El Pregonero	La Nacion
Hispanic Link	Hill Rag
The Intowner	Washington Afro-American
Korean Times	Asian Fortune
Capital Community News	The Common Denominator
The Washington Business Journal	Washington Informer
Capitol Spotlight	

F. Media relations were coordinated with Councilmember Jim Graham's office, DDOT Director Emeka Moneme's office, and DDOT's Public Information Officer, Erik Linden. Pre-event notices appeared in The Washington Post's District Weekly, the Northwest Current, and the Washington Informer. Public service announcements (PSAs) were made on Channels 4 and 16 and WPFW.

G. Channel 16 provided day-of-event and post-event media coverage and aired each community meeting and workshop for five days.

H. A photographic record was made of each community meeting and workshop.

I. Copies of each Steering Committee and community meeting summary were available at the Petworth and Martin Luther King Jr. Libraries and on DDOT's website.

# Public Participation

## Public Meetings

The comprehensive community engagement for the study resulted in broad awareness and community participation. Several community leaders applauded DDOT for engaging local businesses and residents to participate in the early design process. The following public meetings were held:

October 10, 2006	30 people attended the initial Steering Committee meeting.
November 14, 2006	70 people participated in the Community Workshop.
December 6, 2006	20 people attended the Steering Committee meeting.
January 27, 2007	100 people participated in the Community Design Workshop.
May 22, 2007	60 people participated in the Community Open House and Design Presentation.

Comments and concerns of business owners who were unable to attend these meetings were obtained during door-to-door outreach. Some owners expressed concerns that their businesses would be adversely affected by the redevelopment of Georgia Avenue during construction and by a reduction in available on-street parking. The study addressed these concerns during its final design and proposal for off-street, garage parking.



Figure E-3: DDOT Director Emeka Moneme Interacts with Residents at a Community Meeting

# F. Corridor Revitalization Vision & Guidelines

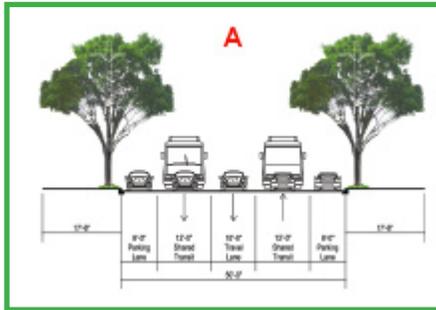


Figure F-1: Section A of Proposed Great Streets Cross Section

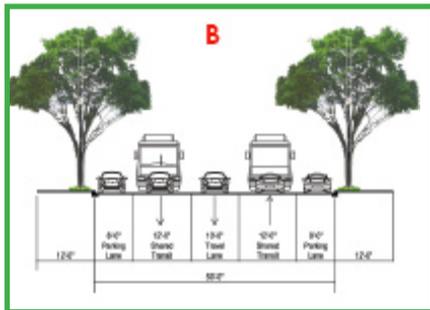


Figure F-2: Section B of Proposed Great Streets Cross Section

## Great Streets Plan

The Great Streets Framework Plan developed transportation recommendations for each corridor, defined in three modal parts: pedestrian/bicycle, transit, and vehicular. These recommendations were used as the foundation for the concept design.

## Right-of-Way (ROW) Configuration

The illustrations for Sections A through D show the options for the right-of-way configurations created by the Great Streets Framework Plan. Sections A and B illustrate two travel lanes southbound (toward the downtown Washington DC area), and a single lane northbound (toward the Silver Spring, Maryland, area). Options C and D each show two travel lanes in both the northbound and southbound directions, with no transit lane designation. For Section A, one of the southbound travel lanes is designated as a shared transit lane, and the other would be a single travel lane. The only travel lane in the northbound direction for this section is a shared transit lane. Section B differs from Section A in the amount of right-of-way allocated for streetscape (12 feet on each side of the street). The right-of-way is 50 feet for both Sections A and B. All sections include an 8-foot-wide parking lane in each direction.

- ROW Option 1 – Rapid Bus Improvements  
Section A and B, the improvements create an asymmetrical configuration with travel lanes
- ROW Option 2 – Streetcar Improvements  
Curbside transit stops would require the streetcar to maneuver into a travel lane from the shared transit lane.

## Pedestrian facilities

The Great Streets Plan recommends that bulb outs be constructed at intersections adjacent to bus stops and dedicated parking lanes. In addition, high visibility crosswalk improvements were suggested for areas along the corridor. For Section B only, the sidewalk would be widened two feet on each side.

# Corridor Revitalization Vision & Guidelines

## Bike facilities

Suggested bicycle uses for the corridor include the following:

- Facilitate bicycle use at the southern end of the corridor by a signed bicycle route on 6th Street from K Street to U Street. The route would continue on 4th and 5th Streets between T Street and Columbia Road.
- At the northern end of the corridor, 13th Street would serve as a signed bicycle route from Harvard Street to Piney Branch Road. Existing bicycle lanes on Piney Branch Road are recommended to be extended to 13th Street in the Bicycle Master Plan. Harvard Street and Columbia Road provide directional connectivity between the two routes.

## Vehicle/Parking facilities

Signal coordination and transit signal prioritization should be reviewed and improvements implemented as necessary to provide an efficient and effective corridor for all modes of traffic. For all sections, left-turn pockets should be striped at intersections where no bulb-outs are planned.

### Right-of-Way Option 1 – Rapid Bus

- Parking lanes would be provided along the entire length of the corridor, and the provision for off-street parking at retail locations would encourage pedestrian use of the area once their vehicle has been parked.
- Traveling southbound into downtown, two travel lanes would be maintained the entire length of the corridor.
- Sections A and B would have one travel lane from downtown, transitioning to two travel lanes in Sections C and D.

### Right-of-Way Option 2 – Streetcar

- Parking lanes would be provided along the entire length of the corridor, with the exception of Section C, where parking would be restricted during peak periods.
- Off-peak travel lanes would be restricted to a single lane in each direction, as shown in Section C.

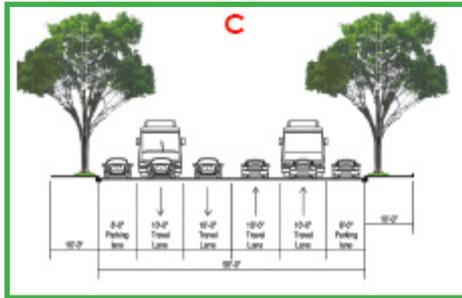


Figure F-3: Section C of Proposed Great Streets Cross Section

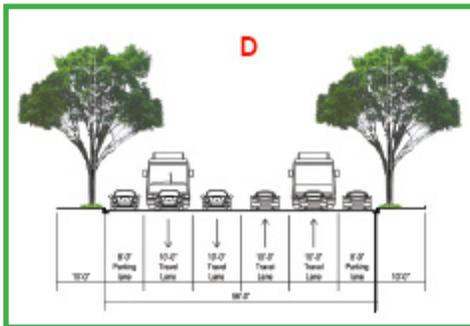


Figure F-4: Section D of Proposed Great Streets Cross Section



Figure F-5: A Confluence of Several Attractive Design Elements

## Corridor Vision

Great streets rarely happen by accident; great streets require vision, knowledge, and implementation to make them happen. The vision stated in the Great Streets Framework Plan for 7th Street, Georgia Avenue is as follows:

“Providing a direct connection from Downtown Silver Spring and Downtown Washington, DC, Georgia Avenue is a very urban corridor. Major Educational, Institutional and Cultural destinations line the Corridor. High quality enhanced transit shuttles patrons to the Distinct and varied retail and employment centers separated by expanded residential neighborhoods. Inspiration for design is drawn from the rich cultural diversity.”

The vision also includes creating a context-sensitive transportation network with Georgia and Sherman Avenues serving as focus corridors where improvements would be made to make each street a great place for walking, commerce, casual interaction, and transportation.

In addition, the vision includes making Georgia Avenue a walkable, inviting multimodal corridor that draws on its African-American heritage, particularly the historic Howard University, to create a cultural destination along Georgia Avenue between Florida Avenue and Barry Place. The vision includes transitions to distinctive places north along Georgia Avenue to New Hampshire Avenue that take advantage of the Georgia Avenue/Florida Avenue intersection to create a gateway into this cultural and historical destination.

Distinctive and dignified themes and objectives for design opportunities for Georgia Avenue are as follows:

- Walkability
- Cultural/historical destination
- Gateway
- Efficient operation of all modes

# Corridor Revitalization Vision & Guidelines

## Design Guidelines and Elements

### Walkability

The goal is to promote walkability by providing a comfortable and safe pedestrian experience along Georgia and Sherman Avenues. The best streets are pleasant for pedestrians. They contain destinations for those walking and prioritize their needs such that vehicles are slowed to allow safer and more comfortable pedestrian crossings.

### Distinctive and complementary design elements:

- Improved crossings
- Alternative paving materials, including permeable unit pavers
- Striping
- Signage
- Wide sidewalks
- Landscaping
- Barriers removed (piping removed)
- Tree grates/fences/boxes – replaced or repaired
- Benches
- Good maintenance

### Alternative Paving Materials

Alternative pavement materials provide opportunities for spatial definition and the recognition of special areas. They should be thoughtfully selected and arranged so as to achieve the following:

- Fulfill functional, safety, and durability requirements: Pavement materials should be of high quality, durable, and low maintenance. The furnishing zone in retail areas should be of permeable unit pavers when possible.



Figure F-6: Examples of Improved Pedestrian Crossings

- Support and express the design theme: The design, color, and materials of visible pavement should fulfill its supporting role as an important visual element of the overall design theme. Numerous designs are possible.
- Emphasize special areas: Special paving is highly effective at delineating spatial relationships and calling attention to focal areas.

### Specific Recommendations

Pedestrian design elements for this project have been categorized into the following three areas:

- Gateway improvements
- Transit-oriented improvements to improve, ease, and enhance the walk/transit transition. Crossings should be safe or shortened.
- Overall pedestrian activity – design elements should enhance pedestrian activity in the area.

**Table F-1: Intersections where Opportunities Exist for Pedestrian Enhancements**

	Gateway	Transit-Oriented	Enhanced pedestrian activity
Georgia Avenue at Florida Avenue	*		*
Georgia Avenue at W Street			*
Georgia Avenue at Barry Place / Bryant Street			*
Georgia Avenue at Irving Street		*	*
Georgia Avenue at Lamont Street		*	*
Georgia Avenue at Park Road		*	*
Georgia Avenue at Howard Place		*	*



Figure F-7: Examples of Alternative Paving Materials

## Corridor Revitalization Vision & Guidelines

Planned pedestrian improvements at the following key intersections should be reviewed to ensure appropriate pedestrian enhancements are made:

- Sherman Avenue and Barry Place
- Sherman Avenue and Euclid Street
- Sherman Avenue and Irving Street
- Sherman Avenue and Park Road

### Opportunity Segments along Georgia Avenue for Pedestrian Enhancements

#### Florida Avenue to W Street

This section of sidewalk is six feet wide, which typically is sufficient for pedestrian activity. However, a hedge adjacent to the sidewalk creates a confined feel for pedestrians. This section would benefit from pedestrian treatments, organized street furniture, and more space for pedestrian activity. This segment should emphasize the cultural destination and guide pedestrians to Howard University and Howard University Hospital, as well as other important destinations.

#### W Street to Barry Place

Currently this segment confines pedestrians and has high volumes of traffic (all transportation modes). Organized street furniture and improved pedestrian flow are needed. The segment should emphasize the cultural destination and guide pedestrians to Howard University and Howard University Hospital as distinct and important destinations.

#### Barry Place to Euclid Street

This segment presents existing obstacles for multimodal transportation, including a high chain-link fence on the west side of Georgia Avenue and a wall on the east side. The landscaping and planting should create variety and evoke Howard University. Streetscape design elements should be rescaled to create a pedestrian path through art and landscape. The heritage and distinctive design elements mentioned above should be continued, but they should transition to design elements appropriate for residential and small businesses along this segment.



Figure F-8: Street Furniture and Distinctive Plantings



Figure F-9: Examples of Wide Sidewalks with Landscaping

### Euclid Street to Columbia Road

This segment contains several curb cuts for driveways. In addition, the existing pedestrian environment has varying sidewalk widths and contains barriers (pipe railings). Small businesses and retail are located in this segment. The pedestrian realm needs to be improved by removing the pipe railings, unnecessary street signs and sidewalk obstacles, enhancing pedestrian crossings, and potentially narrowing lane widths to extend the sidewalk and shorten pedestrian crossings. Alleys should be improved so deliveries can be moved off of Georgia Avenue.

### Columbia Road to New Hampshire Avenue

This segment should continue the distinctive theme of the corridor but vary the design elements to reflect the design of New Hampshire Avenue and be consistent with the priorities and intersection design expressed in the New Hampshire Avenue traffic study.

### Cultural/Historical Destinations

The streetscape should reflect, serve, and enhance the cultural and historical destination.

#### Distinctive and Complementary Design Elements:

- Architectural continuity
- Detailed design and quality construction
- Cultural heritage plaques and signs
- Street furniture
- Alternate paving materials
- Plantings and landscaping – provide outstanding opportunities for spatial definition and the positive expression of landscape character
- Public art
- Bike rack design that evokes the African-American cultural theme of the corridor
- Pedestrian-only walkway/plaza street
- Transit shelters and facilities with cultural and historical design
- Greenspace

# Corridor Revitalization Vision & Guidelines

## Cultural/Historical Destination – Opportunity Areas:

- An opportunity exists at the Sherman/Florida/Bryant intersection to create a complementary gateway with a public art/performance space/small park space. Events would not be programmed; rather this would be a space where the community can gather for outdoor music, arts and crafts exhibits, and games.
- An opportunity exists for a pedestrian-only walkway or plaza street, which would serve as a promenade for pedestrians along the potential extensions of Bryant and W Streets.

Opportunity areas should be focused at the following locations (see Figure F-12):

- A. Sherman/Florida/Bryant Avenues area
- B. Segment from Florida Avenue to Barry Street
- C. Segment from Barry Street to Euclid Street

Figures F-13 and F-14 represent the DUKE plan’s vision for Georgia Avenue from Florida Avenue to Rhode Island Avenue. The DUKE Plan seeks to guide future development strategically by capitalizing upon the historic context of Georgia Avenue to restore this area into a contemporary uptown neighborhood with 18-hour destinations. The DUKE Plan helped to create a vision for part of Lower Georgia Avenue, and is consistent with DDOT’s vision for Lower Georgia Avenue.



Figure F-10: Distinctive Lighting Elements



Figure F-11: Cultural Heritage Plaque



Figure F-12: Opportunity Area of the Lower Georgia Avenue Corridor

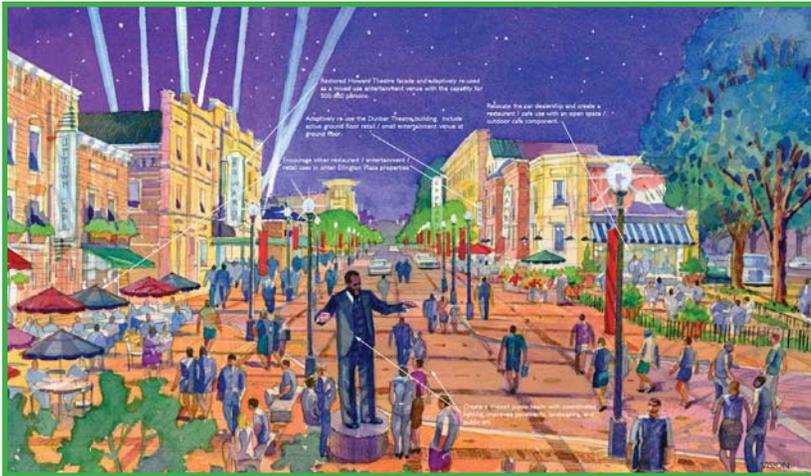


Figure F-13: Streetscape Rendering from the DUKE Plan

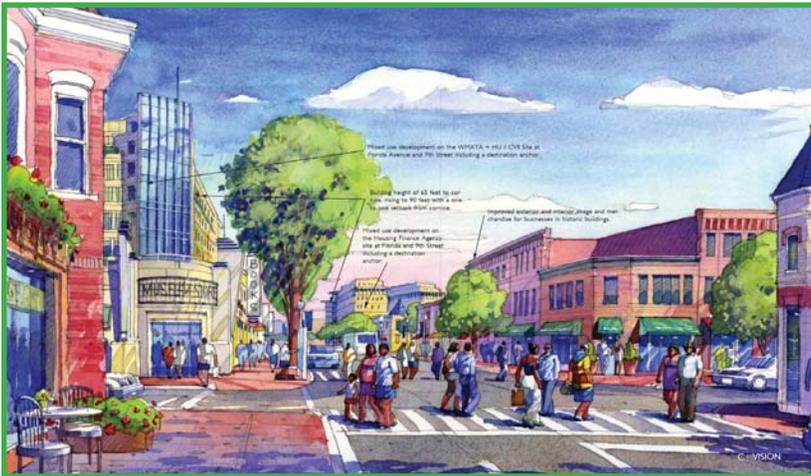


Figure F-14: Streetscape Rendering from the DUKE Plan

## Gateways

A gateway is a demarcation providing a visual cue to travelers that they are entering an area, district, or neighborhood. Gateways are context sensitive and vary widely. They can be indicated by simple signs or special landscape treatments as well as elaborate and formal markers, such as an obelisk, archway, or sculpture. They can also be established experientially through the sequential placement of several related elements. The intersection of Georgia and Florida Avenues provides an opportunity for a gateway.

### Distinctive and Complementary Gateway Design Elements:

- Formal/dramatic demarcation (such as a sculpture, arch, obelisk, or other public art form) that establishes the cultural/historical theme of the corridor and signifies the entrance of a new place
- Distinctive paving for the entire intersection of Georgia and Florida Avenues, including the intersection's interior (box)
- Cultural/special marking (such as music notes) on pedestrian crossings at intersection
- Street furniture theme at intersection
- Changing and distinctive signage throughout the corridor
- Transit stops incorporating cultural themes throughout the corridor
- Plantings hung on light poles to mark entry



Figure F-15: An Example of Gateway Design

# Corridor Revitalization Vision & Guidelines

## Efficient Operation of All Modes

Multimodal operations should support the corridor as a vibrant cultural and historical destination as well as a walkable place. Transit and emergency vehicles must be able to operate efficiently.

### Distinctive and Complementary Design Elements:

- Modify lane configurations and geometry to accommodate all modes of transportation
- Coordinate potential geometry changes with transit signal prioritization, depending on analysis and modification
- Ensure efficient operations and design for transit (including express bus) and emergency vehicles
- Consolidate driveways and eliminate curb cuts where possible
- Side streets: add bike-detected loops to give bikes sufficient time at crossings
- Maximize on-street parallel parking and identify opportunities for diagonal parking cutouts, where possible
- Identify opportunities for pedestrian refuge island(s), where appropriate

### Intersection Alternatives and Operations Analysis:

- Roundabout at Florida and Sherman Avenues
- No left turn from Georgia Avenue to Florida Avenue
- Dedicated left lane on Georgia Avenue to Bryant Place
- Pedestrian signal timings review for sufficiency and adjustment at key pedestrian crossings
- Pedestrian Signal Timing – providing pedestrian two second head start at key pedestrian crossings



Figure F-16: Various Bicycle Rack Designs

Corridor Alternatives and Modeling Scenarios:

- Remove parking between Florida Avenue and Bryant Avenue
- Provide Transit-only lane
- Provide Transit and turning-only lanes
- Review Howard Town Center model and assumptions
- Analyze origin-destination – high-quality, high-capacity corridor may support development goals of the place versus regional traffic passing through the corridor



Figure F-17: Examples of Transit-Only Lanes in Practice

# Existing Conditions

- G. Land Use
  - i. Existing Land Use and Development
  - ii. Proposed Land Use and Development
  
- H. Existing Conditions - Transportation
  - i. Description of the Corridor
  - ii. Overview of Study Intersections
  - iii. Traffic Conditions
  - iv. Parking Conditions
  - v. Transit Facilities
  - vi. Pedestrian and Bicycle Facilities
  - vii. Safety
  
- I. Existing Conditions - Public Realm
  - i. Sidewalks
  - ii. Lighting
  - iii. Street Furnishings
  - iv. History and Culture

# G. Land Use

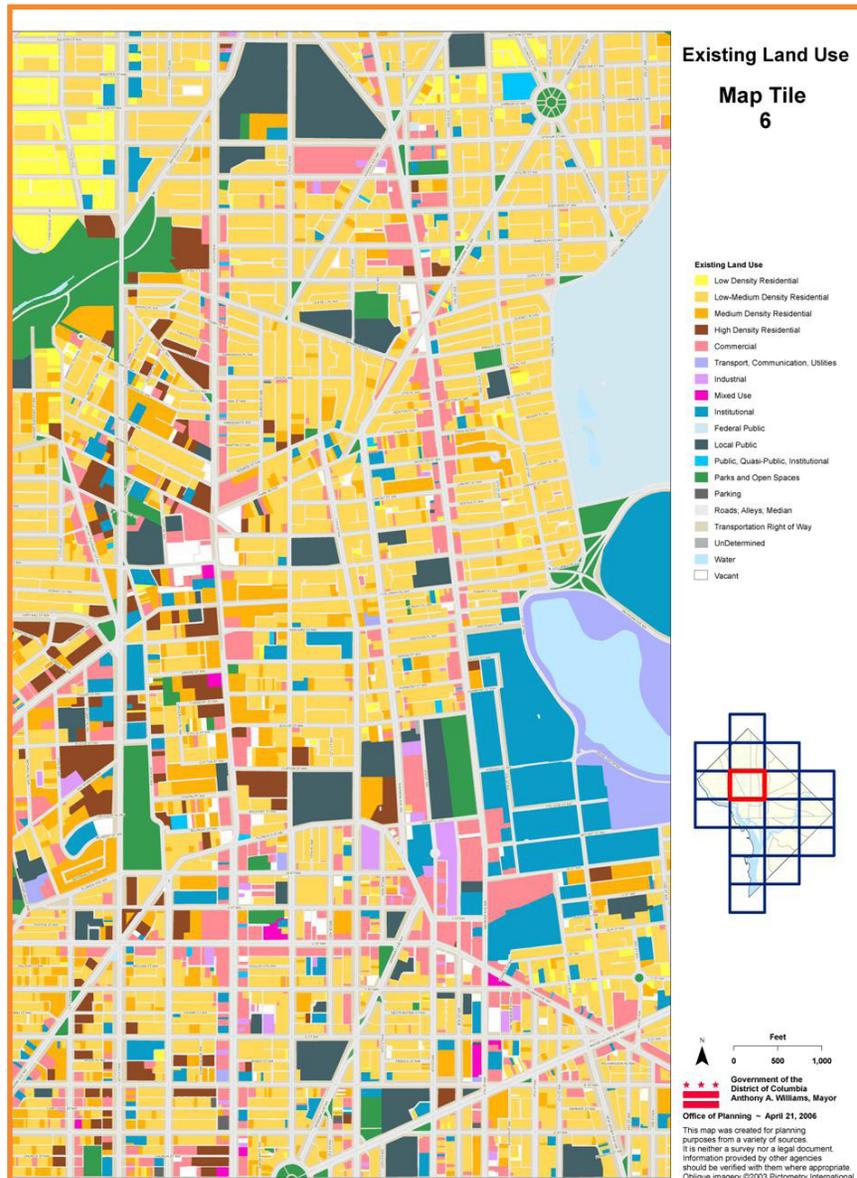


Figure G-1: Existing Land Use in the Lower Georgia Avenue corridor

## Existing Land Use and Development

Traveling north along Georgia near the intersection of Florida Avenue, land use is primarily institutional around Howard University, Howard University Hospital, and Banneker High School. A cluster of retail businesses are located at Barry Place, including a fast-food restaurant drive-through, and Bryant Street, including a number of small retail shops, a coffee shop, and a university bookstore.

From the vicinity of Euclid Street traveling north, the west side of Georgia Avenue comprises small retail establishments, including take-out restaurants, a health food store, a video rental, barbershops, automotive repair, and convenience stores. The east side of Georgia Avenue contains university buildings until approximately Hobart Street where small retail businesses are located.

## Proposed Land Use and Development

### Overlay Zoning

The Office of Planning proposed that the zoning commission add a new commercial overlay zone for the Georgia Avenue/Petworth Metro Station area. This zoning overlay for Georgia Avenue is part of a strategy to attract investment, create jobs, and enhance the corridor's image.

# Land Use

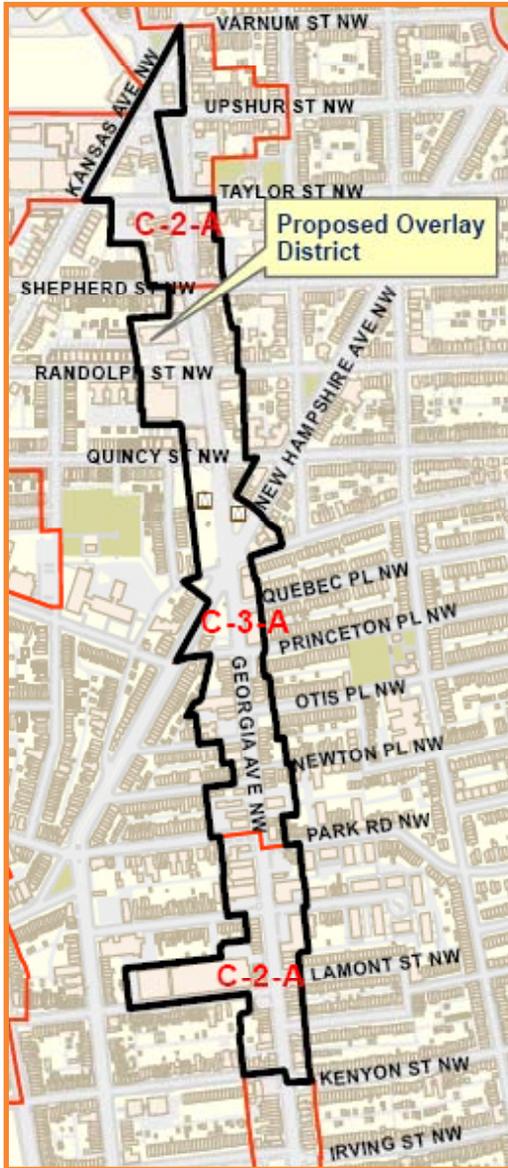


Figure G-2: Planned Overlay Zoning District for Lower Georgia Avenue

The following objectives of the overlay district were outlined in a memorandum from the Office of Planning to the Zoning Commission (November 2006):

- Implement the goals of the Great Streets Framework
- Encourage additional residential uses
- Encourage improved commercial uses
- Provide common design standards

## Proposed Development

Several new developments are slated for construction along Georgia Avenue, which would transform the corridor into a series of neighborhood cores with vibrant and diverse retail centers and higher quality multifamily residential developments. Examples of these developments include the Georgia Avenue/Petworth Metrorail station area, the Columbia/Harvard intersections, and Howard Town Center.

Mixed-use development is being constructed near the Georgia Avenue/Petworth Metrorail station area with 148 condominiums and 17,000 square feet of retail. A mix of high-density residential development and local retail services is proposed near the Columbia/Harvard intersections. Howard University will develop a significant portion of its land into a residential, office, and retail center to be called Howard Town Center, which will include more than 300 apartments, 72,000 square feet of retail including a high-end grocery store, and 500 public parking spaces.

Developments proposed or under-construction are shown in Figures G-5 and G-6.



Figure G-3: Georgia Avenue/Petworth Metrorail station Development

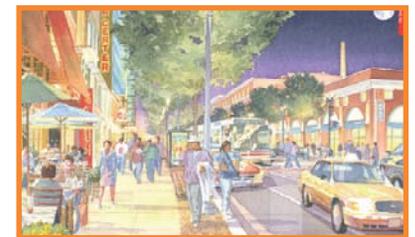


Figure G-4: Howard Town Center Development

Figure G-5: Northern Portion of Study Area

1. 4136 Georgia Avenue
2. The Residences at Georgia Avenue - 4100 Georgia Avenue NW
3. 4000 Block West - Georgia Avenue NW
4. 3910-3912 Georgia Avenue NW
5. 3800 Block West - Georgia Avenue NW (Safeway Site)
6. 3800 Block East - Georgia Avenue NW
7. Petworth Metro - 3700 Block Georgia Avenue NW
8. 3600 Block Georgia Avenue NW
9. 3600 Block Georgia Avenue NW
10. 3500 Block East - Georgia Avenue NW
11. 3400 Block East - Georgia Avenue NW
12. Lamont Lofts Phase II - 3300 Block Georgia Avenue NW
13. Lamont Lofts Phase I - 701 Lamont Street NW

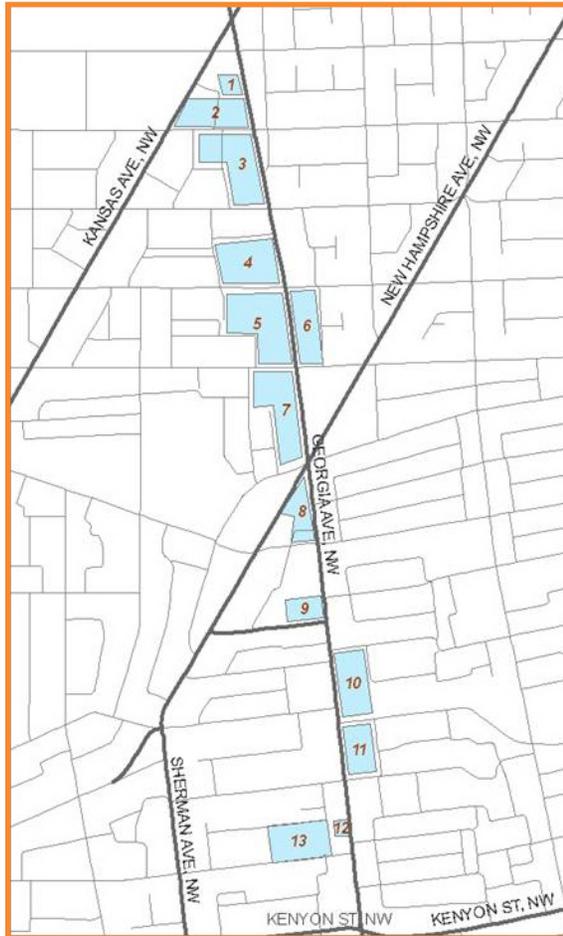
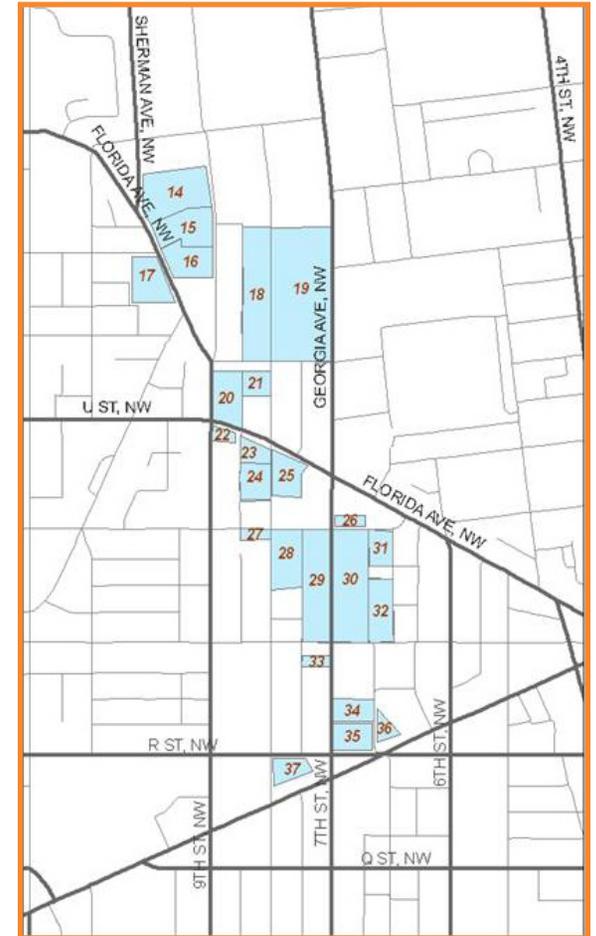


Figure G-6: Southern Portion of Study Area

14. Howard Town Center Phase I - 2100 Block Georgia Avenue NW
15. Atlantic Plumbing Properties
16. The Florida - 9th Street & Avenue NW
17. The Rhapsody - 2120 Vermont Avenue NW
18. Atlantic Plumbing Properties
19. Howard Town Center Phase I - 2100 Block Georgia Avenue NW
20. Housing Finance Agency Site
21. Atlantic Plumbing Properties
22. WMATA - Shaw-Howard University Parcels
23. WMATA - Shaw-Howard University Parcels
24. 1900 Block 8th Street NW
25. WMATA - Shaw-Howard University Parcels
26. Dunbar Theatre Apartments
27. NCRC Parcel
28. Cleveland Elementary School
29. Howard University - Temporary Offices
30. Broadcast Center One
31. Howard Theatre - 629 T Street NW
32. Wonder Bread Building
33. NCRC Parcel
34. United House of Prayer - Adjacent Land
35. NCRC Parcel
36. NCRC Parcel
37. Watha T. Daniel Shaw Neighborhood Library



# H. Existing Conditions - Transportation



Figure H-1: Georgia Avenue Near New Hampshire Avenue

## Description of the Corridor

### Overview of Major Streets in the Study Area

#### Georgia Avenue

Georgia Avenue (US 29), runs north-south and continues into Maryland where it becomes MD 97. Georgia Avenue is classified as a primary arterial and is part of the National Highway System. It connects Washington DC to I-495 and is one of the 19 primary emergency evacuation/event routes (E routes) in the District, as well as a snow emergency route. The 2002 average annual weekday traffic (AAWT) on Georgia Avenue was 21,400 vehicles.

The posted speed limit is 30 miles per hour (mph) within the study area. Georgia Avenue has two travel lanes in each direction with parallel parking along the curb. The major land use is commercial with some residential.

#### Florida Avenue

At the southern boundary of the study area, Florida Avenue is a principal arterial. The western terminus of Florida Avenue is at P Street and 23rd Street. The eastern terminus is at H Street, NE and Maryland Avenue NE. In the study area, Florida Avenue carries three westbound lanes and two eastbound lanes between Sherman Avenue and Georgia Avenue. The 2002 AAWT was 27,500 vehicles.

#### New Hampshire Avenue

New Hampshire Avenue is a minor arterial that begins at the Kennedy Center and extends northeast into Maryland where it becomes MD 650. In the study area, New Hampshire Avenue carries two lanes in each direction with parallel on-street parking. The posted speed limit is 30 mph within the study area.

#### Sherman Avenue

Sherman Avenue runs north-south from its northern terminus at New Hampshire Avenue to its southern end at Florida Avenue. It is a four-lane roadway with on-street parallel parking. Due to utility work, southbound Sherman Avenue is currently reduced to one lane between



Figure H-2: Georgia Avenue Facing North

Kenyon Street and Irving Street and between Girard Street and Fairmont Street. Parking along the street within the above portions is restricted between 7:00 a.m. and 6:00 p.m. for different days. The posted speed limit is 25 mph. The 2002 AAWT on Sherman Avenue was 16,000 vehicles.

#### Columbia Road

Columbia Road is one-way westbound with two travel lanes from Park Road to Connecticut Avenue. On-street parking is allowed on both sides of the street. The 2002 AAWT was 4,500 vehicles. Curb parking on the south side of the street is restricted to residents with a Zone 1 permit. Parking for others is limited to two hours between 7:00 a.m. and 8:30 p.m., Monday through Friday. On the north side of the street, parking is restricted between the hours of 7:00 a.m. and 4:00 p.m., Monday through Friday. The major land use along Columbia Road is residential.

#### Harvard Street

Harvard Street is one-way eastbound from 16th Street to 5th Street. The 2002 AAWT was 5,000 vehicles. Parking on both sides of the street is permitted for residences with a Zone 1 permit. For all others, parking is restricted to two hours between 7:00 a.m. and 8:30 p.m., Monday through Friday on the north side of the street, and between 9:30 a.m. and 4:00 p.m., Monday through Friday on the south side of the street.

#### Irving Street

Irving Street is one-way eastbound from Adams Mill Road to Park Road. East of Park Road, this street carries two-way traffic. The 2002 AAWT was 7,000 vehicles. Between Sherman Avenue NW and Georgia Avenue NW parking is permitted on the north side of the street. However, the majority of this section is restricted to Zone 1 permit holders. Parking for all others is limited to two hours between 7:00 a.m. and 8:30 p.m. Monday through Friday. A short segment (30 feet) on the north side of the street at the east end is restricted to three-hour parking between 7:00 a.m. and 6:30 p.m. Monday through Friday. On the south side of the street, parking is restricted between 7:00 a.m. and 6:30 p.m. Monday through Friday.

#### Kenyon Street

Kenyon Street is one-way westbound from Park Road to 14th Street. The 2002 AAWT was

## Existing Conditions - Transportation

5,100 vehicles. On the south side of the street, parking is restricted to Zone 1 permit holders. Parking for all others is limited to two hours between 7:00 a.m. and 8:30 p.m. Monday through Friday. On the north side, parking is restricted between 7:00 a.m. and 9:30 a.m. and 4:00 p.m. to 6:30 p.m. Monday through Friday.

### Collector Roads

The remaining streets within the study area are collector roads and are as follows: Otis Place, Newton Place, Morton Street, Lamont Street, Hobart Place, Gresham Place, Girard Street, Fairmont Street, Euclid Street, Barry Place, V Street, 8th Street, and 9th Street.

### Overview of the Study Intersections

Traffic (vehicle, pedestrian, and bicycle) data were collected at the following 13 intersections:

- Georgia Avenue at New Hampshire Avenue
- Georgia Avenue at Park Road
- Georgia Avenue at Irving Street
- Georgia Avenue at Harvard Street
- Georgia Avenue at Barry Place
- Georgia Avenue at Bryant Street
- Georgia Avenue at W Street
- Georgia Avenue at Florida Avenue
- New Hampshire Avenue at Spring Road
- New Hampshire Avenue at Monroe Street / Park Road / Sherman Avenue
- Sherman Avenue at Kenyon Street
- Sherman Avenue at Columbia Road
- Florida Avenue at Vermont Avenue

**Georgia Avenue at New Hampshire Avenue** is a six-leg intersection. The additional two legs of the intersection are formed by Rock Creek Church Road. The Rock Creek Church



Figure H-3: Florida Avenue Facing West



Figure H-4: New Hampshire Avenue Facing Northeast

Road legs are one-way, leaving the intersection in opposing directions. The intersection is signal-controlled with two-phase movements: Georgia Avenue followed by New Hampshire Avenue. Pedestrian crossings are marked on all approaches. Both New Hampshire Avenue and Georgia Avenue are four-lane roadways. A painted median separates traffic on New Hampshire Avenue. The Georgia Avenue-Petworth Metrorail station and adjacent bus stops generate pedestrian volume at this intersection.

**Georgia Avenue at Park Road** is an offset intersection. The intersection is controlled by a traffic signal with two-phase movements. Pedestrian crosswalks are marked on all approaches with pedestrian signal indications.

**Georgia Avenue at Irving Street** is a three-phase signal-controlled intersection with a leading left-turn phase southbound. Irving Street is one-way eastbound. Pedestrian indications and marked crosswalks are provided for all crossings. The eastbound approach of Irving Street contains rumble strips to slow traffic.

**Georgia Avenue at Harvard Street** is a skewed intersection with the east approach of Harvard Street intersecting Georgia Avenue at a 30-degree angle. Harvard Street is one-way eastbound with two lanes. The intersection is controlled by a two-phase traffic signal with pedestrian indications and marked crosswalks.

**Georgia Avenue at Barry Place** is a “T” intersection controlled by a three-phase traffic signal. A northbound left-turn arrow follows the Georgia Avenue through movement. Barry Place has a one-lane approach eastbound. Pedestrian signal indications and marked crosswalks are provided for all crossings. The intersection is one of the highest pedestrian volume intersections in the study area.

**Georgia Avenue at Bryant Street** is a “T” intersection controlled by a two-phase signal. Bryant Street is one-way eastbound. Pedestrian signal indications and marked crosswalks are provided for all crossings.

**Georgia Avenue at W Street** is a “T” intersection controlled by a two-phase signal. W Street is one-way westbound. Pedestrian signal indications and marked crosswalks are provided for all crossings.



Figure H-5: Sherman Avenue Facing North

## Existing Conditions - Transportation



Figure H-6: Sherman Avenue at Monroe Street and Park Road

**Georgia Avenue at Florida Avenue** is controlled by a three-phase signal with a protected southbound left-turn phase. Pedestrian signal indications and marked crosswalks are provided for all crossings. This intersection has the highest pedestrian and bicycle volumes in the study area. Two bus stops are located on the southwest and northeast corners of the intersection. Two additional bus stops are on each side of Florida Avenue.

**New Hampshire Avenue at Spring Road / Princeton Place** currently is a stop-controlled intersection, although it has been signal-controlled in the past. New Hampshire Avenue operates freely, and the Spring Road approach is controlled by a stop sign. No vehicles approach the intersection via Princeton Place because it is one-way eastbound leaving the intersection.

**New Hampshire Avenue at Sherman Avenue / Monroe Street / Park Road** is a five-leg intersection controlled by a two-phase signal. The fifth leg, Park Road, carries one-way traffic westbound out of the intersection. Pedestrian signal indications and marked crosswalks are provided for all crossings.

**Sherman Avenue at Kenyon Street** is a four-leg intersection with Kenyon Street limited to one-way westbound traffic. A two-phase signal controls intersection movements. No pedestrian signal indication is provided, but marked crosswalks are located at all crossings.

**Sherman Avenue at Columbia Road** is a signal-controlled intersection with two-phase movement. Columbia Road is one-way westbound. Pedestrian phases are provided for all crossings.

**Florida Avenue at Vermont Avenue** is a “T” intersection controlled by a two-phase signal. Left turns are prohibited from northbound Florida Avenue onto Vermont Avenue. No pedestrian signal indication is provided for this intersection. Crosswalks are marked across Vermont Avenue and Florida Avenue on the north side of the intersection.

## Traffic Conditions

### Data Collection and Analysis

Turning-movement counts were collected for mid-day peak, PM peak, and Saturday (SAT) periods at 13 intersections. Seven-day automatic vehicle speed and classification counts were recorded at four locations. A parking inventory and parking-demand survey were conducted, along with a limited origin-destination study. Crash data was obtained from DDOT.

### Turning Movement Volumes

Manual turning movement counts were conducted on Tuesday, Wednesday, or Thursday from 11:00 a.m. to 2:00 p.m. for the midday counts and 3:30 p.m. to 6:30 p.m. for the PM peak counts. Saturday counts were conducted on non-holiday Saturdays from 10:00 a.m. to 2:00 p.m. The counts included vehicle, pedestrian, and bicycle movements. Turning-movement data were also obtained from a previous New Hampshire Avenue traffic study, which did not include pedestrian or bicycle volumes. The mid-day, PM, and Saturday peak hour volumes are shown in Figures H-8 through H-10.

The turning-movement volume data indicate that the PM peak volumes are higher than mid-day peak volumes for all of the study intersections. The intersection of Georgia Avenue at Barry Place, located near Howard University, has the highest Saturday vehicle volume.

Areas adjacent to Howard University and Howard University Hospital, as well as the intersection of Georgia Avenue at Florida Avenue, have the highest pedestrian activity in the study area.

The highest bicycle volume is at the intersection of Georgia Avenue and Florida Avenue during the PM peak and SAT peak periods.



Figure H-7: Sherman Avenue Near Florida Avenue

# Existing Conditions - Transportation

Figure H-8: Mid-day Peak-Hour Intersection Volumes

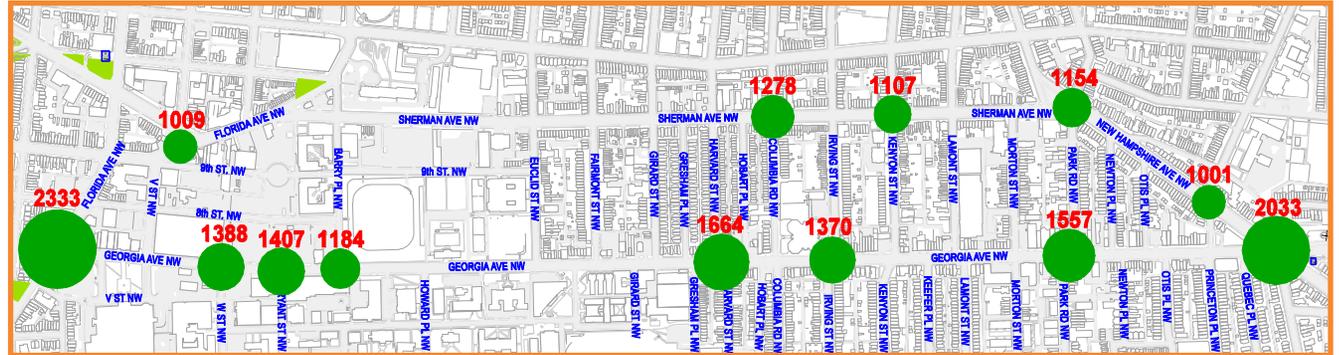


Figure H-9: PM Peak-Hour Intersection Volumes

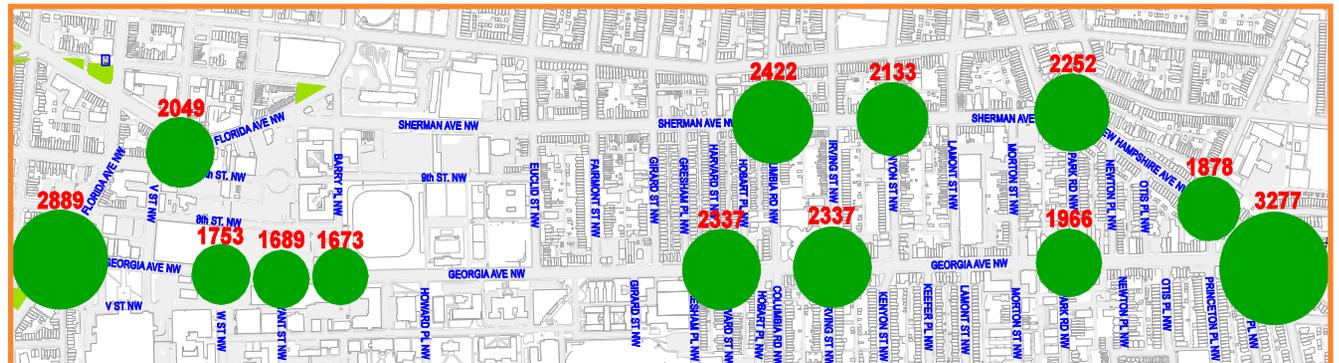


Figure H-10: Saturday Peak-Hour Intersection Volumes

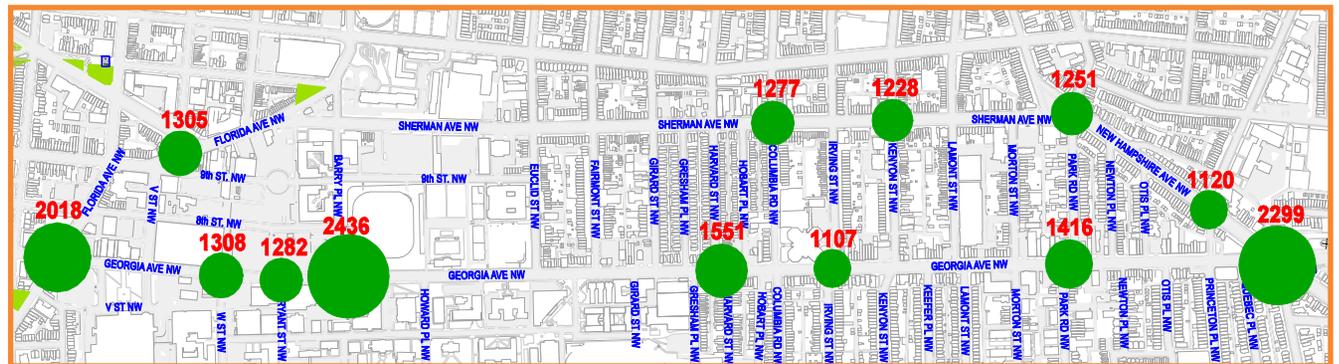




Figure H-11: Parking on Georgia Avenue

## Parking

### Parking Inventory

On-street parking was inventoried for all arterial and collector roads in the study area. The number of parking spaces, and any parking restrictions were noted for each roadway. The parking inventory was used to evaluate the total parking capacity on the roads. Throughout the study area, on-street parking is restricted in some way for all of the studied roadways. The most common types of parking restrictions involve time-regulated parking in residential zones and metered parking. On-street parking is also prohibited during designated street-cleaning periods. In addition, on-street parking in some locations is prohibited entirely.

Metered parking is regulated by meters that limit parking to one, two, three, or five hours. Residential zone parking is designated as Zone 1, Zone 4, or overlapped (Zones 1 and 4). For this study, all metered parking spaces were counted. Parking spaces restricted by distance or zone (e.g., time-regulated parking), were calculated by converting the distance between parking restriction signs to the number of vehicles that could park within this distance using an assumption of 25 feet per vehicle.

### Parking Demand

Parking demand refers to the amount of parking used at a particular time, place, and price. It is a critical factor in evaluating parking efficiency. The parking demand data collected for this study focused on on-street parking along Sherman Avenue and Georgia Avenue. To determine the weekday daily parking demand, the occupancy of the available parking spaces along Sherman Avenue and Georgia Avenue inside the study area were counted and documented each hour between 6:30 a.m. and 6:30 p.m. on Wednesday, December 15, 2006.

Parking demand also reflects parking adequacy, which indicates whether sufficient parking exists at a particular time and location. The ratio derived from demand versus capacity shows the relationship between parking need and supply. Parking capacity is derived from the available parking spaces counted in the inventory. A ratio greater than one indicates that parking demand in a particular location and at a particular time exceeds parking capacity.

## Existing Conditions - Transportation

### Transit Facilities

A number of public transportation modes serve the study area:

- Metrobus routes 70/71, 66, 68, and 79 travel north-south.
- Metrobus routes H1, H2, H3, H4, H8, and X3 travel east-west.
- Metrorail has a stop at each end of the study area.
  - In the north, the Georgia Avenue –Petworth Station is near the intersection of Georgia Avenue and New Hampshire Avenue.
  - In the south, the African-American Civil War Memorial / Cardozo Station is at U Street and 11th Street.

### Bus

The 70/71 routes (the Georgia Avenue and 7th Street Line) serves Georgia Avenue in both directions. The Silver Spring Station is at the northern end of this line adjacent to the DC / Maryland border. The southern end of the line is at Buzzard Point, which is north of the Anacostia River. The 70/71 route stops at three locations inside the study area: Georgia Avenue at New Hampshire Avenue, Georgia Avenue at Irving Street, and Georgia Avenue at Florida Avenue.

The 66, 68 routes (the Petworth– 11th Street Line) begins in the north at the Georgia Avenue –Petworth Station at the intersection of Georgia Avenue at Quincy Street. Its southern terminus is at Federal Triangle Station, which is near 10th / 12th Street at Constitution Avenue. In the study area, only route 68 serves Sherman Avenue.

The route 66 is not in the study area. This route runs along 11th Street, which is parallel to Sherman Avenue. Routes 66 and 68 diverge at the intersection of New Hampshire Avenue at Monroe Street and converge at the intersection of 11th Street at Vermont Avenue.

The route 68 begins at the Georgia Avenue –Petworth Station and makes one stop at Sherman Avenue at Irving Street. Its next stop is at Vermont Avenue at U Street, which is just outside and southwest of the study area.

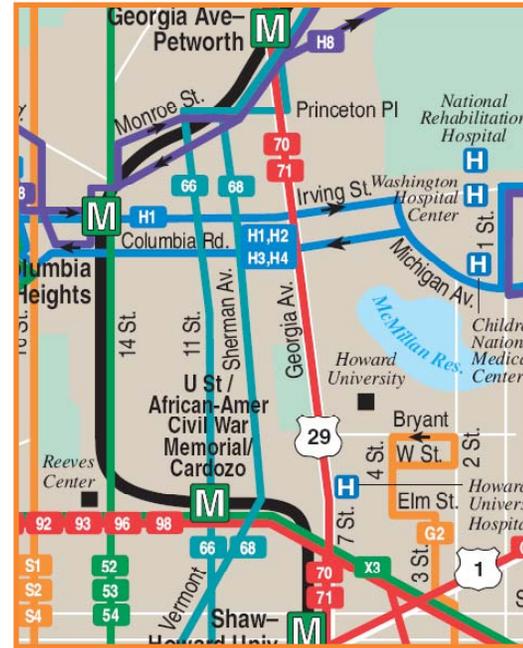


Figure H-12: WMATA Bus and Rail Routes in the Study Area

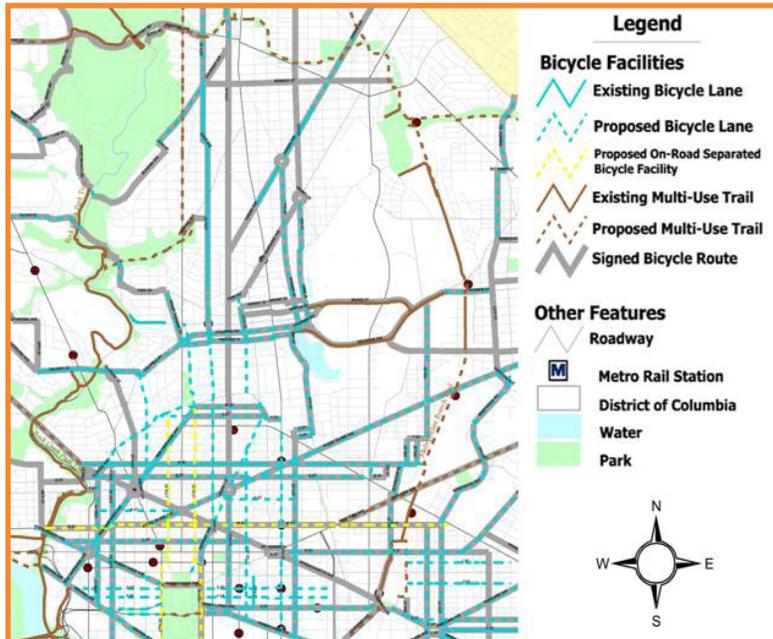


Figure H-13: Bicycle Routes in the Vicinity of the Study Area

The new MetroExtra BRT service (79 line) operates along Georgia Avenue with a headway of 10 minutes during PM peak hours. The 70/71 line takes approximately one hour to travel through 54 bus stops along the corridor from Archives to Silver Spring. The travel time of the 79 line is decreased to approximately 45 minutes through 15 bus stops.

### Metrorail Facilities

The Metrorail Green Line running between the Greenbelt and Branch Avenue Stations has three stops near the study area. The U Street/African-American Civil War Memorial/ Cardozo Station is at the southern end of the study area. The Columbia Heights Station is at 14th Street and Irving Street on the west side of the study area. The Georgia Avenue –Petworth Station is at Georgia Avenue and New Hampshire Avenue at the north end of the study area.

### Bicycle Facilities

Bicyclists in the study area must currently share lanes with motor vehicles or ride on the sidewalk, except in the eastern edge of the study area on 4th Street and Warder Street where bike lanes have been installed. It can be dangerous for bicyclists to share lanes with motor vehicles, especially when bicyclists are traveling between moving and parked vehicles.

Mixing bicycles and pedestrians on a limited sidewalk area can also be dangerous. The bicycle route map showing current bicycle facilities in the study area is found in the District of Columbia Bicycle Master Plan. An enlarged map is shown in Figure H-13.

Signed bicycle routes are on New Hampshire Avenue, Lamont Street, Kenyon Street, Columbia Road, and Harvard Street. A signed bicycle route is typically designated along more lightly traveled residential or secondary roads that may follow the same general corridor as more heavily traveled arterial highways. The routes are indicated by signs that may or may not have a specific route number.

Figure H-17 shows that the percentage of people who prefer to commute by bicycle is higher in the central part of the study area than in other parts of the study area.

The mid-day, PM, and Saturday peak hour bicycle volumes by intersection are shown in



Figures H-14 through H-16.

### Pedestrian Facilities

Most east-west streets in the study area are residential. Sherman Avenue is primarily residential with sporadic commercial sites. Georgia Avenue has a high number of pedestrians because it contains primarily commercial and academic uses mixed with some residential areas. The width of a sidewalk is a prime indicator of its pedestrian capacity and pedestrian friendliness.

The mid-day, PM, and Saturday peak hour pedestrian volumes by intersection are shown in Figures H-18 through H-20.

### Accident Summary

To assess the safety conditions in the study area, accident summary reports for 2003 – 2005 were obtained for intersections along Sherman Avenue and Georgia Avenue. The accident summary reports listed accidents by collision type(s), and the time of the occurrence. The data indicated that 2004 had more accidents than either 2003 or 2005 for both of the two corridors. The total number of injuries on both corridors showed an increase each year from 2003 to 2005.

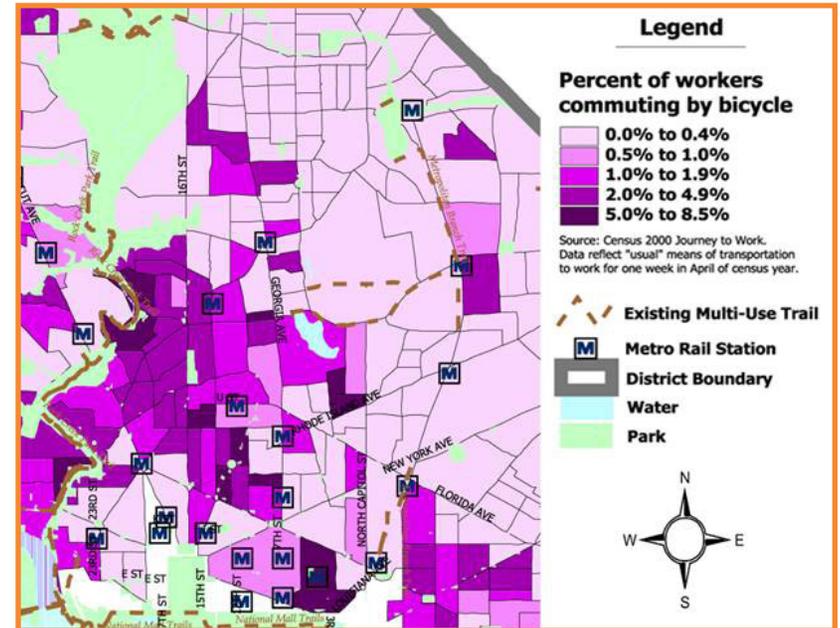


Figure H-17: Percentage of Workers who Commute by Bicycle to Jobs in the Study Area

# Existing Conditions - Transportation

Figure H-18: Mid-day Peak-Hour Pedestrian Volumes

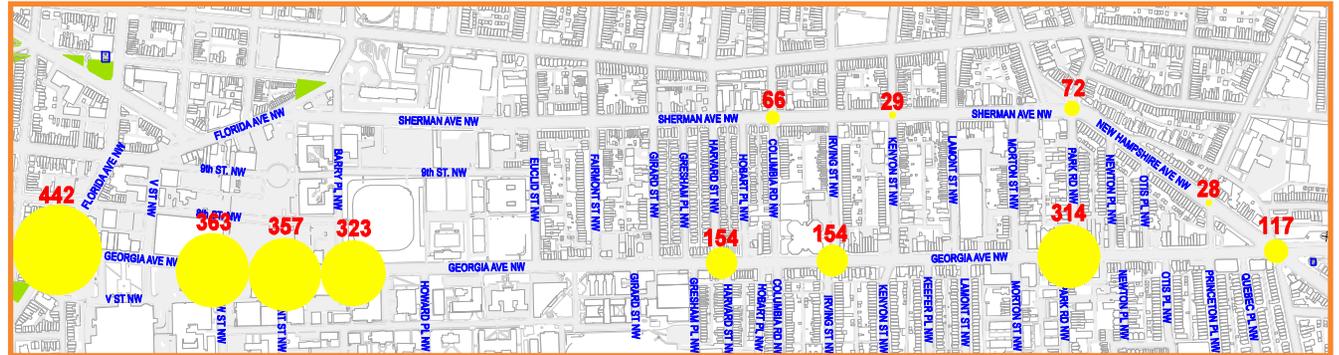


Figure H-19: PM Peak-Hour Pedestrian Volumes

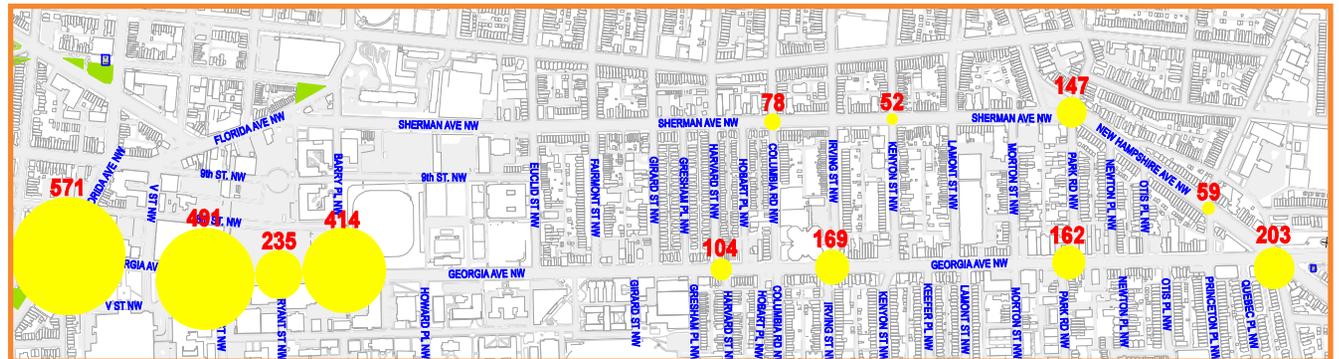
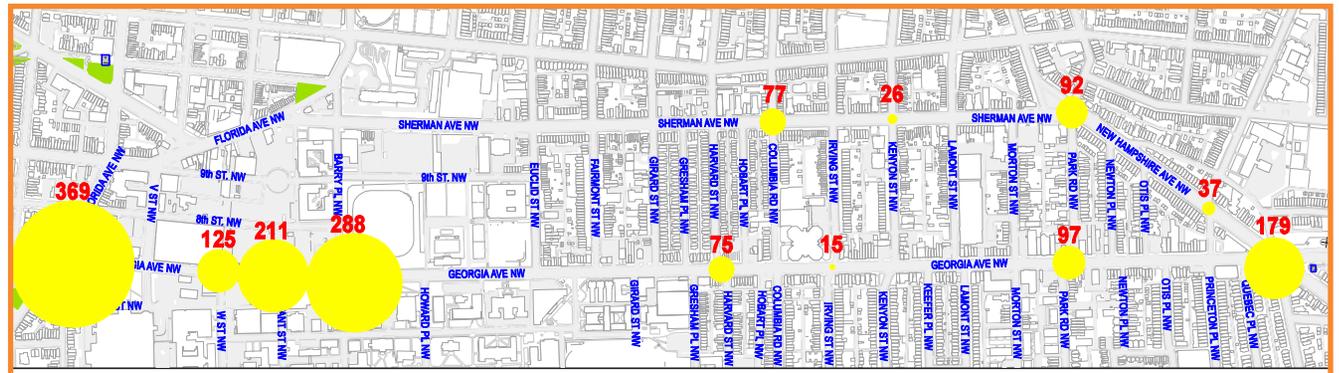


Figure H-20: Saturday Peak-Hour Pedestrian Volumes



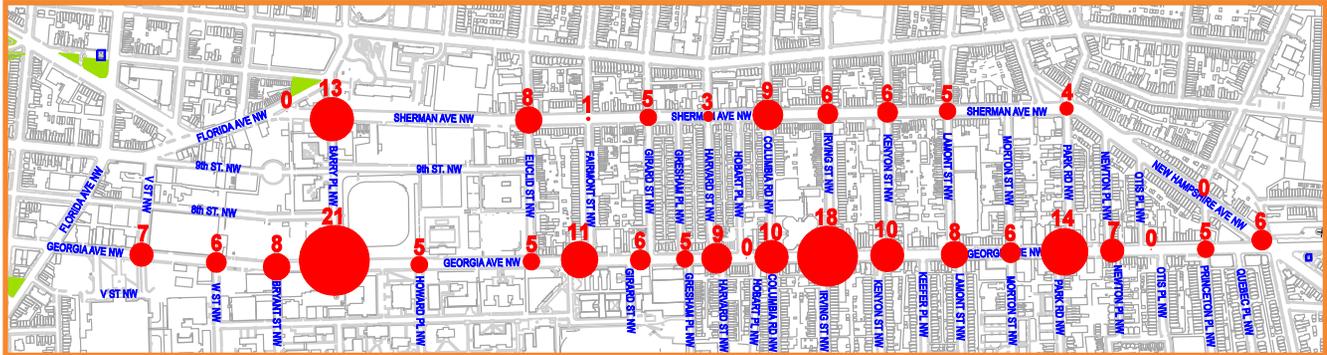


Figure H-21: Crash Data from DDOT Accident Summary Report \*

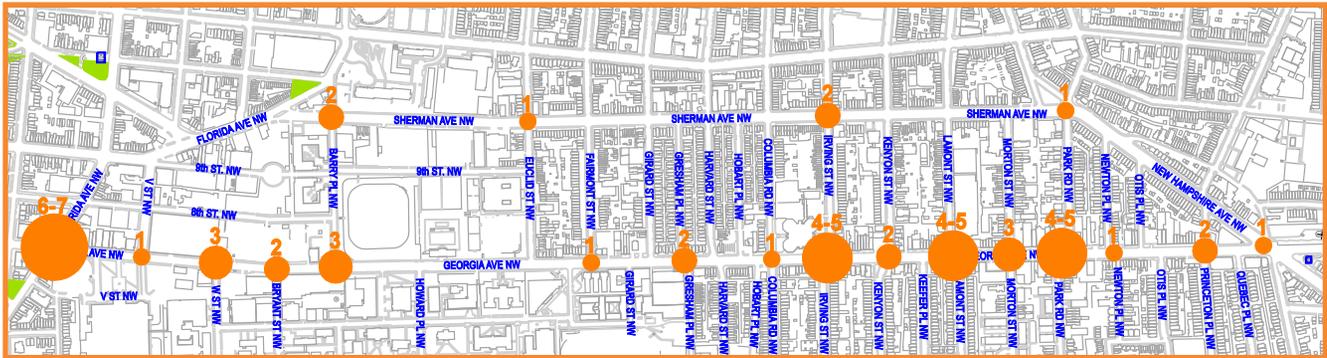


Figure H-22: Pedestrian Accident Data (2002-2004) from DDOT

\* Crash data missing for the following intersections: Georgia Avenue and Florida Avenue; Sherman Avenue and Gresham Place; Sherman Avenue and Hobart Place; Sherman Avenue and Morton Street.

# I. Existing Conditions - Public Realm



Figures I-1 & I-2: Sidewalk Conditions on Georgia Avenue



Figure I-3: Deteriorated Concrete Sidewalk on Georgia Avenue



Figure I-4: Deteriorated Brick Sidewalk on Georgia Avenue

## Streetscape and Urban Design

### Sidewalks

Sidewalk conditions vary greatly from good to very poor. Sidewalk widths on Georgia Avenue range from four to six feet, depending on location. From Florida Avenue to W Street, the sidewalk is typically sufficient for pedestrian activity. However, a hedge exists adjacent to the sidewalk creating a confined feel for pedestrians. From W Street to Barry Place, there are tight sidewalk widths in front of Wonder Plaza, thus resulting in inefficient pedestrian flows. North of Barry Place, although the sidewalks are wide in this area, there is a high chain-link fence on the west side of Georgia Avenue and a wall on east side of Georgia Avenue limiting the pedestrian experience. From Euclid Street to Columbia Road, sidewalk widths vary and several curb cuts for driveways exist that disrupt pedestrian movement. Also, there is steel piping located on the east sidewalks that creates a barrier for crossing pedestrians and parking patrons. North of Columbia Road, the sidewalks are wide.

On Sherman Avenue, sidewalk widths are generally narrow, ranging from as little as two feet to six feet. These sidewalks are located right next to residential front yards and low retaining walls. There is usually not enough room to walk on sidewalks especially near streetlight poles, traffic poles, and traffic cabinets. Utilities placed in the sidewalk make it impossible to navigate this area in a wheelchair.

Curb and gutter materials vary throughout Georgia and Sherman Avenues. Most curbs are constructed with concrete or granite curbs and brick gutters. However, in some locations, both the curb and gutter are constructed of concrete.

### Urban Design

There is not a consistent urban design along Georgia Avenue. Georgia Avenue from Florida to New Hampshire Avenues is not one place, but several large segments with a number of smaller focal points located within each segment. Businesses located north of Harvard Street appear to serve mostly neighborhood needs, while the businesses located south of Harvard Street appear to serve Howard University and Howard University Hospital.

Georgia and Sherman Avenues represent different street types and serve different functions. On Georgia Avenue, the land use varies from educational to residential to small businesses. Each small business has its own distinctive characteristics. Most reside in older structures which shows their age. The residential section varies from small row houses to small and moderately-sized apartments. On Sherman Avenue, the function is mostly residential, however because of the street's current function as a commuter cut-through; the residential feel of the Sherman Avenue community is sometimes lost.

There are no identifying gateway features at either Florida or New Hampshire Avenues to introduce the driver, pedestrian, bicyclist, or transit user to the distinctive and historic nature of Georgia Avenue.

The sidewalk continuity is interrupted by a number of newspaper boxes, telephone poles and signage. This clutter creates visibility problems for drivers and pedestrians in addition to taking up useful sidewalk space.

### Roadway

The right-of-way (ROW) for Georgia Avenue is 90 feet, but most of the ROW in most locations is being encroached upon by buildings. Georgia Avenue from New Hampshire Avenue to Columbia Road has a roadway width – curb-to-curb – of 60 feet. South of Columbia Road, this width reduces to a 55-foot width at the Barry Place intersection. South of Barry Place, the width of Georgia Avenue reduces from 55 feet to 48 feet at the Florida Avenue intersection. This change in roadway width contributes to the narrowing of travel lanes on Georgia Avenue, leading to ineffective traffic operation. It also contributes to an inconsistency in urban design for the corridor.

Sherman Avenue has a ROW of 100 feet, and a roadway width of 60 feet from Florida Avenue to Park Road.

### Accessible Green Space

The study area is lacking in functional green space, and much of what exists is on the campuses of Howard University and Banneker High School. The Banneker Park, one area of public green space in the central part of the study area, is surrounded by chain link fences that reduce its accessibility to the public.



Figure I-5: Sidewalk Conditions on Sherman Avenue



Figure I-6: Visual Clutter on Georgia Avenue



Figure I-7: Banneker Park on Georgia Avenue, Surrounded by Chain Link Fences

## Existing Conditions - Public Realm



Figure I-8: Crosswalk In Poor Condition on Georgia Avenue

### Paving

There is inconsistent sidewalk pavement along the Georgia and Sherman Avenues, varying from concrete to brick pavers, to asphalt paving. Some of the brick, and even the concrete, is in poor condition. The community has complained that the brick pavers are difficult for disabled persons to traverse.

In most locations, the roadway paving on both streets also shows wear and tear in many of the high-volume locations. Some pavement is cracked or removed. Both corridors are in need of milling and re-paving.

### Crosswalks and Intersection Boxes

Crosswalk and intersection box striping in many locations have been worn out. Many need to be re-striped. Also, there is no decorative striping or thermoplastic designs on any of the crosswalks or intersections on Georgia or Sherman Avenues.

### Street Signs and Wayfinding

Street signs are falling down in some locations, and there is an overpopulation of traffic-related and regulation signs near retail sections. There are no wayfinding signs directing individuals to specific destinations along Georgia Avenue. There also are no signs displayed designating Georgia Avenue as a historic destination.

### Bus Stops and Site Furnishings

#### Bus Stops

Bus stops have a variety of amenities. Some stops have shelters to protect patrons from inclement weather. However, the shelters on Georgia Avenue are in varying conditions – from good to poor.

The bus stop located in front of Wonder Plaza does not have any associated furnishings and patrons usually loiter near business entrances.

### Site Furnishings

There are inconsistent street furnishings along the corridor, and no unified type, style, design, and location for these street furnishings. In sections there are multiple trash receptacles available and in other sections there are none. For example, in front of Wonder Plaza, there is a trash receptacle for every retail business. However, there are not enough trash receptacles at businesses north of Columbia Road. Newspaper corrals are in poor condition. Street benches are non-existent, except at bus shelters. Tree boxes are not fenced or separated from the public walkways, and are thus trampled on by pedestrians. Bicycle racks do not exist along the corridor.

### Lighting

Lighting fixtures are inconsistent along Georgia Avenue. Recently, the streetlights were replaced with Twin 20 Globe lights on Georgia between Florida Avenue and Girard Street. The older streetlights north of Girard Street, however, were not replaced. The inconsistency in the street lights contributes to the lack of a consistent urban design. It also separates the Howard University area from the rest of the community.

### Amenity Areas

Very few sidewalk cafes exist on Georgia or Sherman Avenues. Because of sidewalk widths and conditions, the possibility of sidewalk cafes is limited. Very few parks and public plazas exist on Georgia Avenue. One of the important amenity areas on Georgia Avenue is Banneker Park which is located between Euclid Street and Barry Place. Banneker Park is also the location of a community center, a pool, and a running track. The park is also the location of the annual Caribbean Carnival held every summer and is a focal point for the community. The park is surrounded by a high chain-link fence which gives a unwelcoming impression to the community. The only entrance to the park is from Barry Place, NW. There is no entrance from Georgia Avenue.



Figure I-9: The Lack of Bicycle Racks on Georgia Avenue Leads to Substitutes

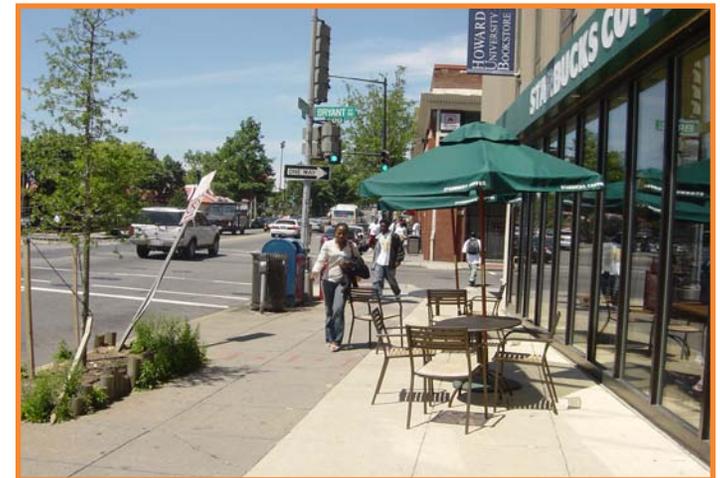


Figure I-10: Existing Amenity Area on Georgia Avenue

# Existing Conditions - Public Realm

## History, Culture and Public Art

### History and Culture

There is a wealth of local and national history and culture in this area. The history of Georgia Avenue and its “sense of place” are important assets for District residents, and for people throughout the country. However, there is no clear identification of the corridor or its significance to African-American culture, nor are there historic designation signs located along the corridor.

There is a section of Georgia Avenue located between Euclid Street and Columbia Road known as the “Blue Nile” area which has restaurants and businesses tailored to African culture and history. However, there is no designation given to this area and its existence on the corridor.

### Public Art

Public art is limited on Georgia Avenue to a few privately owned murals. There are many locations available for public art opportunities on Georgia and Sherman Avenues. Many business owners are willing to donate the use of their walls for murals. Howard University boasts several retaining walls along Georgia Avenue that could capture artwork. Metal banners could hang from streetlights that feature special gateway artwork as well.

## Plantings and Low Impact Design

Trees on Georgia Avenue vary in condition from excellent to poor or even missing. The primary species along Georgia Avenue is Oak – Willow, Pin, Scarlet, White, Red – in excellent to good condition. A number of other trees are in poor condition spread throughout the corridor. A few dead trees are located on Georgia Avenue, particularly near the Florida Avenue and Morton Street intersection.

Trees provide varying degrees of shade along the corridor. In the lower portion of the study area, trees near Howard University and Banneker Park are well established and provide a good amount of shade for the community. North of Euclid Street, trees are much younger and provide little to no shading. The section of the corridor between Euclid and Irving Streets have very few trees.



Figure I-11: A possible Location for a Public Mural



Figure I-12: Mature Trees in Front of Howard University

Currently there are no street trees planted on Sherman Avenue between Florida Avenue and Park Road due to lack of adequate sidewalk space.

### Community Concerns

The following are community concerns as expressed at the various public meetings that need to be incorporated into the public realm design.

- The future of existing businesses.
- The different qualities and activities that distinguish Sherman Avenue from Georgia Avenue.
- Public safety throughout the area.
- Convenient access to transit and parking.
- Significant development at either end of the corridor that will make the entire corridor increasingly attractive as the downtown and other areas of the city build out.
- Cross town traffic that will likely increase as development occurs, both to the west (Columbia Heights) and east of Georgia Avenue (McMillan Reservoir, Soldier's and Airmen's Home).

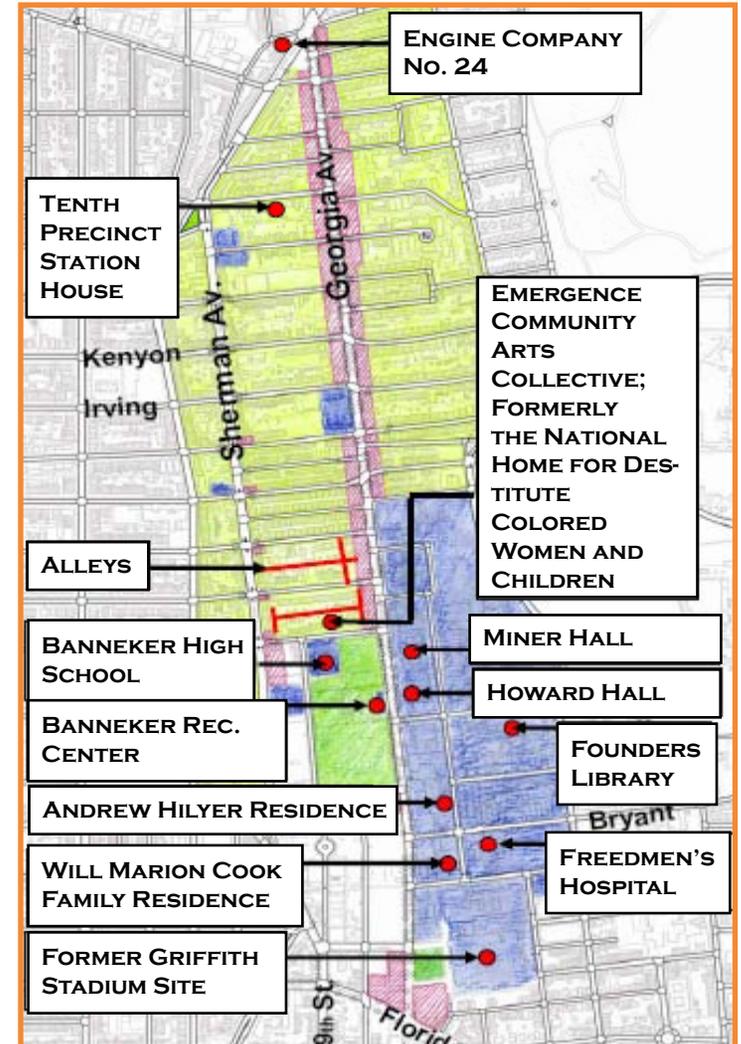


Figure I-13: Location of Historical Structures in the Study Area



# Alternatives

- J. Transportation Alternatives
  - i. Overview
  - ii. Alternatives
  - iii. Screening of Alternatives

# J. Transportation Alternatives

## Overview

### Georgia Avenue

Georgia Avenue, carrying approximately 50,000 person trips on a daily basis, is one of the most traveled streets in Washington, DC. When combined with the 21,000 daily trips on Sherman Avenue and the 30,000 daily trips on the cross-town routes of Columbia Road, Harvard Street, and Irving Street, the overall picture is of a neighborhood subject to a variety of traffic problems.

Several physical characteristics, such as the narrowing of lane widths between Florida Avenue and Barry Place, and the prevalence of streetside parking (and double-parking), impede movement through the area. Congestion in the lower section of the study area frequently limits transit vehicles' movement in what is one of the busiest transit corridors of the city.

In developing the transportation alternatives for Georgia Avenue, the ultimate goal was to provide safe and efficient operation for all modes of transportation, not just the automobile. This requires that a balance be struck among vehicles, pedestrians, and transit vehicles, which can be accomplished by focusing on design.

Sections of the corridor need to be improved from a transportation operations perspective to create an efficient transportation system. For example, if the transportation design could “clean up” problem intersections, such as at Georgia Avenue and Florida Avenue, then the efficient movement of vehicles and buses through this intersection would result in a “domino” effect, improving the mobility of vehicles and buses throughout the corridor. Therefore, as part of the development of the design alternatives, the study considered improving high accident locations for all users and reducing areas of friction, or congestion, in the corridor.

The overall objectives are to achieve efficient transit operation in a high-volume transit corridor and improve the pedestrian environment. The key is to strike a balance among transportation users by solving the transportation problems through effective design. The

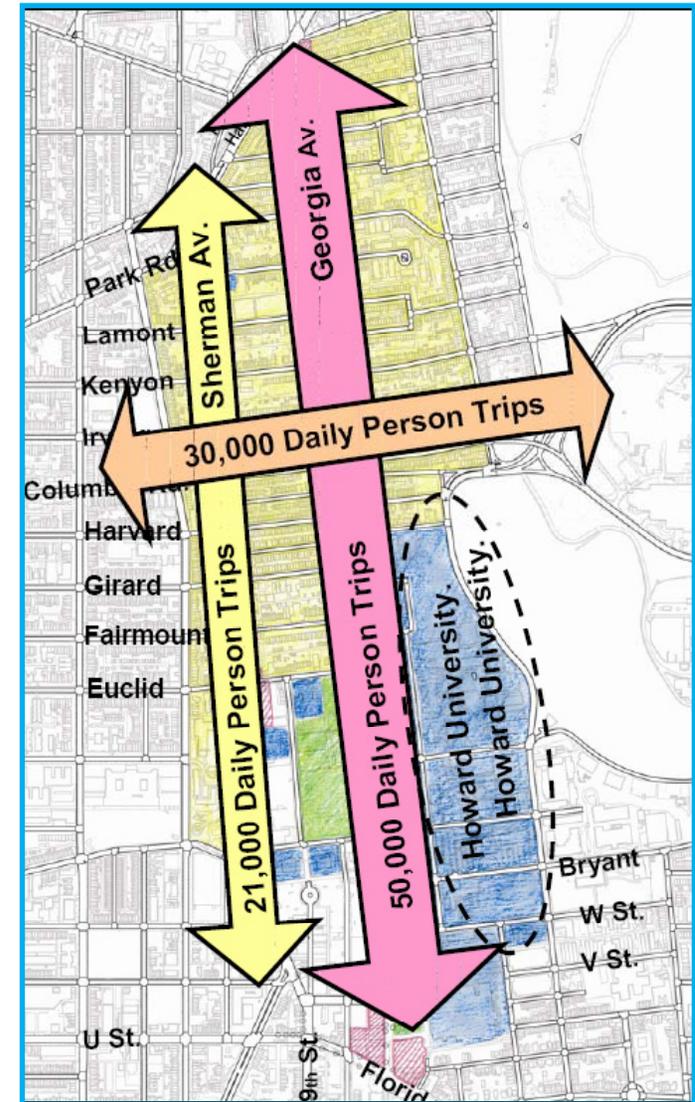


Figure J-1: Diagram of traffic flows in the Lower Georgia Avenue Area



Figure J-2: Traffic Conditions on Georgia Avenue



Figure J-3: Crosswalk Conditions on Georgia Avenue

result would be roadway configurations for both Georgia and Sherman Avenues that work together to create an efficient transportation system.

Three transportation alternatives were developed to address the goals and objectives for Georgia and Sherman Avenues. The transportation alternatives are shown on pages 66-70.

### **Sherman Avenue**

The desire is for Sherman Avenue to return to a more residential street, as opposed to the commuter cut-through that it is now. To have a more residential character, the street will need features that speak to a neighborhood quality, such as widened sidewalks and landscaped medians, as well as features for residential travel including high-visibility crosswalks and bicycle facilities.

Incorporating all of these factors would result in a different roadway configuration for Sherman Avenue, one that would focus more on the multimodal and neighborhood features of the corridor, and less on the vehicular speedway that is its current description. The result: proposing a road diet for Sherman Avenue. The road diet, just as it sounds, means reducing the number of lanes for Sherman Avenue, from two lanes in each direction, to one lane in each direction. The additional width would be attached to sidewalks and to a landscaped median for the corridor. Parking will continue to exist on both sides of the roadway. The lanes on Sherman Avenue would be 13 feet in width, a widened shared lane to accommodate both transit vehicles and bicycles.

The proposed alternative for Sherman Avenue will operate in parallel to all three transportation alternatives for Georgia Avenue (see page 70 for details).

## **Screening of Alternatives**

# Transportation Alternatives

## Alternative 1 - Focus on Transit

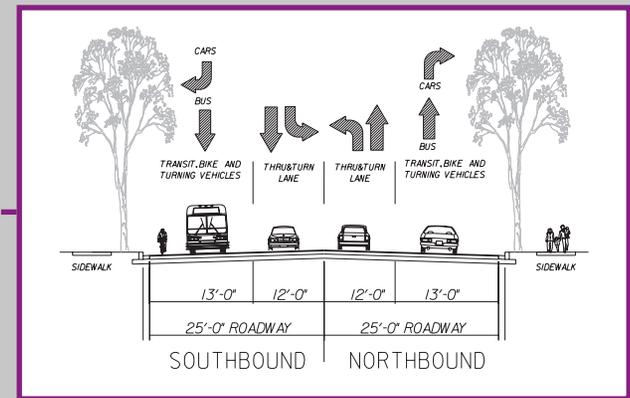
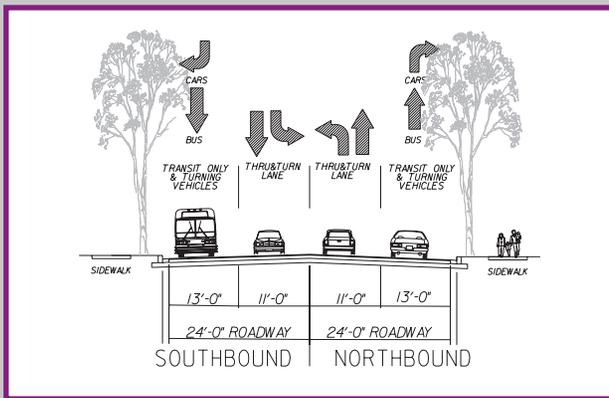
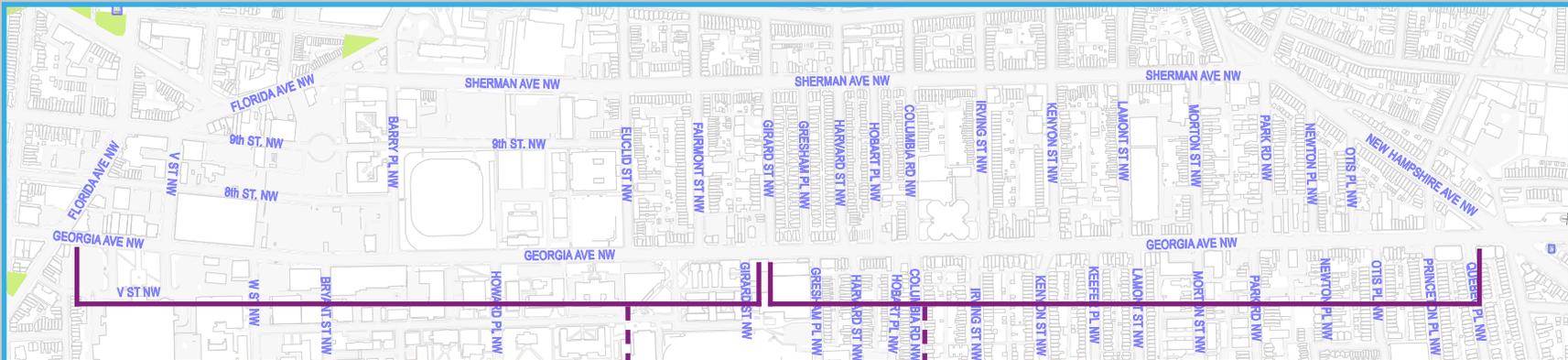
This alternative would focus primarily on the transit operations of Georgia Avenue. A transit-only lane would exist on both sides of Georgia Avenue from New Hampshire Avenue to Florida Avenue. Buses only could travel in the right-most lanes, along with vehicles making right turns at intersections and bicyclists. All other traffic would travel in the left-most lanes of Georgia Avenue. Parking would be removed along the entire section of the roadway to allow for widened travel lanes throughout the corridor.

## Alternative 1A

- Remove parking on both sides of Georgia Avenue along its entire length
- Add a transit-only lane in each direction (right-turning vehicles would be allowed to travel in transit-only lane)
- Sherman Avenue remains as-is

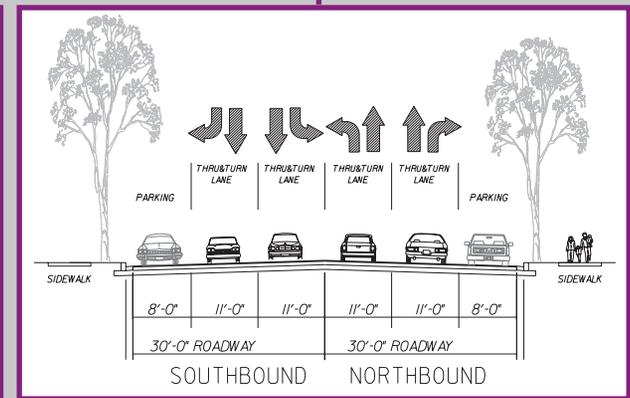
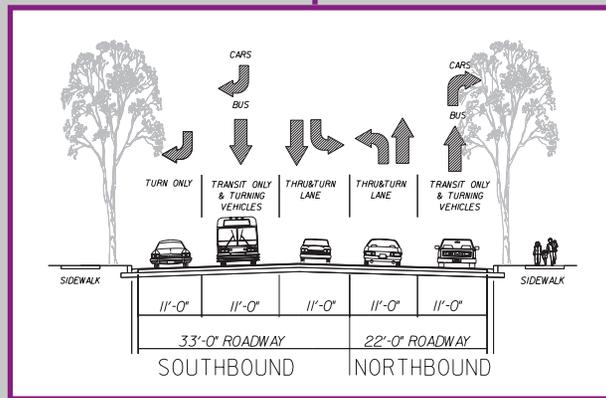
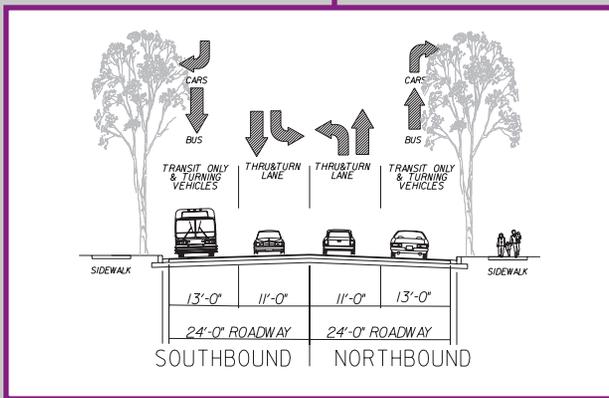
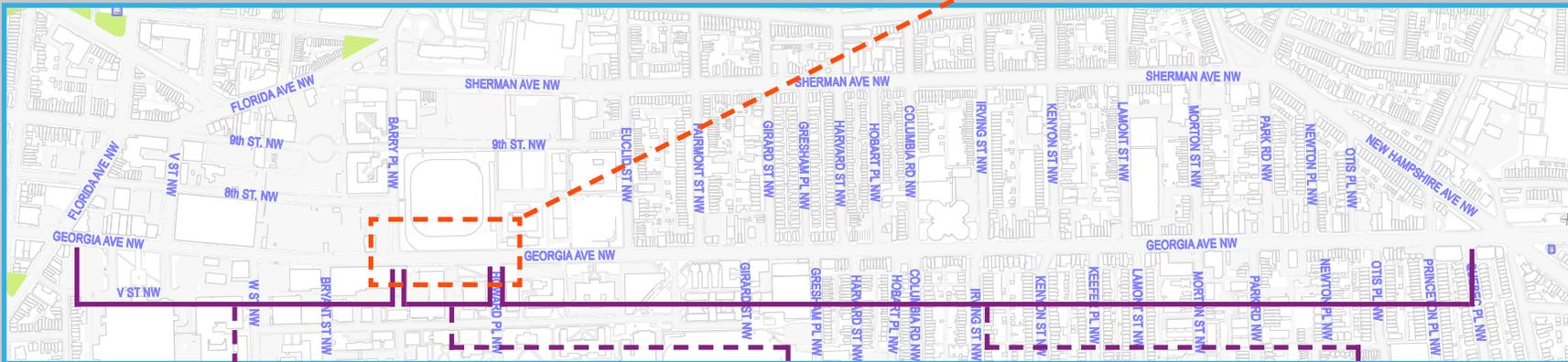
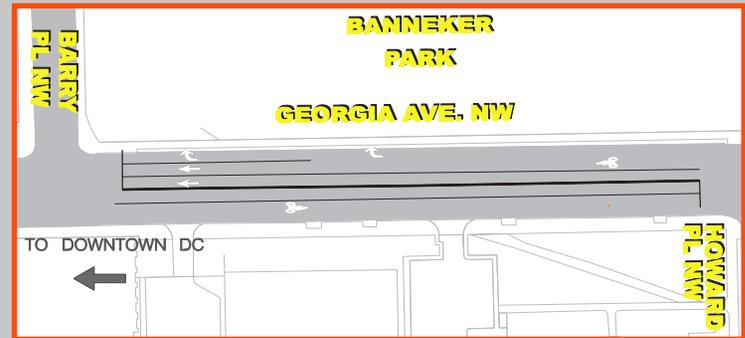
## Alternative 1B

Same as Alternative 1A, but reconfigure Sherman Avenue with two travel lanes, widened sidewalks, median, and extended Bryant and W Streets.



## Alternative 2 - Focus on Lower Georgia Avenue Congestion

This alternative would focus on reducing or eliminating congestion at “hot spot” locations in the lower portion of the study area while improving mobility for transit vehicles. Four general-purpose travel lanes would exist from New Hampshire Avenue to Barry Place, with parking located on both sides of the street. From Barry Place to Florida Avenue, parking would be removed from both sides of the street and a bus-only lane would be installed in the far right lane. As with Alternative #1, right-turning vehicles and bicycles could also travel in these lanes.



# Transportation Alternatives

## [Alternative 2 cont.]

### Alternative 2A

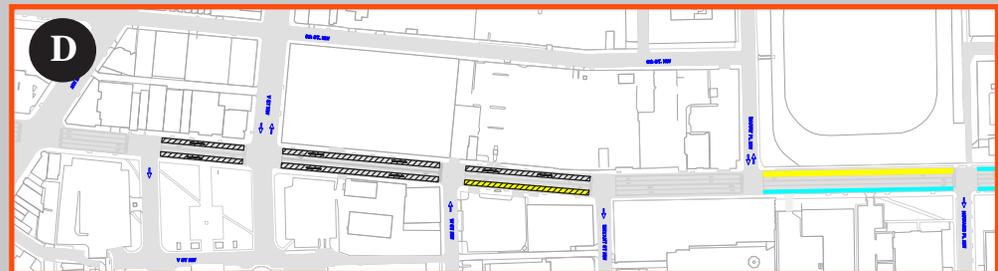
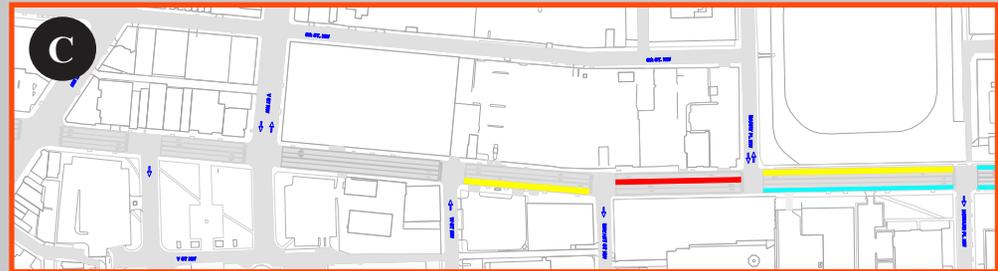
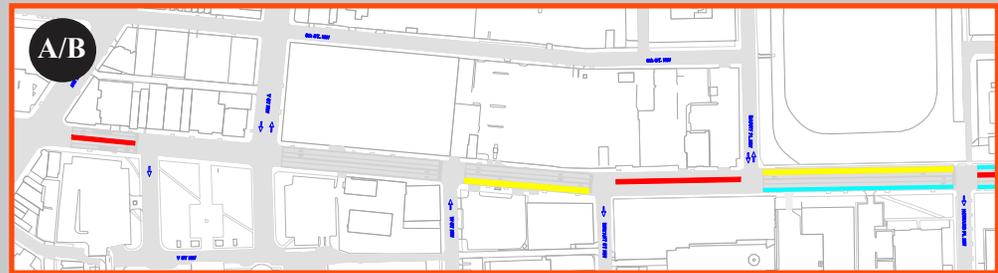
- Keep parking on both sides of the street from New Hampshire Avenue to Howard Place and current lane configurations
- Add a bulb-out on southbound Georgia Avenue at Howard Place
- Place a dedicated right-turn lane on southbound Georgia Avenue from Howard Place to Barry Place (in the former parking lane)
- Remove parking on both sides of Georgia Avenue from Barry Place to Florida Avenue
- Make outside lane a transit-only lane in this section
- Sherman Avenue remains as-is

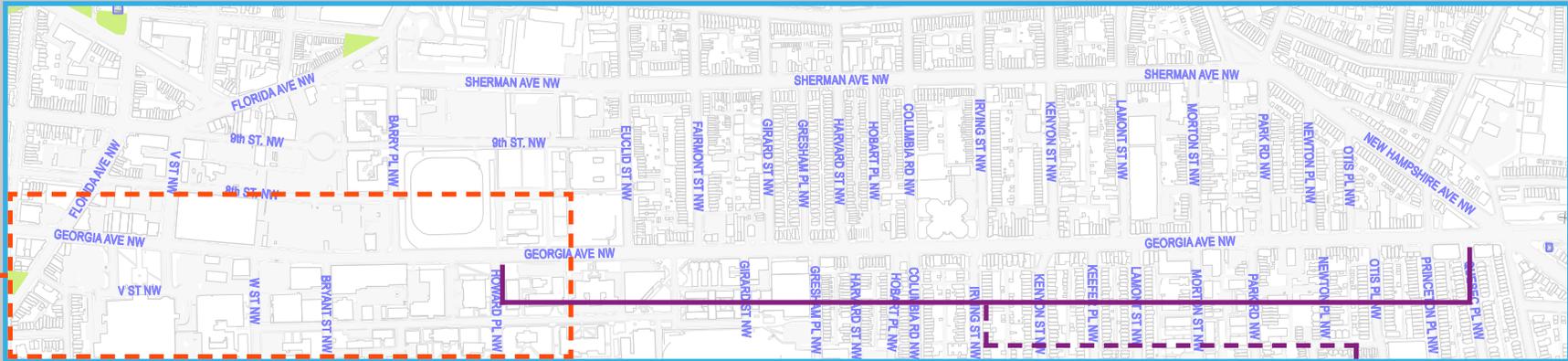
### Alternative 2B

Same as Alternative 2A, but reconfigure Sherman Avenue with two travel lanes, widened sidewalks, median, and extended Bryant and W Streets.

## Alternative 3 – Focus on Automobiles

This alternative focuses on vehicles, as parking would continue to exist on both sides of Georgia Avenue. Dedicated turn lanes would be installed at intersections that currently have blockages, such as Howard Place, Barry Place, Bryant Street, and Florida Avenue. Buses would travel in mixed traffic.





### Alternative 3A

- Keep existing lane configurations from Otis Place to Howard Place
- Keep parking as it is currently
- On southbound Georgia Avenue from Howard Place to Barry Place, make the far right lane a dedicated right-turn lane
- On southbound Georgia Avenue from Barry Place to Bryant Street, make the far left-lane a dedicated left-turn lane
- On northbound Georgia Avenue from W Street to Bryant Street, make the far right-lane a dedicated right-turn lane
- Keep the dedicated left-turn lane on southbound Georgia Avenue at Florida Avenue
- Remove parking from Howard Place to Barry Place in the southbound direction only
- Remove parking from Barry Place to Bryant Street on both sides
- Remove parking from V Street to Florida Avenue on both sides
- Sherman Avenue remains as-is

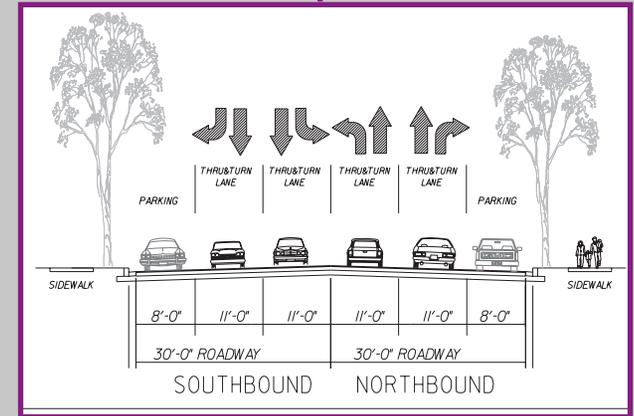
### Alternative 3B

Same as Alternative 3A, but reconfigure Sherman Avenue with two travel lanes, widened sidewalks, median, and extended Bryant and W Streets.

### Alternative 3C – Restrict Left Turns

Same as Alternative 3A, except:

- Restrict left turns from southbound Georgia Avenue to Bryant Street
- Restrict left turns from southbound Georgia Avenue to Florida Avenue – route left turns to T Street to access Florida Avenue
- Restrict left turns from northbound Georgia Avenue to V Street
- Remove parking from southbound Georgia Avenue from Florida Avenue to T Street
- Make far left-lane from Florida Avenue to T Street a dedicated left-turn lane
- Use reconfigured Sherman Avenue with two travel lanes, widened sidewalks, median, and extended Bryant and W Streets



### Alternative 3D – Loyal to Parking

Same as Alternative 3C, except:

- On southbound Georgia Avenue from Howard Place to Barry Place, make far right lane a dedicated right-turn lane
- On northbound Georgia Avenue from W Street to Bryant Street, make far right lane a dedicated right-turn lane
- Place parking on both sides of Georgia Avenue along the corridor

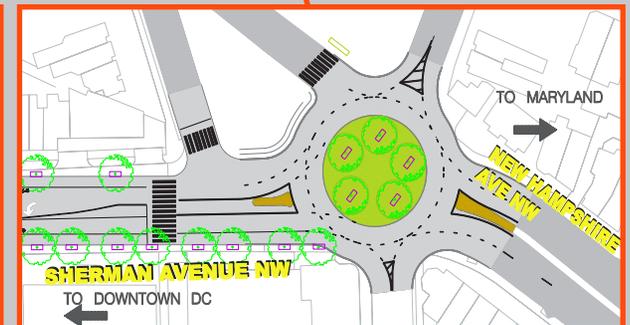
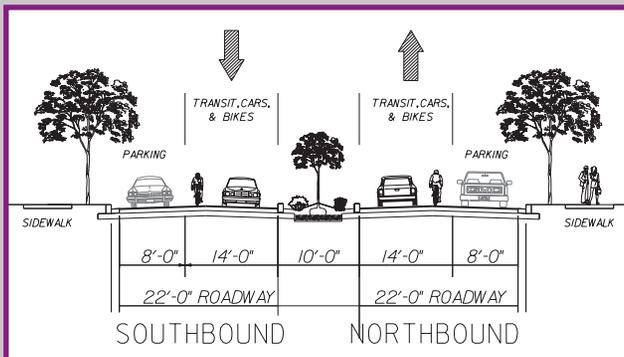
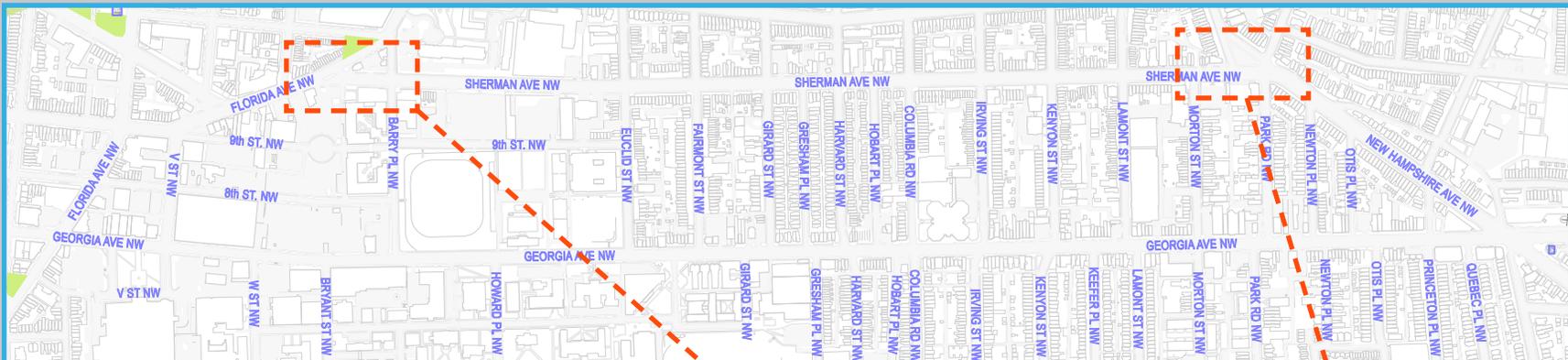
# Transportation Alternatives

## Sherman Avenue - B, C, and D Alternatives

In the “A” versions of all three alternatives, Sherman Avenue remains unchanged from current conditions. In all other versions (1B, 2B, & 3B/C/D), the following changes are applied to the configuration of Sherman Avenue:

- Convert Sherman Avenue’s intersections with New Hampshire Avenue/Park Road and with Barry Place to roundabouts
- Convert Sherman Avenue from Barry Place to Morton Street to a configuration of one through lane in each direction with a center median ten feet in width. The typical lane width on Sherman Avenue would be 14 feet.

- Employ streetside parking along the length of Sherman Avenue
- Employ bicycle share-the-lane arrows (“sharrows”) in the through lanes throughout Sherman Avenue.
- Provide left-hand turning lanes for northbound traffic on Sherman Avenue at Fairmont Street, Girard Street, Columbia Road, Kenyon Street, and Lamont Street.
- Provide left-hand turning lanes for southbound traffic on Sherman Avenue at Morton Street, Lamont Street, Irving Street, Harvard Street, Girard Street, Euclid Street, and Barry Place.
- Extend Bryant and W Streets to Sherman Avenue (separate project)



The three transportation alternatives were analyzed and screened to determine the preferred alternative.

For all alternatives, lanes widths would be a minimum of 11 feet, and bus lanes would be a minimum of 13 feet wide. High visibility crosswalks will be placed at intersections with high pedestrian volumes, with adjusted pedestrian crossing times to accommodate the volumes. The traffic lights would be optimized for progressive traffic movement through the corridor.

### Transportation Operations

The alternatives were analyzed from a transportation operations perspective. Each alternative was analyzed using the traffic software program Synchro 7. The following are the results of the analysis. Full details are provided in Appendix 1.

The year 2008 was used for future traffic volumes, which is the year construction of the improvements, would occur. The existing 2007 midday and afternoon PM weekday turning movement volumes were increased by one percent per year to obtain 2008 volumes. Volumes on Georgia and Sherman Avenues, and most of the side streets between them, were balanced for the Synchro analysis. The percentage of heavy vehicles in the study area (five percent on Sherman Avenue and eight percent on Georgia Avenue) remained the same for 2008. The bicycle and the pedestrian volumes also remained the same for purposes of the analysis. All signal timings and offsets of the signalized intersections along Georgia Avenue and Sherman Avenue were optimized for progression and minimal intersection delays using Synchro 7.



Figure J-4: Streetscape in Middle Portion of Lower Georgia Avenue

# Transportation Alternatives

Level of Service (LOS)	Intersection Control Type	
	Unsignalized	Signalized
<b>A</b>	<b>10 or less</b>	<b>10 or less</b>
<b>B</b>	<b>10-15</b>	<b>10-20</b>
<b>C</b>	<b>15-25</b>	<b>25-35</b>
<b>D</b>	<b>25-35</b>	<b>35-55</b>
<b>E</b>	<b>35-50</b>	<b>55-80</b>
<b>F</b>	<b>more than 50</b>	<b>more than 80</b>

Table J-1: Control delays in seconds associated with various levels of service

## Vehicles

Level of service (LOS) is a measure of the average delay experienced by each vehicle passing through an intersection. It can be measured for vehicles making each directional turning movement, using each approach leg, or as a composite average value for all vehicles using the intersection. It is reported with a letter grade designation ranging from A to F. LOS “A” represents insignificant delay (less than 10 seconds per vehicle) while LOS “F” represents significant delay. LOS D is typically considered an acceptable level of service for an urban area. The level of service is determined by the computed control delay. Please see the table J-1 for specifics of LOS designation.

For Alternatives 1A and 1B, the analysis found that all key intersections would operate with acceptable delays during both the mid-day and afternoon peak hours, except Georgia Avenue at Irving Street. At this intersection, traffic would back up for at least 500 feet on Georgia Avenue and traffic delays would be high.

For Alternatives 2A and 2B, Georgia Avenue between New Hampshire Avenue and Barry Place would operate with acceptable delays and LOS during both the mid-day and afternoon peak hours. In the Howard Town Center area where there would be a dedicated transit lane in each direction, the intersections would operate at acceptable LOS due to a retiming of the traffic signals with optimum cycle lengths, phasings, and offsets for this section of Georgia Avenue.

For Alternatives 3A and 3B, all intersections on Georgia Avenue and Sherman Avenue would operate with LOS D or better during both the mid-day and afternoon peak hours. Dedicated turn lanes on Georgia Avenue at Bryant Street would decrease average delay when compared to Alternatives 1 and 2. However, the changes in lane configurations would not significantly decrease traffic delays at Georgia Avenue at Barry Place and Howard Place when compared to the other alternatives.

For Alternatives 3C and 3D, the left-turn restrictions at Bryant Street and Florida Avenue would decrease delays at the Georgia Avenue and Florida Avenue intersection and the Georgia Avenue and Bryant Street intersection. In addition, there would be no considerable increase in delays at the intersections of Georgia Avenue and Howard Street and Georgia Avenue and T Street due to the re-routing of left-turning vehicles. However, the delay at Georgia Avenue and Barry Place would increase in the afternoon.

For the reconfigured Sherman Avenue, where one travel lane in each direction would be removed, all intersections along the corridor would operate at LOS D or better.

**Table J-2: 2008 Mid-day Peak Hour LOS and Delays for Georgia Avenue**

Intersection		Alternative 1B		Alternative 2B		Alternative 3B		Alternative 3C		Alternative 3D	
		Delay	LOS								
Georgia Avenue NW	New Hampshire NW	10.3	B	9.9	A	10	A	10	A	13.6	B
Georgia Avenue NW	Park Road NW	18.9	B	10.9	B	11.3	B	11.3	B	13.3	B
Georgia Avenue NW	Irving Street NW	456.1	F	6.9	A	10	B	10	A	7.4	A
Georgia Avenue NW	Harvard Street NW	10.2	B	5.6	A	5.2	A	6	A	6	A
Georgia Avenue NW	Barry Place NW	7.2	A	9.3	A	9.2	A	8.2	A	11.5	B
Georgia Avenue NW	Bryant Street NW	11.1	B	10.4	B	7	A	2.1	A	1.6	A
Georgia Avenue NW	W Street NW	11.7	B	11.9	B	6.2	A	8.5	A	8	A
Georgia Avenue NW	Florida Avenue NW	23.2	C	22.8	C	22.9	C	12.1	B	14.7	B

**Table J-3: 2008 Afternoon LOS and Delays for Georgia Avenue**

Intersection		Alternative 1B		Alternative 2B		Alternative 3B		Alternative 3C		Alternative 3D	
		Delay	LOS								
Georgia Avenue NW	New Hampshire NW	19.1	C	16.5	B	16.7	B	16.9	B	16.4	B
Georgia Avenue NW	Park Road NW	31.5	C	14.7	B	12.7	B	12.5	B	16.8	B
Georgia Avenue NW	Irving Street NW	155.3	F	12.7	B	14.2	B	13.4	B	12.2	B
Georgia Avenue NW	Harvard Street NW	25	C	14.1	B	15.9	B	16.1	B	10.7	B
Georgia Avenue NW	Barry Place NW	13.8	B	11.4	B	13	C	20.5	C	23.6	C
Georgia Avenue NW	Bryant Street NW	9.8	A	11.4	B	5.6	A	2.1	A	2	A
Georgia Avenue NW	W Street NW	20.2	C	18.8	B	13.2	B	11.4	B	12.1	B
Georgia Avenue NW	Florida Avenue NW	25.6	C	25.3	C	25.7	C	15	B	18.1	B

**Table J-4: 2008 LOS and Delays for Sherman Avenue**

Intersection		Alternative 1B		Alternative 2B		Alternative 3B		Alternative 3C		Alternative 3D	
		Delay	LOS								
<b>Midday Peak Hour</b>											
New Hamp. Ave NW	Princeton Place NW	2.9	A	2.9	A	2.9	A	2.9	A	2.8	A
New Hamp. Ave NW	Park Road NW & Monroe Street NW	5	A	5	A	5	A	5	A	5	A
Sherman Avenue NW	Kenyon Street NW	9	A	11.3	B	8.4	A	8.7	A	12.3	B
Sherman Avenue NW	Columbia Road NW	7.6	A	10	B	9.7	A	9.6	A	11.1	B
Florida Avenue NW	Vermont Avenue NW	12.7	B	12.1	B	12.1	B	12.1	B	12.1	B
<b>Afternoon Peak Hour</b>											
New Hamp. Ave NW	Princeton Place NW	8.8	A	8.6	A	8.6	A	8.6	A	8.6	A
New Hamp. Ave NW	Park Road NW & Monroe Street NW	32.6	D								
Sherman Avenue NW	Kenyon Street NW	21.7	C	25.9	C	22.9	C	23.4	C	24.4	C
Sherman Avenue NW	Columbia Road NW	28.6	C	33	C	31.9	C	31.9	C	34.1	C
Florida Avenue NW	Vermont Avenue NW	20.5	C	22.7	C	23.1	C	23.6	C	23.4	C

## Transit

For Alternatives 1A and 1B, the right lanes from New Hampshire Avenue to Florida Avenue would be dedicated for buses, right-turning vehicles, and bikes. The advantages of such a transit-dedicated lane are as follows:

- It reduces transit travel times
- It increases the regularity of the transit service, which would improve schedule adherence and increase ridership
- It makes transit travel times more predictable, therefore making planned transit signal priority more effective

For Alternatives 2A and 2B, a dedicated transit lane would exist only between Howard Place and Florida Avenue, and buses would operate in mixed traffic between New Hampshire Avenue and Howard Place. Although the impact of the dedicated transit lane would not be as significant as for Alternative 1, this alternative would provide some

improvement to transit mobility by providing a dedicated transit lane through the most congested part of the corridor. In addition, this alternative would be less disruptive to vehicular traffic because most of the Georgia Avenue corridor would operate with two lanes in each direction,

There would be no dedicated transit lanes for Alternative 3. Buses would continue to operate in mixed traffic as they now do. An effective transit signal priority system would be difficult to implement for Alternative 3. The addition of dedicated turn lanes and turn restrictions could slightly affect transit delays, particularly if vehicles were blocking transit vehicles while waiting to turn.

On Sherman Avenue, the removal of one lane of traffic would not adversely impact transit vehicles. The acceptable vehicular levels of service on Georgia Avenue would also apply to buses, except when buses stay for long periods at bus stops

## Bicycles

The goal for all alternatives is to remove bicyclists from sidewalks and allow them freedom of movement on roadways. For Alternative 1, bicyclists would share the dedicated transit lanes with buses and right-turning vehicles along Georgia Avenue. This may provide a safer environment since they would have less interaction with vehicular traffic. For Alternative 2, signage would be placed in the outside lanes of Georgia Avenue between New Hampshire Avenue and Howard Place indicating that bicycles share the road with vehicles. Between Howard Place and Florida Avenue, bicycles would share the dedicated transit lanes with buses. Signage would be placed in the outside lanes of Georgia Avenue between New Hampshire Avenue and Florida Avenue for Alternative 3 indicating that bicycles are allowed to travel in the roadway.

## Great Streets Performance Measures

The alternatives were analyzed using the performance measures developed as part of the Great Streets Framework. Table J-5 shows these guiding principles and performance measures.



Figure J-5: Bicyclist on Georgia Avenue

# Transportation Alternatives

**Table J-5: Guiding Principles and Performance Measures**

	<b>1. Energize</b> <i>Strengthen businesses and other local institutions and services</i>	<b>2. Refresh</b> <i>Integrate and conserve natural resources; create open spaces</i>	<b>3. Move</b> <i>Create a sustainable transportation network, with many travel options</i>	<b>4. Distinguish</b> <i>Create streets with vibrant places that reflect local character</i>	<b>5. Care</b> <i>Increase community ownership and stewardship</i>
<b>Challenges</b>	Change the public and market perceptions of the corridors through streetscape and transportation improvements, and reposition them as one of the best places to live and work, consequently expanding the city's tax base	Transform roadways and intersections into environmentally friendly and usable community open spaces	Change the existing "corridors" function from major vehicular arterials into streets that sustain healthy pedestrian and transit based activities, and consequently support the city's air quality and transportation agendas	Transform each corridor into a place that is memorable, compelling, and desirable to visit again and again	Reposition the street as a vital neighborhood asset, and thus increase the community's stake in its design, upkeep, and stewardship
<b>Actions</b>	<ul style="list-style-type: none"> <li>Invest in areas where mixed-use and mixed income developments could flourish, especially around transit nodes and major crossings</li> <li>Create an attractive public environment along the existing retail areas, open spaces and institutions</li> </ul>	<ul style="list-style-type: none"> <li>Employ low impact development (LID) techniques to improve the quality and reduce the quantity of storm water run-off into our rivers and streams</li> <li>Develop defined and shaded rights of way, with street trees and other plantings, without inhibiting visibility of businesses</li> <li>Install adequate trash receptacles, especially in neighborhood commercial areas</li> <li>Reduce the Urban " Heat Island Effect", with "greened" streetways</li> <li>Support the establishment of programs for schools and the general public aimed at promoting an understanding of clean, green, safe streets</li> </ul>	<ul style="list-style-type: none"> <li>Balance the right-of-way (ROW) allocation such that people on foot, bicycle, transit and automobiles can safely coexist</li> <li>Prioritize pedestrians and their needs and aggressively promote a shift to walking, cycling, and use of public transit</li> <li>Minimize curb cuts and vehicle oriented intersections, and promote continuous access for walkers and cyclists</li> <li>Deploy and enhance transit systems in order to attract new developments</li> <li>Install street lights to enhance pedestrian movements while providing required roadway illumination</li> <li>Transform dangerous intersections into pedestrian-friendly crossings</li> </ul>	<ul style="list-style-type: none"> <li>Enhance view sheds and ease of access to landmarks, parks, and waterfronts</li> <li>Reclaim sidewalks at vital street nodes and segments to create space for activities other than walking</li> <li>Reconfigure important intersections to create nodes of retail clusters, corner parks and/or transit hubs</li> <li>Design streetscape elements and public art programs unique to each corridor's cultural and historic context</li> </ul>	<ul style="list-style-type: none"> <li>Involve communities in the design development process</li> <li>Establish a Construction Coordination Committee represented by residents and local businesses</li> <li>Help establish local group (s) for regular maintenance, promotion of businesses, and coordination of events</li> </ul>
<b>Measure of Success</b>	<ul style="list-style-type: none"> <li>Number of new businesses opened</li> <li>Level of private investments</li> <li>Number of existing businesses retained</li> <li>Number of new residents</li> <li>Number of new jobs created</li> <li>Change in property values</li> <li>Increase in sales tax revenue</li> </ul>	<ul style="list-style-type: none"> <li>Decrease in the amount of impervious areas within the public right of way</li> <li>Increase in the tree canopy and coverage</li> <li>Improved health of street trees</li> <li>Reduction of the 'urban heat island' effect along the corridors</li> <li>Extension of the Low Impact Development techniques used</li> </ul>	<ul style="list-style-type: none"> <li>Increase in transit ridership</li> <li>Increase in pedestrian counts at intersections</li> <li>Increase in alternative modes of transportation (walking and biking)</li> <li>Decrease in traffic accidents</li> <li>Improvement of air quality</li> </ul>	<ul style="list-style-type: none"> <li>Distinct streetscape design from one corridor to another</li> <li>Range of activities along the sidewalk</li> <li>Increase in public space permits</li> <li>Utilization of street parks</li> <li>Quality of public art installed</li> </ul>	<ul style="list-style-type: none"> <li>Creation of Community Improvement Districts (CIDs) or Business Improvement Districts (BIDs) and Main Street organizations</li> <li>Numbers of trees that have been adopted by the local businesses</li> <li>Improved litter rating</li> <li>Number of blocks adopted by local organizations</li> </ul>

Each alternative was analyzed using the Great Streets Framework performance measures, as shown in Table J-6.

**Table J-6. Alternatives vs. Performance Measures**

Great Streets Guiding Principles and Performance Measures	Transportation Alternatives							
	#1A	#1B	#2A	#2B	#3A	#3B	#3C	#3D
	<i>Transit-focused</i>	<i>Transit-focused w/ new Sherman Ave</i>	<i>Mixed-modes</i>	<i>Mixed-modes w/ new Sherman Ave</i>	<i>Auto-focused</i>	<i>Auto-focused w/ new Sherman Ave</i>	<i>Auto-focused w/ T Street</i>	<i>Auto-focused w/ T Street and new Sherman Ave</i>
<b>1. Energize</b>  <i>Strengthen businesses and other local institutions and services</i>	Transit-focus will generate creation of transit nodes on corridor; removal of parking will negatively impact businesses	Transit-focus will generate creation of transit nodes on corridor; removal of parking will negatively impact businesses	Balance of parking for business users and transit lanes for transit users	Balance of parking for business users and transit lanes for transit users	Parking available for business users	Parking available for business users	Parking available for business users	Parking available for business users
<b>2. Refresh</b>  <i>Integrate and conserve natural resources and create valuable open spaces</i>	No LID techniques	LID-median on Sherman Ave	LID parking on Georgia Ave	LID parking on Georgia Ave and LID median on Sherman Ave	LID Parking	LID parking on Georgia Ave and LID median on Sherman Ave	LID Parking	LID parking on Georgia Ave and LID median on Sherman Ave
<b>3. Move</b>  <i>Create a sustainable transportation network, with many travel options</i>	Shared lane for buses and bicycles on Georgia Ave - buses travel in separate lane	Shared lane for buses and bicycles on Georgia Ave (buses travel in separate lanes) and Sherman Ave	Shared lane for buses and bicycles on Georgia Ave - buses travel in separate lanes	Shared lane for buses and bicycles on Georgia Ave (buses travel in separate lanes) and Sherman Ave	Shared lane for bicycles on Georgia Ave - buses travel in mixed traffic	Shared lane for bicycles on Georgia Ave - buses travel in mixed traffic - and Sherman Ave	Shared lane for bicycles on Georgia Ave - buses travel in mixed traffic	Shared lane for bicycles on Georgia Ave - buses travel in mixed traffic - and Sherman Ave
<b>4. Distinguish</b>  <i>Create streets with vibrant places that reflect local character</i>	Widen sidewalks, create historic walk of fame, create linear entrance at Banneker Park							
<b>5. Care</b>  <i>Increase community ownership and stewardship</i>	Community involved in process since very beginning; potential to create BID for Georgia Ave							

## Transportation Alternatives

All the alternatives would meet the criteria for two of the five measures: **Distinguish** and **Care**. Alternatives 1 and 2 would **Energize** Georgia Avenue more so than Alternative 3, as Alternatives 1 and 2 would create transit nodes along the corridor, which would strengthen businesses. However, Alternative 1 would not **Refresh** the corridor as much as Alternatives 2 and 3. More low-impact development (LID) techniques would be present in Alternatives 2 and 3 via the LID parking covering and LID-designed median on Sherman Avenue. Performance Measure 3, **Move**, would be more prevalent with Alternatives 1 and 2 as these alternatives create a true multimodal corridor for Georgia Avenue by providing a dedicated bus lane for all or a portion of the roadway. The bus lane would be shared with bicyclists. Bicycles would travel on the roadways of both Georgia and Sherman Avenues and not on the sidewalks.

### Summary of Findings

Based on the transportation operations analysis and the performance measures evaluation, the following findings were obtained:

- Alternatives 1 and 2 would allow more opportunity for pedestrian improvements
- All alternatives would route bicycles off of sidewalks and onto roadways
- All alternatives would allow Sherman Avenue to become more residential in character
- Alternative 1 would optimize transit travel, but it would remove parking and increase congestion for the remaining users of the corridor
- Although Alternative 3 would improve operations for automobile traffic, it would limit pedestrian and transit mobility in the lower portions of the corridor

These findings were used to determine the preferred alternative, which is discussed in the following chapter.

# Recommendations

- K. Preferred Alternative
  - i. Reasoning
  - ii. Transportation Recommendations
  - iii. Public Realm Recommendations
- L. Short Term Recommendations
- M. Long Term Recommendations
- N. Implementation Plan

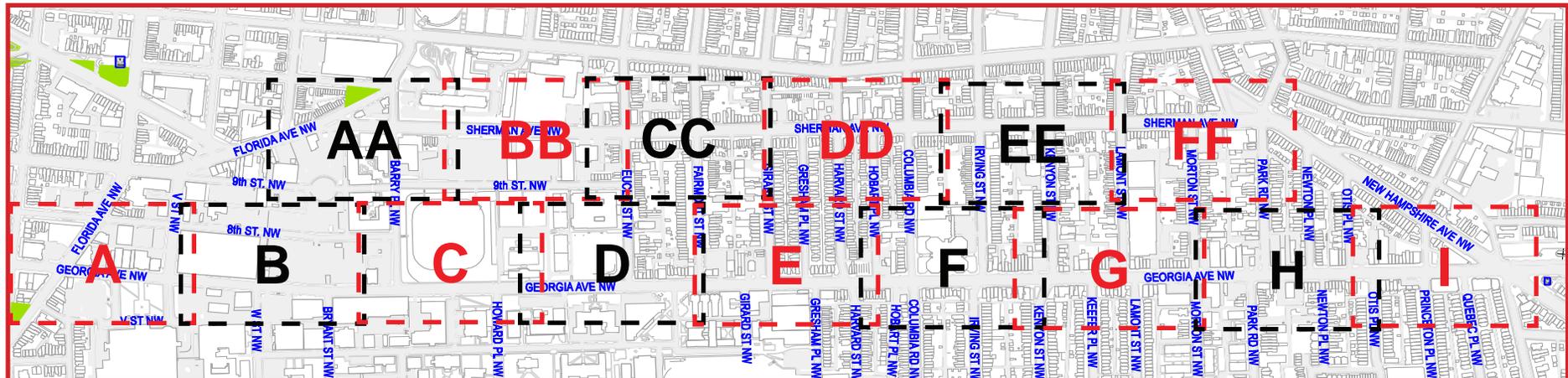
# K. Preferred Alternative

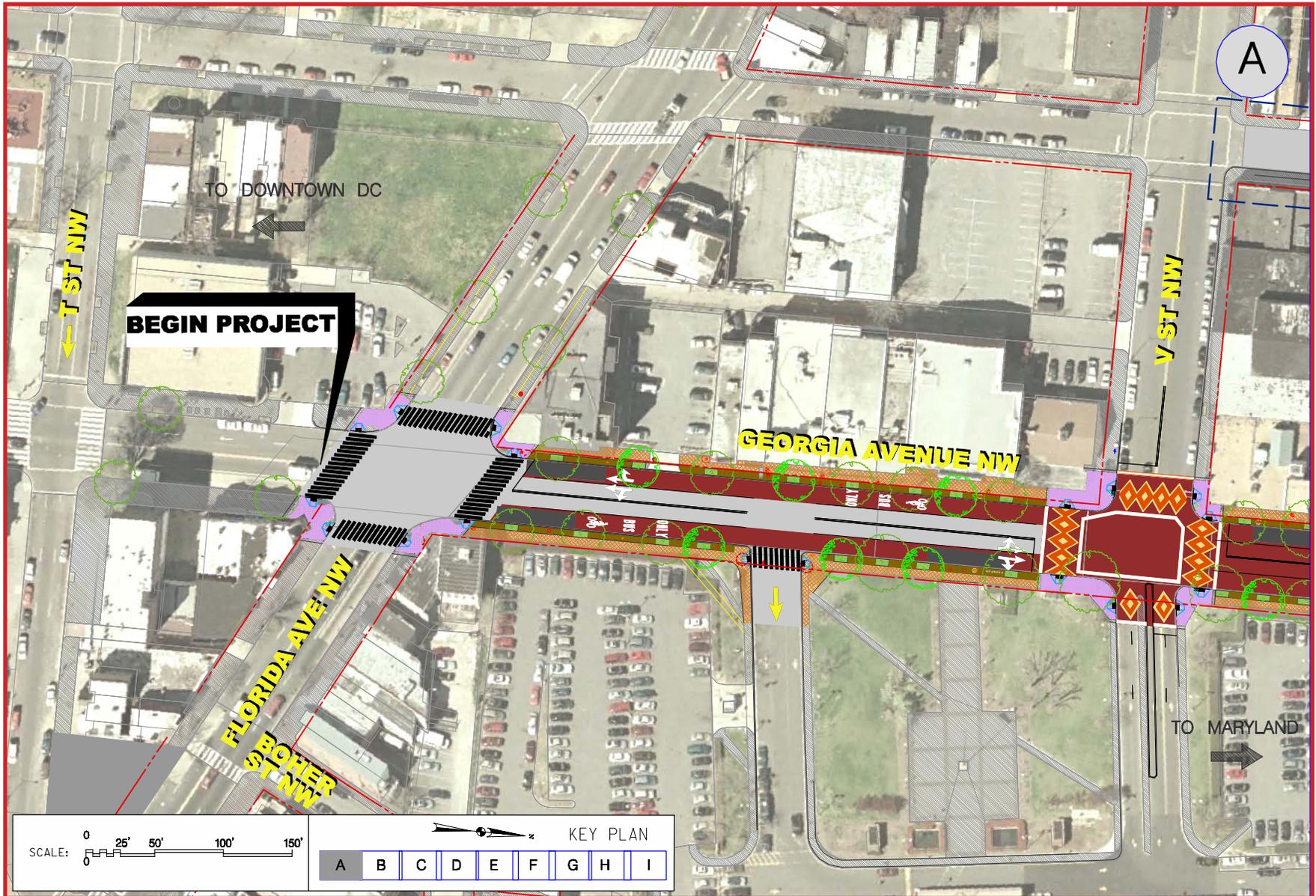
Alternative 2B was selected as the preferred alternative because of its ability to reduce congestion and improve the flow of all modes of cars, buses, shuttles, bicyclists, and pedestrians. This alternative focuses on reducing congestion throughout the corridor by removing parking in some sections, creating a transit-only lane, and other features. In addition, Alternative 2B provides the opportunity to move bicyclists from the sidewalk to a shared lane on the roadway and provide Sherman Avenue with a more residential character. The following are some of the changes proposed as part of Alternative 2B:

- Keep parking on both sides of Georgia Avenue from New Hampshire Avenue to Howard Place and current lane configurations
- Add a bulb-out on southbound Georgia Avenue at Howard Place
- Place a dedicated right-turn on southbound Georgia Avenue from Howard Place to Barry Street (in the former parking lane)
- Remove parking on both sides of Georgia Avenue from Barry Place to Florida Avenue
- Remove parking on both sides of Georgia Avenue from Barry Place to Florida Avenue
- Make outside lane a transit-only lane in this section
- Remove one travel lane on Sherman Avenue and introduce a planted median

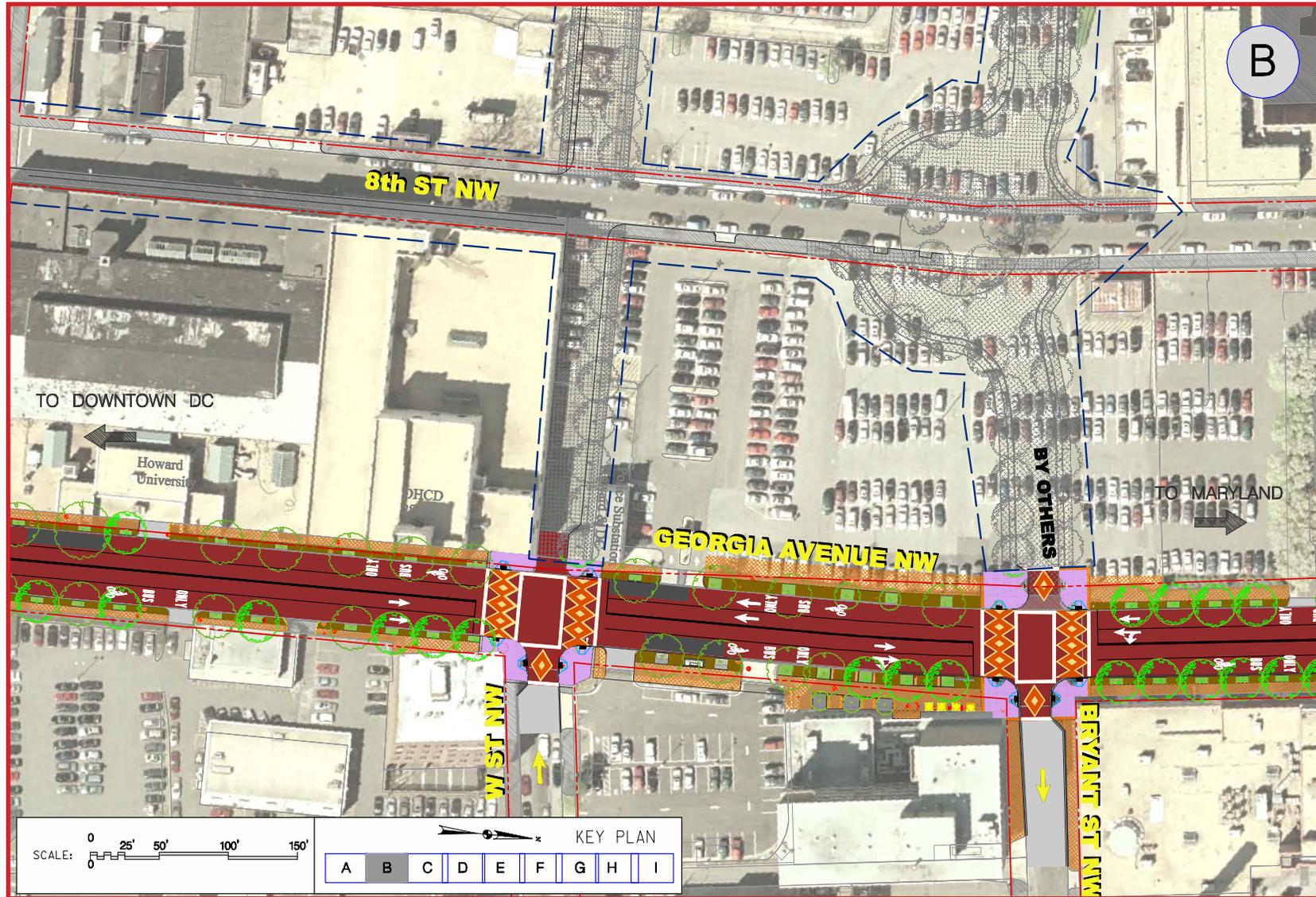
The design plans for the alternative are shown on the following pages. The design plan includes the recommended roadway configurations, sidewalk upgrades, and streetscape enhancements. Use the legend on this page to determine the specific features recommended as part of the preferred alternative. The key below will guide you through the order of the plan sheets. A discussion as to why Alternative 2B was selected as the preferred alternative is provided after the plan sheets.

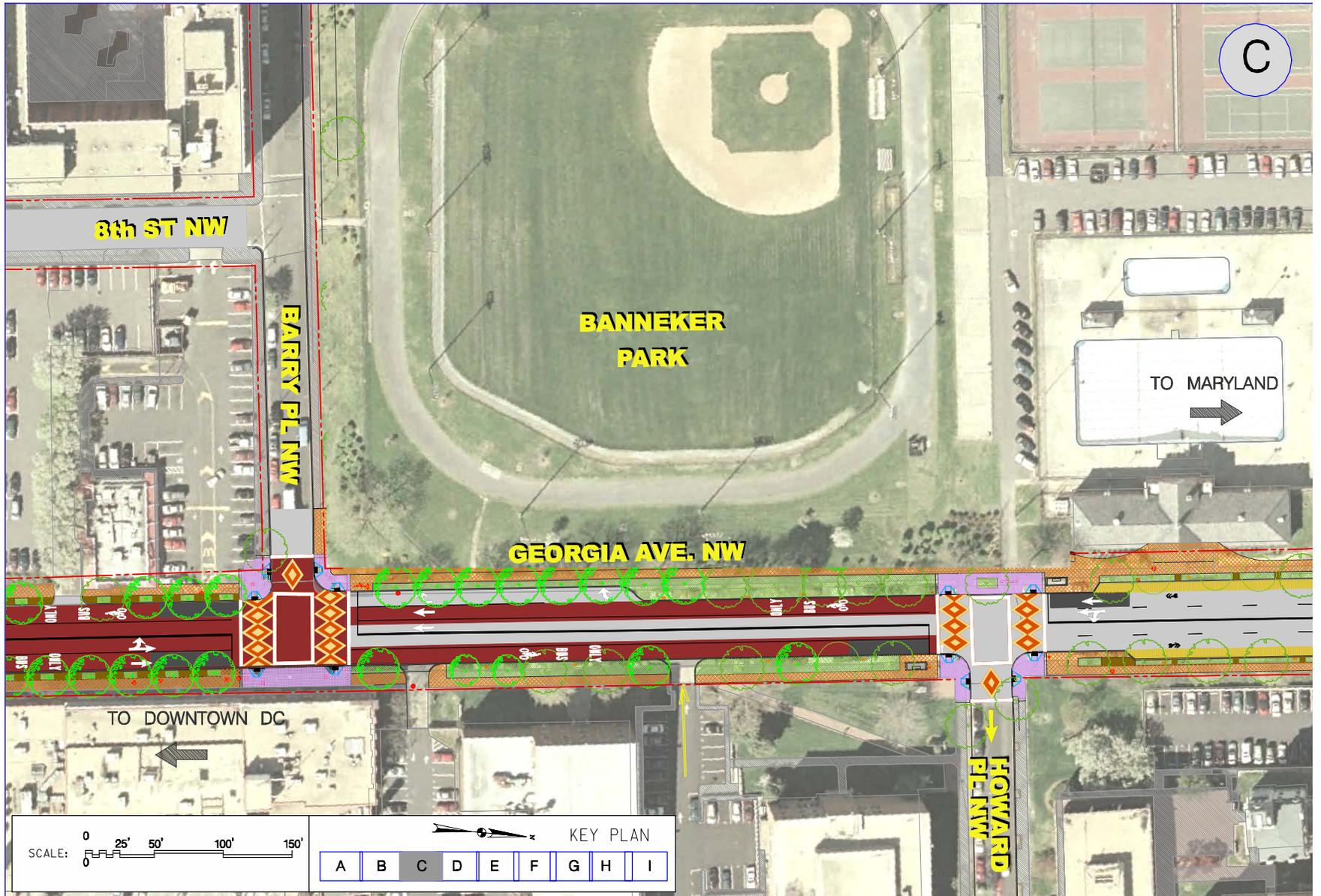
LEGEND	
	PAVEMENT/RESURFACING
	COLORED ASPHALT PAVEMENT
	SPECIAL L.I.D. PARKING SURFACE
	PAVEMENT/SURFACE REMOVAL
	SPECIAL BUS PAD
	SPECIAL SIDEWALK TREATMENT
	SCORED SIDEWALK
	SPECIAL L.I.D. CURBSIDE SURFACE
	PLANTING AREA
	ADA-RAMP
	STANDARD CROSSWALK
	SPECIAL "PRINT" CROSSWALK
	RIGHT-OF-WAY
	BY OTHERS
	LIGHT
	TREE



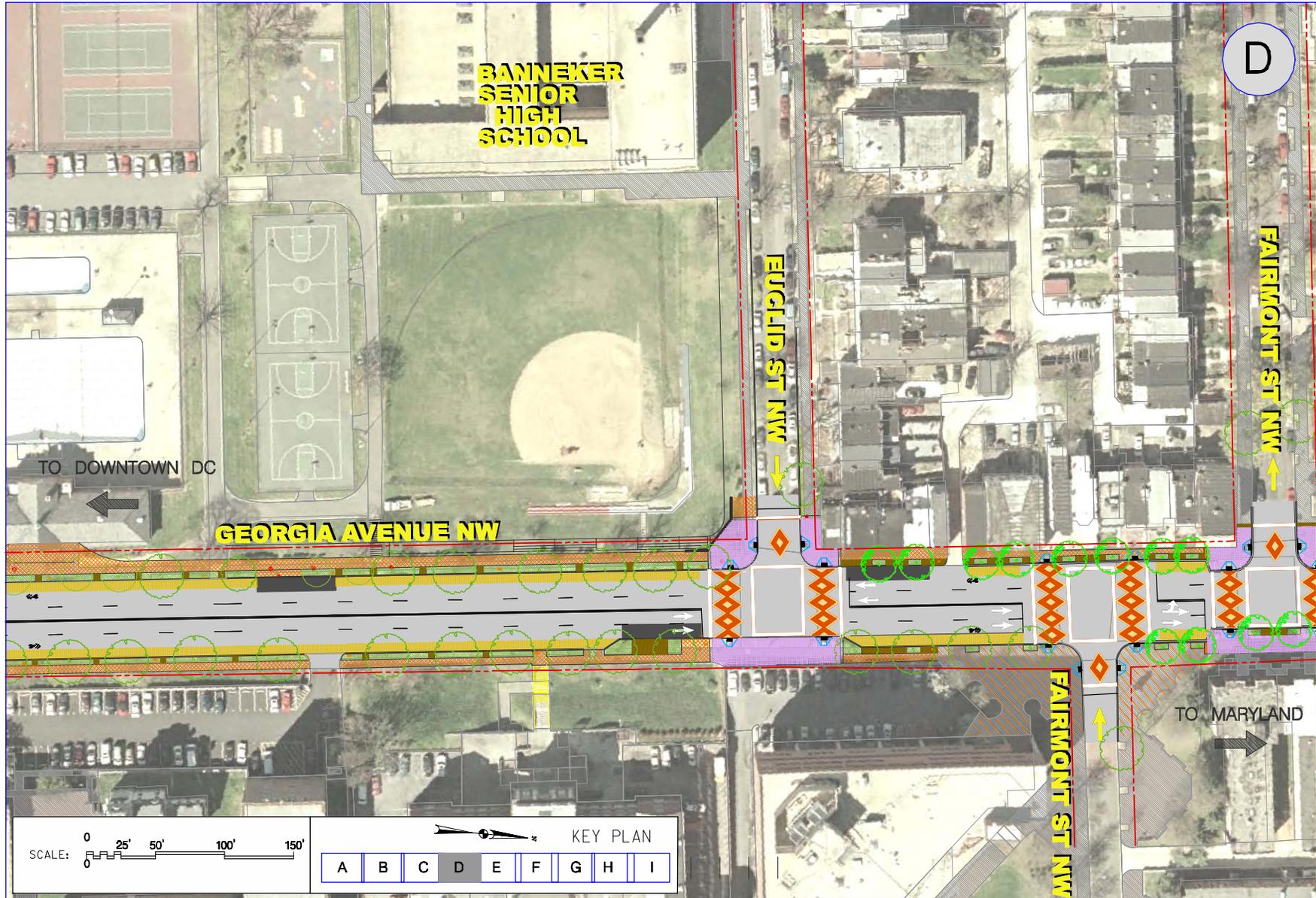


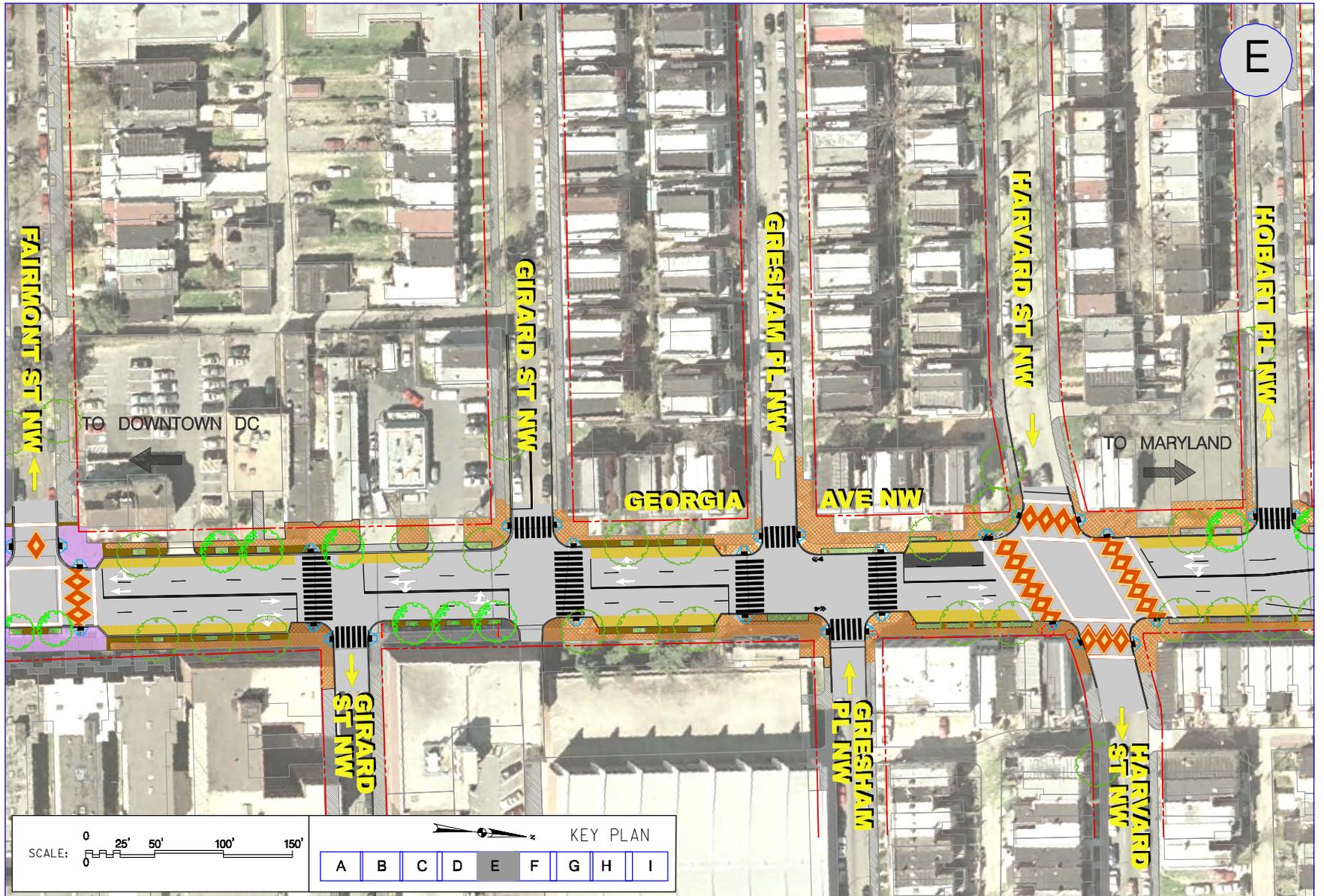
# Preferred Alternative



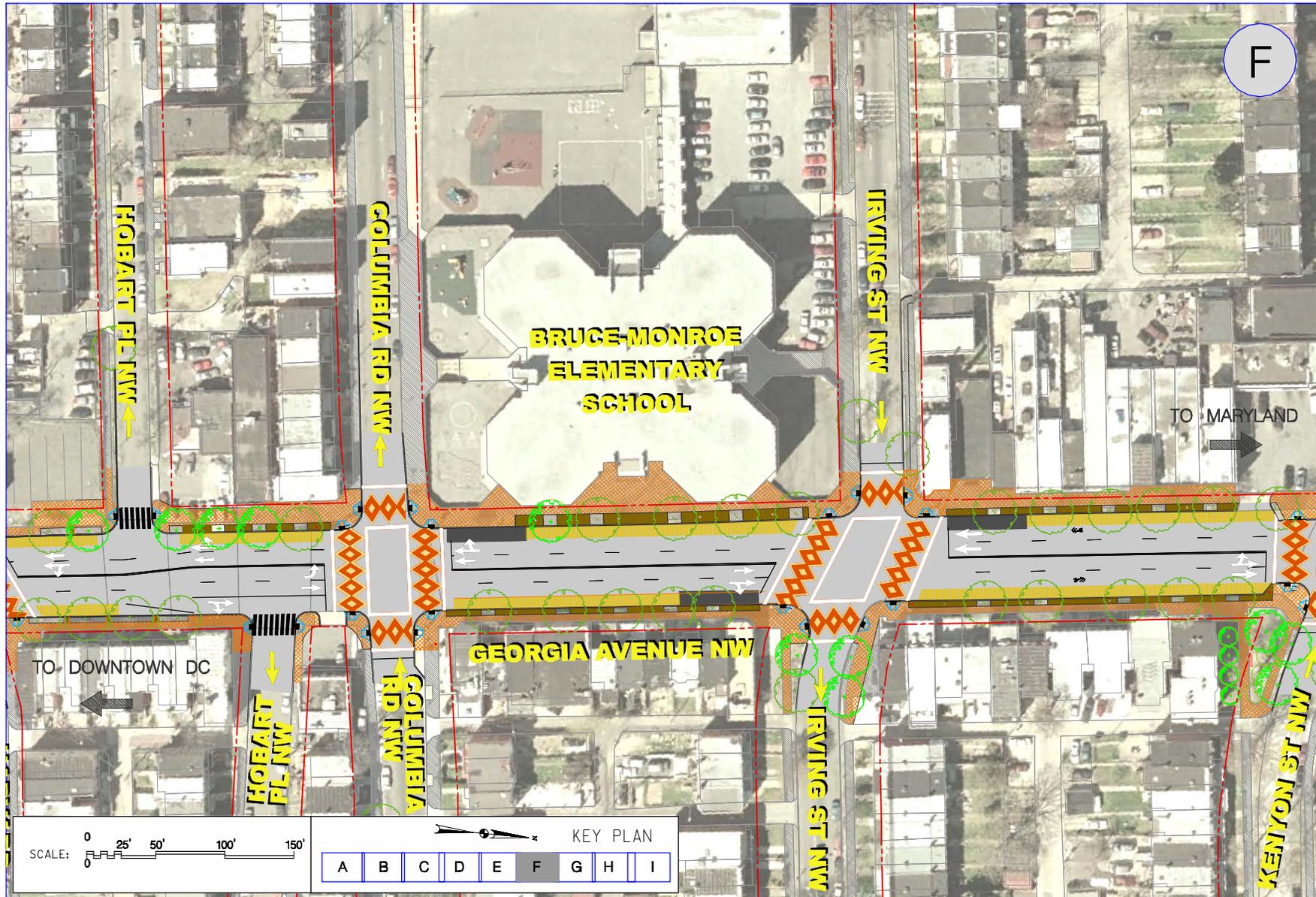


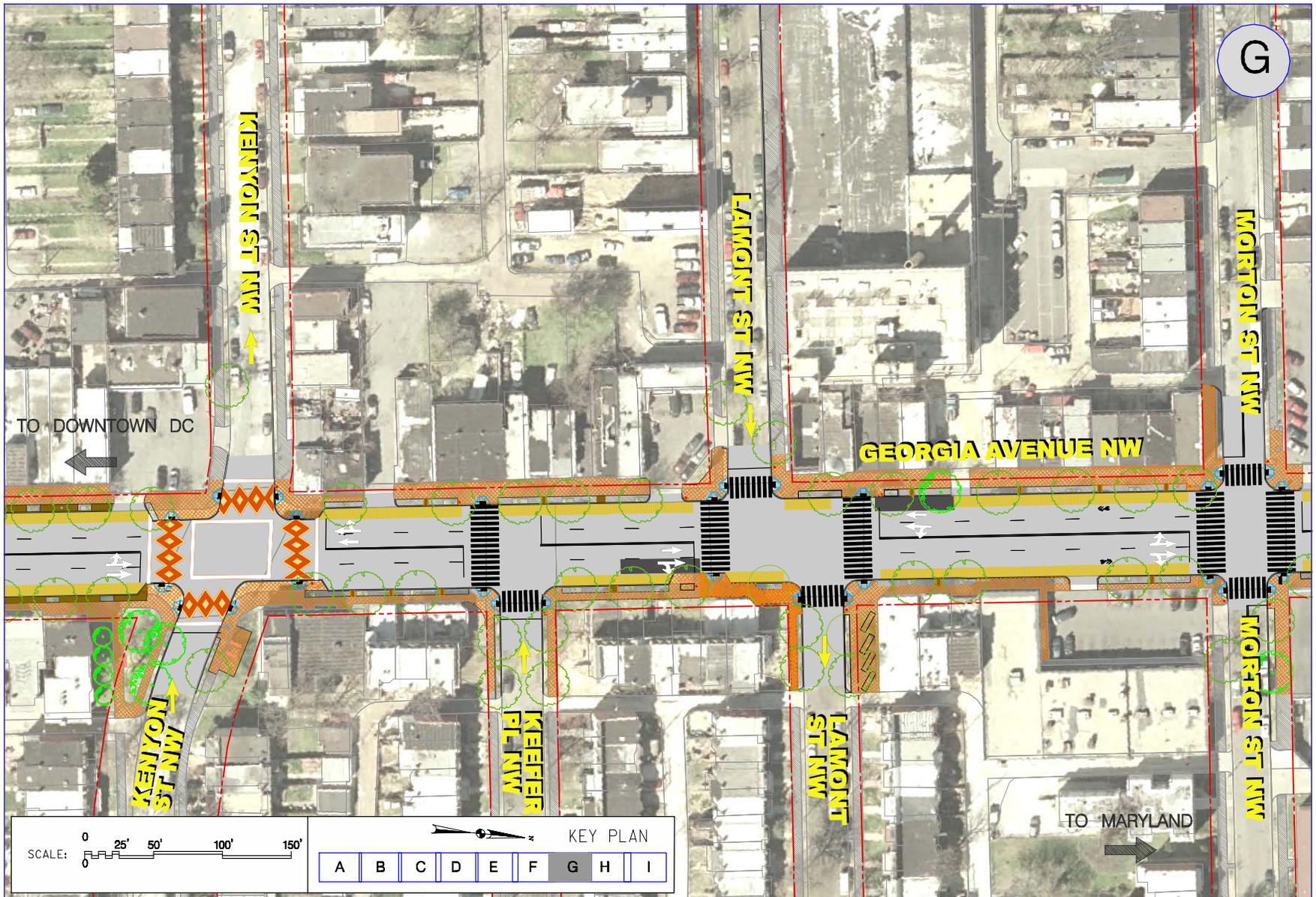
# Preferred Alternative





# Preferred Alternative



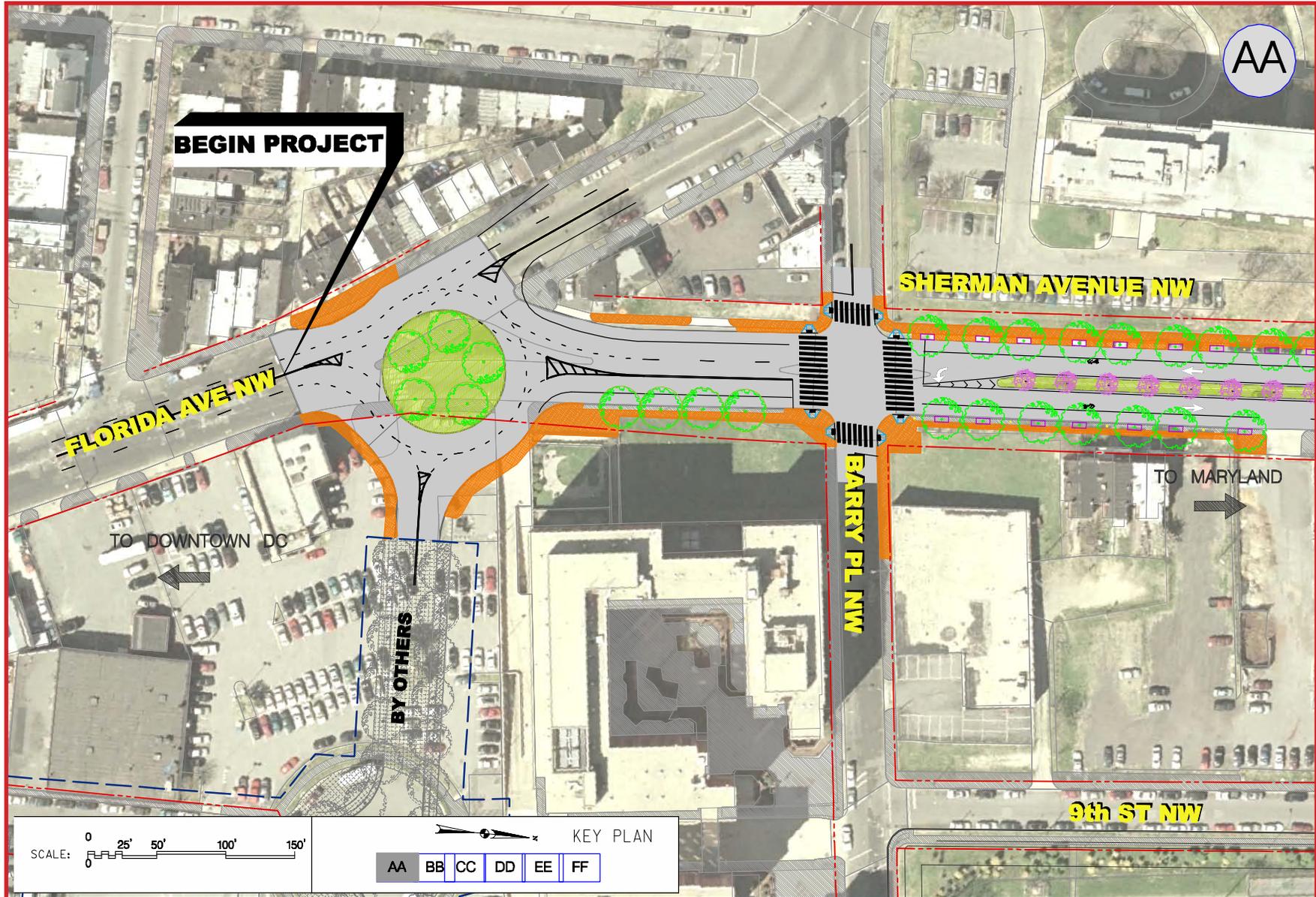


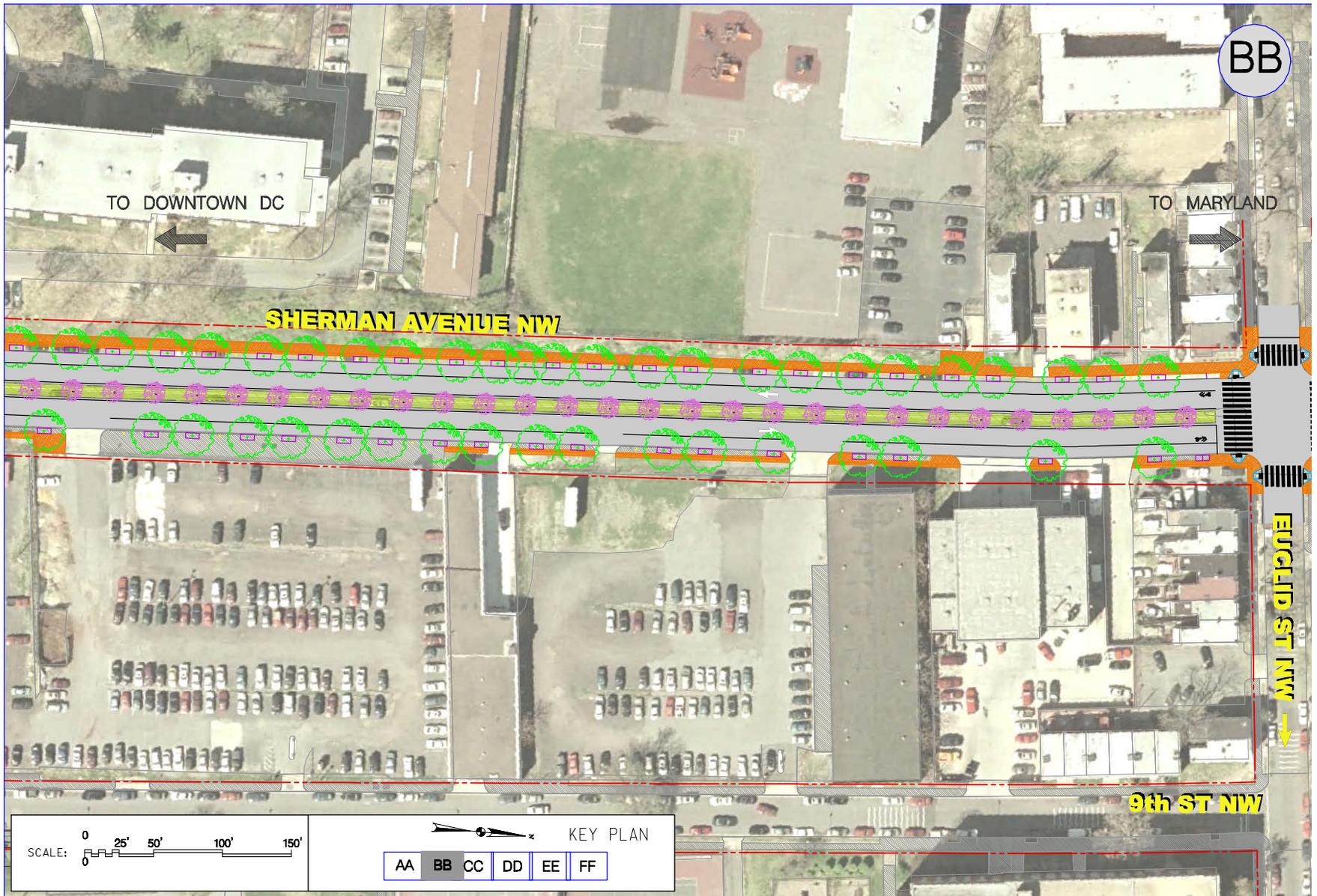
# Preferred Alternative



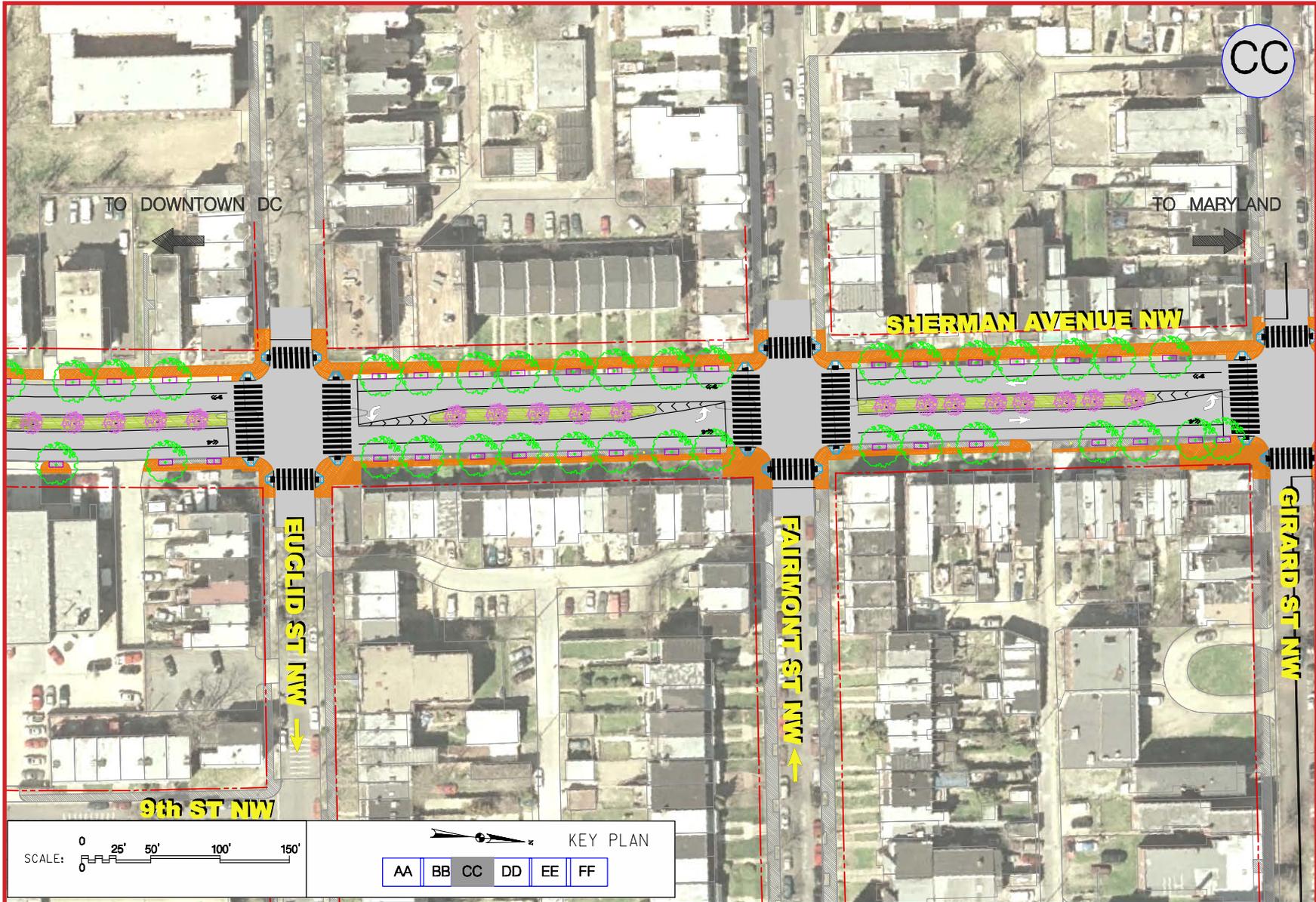


# Preferred Alternative



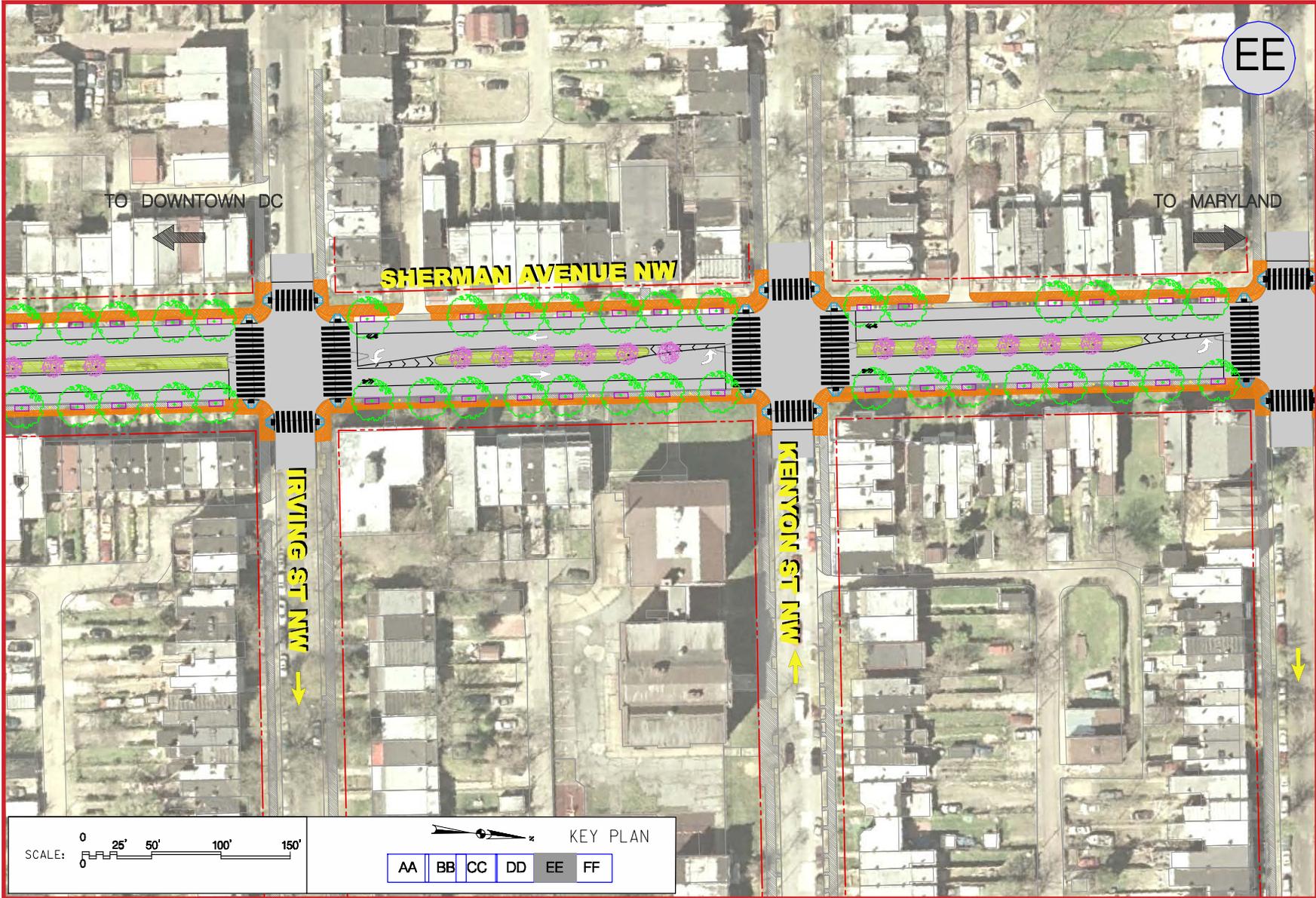


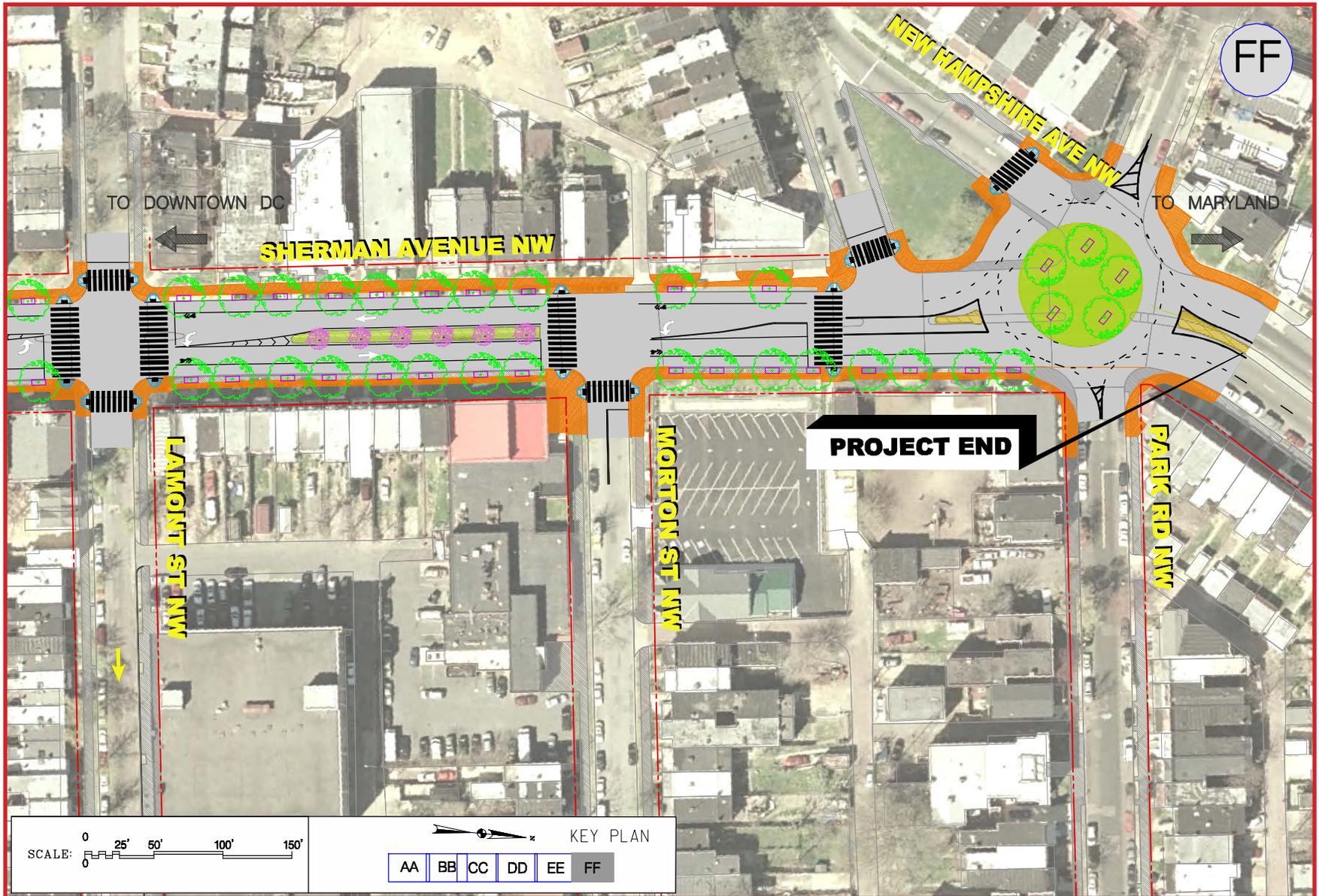
# Preferred Alternative





# Preferred Alternative





## Transportation Recommendations

### Traffic

As explained in detail in the Future Traffic Conditions Memo (Appendix I), some possible signal improvements were studied as part of the traffic engineering analysis. At Georgia Avenue and Park Road, the spatially offset westbound and eastbound approaches of Park Road were separated and served in different phases to improve conflicts between vehicles turning left onto Georgia Avenue and the through movement of vehicles traveling on Park Road (see Figures K-2 and K-3). Another change was analyzed at Georgia Avenue and Princeton Place. Since the existing left turning volumes are very low (i.e., 8 vehicles per hour (veh/hr) and 4 veh/hr for MD and PM peak hours), the protected left-turn phase on the southbound approach was changed to a permissive phase (left turns must yield to oncoming through traffic) to increase the time available for other approaches. Under current traffic operations, left turns at Georgia Avenue and Barry Place and at Georgia Avenue and Bryant Street are controlled by protected turn phases. The preferred alternative has a transit-only lane in this segment of Georgia Avenue. As a result, through and left-turn movements would share the same lane, making it difficult to serve all left turns with only protected phases. Therefore, left turns onto Barry Place and Bryant Street would be served by protected and permissive turn phases. The three-way intersection of New Hampshire Avenue, Monroe Road, and Park Road, and the intersection of Florida Avenue and Sherman Avenue are currently signalized controls. However, roundabouts would be built at these locations as part of the proposed changes for Sherman Avenue.

The impact of parallel parking for the preferred alternative was modeled using the traffic analysis software. It was assumed that there would be two maneuvers per hour (per block) on Sherman Avenue during both the midday and PM peak hours, and two per hour (per block) and four per hour (per block) on Georgia Avenue for mid-day and PM peak hours, respectively.

The impact on traffic of buses dwelling at stops on Georgia Avenue and Sherman Avenue was also analyzed. The 70/71 route operates at 10-minute and 7.5-minute average headways during mid-day and PM peak hours, respectively. It was assumed that, in the absence of a transit-only lane, each bus stop would on average generate six and eight bus blockages (which reduce the saturated flow rates on Georgia Avenue) per hour during the mid-day and PM peak hours, respectively. During PM peak hours, the MetroExtra Bus Rapid Transit (BRT) 79 route serves the Georgia Avenue corridor with headways of 10 minutes. Therefore,



Figure K-1: Traffic Analysis Performed Using Synchro Model Originally Developed by DDOT



Figure K-2: Conflict Between Eastbound Through Traffic and Westbound Left-Turning Traffic at Georgia Avenue and Park Road



Figure K-3: Conflict Between Westbound Through Traffic and Eastbound Left-Turning Traffic at Georgia Avenue and Park Road

for bus stops used by both the 70/71 and BRT buses, the total number of bus blockages was assumed to be 14 per hour where there is no dedicated transit-only lane. The number of bus blockages due to the 68 route along Sherman Avenue was assumed to average four per hour and six per hour in the mid-day and PM peak hours, respectively, based on current average headways.

#### Overview of Key Intersection Improvements

Traffic engineering analysis showed that even though Sherman Avenue and Georgia Avenue were planned to operate with only one general purpose traffic lane, there would not be any significant increases in delays. The analysis also showed that all key intersections in the study area would still operate with acceptable LOS under optimum timings, as shown in Figure K-4 and Table K-1.

Under optimum timing conditions, most key intersections on Georgia Avenue may operate slightly better than they do currently, with the exception being Georgia Avenue and Park Road during PM peak hours due to the safety improvements explained above. The analysis predicts a mixed result along the section of Georgia Avenue with a transit-only lane. Georgia Avenue's intersections with Florida Avenue and Barry Place would operate with better levels of service and fewer delays for both midday and PM peak hours. There may be insignificant increases in delays at Bryant Street and W Street. Queue lengths would be within acceptable limits, and the volume-to-capacity ratio would not exceed 1.0 along Georgia Avenue during both mid-day and PM peak hours.

Although the preferred alternative results in increased delays on Sherman Avenue due to the lane reduction, the delays can largely be alleviated by optimization of signal timings. During midday peak hours under optimum signal timings, operations would improve at Sherman Avenue and Kenyon Street, at Sherman Avenue and Columbia Street, and at Florida Avenue and Vermont Avenue compared to current conditions. During PM peak hours, however, these intersections would experience a slight increase in delays.

The new roundabout at New Hampshire Avenue, Monroe Road, and Park Road may increase the delay to approximately 30 seconds and reduce the LOS from B to D in the PM hours. However, the roundabout may enhance operations and improve the LOS from B to A during the mid-day peak hour. Operations at the unsignalized intersection of New Hampshire Avenue and Spring Street would improve as a result of changes in the lane configurations and timings for the PM peak hours, operating at LOS A during both the AM and PM peak

# Preferred Alternative

hours. Volume exceeds capacity slightly at Sherman Avenue and Columbia Road in the northbound direction, and some long queues may occur on side streets and Sherman Avenue at key intersections.

## Parking

Under the preferred alternative, parking on both sides of Sherman Avenue would remain as it is currently. There would be sections where parking is not permitted, as well as sections of time-regulated parking and unregulated parking. It is important to keep parking in the area since most buildings along the corridor are residential.

There also would be no change in the parking policy on side streets between Sherman Avenue and Georgia Avenue. Parking in the northern part of the study area would mostly be time-regulated. Parking would not be permitted on one side of some major side streets such as Kenyon Street, Columbia Road, and Irving Street. Buildings on side streets are mostly residential, as are most buildings on Sherman Avenue.

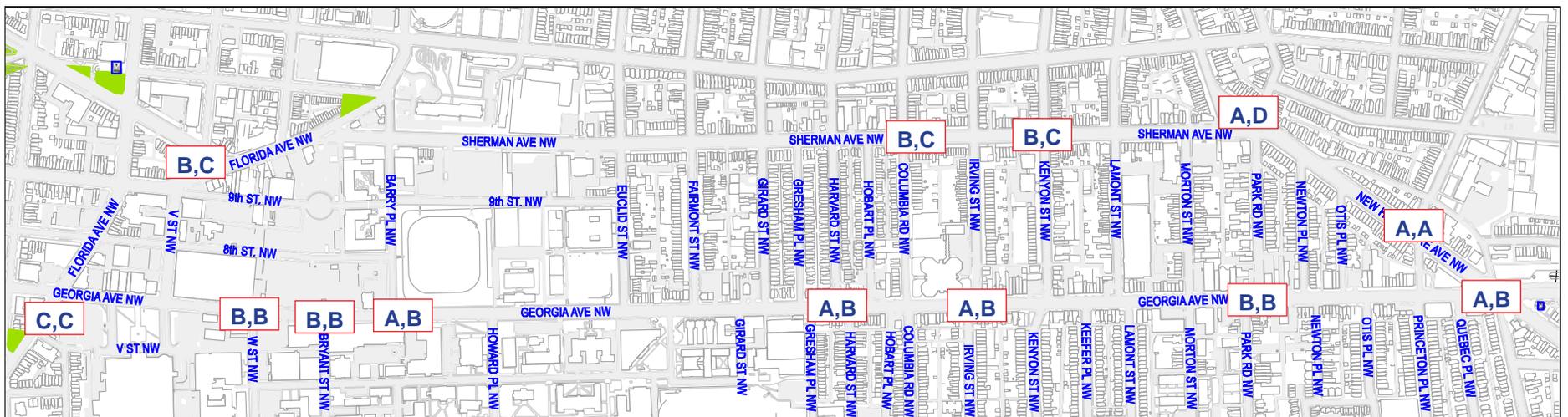
On Georgia Avenue, between Barry Place and Florida Avenue, parking would be

removed completely to provide sufficient width for the new transit-only lanes. Removal of parking may improve traffic along the lower part of the Georgia Avenue corridor since there would be no parking maneuvers in this section. The transit and bicycle modes would also benefit from the change because these modes would share a lane separated from general traffic. There would be no change in parking on the section of Georgia Avenue between New Hampshire Avenue and Howard Place.

## Transit Operations and Facilities

The 70/71 line and the 68 line will continue to operate along Sherman Avenue and Georgia Avenue. After the new design for Sherman Avenue is implemented, vehicular traffic and transit would only have one travel lane in each direction. However, traffic analysis shows that once the signalized intersections are optimized, transit service would not experience significant delays at most intersections along Sherman Avenue. The exceptions are Sherman Avenue and Euclid Street, and Sherman Avenue and Fairmont Street in the PM peak hours.

Figure K-4: Level-of-Service (LOS) Ratings of Key Intersections in 2008 (mid-day peak first, PM peak second)



Buses on the 68 line may experience significant delays at these locations during the PM peak hour. A bus stop on the northbound side of Sherman Avenue at Euclid Street may preclude buses on this line from benefiting from the coordination of signals along Sherman Avenue.

### Transit-Dedicated Lane

The line 70/71 regular and BRT buses would operate in mixed traffic in the northern sections of Georgia Avenue. After the signalized intersections are optimized, both services may experience fewer delays. In the lower part of the corridor between Barry Place and Florida Avenue, where there would be a dedicated transit lane, the bus lane is expected to reduce transit travel times and improve schedule adherence, increasing the effectiveness of transit signal prioritization (also planned for the corridor) and resulting in increased ridership.

### Pedestrian and Bicycle Improvements

#### Sidewalks and Walkability

Walkability currently varies on both Sherman Avenue and Georgia Avenue from good to very poor. Walkability would improve once proposed changes, such as new sidewalks (with a 13-foot width on Georgia Avenue and an 8-foot width on Sherman Avenue), better street lights, and more accessible wheelchair ramps are completed. The distance that pedestrians need to travel to cross an intersection would decrease as a result of installing the proposed bulb-outs. The current minimum green time that pedestrians need to cross signalized intersections on Sherman Avenue and Georgia Avenue, was considered during the analysis of signal optimizations.

#### Bicycle Facilities

Bike racks would be located within the curb zone and in bulb outs where space permits, significantly improving the parking

**Table K-1: Delays and LOS for the key intersections in 2008**

Intersection		MD Peak Hour					PM Peak Hour					
		Approaches	Cycle Length	Delay	LOS	Average Delay	Int. LOS	Cycle Length	Delay	LOS	Average Delay	Int. LOS
New Hampshire Avenue NW	Princeton Place NW	EB	N/A	22.9	C	2.9	A	N/A	133.6	F	8.6	A
		WB		N/A	N/A				N/A	N/A		
		NB		1.2	A				1.3	A		
		SB		1.1	A				1.7	A		
New Hampshire Avenue NW *	Park Rd & Monroe St NW	EB	N/A	23.2	C	5	A	N/A	353.8	F	32.6	D
		WB		20.1	C				134.1	F		
		NB		0.7	A				0.6	A		
		SB		0.3	A				0.3	A		
Sherman Avenue NW	Kenyon Street NW	EB	70	N/A	N/A	11.3	B	100	N/A	N/A	25.9	C
		WB		21.5	C				41	D		
		NB		5.9	A				29.2	C		
		SB		7.2	A				5.4	A		
Sherman Avenue NW	Columbia Road NW	EB	70	N/A	N/A	10	B	100	N/A	N/A	33	C
		WB		15.9	B				54.2	D		
		NB		4.2	A				35	C		
		SB		8.5	A				7.3	A		
Georgia Avenue NW	New Hampshire Avenue NW	EB	70	11.6	B	9.9	A	100	20	C	16.5	B
		WB		11.6	B				20.6	C		
		NB		3.5	A				10.1	B		
		SB		15.3	B				18.7	B		
Georgia Avenue NW	Park Rd NW	EB	70	30.8	C	10.9	B	100	41.1	D	14.7	B
		WB		28.3	C				44.6	D		
		NB		8.7	A				11	B		
		SB		7.2	A				10.6	B		
Georgia Avenue NW	Irving Street NW	EB	70	7.6	A	6.9	A	100	25.7	C	12.7	B
		WB		N/A	N/A				N/A	N/A		
		NB		6	A				8	A		
		SB		7.4	A				10	A		
Georgia Avenue NW	Harvard Street NW	EB	70	7	A	5.6	A	100	25.2	C	14.1	B
		WB		N/A	N/A				N/A	N/A		
		NB		4.9	A				11.2	B		
		SB		5.7	A				8.6	A		
Georgia Avenue NW	Barry Pl NW	EB	70	23.1	C	9.3	A	100	45.2	D	11.4	B
		WB		N/A	N/A				N/A	N/A		
		NB		13.5	B				4.9	A		
		SB		2	A				5.7	A		
Georgia Avenue NW	Bryant Street NW	EB	70	30.3	C	10.4	B	100	46.4	D	11.4	B
		WB		N/A	N/A				N/A	N/A		
		NB		12.7	B				10.1	B		
		SB		7.1	A				12.4	B		
Georgia Avenue NW	W Street NW	EB	70	N/A	N/A	11.9	B	100	N/A	N/A	18.8	B
		WB		22.3	C				29.9	C		
		NB		10.7	B				12.1	B		
		SB		7.2	A				19.6	B		
Georgia Avenue NW	Florida Avenue NW	EB	70	15.4	B	22.8	C	100	15.3	B	25.3	C
		WB		22	C				26.3	C		
		NB		38.6	D				42.2	D		
		SB		22.8	C				24.4	C		
Florida Avenue NW	Vermont Avenue NW	EB	100	22.8	C	12.1	B	100	36	D	22.7	C
		WB		N/A	N/A				N/A	N/A		
		NB		8	A				19.9	B		
		SB		10.9	B				15.7	B		

\* This roundabout was analyzed by HCS+ as an unsignalized intersection.

## Preferred Alternative



Figure K-5: Proposed Streetscape Improvements for the Intersection of Georgia Avenue and Bryant Street

availability for bicyclists. Bicyclists would share the transit-only lane with transit and right-turning vehicles between Howard Place and Florida Avenue, which would reduce their overall interaction with vehicular traffic. Bicyclists will share the transit-only lane with transit and right turning vehicles between Howard Place and Florida Avenue, which will result in a reduction in overall interaction with vehicular traffic.

### Public Realm Recommendations

The Georgia Avenue corridor is one of the most traveled streets in the District of Columbia, providing connections from the National Mall and Downtown DC to Silver Spring, MD. The boundaries for the streetscape design are Georgia Avenue from Florida Avenue to Otis Place, and Sherman Avenue from Florida Avenue to New Hampshire Avenue. A number of significant commercial businesses and institutions are located in the study area, including Howard University and Howard University Hospital. These streetscape design recommendations are intended to improve pedestrian safety, incorporate low impact streetscape strategies, and to create overall visual enhancements throughout the corridor that directly reflect the culture and history of the community.

### Georgia Avenue

Georgia Avenue is primarily characterized by the presence of Howard University, the future Howard Town Center, and Banneker Park at the southern end of the study area. The northern end of the study area consists of university-oriented businesses, neighborhood-oriented businesses, and transition areas of mixed-use development.

There is a rich heritage of cultural and academic contributions from generations of African-American families and scholars along Georgia Avenue, particularly around historic Howard University. This heritage was a major source of inspiration for the streetscape design, which is reflected in various elements such as paving, crosswalks, artwork, and signage. The design process included a number of meetings with the community and area stakeholders. From these outreach meetings, the study area was divided into three areas based on the character and function of the street: Howard University/Howard Town Center (Florida Avenue to Gresham Place), the Cross Town Connection (Gresham Place to Kenyon Street), and the Neighborhood Connection (Lamont Street to Otis Place).

## Howard University/Howard Town Center

The Howard University and the Howard Town Center area is, in part, the southern gateway to the study area. As vehicular and pedestrian traffic enter, wider sidewalks and special sidewalk and street paving would help create a sense of arrival. The roadway enhancements include colored asphalt surface treatment and special thermoplastic crosswalk designs. The colored asphalt surface treatment would highlight the dedicated bus lanes that would extend from Florida Avenue to Barry Place. This surface, along with a unique stamped pattern, would highlight the entire roadbed around Howard Town Center, creating a special pedestrian zone. Thermoplastic custom designed crosswalks also would be incorporated throughout this area. These crosswalks are inspired by African patterns and are a major design element that would contribute to the uniqueness of this urban environment.

Sidewalk enhancements include wider sidewalks, low impact development (LID) planting zones, and unique sidewalk paving. A 20-foot sidewalk setback standard for all new development in this area would help provide accommodations for the larger volumes of pedestrians, outdoor seating and outdoor cafes, larger tree pits and healthier trees, and room for bus shelters and other site furniture.

On the west of the street, sidewalks would be widened in front of the future Howard Town Center as well as in front of Banneker Park. A continuous LID planting zone would include open-planted tree pits with a continuous tree pit zone covered with cobblestones. The LID zones would allow sidewalk runoff to slowly percolate through the extended tree roots. Street furniture would also be located within this area so as to not interfere with pedestrian traffic. The sidewalk would be paved with poured-in-place concrete laid diagonally. At intersections, the sidewalk material would change to colored precast concrete pavers set diagonally as an extension of the crosswalk pattern.

Unique enhancements to this area include a linear sidewalk park along the street edge of Banneker Park that provides shaded seating for pedestrians and a gateway into the park. This park is used primarily for recreation and is the final destination for the annual Caribbean Carnival. Another feature of this area, located opposite from Banneker Park, is the proposed “Howard University Legacy Walk,” which consists of bronze plaques embedded into pavers and engraved with the name or image of people influential to Howard University.

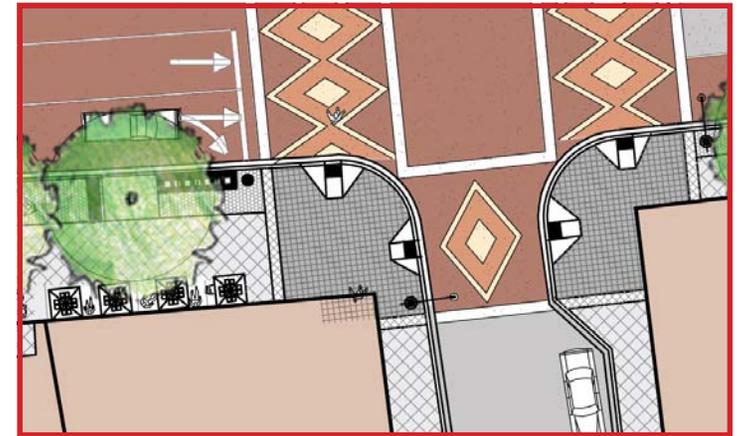


Figure K-6: Close-Up of Public Realm Recommendations for the Intersection of Georgia Avenue and Barry Avenue



Figure K-7: New Linear Entrance at Banneker Park

## Preferred Alternative

**Table K-2: Streetscape details for the Howard Town Center vicinity (Florida Avenue to Gresham Place):**

SIDEWALKS		STREET	SITE FURNITURE	SPECIAL FEATURES
CURB ZONE	SIDEWALK ZONE			
<p><u>Florida Avenue to W Street</u> 5' x 10' continuous tree pit Granite cobble/LID in between tree pits.</p> <p><u>W Street to Bryant Street</u> 8' x 10' continuous tree pit Benches placed on granite cobble/LID in between tree pits.</p> <p><u>Bryant Street to Barry Place</u> 5'x10' continuous tree pits Granite cobble/LID in between tree pits.</p> <p><u>Barry Place to Howard Place</u> West sidewalk: 5' to 15' wide tree pit East sidewalk: 10' wide No parking is available</p> <p><u>Howard Place to Euclid Street</u> West sidewalk: 5' wide, open with cobblestone access to parked vehicles East sidewalk: 4' wide, open with cobblestone access to parked vehicles</p> <p><u>Euclid Street to Gresham Place:</u> West sidewalk: 5' wide by 10' East sidewalk: 4' wide by 10' Granite cobble/LID in between tree pits</p> <p>Locate site furniture in curb zone when possible.</p> <p>Street Trees: London Planetree Nuttal Oak Red Maple</p>	<p>Poured in place concrete 2'x2' with control joints on 45 degree angle to face of curb</p> <p>DDOT standard concrete mix</p> <p><u>Corner Zone:</u> 12"x12" concrete unit pavers, (new DC standard color) and band with 12"x12" colored concrete pavers.</p> <p><u>W Street-Bryant:</u> Bench seating and planting beds south of the Howard Bookstore entrance</p>	<p>Standard asphalt paving unless other specified</p> <p><u>Bryant to Barry:</u> Colored asphalt (oxide red)</p> <p><u>Barry –Howard:</u> Bus dedicated lanes colored asphalt (oxidite red)</p> <p><u>Bus stop pads:</u> poured-in-place concrete paving</p> <p><u>Howard Place:</u> parking lane starts Parking lanes - LID pavers.</p> <p><u>Special crosswalks:</u> street print paving pattern.</p> <p><u>Other intersections:</u> standard ladder crosswalks</p>	<p>U shaped bike racks</p> <p>Trash receptacles</p> <p><u>Light fixtures:</u> Teardrop at intersections, double Washington Globe mid-block</p> <p>Newspaper corrals</p> <p>Benches</p> <p>Bus shelters</p>	<p>Banneker Park: removal of the fence, special brick paving treatment, seat retaining walls, planting areas and formal entrance into the park.</p> <p>Public art opportunities at V Street, Barry Place, Banneker Park, Euclid Street, and Fairmont Street</p> <p>Howard University Legacy Walk on the west side of street between Howard Place and Euclid Street</p>

## Cross-Town Connection

The second public-realm area is the Gresham Street to Kenyon Street span of Georgia Avenue, which includes four main intersections that serve as the primary east-west bus and vehicle thoroughfare. These intersections have high volumes of pedestrian traffic and have major pedestrian safety issues caused by very narrow sidewalks that do not accommodate wheelchair access, inadequate lighting, damaged sidewalks, and dangerous unsignalized crosswalks. The proposed streetscape would address these problems and improve pedestrian safety by widening sidewalks with bulb-outs at critical locations to decrease the crossing distance for pedestrians and accommodate wheelchair ramps and high visibility crosswalks. The custom-designed thermoplastic crosswalks would extend throughout this area. On-street parking surfaces would be permeable concrete pavers that would capture street runoff. Sidewalks would be poured-in-place concrete set diagonally to be consistent with the Howard University/Howard Town Center area and would have continuous open-planted tree pits where possible. Locations for public art have been identified at the southwest corner of Harvard Street, northeast and southwest corners of Columbia Road and the southwest corner of Harvard Street.



Figure K-8: Close-Up of Public Realm Recommendations for the Central Portion of the Study Area

Table K-3: Streetscape details for Gresham Place to Kenyon Street:

SIDEWALKS		STREET	SITE FURNITURE	SPECIAL FEATURES
CURB ZONE	SIDEWALK ZONE			
<p>Provide continuous open tree pits where there is adequate sidewalk space.</p> <p>Provide 3' openings paved with granite cobble to connect sidewalk to parking areas.</p> <p>In areas with narrow sidewalks, provide 4.5' x 8' tree pit.</p> <p>Pave the areas between tree pits with granite cobble over permeable base.</p> <p>Locate site furniture in curb zone when possible.</p> <p>Street Trees: London Planetree Nuttal Oak Red Maple</p>	<p>Poured in place concrete 2'x2' with control joints on 45 degree angle to face of curb</p> <p>DDOT standard concrete mix</p>	<p>Standard asphalt paving</p> <p>Poured-in-place concrete paving for bus stop pads</p> <p>LID pavers for parking lanes</p> <p><u>Special crosswalks:</u> (Harvard Street, Columbia Street, Irving Street, Kenyon Street) street print paving pattern.</p> <p><u>Other intersections:</u> standard ladder crosswalks</p>	<p>U shaped bike racks</p> <p>Trash receptacles</p> <p><u>Light fixtures:</u> Teardrop at intersections, single Washington Globe mid-block</p> <p>Newspaper corrals</p> <p>Benches</p> <p>Bus shelters</p>	<p>Public art opportunities at Columbia Street, Harvard Street, and the historic retail row (see public art opportunities document)</p>

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## Neighborhood Connection

The third public-realm area, from Kenyon Street to Otis Place, primarily contains mixed-use buildings with small businesses that cater to neighborhood needs. The design for this area includes poured-in-place concrete sidewalks with diagonal-patterned joints and continuous open-planted tree pits with intermittently spaced 3-foot flush cobble-paved paver islands to provide access to and from parked cars. Bulb-outs also would be provided at critical locations to provide safer crossings for pedestrians, to make crosswalks wheelchair accessible, and to provide bus stops with a commuter waiting area that does not interfere with the flow of pedestrians on the sidewalk. New single globe and teardrop lighting would also be added at fixed intervals. Parking lanes along both sides of the street would be paved with permeable pavers to let stormwater absorb into the ground.



Figure K-9: Close-Up of Public Realm Recommendations for the Northern Portion of the Study Area

Table K-4: Streetscape details for Kenyon Street to Otis Place:

SIDEWALKS		STREET	SITE FURNITURE	SPECIAL FEATURES
CURB ZONE	SIDEWALK ZONE			
Provide continuous open tree pits where there is adequate sidewalk space.  Provide 3' openings paved with granite cobble to connect sidewalk to parking areas.  In areas with narrow sidewalks, provide 4.5' x 8' tree pit.  Pave the areas between tree pits with granite cobble over permeable base.  Locate site furniture in curb zone when possible.  Street Trees: London Planetree Nuttal Oak Red Maple	Poured in place concrete 2'x2' with control joints on 45 degree angle to face of curb  DDOT standard concrete mix	Standard asphalt paving  Poured-in-place concrete paving for bus stop pads  LID pavers for parking lanes  Standard ladder crosswalks at Intersections	U shaped bike racks  Trash receptacles  <u>Light fixtures:</u> Teardrop at intersections, single Washington Globe mid-block  Newspaper corrals  Benches  Bus shelters	Public art opportunities at Morton Street, Lamont Street, and Kenyon Street

## Sherman Avenue

Sherman Avenue has a different character from Georgia Avenue in that it is a residential street with some corner commercial uses. Sherman Avenue currently accommodates high volumes of traffic that use the street to bypass Georgia Avenue. The wide streets have reduced sidewalk widths to as little as 2.5 feet in some locations. Utilities placed in the sidewalk make it impossible to navigate this area in a wheelchair. Currently there are no street trees on Sherman Avenue due to lack of adequate sidewalk space. The design for this area focuses on providing increased pedestrian safety and a more pleasant pedestrian environment. The roadway would be reduced from two through lanes and one parking lane in each direction to one through lane and one parking lane in each direction. The former roadway space would be used to widen sidewalks on both sides of the street to a minimum of 8 feet and to create a centered planting median. Sidewalks would be able to accommodate 4-foot by 6-foot open tree pits with continuous LID zones covered with granite cobble. The sidewalk would be poured-in-place concrete with diagonal joint lines. The center median would be a raingarden. Openings in curbs would allow runoff to flow into the median, which would be planted with native grasses and flowering trees. The Florida Avenue and New Hampshire Avenue intersections would be traffic circles and also planted with flowering trees and native grass species.

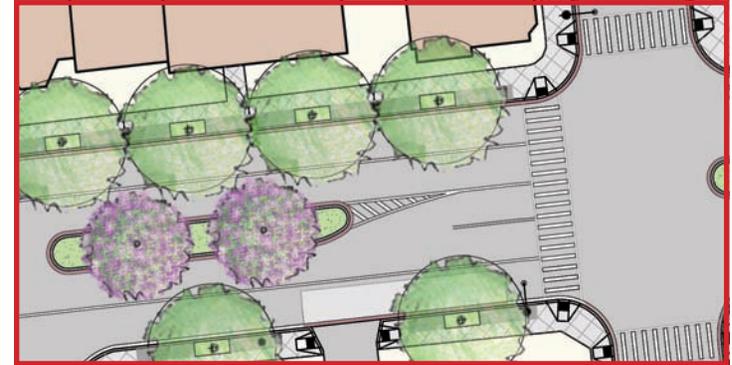


Figure K-10: Close-Up of Proposed Improvements for Sherman Avenue

**Table K-5: Streetscape details for Sherman Avenue from Florida Avenue to New Hampshire Avenue:**

SIDEWALKS		STREET	SITE FURNITURE	SPECIAL FEATURES
CURB ZONE	SIDEWALK ZONE			
Provide 4' x10' tree pits and continuous LID granite cobbles in between tree pits.  Street Trees: Little Leaf Linden Golden Rain Tree Alleghany Serviceberry Okame Cherry	Poured in place concrete 2'x2' with control joints on 45 degree angle to face of curb	Standard asphalt paving  Poured-in-place concrete paving for bus stop pads  Center planted median with rain garden  Raised curb with curb-cut openings to collect runoff in median  Standard ladder crosswalks at Intersections	U shaped bike racks  Trash receptacles  <u>Light fixtures:</u> Teardrop at intersections, single Washington Globe mid-block  Newspaper corrals  Benches	Public art opportunities at Girard Street, Columbia Road, and Harvard Street

# Preferred Alternative

## Public Art

Public art created by Howard University students and faculty and local artists would be installed at central locations along the corridor. Some potential art forms include art in the sidewalk, free-standing sculpture, and mosaics. This art would contribute to an urban environment that would attract visitors and potential new residents to the area.

A number of locations have been identified on Georgia Avenue as potential locations for public art (See Figure K-13)



Figure K-11: Proposed Streetscape Improvements for the Intersection of Georgia Avenue and Bryant Street



Figure K-12: Proposed Gateway Treatment for Lower Georgia Avenue

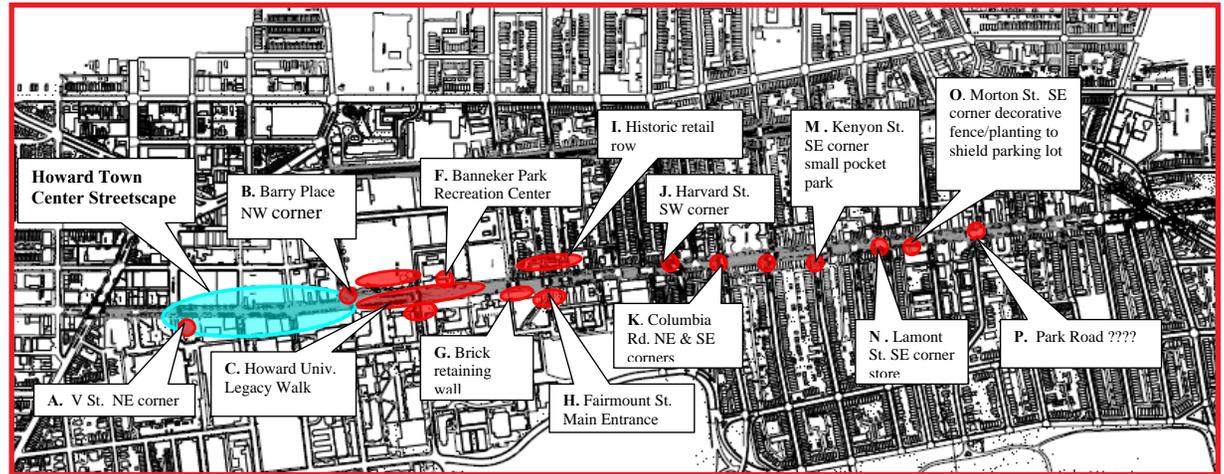


Figure K-13: Public Art Opportunity Sites



Figure K-14: Current Conditions at Georgia Avenue and Bryant Street



Figure K-16: Current Conditions on Banneker Park Road



Figure K-18: Current Conditions on Sherman Avenue



Figure K-15: Proposed Improvements at Georgia Avenue and Bryant Street

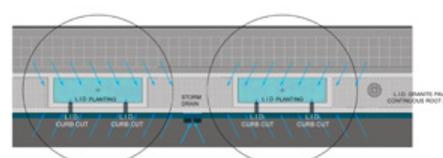
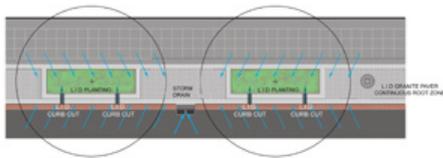
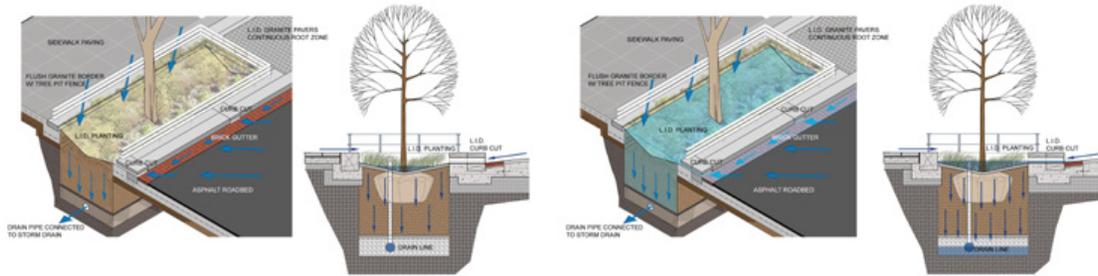


Figure K-17: Proposed Improvements on Banneker Park Road



Figure K-19: Proposed Improvements on Sherman Avenue

# Preferred Alternative



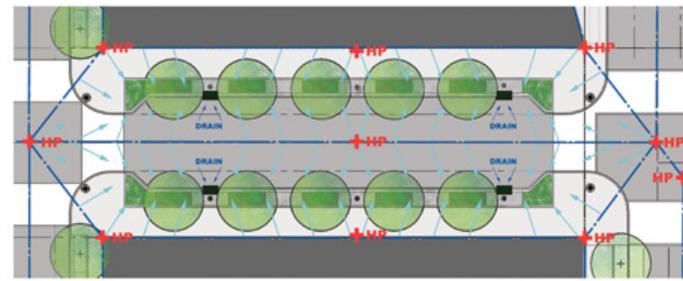
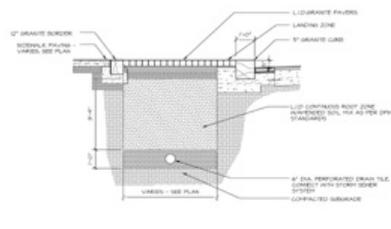
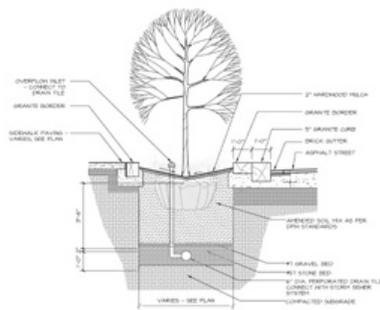
L.I.D. Tree Planting - Storm Water Capture

L.I.D. Tree Planting - Storm Water Bypass

## PART A L.I.D. PLAN

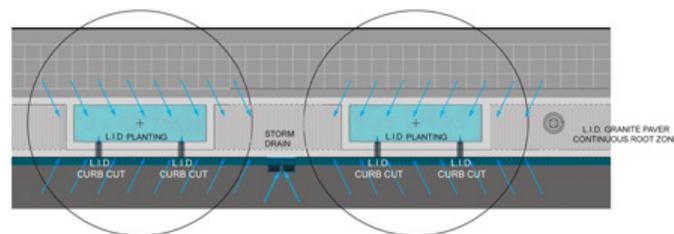
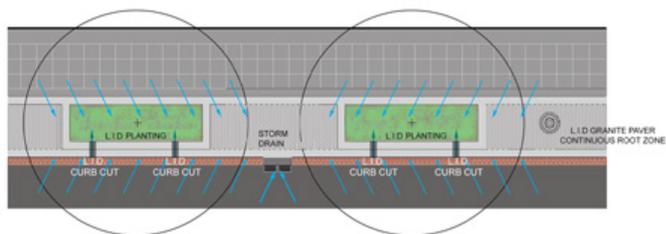
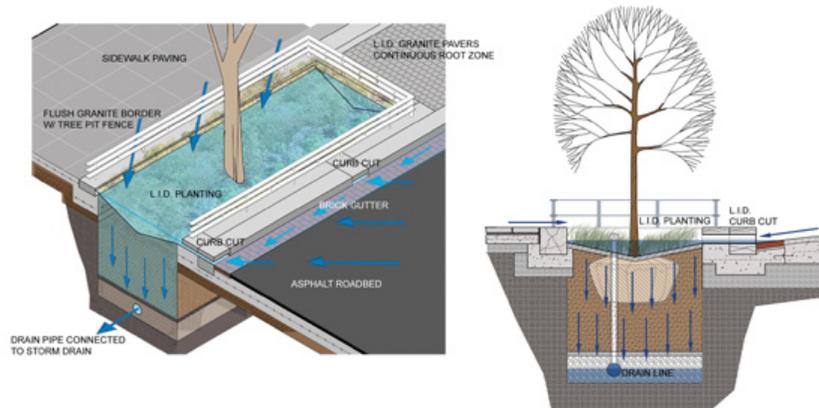
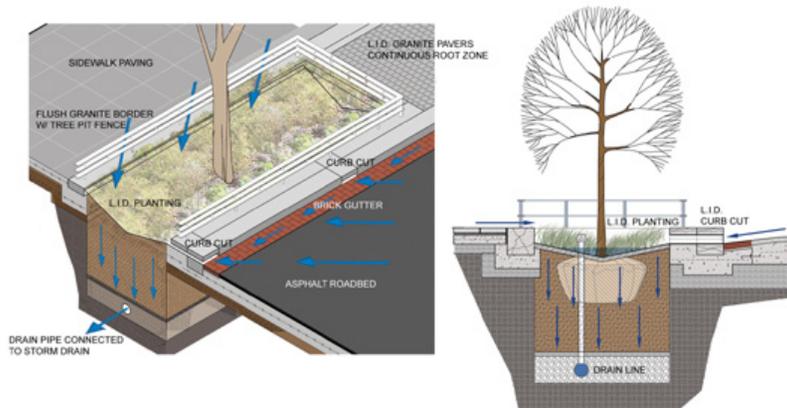
Low Impact Development (L.I.D.) is a storm water management strategy that treats storm run off and pollution at the local site through small scale techniques. It serves as a complement to or replacement for traditional, large scale storm drain sewer systems and treatment facilities. Green roofs, rain gardens, permeable paving, and other L.I.D. technologies, gather rain water and help remove pollutants before slowly releasing the water into the watershed or sewer system. In our site, **L.I.D. Tree Planting** is used to gather and treat storm water from the sidewalk. This strategy will help improve the environmental health of the Anacostia and Potomac Rivers.

### L.I.D. TREE PLANTING DETAILS



L.I.D. Block Diagram- N St. and 11 1/2 St.

Figure K-20: LID Details for the Preferred Alternative



L.I.D. Tree Planting - Storm Water Capture

L.I.D. Tree Planting - Storm Water Bypass

Figure K-21: LID Tree Pit Options for the Preferred Alternative

## Preferred Alternative

### Bryant Street Extension

Currently, Bryant Street NW is a one-way one-lane eastbound roadway which begins with a T-intersection at Georgia Avenue NW. The intersection with Georgia Avenue is controlled by a three-head signal and the corridor allows on-street parking on both sides of the roadway for most of the day. Currently, on the west side of Georgia Avenue (across from Bryant Street), is a parking lot used by Howard University employees.

In order to improve both vehicular and pedestrian accessibility in the east-west direction across the Howard University Campus and to the planned traffic circle at Sherman Avenue NW and Florida Avenue NW, an extension is proposed for Bryant Street from the intersection with Georgia Avenue to connect with the traffic circle. As a part of this extension of one-way eastbound Bryant Street, Barry Place is proposed to become one-way westbound from Georgia Avenue to Sherman Avenue to create a one-way pair. Four alternatives were developed for Bryant Street, all with a 32-foot-wide typical section, capable of accommodating two travel lanes with one lane of on-street parking or one lane of travel with two on-street parking lanes. The Bryant Street extension would provide quicker access to Sherman Avenue, alleviating delays and queues on New Hampshire and Florida Avenues to the north and south of the project area, as well as on Georgia Avenue itself, facilitate better pedestrian accessibility to the Howard University dormitory and the commercial areas on Georgia Avenue and Florida Avenue.



Figures K-22: Intersection of Bryant Street and Georgia Avenue (Current Conditions)



For each of the alternatives developed, the roadway alignments differ for Bryant Street, with some alternatives minimizing impacts to adjacent parcels along the south side of Bryant Street and some alternatives minimizing impacts to an adjacent electrical sub-station on the south side of 8<sup>th</sup> Street NW. In addition, avoidance of two electrical transformers at the intersection of 8<sup>th</sup> Street and Bryant Street (to the north of 8<sup>th</sup> Street), and at the intersection of Sherman Avenue and Bryant Street which serve the Howard University dormitory was considered. The alternatives developed are as follows:

- Alternative 1 proposes to avoid the sub-station and transformer at 8<sup>th</sup> Street completely, but minimizes the impact to the parcel at the west end near the traffic circle.
- Alternative 2 proposes to offset each intersection along Bryant Street, avoiding the substation, but impacting both transformers and minimizing the impacts to the adjacent parcels.
- Alternative 3 proposes to relocate the sub-station and both transformers while minimizing the impacts to the adjacent parcels. This alternative creates a skewed intersection at Georgia Avenue.
- Alternative 4 proposes to avoid the transformers and the sub-station completely by creating a straight alignment for the entire corridor, having the most impact to the adjacent parcels.

Although Alternatives 2 and 3 minimize the amount of land taken for the extension, the offset intersections (for Alternative 2) provide poor traffic operations and the high cost and time required for relocation of the sub-station (for Alternative 3) make these alternatives less desirable, therefore, alternatives 1 and 4 remain viable. For all alternatives, crosswalk improvements and markings are proposed for the intersection of Bryant Street and Georgia Avenue, and streetscape additions are proposed along the entire extension. Figures K-23 to K-26 illustrate each of the alternatives. Preferred alternative plan sheets are also shown in Figures B and AA at the beginning of this section.

# Preferred Alternative

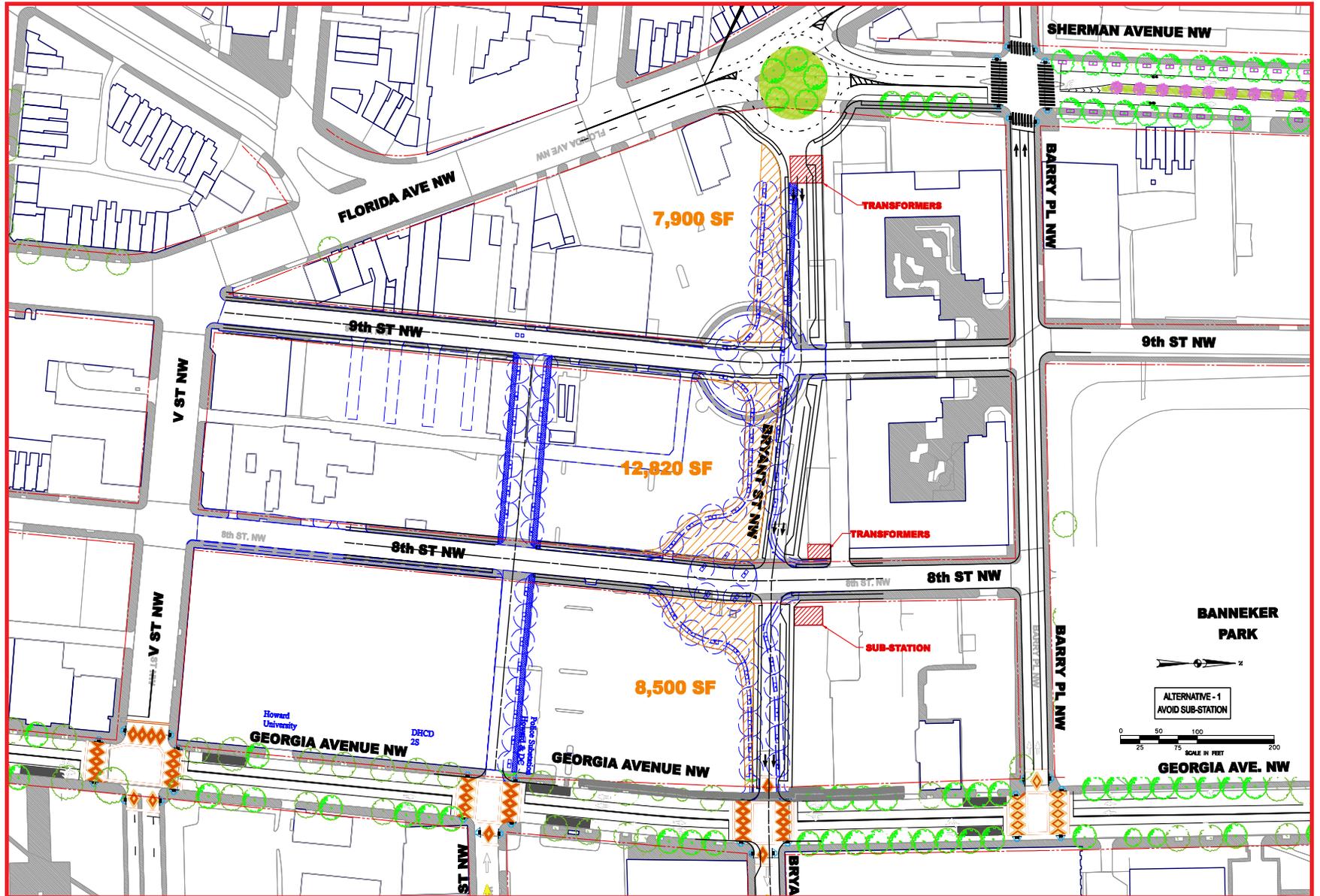


Figure K-23: Alternative 1

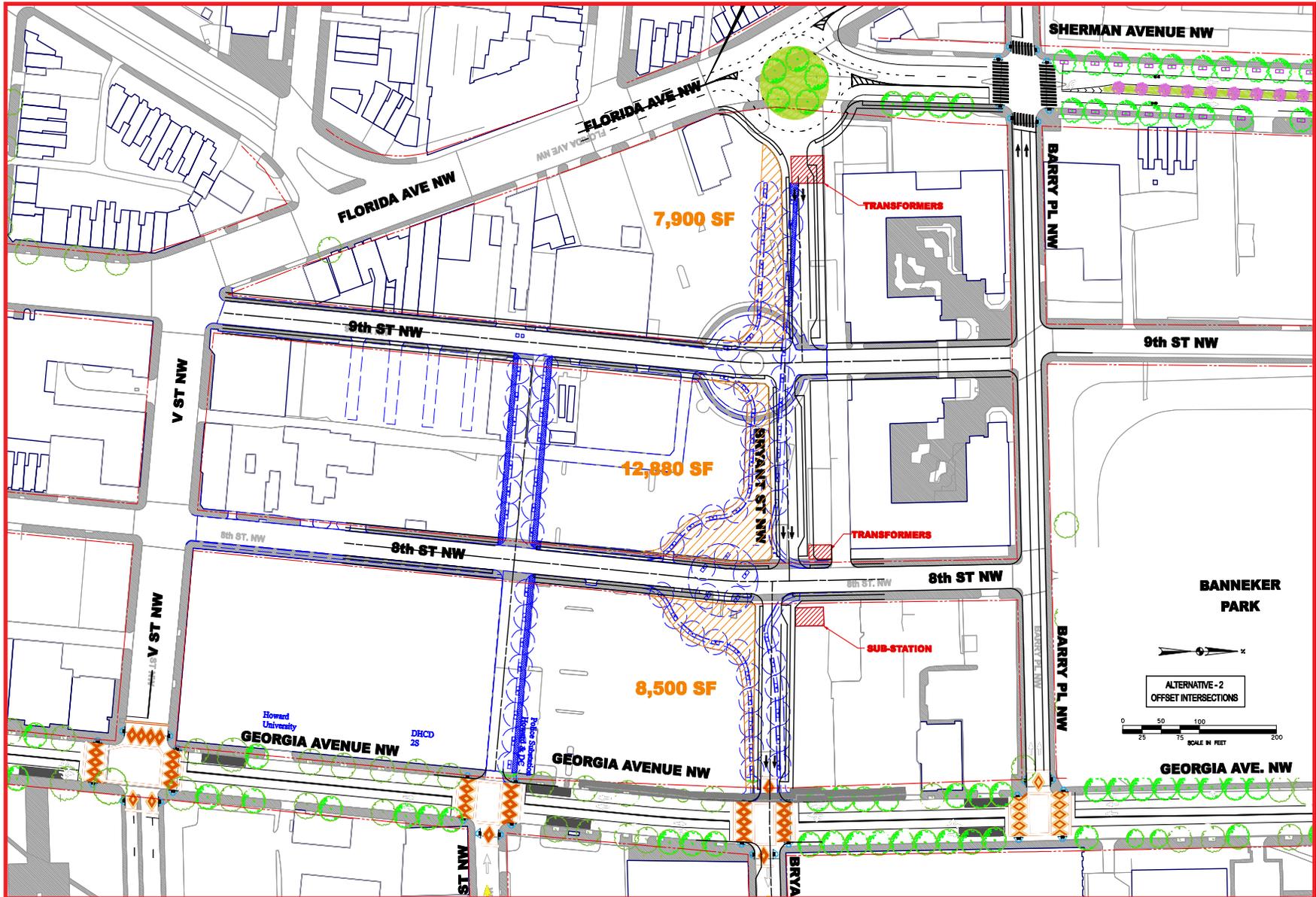


Figure K-24: Alternative 2

# Preferred Alternative

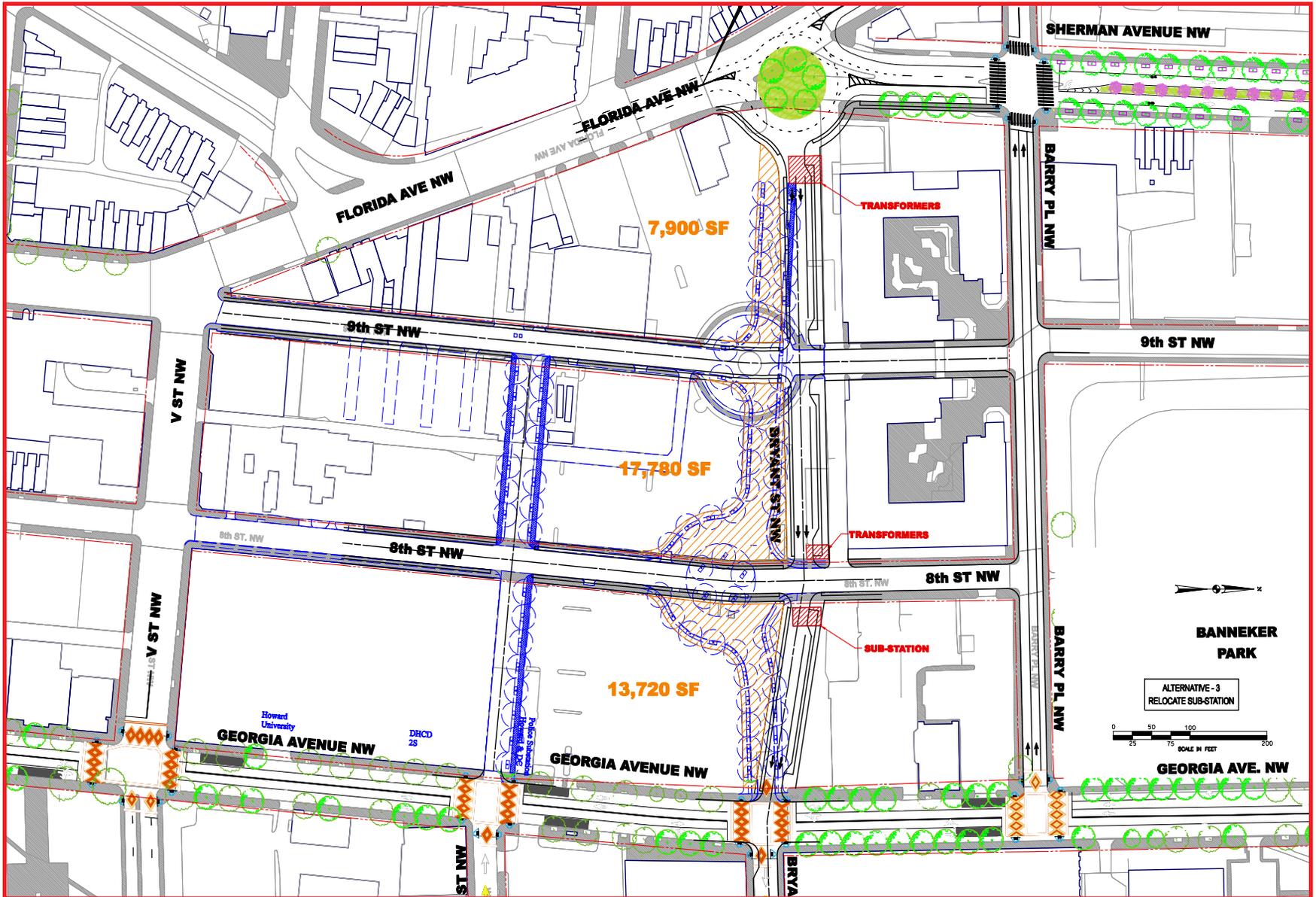


Figure K-25: Alternative 3

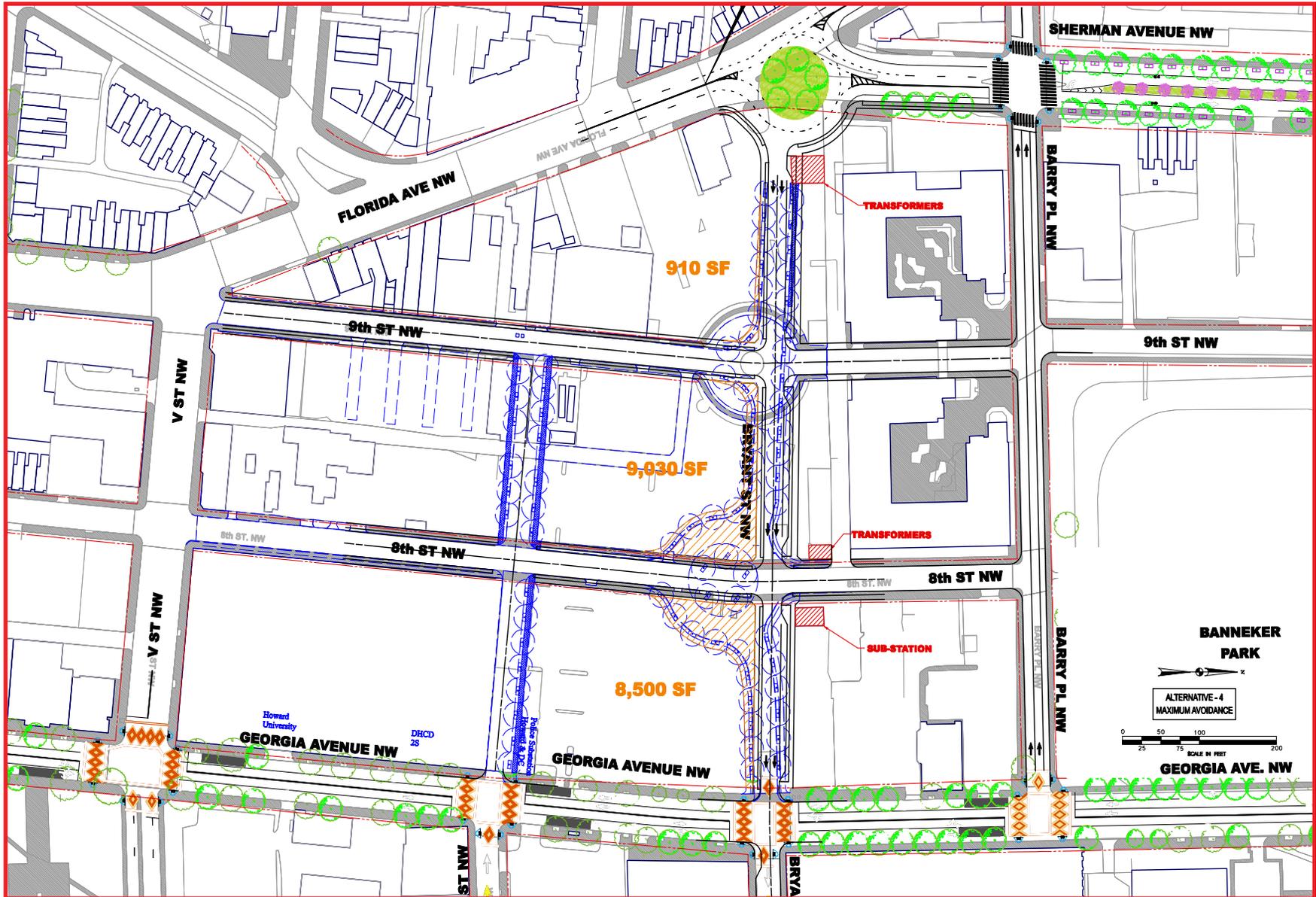


Figure K-26: Alternative 4

# L. Short-Term Recommendations



Figures L-1



L-2 The HAWK Signal System in Operation

Short-term improvements are limited to Georgia Avenue. This first phase engages cost-effective solutions that enhance pedestrian and vehicular safety along the corridor. These improvements do not involve significant construction, which help minimize community impacts. The short-term improvements, which are listed below, are expected to be completed by 2008.

- Milling and resurfacing the roadway with new pavement
- Re-striping travel lanes
- Installing parking lanes and corresponding pavement markings
- Re-striping existing crosswalks using high-visibility pavement markings
- Fixing and resurfacing back alleys
- Cleaning and repairing sidewalks along Georgia Avenue
- Removing pipe railings along sidewalks between Girard Street and Columbia Road
- Installing pedestrian signals with countdown timers at existing signalized intersections
- Optimizing existing traffic signals to allow a better traffic flow
- Increasing parking enforcement along Georgia Avenue
- Involving and coordinating with the Urban Forestry Administration to sustain proper maintenance of trees along the corridor
- Relocating entrance of McDonald's Restaurant from Georgia Avenue to 8th Street
- Implementing the HAWK (High-intensity Activated crossWalk) signal at the intersection of Georgia Avenue and Kenyon Street

## The HAWK Signal System

The High-intensity Activated crossWalk (also known as HAWK) signaling system is a combination of a beacon flasher and a traffic control signaling technique for marked crossings. The beacon signal consists of a standard traffic signal head with red-yellow-red lenses. The unit is normally off until activated by a pedestrian. When a pedestrian wishes to cross the street, he or she presses a button and the signal begins with a flashing yellow indication to warn the approaching drivers. The flashing yellow is then followed by a solid yellow indication, advising the drivers of the requirement to prepare to stop. The signal is

then changed to a solid red indication during the pedestrian interval, when drivers must stop at the crosswalk. The beacon signal then converts to an alternating flashing red, allowing drivers to proceed when safe. When installed at intersections, this application provides a protected pedestrian crossing without signal control for the side street.

Advantages of the HAWK system:

- Drivers are likely to stop for a form of traffic control resembling a traffic signal.
- Minimizes delay for major street traffic and avoids attracting additional vehicular traffic to the side street, which may be residential.

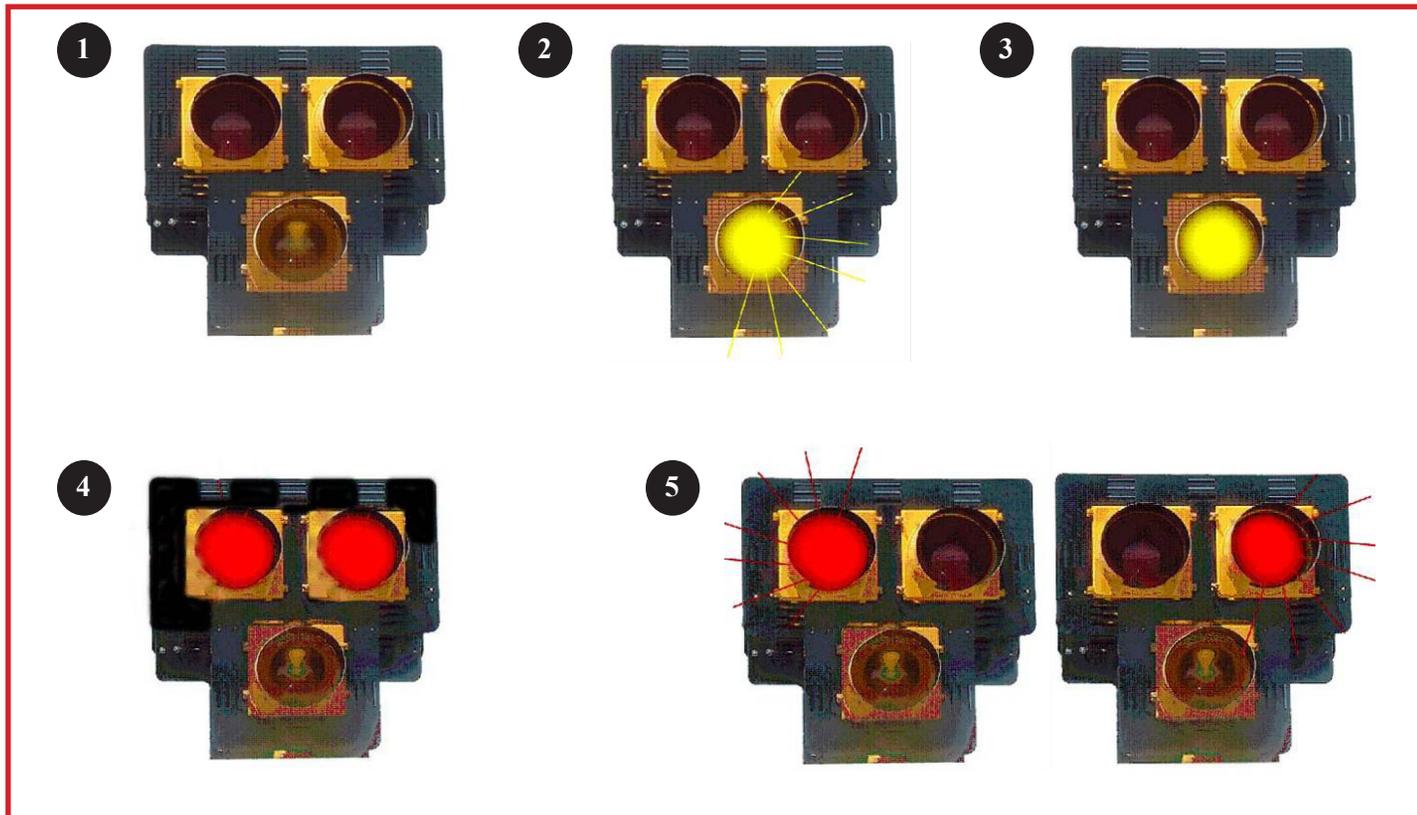


Figure K-3: Example of Sequence for a HAWK Pedestrian Beacon

# M. Long-Term Recommendations

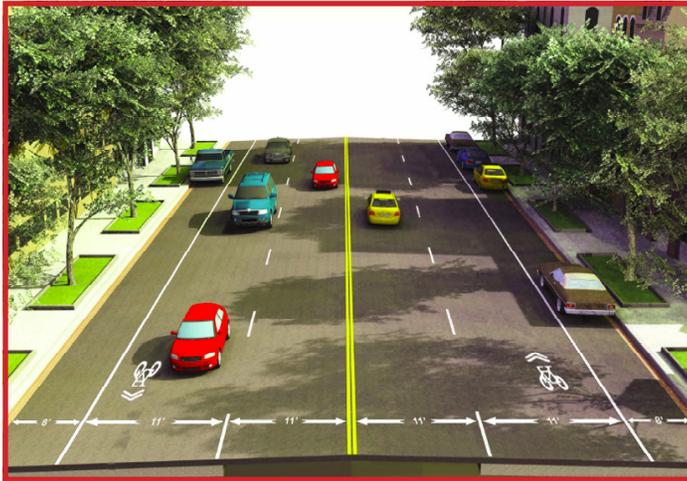


Figure M-1: Lane Configuration of Georgia Avenue North of Howard Place



Figure M-2: Lane Configuration of Georgia Avenue South of Barry Place

The long-term phase of the project involves work on both Georgia and Sherman Avenues. In general, the goal of this phase is to further optimize pedestrian safety and traffic flow while enhancing the aesthetic properties of the corridor. These improvements are expected to be completed by 2010.

## Georgia Avenue

Along Georgia Avenue, parallel parking spaces would be reconfigured using LID treatments, which would improve the sustainability of Georgia Avenue by capturing stormwater runoff more efficiently. In addition, the outer traffic lanes would be shared with bicyclists and would be identified by shared lane markings (sharrows) on the pavement. Bulb outs, would be installed at several key points along the corridor to improve pedestrian safety by shortening the walking distances for pedestrians crossing Georgia Avenue. Bulb outs also have the effect of compelling drivers to reduce their speed due to their perceived narrowing of the roadway.

Lane configurations along Georgia Avenue would be modified to maintain the smooth flow of traffic and transit. These changes would involve the following:

- Between New Hampshire Avenue and Howard Place there would be two 11-foot traffic lanes and an 8-foot parking lane for both northbound and southbound directions.
- Between Howard Place and Barry Place there would be two 11-foot through lanes and an 11-foot right-turn-only lane in the southbound direction. In the northbound direction, there would be two 11-foot through lanes and an 8-foot parking lane.
- Between Barry Place and Florida Avenue there would be a 13-foot outer transit-only lane and an 11-foot mixed-traffic through lane for both southbound and northbound directions.

Other long-term improvements on Georgia Avenue would include the following:

- Installing wider sidewalks to provide larger areas for pedestrians traveling along Georgia Avenue
- Installing proper ADA ramps
- Installing crosswalks with special pavement treatment at key locations
- Installing fenced tree boxes and improved landscaping along Georgia Avenue



Figure M-3: Lane Configuration of Sherman Avenue

- Installing consistent street furniture (e.g., trash receptacles, benches, and bicycle racks) along Georgia Avenue
- Installing open fencing and art work at Banneker Park

### Sherman Avenue

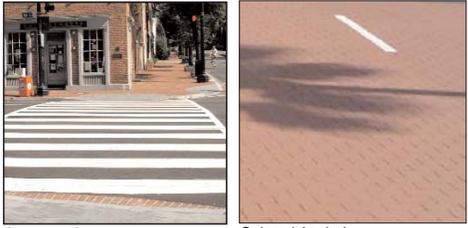
To provide a more residential character and a pedestrian-friendly environment, improvements to Sherman Avenue would involve significant widening of the sidewalks and a complete reconstruction of the roadway. The reconstructed roadway would have two sets of 8-foot parking lanes and 14-foot travel lanes separated by a landscaped 10-foot-wide median. The 14-foot travel lanes would be shared with bicyclists and marked as such. Designated left-turn lanes would occupy the median at key intersections to maintain a smooth flow of traffic. Traffic circles would be constructed at the northern and southern ends of Sherman Avenue. These circles would provide a safer and more efficient traffic flow and help create gateways to Sherman Avenue.

Other long-term improvements on Sherman Avenue would include the following:

- Constructing wider sidewalks with fenced tree boxes
- Installing LID treatments to parking lanes
- Installing pedestrian signals with countdown timers at existing signalized intersections
- Installing consistent street furniture (e.g., trash receptacles, benches, and bicycle racks) along the corridor

# Long-Term Improvements

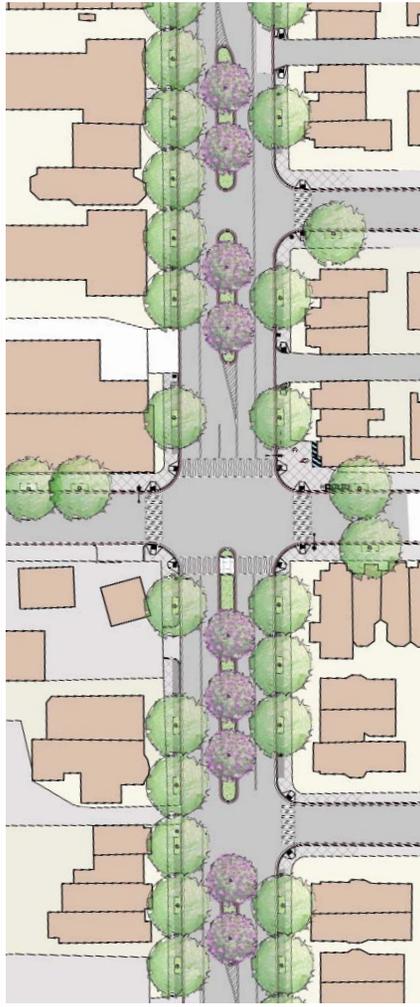
## Roadway Surfacing - Georgia Avenue



- Special Roadway Surface at Howard Town Center (V St. to Barry Place)**
- Red Colored Asphalt Paving roadway surface on Asphalt Base
  - Standard painted drive lane dividers
  - No on street parking Florida Avenue to Howard Place
- Standard Roadway Surfaces (Other than Howard Town Center)**
- Standard black asphalt
  - Standard white thermoplast painted drive lane and parking lane dividers
- Crosswalks**
- Special Crosswalks: Street print paving;
  - Standard Crosswalk: Thermoplastic ladder
- Dedicated Bus Lane Surfacing**
- Red stamped asphalt paving
- Parking Zone Paving**
- option 1: standard black asphalt
  - option 2: LID zone
- Paving Markers**
- Solar powered and/or hard wired light units at crosswalks.
- Bump Outs**
- To create shorter distance for pedestrian crossing
  - To increase visibility of unsignalized crosswalks

Special stamped asphalt paving around Howard Town Center and in the dedicated bus lanes

## Roadway Surfacing - Sherman Avenue



Standard painted drive and parking lanes      Poured in Place Concrete Bus Pad

- Roadway Surfaces**
- Standard black asphalt
  - Standard painted drive lane and parking lane dividers
- Bus Pull-up and Parking Zone Accent Materials**
- Bus pad on street surface poured in place concrete
  - Parking zone street surface standard asphalt

Sherman Avenue Roadway

Figure M-4: Roadway Surfacing for Georgia Avenue

Figure M-5: Roadway Surfacing for Sherman Avenue

# N. Implementation Plan

## Chronological Steps

### August 2007 to April 2008 (FY08)

Final design for Sherman and Georgia Avenues

### May 2008 to May 2009 (FY08-09)

Construction of Sherman Avenue  
Sidewalk upgrades and replacement from Otis Place to Girard Street  
Redo Banneker Park (May-July)

### May 2009 to November 2009 (FY09-10)

Mill and resurface Georgia Avenue from Otis Place to Barry Place  
Replace sidewalks and build bulb-out at Howard Place

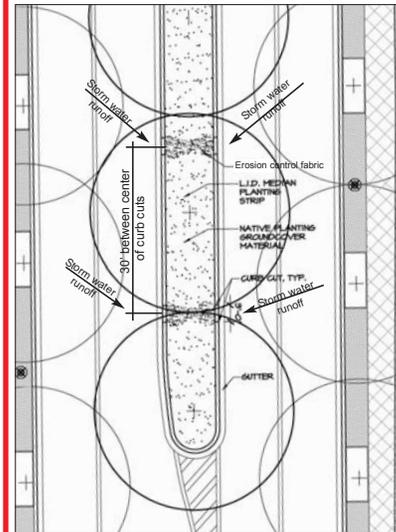
### ~2010

Complete Georgia Avenue construction south to Florida, timed to be done after Howard Town Center is completed, or timed to maximize construction staging areas.

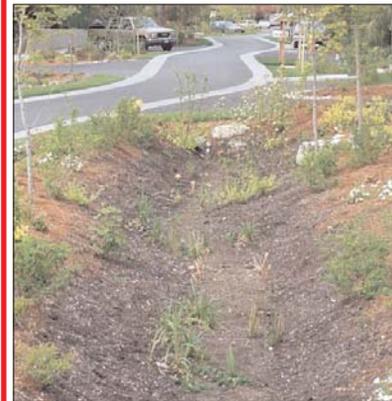
## Alley Repair and Resurfacing

Alleys would be resurfaced between Sherman and Georgia Avenues and between Euclid Street and Otis Place. This would provide businesses and residences with improved mobility and access during construction. It would also ensure that deliveries for local businesses occur off of Georgia Avenue, thereby improving construction and long-term traffic and pedestrian flow.

### Center Median - Sherman Avenue



Center Median with Curb Cut Openings



LID Storm Water Retention Design

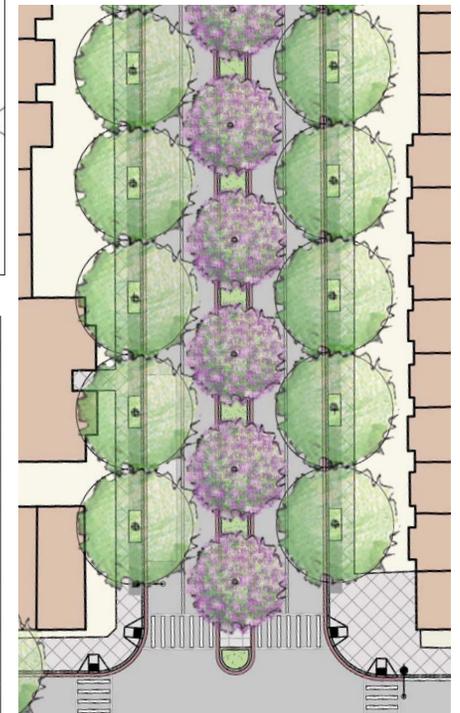
### Boulevard Center Median

LID storm water retention design: runoff from roadways directed into 3'-0" curb cuts in median spaced at 30' o.c.

Raised curb with open curb cuts and drains to capture runoff

Ground cover surface native plant material

Ornamental trees in median



Typical Center Median

Figure N-1: Proposed Center Median for Sherman Avenue

# Implementation Plan

## Site Furnishings - Georgia Avenue



Teardrop Light Fixture



Double Washington Globe



Single Washington Globe



Bench



Trash Receptacle

### Street lights:

Teardrop at intersections  
 Double Washington Globes from Florida to Gresham  
 Single Washington Globes from Gresham to Otis

**Trash receptacles:** Victor Stanley with Howard University or Lower Georgia Avenue emblems

**Standard Benches:** Victor Stanley with Howard University or Lower Georgia Avenue emblem

**Bicycle racks:** U Shape racks, to be located within the curb zone and in bump outs when space permits

**Newspaper Boxes:** stackable multi news boxes to replace individual boxes

### Bus Stop Shelters:

Standard - with Lower Georgia Avenue/Howard University Name  
 Express Bus

**Tree Pits:** Ornamental iron tree pit fencing

**Parking Meters:** Multi-space boxes for on-street parking



Ornamental Treepit Fence



Bike Rack



Multi-space Parking Meter



Bus Shelter



Multi-stack Newspaper Boxes

## Construction of Sherman Avenue

Sherman Avenue would be completely reconstructed and transformed into a pleasant, tree-lined street that would enhance adjacent residences while allowing regular traffic flow.

If construction began from the south (at the intersection with Florida Avenue), Sherman Avenue could be reconstructed by fully closing the street between Florida Avenue (or Barry Place, depending upon more detailed traffic analysis) and Euclid Street. This section contains few residences and curb cuts, and Euclid Street could be used as a traffic detour. This would provide residents north of Euclid Street with a completed section that shows the final design. North of Euclid Street, construction is divided into two geographic sections. Within these sections, the road would be constructed in halves. The first half would include construction of the median.

## Construction of Georgia Avenue

Construction along Georgia Avenue would be more phased than that for Sherman Avenue to minimize disruption to local residents and businesses. Accommodations for pedestrians would be made during reconstruction of sidewalks from Otis Place to Girard Street, and access would be maintained to local businesses during the milling and resurfacing of the roadway. Reconstruction of sidewalks on Lower Georgia Avenue early in the project would make a small-scale but highly valuable improvement to the public realm earlier in the process than if such improvements were made when it is most efficient (i.e., after construction of Howard Town Center). In addition, as improvements for middle Georgia Avenue are currently in design, completing a northern element of the Lower Georgia Avenue project would result in a less interrupted pattern to the improvements. Finally, construction at Banneker Park should be timed so that it does not interfere with festivals.

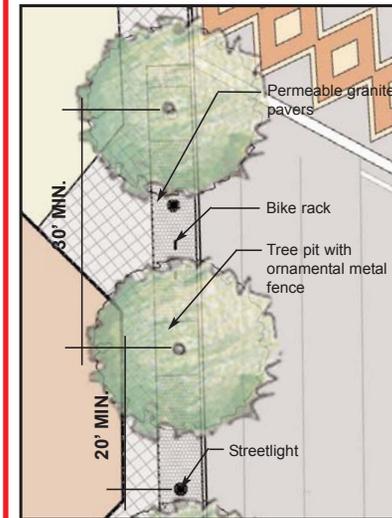
Figure N-2: Street Furniture for Georgia Avenue

## Potential Funding Sources

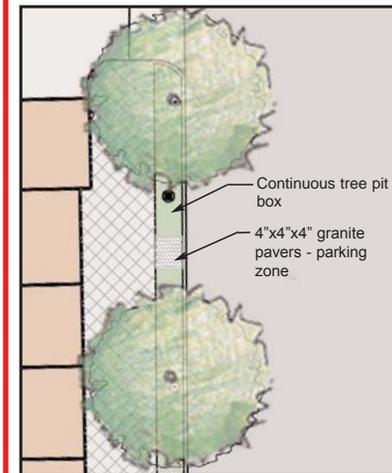
Banneker Park:	Neighborhood Investment Fund DC Council on Arts and Humanities Transportation Enhancements
Sherman Avenue:	Federal Program
Georgia Avenue:	Great Streets Funds
Alleyways:	Great Streets Funds

Great Streets Funds can be used as a local match for federal dollars.

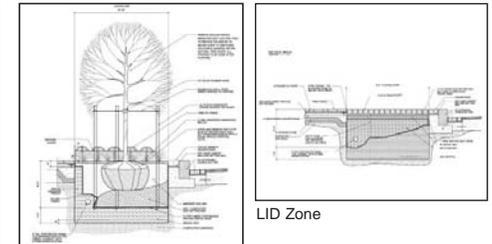
### Street Trees & Planting - Georgia Avenue



Tree Pit Zone and Spacing



Continuous Tree Pit Zone



Tree pit Detail

#### Street tree pit design

- 5'x10' standard tree pit size
- For sidewalks 8' wide, 4.5' tree pits
- 10'x10' tree pit size for sidewalks 20' or wider
- Ornamental fence for tree pit protection
- Low-maintenance ground cover for tree pits
- Continuous tree pits to be located between Barry Place and Euclid Street. Above Kenyon Street, continuous pits where there is room.

#### LID zones

- Permeable surface paving over structural soil to allow for tree growth

#### Ornamental trees & accent plantings

- In planting beds at select corner "mini-park" locations and at select wide sidewalk areas.

#### Tree Species

- Canopy Trees - London Planetree 'Bloodgood,' Red Maple
- Ornamental Trees - 'Okame' Cherry, Golden Raintree

Figure N-3: Street Trees & Plantings for Georgia Avenue

# Punch List

## Punch List of Costs

In the following table, a punch lists of costs associated with the aforementioned short- and long-term costs for the Georgia Avenue and Sherman Avenue corridors. The list outlines the type of recommendation, (either long-term or short-term), the location of the proposed recommendations (along Georgia or Sherman Avenue), a description of the recommendation suggested and the cost associated with this task. All costs are approximate based on analysis performed April 2008.

## LGA Transportation and Streetscape Study Punch List

**Project Name:** Lower Georgia Avenue Transportation and Streetscape Study

**Project Number:**  
23116A  
**Completed By:** **Parsons**  
**Brinckerhoff**

**Date:** May 2008

Type	Location	Description	Cost	Priority	Status	Date Completed
Short Term Rec	Along Georgia Avenue Corridor, Florida Ave to Otis Place	Milling and resurfacing the roadway with new standard black pavement w/ standard painted drive lane and parking lane dividers	\$2,422,686	High	Not complete	
Short Term Rec	Along Georgia Avenue Corridor, Florida Ave to Otis Place	Fix and resurface back alleys (superpave, tack coat and mill)	\$462,555	High	Not complete	
Short Term Rec	At the intersection of Georgia Avenue and Kenyon Street	Implement the HAWK signal at the intersection of Georgia Avenue and Kenyon Street	\$200,000	High	Not complete	
Short Term Rec	Along Georgia Avenue Corridor, Florida Ave to Otis Place	Optimize existing traffic signals to allow a better traffic flow	\$1,067,200	High	Not complete	
Short Term Rec	Along Georgia Avenue Corridor, Florida Ave to Otis Place	Re-strip travel lanes and re-strip existing crosswalks using high-visibility pavement markings and thermoplastic ladder	\$181,380	High	Not complete	
Short Term Rec	Along Georgia Avenue Corridor, Florida Ave to Otis Place	Install pedestrian signals with countdown timers at existing signalized intersections	\$1,200,000	High	Not complete	
Short Term Rec	Along Georgia Avenue, between Girard Street and Columbia Road	Remove pipe railings along sidewalks	\$8,500	High	Not complete	
Short Term Rec	Along Georgia Avenue, Florida Ave to Otis Place	Increase parking enforcement	TBD	High	Not complete	
Short Term Rec	Along Georgia Avenue, Florida Ave to Otis Place	Involve and coordinate with the Urban Forestry Administration to sustain proper maintenance of trees along the corridor	N/A	High	Not complete	
Short Term Rec	Georgia Avenue, McDonald's Restaurant	Relocating entrance of McDonald's Restaurant from Georgia Avenue to 8th Street	\$50,000	High	Not complete	

**Project Name:** Lower Georgia Avenue Transportation and Streetscape Study

**Project Number:** 23116A

**Completed By:** Brinckerhoff Parsons

**Date:** May 2008

Type	Location	Description	Cost	Priority	Status	Date Completed
Long Term Rec	At Howard Town Center, along Georgia Avenue (V Street to Barry Place)	Install special roadway surface (red colored asphalt paving roadway surface on asphalt base) with standard painted drive lane dividers and no on street parking markings from Florida Ave to Howard Place	\$1,333,925	Low	Not complete	
Long Term Rec	At Howard Town Center, along Georgia Avenue (V Street to Barry Place)	Install crosswalks with special street print paving	\$978,080	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Florida to Barry Place	Install fenced tree boxes and ground cover	\$35,200	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Barry to Harvard	Install fenced tree boxes and ground cover	\$72,666	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Harvard to Kenyon	Install fenced tree boxes and ground cover	\$37,260	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Kenyon to Otis	Install fenced tree boxes and ground cover	\$79,023	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Florida to Barry Place	Install benches, trash receptacles, tree pit fence, wayfinding signage, teardrop light, and single washington globes	\$254,380	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Barry to Harvard	Install benches, trash receptacles, tree pit fences, wayfinding signage, teardrop light, single washington globe, bicycle racks, and double washington globes	\$993,842	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Harvard to Kenyon	Install benches, trash receptacles, tree pit fence, wayfinding signage, teardrop light, single washington globe, and bicycle racks	\$725,650	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Kenyon to Otis	Install benches, trash receptacles, tree pit fence, wayfinding signage, teardrop light, single washington globe, and bicycle racks	\$1,195,195	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Florida to Barry Place	Install ADA ramps	\$15,500	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Barry to Harvard	Install ADA ramps	\$25,500	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Harvard to Kenyon	Install ADA ramps	\$15,500	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Kenyon to Otis	Install ADA ramps	\$21,000	Low	Not complete	
Long Term Rec	Along Sherman Avenue, Barry Place to New Hampshire Avenue	Install LID treatments to parking lanes (PIP concrete paving, granite curb and brick paving, treepit, granite cobbler over LID, concrete curb and gutter and stormwater retention median)	\$3,272,475	Low	Not complete	
Long Term Rec	Along Sherman Avenue, Barry Place to New Hampshire Avenue	Install consistent street furniture (benches, trash receptacles, tree pit fence, wayfinding signage, teardrop light, single washington globes)	\$2,675,188	Low	Not complete	
Long Term Rec	Along Sherman Avenue, Barry Place to New Hampshire Avenue	Install trees and ground cover	\$170,370	Low	Not complete	
Long Term Rec	Along Sherman Avenue, Barry Place to New Hampshire Avenue	Install pedestrian signals with countdown timers at existing signalized intersections	\$2,424,000	Low	Not complete	
Long Term Rec	Along Sherman Avenue, Barry Place to New Hampshire Avenue	Replace and repair copings, fences and steps	\$200,000	Low	Not complete	
Long Term Rec	Along Sherman Avenue, Barry Place to New Hampshire Avenue	Install proper ADA ramps	\$51,000	Low	Not complete	
Long Term Rec	Along Sherman Avenue, Barry Place to New Hampshire Avenue	Install traffic circles at New Hampshire/Park and Florida/Sherman	\$2,332,936	Low	Not complete	
Long Term Rec	Along Sherman Avenue, Barry Place to New Hampshire Avenue	Install wider sidewalks, medians, travel and parking lanes (10 foot wide median, 14 foot travel lanes, two sets of 8-foot parking lanes)	\$2,714,078	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Florida to Barry Place	Reconfigure parallel parking spaces using LID treatments (PIP concrete paving, granite curb and brick gutter, precast concrete pavers, treepit, and granite cobble over LID)	\$2,086,942	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Barry to Harvard	Reconfigure parallel parking spaces using LID treatments (PIP concrete paving, granite curb and brick gutter, precast concrete pavers, treepit, granite cobble over LID and retaining wall)	\$1,778,403	Low	Not complete	
Long Term Rec	Along Georgia Avenue, from Harvard to Kenyon	Reconfigure parallel parking spaces using LID treatments (PIP concrete paving, granite curb and brick gutter, treepit, and granite cobble over LID)	\$853,768	Low	Not complete	

# O. Acknowledgements



Figure O-2: Residents and team members alike work together to create a more suitable Lower Georgia Avenue study area

## Agency Team Members

District Department of Transportation (DDOT)

Karina Ricks, Great Streets Project Manager

Callistus Nwadike, Transportation Policy and Planning Administration, Ward 1 Planner, Project Manager

Michael Jelen, Infrastructure Project Management Administration, Team 1 Manager

Colleen Hawkinson, Transportation Policy and Planning Administration

Wolde Makonnen, Infrastructure Project Management Administration

Dana Chieco, Capital City Fellow

Deputy Mayor for Planning and Economic Development:

Derrick Woody, Coordinator- Greats Streets Initiative

DC Office of Planning

Vivian Guerra, Ward 1 Neighborhood Planning Coordinator

Anita M. Hairston, AICP, Ward 4 Neighborhood Planning Coordinator

## Consultant Team Members

PB Americas, P.C.

Greer Gillis, PE, Supervising Traffic Engineer- Project Manager

Meg Cederoth, AICP, Senior Planner- Deputy Project Manager

Phil Braum, Principal-in-Charge

Keith Belcher, Senior Civil Engineer

Lakeisha Henderson, Traffic Engineer

Jessica Juriga, PE, Senior Planner/Engineer

Brian Lavery, Planner

Eduardo Maeyama, Assistant Civil Engineer

Jennifer Rosales, PE, Lead Transportation Engineer, PB Placemaking

Jon Whitney, PE, Senior Supervising Civil Engineer

Onur Yener, Traffic Engineer

Lee+Papa & Associates

Mark Papa, AIA, Principal

Adrienne McCray, Project Manager

Sorina Igreti, Landscape Designer

Charles B. Zucker, Urban Design & Public Art Consultant/Planner

T3 Design P.C.

Patricia Timbrook, PE, PTOE, President

Amy Morris, PE

Conglong (Vicky) Yu, Transportation EIT

Robinson Associates LLC:

Sharon Robinson, President