



Mid-Term Improvements

6.1 Introduction

A central goal of the Kenilworth Avenue Corridor Study is to provide improved access and connectivity to neighborhoods along Kenilworth Avenue. Generally, the mid-term improvements recommended here build on initial efforts achieved by the near-term improvements, address some of the missing vehicular connections, upgrade

existing pedestrian connections, and improve neighborhood identity. They are intermediate steps in achieving the full connections desired, addressed in the long-term improvements.



Figure 6.1: Mid-Term Improvements

Proj. No.	Title	Description	Benefits	Estimated Cost (2005)
6	East Capitol Street Scenario EC-2	This scenario builds on Scenario EC-1, a near-term improvement, and adds the three missing movements; southbound Kenilworth Avenue to eastbound East Capitol Street and northbound Kenilworth Avenue to east- and westbound East Capitol Street.	<ul style="list-style-type: none">Urban Design	\$30,000,000
7	Neighborhood Identification Program	Generally improves wayfinding in the corridor and contributes to a sense of place by implementing a corridor-wide neighborhood identification and signage program	<ul style="list-style-type: none">Urban DesignVisual Quality	\$500,000
8	Replace or improve Pedestrian Bridge at Minnesota Avenue Metrorail Station	The existing pedestrian bridge to the Minnesota Avenue Metrorail Station is replaced.	<ul style="list-style-type: none">Pedestrian ConnectivityPublic Transit AccessOpen Space and Waterfront ConnectionsVisual QualitySafety	\$2,500,000
9	Replace Pedestrian Bridge at Douglas Street that leads to the Deanwood Metrorail Station	The existing pedestrian bridge at Douglas Street that leads to the Deanwood Metrorail Station is replaced.	<ul style="list-style-type: none">Pedestrian ConnectivityPublic Transit AccessOpen Space and Waterfront ConnectionsVisual QualitySafety	\$2,500,000
10	Comprehensive Eastern Avenue Improvements	This project implements a number of improvements north of Nannie Helen Burroughs Avenue interchange, including the Eastern Avenue Scenario EA-2.	<ul style="list-style-type: none">Urban DesignPedestrian ConnectivityPublic Transit AccessOpen Space and Waterfront ConnectionsVisual QualitySafety	\$22,500,000
11	Benning Road Scenario BR-1	Scenario BR-1 provides for safety improvements to the at grade intersection of Benning Road and northbound Kenilworth Avenue.	<ul style="list-style-type: none">Urban DesignSafety	\$20,000,000
12	Pedestrian and Bicycle Related Improvements	Recommendations to improve the pedestrian and bicycle network during the mid term build on the improvements that were undertaken in the short term.	<ul style="list-style-type: none">Pedestrian ConnectivityPublic Transit AccessSafety	\$750,000

Table 6.1: Summary of Mid-Term Improvements

6.2 Improvement Projects

Project No. 6: East Capitol Street
Scenario EC-2

Categories of Improvement

- Urban Design

DESCRIPTION

This scenario builds on Scenario EC-1, a near-term improvement, and adds the three missing movements; southbound Kenilworth Avenue to eastbound East Capitol Street and northbound Kenilworth Avenue to east- and westbound East Capitol Street.

A new northbound ramp for Kenilworth Avenue is constructed between the existing bridge over East Capitol Street and the CSX Railroad bridge. For southbound Kenilworth Avenue, a new ramp is constructed between the existing southbound ramp to westbound East Capitol Street and the existing bridge.

At the base of both ramps, traffic is permitted to turn left or right onto East Capitol Street. These turns are controlled by two new signals.

This scenario allows full movement for vehicles at this interchange, however, no

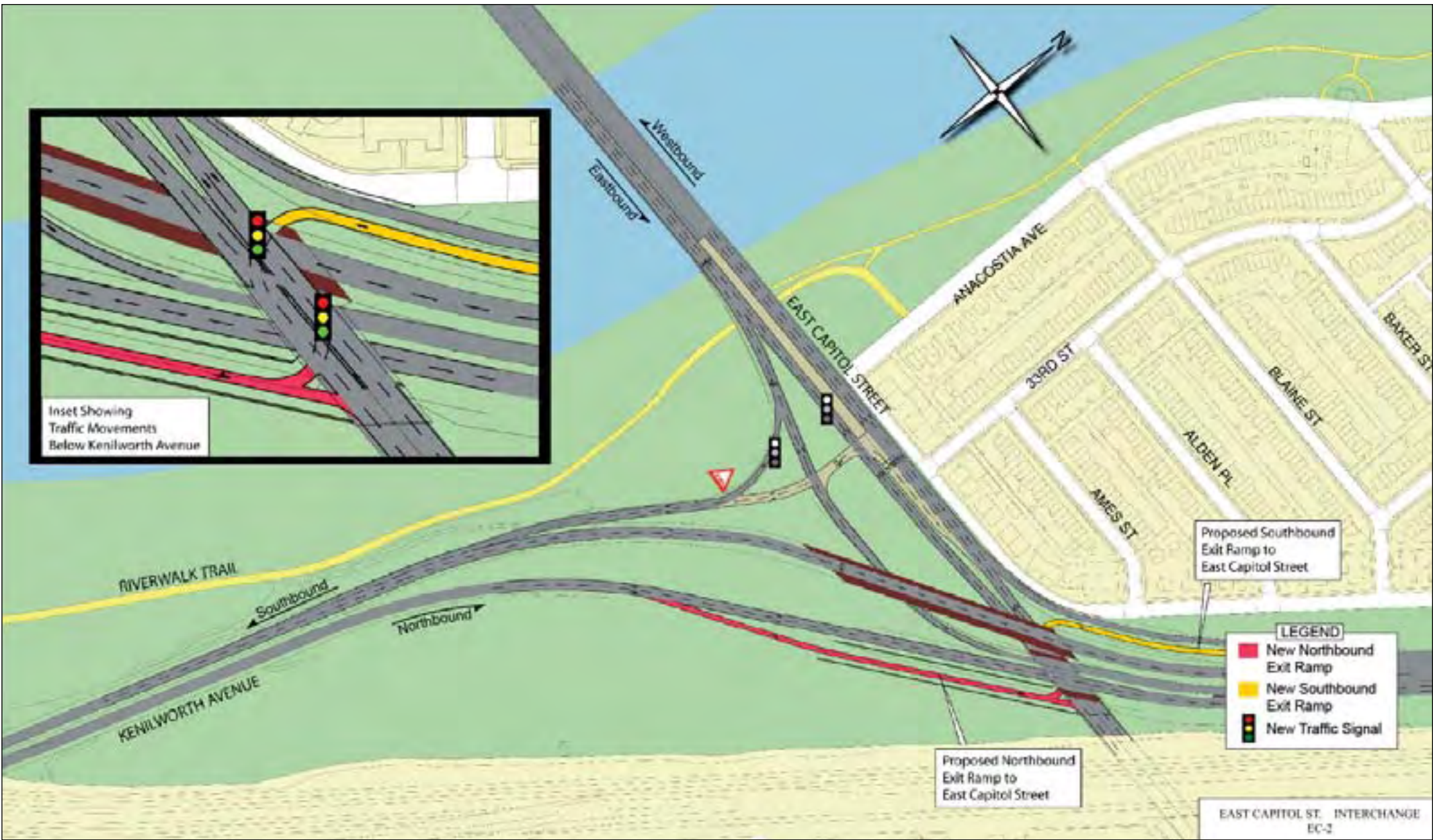


Figure 6.2: East Capitol Street Interchange Scenario EC-2



Project No. 7: Neighborhood Identification Program

improvements for pedestrian or bicycle traffic are included.

Categories of Improvement

- Urban Design
- Visual Quality

DESCRIPTION

Kenilworth Avenue currently lacks a sense of identity that distinguishes it from other roadway corridors in the region. Establishing a signage program, that would highlight both the neighborhoods, and distinct community resources that are located adjacent to the corridor, would provide a sense of place for motorists driving along the corridor.

As part of the program, the eleven neighborhoods that border Kenilworth Avenue (Dupont Park, Twinning, Greenway, Fort Dupont, River Terrace, Mayfair, Benning, Central Northeast, Eastland Gardens, Deanwood and Kenilworth) should be highlighted with unique signs in accordance with the Anacostia Waterfront Transportation Architecture Design Standards. Each sign should be designed with the help of the residents who reside in the individual neighborhoods. In addition, signs that announce access to unique features such as the Anacostia Park, Kenilworth Aquatic Gardens and the Fort Circle parks (Fort Mahan Park, Fort Dupont Park, etc.), should be incorporated along the corridor.

Signs along the corridor could be free standing along the road or the service lanes, embossed on the retaining walls in the depressed portions, and across bridges that cross the roadway. Figure 6.3 provides examples of signs, which have been used elsewhere in



Figure 6.3: Examples of Neighborhood Identification Signs



Project No. 8: Replace or Improve the Pedestrian Bridge at Minnesota Avenue Metrorail Station

the District of Columbia and other cities, that could be applied along the corridor.

Categories of Improvement

- Pedestrian Connectivity
- Public Transit Access
- Open Space and Waterfront Connections
- Visual Quality
- Safety

DESCRIPTION

This project replaces or improves the the existing pedestrian bridge over Kenilworth Avenue that connects the Mayfair and Parkside neighborhoods with the Minnesota Avenue Metrorail Station. This would be a precursor to other long-term improvements meant to upgrade the area to make it safer and more pedestrian friendly.

This project may be done concurrently and in conjunction with the proposed development at Parkside. The new design will take into account the study performed by WMATA to improve pedestrian access to the Minnesota Avenue Metrorail Station, as well as the results of the Anacostia Waterfront



Existing Pedestrian Bridge that spans Kenilworth Avenue near the Minnesota Avenue Metrorail Station

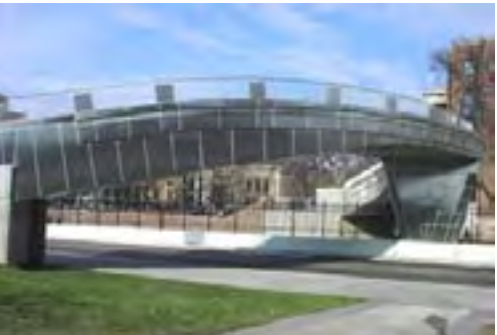


Figure 6.4: Examples of Pedestrian Bridges that could be applicable



Figure 6.5: Location of Pedestrian Bridge across Minnesota Avenue Metrorail Station



Figure 6.6: Concept Plan for the proposed Parkside Development



Figure 6.7: Concept Illustration of the proposed Minnesota Avenue Government Center

Project No. 9: Replace Pedestrian Bridge at Douglas Street/Deanwood Metrorail Station

Corporation’s design competition initiated in Fall 2006.

- Categories of Improvement
- Pedestrian Connectivity
 - Public Transit Access
 - Open Space and Waterfront Connections
 - Visual Quality
 - Safety

DESCRIPTION

Replace the existing pedestrian bridge over Kenilworth Avenue at Douglas Street and 47th Street. This is an important connection to the Deanwood Metrorail Station and would be a precursor to other long-term improvements meant to upgrade the area to make it safer and more pedestrian friendly. At the time of design, consideration should be given to spanning the bridge across the service roads on either side of the main avenue (see Project Number 15).



Existing Pedestrian Bridge that spans Kenilworth Avenue at Douglas Street



Figure 6.8: Potential new pedestrian bridge at Douglas Street



Figure 6.9: Location of Pedestrian Bridge at Douglas Street



Project No. 10: Comprehensive Eastern Avenue Improvements

- Categories of Improvement
- Urban Design
 - Pedestrian Connectivity
 - Public Transit Access
 - Open Space and Waterfront Connections
 - Visual Quality
 - Safety

DESCRIPTION

A number of improvements are recommended for the Eastern Avenue area north of Nannie Helen Burroughs Avenue interchange.

EASTERN AVENUE SCENARIO EA-2

Announce arrival into Washington, DC at the Eastern Avenue gateway by developing a unique theme including a new gateway sign along the northern facade of the Eastern Avenue bridge.

Eastern Avenue is a key link that provides access to the Anacostia Waterfront area for residents who live on the east side of Kenilworth Avenue. Since the Eastern Avenue Bridge is planned to be replaced in the immediate future, ensure that the new bridge is designed for better pedestrian and bicycle movement. Add vegetation and clearly demarcate pedestrian paths across the bridge.

CONSOLIDATE ON- AND OFF-RAMPS

If not undertaken under Near-Term Improvements, consolidate the existing slip ramps between Nannie Helen Burroughs Avenue and Eastern Avenue as follows:

- Eliminate the four existing ramps (two off- and two on-ramps) and replace with

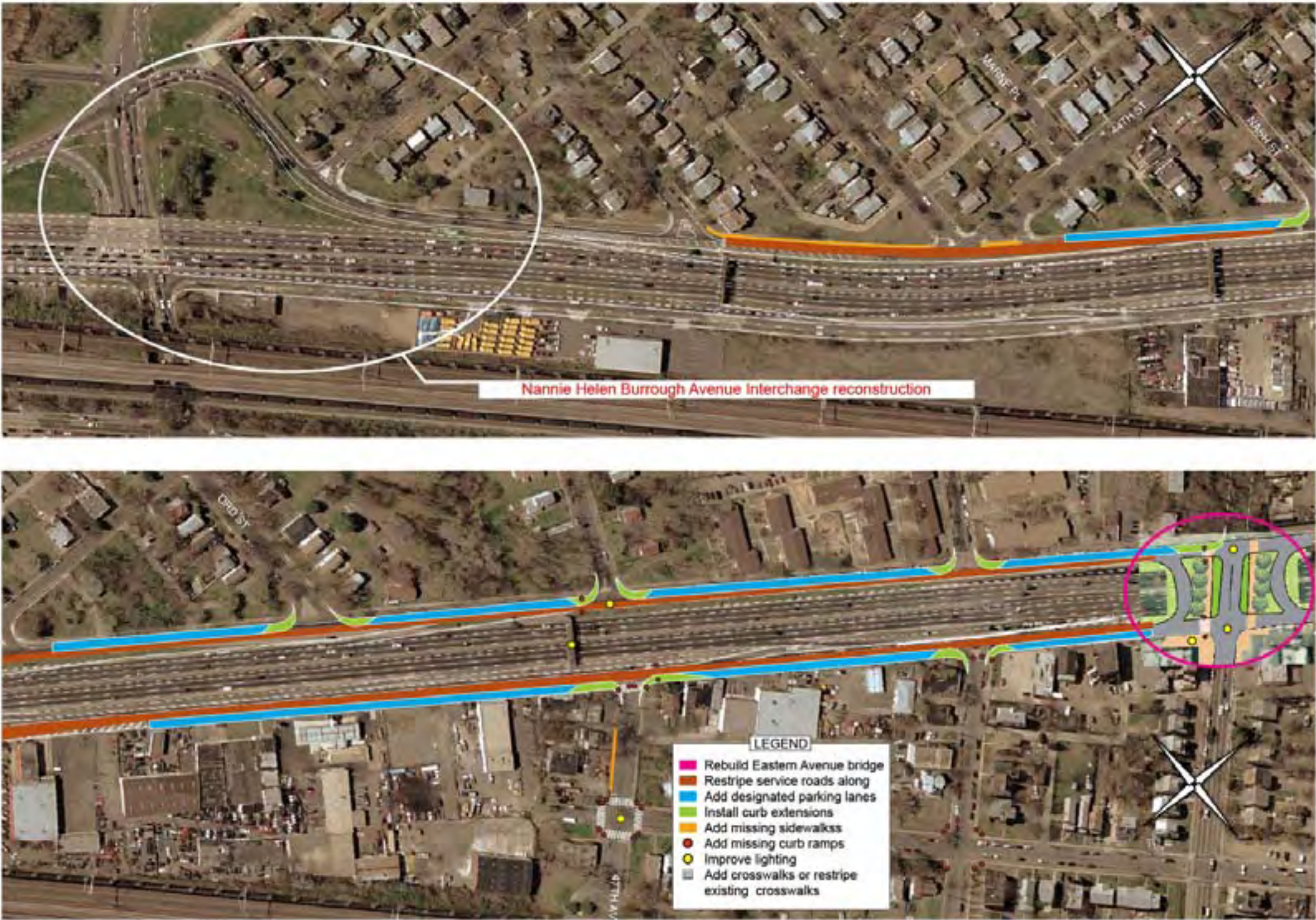


Figure 6.10: Proposed improvements to slip ramps near Eastern Avenue



an off-ramp immediately north of Nannie Helen Burroughs Avenue and an on-ramp immediately south of Eastern Avenue. This eliminates weaves on Kenilworth Avenue.

- Eliminate the four existing slip ramps (two off- and two on-ramps) and replace with an off-ramp immediately north of Nannie Helen Burroughs Avenue and an on-ramp immediately south of Eastern Avenue. This eliminates weaves on Kenilworth Avenue.

RESTRIPE SERVICE ROADS

Restripe the service roads on the east and west sides of Kenilworth Avenue. A lane line should be striped 11 to 12 feet to the right of the left curb to designate a single travel lane and a parking area on the right side of the road. This narrower lane helps decrease the incidence of unsafe vehicle merging and passing on each service road and can help reduce motor vehicle speeds, improving safety for pedestrians crossing the service roads.

PEDESTRIAN SAFETY IMPROVEMENTS

Implement pedestrian safety improvements along both Kenilworth Avenue service roads by installing:

- Curb extensions to calm traffic and provide better access for pedestrians crossing the service roads.
- Missing sidewalks, crosswalks, and curb ramps.
- Upgraded existing curb ramps to make them ADA compliant.
- At the Eastern Avenue intersection, provide curb extension, new crosswalks, curb ramps, and advance warning signs.

LIGHTING IMPROVEMENTS

Install or upgrade lighting on the pedestrian bridge over Kenilworth Avenue and along the roadways and tunnels that lead between this bridge and the Deanwood Metrorail Station.



Figure 6.11: Simulated view of a 'gateway' sign at the Eastern Avenue Bridge



Figure 6.12: Proposed improvements at the Eastern Avenue Bridge

Project No. 11: Benning Road Scenario BR-1

Categories of Improvement

- Urban Design
- Safety

DESCRIPTION

This primarily provides for safety improvements to the at-grade intersection of Benning Road and northbound Kenilworth Avenue. The exit ramp for northbound Kenilworth Avenue is lengthened and a traffic signal is introduced at the at-grade intersection with Benning Road. The alignment for northbound Kenilworth Avenue is maintained as it is today; however, the southbound Kenilworth Avenue alignment must be shifted to the west south of the Benning Road bridge. Also, the existing bridge deck over southbound Kenilworth Avenue, which partially supports the at-grade intersection with northbound Kenilworth Avenue, is replaced.

This scenario does not add any new movements to the existing interchange; however, it makes major improvements to vehicle safety. It does not make any improvement in pedestrian and bicycle access to and across the Benning Road bridge.



Figure 6.13: Benning Road Scenario BR-1



Project No. 12: Pedestrian and Bicycle Related Improvements

Categories of Improvement

- Pedestrian Connectivity
- Public Transit Access
- Safety

Pedestrian and bicycle circulation related improvements would continue during the mid-term as described below. See Appendix F for additional details of each proposed improvement. Where appropriate, these improvements will be coordinated with the Great Streets Initiative.

ANACOSTIA TRAIL, PHASE II

Provide access from Anacostia Trail to East Capitol Street Bridge by adding a new curb ramp and wider opening from bridge sidewalk to River Terrace neighborhood street, as well as adding stairs between the bridge and the trail.

Provide access to Anacostia Park and Anacostia Trail from G Street & Bayley Street, SE neighborhood by constructing a new shared-use path under Kenilworth Avenue freeway.

FORT CIRCLE TRAIL IMPROVEMENTS
(POTENTIAL JOINT DDOT/NPS PROJECT)

Improve pedestrian and bicycle crossing at the Fort Circle Trail at East Capitol Street (East Capitol Street and 41st Street). This would include adding crosswalks, trail crossing warning signs, pedestrian signals (if warranted), and directional signage for trail users.

Extend Fort Circle Trail to Watts Branch Trail by adding a wide sidewalk on the west side of 42nd Street (some sections of sidewalk may be constructed through sidewalk and alley improvement program).

PEDESTRIAN BRIDGE EVALUATION:
REHABILITATION/REMOVAL*

Conduct final evaluation of pedestrian bridges at Nash Street and Lane Place to determine if they should be rehabilitated or removed.



Figure 6.14: Proposed pedestrian and bicycle related improvements

WARD 7 SAFE ROUTES TO
SCHOOL PROGRAM*

Create a secure environment for walking and bicycling to school by improving sidewalks and crosswalks near existing schools, including the Brown Middle School and Houston Elementary School, in Ward 7

MINNESOTA AVENUE SAFETY IMPROVEMENTS, PHASE II*

Improve the visibility of sidewalks across driveways, and improve crosswalks across Minnesota Avenue between East Capitol Street and Benning Road.

Along Minnesota Avenue, add median crossing islands and/or curb extensions to improve crossings to the Metro station.

KENILWORTH AVENUE CORRIDOR PEDESTRIAN WAYFINDING*

Improve signage near Metro Stations, Parks, Anacostia Trail, and Schools to direct pedestrians and bicyclists to key destinations in the corridor.

MINNESOTA AVENUE AND DEANWOOD METRO STATIONS

Provide bicycle racks within Metro station areas (within view of station manager).

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Long-Term Improvements

7.1 Introduction

Long-term improvements are defined as those improvements that can be implemented between ten and twenty years of the final date of this report. These improvements typically require a major expenditure of funds to accomplish and are contingent on successfully acquiring the proper environmental permits including completing Environmental Assessments or Environmental Impact Statements.



Figure 7.1: Long-Term Improvements

Proj. No.	Title	Description	Benefits	Estimated Cost (2005)
13	East Capitol Street Scenario EC-4 or EC-5	Either a diamond interchange (EC-4) or a single point urban interchange (EC-5) is built to replace the existing interchange, providing for vehicular, pedestrian and bicycle movement on, off and across Kenilworth Avenue.	<ul style="list-style-type: none">• Urban Design• Pedestrian Connectivity• Open Space and Waterfront Connections• Safety	EC-4 \$89,500,000
				EC-5 \$94,000,000
14	Benning Road Scenario BR-5	This scenario rebuilds the existing Benning Road bridge into two structures, one for east- and one for westbound traffic, allowing pedestrian and bicycle traffic to move over Kenilworth Avenue in a safer manner and improving traffic operations on and off Kenilworth Avenue.	<ul style="list-style-type: none">• Urban Design• Pedestrian Connectivity• Public Transit Access• Open Space and Waterfront Connections• Safety	\$52,750,000
15	Extend Olive Street to Ord or Nash Street	Depress Kenilworth Avenue to allow construction of a new connector at either Ord Street or Nash Street that will accommodate vehicles, pedestrians and bicyclist.	<ul style="list-style-type: none">• Urban Design• Pedestrian Connectivity• Public Transit Access• Open Space and Waterfront Connections• Visual Quality• Safety	\$72,500,000
16	Park Road	A new Park Road unifies the many parks and recreational areas along the Anacostia River, linking major destinations and neighborhoods from Eastern Avenue with points south.	<ul style="list-style-type: none">• Urban Design• Pedestrian Connectivity• Open Space and Waterfront Connections• Visual Quality	\$10,000,000
17	Massachusetts Avenue Park Road Bridge	This project provides a new connection for pedestrians, bicyclist, and possibly vehicles using the new Park Road across the Anacostia River.	<ul style="list-style-type: none">• Urban Design• Pedestrian Connectivity• Open Space and Waterfront Connections• Visual Quality	\$15,000,000

Table 7.1: Summary of Long-Term Improvements

7.2 Improvement Projects

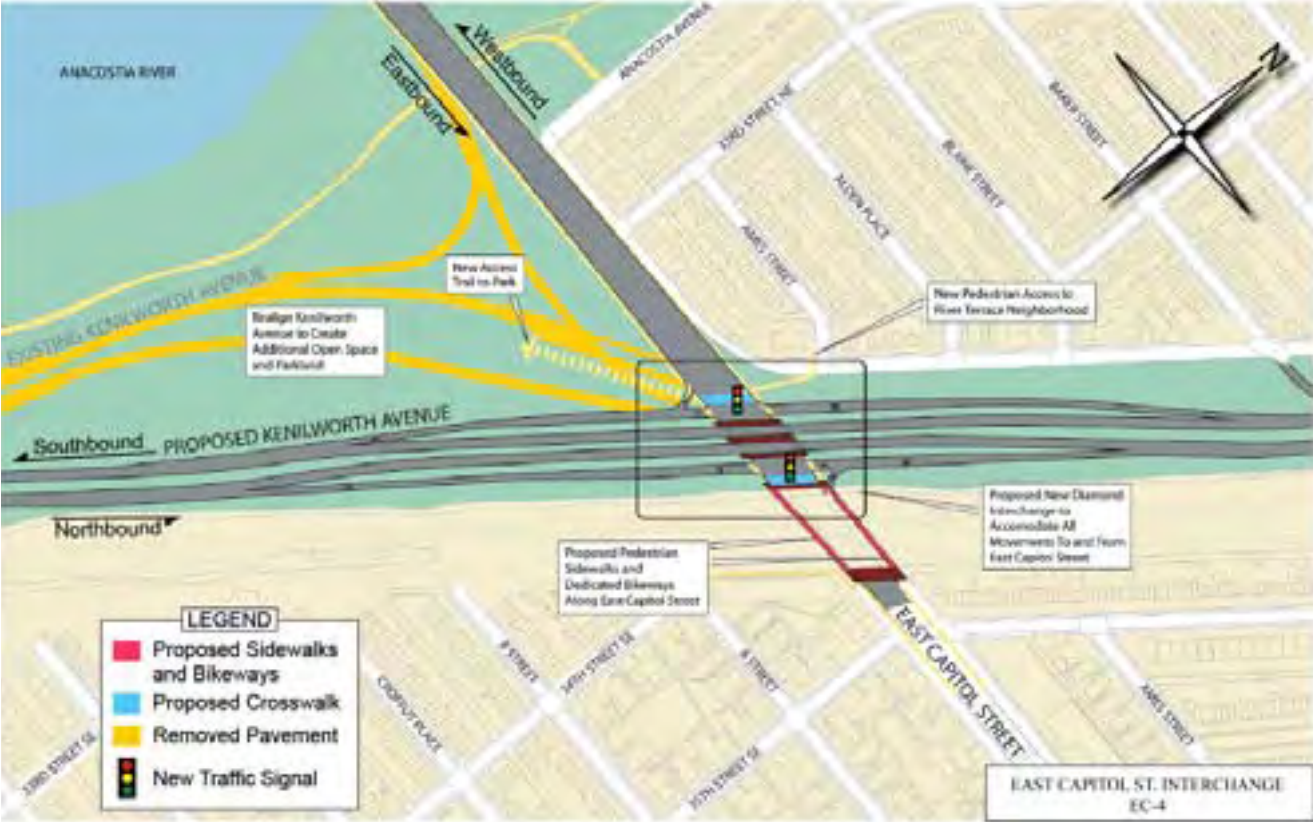
Project No. 13: East Capitol Street
Scenario EC-4 or EC-5

- Categories of Improvement
- Urban Design
 - Pedestrian Connectivity
 - Open Space and Waterfront Connections
 - Safety

DESCRIPTION

These two scenarios are very similar, one a diamond interchange (EC-4) and one a single point urban interchange or SPUI (EC-5). Both scenarios provide for full movements at this interchange and provide for pedestrian and bicycle traffic across Kenilworth Avenue on sidewalks and dedicated bicycle ways added through the underpass. In this regard, Scenario EC-4 is better for pedestrians and bicyclist than Scenario EC-5 as the crossings are more square (at 90°) with the intersecting ramps from Kenilworth Avenue, introducing a shorter and friendlier crossing experience.

These scenarios require complete reconstruction of the existing interchange. Kenilworth Avenue is realigned and approximately 15 acres of additional open space and parkland



Project No. 14: Benning Road Scenario BR-5

to the west of Kenilworth Avenue along the Anacostia River is recaptured for public use.

Categories of Improvement

- Urban Design
- Pedestrian Connectivity
- Public Transit Access
- Open Space and Waterfront Connections
- Safety

DESCRIPTION

This scenario focuses on improving safety for both traffic and pedestrians and bicyclist. In this scenario, the existing Benning Road bridge is rebuilt into two, split structures, one for eastbound and one for westbound traffic. The exit ramps to Kenilworth Avenue are moved to the interior, between the split bridges, while the through traffic, currently on the inside, is moved to the outside onto the split bridges. This allows pedestrian and bicycle traffic to move over Kenilworth Avenue between 34th Street and Minnesota Avenue on new sidewalks and an uninterrupted path with no need to cross exit ramps to Kenilworth Avenue as exists today.

Safety improvements, to the at-grade intersection of Benning Road and northbound Kenilworth Avenue, are similar to those described in Scenario BR-1; however, the exit ramp from northbound Kenilworth Avenue is from the right lane rather than the left lane. This requires depressing the northbound lanes of Kenilworth Avenue in order to make the connection. A traffic signal at the top of the ramp with Benning Road controls movement at the new intersection.

This scenario requires that the rebuilding of the existing Benning Road bridge, depressing the northbound lanes of Kenilworth Avenue, and reconstruction of the at-grade intersection with Kenilworth Avenue.

This concept does not add any new movements to the existing interchange; however, it

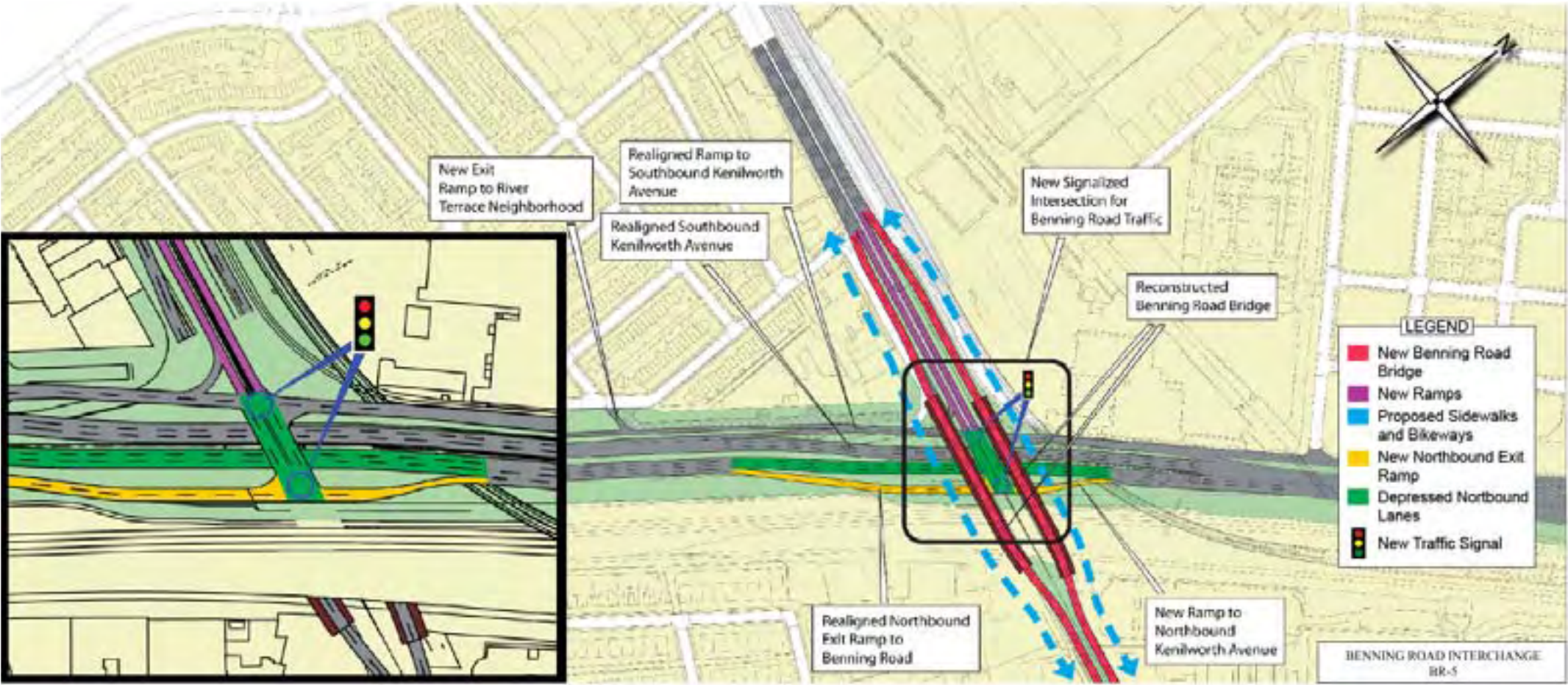


Figure 7.4: Benning Road Improvement Scenario BR-5



Project No. 15: Extend Olive Street to Nash or Ord Street

makes major improvements to vehicle safety and to pedestrian and bicycle access to and across the Benning Road bridge.

Categories of Improvement

- Urban Design
- Pedestrian Connectivity
- Public Transit Access
- Open Space and Waterfront Connections
- Visual Quality
- Safety

DESCRIPTION

Depress Kenilworth Avenue between Meade Street and Douglas Street to allow construction of a new connector at either Ord or Nash Street for vehicles, pedestrians and bicyclist.

Access across the corridor in proximity of the Deanwood neighborhood is difficult and not a straight-forward path for all modes of travel. Depressing Kenilworth Avenue and constructing a new crossing establishes a logical connection between the residential neighborhoods to the west and the transit station and potential development to the east.

In addition to strengthening the pedestrian connection between the Deanwood Metrorail Station and the Kenilworth and Eastland Gardens neighborhoods, it makes an important connection to the recreational areas along the Anacostia River waterfront as well.

In conjunction with the construction of the Ord/Nash Street Plaza, extend Olive Street to the new crossing to allow redevelopment of the area around the Deanwood Metrorail Station. This will encourage improved land use along Kenilworth Avenue and improve the visual quality of the corridor.

In addition, this would provide an opportunity to daylight the existing stream between

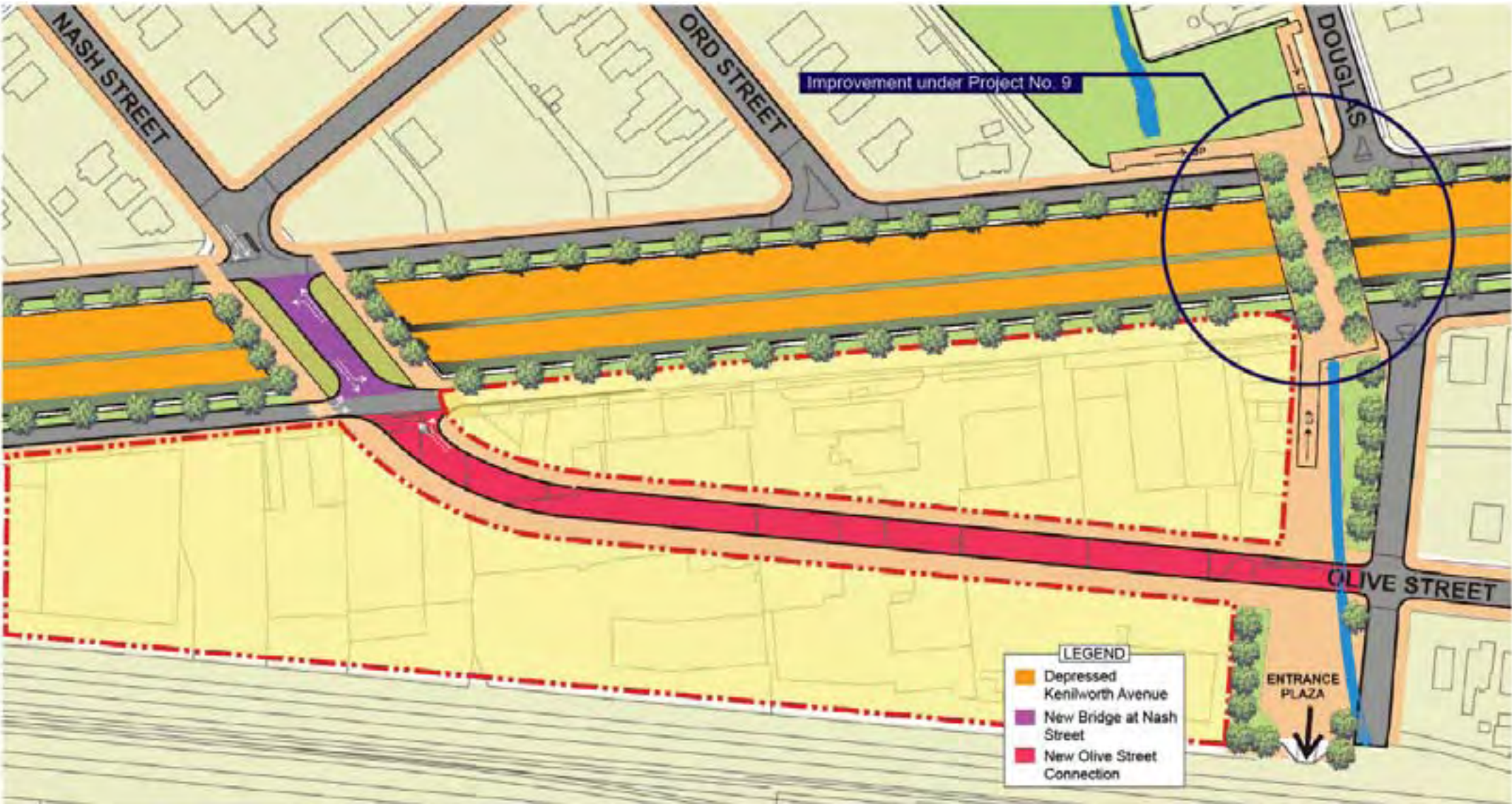


Figure 7.5: Potential connection between Nash Street and Olive Street if Kenilworth Avenue is depressed



Figure 7.6: New Connector at either Nash Street or Ord Street

Project No. 16: Park Road

the railroad tracks and Kenilworth Avenue strengthening the open space connection across the corridor.

- Categories of Improvement
- Urban Design
 - Pedestrian Connectivity
 - Open Space and Waterfront Connections
 - Visual Quality

DESCRIPTION

A new Park Road would unify the many parks and recreational areas along the Anacostia River, linking major destinations and neighborhoods from Eastern Avenue with points south. This would be a park-type road, not a commuter road, intended to enhance access to parkland and the river front. Within the context of the Kenilworth Avenue Corridor Study, three areas were studied to address linkages and missing connections.

Benning Road to Barney Circle Connection

A Park Road connection at Benning Road on the west bank of the Anacostia River would follow the river to the Reservation 13 circle and continues to Barney Circle. This new connection would provide access to the west bank park for pedestrians and vehicles; and provides a continuation of the road through the park.

Park Road Connection (at Massachusetts Avenue)

The new Park Road could make a connection across the river to join the segment from Benning Road and Barney Circle on the west bank with the parkland on the east bank. The new connection, the proposed Massachusetts Avenue Park Road bridge, would connect the proposed and existing Park Road system but would not connect to local streets. It would



serve as a connection for pedestrians, bicyclists, vehicles and for National Park Service maintenance vehicles.

Pedestrian-Bicycle Connection (Anacostia Avenue to Eastern Avenue Connection)

A new connection between the terminus of existing Anacostia Avenue and Eastern Avenue could provide a new access point to the park for pedestrians and bicyclists. This new connection would complete the Eastern Avenue intersection and creates the opportunity to define a gateway to the city.



Figure 7.7: Park Road

Project No. 17: Massachusetts Avenue Park Road Bridge

National Park Service Coordination
Any of these options will only be possible with support and approval of the National Park Service which has jurisdiction over the land required to make the access improvements.

- Categories of Improvement
- Urban Design
 - Pedestrian Connectivity
 - Open Space and Waterfront Connections
 - Visual Quality

DESCRIPTION

This project provides a new connection for pedestrians, bicyclist, and possibly vehicles using the new Park Road across the Anacostia River. It is on the same alignment as Massachusetts Avenue and connects the two riverbanks and parkland on either side of the Anacostia River.

It enhances open space connectivity and provides a connection between parts of the park for National Park Service maintenance vehicles.

The proposed Massachusetts Avenue Park Road bridge connects only to the proposed and existing Park Road system and not to local streets, thus preventing regional traffic from using the bridge as a shortcut.

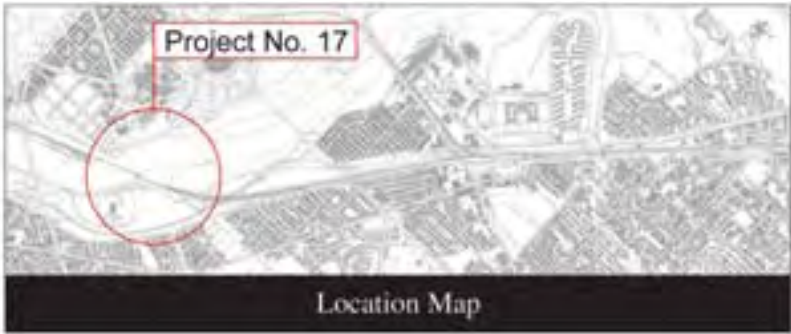


Figure 7.8: Massachusetts Avenue Connection

Implementation Plan

8.1 Introduction

The near-term improvements identified in this study can be initiated immediately and completed within five years. The major transportation improvements (mid-term and long-term improvements) will take longer, and could be implemented over a 20 to 30 year time frame. Some of these proposed improvements are complex, and in order to implement successfully, will require additional analyses associated with environmental impacts and construction staging.

Generally, the process to implement a project will follow these basic steps:

- Establish the purpose and need for the project;
- Identify and acquire funding for the improvement;
- Conduct environmental evaluation, which would be dependent on the project and could vary between a Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement;
- Prepare engineering plans;
- Acquire right-of-way (if required);
- Seek permits and approvals; and
- Undertake the actual construction.

Each of the projects identified in this study is unique and will have its own considerations

and challenges, whether related to funding, design, or construction phasing of the project. For example, many of the near-term improvements could be implemented through existing programs or projects that are already underway within the study area.

This is also true for some of the mid-term improvements; however, there are other projects that are more complex and will require extensive coordination with the public and other agencies. These complex projects and all of the recommended long-term improvements will require a more extensive environmental evaluation process potentially resulting in an Environmental Assessment or an Environmental Impact Statement.

The near-term, mid-term, and long-term improvements are summarized below, along with a description of the anticipated timing of the project, coordination and phasing to be undertaken, and issues to consider for future development.

8.2 Near-Term Improvement Projects

Near-term improvements are defined as those improvements that can be funded through DDOT's existing programs, can generally be completed with minimum NEPA documentation (at the level of a Categorical Exclusion), and have a project cost of less than \$5,000,000.

The near-term projects are summarized in Table 8.1 and their implementation is discussed in detail on the following pages. These five near-term projects (shown in Table 8.1) can be implemented fairly easily once funding is in place. Very little coordination between the individual projects is required, and several of the improvements can be implemented through existing projects or programs.

The implementation of each is discussed below:

Project No. 1: East Capitol Street Scenario EC-1

This project provides an immediate improvement for neighborhoods east of the corridor. Due to the improvements to the interchange, westbound traffic on East Capitol Street would gain access to southbound and northbound Kenilworth Avenue. This project can be implemented within two to five years after the completion of project engineering. No new structures are required and all improvements can be accomplished through modifications to the existing infrastructure. Because of the high volume of traffic on westbound East Capitol Street during the morning and afternoon peak hours, a careful analysis of the construction phasing will be required in order

to build the two left turn lanes proposed for East Capitol Street.

Project No. 2: Kenilworth Avenue Slip Ramps Safety Improvements

This project can be implemented immediately using existing contracts and programs that DDOT currently has in place. The proposed changes to the slip ramps north of Nannie Helen Burroughs Avenue will provide much-needed safety improvements for vehicles entering and exiting Kenilworth Avenue, will provide traffic calming measures on the service roads adjacent to neighborhoods, and will provide a safer experience for pedestrians and bicyclists who need to move along or cross over Kenilworth Avenue. This project can be implemented as part of the Nannie Helen Burroughs Avenue Bridge Reconstruction Project or independently through DDOT's on-call contracts. A public education program should be part of the implementation plan.

Project No. 3: Corridor Landscaping

Through this project, a landscaping program incorporating elements from the Anacostia Waterfront Transportation Architectural Design Standards is initiated for the entire length of the corridor. The program will enhance the visual quality for drivers and the traveling experience for pedestrians and bicyclists. It can be initiated immediately with a design contract and development of a comprehensive streetscape plan for the corridor. Actual implementation of the landscape improvements can be programmed over the following two to five years as funds become available and opportunities present themselves through new contracts, programmed DDOT improvements, and private development.

Project No. 4: Pedestrian and Bicycle Improvements

The pedestrian and bicycle improvements are categorized in to five general areas needing improvement:

- Pedestrian and bicycle thoroughfare;
- Curb ramps;
- Pedestrian roadway;
- Lighting and signal; and
- Bicycle parking.

Many of these improvements can be implemented through existing projects, including the Benning Road Reconstruction Project, the Nannie Helen Burroughs Avenue Bridge Reconstruction Project, Phase I of the Anacostia Trail (Anacostia Riverwalk), and the Kenilworth Avenue Slip Ramps Safety Improvements.

Other elements of the improvements can be incorporated into ongoing planning studies for projects to be implemented within the next five years. These include the Minnesota Avenue Safety Improvements (Phase I) as part of WMATA's study for pedestrian improvements to the Minnesota Avenue Metrorail Station, and the Minnesota Avenue Metrorail Station Redevelopment Project as part of the Parkside private development.

Lastly, DDOT has existing programs for improving pedestrian pathways where the proposed improvements could be incorporated. The existing programs include the Sidewalk, Curb, and Alley Maintenance Program, the Crosswalk Striping Maintenance

Proj. No.	Title	Description	Benefits	Estimated Cost (2005)
1	East Capitol Street Scenario EC-1	A new connection is made to allow traffic on westbound East Capitol Street to exit southbound and northbound onto Kenilworth Avenue.	<ul style="list-style-type: none">Urban Design	\$2,500,000
2	Kenilworth Avenue Slip Ramps Safety Improvements	The slip ramps between Kenilworth Avenue and the parallel service road north of Nannie Helen Burroughs Avenue are consolidated and realigned to improve safety in the corridor and improve traffic operations on Kenilworth Avenue.	<ul style="list-style-type: none">SafetyVisual Quality	\$1,000,000
3	Corridor Landscaping	Generally improves visual quality of the corridor through implementation of a corridor wide landscaping, signage, and street furniture program.	<ul style="list-style-type: none">Urban DesignOpen Space and Waterfront ConnectionsVisual Quality	\$3,000,000
4	Pedestrian and Bicycle Improvements	Generally improves the pedestrian and bicycle throughway, curb ramps, pedestrian roadway, lighting and signal, and bicycle parking through specific projects and as part of area wide programs.	<ul style="list-style-type: none">Pedestrian ConnectivityPublic Transit AccessSafety	\$1,200,000
5	Kenilworth Avenue Lighting and Signage Improvements	Additional lighting is installed throughout the corridor in locations where lighting is lacking and where levels were found to be inadequate. Similarly, signing is upgraded to meet FHWA Standards and to effectively communicate major exits.	<ul style="list-style-type: none">Urban DesignVisual QualitySafety	\$1,500,000

Table 8.1: Summary of Near-Term Improvements

		Project Number				
		1	2	3	4	5
Goals	Urban Design / Quality of Life					
	Pedestrian Connectivity					
	Public Transit Access					
	Open Space / Waterfront Connections					
	Visual Quality					
	Safety					
Impacts	Environmental Evaluation					
	Community Involvement					
	Cost					

Key to Impacts

	Low or minor impacts
	Moderate Impacts
	High Impacts

Table 8.2: Summary of Implementation Goals and Impacts for Near-Term Improvements

Program, the Pedestrian Signal Maintenance Program, and the Lighting Improvement Maintenance Program.

Project No. 5: Kenilworth Avenue Lighting and Signage Improvements
This project can be implemented immediately through existing design contracts for engineering services. This will finalize the program and properly site the location of the proposed signs and lighting for the corridor. Implementation of this project will require a decision by DDOT on the type of signage desired for the corridor: traditional green highway signs or brown parkway-like signs similar to the Baltimore-Washington Parkway.

The potential degree of impacts associated with each project is summarized in Table 8.2.



8.3 Mid-Term Improvement Projects

A central goal of the Kenilworth Avenue Corridor Study is to improve access and connectivity to neighborhoods along Kenilworth Avenue. Generally, the mid-term improvements recommended build on initial efforts of the near-term improvements, address some of the missing vehicular connections at existing interchanges, upgrade existing pedestrian connections, and improve connections to adjacent neighborhoods. These mid-term improvements are intermediate steps that build towards achieving the improvements identified as long-term in this study.

Mid-term improvements are defined as those improvements that will need specific funding to be identified, and will require completion of a more extensive environmental evaluation. While some may be accomplished through minimum NEPA analysis (at the level of a Categorical Exclusion), most will require an Environmental Assessment or Environmental Impact Statement, as well as an extensive community involvement program. Generally, these projects are estimated to cost more than \$5,000,000.

The mid-term projects are summarized in Table 8.3 and implementation is discussed in detail on the following pages. These seven mid-term projects will require extensive planning and coordination, including decisions on timing of improving each of the three interchanges that are relatively close to each other. Each will also require a well-informed public involvement process, as well as coordination with Maryland, especially in the case of the Eastern Avenue project.

The implementation of each of the seven projects is discussed below.

Project No. 6: East Capitol Street Scenario EC-2

This project builds on the improvement at this interchange made in the near-term program. Completion of this project will provide for all vehicular movements at his interchange. Although this project could be accomplished through a Categorical Exclusion, it will require an extensive public involvement plan and coordination with agencies within the District, as well as others such as CSX Railroad. The existing structures at Kenilworth Avenue could be affected by the improvements and will require the construction of new retaining walls. This will result in considerable impacts on traffic during construction; which should be mitigated through careful phasing of the work.

Project No. 7: Neighborhood Identification Program

This project creates a neighborhood signage program for the 11 neighborhoods that border Kenilworth Avenue (Dupont Park, Twinning, Greenway, Fort Dupont, River Terrace, Mayfair, Benning, Central Northeast, Eastland Gardens, Deanwood, and Kenilworth). The design of the signs will incorporate elements from the Anacostia Waterfront Transportation Architecture Design Standards, and will be designed in consultation with the neighborhood residents. The project will likely require minimum NEPA analysis (potentially at the level of a Categorical Exclusion).

Project No. 8: Replace or Improve Pedestrian Bridge at Minnesota Avenue Metrorail Station

This project replaces the existing pedestrian bridge leading to the Minnesota Avenue Metrorail Station with a new structure designed to meet current standards. Construction of the bridge must be coordinated with the traffic operations along Kenilworth Avenue. The replacement will likely require minimum NEPA analysis (at the level of a Categorical Exclusion). Since the planned improvements for private development at Parkside is dependent on, and potentially enhanced by access to the Minnesota Avenue Metrorail Station, a financial contribution from the developer towards replacement of the bridge is anticipated.

Close coordination with WMATA will be required to implement this project since the current bridge connects to a tunnel under the jurisdiction of WMATA. If elevators are introduced as part of the program, maintenance agreements with the developer and WMATA will need to be executed in order to clearly define future responsibilities. This is an important connection for the existing communities west of Kenilworth Avenue. Maintaining access during construction of the new structure is critical; a successful public involvement program will ensure that the location and access to any future structure is acceptable to all stakeholders.

Project No. 9: Replace Pedestrian Bridge at Douglas Street/Deanwood Metrorail Station

This project is similar to Project No. 8 but involves the replacement of the existing pedestrian bridge at Douglas Street that connects to the Deanwood Metrorail Station. Similar to the previous project, a new structure will be designed to meet current standards, and construction of the bridge will have to be coordinated with the traffic operations along Kenilworth Avenue. The replacement will likely require minimum NEPA analysis (at the level of a Categorical Exclusion). Since development activity in Ward 7 has become very active in recent years, DDOT should explore opportunities to advance this project in conjunction with a private development project if appropriate.

This facility does not directly impact WMATA; however, coordination with that agency is desirable since the bridge is an important connection between the Deanwood Station and existing communities west of Kenilworth Avenue. Maintaining this access during construction of the new structure is critical and a successful public involvement program will ensure that the location and access to any future structure is acceptable to all stakeholders.

Project No. 10: Comprehensive Eastern Avenue Improvements

While this project affects a wide area between Nannie Helen Burroughs Avenue and Eastern Avenue, the primary focus will be the implementation of Eastern Avenue Scenario EA-2. This scenario improves pedestrian access across Kenilworth Avenue through streetscape and landscaping improvements. Under this project, the existing Eastern Avenue bridge is replaced which will be a major undertaking for a highway as busy as Kenilworth Avenue. Careful phasing of the work is required in order to minimize traffic disruptions for the 140,000 vehicles per day that pass beneath the existing structure.

Coordination with the Maryland State Highway Administration (SHA) is critical for the success of this project. At this time, Maryland is planning a major reconstruction of the Kenilworth Avenue bridge over AMTRAK and Beaver Dam Branch immediately north of Eastern Avenue. That project is likely to be complete before this project is initiated, which may extend the period of inconvenience for daily commuters.

This project also includes traffic calming improvements for the service roads on either side of Kenilworth Avenue, lighting improvements, and other safety and ADA-related improvements in the adjoining neighborhoods, particularly on routes leading to the Deanwood Metrorail Station.

The local neighborhoods that rely on the Eastern Avenue interchange and the service roads to connect to Kenilworth Avenue will be severely affected by the construction activities. Alternate routes to and from Kenilworth Avenue will need to be identified and vetted through a community involvement process.

Given the level of potential community impacts, this project may require an Environmental Assessment prior to implementation.

Project No. 11: Benning Road Scenario BR-1

The mid-term Benning Road improvements primarily provide safety improvements to the at-grade intersection of Benning Road and northbound Kenilworth Avenue. Extensive reconstruction of the retaining walls supporting northbound traffic on Kenilworth Avenue and the existing bridge deck over southbound Kenilworth Avenue is required. A detailed engineering analysis and careful phasing of the planned work will be needed. Southbound traffic will be affected by the construction activity. Construction should minimize traffic and community impacts.

This project is adjacent to the East Capitol Street interchange, requiring close coordination with EC-2. Likewise, the Eastern Avenue improvements, while further north along the corridor, should also be closely coordinated if occurring simultaneously with this project.

Public involvement will be important, as there will be changes to the access between the River Terrace community and southbound Kenilworth Avenue. The changes are relatively minor; however, those modifications, combined with the safety improvements for northbound traffic, will warrant special attention to the concerns of all stakeholders.

This project is a precursor to full reconstruction of this interchange as a long-term project. Given the level of potential community impacts, this project may require an Environmental Assessment prior to implementation.



Proj. No.	Title	Description	Benefits	Estimated Cost (2005)
6	East Capitol Street Scenario EC-2	This scenario builds on Scenario EC-1, a near-term improvement, and adds the three missing movements; southbound Kenilworth Avenue to eastbound East Capitol Street and northbound Kenilworth Avenue to east- and westbound East Capitol Street.	<ul style="list-style-type: none"> Urban Design 	\$30,000,000
7	Neighborhood Identification Program	Generally improves wayfinding in the corridor and contributes to a sense of place by implementing a corridor-wide neighborhood identification and signage program	<ul style="list-style-type: none"> Urban Design Visual Quality 	\$500,000
8	Replace or Improve Pedestrian Bridge at Minnesota Avenue Metrorail Station	The existing pedestrian bridge to the Minnesota Avenue Metrorail Station is replaced.	<ul style="list-style-type: none"> Pedestrian Connectivity Public Transit Access Open Space and Waterfront Connections Visual Quality Safety 	\$2,500,000
9	Replace Pedestrian Bridge at Douglas Street/Deanwood Metrorail Station	The existing pedestrian bridge at Douglas Street that leads to the Deanwood Metrorail Station is replaced.	<ul style="list-style-type: none"> Pedestrian Connectivity Public Transit Access Open Space and Waterfront Connections Visual Quality Safety 	\$2,500,000
10	Comprehensive Eastern Avenue Improvements	This project implements a number of improvements north of Nannie Helen Burroughs Avenue interchange, including the Eastern Avenue Scenario EA-2.	<ul style="list-style-type: none"> Urban Design Pedestrian Connectivity Public Transit Access Open Space and Waterfront Connections Visual Quality Safety 	\$22,500,000
11	Benning Road Scenario BR-1	Scenario BR-1 provides for safety improvements to the at grade intersection of Benning Road and northbound Kenilworth Avenue.	<ul style="list-style-type: none"> Urban Design Safety 	\$20,000,000
12	Pedestrian and Bicycle Related Improvements	Recommendations to improve the pedestrian and bicycle network during the mid term build on the improvements that were undertaken in the short term.	<ul style="list-style-type: none"> Pedestrian Connectivity Public Transit Access Safety 	\$750,000

Table 8.3: Summary of Mid-Term Improvements

		Project Number						
		6	7	8	9	10	11	12
Goals	Urban Design / Quality of Life							
	Pedestrian Connectivity							
	Public Transit Access							
	Open Space / Waterfront Connections							
	Visual Quality							
	Safety							
Impacts	Environmental Evaluation							
	Community Involvement							
	Cost							

Key to Impacts

	Low or minor impacts
	Moderate Impacts
	High Impacts

Table 8.4: Summary of Implementation Goals and Impacts for the Mid-Term Improvements

Project No. 12: Pedestrian and Bicycle Improvements

The mid-term pedestrian and bicycle improvements are a continuation of the near-term improvements and can be implemented through existing programs or planned projects.

The Anacostia Riverwalk, through Phase II of the Anacostia Trail project, will provide access from the River Terrace community to the East Capitol Street bridge. It will also provide access from the Twinning neighborhood to the Anacostia Park and waterfront by providing a new shared-use path under Kenilworth Avenue. Other improvements include new sidewalks, crosswalks, and wayfinding signage. Some of these projects will require coordination with the National Park Service (NPS), as they impact access to and from the Fort Circle parks under the jurisdiction of NPS. It is anticipated that most, if not all, of

these improvements will be well-received by the neighborhood community.

One important improvement will be the conclusion of the evaluation as to whether the pedestrian bridges at Nash Street and Lane Place should be rehabilitated or removed. These bridges get little or no activity but not all members of the community have had an opportunity to fully participate in the decision to remove them. The Nash Street bridge will ultimately be replaced with a new road connection when Kenilworth Avenue is depressed in Project No. 15 (discussed under long-term improvements). The Lane Place bridge does not provide access to any business or community destination point and terminates at the service road east of Kenilworth Avenue.

The potential degree of impacts associated with each project is summarized in Table 8.4.

8.4 Long-Term Improvement Projects

Implementation of the long-term improvements will complete the transformation of Kenilworth Avenue into a pedestrian- and bicycle-friendly environment that is safer for drivers, and provides a pleasant visual and physical environment.

Long-term improvements are defined as those improvements that can be implemented by DDOT between 10 and 20 years from the final date of this report. These improvements typically require a major expenditure of funds to accomplish and are contingent on successfully acquiring the proper environmental permits, including completing Environmental Assessments or Environmental Impact Statements.

Generally, these projects cost in excess of \$10,000,000.

The long-term projects are summarized in Table 8.5. Their implementation is discussed in detail on the following pages. Each of the five long-term projects is challenging and complex. Each requires extensive reconstruction of the existing infrastructure and will have a significant impact on traffic. As in the mid-term projects, difficult decisions are required as to timing of these projects, as three (Nos. 13, 14 and 15) are located relatively close to each other. These projects, including Nos. 16 and 17, will most likely require an Environmental Impact Statement and a well-informed public involvement process.



Project No. 13: East Capitol Street Scenario EC-4 or EC-5

This project finalizes the improvements for this interchange by building on the improvements made in the near- and mid-term. Completion of this project will provide for all vehicular, pedestrian, and bicycle movements at this interchange.

The final configuration, either a diamond interchange (EC-4) or a single point urban interchange or SPUI (EC-5), will be made though further engineering design and analysis.

Both scenarios require complete reconstruction of the existing interchange, a complicated proposition given the complex movements and large volumes of traffic. This project will require advanced environmental evaluation, potentially at the level of an Environmental Impact Statement.

Due to the potential disruption in movements for the adjacent communities and commuters, an extensive public involvement plan and coordination with agencies within the District, as well as others such as CSX Railroad, will be necessary.

Project No. 14: Benning Road Scenario BR-5

The long-term Benning Road improvements rebuild the existing Benning Road bridge as two structures, one for east- and one for westbound traffic, improving pedestrian and bicycle safety, as well as improving traffic operations on and off Kenilworth Avenue. Northbound Kenilworth Avenue will also be lowered, and the Benning Road intersection will be moved to the east side of Kenilworth Avenue at the intersection of two new ramps for exiting and entering traffic.

This is a complex project that will require advanced engineering and construction phasing. Depressing Kenilworth Avenue will not be an easy undertaking due to the constrained site.

This project is adjacent to the East Capitol Street interchange, and close coordination with that project will be required. Similarly,

depressing Kenilworth Avenue to build the new extension of Olive Street at Ord or Nash Street will also need to be closely coordinated with improvements at the Benning Road interchange.

Public involvement will be important, as there will potentially be significant impacts to the River Terrace community and to motorists, pedestrians, and bicyclists who use the Benning Road bridge.

Project No. 15: Extend Olive Street to Ord or Nash Street

Under this project, Kenilworth Avenue is depressed to allow construction of a new connector at either Ord Street or Nash Street that will connect to Olive Street and will accommodate vehicles, pedestrians, and bicyclists. This project will require careful engineering design and construction phasing.

Project No. 16: Park Road

A new Park Road would unify the many parks and recreational areas along the Anacostia River; however, since most of this road would be Federal property, NPS will need to be a cooperating partner in this endeavor.

The three proposed connections - Anacostia Avenue to Eastern Avenue, Benning Road to Barney Circle, and Park Road at Massachusetts Avenue - each met with some opposition at the public meetings and workshops held during the course of the study. Advancing these projects will require additional study, including potentially preparing an Environmental Impact Statement, and support from NPS.

Project No. 17: Massachusetts Avenue Park Road Bridge

This project provides a new connection for pedestrians, bicyclists, and park maintenance vehicles across the Anacostia River. This project met with some opposition at the public meetings and workshops held during the course of the study. Advancing this project will require support from the NPS, the National Capitol Planning Commission, and the Commission of Fine Arts.

Proj. No.	Title	Description	Benefits	Estimated Cost (2005)
13	East Capitol Street Scenario EC-4 or EC-5	Either a diamond interchange (EC-4) or a single point urban interchange (EC-5) is built to replace the existing interchange, providing for vehicular, pedestrian and bicycle movement on, off and across Kenilworth Avenue.	<ul style="list-style-type: none">Urban DesignPedestrian ConnectivityOpen Space and Waterfront ConnectionsSafety	EC-4 \$89,500,000
				EC-5 \$94,000,000
14	Benning Road Scenario BR-5	This scenario rebuilds the existing Benning Road bridge into two structures, one for east- and one for westbound traffic, allowing pedestrian and bicycle traffic to move over Kenilworth Avenue in a safer manner and improving traffic operations on and off Kenilworth Avenue.	<ul style="list-style-type: none">Urban DesignPedestrian ConnectivityPublic Transit AccessOpen Space and Waterfront ConnectionsSafety	\$52,750,000
15	Extend Olive Street to Ord or Nash Street	Depress Kenilworth Avenue to allow construction of a new connector at either Ord Street or Nash Street that will accommodate vehicles, pedestrians and bicyclist.	<ul style="list-style-type: none">Urban DesignPedestrian ConnectivityPublic Transit AccessOpen Space and Waterfront ConnectionsVisual QualitySafety	\$72,500,000
16	Park Road	A new Park Road unifies the many parks and recreational areas along the Anacostia River, linking major destinations and neighborhoods from Eastern Avenue with points south.	<ul style="list-style-type: none">Urban DesignPedestrian ConnectivityOpen Space and Waterfront ConnectionsVisual Quality	\$10,000,000
17	Massachusetts Avenue Park Road Bridge	This project provides a new connection for pedestrians, bicyclist, and possibly vehicles using the new Park Road across the Anacostia River.	<ul style="list-style-type: none">Urban DesignPedestrian ConnectivityOpen Space and Waterfront ConnectionsVisual Quality	\$15,000,000

Table 8.5: Summary of Long-Term Improvements

Construction within the Anacostia River will require careful analysis and preparation in order to minimize impacts to the ecosystem. Coordination with the Park Road project and the proposed Anacostia Riverwalk will be essential.

		Project Number				
		13	14	15	16	17
Goals	Urban Design / Quality of Life					
	Pedestrian Connectivity					
	Public Transit Access					
	Open Space / Waterfront Connections					
	Visual Quality					
	Safety					
Impacts	Environmental Evaluation					
	Community Involvement					
	Cost					

Key to Impacts

	Low or minor impacts
	Moderate Impacts
	High Impacts

Table 8.6: Summary of Implementation Goals and Impacts for the Long-Term Improvements



8.5 Implementation Timeline for Project Improvements

A tentative project timeline was developed (Table 8.7) to provide one scenario for implementing improvements within the Kenilworth Avenue Corridor.

		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Near-Term Projects	Identify Funding																					
	Environmental Evaluation																					
	Engineering Plans																					
	Acquire Right-of-Way																					
	Permits and Approvals																					
	Construction of Projects																					
Mid-Term Projects	Identify Funding																					
	Environmental Evaluation																					
	Engineering Plans																					
	Acquire Right-of-Way																					
	Permits and Approvals																					
	Construction of Projects																					
Long-Term Projects	Identify Funding																					
	Environmental Evaluation																					
	Engineering Plans																					
	Acquire Right-of-Way																					
	Permits and Approvals																					
	Construction of Projects																					

Table 8.7: Tentative Project Timeline

APPENDIX A - PUBLIC INVOLVEMENT MATERIAL

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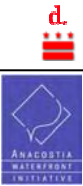
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PUBLIC INVOLVEMENT DISCUSSION

A.1 PUBLIC INVOLVEMENT

Public Involvement Plan

Public outreach was designed to reach as many stakeholders as possible using a variety of strategies. The project was introduced to the community through the community meetings with the Advisory Neighborhood Commissions (ANCs) and civic associations prior to a series of public meetings scheduled throughout the study.

Meeting dates and times were advertised through newsletters, electronic and conventionally mailed informational flyers, local newspapers, and the project web site (www.kacstudy.com).

The web site provided comprehensive information including project mapping, technical data, project schedule, contact list, and meeting schedule. It also provided a forum for public comment and questions. The web site was updated during the course of the study to allow visitors to be kept up-to-date on progress if they were unable to attend the public meetings.

A newsletter was published prior to public meetings. The mailing list, which included area residents, federal and local agency representatives, and neighborhood and civic associations, was updated as the project progressed based on registrants online or at public meetings. The newsletter advertised upcoming meeting times and locations and provided advance information and discussion to help increase the public's awareness and understanding of the study.

A Technical Assistance Group (TAG) was formed comprised of area residents

recognized as leaders within the community either through their election to public office (Chairpersons of ANCs) or as heads of local civic associations. Beginning with the TAG kickoff meeting held in February 2005, TAG meetings to provide guidance to the study team were held periodically during the planning process, generally two weeks prior to public workshops and corridor-wide meetings.

Community Involvement in Data Collection

In addition, seven young adults in the Marshall Heights Community Development Organization (MHCDO) Workforce Program collected pedestrian and bicycle data for the Kenilworth Avenue Corridor Study. These individuals were hired as a way of involving local community members in the project and providing work experience to local residents. Several of the data collectors are students at the University of the District of Columbia. All seven are lifetime residents of Ward 7.

This data was conducted to gather information on non-motorized activity in



the Kenilworth Avenue corridor. Before beginning work in the field, the data collectors participated in a two-hour training session to learn about pedestrian and bicycle counting and survey techniques.

The information gathered via the survey was used in the field analysis that formed recommendations for specific pedestrian and bicycle improvements in the corridor. The survey served as another public involvement tool to gather input from corridor stakeholders who may not have been reached through the other outreach efforts.

Community Meetings

Beginning in November 2005, representatives of the study team visited ANCs within Ward 6 and Ward 7 to introduce the project to the local community and its leaders. Between November and January, ANCs 6B, 7A, 7B, 7C and 7D were visited. In addition, team representatives attended regularly scheduled meetings with the Fort Dupont Civic Association, Kenilworth Resident Council, Eastland Gardens Civic Association, Marshall Heights Community Development Corporation, and the River Terrace Community Organization.

Workshops

Public workshops were held throughout the corridor the second week of March 2005. Due to the size of the study area and the diversity of transportation issues the workshops were held within the corridor at geographically dispersed locations.

The first workshop was held Tuesday March 8, 2005 at Kenilworth Elementary School, the second on Thursday evening March 10, 2005 at the Fort Dupont Ice Arena, and the last one on Saturday morning March 12, 2005 at the River Terrace Elementary. Approximately 60 citizens attended the three days of workshops. They represented a wide variety of neighborhoods within the study area including geographic areas from both sides of the river. These meetings were designed to familiarize participants with the purpose of the study, its context within the AWI initiative, the existing conditions and issues identified by the design team, and the project goal and objectives.

Most importantly, the workshop format was designed to provide a forum for interaction in small groups to solicit the public's concerns and issues and identify possible solutions.

Corridor-Wide Public Meetings

The first corridor-wide public meeting was held on Thursday May 5, 2005. At this meeting the public was shown three preliminary options for the Kenilworth Avenue corridor, along with options for a Massachusetts Avenue crossing and for

Park Road. The proposals were illustrated and explained to the public in order to elicit their comments and input.

Following the May meeting, the design team continued to develop the options based on public comments and engineering parameters and other data. At the second corridor-wide meeting held on Tuesday June 21, 2005, refined options were presented and discussed.

Following completion of the draft report in June 2006, advance copies were circulated to the various agencies, Advisory Neighborhood Commissions and civic associations within the study area prior to the final public meeting. Subsequently, the final public meeting was held on Saturday, November 4, 2006 which showcased the seventeen proposed projects.



A.2 PUBLIC WEB SITE

A public web site, www.kacstudy.com, was maintained for the duration of the project. A screen shot of the opening page is shown at right.

Navigating links included:

[Home](#)

[What's New](#)

[Study Basics](#)

[What & Why](#)

[When](#)

[Where](#)

[Study Details](#)

[Traffic Maps](#)

[Pedestrian Data](#)

[Alternatives](#)

[Stakeholder Involvement](#)

[Public & Agencies](#)

[Public Meetings](#)

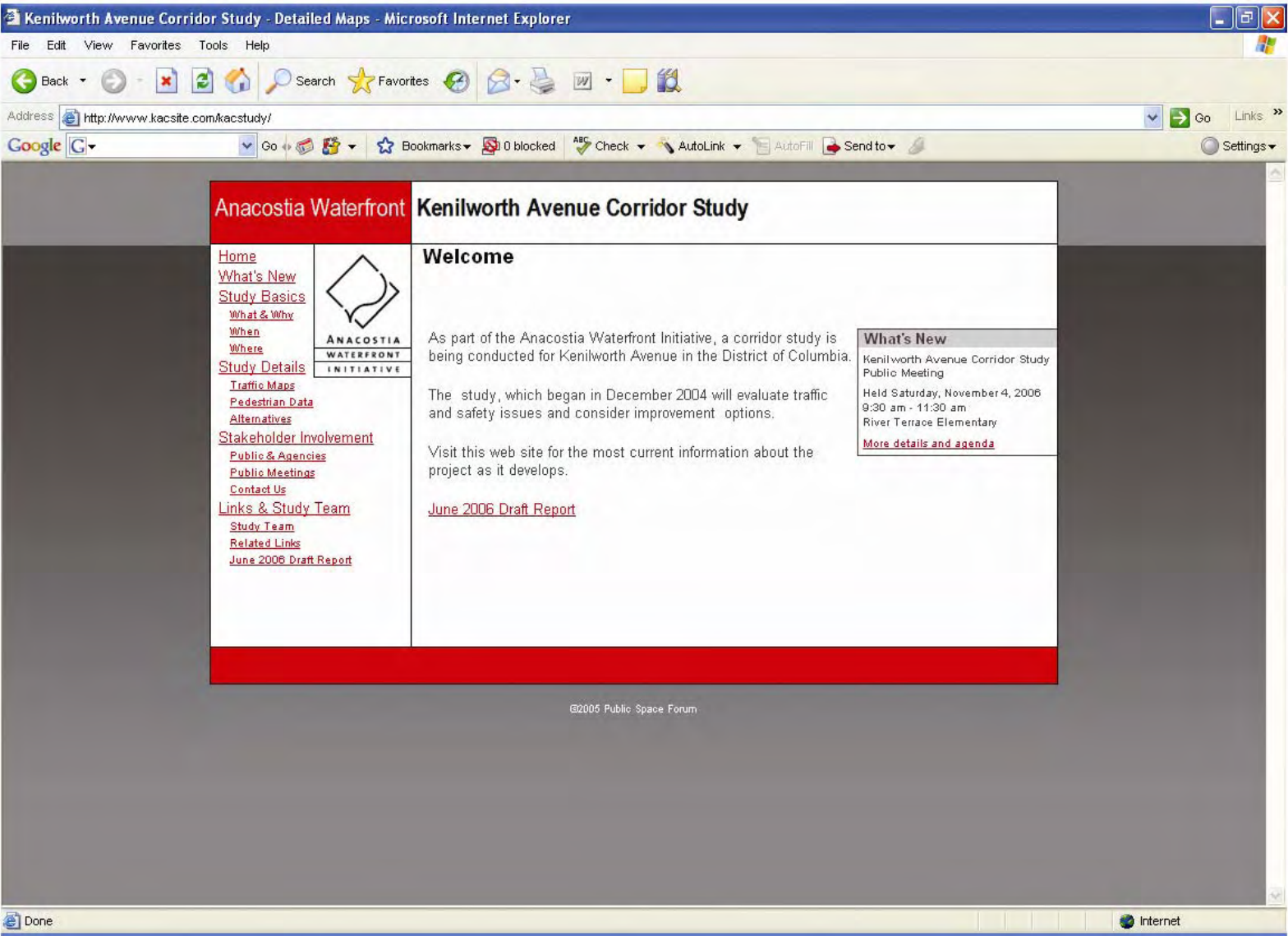
[Contact Us](#)

[Links & Study Team](#)

[Study Team](#)

[Related Links](#)

As the project advanced, the web site was updated to reflect progress and as a means of keeping the public aware of the meeting schedule. As data was collected and various options developed, information describing each was posted on the site, typically in a compressed format to allow for easy viewing and downloading. Slideshow presentations given at each meeting were also posted for those who were not able to attend.



A.3 ANC AND CIVIC MEETINGS

December 2004 and January 2005
Information Sheet

Anacostia Waterfront

Kenilworth Avenue Corridor Study

Information Sheet

December 2004

The Kenilworth Avenue Corridor Study is the third of three projects by the DC Department of Transportation (DDOT) to look at transportation improvements within the context of the Anacostia Waterfront Initiative Framework Plan developed by the DC Office of Planning. In this study, DDOT will examine the section of Kenilworth Avenue between Pennsylvania Avenue and Eastern Avenue with three goals in mind:

- Providing a safer, more pedestrian friendly, atmosphere;
- Giving Kenilworth Avenue a more urban setting; and
- Improving access for local neighborhoods.

Public Participation
Because of the length of the corridor (nearly four miles) an extensive public involvement program has been initiated. This program will have as its foundation, outreach to local groups such as Advisory Neighborhood Commissions and civic associations representing neighborhoods adjoining the corridor. It is intended to ensure that stakeholders are heard and that their ideas, concerns and questions are forwarded to the appropriate person for further consideration.

River Crossings
Major upper Anacostia River crossings to be studied include a new crossing at Massachusetts Avenue, and the East Capitol Street and Benning Road Bridges.

Areas of Focus

- Randle Circle as it relates to the proposed Massachusetts Avenue crossing
- East Capitol Street and pedestrian access
- Benning Road interchange with Kenilworth Avenue
- Minnesota Avenue Metro Station and access across Kenilworth Avenue
- Nannie Helen Burroughs Avenue and access under Kenilworth Avenue
- Eastern Avenue and access across Kenilworth Avenue

The study will also focus on neighborhood identification and access to and from these neighborhoods onto and across the corridor. A final report is expected October 2005.

For more information contact:

Allen Miller, Project Manager
Anacostia Waterfront Initiative
District Department of Transportation
64 New York Avenue, NE
Washington, DC 20002
(202) 671-4710 - allen.miller@dc.gov - <http://www.kacstudy.com>

District of Columbia
District Department of Transportation
STV Incorporated

Kenilworth Avenue Corridor Study
Open House and Leadership Briefing

January 6, 2005
6:00 – 8:30 PM

Friendship-Edison PCS/Woodson Senior Academy
4095 Minnesota Avenue NE
Washington, DC 20019
(Across from the Minnesota Avenue Metro stop)

Please RSVP by January 3, 2005
(202) 610-0005

Refreshments and buffet dinner served

Anacostia Waterfront

Kenilworth Avenue Corridor Study

Information Sheet

January 2005

The Kenilworth Avenue Corridor Study is the third of three projects by the DC Department of Transportation (DDOT) to look at transportation improvements within the context of the Anacostia Waterfront Initiative Framework Plan developed by the DC Office of Planning. In this study, DDOT will examine the section of Kenilworth Avenue between Pennsylvania Avenue and Eastern Avenue with three goals in mind:

- Providing a safer, more pedestrian friendly, atmosphere;
- Giving Kenilworth Avenue a more urban setting; and
- Improving access for local neighborhoods.

Public Participation
Because of the length of the corridor (nearly four miles) an extensive public involvement program has been initiated. This program will have as its foundation, outreach to local groups such as Advisory Neighborhood Commissions and civic associations representing neighborhoods adjoining the corridor. It is intended to ensure that stakeholders are heard and that their ideas, concerns and questions are forwarded to the appropriate person for further consideration.

River Crossings
Major upper Anacostia River crossings to be studied include the East Capitol Street and Benning Road Bridges, and a new crossing at Massachusetts Avenue.

Areas of Focus

- Randle Circle as it relates to the proposed Massachusetts Avenue crossing
- East Capitol Street and pedestrian access
- Benning Road interchange with Kenilworth Avenue
- Minnesota Avenue Metro Station and access across Kenilworth Avenue
- Nannie Helen Burroughs Avenue and access under Kenilworth Avenue
- Eastern Avenue and access across Kenilworth Avenue

The study will also focus on neighborhood identification and access to and from these neighborhoods onto and across the corridor. A final report is expected October 2005.

For more information contact:

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Anacostia Waterfront Initiative
District Department of Transportation
64 New York Avenue, NE
Washington, DC 20002
(202) 671-4710 - allen.miller@dc.gov

Visit our web site at <http://www.kacstudy.com>

District of Columbia
District Department of Transportation
STV Incorporated

Kenilworth Avenue Corridor Study
Public Meeting No. 1 – Project Kick-Off

February 10, 2005
6:00 – 8:30 PM

Friendship-Edison PCS/Woodson Senior Academy
4095 Minnesota Avenue NE
Washington, DC 20019
(Across from the Minnesota Avenue Metro stop)

Please RSVP by February 7, 2005
(202) 610-0005

Refreshments served

December 2004 and January 2005 Meeting Handout

Anacostia Waterfront

Kenilworth Avenue Corridor Study

For more information contact:

Al Miller
Project Manager
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Anacostia Waterfront Initiative
64 New York Avenue, NE
Washington, D.C. 20002
Phone: (202) 671-4710

Anacostia Waterfront

Kenilworth Avenue Corridor Study

Purpose:

- ***Provide a safer, more pedestrian friendly, atmosphere***
- ***Give Kenilworth Avenue a more urban setting***
- ***Improve access for local neighborhoods***

ACTIVITY SCHEDULE

December 2004 – September 2005

Dec Jan Feb Mar Apr May Jun Jul Aug Sep

Public Involvement			*		*		*	
Existing Conditions								
Alternatives								
Findings								

*Anticipated Public Meeting

PUBLIC INVOLVEMENT PROCESS

Neighborhood

Study Areas

Corridor

COMMUNICATION

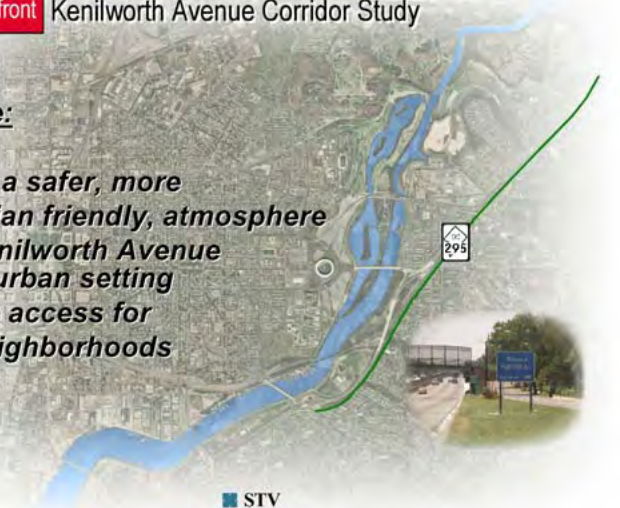
- Information Meetings
- Community Workshops
- Newsletters
- Mailings
- Web Site

December 2004 and January 2005 Meeting Boards

Anacostia Waterfront Kenilworth Avenue Corridor Study

Purpose:

- Provide a safer, more pedestrian friendly, atmosphere
- Give Kenilworth Avenue a more urban setting
- Improve access for local neighborhoods





Anacostia Waterfront Kenilworth Avenue Corridor Study




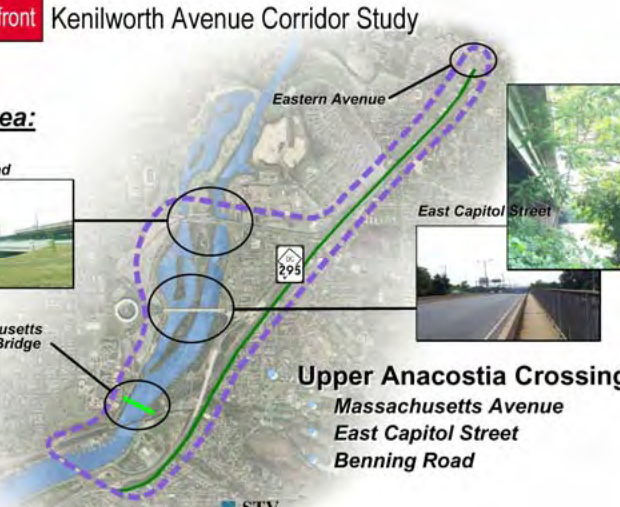
Pedestrian Conditions:






Anacostia Waterfront Kenilworth Avenue Corridor Study

Study Area:



Upper Anacostia Crossings

- Massachusetts Avenue
- East Capitol Street
- Benning Road



Anacostia Waterfront Kenilworth Avenue Corridor Study

Roadway Conditions:







A.4 PUBLIC WORKSHOPS

March 2005 Newsletter

Anacostia Waterfront

Kenilworth Avenue Corridor Study

Volume 1, Number 1

March 2005

DDOT KICKS OFF PUBLIC WORK SHOPS FOR KENILWORTH AVENUE

What is it?

The Kenilworth Avenue Corridor Study is the third of three projects by the District Department of Transportation (DDOT) to look at transportation improvements within the context of the Anacostia Waterfront Framework Plan developed by the DC Office of Planning. In this study, we will examine the section of Kenilworth Avenue between Pennsylvania Avenue and Eastern Avenue with three goals in mind:

- Providing a safer, more pedestrian friendly atmosphere;
- Creating a more urban setting for Kenilworth Avenue; and
- Improving access for local neighborhoods.

Why the Study?

Kenilworth Avenue is a major highway providing a link between Interstate 395 (I-395), Interstate 295 (I-295), and the Baltimore-Washington Parkway. It serves as an important commuter route, carrying several thousand vehicles daily between Maryland and Washington, DC.

The purpose of this project is to improve the safety and accessibility of Kenilworth Avenue for the neighboring communities. This project will develop recommendations to transform Kenilworth Avenue into an urban roadway which is more pedestrian friendly and more accessible for the adjoining communities and neighborhoods. Through this process, we will address issues related to access, safety, and transportation for drivers, pedestrians, bicyclists, and people using public transit.

Kenilworth Avenue Corridor Study
Public Workshops

March 8, 10, 2005 6:30 – 8:30 PM

March 12, 2005 9:00 AM – 12:00 Noon

March 8 - 6:30 – 8:30 PM

Kenilworth Elementary School Auditorium

1300 44th Street, NE, Washington, DC 20019

March 10 - 6:30 – 8:30 PM

Fort Dupont Ice Arena

3779 Ely Place, SE, Washington, DC 20019

March 12 - 9:00 AM – 12 Noon

River Terrace Elementary School Auditorium


420 34th Street, NE, Washington, DC 20019

If possible, please respond to let us know which workshop you plan to attend by

Calling (202) 610-0905 or emailing info@kacstudy.com

But the important thing to do is SHOW UP!

Refreshments will be served


 District of Columbia
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Kenilworth Avenue Corridor Study

March 2005

Map of Study Area



Slip Ramps to be Examined

The slip ramps on Kenilworth Avenue north of Benning Road, particularly between Nannie Helen Burroughs Avenue and Eastern Avenue, are an outdated design that is unsafe and inadequate.

- Accidents along this part of the corridor occur at nearly twice the national average.
- The slip ramps have limited sight distances and merge lengths.
- They allow traffic to exit Kenilworth Avenue at high speeds onto local streets with pedestrian cross traffic.

The study will examine options for eliminating the slip ramps and reconfiguring the service roads to improve access for local neighborhoods.

Benning Road Intersection

Benning Road is an important route in the city that attracts large volumes of traffic. A dangerous situation develops at the intersection with Kenilworth Avenue as slower moving traffic must merge with high-speed traffic.

- Accidents occur at this intersection at nearly twice the national average.
- Merge distances are inadequate and signage is poor.
- It is an important crossing for pedestrians and bicyclists but the existing road design does not accommodate their needs.


We will be looking at ways to improve the intersection of Benning Road with Kenilworth Avenue and ways to make it more inviting and easier for pedestrians to use.

What Areas are Affected?

The limits of the Kenilworth Avenue Corridor Study extend from Pennsylvania Avenue in the south to Eastern Avenue in the north and include both sides of the Anacostia River as far north as the Benning Road crossing. It includes the Upper Anacostia Crossings of East Capitol Street and Benning Road and a potential new crossing at Massachusetts Avenue.

How Long Will the Study Last?

The study began in October 2004 and will last one year. It is expected a draft final report will be available in late September 2005. For a specific schedule of events leading to completion of this report, please see the project calendar on the back of this newsletter which lists dates for public and agency meetings as well as key project milestones.

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Kenilworth Avenue Corridor Study

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Pedestrian Improvements

Many people in the study area walk or bicycle to shop, to work, to run errands, and to get to school. Yet the Kenilworth Avenue Corridor is not a friendly place to walk or ride a bicycle.

- There are limited places to cross Kenilworth Avenue on foot or by bicycle.
- The existing pedestrian bridges are in poor repair and are difficult to use.
- The pedestrian bridges are not located in safe places; to use them, people must cross streets with high-speed traffic.
- Existing crossings are unfriendly and don't meet current design guidelines.

A New River Crossing

Massachusetts Avenue is a grand street that ends at Kenilworth Avenue in Ward 7 and at Reservation 13 in Ward 6. But the two parts are not connected. What would it mean to complete this connection? The study team will be looking at three ways to physically or symbolically connect these two parts of the Avenue.

- **Reservation 13 with Randle Circle** - A crossing between Reservation 13 and Randle Circle would carry local traffic but would not connect to Kenilworth Avenue. It would connect to Massachusetts Avenue at its current terminus in Reservation 13, span the river and parkland on the east bank of the river, and cross Kenilworth Avenue and the existing CSX Railroad tracks before connecting to Randle Circle.
- **Park-to-Park** - A connection between the two Anacostia riverbanks would provide access for pedestrians and bicyclists with connections to existing and proposed trails. It would also serve NPS maintenance vehicles but there would be no connections to local streets.
- **A Third Alternative** - What are your ideas? Can we develop a third alternative that combines elements of the above two and be designed to provide access to parkland yet still have some level of service for local traffic?

Improving the Visual Quality


Kenilworth Avenue is uneven in appearance and gives conflicting messages to drivers who use it. Is it a freeway? An interstate highway? A road to provide local access to neighborhoods? What kind of information should highway signage provide? We will examine these issues and others.

- Kenilworth Avenue can be more 'green' and we will consider parkway cross-sections and design standards.
- We will look at the AASHTO Transportation Architecture Standards and how they might work in the Corridor.
- Encourage better ways to deal with drainage and runoff.

A New Park Road

We will continue the work of the Middle Anacostia River Crossing Study and examine alternatives for extending River Road from Barney Circle to Benning Road along the west bank of the Anacostia River. This will be a park-type road, not a commuter road, intended to enhance access to parkland and the river front.

Email us at: studyteam@kacstudy.com
Visit our web site at: www.kacstudy.com

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Kenilworth Avenue Corridor Study

Schedule

	Data Collection	Develop Concepts	Refine Concepts	Final
Community Meetings				
TAD Meetings	2/10	3/16, 4/6	6/2	7/21
Area Meetings & Workshops		3/8, 3/10, 3/12		
Corridor Public Meetings		5/5	6/23	
Intermediate Reports			6/9	

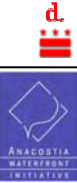
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March 2005 Workshop Handout

Kenilworth Avenue Corridor Study

March 2005

KENILWORTH AVENUE

PUBLIC WORK SHOPS

Participant Handout

Please Indicate Which Workshop You Attended

March 8 - 6:30 – 8:30 PM

Kenilworth Elementary School Auditorium

1300 44th Street, NE

Washington, DC 20019

March 10 - 6:30 – 8:30 PM

Fort Dupont Ice Arena

3779 Ely Place, SE


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Washington, DC 20019

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Kenilworth Avenue Corridor Study

March 2005

Randle Circle / Massachusetts Avenue Crossing

East Capitol Street

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Kenilworth Avenue Corridor Study

March 2005

Benning Road Interchange

North of Nannie Helen Burroughs Avenue / Slip Ramps / Eastern Avenue

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Kenilworth Avenue Corridor Study

March 2005

Questions

What do you think is the most important pedestrian or bicycle improvement that can be made in the corridor?

What do you think is the most important traffic or highway improvement that can be made in the corridor?

Do you favor a new crossing at Massachusetts Avenue, and if so, what type of crossing do you support?

Do you favor eliminating the slip ramps north of Nannie Helen Burroughs Avenue if it would improve safety for drivers and pedestrians?

Do you favor depressing Kenilworth Avenue if it would improve connections for pedestrians, bicyclist and traffic between neighborhoods?

Other Comments

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March 2005 Workshop Findings

Findings from the workshops were compiled for use by the study team in developing options for the corridor. These comments have been taken directly from the workshop handouts distributed at each public workshop and collected at the end of each or mailed in to the study team.

Public Workshop on March 8, 2005

Kenilworth Avenue and Eastern Avenue Intersection:

- Need good lighting
- Ramp off – Parkway is a problem , Traffic on Kenilworth Avenue backs up to eastern avenue
- MD 201/ US 50 Interchange in Maryland is very dangerous , there are always motor vehicle crashes due to difficult slip ramps
- Difficult turning movements
- Frequent U-turns is a concern
- Traffic claiming – Service roads
- Crossing from Kenilworth Avenue to Eastern Avenue – control access to local streets for people on Westside to get to east side.

Eastern Avenue to Nannie Helen Burroughs Avenue:

- Pedestrian would like plaza for the walk to be more safer
- Traffic at Deanwood Metro is very bad – People drive all way around to get to Metro
- Make 47th Avenue more safe
- Likes the pedestrian connections across Kenilworth Avenue but not the motor vehicle connections
- Traffic is very bad and always vehicle thefts at Dean wood neighborhood.

- Kenilworth Avenue is not inviting and always speeding vehicles and bad pedestrian connections
- Possible park at Kenilworth Avenue and Douglas street Intersection
- Too fast for N Bound ramp at Kenilworth Ave and Lane PI intersection
- Extend Deanwood Pedestrian bridge across the slip ramps – so that people would rather walk by residential Westside than Industrial East side
- Extend Anacostia avenue connecting to eastern avenue
- No proper lighting to access dean wood metro
- Bicycles go circuitous route to cross at Eastern avenue though Dean wood metro
- Dean wood Metro Access and safety concerns – Some will drive a significant distance rather than walk
- Eastern Avenue and Nannie Helen Burroughs Avenue has major drainage problems
- If Kenilworth is depressed, keep it more lit with adequate spaces
- Proposing for a Pedestrian/Bike Bridge connecting Nannie Helen and Anacostia Avenue (bike connection between Watts Branch Trail and Anacostia Trail)
- Add sidewalk at the slip ramp , where Kenilworth going south to Nannie Helen and fix the stop sign
- Nannie Helen Burroughs is always flooded

- To go from East Gardens north on parkway – must go through Nannie Helen Burroughs which is a difficult intersection

Nannie Helen Burroughs to Benning Road:

- Improve Benning Interchanges
- North of Kenilworth Avenue to Benning – Drainage problems
- Dangerous Pedestrian concerns at Benning Road and Minnesota Avenue intersection
- Move the bus shelters on Benning Road at Minnesota Avenue to the Minnesota Metro Station
- Concerns about more traffic on Minnesota Avenue

East Capitol to Pennsylvania Avenue

- If Reservation 13 includes a hospital or another destination use then a vehicular access would be good
- Improve drainage conditions at East capitol interchange
- Massachusetts avenue – limited vehicular (time restricted)
- Park to Park connections across Anacostia River – Only pedestrian and bike bridge but not for vehicles
- Missing ramp at Pennsylvania Avenue Interchange.

Public Workshop on March 10, 2005

Kenilworth Avenue and Eastern Avenue Intersection:

- Concerns Traveling south from MD like appearance of road in Maryland prior to entering DC and also visual clutter like bill board traveling north
- Difficulty in making eastern Avenue exit
- Signage at route 50 east bound and 295 S
- Liked the idea if reconnecting surface streets over a depressed Kenilworth Avenue
- Pedestrian and bike – difficult to cross Kenilworth to go to Aquatic gardens
- Proposing a plaza at pedestrian bridge at 42nd street and Kenilworth avenue

Nannie Helen Burroughs to Benning Road:

- Dangerous Interchange
- Improve slip ramps on Kenilworth Avenue going south to Benning road
- Improve pedestrian bridges at Kenilworth terrace
- Improve ramps (curves) on Benning Interchange
- Traffic and Pedestrian concerns on Benning Road and Minnesota Avenue Intersection
- Benning Road at Fort Mahan park – Concerns regarding Median refuge,

- on street parking, dark cross walks, curb extensions, traffic calming
- Traffic concerns on Minnesota Avenue at Metro station
- Pedestrian Level of Service analysis at Benning and Minnesota intersection
- Nannie Helen Burroughs to Kenilworth Avenue to go left onto Benning
- In Short term projects , include to accommodate safe U turn on Benning
- East of freeway , access from Kenilworth to Benning road area must be careful so that we will not add more cut though traffic to Nannie Helen Burroughs

East Capitol to Pennsylvania Avenue:

- Depressing Kenilworth Avenue at East Capitol Street Interchange
- Liked the idea of bridge connecting over or under Kenilworth Avenue connecting the two parks across Anacostia River but want access only for pedestrians and bikes but not for motor vehicles except for maintenance vehicles
- Favored – Full Massachusetts Avenue crossing desirable to connect parks on both sides for additional relief of traffic
- Favor slip ramps as an acceptable trade off for the ability to reconnect streets and add connections across the corridor
- No vehicle bridges at Massachusetts avenue

- Like the idea to connect the communities but no commuters
- Speeding on Massachusetts Avenue to be controlled
- Bad congestion on Pennsylvania interchange

Public Workshop on March 12, 2005

Eastern Avenue to Nannie Helen Burroughs Avenue:

- No Marked crossings for pedestrians at Eastern Avenue
- Lots of Truck traffic on Eastern Avenue so if slip ramps are eliminated we can divert the traffic on to service roads
- No lights on Eastern Avenue , poor signage
- Confusing Eastern Avenue Intersection
- Unsafe access across Kenilworth , too fast traffic , too dark, not at all inviting
- Intersection of Eastern Avenue to park – keep traffic off of residential streets
- Unclear access to dean wood metro
- Increased street connection desirable
- Traffic concerns in neighborhoods
- Slip ramps are poorly designed and confusing
- If corridor is depressed there will be fewer slip ramps
- Kenilworth Avenue should be more like GW parkway
- Green barriers between community and highway would be good
- At Dean wood Metro – poor signage that show how to lead to Anacostia River or Aquatic gardens
- Improve all pedestrian bridges

- Provide a bridge across service road at Douglas street and Kenilworth avenue
- Cars ran in to people's yard 3 times at intersection of Kenilworth Avenue and 42nd Street
- Connection to Eastern Avenue for Anacostia connection – Pedestrian /Bike only but not cars

Nannie Helen Burroughs to Benning Road

- Traffic to access metro are important
- More streets crossings – would reduce the need to take pedestrian bridges
- Difficult pedestrian crossings at Benning road
- If Benning road bridge across Kenilworth avenue is improved for pedestrians then people would be willing to walk from river terrace to Minnesota avenue to metro
- Do not close river terrace across Kenilworth avenue , river access road will take away parkland
- Dirt roads are better than paved ones in parks
- Nannie Helen Burroughs interchange is always flooding
- Difficult pedestrian crossings – Benning road and 34th and 36th streets
- Provide connection between Mayfair and Metro
- Dangerous- resident access from Northbound 295 to Nannie Helen Burroughs Avenue

- Pedestrian Bridges are mostly used by people who take metro are ugly and dark
- Benning and 34th street – no median, very hazardous, people take U – turns, and access to commercial node
- Improve signage
- Dedicated lane for frontage road
- Move the bus shelters on Benning Road at Minnesota Avenue to the Minnesota Metro Station
- Benning and 36th street – Traffic congestion due to PEPCO employees, so conflicts with pedestrian access

East Capitol to Pennsylvania Avenue:

- East Capitol interchange are confusing and dangerous
- Texas Avenue at East capitol street is dangerous
- Pedestrian/Bike bridge 100' to 200' south of East capitol street and 100' to 200' north of Sousa bridge
- No visual impact at Massachusetts avenue
- Questions about light rain at Massachusetts avenue
- Proposing for low bridge connecting the parks across the Anacostia River only for pedestrian and bikes but not for traffic
- Park road (Mt. Vernon trail) more as nature preserve access road – no vehicles other than maintenance vehicles
- Park Road – favorable for a Z-lan



March 2005 Workshop Evaluation

Public Workshop on
March 8, 2005

Anacostia Waterfront

Kenilworth Avenue Corridor Study

Public Workshop Evaluation Summary

PUBLIC WORKSHOP - MARCH 8, 2005

Response Tally

1. Overall, how would you rate tonight's public workshop?

2. Was the presentation understandable?

3. How would you rate the question and answer portion of the meeting?

4. How would you rate the small group portion of the meeting?

	Very or Excellent	Average or Satisfactory	No or Poor	No Response	Total Responses
1	1	2	-	-	3
2	3	-	-	1	3
3	1	2	-	1	3
4	3	1	-	-	4

Evaluation Comments

1. Overall, how would you rate tonight's public workshop?

• Everyone was open and honest

2. Was the presentation understandable?

• Very clear

3. How would you rate the question and answer portion of the meeting?

• Pleased that something is planned for the most heavily traveled corridor in the city

4. How would you rate the small group portion of the meeting?

5. Additional comments

• Great facilitators (Bob, Brian Faisal)

• Better advertisement needed to improve turnout

6. How did you hear about today's meeting?

Newspaper	-
Flyer	-
Post Card	2
E-mail	3
Magazine	-
Letter	1
Telephone	-

Other

d.

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Public Workshop on
March 10, 2005

Anacostia Waterfront

Kenilworth Avenue Corridor Study

Public Workshop Evaluation Summary

PUBLIC WORKSHOP - MARCH 10, 2005

Response Tally

1. Overall, how would you rate tonight's public workshop?

2. Was the presentation understandable?

3. How would you rate the question and answer portion of the meeting?

4. How would you rate the small group portion of the meeting?

	Very or Excellent	Average or Satisfactory	No or Poor	No Response	Total Responses
1	4	2	-	-	6
2	4	2	-	-	6
3	4	2	-	-	6
4	4	1	1	-	6

Evaluation Comments

1. Overall, how would you rate tonight's public workshop?

• Attendants were concerned and interested

• More notice needs to be given for community participation

2. Was the presentation understandable?

• Tom did a good job with his presentation

3. How would you rate the question and answer portion of the meeting?

• There was a chance to express ideas

• Define statement

4. How would you rate the small group portion of the meeting?

5. Additional comments

• Develop a survey tool for neighborhoods

• Please give newspapers/press a briefing to spread the word

• More notice meeting

6. How did you hear about today's meeting?

Newspaper	-
Flyer	2
Post Card	3
E-mail	-
Magazine	-
Letter	2
Telephone	1

Other

d.

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Public Workshop on
March 12, 2005

Anacostia Waterfront

Kenilworth Avenue Corridor Study

Public Workshop Evaluation Summary

PUBLIC WORKSHOP - MARCH 12, 2005

Response Tally

1. Overall, how would you rate tonight's public workshop?

2. Was the presentation understandable?

3. How would you rate the question and answer portion of the meeting?

4. How would you rate the small group portion of the meeting?

	Very or Excellent	Average or Satisfactory	No or Poor	No Response	Total Responses
1	8	1	-	-	9
2	8	1	-	-	9
3	7	2	-	-	9
4	9	-	-	-	9

Evaluation Comments

1. Overall, how would you rate tonight's public workshop?

• Was very informed

• Very informative

• The workshop was excellent, very inspirational

• I liked that the announcements were mailed for those who don't have e-mail

2. Was the presentation understandable?

• Very informative

3. How would you rate the question and answer portion of the meeting?

• Excellent. Great to have the community involved in the study.

• Very informative

4. How would you rate the small group portion of the meeting?

5. Additional comments

• Everyone involved with this project is doing a great job. Very informative. It feels great to be involved in my own community and to input my own ideas.

• I would hope that we are kept informed of any update

6. How did you hear about today's meeting?

Newspaper	-
Flyer	2
Post Card	4
E-mail	2
Magazine	-
Letter	2
Telephone	1

Other
Neighbor

d.

District of Columbia

District Department of Transportation

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April 2005 Newsletter

Kenilworth Avenue Corridor Study
April 2005

Alternative No. 1 - Boulevard Cross Section

FOUR LANE BOULEVARD

Overall Concept

In this concept, Kenilworth Avenue will be transformed into a boulevard between East Capitol Street and Eastern Avenue. The existing service roads will be removed to allow a wider cross section that a boulevard-type street design requires.

Existing interchanges will be replaced with signalized intersections at:

- East Capitol Street
- Benning Road
- Nannie Helen Burroughs Avenue, and
- Eastern Avenue

Because of the large volume of traffic Kenilworth Avenue carries, four lanes of traffic will be provided in each direction (southbound and northbound). In the median, left turn lanes will be provided at each signal.

Local streets that intersect Kenilworth Avenue between the signals will have right-in turns and right-out turns only. To turn left onto Kenilworth Avenue, you will need to use a signalized intersection.

The existing freeway section between Pennsylvania Avenue and East Capitol Street will remain, however, Kenilworth Avenue will be realigned further east near East Capitol Street to provide additional parkland. A wider median will provide additional green space.

at East Capitol Street

Through traffic on East Capitol Street will remain below grade as it is today. A new signalized, at-grade intersection west of Kenilworth Avenue will allow traffic on Kenilworth Avenue full access east and west on East Capitol Street.

at Benning Road

At Benning Road, through traffic to Minnesota Avenue will remain elevated over Kenilworth Avenue and the railroad as it is today. However, the existing bridges will be split to allow an at-grade intersection with Kenilworth Avenue to be built between them. This will improve accommodations for pedestrians and bicyclist.

at Nannie Helen Burroughs Avenue

At Nannie Helen Burroughs Avenue, a new signalized, at-grade intersection will replace the existing bridge.

at Eastern Avenue

At Eastern Avenue, a new signalized, at-grade intersection will replace the existing bridge. A connection to Anacostia Avenue will provide a new access point for the park.

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Kenilworth Avenue Corridor Study

April 2005

Alternative No. 2 - Four- and Six- Lane Corridor

TWO-LANE ROADWAY WITH WIDE MEDIAN

Overall Concepts

In this concept, Kenilworth Avenue will be reduced to two lanes between Benning Road and Eastern Avenue. The existing slip ramps will be either eliminated or combined to reduce their number.

The service road will remain but will be narrowed and curb extensions added that will better define parking areas and provide refuge for pedestrians crossing the street.

Any space gained by narrowing Kenilworth Avenue will be used to provide a wider, greener median and additional green space between Kenilworth Avenue and the service road.

The pedestrian crossing at Minnesota Avenue will be upgraded and improved.

Three lanes will be maintained between East Capitol Street and Benning Road to accommodate acceleration and deceleration lanes for traffic to and from East Capitol Street.

The existing freeway section between Pennsylvania Avenue and East Capitol Street will remain, however, Kenilworth Avenue will be realigned eastward to provide additional parkland near East Capitol Street. A wider median will provide additional green space.

at East Capitol Street

Alternatives at East Capitol Street will be introduced to determine if additional access to points east and west on East Capitol Street from Kenilworth Avenue can be accommodated. Within this context, improvements to pedestrian access and mobility will be made.

at Benning Road

At Benning Road, through traffic to Minnesota Avenue remains elevated over Kenilworth Avenue and the railroad to accommodate pedestrians and bicyclist. The existing bridges will be split to allow an at-grade intersection with new exit ramps from northbound Kenilworth Avenue to improve safety.

at Nannie Helen Burroughs Avenue

The current plans for improving the Nannie Helen Burroughs Avenue interchange will remain.

at Eastern Avenue

At Eastern Avenue, a visual gateway into the District will be created for southbound drivers on Kenilworth Avenue. A connection to Anacostia Avenue will provide a new access point for the park. The existing U-turns will be eliminated and the intersection redesigned to better accommodate pedestrians.

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April 2005 Newsletter (continued)


Anacostia Waterfront

Kenilworth Avenue Corridor Study

Volume 1, Number 2

April 2005

Alternative No. 3 - Depressed Kenilworth Avenue



Overall Concepts

In this concept, Kenilworth Avenue will be depressed to create opportunities for local street connections between communities and neighborhoods.

Three lanes of traffic will be maintained in each direction; however, the existing slip ramps will be either eliminated or combined to reduce their number. The service road will function and act more as a local road between neighborhoods.

In some places, however, existing stream crossing, such as Watts Branch, physically constrain our ability to depress the roadway.

The pedestrian crossing at Minnesota Avenue will be upgraded and improved.

The existing freeway section between Pennsylvania Avenue and East Capitol Street will remain, however, Kenilworth Avenue will be realigned eastward to provide additional parkland near East Capitol Street. A wider median will provide additional green space.

at Benning Road

At Benning Road, through traffic to Minnesota Avenue remains elevated over Kenilworth Avenue and the railroad to accommodate pedestrians and bicyclist. The existing bridges will be split to allow an at-grade intersection with new exit ramps from northbound Kenilworth Avenue to improve safety.

at Nannie Helen Burroughs Avenue

The current plans for improving the Nannie Helen Burroughs Avenue interchange will remain.

at Ord Street and Nash Street

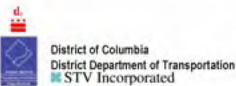
A new street connection for vehicles and pedestrians across Kenilworth Avenue will be built that will replace the existing pedestrian bridges. This will improve access to Deanwood Metro Station and create opportunities for redevelopment in previously isolated areas.

at Eastern Avenue

At Eastern Avenue, a visual gateway into the District will be created for southbound drivers on Kenilworth Avenue. A connection to Anacostia Avenue will provide a new access point for the park. The existing U-turns will be eliminated and the intersection redesigned to better accommodate pedestrians.

at East Capitol Street

Alternatives at East Capitol Street will be introduced to determine if additional access to points east and west from Kenilworth Avenue can be accommodated and to make improvements to pedestrian access and mobility.



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Anacostia Waterfront

Kenilworth Avenue Corridor Study

Volume 1, Number 2

April 2005

Alternatives for a Massachusetts Avenue River Crossing

Massachusetts Avenue is a grand boulevard that ends at Kenilworth Avenue in Ward 7 and at Reservation 13 in Ward 6 but the two parts are not connected. Three alternatives will be considered that either physically or symbolically connects these two parts of the Avenue.

Reservation 13 to Randle Circle Connection

- connect Reservation 13 and Randle Circle
- span the river and parkland, and cross the CSX railroad tracks and Kenilworth Avenue before connecting to Randle Circle
- carries local traffic but will not connect to Kenilworth Avenue
- will be a high-level crossing in order to provide the required clearances

Park-to-Park Connection

- connect the two riverbanks of the Anacostia River
- provide access for pedestrians and bicyclists
- provide connections to existing and proposed trails
- serve as a connection for NPS maintenance vehicles
- no connections to local streets

Park Road Connection

- connect the proposed east bank Park Road with existing west bank park roads
- provide access for pedestrians and bicyclists
- provide connections to existing and proposed trails
- serve as a connection for NPS maintenance vehicles
- connect to local streets where appropriate (Reservation 13 circle)

Alternatives for Park Road

In keeping with the Anacostia Framework Plan and the intent of unifying the many parks and recreational areas along the Anacostia River, a Park Road is proposed that will link major destinations and neighborhoods from Eastern Avenue with points south. This will be a park-type road, not a commuter road, intended to enhance access to parkland and the river front. Within the context of the Kenilworth Avenue Corridor Study, three areas were studied and alternatives were developed to address linkages and connectivity.

Anacostia Avenue to Eastern Avenue Connection

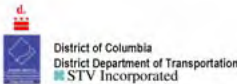
- provide access to the park for pedestrians and vehicles
- complete the Eastern Avenue intersection as a gateway to the city
- provide a contiguous route through the park

Benning Road to Barney Circle Connection

- connect Benning Road with Reservation 13 and Barney Circle
- vide access to the park for pedestrians and vehicles
- provide a contiguous route through the park

Park Road Connection (at Massachusetts Avenue)

- connect the proposed east bank Park Road with existing west bank park roads
- provide access for pedestrians and bicyclists
- provide connections to existing and proposed trails
- serve as a connection for NPS maintenance vehicles
- connect to local streets where appropriate (Reservation 13 circle)



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Anacostia Waterfront

Kenilworth Avenue Corridor Study

Schedule

Data Collection	Develop Concepts	Refine Concepts	Final
Community Meetings			
TAG Meetings	2/10	3/15	4/26
Area Meetings & Workshops	3/8, 3/10, 3/12	6/2	7/21
Corridor Public Meetings		5/5	6/23
Intermediate Reports		6/9	

Kenilworth Avenue Corridor Study

cto Mr. Steve Lee

Justice & Sustainability Associates, LLC

1920 L Street N.W., Suite 500

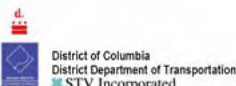
Washington, DC 20036

202.610.0005

studyteam@kacstudy.com


www.kacstudy.com

TO:



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Anacostia Waterfront Initiative

May 2005 Public Meeting Handout

Kenilworth Avenue Corridor Study

May 2005

KENILWORTH AVENUE

PUBLIC MEETING

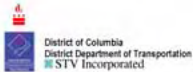
Participant Handout

May 5 - 7:00 – 9:00 PM

Charles E. Houston Elementary School

1100 50th Place, NE

Washington, DC 20019




Page 1

Kenilworth Avenue Corridor Study

May 2005

Alternative No. 1 - Boulevard Cross Section

Alternative No. 2 - Four- and Six-Lane Corridor



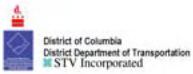
Page 2

Kenilworth Avenue Corridor Study

March 2005

Alternative No. 3 - Depressed Kenilworth Avenue

Massachusetts Avenue Crossing



Page 3

Kenilworth Avenue Corridor Study

May 2005

Park Road

Questions

What do you think is the most important pedestrian or bicycle improvement that can be made in the corridor?

What do you think is the most important traffic or highway improvement that can be made in the corridor?

Do you favor a new crossing at Massachusetts Avenue, and if so, what type of crossing do you support?

Do you favor eliminating the slip ramps north of Nannie Helen Burroughs Avenue if it would improve safety for drivers and pedestrians?

Do you favor depressing Kenilworth Avenue if it would improve connections for pedestrians, bicyclist and traffic between neighborhoods?



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June 2005 Public Meeting Handout

Kenilworth Avenue Corridor Study

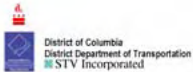
June 2005

KENILWORTH AVENUE
PUBLIC MEETING

Participant Handout

June 21, 2005 - 7:00 – 9:00 PM

Young Elementary School
820 26th Street NE
Washington, DC




Page 1

Kenilworth Avenue Corridor Study

June 2005

Option 3 - Scenario A - East Capitol Street Interchange

Option 3 - Scenario B - Benning Road Interchange



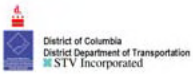
Page 2

Kenilworth Avenue Corridor Study

June 2005

Option 3 - Scenario C - East Capitol Street / Benning Road Interchanges

Massachusetts Avenue Crossing



Page 3

Kenilworth Avenue Corridor Study

June 2005

Park Road

Questions

What do you think is the most important pedestrian or bicycle improvement that can be made in the corridor?

What do you think is the most important traffic or highway improvement that can be made in the corridor?

Do you favor a new crossing at Massachusetts Avenue, and if so, what type of crossing do you support?

Do you favor eliminating the slip ramps north of Nannie Helen Burroughs Avenue if it would improve safety for drivers and pedestrians?

Do you favor depressing Kenilworth Avenue if it would improve connections for pedestrians, bicyclist and traffic between neighborhoods?



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June 2005 Meeting Evaluation

Anacostia Waterfront

Kenilworth Avenue Corridor Study

Public Meeting Comment and Evaluation Summary

June 21, 2005

Participant Meeting Evaluation Response Tally

1. Overall, how would you rate tonight's public meeting?

2. Were the presentations understandable?

a. Transportation Project Update

b. Overview of Alternatives

c. Massachusetts River Crossing

d. Park Road

3. How would you rate the question and answer portion of the meeting?

4. How would you rate the Open House portion of the meeting?

Question	Very or Excellent		Average or Satisfactory		No or Poor		No Response	Total Responses
	1	2	3	4	5			
1	2	-	-	-	-	-	-	2
2a	2	-	-	-	-	-	-	2
2b	2	-	-	-	-	-	-	2
2c	2	-	-	-	-	-	-	2
2d	2	-	-	-	-	-	-	2
3	2	-	-	-	-	-	-	2
4	2	-	-	-	-	-	-	2

5. How helpful was the facilitation?

Great

6. Any suggestions that could help improve future meetings?

Air conditioning

Evaluation Comments

☐ Overall, how would you rate tonight's public workshop?

• Would have liked presentation on bikapedestrian upgrades

Newspaper	-
Flyer	-
Post Card	1
E-mail	1
Magazine	-
Letter	-
Telephone	-
Other	1

d.

District of Columbia

District Department of Transportation

Partners in Sustainability Associates, LLC



November 2006 Paricipant Handout

Kenilworth Avenue Corridor Study

November 2006

KENILWORTH AVENUE CORRIDOR STUDY

PUBLIC MEETING

Participant Handout

November 4, 2006 - 9:30 – 11:30 AM

River Terrace Elementary School

420 34th Street, NE

Washington, DC 20019

District of Columbia

District Department of Transportation

STV Incorporated

Page 1

Kenilworth Avenue Corridor Study

November 2006

Project No. 1 - East Capitol Street

Project No. 2 - Kenilworth Avenue Ramp Safety Improvements

Project No. 3 - Corridor Landscaping

Project No. 4 - Pedestrian and Bicycle Improvements

Project No. 5 - Roadway Lighting and Signing

Project No. 6 - East Capitol Street

District of Columbia

District Department of Transportation

STV Incorporated

Page 2

Kenilworth Avenue Corridor Study

November 2006

Project No. 7 - Neighborhood Identification Program

Project No. 8 - Replace Pedestrian Bridge at Minnesota Avenue Metrorail Station

Project No. 9 - Replace Pedestrian Bridge at Douglas Street/Deanwood Metrorail Station

Project No. 10 - Comprehensive Eastern Avenue Improvements

Project No. 11 - Benning Road

Project No. 12 - Pedestrian and Bicycle Improvements

District of Columbia

District Department of Transportation

STV Incorporated

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Kenilworth Avenue Corridor Study

November 2006

Project No. 13 - East Capitol Street

Project No. 14 - Benning Road

Project No. 15 - Extend Olive Street to Nash Street

Project No. 16 - Park Road

Project No. 17 - Massachusetts Avenue Bridge

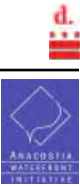
Other Comments

District of Columbia

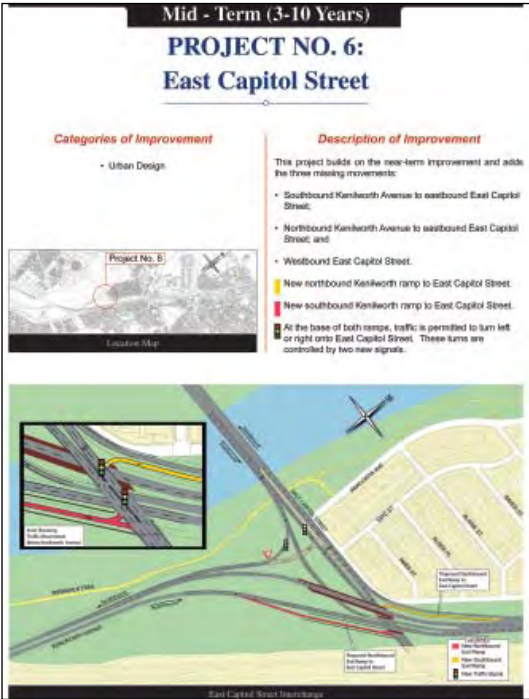
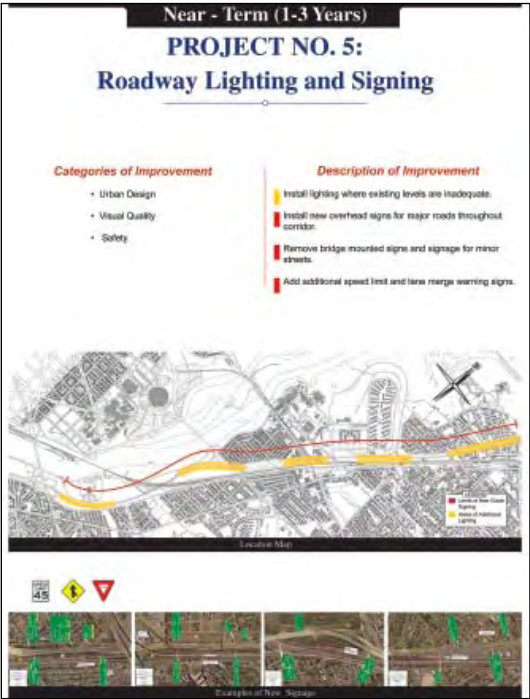
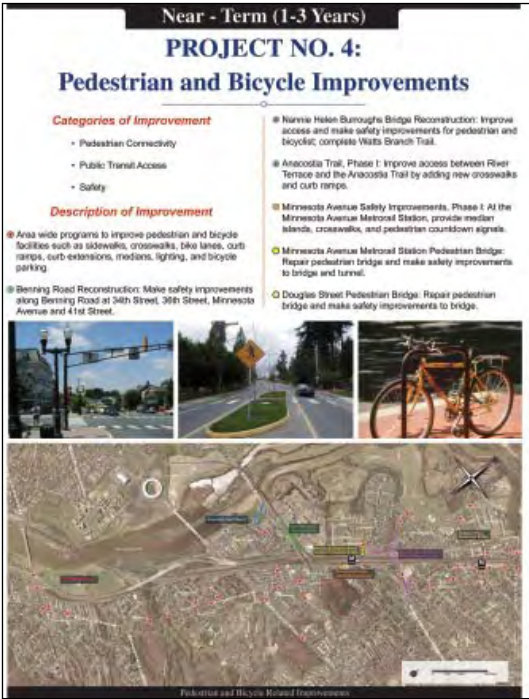
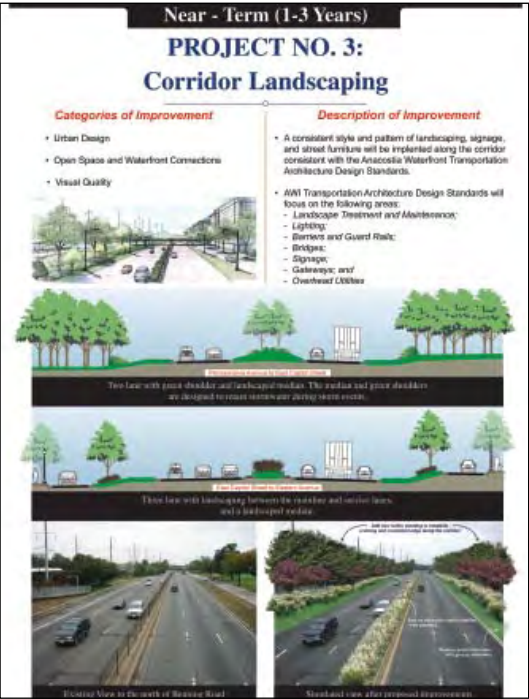
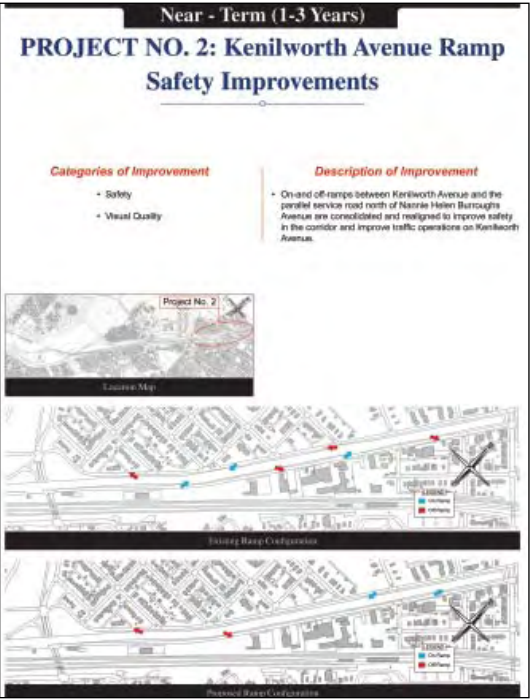
District Department of Transportation

STV Incorporated

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November 2006 Public Meeting Boards



November 2006 Public Meeting Boards

Mid - Term (3-10 Years)

PROJECT NO. 7: Neighborhood Identification Program



Categories of Improvement

- Urban Design
- Visual Quality

Description of Improvement

Kenilworth Avenue currently lacks a sense of identity that distinguishes it from other roadway corridors in the region.

- Establish a signage program that highlights the neighborhoods adjacent to the corridor.
- Signs will be in accordance with the AASHTO Transportation Architecture Design Standards and designed with the help of local residents.
- Eleven neighborhoods that border Kenilworth Avenue will be identified: Dupont Park, Twinning, Greenway, Fort Dupont, River Terrace, Mayfair, Benning, Central Northeast, Eastland Gardens, Deanwood and Kenilworth.



Mid - Term (3-10 Years)




PROJECT NO. 8: Improve Pedestrian Bridge at Minnesota Avenue Metrorail Station

Categories of Improvement

- Pedestrian Connectivity
- Public Transit Access
- Open Space and Waterfront Connection
- Visual Quality
- Safety

Description of Improvement

Improve the existing pedestrian bridge at the Minnesota Avenue Metrorail Station.



Mid - Term (3-10 Years)




PROJECT NO. 9: Improve Pedestrian Bridge at Douglas Street / Deanwood Metrorail Station

Categories of Improvement

- Pedestrian Connectivity
- Public Transit Access
- Open Space and Waterfront Connection
- Visual Quality
- Safety

Description of Improvement

Improve the existing pedestrian bridge at Douglas Street that leads to the Deanwood Metrorail Station.



Mid - Term (3-10 Years)



PROJECT NO. 10: Comprehensive Eastern Avenue Improvements

Categories of Improvement

- Urban Design
- Public Transit Access
- Open Space and Waterfront Connections
- Safety
- Pedestrian Connectivity
- Visual Quality

Description of Improvement

- Rebuild Eastern Avenue bridge as a gateway to Washington, DC.
- Resurface service roads along Kenilworth Avenue.
- Add designated parking lanes along service road.
- Install curb extensions at ends of parking lanes.
- Add missing sidewalks; improve existing sidewalks.
- Add missing curb ramps; improve existing curb ramps.
- Improve lighting for pedestrians.
- Add crosswalks or resurface existing crosswalks.



Mid - Term (3-10 Years)



PROJECT NO. 11: Benning Road

Categories of Improvement

- Urban Design
- Safety

Description of Improvement

- Lengthen the exit ramp for northbound Kenilworth Avenue.
- Add a traffic signal at the intersection with Benning Road.
- Lengthen on-ramp to northbound Kenilworth Avenue.
- Shift the southbound Kenilworth Avenue alignment to the west and realign ramps.



Mid - Term (3-10 Years)


PROJECT NO. 12: Pedestrian and Bicycle Related Improvements

Categories of Improvement

- Pedestrian Connectivity
- Public Transit Access
- Safety

Description of Improvement

- Pedestrian Bridge Evaluation: Conduct evaluation on pedestrian bridges at Nash Street and Lane Place to determine if they should be rehabilitated or removed.
- Ward 7 Safe Routes to School Program: Improve sidewalks and crosswalks near existing schools, including the Brown Middle School and Houston Elementary School, in Ward 7.
- Minnesota Avenue Safety Improvements, Phase II: Improve the visibility of sidewalks at driveways and improve crosswalks across Minnesota Avenue; add median crossing islands and/or curb extensions to improve crossings to the Metrorail station.
- Fort Circle Trail Improvements: Improve pedestrian and bicycle crossing at East Capitol Street by adding crosswalks, trail crossing warning signs, pedestrian signals, and directional signage for trail users. Extend Fort Circle Trail to Watts Branch Trail.
- Parkside Redevelopment Project: Improve sidewalks, crosswalks and lighting in and around the proposed development west of the Minnesota Avenue Metrorail Station.
- Bicycle Rack Program: Provide bicycle racks at the Minnesota Avenue and Deanwood Metrorail Stations.



November 2006 Public Meeting Boards

Long - Term (7-20 Years)

PROJECT NO. 13: East Capitol Street

Categories of Improvement

- Urban Design
- Pedestrian Connectivity
- Open Space and Waterfront Connections
- Safety

Description of Improvement

- Full movements of this interchange, provide for pedestrian and bicycle traffic across Kenilworth Avenue, onside walks and dedicated bicycle ways added through the underpass
- Kenilworth Avenue is realigned and approximately 15 acres of additional open space and parkland to the west of Kenilworth Avenue along the Anacostia River is recaptured for public use

Location Map

East Capitol Street Improvement Scenario D-C

East Capitol Street Improvement Scenario D-C

Long - Term (7-20 Years)

PROJECT NO. 14: Benning Road

Categories of Improvement

- Urban Design
- Pedestrian Connectivity
- Public Transit Access
- Open Space and Waterfront Connections
- Safety

Description of Improvement

- Rebuild the existing Benning Road bridge as two split structures, one for eastbound and one for westbound traffic
- The ramps to Kenilworth Avenue are moved to the space between the split bridges
- Pedestrian and bicycle traffic travel over Kenilworth Avenue between 34th Street and Minnesota Avenue on new sidewalks and an uninterrupted path
- New ramps to and from northbound Kenilworth Avenue are from the right lane
- Rebuild the existing Benning Road bridge and depress the northbound lanes of Kenilworth Avenue
- A traffic signal at the top of the ramps with Benning Road controls movements at the new intersection

Location Map

Benning Road Improvement Scenario D-C

Benning Road Improvement Scenario D-C

Long - Term (7-20 Years)

PROJECT NO. 15: Extend Olive Street to Nash Street

Categories of Improvement

- Urban Design
- Pedestrian Connectivity
- Public Transit Access
- Open Space and Waterfront Connections
- Visual Quality
- Safety

Description of Improvement

- Depress Kenilworth Avenue between Meade Street and Douglas Street
- Construct a new bridge over Kenilworth Avenue at Nash Street for vehicles, pedestrians and bicyclist
- Extend Olive Street to the new crossing at Nash Street
- Daylight the existing stream between the railroad tracks and Kenilworth Avenue

Location Map

Extend Olive Street to Nash Street

Extend Olive Street to Nash Street

Long - Term (7-20 Years)

PROJECT NO. 16: Park Road

Categories of Improvement

- Urban Design
- Pedestrian Connectivity
- Open Space and Waterfront Connections
- Visual Quality

Description of Improvement

- Construct a new Park Road between Eastern Avenue and points south to unify the parks and recreational areas along the Anacostia River. Within the context of the Kenilworth Avenue Corridor Study, three areas were studied to address linkages and missing connections
- Anacostia Avenue to Eastern Avenue creates a new pedestrian and bicycle connection to parks and recreation areas
- Benning Road to Barry Circle creates access to the west banks of the Anacostia River
- Park Road Connection at Massachusetts Avenue creates a connection across the river for Pedestrians and bicyclists (Project No. 17)
- Alignment proposed by the Anacostia Waterfront Initiative Framework Plan

Location Map

Park Road

Park Road

Long - Term (7-20 Years)

PROJECT NO. 17: Massachusetts Avenue Bridge

Categories of Improvement

- Urban Design
- Pedestrian Connectivity
- Open Space and Waterfront Connections
- Visual Quality



Description of Improvement

- A new connection for pedestrian and bicyclists across the Anacostia River
- Enhance open space connectivity and provides a connection between parts of the park for National Park Service maintenance vehicles
- The proposed Massachusetts Avenue Park Road bridge connects only to the proposed and existing Park Road system and not to local streets, thus preventing regional traffic from using the bridge as a shortcut

Location Map

Massachusetts Avenue Bridge

Massachusetts Avenue Bridge



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November 2006 Public Meeting Feedback

At the November 2006 public meeting, comments were received from the participants using the handouts that were distributed to each attendee. The handout was designed to solicit comments regarding the seventeen proposed projects. A total of nine handouts were returned with comments, however, each typically addressed only a few of the proposed projects. Those comments are summarized below:

Project No. 01 - East Capitol Street

- Participant 06 - Need to improve safety.

Project No. 02 - Kenilworth Avenue Ramp Safety Improvements

- Participant 01 - Highest priority. Minimize noises from traffic.
- Participant 06 - Good idea.
- Participant 08 - Need slip from Benning Road to Kenilworth Avenue.

Project No. 03 - Corridor Landscaping

- Participant 01 - Second highest priority. Need trees, signage and lighting.
- Participant 02 - It seems that the Kenilworth Avenue Corridor Study and Great Street Project need to work together and combine funds so one is not undoing or redoing what the other project is planing.
- Participant 05 - Corridor landscaping will help mark an immediate changes to this community.
- Participant 06 - Great Street Project? Need this through out DC streets.
- Participant 07 - Good idea but not necessary. Project No. 14 is needed more.

Project No. 04 - Pedestrian and Bicycle Improvements

- Participant 06 - Good idea. Avoid duplication with Great Street project.

Project No. 05 - Roadway Lighting and Signaling

- Participant 02 - t seems that the Kenilworth Avenue Corridor Study and Great Street Project need to work together.
- Participant 06 - Greatly needed as the history in the DC area is great.
- Participant 07 - Incorporate this project in Project No. 14

Project No. 06 - East Capitol Street

- Participant 06 - Good idea.
- Participant 07 - Project No. 14 would incorporate some of these improvements.

Project No. 07 - Neighborhood Identification Program

- Participant 01 - As you complete construction, please mark the area we would like signage along Kenilworth area that states Eastland Gardens from Ord Street to the 4-way stop.
- Participant 05 - Use various planting along with signage to distinguish a particular community.
- Participant 06 - This would be a great source for visitors that travel through Washington as tourists.
- Participant 07 - I notice many neighborhoods are investing in signage, however, Project 14 needs to supersede signage.

Project No. 08 - Replace Pedestrian Bridge at Minnesota Avenue Metrorail Station

- Participant 01 - High priority. Eliminate

crime pocket. Need lighting and coverage to assiat with hazards of ice during cold.

- Participant 06 - Excellent idea.

Project No. 09 - Replace Pedestrian Bridge at Douglas Street/Deanwood Metrorail Station

- Participant 01 - This needs to be well lit and pleasing to the eyes. Please eliminate crime possibilities and environmental hazards of slipping on ice.
- Participant 06 - Art work and bridges improvement is needed.

Project No. 10 - Comprehensive Eastern Avenue Improvements

- Participant 01 - This should be clearly mark the gateway to the city - Begin lighting.
- Participant 06 - Great idea. I would like to have defined departments work together to combine cost dollars to get projects completed earlier.
- Participant 07 - Good idea. Improvements are needed.

Project No. 11 - Benning Road

- Participant 02 - This should be moved to Near-Term Project since it's nickname the "weave of death" you realize it's dangerous and need to be addressed more quickly.
- Participant 04 - Please move this project to "Near-Term Project". This is a very dangerous interchange.
- Participant 06 - Longer pedestrian walk signals for bus traffic pedestrians at Pepco plant.
- Participant 07 - Project No. 14 should be considered ahead of this project or incor-

porated together, especially since Project No. 14 will address most of these issues.

- Participant 08 - We really didn't need the ramps extended. The problem is getting over and under the bridge.

Project No. 12 - Pedestrian and Bicycle Improvements

- Participant 06 - Coordinate with Great Street Project so more of DDOT's funds can go toward roads work.
- Participant 07 - This issue don't supersede the issues of Project No. 14.

Project No. 13 - East Capitol Street

- Participant 06 - Good idea.

Project No 14 - Benning Road

- Participant 06 - Safety, traffic, bridge and lighting is a must.
- Participant 07 - Like to see changes fast due to the amount of cars.
- Participant 08 - Traffic signals will cause more traffic problem.

Project No. 15 - Extend Olive Street to Nash Street

- Participant 06 - Good idea.
- Participant 07 - Any improvements to this area will be a plus.

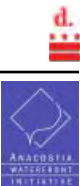
Project No. 16 - Park Road

- Participant 03 - Strongly oppose need to build a road to get access to the park for pedestrians. Strongly opposed to any park road. A waste of money! (\$1- million)
- Participant 06 - Good idea.
- Participant 07 - Project No. 14 first.


- Participant 08 - Spending too much money for bridge. Let pedestrians connect with East Capitol.
- Participant 09 - AWCGB has strongly opposed a through traffic bridge. However, we're open to the idea that is designated in a way to prevent its use by commuter traffic.

Other Comments

- Participant 03 - The DC government continues to legitimately be interested in economic development. Cities like Portland Oregon and Bolder Colorado, which are seen attractive places to live because of their natural amenities, are attractive because they don't do things like build roads right next to their rivers, or unnecessary, costly bridges in the middle of a pleasant river vista. Wouldn't the city be better off with a genuine use of parkland, without cars and bridges as a way to attract people to the Anacostia and as the kind of signature parkland that helps economic development? And isn't there a better way to use \$25 million?
- Participant 06 - All projects are good. Try to get the most of top priorities done: safety. Traffic can be coordinated to move smoothly on Benning Road with all traffic coming from Maryland and Virginia. Also when there are accidents on 295, we get the overflow of traffic and it becomes a bottle neck in this area of Benning Road and Minnesota Avenue.



November 2006 Public Meeting
Evaluation Form



Kenilworth Avenue Corridor Study
Public Meeting

November 4, 2006
River Terrace Elementary School

EVALUATION FORM

Please write your comments on this form and leave it at the registration table.
You may also fax the evaluation form to 202-610-4471. Thank you!

1. How would you rate this morning's meeting, overall?

	Excellent		Satisfactory		Poor	
Rating:	1	2	3	4	5	6

Comments:

2. Were the presentations and posters understandable?

	Excellent		Satisfactory		Poor	
Rating:	1	2	3	4	5	6

Comments:

3. How would you rate the question and answer portion of the meeting?


	Excellent		Satisfactory		Poor	
Rating:	1	2	3	4	5	6

Comments:

4. How did you hear about today's meeting?


Newspaper	Flyer	Postcard	Email alert	Other

5. Do you have any additional comments? Please write them on the back of the page.



Government of the
District of Columbia

Anthony A. Williams, Mayor



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Appendix B

Index B-i

Summary of Findings B-1

Pedestrian and Bicycle Counts B-1

Peak-Hour Pedestrian and
Bicycle Observations B-4

Pedestrian and Bicycle Intercept Survey B-7



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B.1 SUMMARY OF FINDINGS

Counts and surveys taken for this study provided valuable information about pedestrian and bicycle activity in and around the Kenilworth Avenue Corridor:

- Walking and biking are common modes of transportation in the Kenilworth Avenue Corridor.
 - The highest volume of pedestrians occurs along Minnesota Avenue between East Capitol Street and the Minnesota Avenue Metrorail Station.
 - While some people walk or bicycle in the Kenilworth Avenue Corridor for recreation or exercise, a majority of the non-motorized activity is transportation-related.
 - Over 60% of survey respondents made at least one non-motorized trip per week for shopping, and more than half made at least five walking and biking trips for work each week.
 - People on foot or bicycle in the Kenilworth Avenue Corridor represent a range of ages and abilities.
 - 2.0% of the pedestrians used assistive devices, such as canes, walkers, and wheelchairs.
 - Kenilworth Avenue, the Anacostia River, and the CSX Railroad and Metrorail lines create a significant obstacle to all modes of travel.
- Benning Road and 36th Street, NE showed the highest amount of bicycle use with one bicyclist every 15 minutes.
 - Survey respondents identified the most significant barriers to walking and bicycling in the corridor to be:
 - heavy traffic (60.9%),
 - fast traffic (50.0%), and
 - difficult street crossings (35.5%)
 - Specific roadways that were perceived as being difficult to cross or walk along included:
 - Minnesota Avenue
 - Benning Road
 - Kenilworth Avenue
 - East Capitol Street, and
 - Nannie Helen Burroughs Avenue.
 - Maintenance issues, such as pot holes, sidewalk cracks, faded street lines and crosswalks, and the presence of rocks, sand, dirt and dead animals in the streets were cited as potential problems.

B.2 PEDESTRIAN AND BICYCLE COUNTS

Pedestrians and bicyclists were counted manually at five locations in the corridor:

- Minnesota Avenue and Dix Street, NE;
- Kenilworth Terrace and Hayes Street, NE;
- Minnesota Avenue and Grant Street, NE;
- Benning Road and 36th Street, NE; and
- Kenilworth Avenue and Polk Street, NE.



Figure B.1. Manual counts for pedestrian and bicycle activity were taken with the assistance of local Ward 7 residents.

The counts were taken on several weekdays and one weekend day. Each pedestrian and bicyclist was counted when they crossed a leg of the

intersection. This included people crossing within a crosswalk as well as people crossing the street at mid-block locations on all sides of the intersection. Any person crossing a mid-block location between the study intersection and the crosswalk of the adjacent intersection was counted.

At higher-volume intersections (Minnesota Avenue and Dix Street, Minnesota Avenue and Grant Street, and Kenilworth Terrace and Hayes Street) the data collectors counted each pedestrian or bicyclist once, regardless of the number of times or different directions that the person crossed. At the lower volume intersections, people were counted each time they crossed in a different direction. Adjustments were made to the lower-volume intersection counts to ensure a consistent methodology.

In addition to raw counts, the data collectors observed weather conditions, surrounding land use characteristics, time of day, and the following pedestrian characteristics:

- estimated age;
- gender;
- if the person is carrying packages larger than a purse;
- the type of assistive device the person is using, if any (wheelchair, cane, walker, bicycle, in-line skates, other).

The data collectors counted a total of 6,675 pedestrians and bicyclists crossing the aforementioned intersections between October 20 and October 29, 2004 (see Table B.1). Observations were made for a total of 90 hours among the five sites. Considering nearby land uses, there were consistently high pedestrian volumes at all of the count locations.

The greatest flows of pedestrians and bicyclists occur at the intersection of Minnesota Avenue and Dix Street (92.5 pedestrians/bicyclists per hour, on average, see Table B.2). This location is close to a major grocery store, small shoe and clothing stores, several restaurants, and several one- and two-story office buildings.

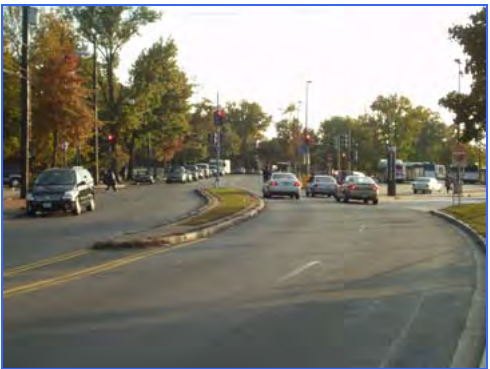


Figure B.2. View of Minnesota Avenue at Grant Street; the Minnesota Avenue Metrorail Station is to the right.

The next highest pedestrian and bicycle volumes were at the intersections of Minnesota Avenue and Grant Street and at the intersection of Kenilworth Terrace and Hayes Street. Both intersections are located close to the Minnesota Avenue



Metrorail Station, the former being immediately east and north of the Friendship-Edison Senior Academy School and the latter being west of the station and across Kenilworth Avenue. Pedestrians and bicyclists can access the station by crossing a pedestrian bridge over Kenilworth Avenue.

The Benning Road location is near a bus stop and several retail establishments. The 111 people counted at this site needed to cross the on- and off-access ramps to Kenilworth Avenue at the Benning Road. This count is particularly high, given the uncomfortable pedestrian and bicycle conditions at this crossing due to the fast-moving traffic accessing Kenilworth Avenue. Pedestrians and bicyclists must rely on the Benning Road bridge to cross Kenilworth Avenue as this is the only connection across Kenilworth Avenue for the one-mile section between East Capitol Street and the pedestrian bridge at Hayes Street.

The Kenilworth Avenue and Polk Street location is at the east side of a pedestrian bridge that connects the Eastland Gardens neighborhood with the Deanwood Metrorail Station. Nearly all of the pedestrians and bicyclists at this location crossed the north and east sides of the intersection because they were traveling between the Deanwood Metrorail Station and the pedestrian bridge.

Counts were taken near two of the four pedestrian bridges over Kenilworth Avenue. Counts were not taken at the remaining two pedestrian bridges, at Lane Place and at Nash Street, because they were observed to have minimal pedestrian activity during the field observation periods.

Table B.1 - Count Locations and Time Periods

Location	Date	Weekday	Time Period	Temp (°F)	Weather	Total Ped/Bike Count	Ped/Bike per Hour
Minnesota & Dix	10/20/04	Wednesday	7:00 AM to 6:00 PM	50	Drizzle	1,466	133.3
Minnesota & Dix	10/23/04	Saturday	7:00 AM to 6:00 PM	55	Sunny	700	63.6
Minnesota & Dix	10/27/04	Wednesday	7:00 AM to 6:00 PM	60	Sunny	887	80.6
Kenilworth & Hayes	10/20/04	Wednesday	7:00 AM to 1:00 PM	50	Drizzle	261	43.5
Kenilworth & Hayes	10/20/04	Wednesday	2:00 PM to 6:00 PM	50	Drizzle	439	109.8
Kenilworth & Hayes	10/23/04	Saturday	7:00 AM to 1:00 PM	55	Sunny	485	80.8
Kenilworth & Hayes	10/23/04	Saturday	2:00 PM to 6:00 PM	55	Sunny	316	79.0
Kenilworth & Hayes	10/27/04	Wednesday	4:00 PM to 6:00 PM	60	Sunny	191	95.5
Kenilworth & Hayes	10/29/04	Friday	4:00 PM to 6:00 PM	60	Cloudy, rainy	285	142.5
Minnesota & Grant	10/20/04	Wednesday	2:00 PM to 6:00 PM	50	Drizzle	284	71.0
Minnesota & Grant	10/27/04	Wednesday	7:00 AM to 1:00 PM	60	Sunny	451	75.2
Minnesota & Grant	10/28/04	Thursday	1:00 PM to 6:00 PM	65	Sunny	389	77.8
Minnesota & Grant	10/29/04	Friday	8:00 AM to 11:00 AM	60	Cloudy, rainy	202	67.3
Benning & 36 th	10/23/04	Saturday	9:00 AM to 5:00 PM	55	Sunny	157	19.6
Kenilworth & Polk	10/27/04	Wednesday	11:00 AM to 6:00 PM	60	Sunny	162	23.1
Total (over a 90 hour period):						6,675	74.2

Table B.2 - Count Summary by Location (row percentages)

Location	Hours Observed	Side of Intersection Crossed				Total Crossings (See Note)	Total Ped/Bike Count	Ped/Bike per Hour
		North	South	East	West			
Minnesota & Dix	33	451 (15.1%)	583 (19.6%)	1,129 (37.9%)	816 (27.4%)	2,979	3,053	92.5
Kenilworth & Hayes	24	132 (6.7%)	317 (16.1%)	782 (39.7%)	740 (37.5%)	1,971	1,977	82.4
Minnesota & Grant	18	172 (22.8%)	272 (36.0%)	228 (30.2%)	84 (11.1%)	756	1,326	73.7
Benning & 36 th	8	2 (1.2%)	60 (34.7%)	111 (64.2%)	0 (0.0%)	173	157	19.6
Kenilworth & Polk	7	139 (47.3%)	9 (3.1%)	146 (49.7%)	0 (0.0%)	294	162	23.1
Total (90 hours):						6,173	6,675	74.2

Note: Some data collection entries did not include the side of the intersection that was crossed. In addition, pedestrians and bicyclists were counted each time they crossed a different leg of the Benning Road and 36th Street and Kenilworth Terrace and Polk Street intersections (as shown in the Total Crossings column), but these people were considered only once in the final count (as shown in the Total Ped/Bike Count column).

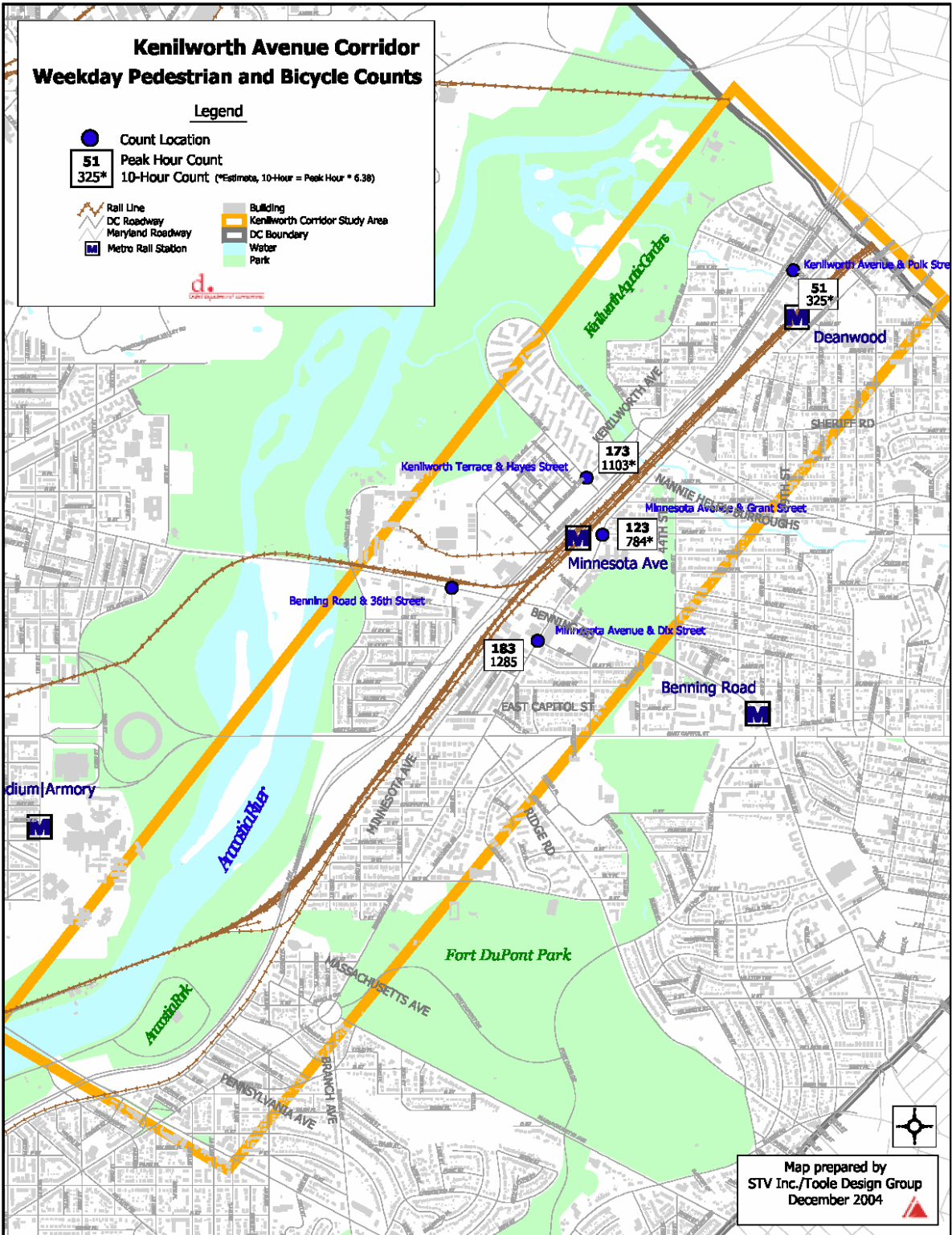


Figure B.3. Weekday Pedestrian and Bicycle Counts

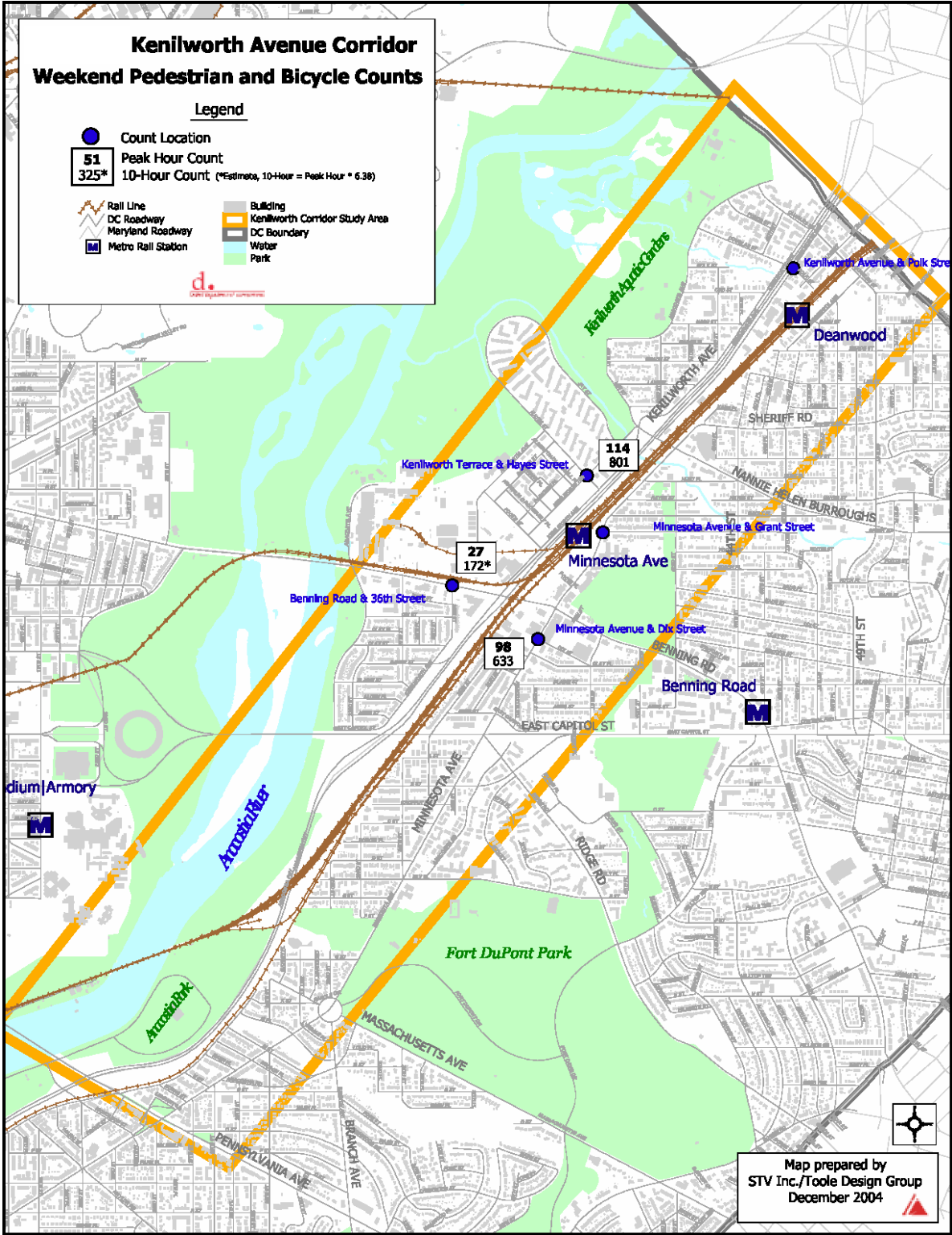


Figure B.4. Weekend Pedestrian and Bicycle Counts



B.3 PEAK-HOUR PEDESTRIAN AND BICYCLE OBSERVATIONS

Weekday and weekend peak-hour pedestrian and bicycle volumes are shown in Figures B.3 and B.4.

It was observed that locations with the highest peak-hour counts corresponded generally with the locations with the highest overall pedestrian and bicycle flows. However, even in locations with fewer pedestrians, such as Kenilworth Avenue and Polk Street, approximately one pedestrian crossed the intersection per minute during weekday peak periods.

The highest numbers of pedestrians and bicyclists were between 8:00 AM and 9:00 AM at Minnesota Avenue and Grant Street where many groups of students cross near the intersection on their way to school. It is also likely that students who are walking and biking after school helped bring counts to their highest levels between 3:00 PM and 4:00 PM at Minnesota Avenue and Dix Street and Kenilworth Avenue and Polk Street.

Fewer pedestrians and bicyclists are observed at Minnesota Avenue and Dix Street and Kenilworth Terrace and Hayes Street on Saturday than on the weekdays, but there were still between one and two people crossing these intersections per minute during the peak hour. Pedestrian and bicycle activity was highest during the last Saturday count period at the Minnesota Avenue and Dix Street and Benning Road and 36th Street intersections.

Age

People of all ages were observed walking and bicycling in the Kenilworth Avenue Corridor. Approximately five percent of the people crossing these streets were estimated to be under age 10 and approximately six percent were age 60 or older.

Though all ages were represented, teenagers (ages 10-19) were the most common group of pedestrians and bicyclists. This age group was especially common near the intersections of Kenilworth Terrace and Hayes Street and Kenilworth Avenue and Polk Street. Both of these intersections are on routes commonly used by students to go to and from school. Extra consideration should be given to pedestrian facilities and traffic calming near these intersections to provide these students with safe routes to school.



Figure B.5. Teenagers (ages 10-19) are the most common group of pedestrians and bicyclists identified in the corridor.

Table B.3 - Age of Pedestrians and Bicyclists (row percentages)

Location	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70+	Total Ped/Bike Count*
Minnesota Avenue and Dix Street	212 (7.1%)	706 (23.5%)	494 (16.5%)	486 (16.2%)	564 (18.8%)	341 (11.4%)	168 (5.6%)	32 (1.1%)	3,003
Kenilworth Avenue and Hayes Street	99 (5.0%)	509 (25.9%)	462 (23.5%)	472 (24.0%)	239 (12.2%)	81 (4.1%)	62 (3.2%)	39 (2.0%)	1,963
Minnesota Avenue and Grant Street	6 (0.6%)	415 (42.5%)	159 (16.3%)	193 (19.8%)	105 (10.8%)	35 (3.6%)	53 (5.4%)	14 (1.4%)	976
Benning Road and 36th Street	0 (0.0%)	19 (11.1%)	43 (25.1%)	36 (21.1%)	37 (21.6%)	21 (12.3%)	15 (8.8%)	0 (0.0%)	171
Kenilworth Avenue and Polk Street	8 (2.7%)	132 (45.2%)	46 (15.8%)	26 (8.9%)	54 (18.5%)	21 (7.2%)	5 (1.7%)	0 (0.0%)	292
Totals	325 (5.1%)	1,781 (27.8%)	1,204 (18.8%)	1,213 (18.9%)	999 (15.6%)	499 (7.8%)	303 (4.7%)	85 (1.3%)	6,405 (100.0%)

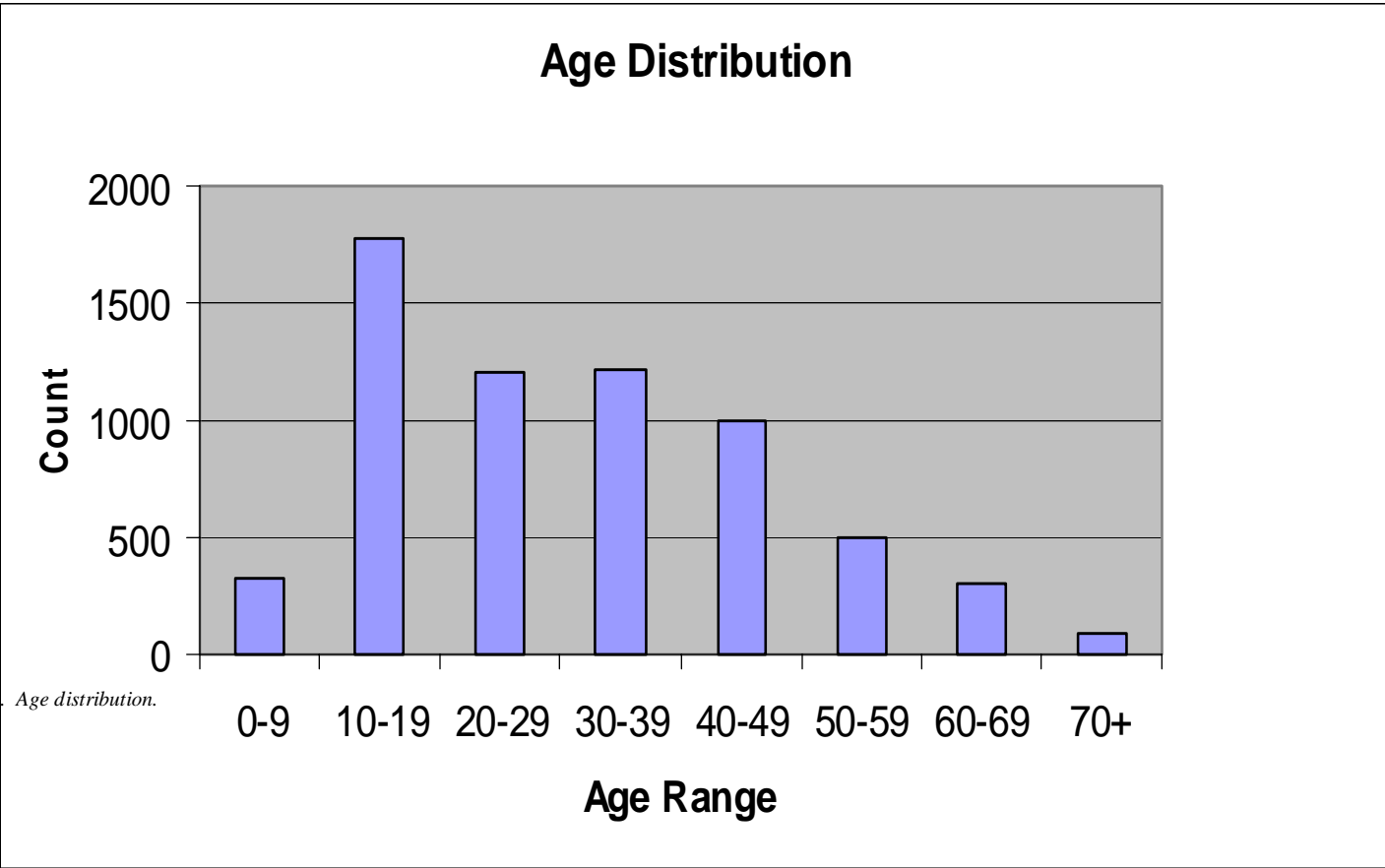


Figure B.6. Age distribution.

Gender

In all except one location, there was a relatively even balance between men and women. At the Benning Road and 36th Street intersection, there was a very significant imbalance between male and female pedestrians and bicyclists (83.7% male). This could be evidence that the local businesses have more male patrons or that there is significant crime in the area, which women may be especially sensitive.

Conditions in the roadway environment around Benning Road and 36th Street are also unpleasant which may contribute to the imbalance between male and female pedestrians and bicyclists. The freeway entrance and exit ramps between the intersection and the Benning Road bridge over Kenilworth Avenue serve many vehicles moving at high speeds. It can often be difficult to discern whether vehicles from Benning Road are going to break out of the heavy traffic flow on Benning Road onto entrance ramp. Further, the sidewalk on the bridge is only wide enough for two people to walk shoulder-to-shoulder, and it is hemmed in by a jersey barrier on one side and a chain-link fence on the other.

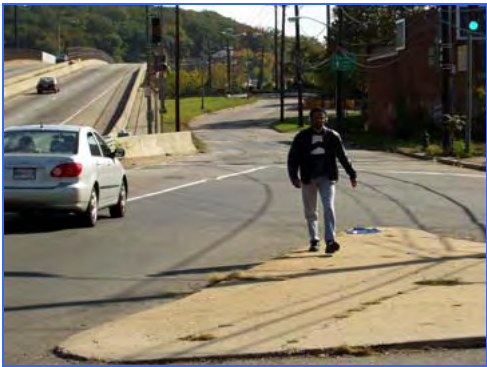


Figure B.7. Exit ramps on the west approach to the Benning Road bridge make a safe crossing for pedestrian difficult.

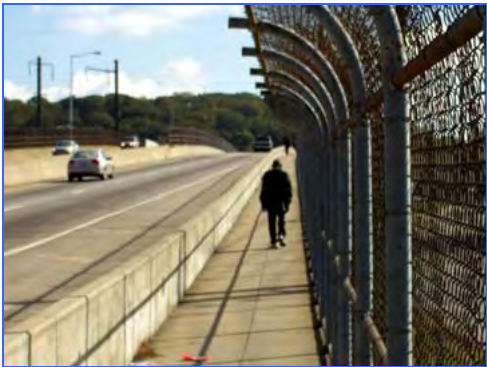


Figure B.8. Benning Road bridge presents a narrow sidewalk and an unwelcome experience for crossing pedestrians.

Table B.4 - Gender of Pedestrians and Bicyclists

Location	Male	Female	Total Ped/Bike Count*
Minnesota Avenue and Dix Street	1397 (48.4%)	1491 (51.6%)	2,888
Kenilworth Avenue and Hayes Street	1081 (55.0%)	883 (45.0%)	1,964
Minnesota Avenue and Grant Street	480 (49.7%)	485 (50.3%)	965
Benning Road and 36th Street	144 (83.7%)	28 (16.3%)	172
Kenilworth Avenue and Polk Street	139 (47.4%)	154 (52.6%)	293
Totals	3,241 (51.6%)	3,041 (48.4%)	6,282 (100.0%)

Note: Calculations of percentages are based on the total for the row.

Packages and Assistive Devices

Nearly half (45.5%) of all pedestrians and bicyclists that were observed were carrying packages (backpacks, briefcases, groceries, bags of merchandise, etc.). Many of these people are school children, shoppers, and workers. This observation shows that people who travel in the corridor are not only walking for exercise or to social activities; they rely on non-motorized transportation for their daily business activities and errands.



Figure 2.9. People of all abilities use the corridor.

During the data collection periods, 115 people (approximately two percent of pedestrians) were noted as using a wheelchair, walker, cane, or other assistive device. These observations show that pedestrians with disabilities are a component of the pedestrian traffic in the Kenilworth Avenue Corridor.

Table B.5 - Pedestrians and Bicyclists with Packages and Assistive Devices

Location	Carrying Packages	Total Ped/Bike Count considering packages*	Using Assistive Devices	Total Ped/Bike Count considering assistive devices*
Minnesota & Dix	1701 (55.7%)	3,053	71 (2.3%)	3,053
Kenilworth & Hayes	399 (25.2%)	1,581	34 (1.7%)	1,977
Minnesota & Grant	302 (46.9%)	644	10 (1.2%)	811
Benning & 36 th	73 (42.4%)	172		
Kenilworth & Polk	141 (47.8%)	295		
Overall	2,616 (45.5%)	5,745	115 (1.97%)	5,841



Bicyclists

Bicyclists were observed in different parts of the Kenilworth Avenue Corridor, but were especially common at the intersection of Benning Road and 36th Street where they represent 18.0% of the non-motorized traffic. This location was observed on a Saturday, which is a common day for recreational bike rides, however, it had a much greater percentage of bicyclists than the other Saturday data collection locations. The high count numbers show that Benning Road is a common route used by bicyclists to cross the Anacostia River, Kenilworth Avenue, and the CSX Railroad.

Bicyclists use this route despite the following conditions:

- high traffic volumes on Benning Road between 34th and 36th Streets;
- the need to cross on and off exit ramps for Kenilworth Avenue;
- narrow sidewalks and traffic lanes on the bridge; and
- large numbers of turning vehicles and many lanes to cross at the intersection of Benning Road and Minnesota Avenue.

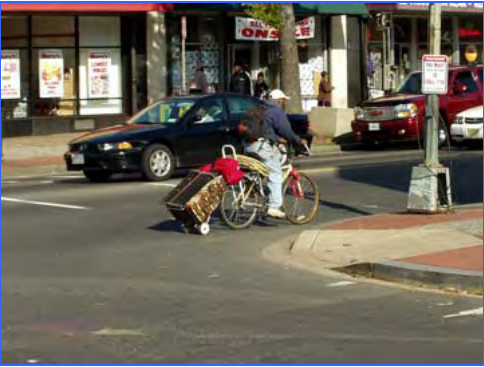


Figure B.10. A bicyclist navigates Minnesota Avenue at Dix Street.

It is likely that bicycle volumes would increase in this corridor if conditions were more suitable for bicycling. Heavy traffic and large numbers of vehicles turning into side streets and driveways may also be preventing more bicyclists from using Minnesota Avenue. In order to improve conditions, bicycles should be given better separation from vehicles on the road and conflicts with turning vehicles should be reduced through intersection improvements. This will make it possible for more people to bicycle to reach key destinations on this roadway, such as Fort DuPont Park, the Watts Branch Trail, the businesses and offices near Dix Street, and the Minnesota Avenue and Deanwood Metrorail Stations.

Table B.6 - Bicyclist Counts		
Location	Bicyclists	Total Ped/Bike Count*
Minnesota & Dix	11 (0.4%)	3,053
Kenilworth & Hayes	11 (0.6%)	1,977
Minnesota & Grant	8 (1.0%)	811
Benning & 36 th	31 (18.0%)	172
Kenilworth & Polk	0 (0.0%)	295
Overall	61 (1.0%)	6,308

B-4 PEDESTRIAN AND BICYCLE INTERCEPT SURVEY

An intercept survey was administered during late October and early November 2004. It was offered on several different weekday mornings and afternoons and throughout the daytime hours on a Saturday. It was offered to pedestrians and bicyclists in different parts of the Kenilworth Avenue Corridor to get responses from a variety of residents. Surveyors intercepted respondents in the vicinity of the following intersections:

- Minnesota Avenue and Nelson Place, SE;
- Minnesota Avenue and Dix Street, NE;
- Minnesota Avenue and Grant Street, NE; and
- Kenilworth Avenue and Quarles Street, NE.

Survey Participation

The surveyors recorded the total number surveys offered and refused; out of the 466 people who where invited to participate, 110 (23.6%) provided responses. All of the participants were pedestrians. Though bicyclists were eligible to participate, no person making a bicycle trip completed a survey.

Approximately half of all respondents were female (50.9%) and half were male (49.1%). People from age 17 to age 79 participated with representation from all age groups.

Nearly half (46.8%) of all survey respondents indicated that no one in their household owns or normally operates a motor vehicle. This percentage is much lower than the national average (10.3%) but slightly higher than, but similar to, the Census 2000 data for neighborhoods in the corridor. Another fifth (21.3%) of the respondents had only one motor vehicle in their household. Less than one-third (31.9%) of respondents have two or more motor vehicles in their household.

Table B.7 - Survey Response Summary

Location	Date	Weekday	Time Period	Temp (°F)	Weather	# Completed	# Refused	Response Rate
Minnesota & Nelson	10/20/04	Wednesday	2:00 p.m. to 5:30 p.m.	50	Drizzle	13	43	23.2%
Minnesota & Dix	10/21/04	Thursday	9:00 a.m. to 1:00 p.m.	60	Cloudy	9	44	17.0%
Minnesota & Dix	10/21/04	Thursday	9:00 a.m. to 12:00 p.m.	60	Cloudy	4	32	11.1%
Minnesota & Dix	10/23/04	Saturday	12:00 p.m. to 4:00 p.m.	60	Sunny	23	37	38.3%
Kenilworth & Quarles	10/26/04	Tuesday	2:00 p.m. to 6:00 p.m.	60	Sunny	7	9	43.8%
Kenilworth & Quarles	10/26/04	Tuesday	3:45 p.m. to 6:00 p.m.	60	Sunny	3	17	15.0%
Minnesota & Dix	10/27/04	Wednesday	2:00 p.m. to 6:00 p.m.	60	Sunny	14	37	27.5%
Minnesota & Dix	10/27/04	Wednesday	4:00 p.m. to 6:00 p.m.	60	Sunny	3	13	18.8%
Minnesota & Grant	10/28/04	Thursday	2:00 p.m. to 6:00 p.m.	65	Sunny	11	27	28.9%
Minnesota & Grant	10/29/04	Friday	9:00 a.m. to 5:00 p.m.	55	Cloudy, rainy	10	49	16.9%
Minnesota & Grant	10/29/04	Friday	2:00 p.m. to 5:30 p.m.	56	Cloudy, rainy	13	48	21.3%
Total Responses:						110	356	23.6%

Table B-8 - Age of Respondents

Age Range	Responses (Percent)
10-19 years old	10 (9.3%)
20-29 years old	24 (22.2%)
30-39 years old	25 (23.1%)
40-49 years old	29 (26.9%)
50-59 years old	6 (5.6%)
60-69 years old	11 (10.2%)
70 or more years old	3 (2.8%)
Total	108 (100%)

Table B.9 - Number of Motor Vehicles

Number of Motor Vehicles in Household	Responses (Percent)
0 motor vehicles	44 (46.8%)
1 motor vehicle	20 (21.3%)
2 motor vehicles	17 (18.1%)
3 or more motor vehicles	13 (13.8%)
Total	94 (100%)

Trip Purpose

Survey participants were asked the purpose of their current walking trip. Work was the most common trip purpose, followed by shopping, school, and exercise. While the percentage of people surveyed on Saturday who walked for shopping (47.8%) was higher than reported during the weekday, work (56.5%) was still the most common trip purpose on Saturday. Analysis of the responses also showed that the majority of shopping trips (59.3%) were reported by respondents near the corner of Minnesota Avenue and Dix Street. This location is at the center of a cluster of retail stores.

Though the respondents were not asked to provide more than one trip purpose, 20 (18.2%) of the respondents reported multiple trip purposes. This indicates that many pedestrians are making linked trips between their homes and multiple destinations within the corridor.

Respondents also estimated the number of walking and biking trips they make for each purpose per week. The most

common purpose cited was to go shopping or run errands (64.8% of respondents made at least one shopping trip on foot or bicycle per week). Analysis also revealed that many of the survey respondents walk regularly, especially for work. Over half of the respondents made at least five walking or biking trips to work per week.

The survey participants were not asked if the purpose of their trip included accessing transit. However, large crowds at bus stops and crowded buses along Minnesota Avenue suggest that many of the pedestrians in the Kenilworth Avenue corridor walk to access transit. In addition, the Washington Area Metropolitan Transit Authority (WMATA) surveyed Metrorail riders on two weekdays in Spring 2002 and found that approximately 31% of the train riders at the Minnesota Avenue Metrorail Station and approximately 38% of the train riders at the Deanwood Station traveled to or from the station as pedestrians.

Table B-10 - Trip Purpose

Trip Purpose	Responses* (Percent)
To Work	54 (37.8%)
To Shopping/Errands	27 (18.9%)
To School	25 (17.5%)
For Exercise Only	24 (16.8%)
To Visit Friends, Go to the Gym, etc.	13 (9.1%)
Total	143 (100%)



Figure B.11. Trip Purpose



Trip Origin and Destination

Respondents provided information about the origin and destination of their trips. Their responses were not specific to walking or biking trips, so the origins and destinations that were listed could have been reached by any mode, including driving a motor vehicle or taking public transportation.

More than half of the people surveyed at these two sites were coming from or going to locations on the east side of the Kenilworth Avenue. 67.4% of the origins/destinations listed by people at Minnesota Avenue and Dix Street and 75.9% of the origins/destinations listed by people at Minnesota Avenue and Grant Street were east of Kenilworth Avenue.

These activity patterns are evidence that Kenilworth Avenue, the CSX Railroad and Metrorail lines, and the Anacostia River together create a significant obstacle to travel between neighborhoods east of the Kenilworth Avenue Corridor and the remainder of the District.

Table B.11 - Pedestrian and Bicycle Trips Per Week by Purpose

Trip Purpose	Valid Responses	At least 1 trip per week	At least 5 trips per week
To Work	105	66 (62.9%)	54 (51.4%)
To Shopping/Errands	105	68 (64.8%)	28 (26.7%)
To School	105	25 (23.8%)	18 (17.1%)
For Exercise Only	105	44 (41.9%)	28 (26.7%)
To Visit Friends, Go to the Gym, etc.	105	36 (34.3%)	16 (15.2%)

Improvements to bridges, tunnels, overpasses, underpasses, and other crossing facilities can help increase walking, bicycling, and other types of trips between both sides of Kenilworth Avenue and the Anacostia River.

There were a smaller number of people surveyed at the Minnesota Avenue and Nelson Street site, but the responses in those sections of the corridor showed a similar pattern of origins and destinations to the east of Kenilworth Avenue. The respondents at the Kenilworth Avenue and Quarles Street site did not provide enough useful information about their origins and destinations to identify a spatial pattern.

Barriers to Walking and Bicycling

Survey participants were presented with a list of potential barriers to walking and bicycling and asked to identify the greatest barriers in the Kenilworth Avenue Corridor. The most common barriers are listed in Table B.12.

Maintenance of streets and sidewalks was not included in the list of barriers on the survey, but maintenance-related issues were cited as a problem by 16.4% of the survey respondents in their open-ended responses, suggesting a need for regular street cleaning, roadway surface repair, and sidewalk repair in the corridor.

Table B.12 - Barriers to Walking and Bicycling

Reason Cited	Number of Respondents	Percent of Respondents
Heavy traffic	67	60.9%
Fast traffic	55	50.0%
Difficult street crossings	39	35.5%
Crime	30	27.3%
Not enough:		
Sidewalks	28	25.5%
Street Lights	27	24.5%
Bike Lanes/Bike Paths	26	23.6%
Places to Walk or Bike	26	23.6%

Note: Percentages based on 110 respondents.

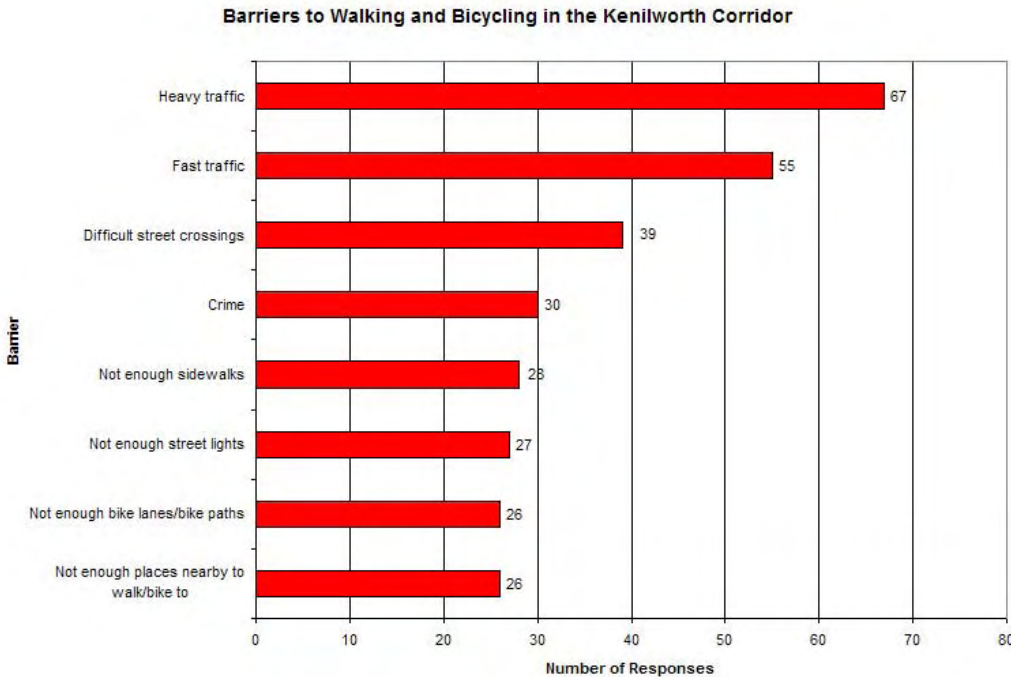


Figure B.12. Barriers to walking and bicycling.

Locations Difficult to Walk and Bike

Survey participants were asked to identify specific locations where they would like to see conditions for walking and bicycling improved. The most common roadway corridors identified as being difficult to cross are listed in Table B.13.

It is important to note that many of the participants completed the survey near Minnesota Ave within one-half mile of Benning Road. This area has some of the highest levels of pedestrian activity in the Kenilworth Avenue Corridor, which made it a prime area for distributing surveys. The survey responses below show that many parts of these two roadways, especially the intersection of Minnesota Avenue and Benning Road have difficult conditions for pedestrians and bicyclists. However, since most participants filled out the survey near Minnesota Avenue and Dix Street or

near the Minnesota Avenue Metrorail Station, they may have been less familiar with the north and south parts of the corridor. This may have caused fewer people to identify roadways such as Eastern Avenue as pedestrian and bicycle barriers.

All of these streets carry high volumes of traffic. Many of them, especially the Kenilworth Avenue service roads, serve high-speed traffic when they are not congested. All of the roads cited as being difficult to cross, except Ridge Road and Grant Street, have at least four travel lanes for pedestrians and bicyclists to negotiate while crossing. Most parts of Minnesota Avenue and Benning Road lack a median for pedestrians and bicyclists to use as a refuge for crossing one direction of traffic at a time.

Specific intersections were identified by participants as being difficult to walk or bike across. Not surprisingly, many of

the intersections mentioned by respondents as being difficult to cross have also experienced pedestrian crashes. The greatest number of survey participants cited the intersection of Minnesota Avenue and Benning Road as difficult to cross. This location experienced more pedestrian crashes than any other location in the District of Columbia between 1998 and 2002.

The roadways in Table B.14 were cited as being difficult to walk and bicycle along. Minnesota Avenue and Benning Road have sidewalks on both sides, but both streets have many intersections with cross-streets and driveways where turning vehicles cross the path of pedestrians and bicyclists. Nannie Helen Burroughs Avenue has missing sections of sidewalk and very narrow sidewalks on the north side of the road where it passes under Kenilworth Avenue.

Additional Survey Comments

Open-ended responses to the survey included several other suggestions for improving non-motorized travel in the Kenilworth Avenue Corridor. Several comments recommended better pedestrian facilities, emphasizing better lighting, pedestrian signals, and sidewalks.

Table B.13 - Difficult Roadways to Cross

Roadway Cited	Number of Respondents	Percent of Respondents
Minnesota Avenue	50	45.5%
Benning Road	31	28.2%
Kenilworth Avenue	14	12.7%
East Capitol Street	11	10.0%
Pennsylvania Avenue	9	8.2%
NHB Avenue	8	7.3%
Ridge Road	4	3.6%
Grant Street	4	3.6%
Eastern Avenue	3	2.7%

Note: Percentages based on 110 respondents.

Table B.14 - Difficult Roadways to Walk Along

Roadway Cited	Number of Respondents	Percent of Respondents
Minnesota Avenue	11	10.0%
NHB Avenue	6	5.5%
Benning Road	6	5.5%
Kenilworth Avenue	4	3.6%
Sheriff Road	2	1.8%

Note: Percentages based on 110 respondents.



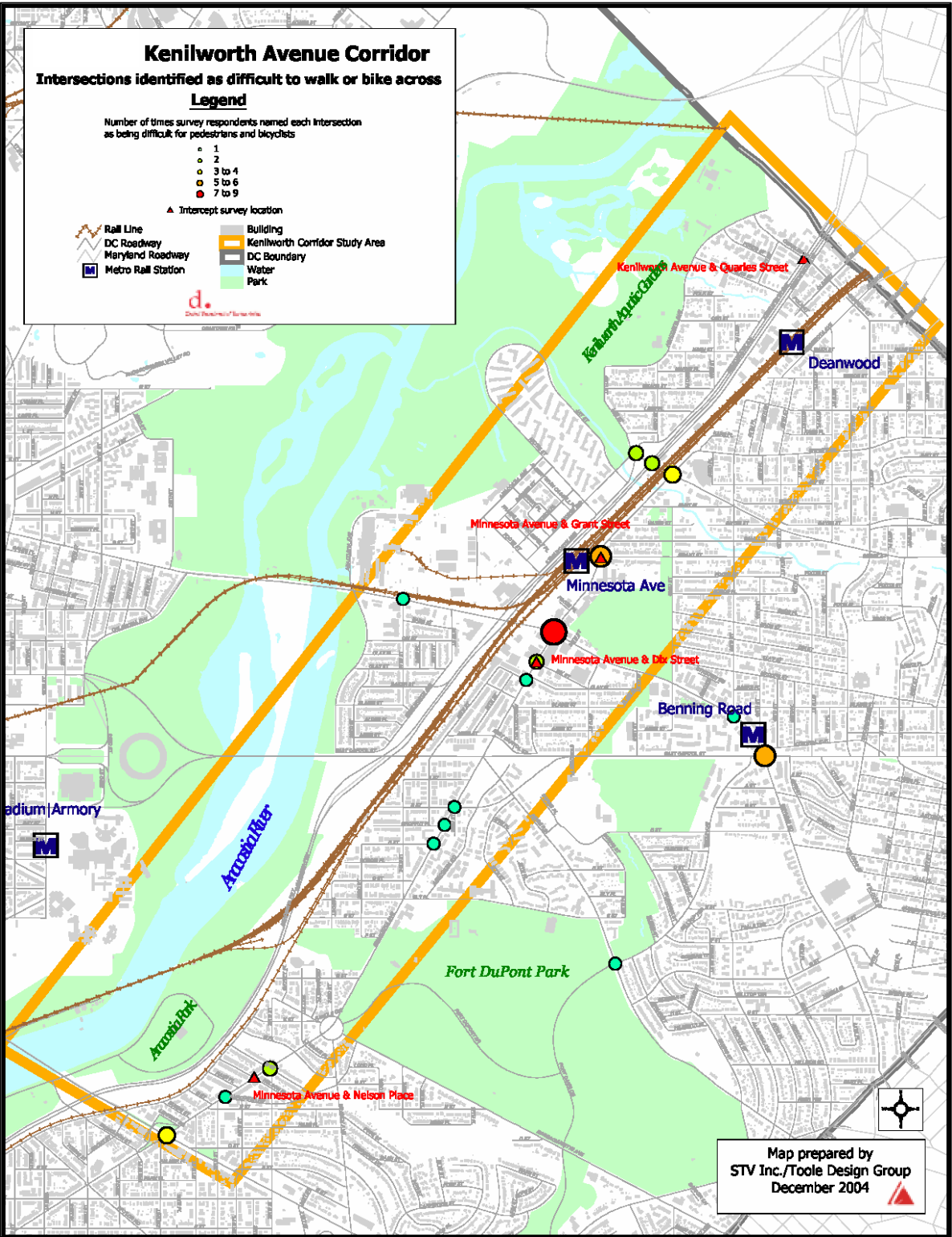


Figure B.13. Intersections identified as difficult to walk or bicycle.

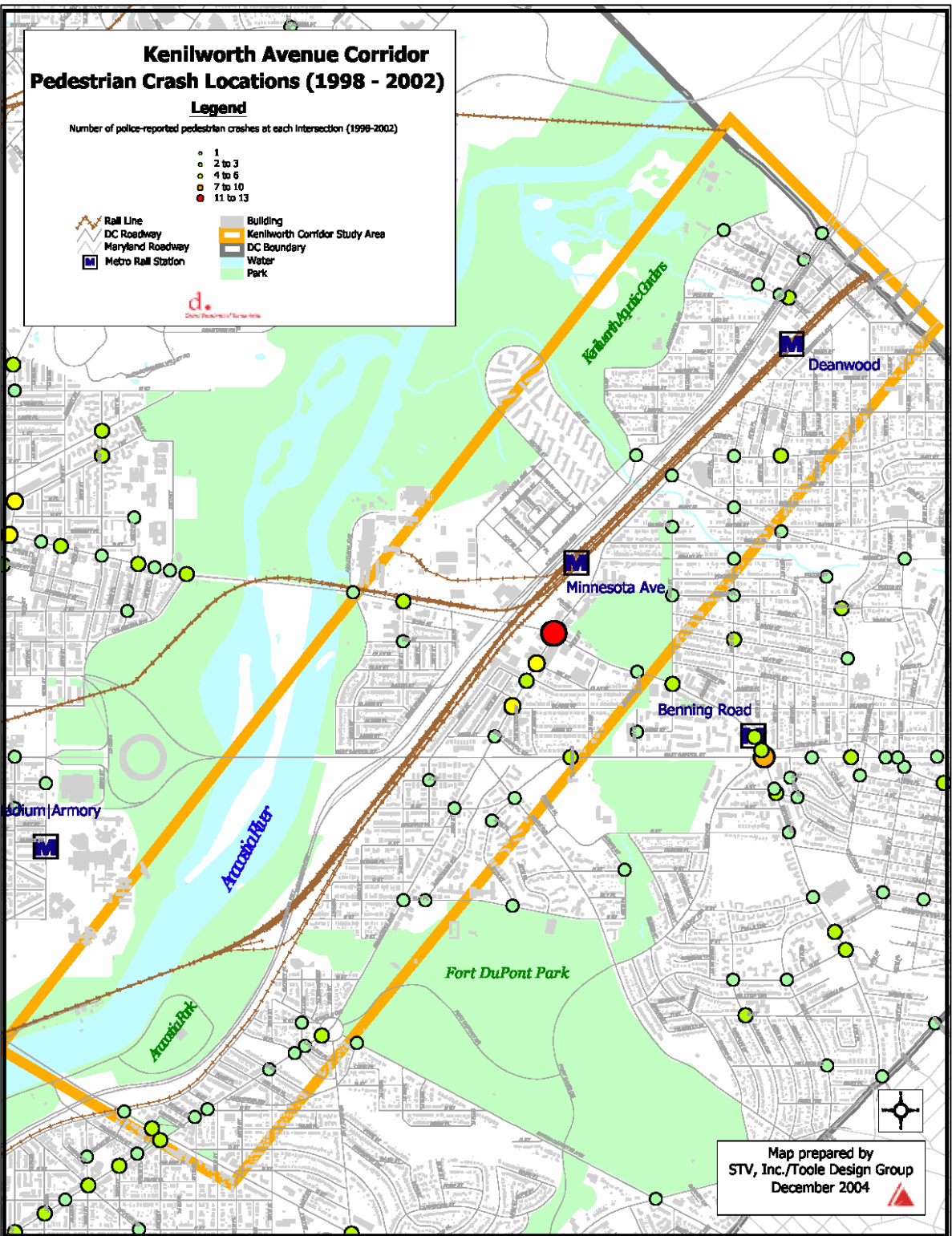


Figure B.14. Pedestrian crash locations.

Pedestrian and Bicycle Count Sheet and Survey Intercept Forms

Kenilworth Avenue Corridor Study Pedestrian and Bicycle Count Sheet

Location of Counts:

Observer Name:

Date:

Day of Week:

Time of Day of Observation Period:

Temperature:

Weather Conditions (sunny, cloudy, rainy, etc.):

Intersection control (2-way stop sign, traffic signals, etc.):

Unique Characteristics of Count Location:

Please write an observation every time a person crosses a street. If people are walking/biking together, circle the date on the left to show who is in each group. Mark a line below the latest completed observation every 15 minutes, and label that line with the current time.

Observation	Group (Circle date)	Estimated Age	Male or Female? (Circle Mark)	Pedestrian or Bicyclist? (Circle P or B)	Carrying Packages? (Circle Y or N)	Assistive Device (write: skates, wheel chair, cane, walker, etc.)	Which side of the intersection is the person crossing? (Circle North, South, East, or West)
1	*		M / F	P / B	Y / N		North / South / East / West
2	*		M / F	P / B	Y / N		North / South / East / West
3	*		M / F	P / B	Y / N		North / South / East / West
4	*		M / F	P / B	Y / N		North / South / East / West
5	*		M / F	P / B	Y / N		North / South / East / West
6	*		M / F	P / B	Y / N		North / South / East / West
7	*		M / F	P / B	Y / N		North / South / East / West
8	*		M / F	P / B	Y / N		North / South / East / West
9	*		M / F	P / B	Y / N		North / South / East / West
10	*		M / F	P / B	Y / N		North / South / East / West
11	*		M / F	P / B	Y / N		North / South / East / West
12	*		M / F	P / B	Y / N		North / South / East / West
13	*		M / F	P / B	Y / N		North / South / East / West
14	*		M / F	P / B	Y / N		North / South / East / West
15	*		M / F	P / B	Y / N		North / South / East / West
16	*		M / F	P / B	Y / N		North / South / East / West
17	*		M / F	P / B	Y / N		North / South / East / West
18	*		M / F	P / B	Y / N		North / South / East / West
19	*		M / F	P / B	Y / N		North / South / East / West
20	*		M / F	P / B	Y / N		North / South / East / West
21	*		M / F	P / B	Y / N		North / South / East / West
22	*		M / F	P / B	Y / N		North / South / East / West
23	*		M / F	P / B	Y / N		North / South / East / West
24	*		M / F	P / B	Y / N		North / South / East / West
25	*		M / F	P / B	Y / N		North / South / East / West
26	*		M / F	P / B	Y / N		North / South / East / West
27	*		M / F	P / B	Y / N		North / South / East / West
28	*		M / F	P / B	Y / N		North / South / East / West
29	*		M / F	P / B	Y / N		North / South / East / West
30	*		M / F	P / B	Y / N		North / South / East / West
31	*		M / F	P / B	Y / N		North / South / East / West
32	*		M / F	P / B	Y / N		North / South / East / West
33	*		M / F	P / B	Y / N		North / South / East / West

KENILWORTH AVENUE CORRIDOR PEDESTRIAN AND BICYCLE SURVEY

Help make it safer to walk and bicycle in Ward 7! We need just 1 minute of your time to complete this survey. This survey is sponsored by the District of Columbia Department of Transportation. Your response will be used only for the purposes of this project. If you have any questions, please call Bob Schneider of Toole Design Group at 301-362-1600.

1. What is the PRIMARY purpose of your walk or bike ride today? (check one)
☐ To work ☐ To shopping/errands ☐ To school ☐ To visit friends, go to the gym, etc. ☐ For exercise only

2. How many TIMES PER WEEK do you walk or bike for the following purposes? (write number in each blank)
Go to work: _____ Go to school: _____ Go shopping or run errands: _____
Go to visit friends, go to the gym, etc.: _____ Get exercise (not go to a destination): _____

3. Think of all the neighborhoods within a 5 to 10 minute walk of Kenilworth Avenue. Please tell us where the three most difficult places to walk or bike across streets are (please circle them on the map on the back or list them here):
1) _____
2) _____
3) _____

4. Think of all the neighborhoods within a 5 to 10 minute walk of Kenilworth Avenue. Please tell us where the three most difficult places to walk or bike beside the street are (circle them on the map on the back or list them here):
1) _____
2) _____
3) _____

5. What are the greatest barriers to walking/biking near Kenilworth Avenue? (check as many as you would like)
☐ Heavy traffic ☐ Fast traffic ☐ Difficult street crossings ☐ Not enough sidewalks ☐ Not enough bike lanes/bike paths
☐ Crime ☐ Not enough street lights ☐ Not enough places nearby to walk/bike to ☐ Other _____

6. Please tell us where you started your walk/bike ride: Location? _____
On what street? _____ (Street Name (S, N, E, W), Banning Rd.) Near what intersection? _____ (Name of Place (S, N, Home, Dearwood Metro, Subway) Intersecting Street (S, N, E, W) Street)

7. Please tell us the destination of your walk/bike ride: Location? _____
On what street? _____ (Street Name (S, N, E, W), Banning Rd.) Near what intersection? _____ (Name of Place (S, N, Home, Dearwood Metro, Subway) Intersecting Street (S, N, E, W) Street)

8. What is your age?: _____ 9. What is your gender?: ☐ Female ☐ Male

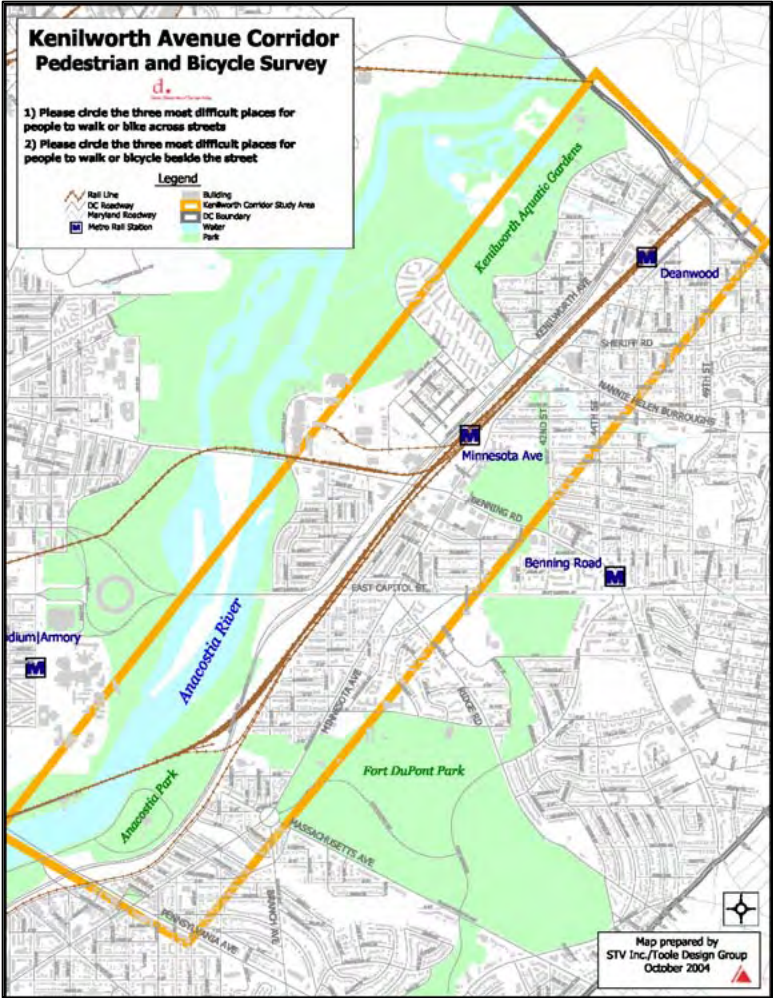
10. How many motor vehicles do you have in your household?: _____

11. Please tell us if you have any other comments (places you wish it were easier to walk/bike to, ideas for making it better for walking and bicycling in the neighborhoods near Kenilworth Avenue):

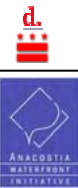
Thank you for completing this survey!



This survey was developed by Toole Design Group/STV Incorporated for the District Department of Transportation



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Appendix C

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TRANSIT DATA DISCUSSION

C.1 METRORAIL

The Metrorail Orange Line extends from the New Carrollton Metrorail Station in Prince George’s County, Maryland to the Vienna/Fairfax-GMU Metrorail Station in Fairfax County, Virginia. Within the Study Area, the Orange Line operates at-grade, parallel and adjacent to Kenilworth with service to Deanwood Metrorail Station at the northernmost end near Eastern Avenue and Minnesota Avenue Metrorail Station near Benning Road.

Railroad tracks frame both sides of the Metrorail right-of-way at both stations. On one side is an active CSX freight line, on the other is an active Norfolk Southern freight line. Service on this portion of the Orange Line began on November 20, 1978. Service frequency on the Orange Line is less than 10 minutes during weekday peak hours, 12 minutes mid-day, 12 minutes Monday through Thursday evenings, 10-20 minutes Friday evening, 12-15 minutes on Saturday and 17-20 minutes on Sunday.

South of the Minnesota Avenue Metrorail Station, adjacent to Benning Road, the Orange Line turns westward and is joined by the Blue Line before crossing the Anacostia River on common track. The next stop inbound on both lines is at the Stadium-Armory Metrorail Station, located just west of the Study Area.

Deanwood Metrorail Station

The Deanwood Metrorail Station is located at ground level along the north side of Minnesota Avenue, NE, between 48th Street and Nash Street. Passengers board and alight from an island platform beneath a gull-wing roof. The entrance is at the center of the platform. Two

elevators – one from the street to the mezzanine level and one from the mezzanine level to the platform level – are available as well as two escalators from the street to the mezzanine level and two escalators from the mezzanine level to the platform level. A small parking lot of 194 spaces is accessed from Minnesota Avenue. Rates are \$3.50 per day or \$45.00 reserved monthly and is collected upon entry from 5:00 AM to 2:00 PM.

The station opens at 4:58 AM, with the first train departing for New Carrollton at 5:36 AM and for Vienna/Fairfax-GMU at 5:08 AM. Trains leave starting at 7:00 AM on Saturdays and Sundays. The last train departs for New Carrollton at 12:27 AM and for Vienna-Fairfax at 11:44 PM. On Friday and Saturday nights, trains leave exactly three hours later. Travel to Metro Center, 5.99 miles distant, takes 19 minutes and costs \$2.00 (regular fare). Average weekday ridership at Deanwood is xxx inbound boardings and xxx outbound boardings.

The Deanwood station is served by Metrobus routes R12, V14, V15, V7, V8, and W4. More information concerning these routes is contained in the following section on Metrobus.

Minnesota Avenue Metrorail Station

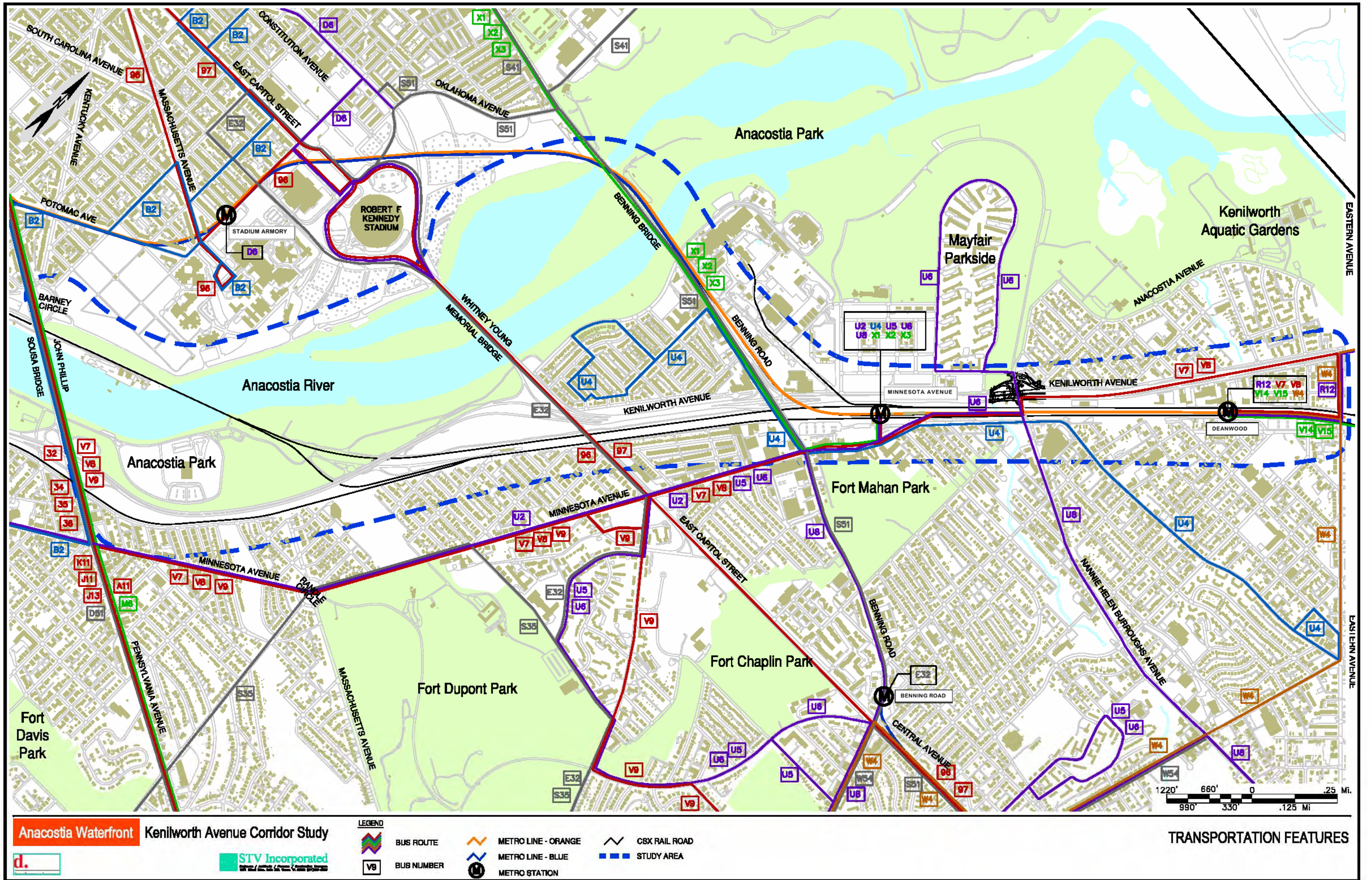
The Minnesota Avenue Metrorail Station is located also at ground level adjacent to the Amtrak Northeast Corridor right-of-way between Minnesota Avenue and Kenilworth Avenue. The entrance is at Grant Street NE. Passengers board and alight from a center platform with design similar to that at Deanwood Metrorail Station. Two elevators – one from the street to the mezzanine level and one from the mezzanine level to the platform level – are available as well as two escalators from the street to the mezzanine level and two escalators

from the mezzanine level to the platform level. A 333-space parking lot is adjacent to the station. Twenty short-term parking spaces are also available. Rates are \$2.50 per day or \$45.00 reserved monthly and is collected upon entry from 5:00 AM to 2:00 PM.

The station opens at 5:00 AM, with the first train departing for New Carrollton at 5:34 AM and for Vienna/Fairfax-GMU at 5:10 AM. Trains leave starting at 7:00 AM on Saturdays and Sundays. The last train departs for New Carrollton at 12:25 AM and for Vienna-Fairfax at 11:46 PM. On Friday and Saturday nights, trains leave exactly three hours later. Travel to Metro Center, 5.21 miles away, takes 17 minutes and costs \$1.35 (regular fare). Average weekday ridership at Minnesota Avenue Metrorail Station is xxx inbound boardings and xxx outbound boardings.

The Minnesota Avenue Metrorail Station is served by Metrobus routes U2, U4, U5, U6, U8, V7, V8, X1, X3, and X2. More information concerning these routes is contained in the following section on Metrobus.





C.2 METROBUS

Although there is a significant amount of transit service in the vicinity of the corridor, most of it is on arterial roads such as Minnesota Avenue, Benning Road, East Capitol Street, and Pennsylvania Avenue. A majority of this service is oriented toward downtown and most of the fixed routes bus service operates over Pennsylvania Avenue because this is a major direct access route to downtown Washington, DC.

Many residential neighborhoods within the corridor and abutting Kenilworth Avenue are situated such that line-haul bus service would not be possible. Several neighborhoods such as Eastern Gardens and Dupont Park are completely surrounded by natural or man-made impediments such as freeways, railroads, parks, or the Anacostia River, making access for transit service, or to transit service, complicated.

However, neighborhoods like Mayfair Parkside, Greenway and River Terrace are served by bus Routes U4, U5 and U6. One of the purposes of this study is to transform the Kenilworth Avenue Corridor into a more pedestrian-friendly environment. However, present transit conditions confirm the difficulty of accessibility to some of the neighborhoods.

Table C.1 shows the 32 Metrobus routes that serve the Kenilworth Avenue Corridor. This information is useful for a number of reasons but chiefly because it documents three characteristics of the bus route network:

Table C.1 – Metrobus Routes

Route	From	To	Via	
32	Friendship Heights	M Southern Avenue	M Wisconsin Avenue, Pennsylvania Avenue	M M M M M
34	Friendship Heights	M Naylor Road	M Wisconsin Avenue, Pennsylvania Avenue	M M M M M
35	Friendship Heights	M Naylor Road	M Wisconsin Avenue, Pennsylvania Avenue	M M M M M
36	Friendship Heights	M Naylor Road	Wisconsin Avenue, Pennsylvania Avenue	M M M M
96	Capitol Heights	M Duke Ellington Br.	East Capitol Street, Union Station, New Jersey Avenue	
97	Capitol Heights	M Columbus Place	M East Capitol Street	M M M M
A11	Capital Plaza	Federal Triangle	M M MLK Jr. Highway, Pennsylvania Avenue	
B2	Rhode Island Avenue/34th Street	Anacostia	Bladensburg Road, Potomac Avenue	
D51	Congress Heights	M Duke Ellington H.S.	Alabama Avenue, Pennsylvania Avenue, Wisconsin Avenue	
E32	Eastern High School	Benning Road	Independence Avenue, East Capitol Street, Ridge Road, G Street	M M
J11	Forestville	Addison Rd/Seat Pleasant Road	M Marlboro Pike, Larchmont Avenue, Central Avenue	
J13	Forestville	Federal Triangle	M M Marlboro Pike, Pennsylvania Avenue, Constitution Ave	M M
K11	Potomac Avenue/14th Street, SE	M M Branch Avenue	M Pennsylvania Avenue, Silver Hill Road, Allentown Road, Auth Road	M
M6	Bradbury Heights	Potomac Avenue	M M Pennsylvania Avenue	
R12	New Carrollton	M Deanwood	M Princess Garden Parkway, Greenbelt Metrorail Station, Kenilworth Avenue	M
S35	Branch Avenue/Randle Circle	Sousa Middle School	Branch Avenue, Southern Avenue, Ridge Road	
U2	Minnesota Avenue	M Anacostia	M Minnesota Avenue	
U4	Eastern Avenue/Sheriff Road	River Terrace	Sheriff Road, Minnesota Avenue, Benning Road	M
U5	Minnesota Avenue	M Lincoln Heights /Marshall Heights	Minnesota Avenue, 37th Street, Texas Avenue, East Capitol Street	
U6	Mayfair	Lincoln Heights /Marshall Heights	Jay Street, Minnesota Avenue, 37th Street, Texas Avenue, East Capitol Street	M
U8	Capitol Heights	M Benning Heights	Nannie Helen Burroughs Avenue, Minnesota Avenue, Benning Road	M M
V7	Deanwood	M C & 14th Streets, SW	Kenilworth Avenue service road, Minnesota Avenue, Pennsylvania Avenue, Navy Yard	M M M M
V8	Deanwood	M 9th Street/Constitution Avenue	Minnesota Avenue, Pennsylvania Avenue, Navy Yard, Archives	M M M M
V9	Benning Heights	C & 14th Streets, SW	Alabama Avenue, Ridge Road, Minnesota Avenue, Minnesota Avenue, Pennsylvania Avenue, Navy Yard	M M M
V11	Addison Road/Seat Pleasant Road	M Potomac Avenue/14th Street, SE	M M Addison Road, Pennsylvania Avenue	
V12	Addison Road/Seat Pleasant Road	M Suitland	M Addison Road, Pennsylvania Avenue, Suitland Road	
V14	Penn Mar Shopping Center	Deanwood	M Mason Street, Gateway Boulevard, Suffolk Avenue, Central Avenue, Hill Road, Seat Pleasant Drive, Addison Road	M
V15	Penn Mar Shopping Center	Deanwood	M Mason Street, Gateway Boulevard, Suffolk Avenue, Central Avenue, Hill Road, Seat Pleasant Drive, Addison Road	M
W4	Capital Plaza	Anacostia	M Kenilworth Avenue, Eastern Avenue, Benning Road, Alabama Avenue, South Capitol Street	M M M
X1	Minnesota Avenue	M Potomac Park/State Department	Benning Road, Constitution Avenue	M M
X2	Minnesota Avenue	M Lafayette Square	M M Benning Road, H Street, 16th Street, I Street	M M M M M
X3	Minnesota Avenue	M McLean Gardens	Benning Road, Florida Avenue, U Street, Calvert Street, Woodley Road, Wisconsin Avenue	M M M

Source: Washington Metropolitan Transit Authority (WMATA)



- the extensive coverage of area bus routes and the range of destinations that can be reached with a one-seat ride from a location within the corridor;
- the interconnectivity of the Metrorail and Metrobus networks; and
- the radial orientation of the transit network.

Many destinations can be reached with a one-seat ride in such an extensive network. Those that cannot can usually be reached by connecting to Metrorail and the local network has excellent interconnectivity with the Metrorail system. This means that with a connection to Metrorail access can be gained to most anywhere in the region. There is good local collector/distributor feeder service in the vicinity of the corridor and adjoining neighborhoods. Service of this kind includes Routes U4, U5, U6, U8, V9, V14, and V15. There are a few neighborhoods such as Twining and Penn Branch that do not have such service.

However, the information contained in Table C.1 can be misleading. Many of the routes serving the corridor operate only limited service – some only when Metrorail is out of service, some on weekends only, some only one trip per day for specialized trips, etc. Nonetheless, there are a sizeable number of routes with service and the fact remains that accessibility to Metrorail and the region either by direct access or feeder bus is good. Table C.2 shows average peak hour headways for routes in the corridor. This table also shows the routes which do not operate regular schedules. It shows that 13 of the 32 routes operating in the corridor do not operate regularly scheduled weekday peak service.

Table C.2 – Metrobus Route Headways

Route	Peak Headway (minutes)	Weekday Service Span
32	N/A	N/A
34	N/A	N/A
35	N/A	N/A
36	N/A	N/A
96	18 m	4:45 AM-3:27 AM
97	14 m	6:00 AM-9:24 PM
A11	N/A	N/A
B2	11 m	4:32 AM-3:26 AM
D51	N/A	N/A
E32	N/A	N/A
J11	26 m	5:30 AM-6:49 PM
J13	N/A	N/A
K11	N/A	N/A
M6	17 m	5:21 AM-3:49 AM
R12	30 m	4:58 AM-10:31 PM
S35	N/A	N/A
U2	26 m	5:59 AM-10:17 AM
U4	12 m	4:42 AM-3:52 AM
U5	N/A	N/A
U6	12 m	4:34 AM-4:05 AM
U8	10 m	4:25 AM-3:57 AM
V7	26 m	4:39 AM-3:48 AM
V8	N/A	N/A
V9	26 m	5:00 AM-7:16 PM
V11	N/A	N/A
V12	23 m	4:55 AM-12:59 AM
V14	20 m	5:45 AM-7:37 PM
V15	N/A	N/A
W4	13 m	5:03 AM-3:26 AM
X1	18 m	3:40 AM-9:12 PM
X2	8 m	4:18 AM-3:22 AM
X3	30 m	3:34 AM-9:07 PM

Source: WMATA

C.3 BUS RAPID TRANSIT (BRT) AND STREETCAR SERVICE

Short term proposals for streetcar and BRT projects have emerged from the DC's Transit Future project. Two initiatives constitute this project:

- Anacostia Streetcar Project
- District of Columbia Transit Alternatives Analysis (DCAA)

Though no BRT or streetcar route is in operation in DC or the region today, both are being considered as part of the 18-month DCAA which is now underway. In addition to the Anacostia Streetcar line, which is being proposed for southeast Washington, nine “premium transit” route alternatives, which could be streetcar or BRT routes but likely will start as Rapid Bus routes, are recommended by the DCAA. Five of these have direct impact on the Kenilworth Avenue Corridor and are discussed below.

The proposed Anacostia Streetcar “starter-line” would operate wholly on city streets from a southern terminus at Bolling Air Force Base near South Capitol Street and Firth Stirling Avenue to the intersection of Pennsylvania Avenue SE and Minnesota Avenue SE. Intermediate stops have been tentatively identified for Suitland Parkway, Anacostia Metro station, Martin Luther King Jr. Avenue, and 16th Street.

The proposed street alignment was selected after negotiations on an earlier route along the Shepard Industrial Spur CSX right-of-way failed to reach a satisfactory agreement. The present alignment will serve the neighborhoods of Fairlawn, Anacostia, and Barry Farm.

Several extensions and segments of other routes operating in common alignment with the Anacostia Streetcar line are also under study. As part of the

DCAA the following “premium transit” routes which would operate in the vicinity of the Kenilworth Avenue Corridor are being studied and evaluated:

Minnesota Avenue Metrorail Station to Bolling AFB

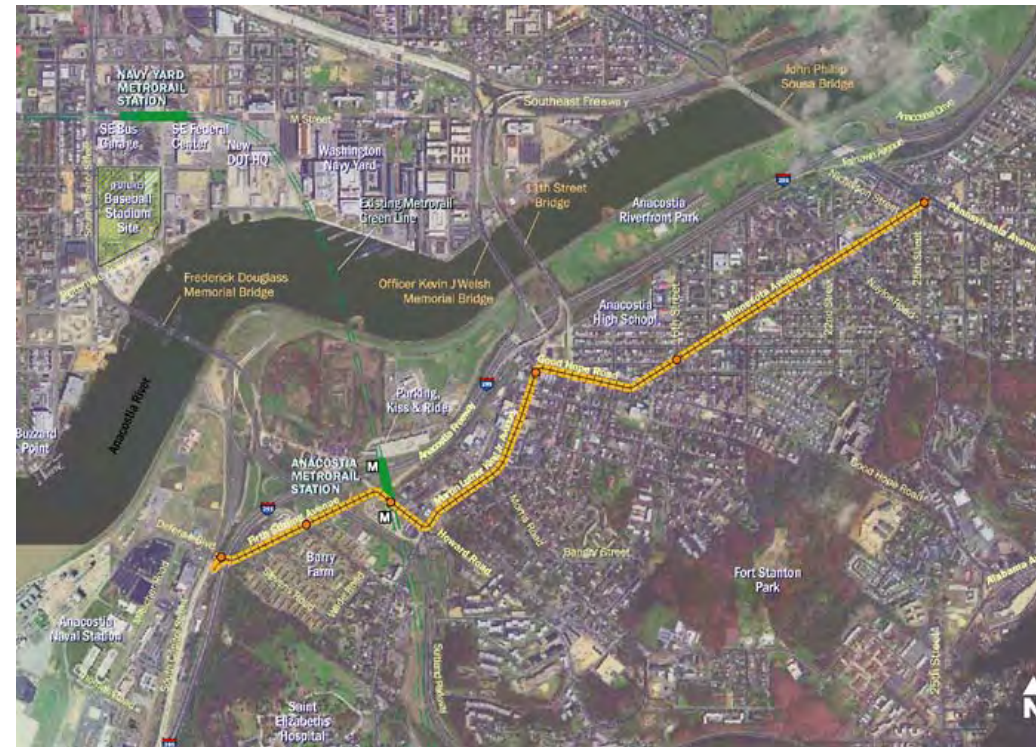
This “premium transit” route would operate from the Minnesota Avenue Metro station over Minnesota Avenue NE to Pennsylvania Avenue, whereupon it would connect with or join the Anacostia Streetcar line. If the latter alternative is selected this line would in effect be an extension of the Anacostia Streetcar line.

Georgetown/Crosstown to Minnesota Avenue Metrorail Station

This “premium transit” route would begin at Georgetown University, go east down Canal Street and M Street NW, turn south on Wisconsin Avenue NW, and east on K Street NW. At Mt. Vernon Square, the alignment would head southeast on Massachusetts Avenue NW, turn east on H Street NW/NE, merge onto Benning Road NE, and turn north on Minnesota Avenue, terminating at the Minnesota Avenue Metrorail station. If Light Rail is selected, this line would operate in conjunction with the Anacostia Streetcar line between the Minnesota Avenue Metrorail station and Pennsylvania Avenue SE.

Friendship Heights Metrorail Station via Georgetown/Crosstown to Minnesota Avenue Metrorail Station

This “premium transit” route follows the same route as described in the preceding bullet, except that it would begin at Friendship Heights Metro station and travel the length of Wisconsin Avenue NW before turning east on K Street NW and then following the route above to the Minnesota Avenue Metrorail station.



Georgetown/SW Waterfront to Minnesota Avenue Metrorail Station

This “premium transit” route would begin at Georgetown University, go east down Canal Street and M Street NW, turn south on Wisconsin Avenue NW, and east on K Street NW. At Washington Circle, the alignment would turn south onto 23rd Street NW, then east on Independence Avenue SW, south on 12th Street SW, southeast onto Maine Avenue SW, and east onto M Street SW/SE. The route would then turn north onto 11th Street SE, right on K Street SE, northeast on Potomac Avenue SE, and north on 19th Street SE/NE past DC General Hospital and RFK Stadium. Finally, the alignment would turn east on Benning Road NE and north on Minnesota Avenue, terminating at the Minnesota Avenue Metrorail station.

Friendship Heights Metrorail Station via Georgetown/SW Waterfront to Minnesota Avenue Metrorail Station

This “premium transit” route follows the same route as that described in the immediately foregoing bullet, except that it would begin at Friendship Heights Metro station and travel the length of Wisconsin Avenue NW before turning east on K Street NW and then following the route above to the Minnesota Avenue Metrorail station.

In addition to these “premium transit” routes, one Rapid Bus route is under study as part of the DCAA. This route would operate from Forestville to Downtown. This rapid bus route would operate through the Kenilworth Avenue Corridor Study Area on Pennsylvania Avenue SE, intersecting Minnesota Avenue at Pennsylvania Avenue SE.

All of these routes are under study. Alignments, station locations and modes have not been selected. These attributes will become clearer as the Alternatives Analysis proceeds towards its conclusion in 2006.

Future extension of the Anacostia Streetcar to Deanwood Metro station could be implemented when the two discontinuous segments of Minnesota Avenue are connected. This would provide transit service along the Anacostia River corridor from the DC City Limits at Eastern Avenue to Bolling Airforce base with radial connections at Benning Road, East Capitol Street, and Pennsylvania Avenue within the Kenilworth Avenue Corridor Study Area and Good Hope Road, Martin Luther King Jr. Avenue, the Anacostia Metrorail station, and South Capitol Street beyond. Service such as that just described could result in tremendous continuity and north-south mobility in the Corridor as well as heighten the potential for TOD at important transfer points and commercial centers. At no time in the past has there been continuous transit service in the Anacostia River corridor because most service in the Study Area is oriented radially toward Downtown Washington. In addition, to providing north-south continuity in the Corridor and increasing the potential for development in the area, improved transit service would reduce dependence on the automobile and modestly alleviate congestion in the Corridor.



C.4 SUMMARY

Bus service operates on all of the major roadways over or under Kenilworth Avenue, including Nannie Helen Burroughs Avenue, Benning Road, East Capitol Street, and Pennsylvania Avenue. This service provides mobility from the east to the west side of Kenilworth Avenue and helps to create more cohesiveness and a sense of community and unity among neighborhoods, hence, helping to achieve one of the goals of the Kenilworth Avenue Corridor Study.

Although Kenilworth Avenue carries no bus service, the Kenilworth Avenue service road does. Routes V7 and V9 operate on both the eastern and western Kenilworth Avenue service roads between Eastern Avenue and Nannie Helen Burroughs Avenue, whereupon the routes cross under Kenilworth Avenue on Nannie Helen Burroughs Avenue and continue operating south on Minnesota Avenue. The Kenilworth Avenue service road carries no transit routes south of Nannie Helen Burroughs Avenue.

The other major north-south arterial in the area is Minnesota Avenue which carries numerous bus routes; however, no bus route serves the street from end to end. The road is discontinuous with one section in place between Eastern Avenue and Meade Street and another between Sheriff Road and Good Hope Road in Anacostia.

Bus routes R12, V7, V8, V14, V15, and W4 operate over Minnesota Avenue between Eastern Avenue and Deanwood Metrorail Station. Along Minnesota Avenue, south of Sheriff Road, numerous bus routes, including U2, U4, U5, U6, V7, V8, and V9 operate along various portions of Minnesota Avenue. Only Routes V7 and V9, which operate on Minnesota Avenue south of Nannie

Helen Burroughs Avenue, continue for the full length of the arterial roadway within the Study Area, which ends at Pennsylvania Avenue and the John Philip Sousa Bridge.

In addition to peak headways, Table C.2 shows the weekday span of service. Approximately one-third of the routes operate well past midnight and past the hours of operation of Metrorail.

There appear to be few transit deficiencies in the vicinity of the Kenilworth Avenue Corridor Study Area. Excellent neighborhood-based collector routes are in place, serving as feeder/distributor functions to Metrorail stations, including Deanwood, Minnesota Avenue, and Benning Road.

Residents of some neighborhoods such as Central Northeast that lie between Nannie Helen Burroughs Avenue and Benning Road/Central Avenue must walk about .4 mile to one of the above roads to access transit service but, once there, transit service on these roads is quite frequent with 10 minute peak headways on Route U8. In addition, the Benning Road Metrorail Station on the Blue Line is an option. Also, some residents of the westernmost portions of the neighborhood between Minnesota Avenue and Anacostia Park, south of East Capitol Street may experience three or four block walks to reach transit routes on Minnesota Avenue. No other neighborhood appears to lack accessible transit service, i.e. a bus route or Metrorail station within 1/4 mile.

Overall, transit coverage is good in the Study Area. However, additional assessment of possible rail and transit improvements that could improve system capacity and attractiveness and, thus, reduce dependence on automobile trips in the corridor are discussed in Chapter 9 – Future Opportunities.

Some “bunching” of buses has been observed in the Study Area. There may be several reasons for this. One is that the bridges across the Anacostia River, especially the John Philip Sousa Bridge, carry many transit routes that converge from all over Prince George’s County. Roads that feed the bridges and the bridges themselves are “throats” for automobile and bus traffic. Bus congestion tends to emulate automobile traffic in the same environment. Although transit schedules may dictate certain headway, peak period operations in busy corridors, with many routes feeding a common trunk, bunching cannot be avoided. A solution would be the construction of bus-only bridges or exclusive transit lanes on existing roadways. Neither of these alternatives, however, represents a simple, inexpensive solution.

In addition, some “bunching” of buses at rail stations may be desirable. Feeder bus operations are intended to drop riders off at rail stations within a certain window – usually five minutes -- of train arrival and leave for distribution of passengers within a certain window – usually five minutes -- after train departure. This means that there is frequently a “pulse” phenomenon at rail stations and other transfer centers similar to what is seen today at hub airports. This “bunching” or pulse scheduling in this context is a good thing, i.e. it increases interconnectivity, passenger convenience and overall mobility while reducing travel time. It does, however, place additional demand on roads leading to and from the rail station and can contribute to congestion and “bunching” of buses.

Appendix D

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Roadways Classifications D-1

Traffic Counts D-2

Traffic Operations D-12

Traffic Safety..... D-17



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D.1 ROADWAY CLASSIFICATIONS

Kenilworth Avenue, also known as DC 295, is an expressway on the east side of the Anacostia River providing a link between Interstate 395 (I-395), Interstate 295 (I-295), and the Baltimore-Washington Parkway (MD 295). It serves as a major commuter route, carrying several thousand vehicles daily between Maryland and Washington, DC. Throughout the study area, the posted speed limit is 45 mph; however, the speed limit south and north of the study area is posted higher. Figure D.1 shows the roadway network and corresponding functional classifications in the study area (summarized below).

Roadways with a Freeway Classification:

- Kenilworth Avenue.

Roadways with an Arterial Classification:

- Pennsylvania Avenue;
- East Capitol Street;
- Benning Road;
- Nannie Helen Burroughs Avenue; and
- Eastern Avenue.

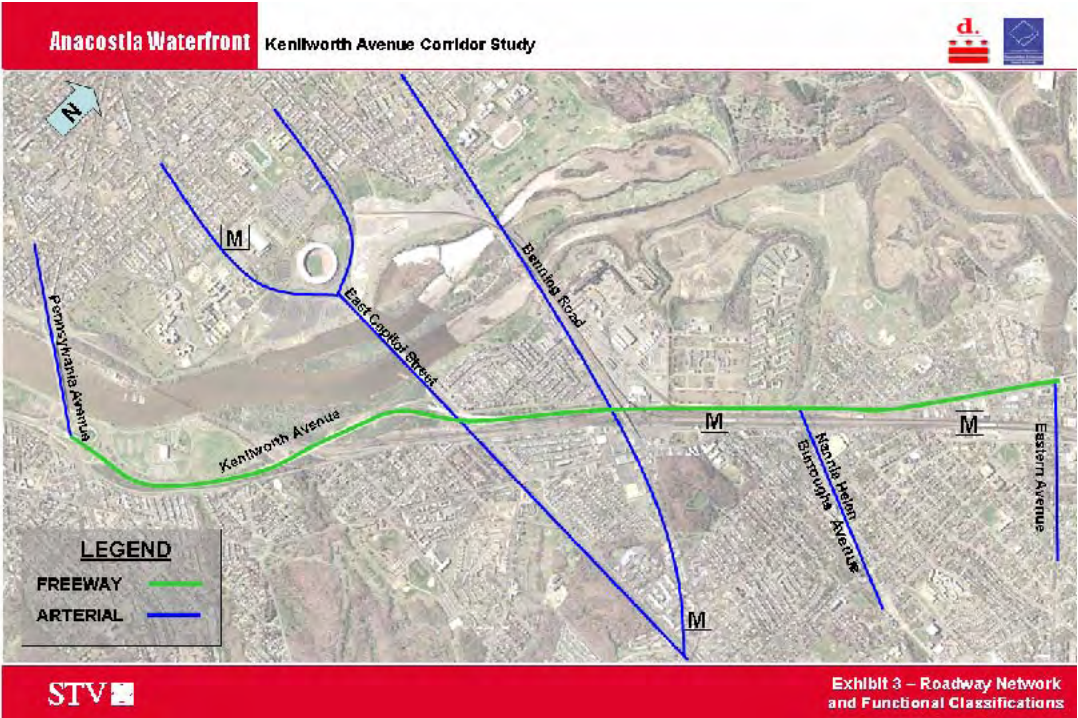


Table D.1 – Kenilworth Avenue Characteristics by Segment

Beginning at	Ending at	Right-of-Way Width	Number of Travel Lanes	Shoulders	Median Treatment
Pennsylvania Avenue	East Capitol Street	120'	4	4' left 10' right	Barrier
E. Capitol Street	Benning Road	150'	6		Barrier
Benning Road	NHB Avenue	160'	6	None	Barrier
NHB Avenue	Eastern Avenue	190'	6	None	Barrier
Eastern Avenue	Maryland State Line	190'	7	None	Barrier



D.2 TRAFFIC COUNTS

Traffic counts were conducted throughout the study area in October and November of 2004. Additional counts were also collected in February of 2005. Twenty-four hour continuous mechanical counts were conducted to obtain average daily traffic (ADT) volumes and manual intersection counts were made at select locations to supplement the data and obtain traffic information on local streets as shown in Figures D.2 through D.5.

Continuous Mechanical Counts

Continuous machine vehicle counts in hourly intervals over a 72-hour period were conducted during a typical week from Tuesday through Thursday. Counts were performed at twenty-four (24) interchange ramps, ten (10) slip ramps and five (5) mainline locations (northbound and southbound) along the corridor. Data collected at each location included vehicle classification using FHWA's thirteen (13) vehicle types, speed and volume.

Counts were made at the following interchange locations:

- Kenilworth Avenue and Pennsylvania Avenue (6 ramps, 6 lanes);
- Kenilworth Avenue and East Capitol Street (3 ramps, 3 lanes);
- Kenilworth Avenue and Benning Road (8 ramps, 9 to 10 lanes);
- Nannie Helen Burroughs Avenue (3 ramps, 5 lanes); and
- Eastern Avenue (4 ramps, 4 lanes).

at the following mainline locations:

- Pennsylvania Avenue and East Capitol Street (4 lanes);
- East Capitol Street and Benning Road (5 lanes);
- Benning Road and Nannie Helen Burroughs Avenue (6 lanes);
- Nannie Helen Burroughs Avenue and Eastern Avenue (6 lanes); and
- north of Eastern Avenue (6 lanes).

at the following northbound slip ramp locations:

- 44th Street (1 lane on ramp);
- Meade Street (1 lane off ramp);
- 47th Street (1 lane on ramp); and
- 47th Street (1 lane off ramp).

and at the following southbound slip ramp locations:

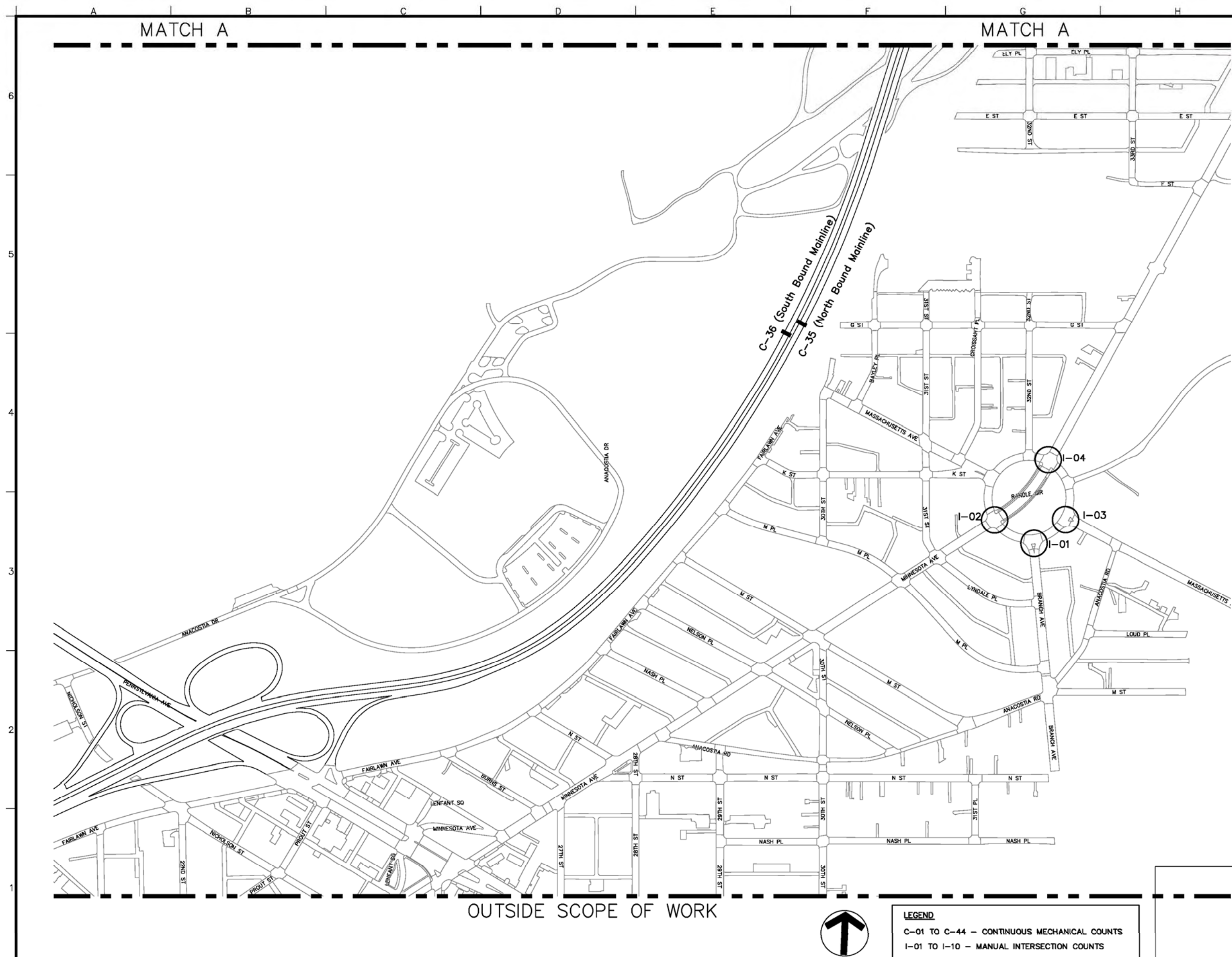
- Baker Street (1 lane off ramp);
- Hayes Street (2 lane off ramp);
- Burnharn Place (1 lane on ramp);
- Lane Place (1 lane on ramp);
- 44th Street (1 lane off ramp); and
- Ord Street (1 lane off ramp).


Manual Intersection Counts

Manual traffic turning movement counts were taken at ten (10) intersections over a twelve-hour period between 7:00 AM and 7:00 PM. Counts were performed mid-week on a Tuesday, Wednesday or Thursday of a typical week.

Counts included pedestrian and bicycle activity and were made at the following locations:

- Randle Circle at Minnesota Avenue and Massachusetts Avenue (4 locations);
- Kenilworth Avenue, Kenilworth Terrace and Nannie Helen Burroughs Avenue (1 location);
- Minnesota Avenue and Benning Road (1 location);
- Kenilworth Avenue and Nannie Helen Burroughs Avenue (1 location);
- Minnesota Avenue and Nannie Helen Burroughs Avenue (1 location); and
- Kenilworth Avenue service road and Eastern Avenue (2 locations).

[illegible]

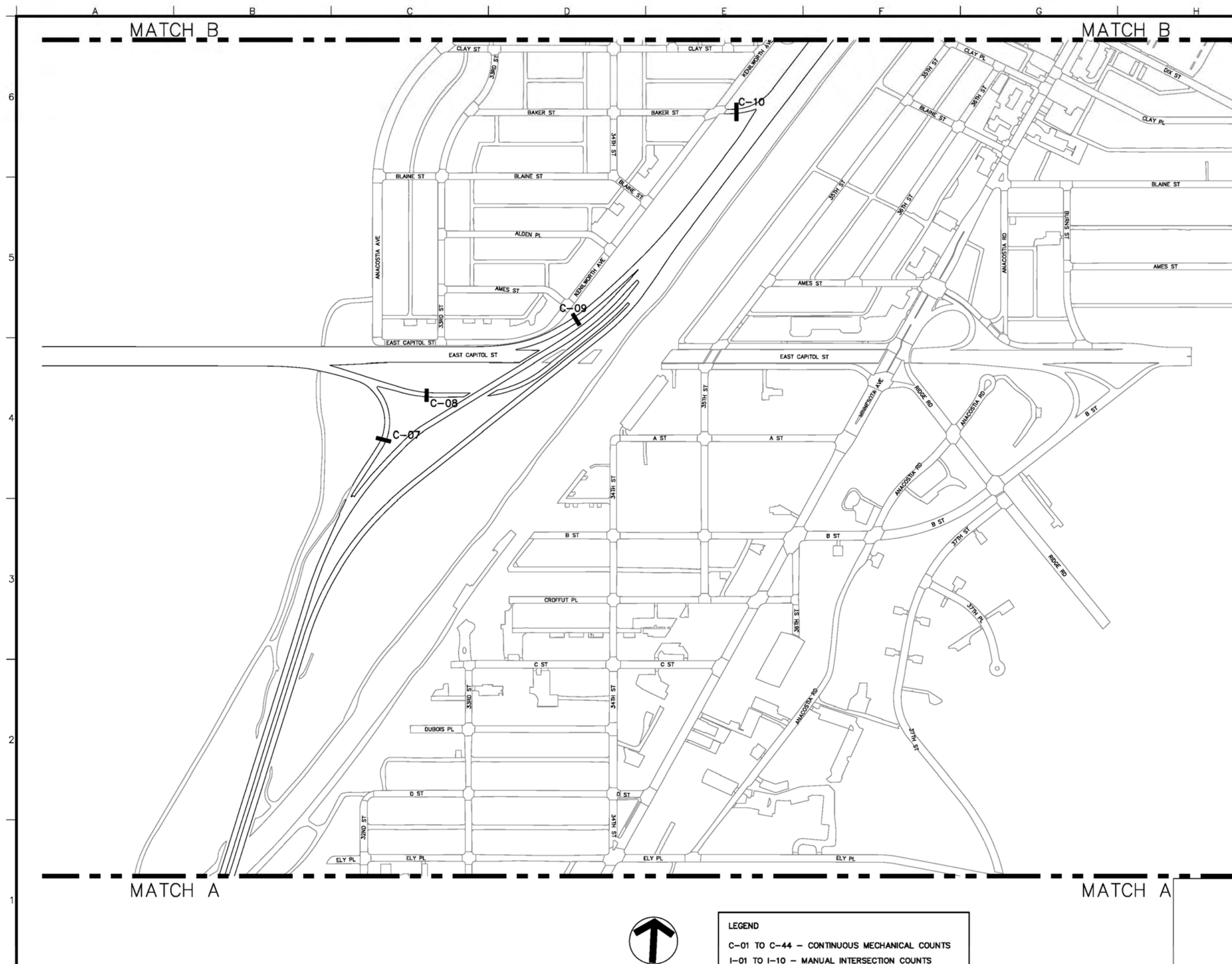
 STV Incorporated Engineer / Architect / Interior / Construction Services 1801 Oakland Street, Suite 200, Menlo Park, CA 94025 (650) 333-2990	Designed by	Date Oct. 6, 2004	Rev.
	Drawn by R.A.J.	Check by T. LOURNOY	
	Reviewed by T. LOURNOY	Design file no.	
	Submitted by	File name	
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Kenilworth Avenue Corridor Study

AREA 1

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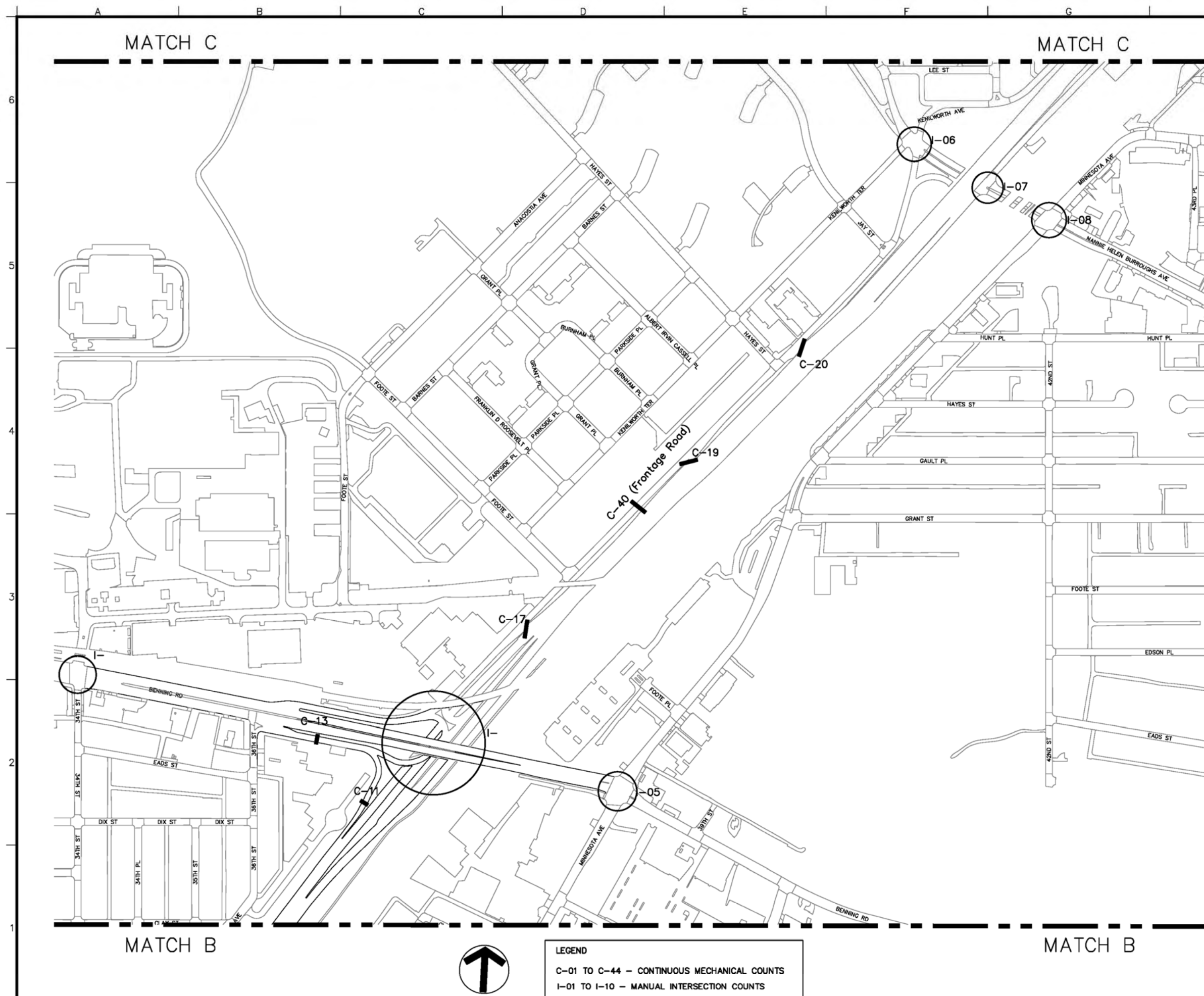
 STV Incorporated Inquiries / inquiries / inquiries / inquiries / inquiries 1301 Island Drive, Suite 200, Victoria, BC V8V 2Y6 (604) 375-2555	Designed by:	Date:	Rev.
	Drawn by: RAOJA	Oct. 6, 2004	
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Kenilworth Avenue Corridor Study

AREA 2

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 STV Incorporated 1301 Broad Street, Suite 500, Vienna, VA 22180 (877)833-2970 Fax: (703) 833-2971	Designed by	Date Oct. 6, 2004	Rev.
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Reviewed by THOMAS FLOURNOY		Drawing Number:	
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Chief, Branch		Plot date	Plot size 11x17

Kenilworth Avenue Corridor Study

AREA 3

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Existing Traffic Volumes

At the Maryland state line, Kenilworth Avenue carries over 140,000 vehicles per day (vpd), as shown in Figure D.6. At the southern end of the corridor, just north of Pennsylvania Avenue, the volume is just under 110,000 vpd.

Of the four major arterial highways intersecting Kenilworth Avenue throughout the corridor, the highest daily volumes were observed on East Capitol Street and Benning Road, largely because they are commuter routes.



Service Road Counts

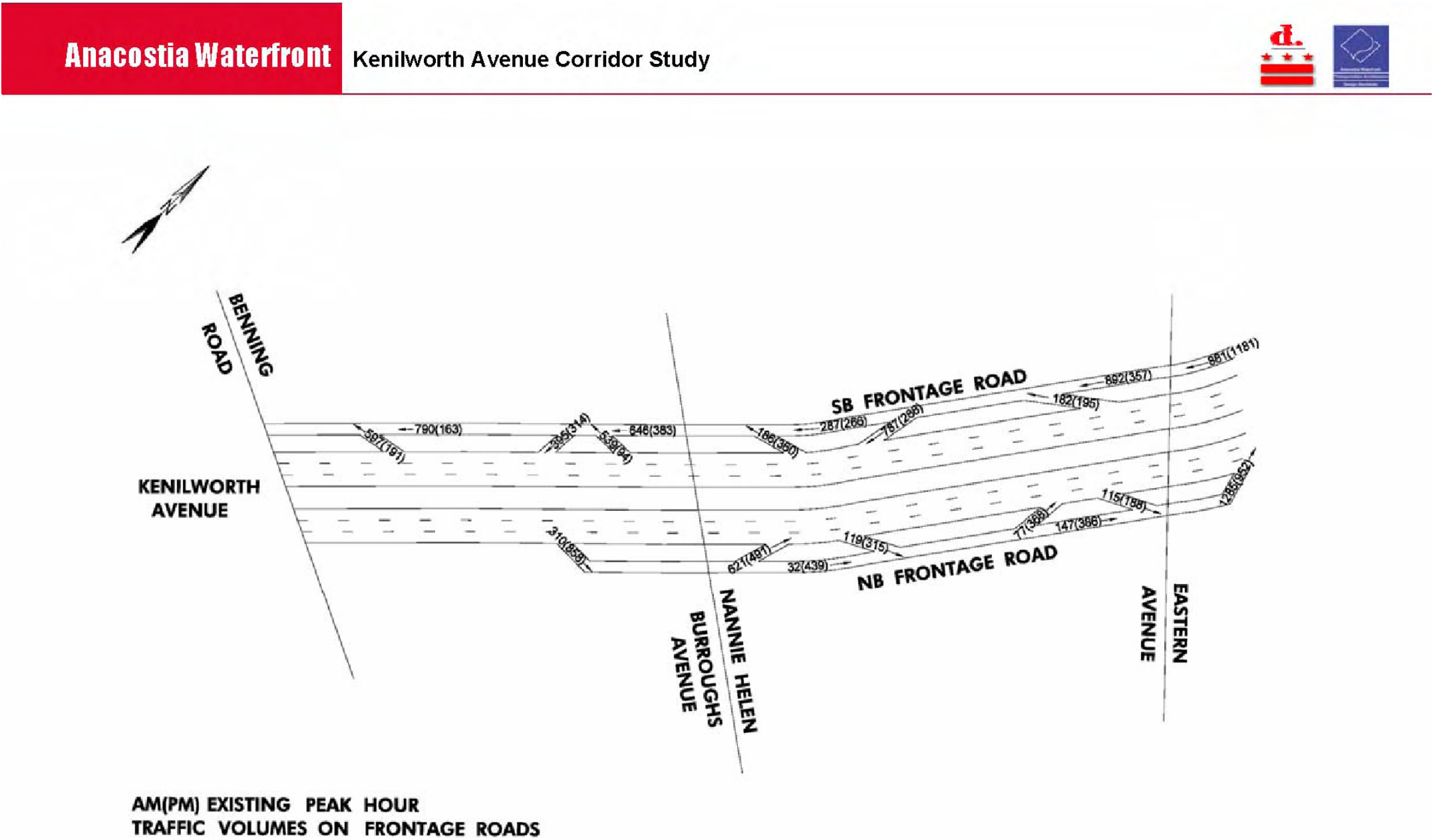
Continuous machine vehicle counts in hourly intervals over a 72-hour period were conducted during a typical week from Tuesday through Thursday on the service (or frontage) roads between Nannie Helen Burroughs Avenue and Eastern Avenue.

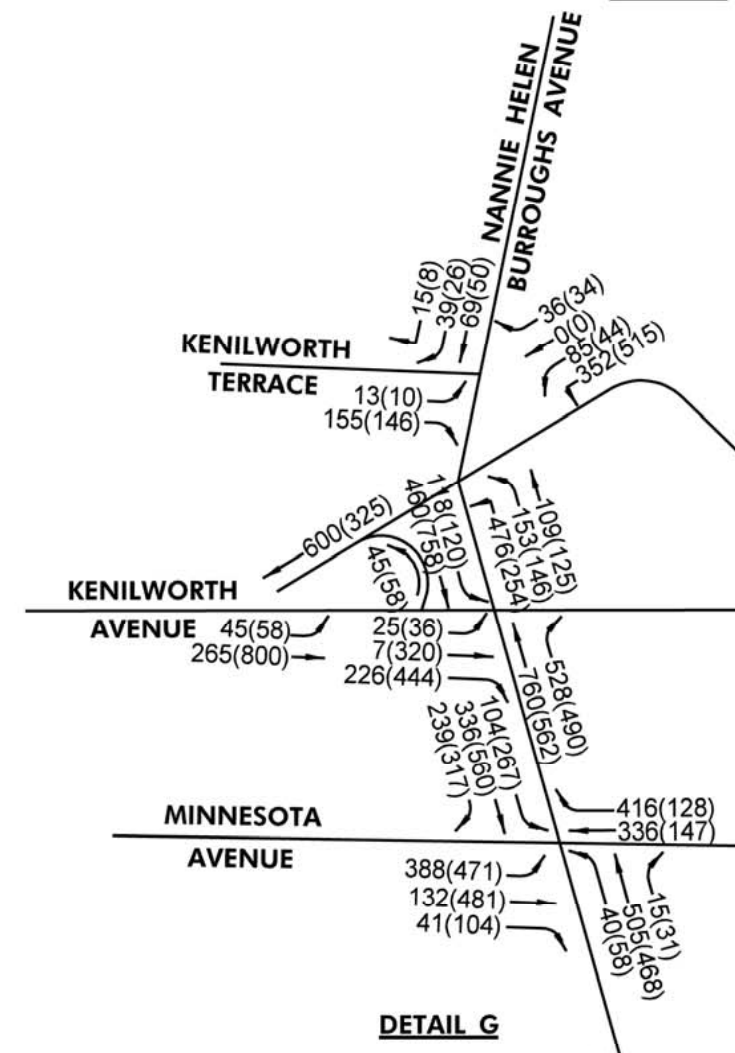
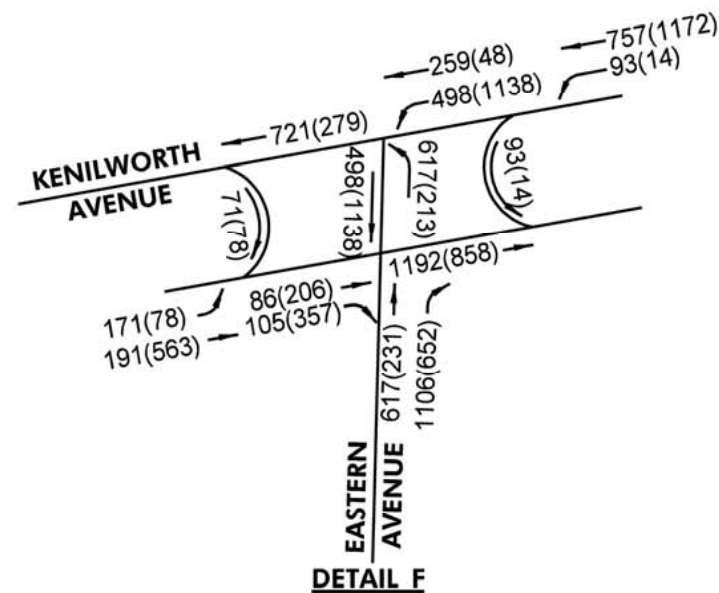
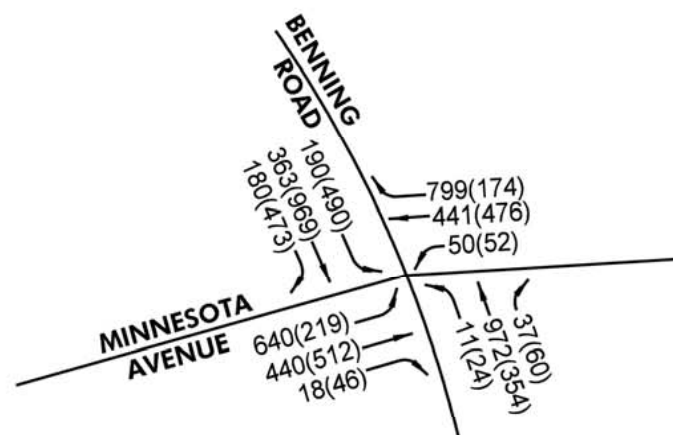
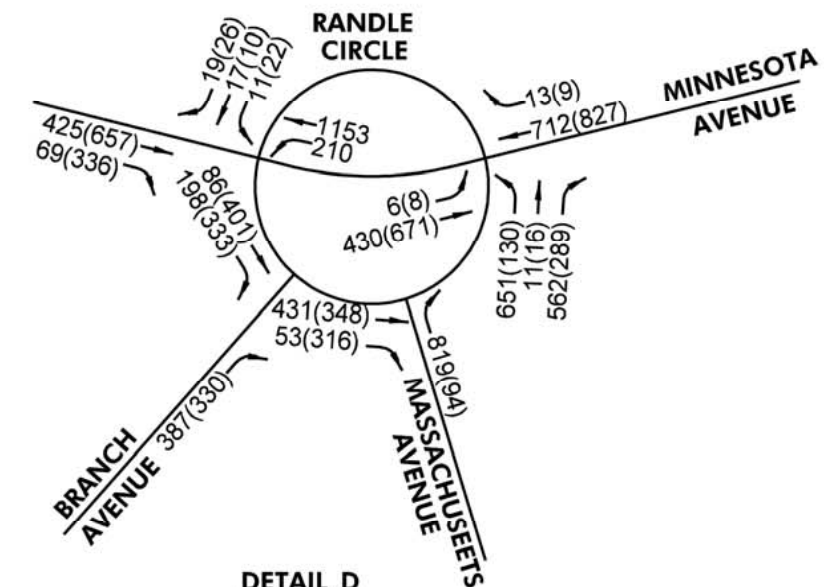
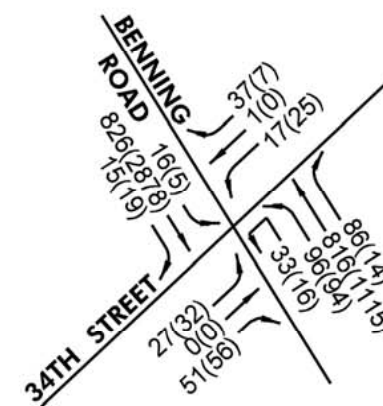
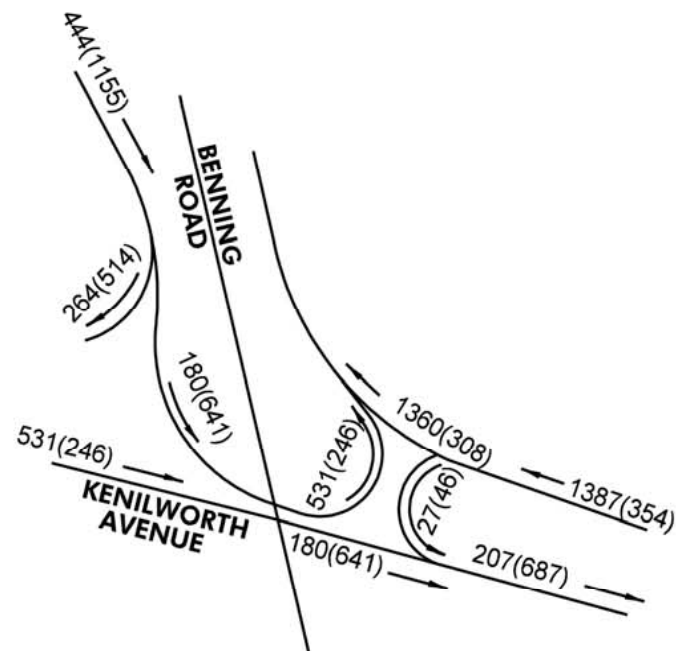
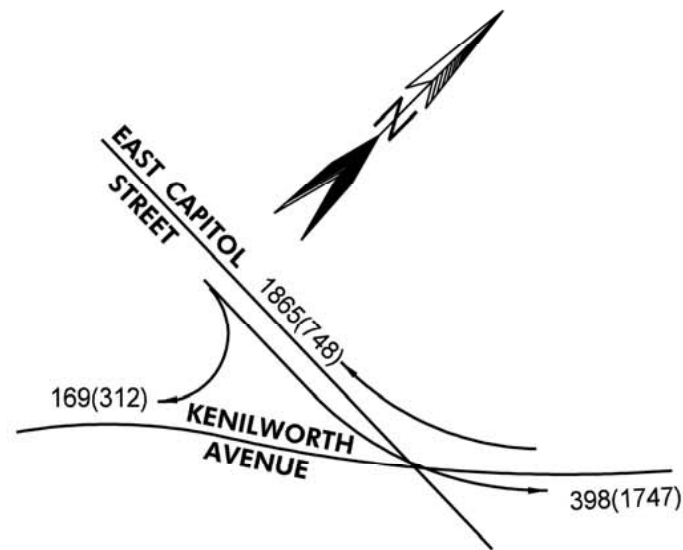
Figure D.7 summarizes those counts for the morning and evening peak hour.

Existing Turning Movements

Manual traffic turning movement counts were taken at ten (10) intersections over a twelve-hour period between 7:00 AM and 7:00 PM. Counts were performed mid-week on a Tuesday, Wednesday or Thursday of a typical week.

Figure D.8 (page D-9) summarizes the morning and evening peak hour counts.





Vehicle Classifications

At each end of the corridor, vehicle classification data was obtained over a 72-hour period. The classification data document the mix of heavy vehicles in the traffic stream including passenger cars, buses, and trucks. The classification data conform to the Type F Vehicle Classification Scheme, originally developed by the Maine Department of Transportation.

When considering the three-day average, it can be seen from Table D.2 that the majority of traffic in the study corridor is comprised of passenger cars (74 - 79% for the three-day average). Next, recreational vehicles (pickups, panels, vans, and other vehicles such as campers, and motor homes) comprised approximately 15% of the traffic.

For the three-day average, the combined volume and corresponding percentage of trucks (classifications 5 through 13) ranges between 4.9% and 6.3%. Of the overall truck percentage total, single unit trucks (delivery vans, dump trucks, concrete trucks, etc.) made up approximately 3% of the vehicle mix.

The remaining percentage comprised tractor-trailer type trucks. The majority of the tractor-trailer trucks were single trailer vehicles. Small percentages of multi-trailer trucks were counted. Multi-trailer trucks were observed in the field on more than one occasion.

Table D.3 summarizes the peak hour vehicle classification at the south and north portals of the corridor. The data is based on a three-day average.

At the south portal of the corridor, a higher percentage of trucks exit (are headed southbound) than enter (are headed northbound) during the AM peak hour. However, during the PM peak hour, a higher percentage of trucks enter

(are headed northbound) than exit (are headed southbound). Tractor-trailer truck percentages are also higher in the northbound direction during the PM peak hour.

At the north portal of the corridor, during both peak hours, a higher percentage of trucks enter (are headed southbound) than exit (are headed northbound). Tractor-trailer truck percentages are also higher in the peak direction.

The daily vehicle composition was fairly consistent throughout the corridor on a percentage basis, as shown in Figure D.9. However, when considering the total volume of trucks (applying the percentage versus the varying ADT), the total daily number of trucks entering the corridor from the north side is significantly different. On a daily basis, the total volume of trucks decreases as they progress through the corridor in either direction. Or in other words, once trucks enter the corridor from either end, more trucks are exiting from Kenilworth Avenue than entering. Figure D.9 also illustrates the entering and exiting truck volume on a peak hour basis. With the exception of the northbound direction during morning peak hour, the total volume of trucks generally decreases as they progress through the corridor during the peak hours. It should be noted that the majority of truck traffic also occurs during off-peak hours.

Figure D-7 shows traffic volumes along the frontage roads. It can be seen that there is a substantial increase in traffic volumes in the peak direction. This can likely be attributable to commuters bypassing congestion or choosing to exit earlier because they perceive greater safety. The locations of the slip ramps encourage commuter travelers to divert from Kenilworth Avenue and onto the service roads when there is congestion.

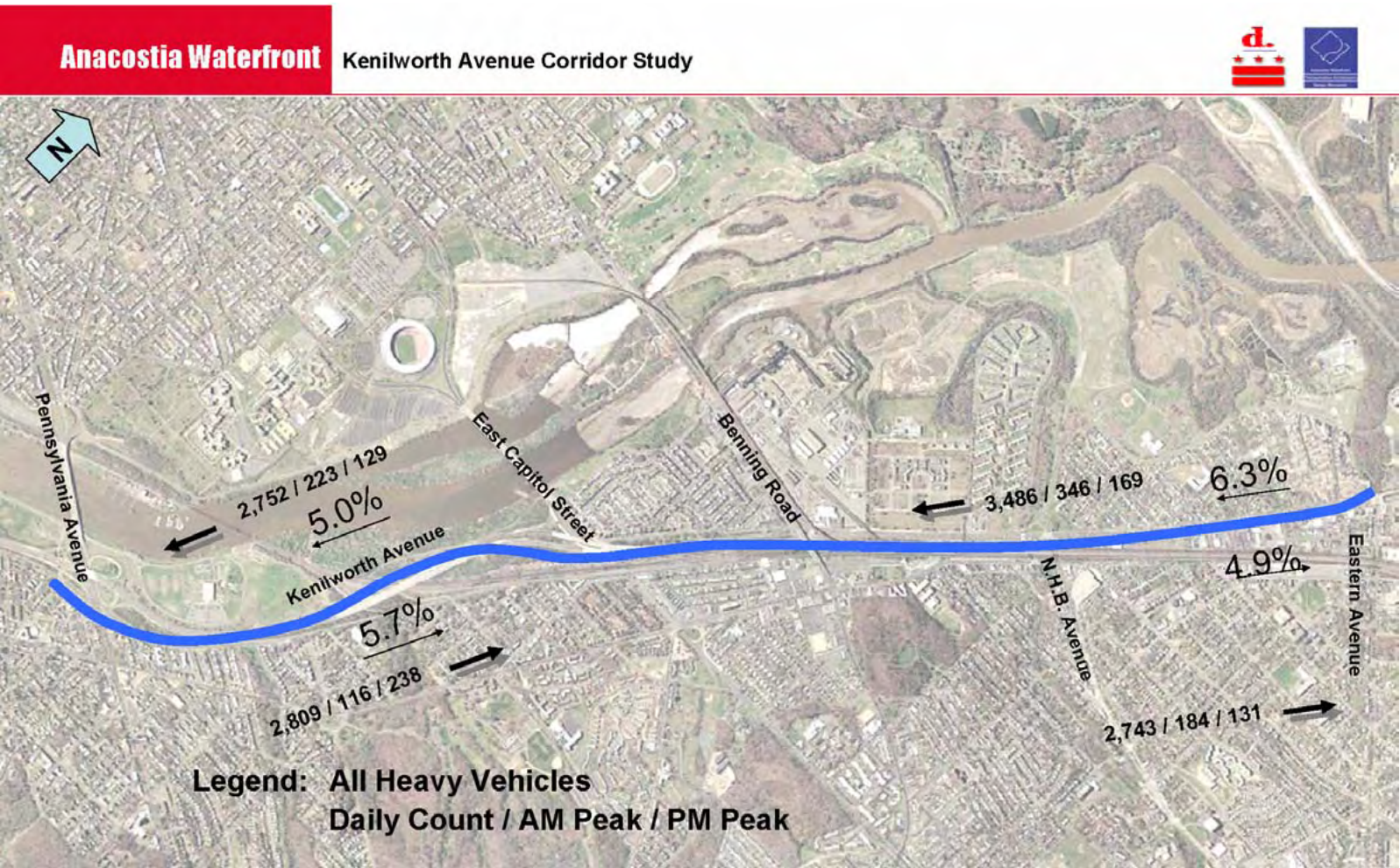


Table D.2 - 24-Hour Vehicle Classification Summary, 3-Day Average

Class	Type	South Portal (at Pennsylvania Avenue)		North Portal (at Eastern Avenue)	
		Northbound	Southbound	Northbound	Southbound
1	MC	0.1%	0.1%	0.1%	0.1%
2	P	78.0%	79.8%	79.1%	74.1%
3	RV	15.2%	14.4%	14.8%	18.9%
4	Bus	1.0%	0.7%	1.2%	0.6%
5	SU (2)	2.6%	2.6%	2.7%	3.2%
6	SU (3)	0.6%	0.5%	0.4%	0.5%
7	SU (4)	0.1%	0.3%	0.0%	0.0%
8	WB (4)	1.2%	0.8%	0.9%	2.0%
9	WB (5)	0.6%	0.7%	0.6%	0.4%
10	WB (6)	0.2%	0.1%	0.1%	0.1%
11	WB (5)(2)	0.0%	0.0%	0.0%	0.0%
12	WB (6)(2)	0.1%	0.0%	0.0%	0.0%
13	WB (7)(2)	0.2%	0.1%	0.1%	0.1%
5-13	All Trucks	5.7%	5.0%	4.9%	6.3%

MC = Motorcycles
P = Passenger Cars
RV = Recreational Vehicle (pickups, panels, vans, and vehicles such as campers, and motor homes)
Bus = Buses
SU (X) = Single Unit Trucks and Number of Axles
WB (X) = Wheel Base Trucks and Number of Axles
WB (X) (X) = Wheel Base Trucks and Number of Axles and Trailers

Summary of Table D.2

- A majority of traffic in the study corridor is comprised of passenger cars.
- Recreational comprise the next highest percentage of vehicles.
- These two classifications account for nearly 95% of the vehicles using Kenilworth Avenue.

Table D.3 - Peak-Hour Vehicle Classification Summary, 3-Day Average

Class	Type	South Portal (at Pennsylvania Avenue)				North Portal (at Eastern Avenue)			
		Northbound		Southbound		Northbound		Southbound	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	MC	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
2	P	77.3%	76.2%	77.0%	80.8%	80.0%	82.1%	75.2%	77.2%
3	RV	17.7%	15.6%	16.5%	14.6%	14.7%	12.1%	16.9%	17.2%
4	Bus	0.5%	1.0%	0.7%	0.7%	0.9%	1.6%	0.8%	0.4%
5	SU (2)	2.4%	2.9%	3.1%	2.1%	2.8%	2.0%	3.5%	2.4%
6	SU (3)	0.7%	0.5%	0.6%	0.4%	0.3%	0.2%	0.4%	0.3%
7	SU (4)	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%
8	WB (4)	0.8%	2.3%	0.8%	0.9%	0.7%	1.2%	2.5%	2.0%
9	WB (5)	0.4%	0.5%	0.7%	0.3%	0.5%	0.4%	0.6%	0.2%
10	WB (6)	0.1%	0.5%	0.1%	0.0%	0.1%	0.1%	0.1%	0.0%
11	WB (5)(2)	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
12	WB (6)(2)	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
13	WB (7)(2)	0.0%	0.4%	0.2%	0.0%	0.0%	0.1%	0.1%	0.1%
5-13	All Trucks	4.5%	7.2%	5.7%	3.8%	4.4%	4.1%%	7.1%	5.1%

MC = Motorcycles
P = Passenger Cars
RV = Recreational Vehicle (pickups, panels, vans, and vehicles such as campers, and motor homes)
Bus = Buses
SU (X) = Single Unit Trucks and Number of Axles
WB (X) = Wheel Base Trucks and Number of Axles
WB (X) (X) = Wheel Base Trucks and Number of Axles and Trailers

Summary of Table D.3

- At Pennsylvania Avenue during the AM peak hour, more trucks exit than enter the corridor. At Pennsylvania Avenue during the PM peak hour, more enter than exit the corridor.
- At Eastern Avenue, during the AM and PM peak hours, more trucks enter the corridor than leave it.



D.3 TRAFFIC OPERATIONS

Capacity Analysis

The *Highway Capacity Manual (HCM)* describes procedures that assign letter grades to define the ability of a roadway or intersection to accommodate prevailing traffic volumes. This capacity analysis compares the peak hour traffic volumes with the capacity of a roadway or intersection to arrive at a Level of Service classification.

Level of Service (LOS) is defined as a qualitative measure of the operating condition at any given roadway or intersection. It is a function of a number of factors including volume, geometry and traffic control. From the viewpoint of the driver, lower volumes provide higher levels of service, while higher volumes provide a lower level of service.

Six Levels of Service, ranging from A to F, with A representing the optimum operating conditions and F representing congestion, are defined to represent operating conditions.

The methodologies for measuring level of service vary depending on the type of facility under evaluation. Traffic operations along Kenilworth Avenue are comprised of connected segments consisting of basic freeway segments, ramp segments, and weaving segments.

- Basic freeway sections of highway are not influenced by ramp or weaving segments.
- Ramp segments include either on-ramps (ramp merges) or off-ramps (ramp diverges).
- Weaving segments are created when two or more traffic streams cross in the same general direction.

Traffic operations along adjacent or intersecting arterial highways are analyzed with the signalized or unsignalized intersection methodologies in the *HCM*.

Table D.4 illustrates the LOS criteria for the roadway facilities evaluated for this study.

Table D.4 - Levels of Service Measurements

Level of Service	Basic Freeway Segments (pc/mi/ln)	Merge and Diverge Areas (pc/mi/ln)	Weaving Areas (pc/mi/ln)	Signalized Intersections (sec/veh)	Unsignalized Intersections (sec/veh)
A	0 – 11	≤ 10	≤ 10	≤ 10	0 - 10
B	> 11 – 18	> 10 – 20	> 10 – 20	> 10 – 20	> 10 – 15
C	> 18 – 26	> 20 – 28	> 20 – 28	> 20 – 35	> 15 – 25
D	> 26 – 35	> 28 – 35	> 28 – 35	> 35 – 55	> 25 – 35
E	> 35 – 45	> 35	> 35 – 43	> 55 – 80	> 35 – 50
F	> 45	Exceeds Capacity	> 43	> 80	> 50

pc/mi/ln = Density in Passenger Cars per Mile per Lane
sec/veh = Delay in Seconds per Vehicle

Analysis of Kenilworth Avenue

Figure D.10 and Tables D.5 and D.6 illustrates the LOS along Kenilworth Avenue as well as at specific ramp junctions and weaving sections.

During the AM peak hour in the southbound direction, Kenilworth Avenue operates at LOS F throughout the corridor.

During the PM peak hour in the northbound direction, Kenilworth Avenue operates at LOS F between Pennsylvania Avenue and Benning Road and north of Eastern Avenue. However, between Benning Road and Eastern Avenue, the roadway operates at capacity, or LOS E.

Most of the north- and southbound ramp merges and diverges operate at LOS E or LOS F in the peak direction. Similarly, the peak direction weaving sections also operate at LOS E or LOS F.

Table D.5 - Levels of Service for Freeway Segments Along Kenilworth Avenue

Freeway Segments	Northbound		Southbound	
	AM Peak	PM Peak	AM Peak	PM Peak
Pennsylvania Avenue to East Capitol Street	D	F	F	F
East Capitol Street to Benning Road	C	F	F	D
Benning Road to Nannie Helen Burroughs Avenue	C	E	F	D
Nannie Helen Burroughs Avenue to Eastern Avenue	C	E	F	D
Eastern Avenue to Maryland State Line	D	F	F	E

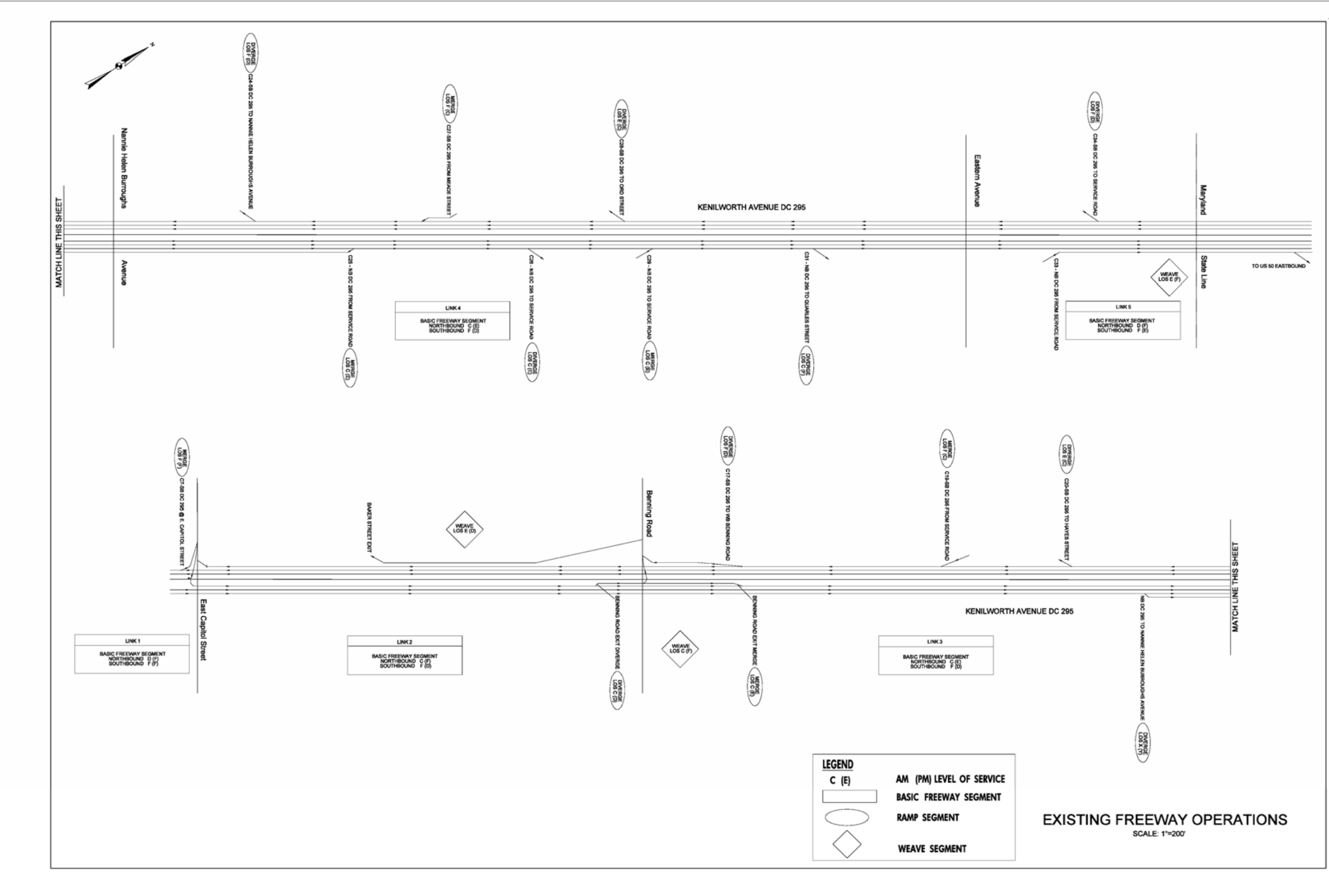
Table D.6 – Levels of Service at Interchange Ramps, AM (PM) Peaks

East Capitol Street Interchange				
Direction of Travel	Eastbound	Westbound	Northbound	Southbound
Eastbound to	-	-	Free Flow	F (F)
Westbound to	-	-	-	-
Northbound to	-	-	-	-
Southbound to	Free Flow	-	-	-
Benning Road Interchange				
Direction of Travel	Eastbound	Westbound	Northbound	Southbound
Eastbound to	-	-	C (E)	Free Flow
Westbound to	-	-	-	-
Northbound to	-	C (D)	-	-
Southbound to	-	F (D)	-	-
Nannie Helen Burroughs Avenue Interchange				
Direction of Travel	Eastbound	Westbound	Northbound	Southbound
Eastbound to	-	-	C (E)	F (C)
Westbound to	-	-	C (E)	F (C)
Northbound to	X (Y)	X (Y)	-	-
Southbound to	F (D)	F (D)	-	-
Eastern Avenue Interchange				
Direction of Travel	Eastbound	Westbound	Northbound	Southbound
Eastbound to	-	-	-	-
Westbound to	-	-	X (Y)	F (C)
Northbound to	C (F)	C (F)	-	-
Southbound to	F (D)	F (D)	-	-

Movements not possible are indicated by '-'
'Free Flow' indicates traffic has a dedicated lane, no merge is required



Freeway LOS Figure D.10



Synchro/SimTraffic Operations Model

Evaluation of the corridor was made by creating a Synchro model. Synchro models operations at signalized and unsignalized intersections using the methodologies from the *Highway Capacity Manual*. Though Synchro is typically used to evaluate arterial highways with multiple traffic signals, freeway applications can be evaluated with the model.

SimTraffic is a macroscopic traffic simulator that models traffic conditions defined in Synchro and records a variety of measures of effectiveness (MOE). The selected MOE from SimTraffic include delay, vehicle stops, travel time, emissions and queues.

The mainline freeway geometry (number of through lanes, acceleration and deceleration lanes at ramp segments), the lane configurations, turn lane lengths, traffic signal timing and phasing for adjacent arterial highways, and peak hour volumes were input into Synchro. Traffic signal timing was provided by DDOT's Traffic Signal Section.

The Synchro model was animated in SimTraffic and the resultant MOE (delay, travel times, vehicle stops and queues) were compared with actual field-observed conditions. The Synchro and SimTraffic models were then calibrated. The calibration process included adjusting various network speeds, vehicle and driver characteristics and re-running the model until the results closely matched those observed in the field. The calibration was completed to predict with a high degree of confidence changes in delays and queuing resulting from various improvements.

The largest MOE utilized for comparison purposes in the model calibration process was travel time. In order to document travel time, several real-time

travel runs were made in both directions between Suitland Parkway and Annapolis Road (MD 450) in Maryland.

Figure D.11 illustrates the observed travel times during each peak in the northbound direction. Figure D.12 illustrates the observed travel times during each peak in the southbound direction. Note that the posted speed limit (shown by the yellow line) is 45 miles per hour.

During the morning rush, travel times and accompanying vehicle speeds are low at the northern end of the corridor and increase as vehicles travel south. Likewise, during the afternoon rush vehicle speeds tended to slow as vehicles traveled south to north. Travel times and speeds were high in the non-peak directions.

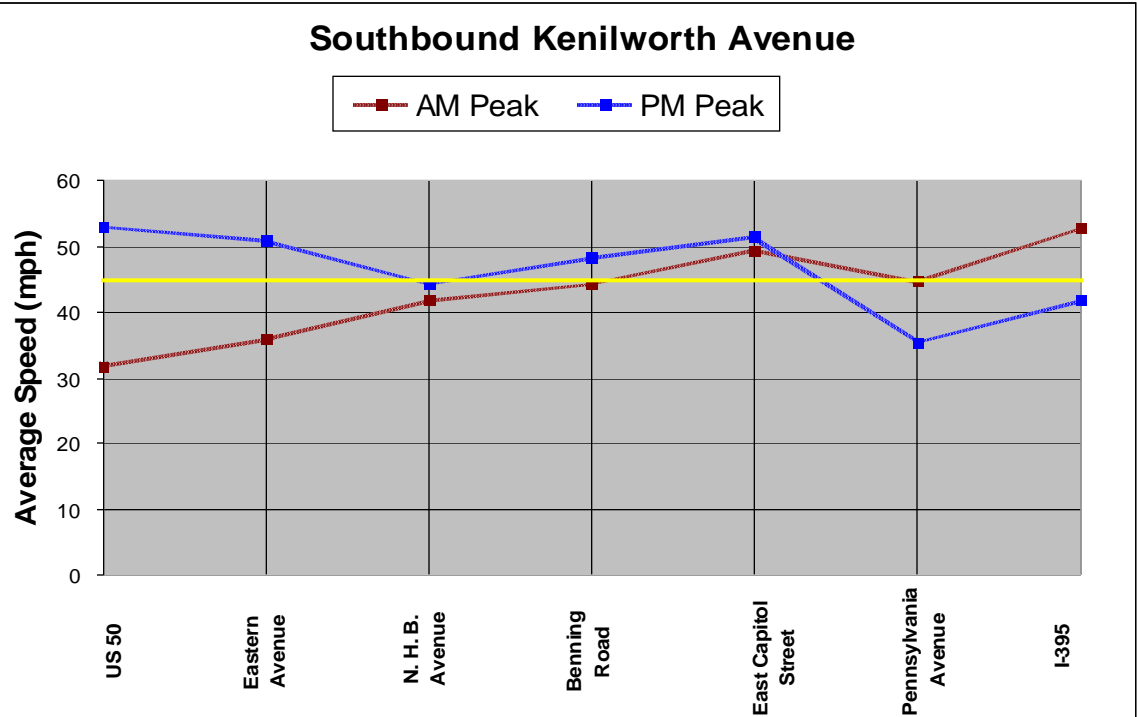
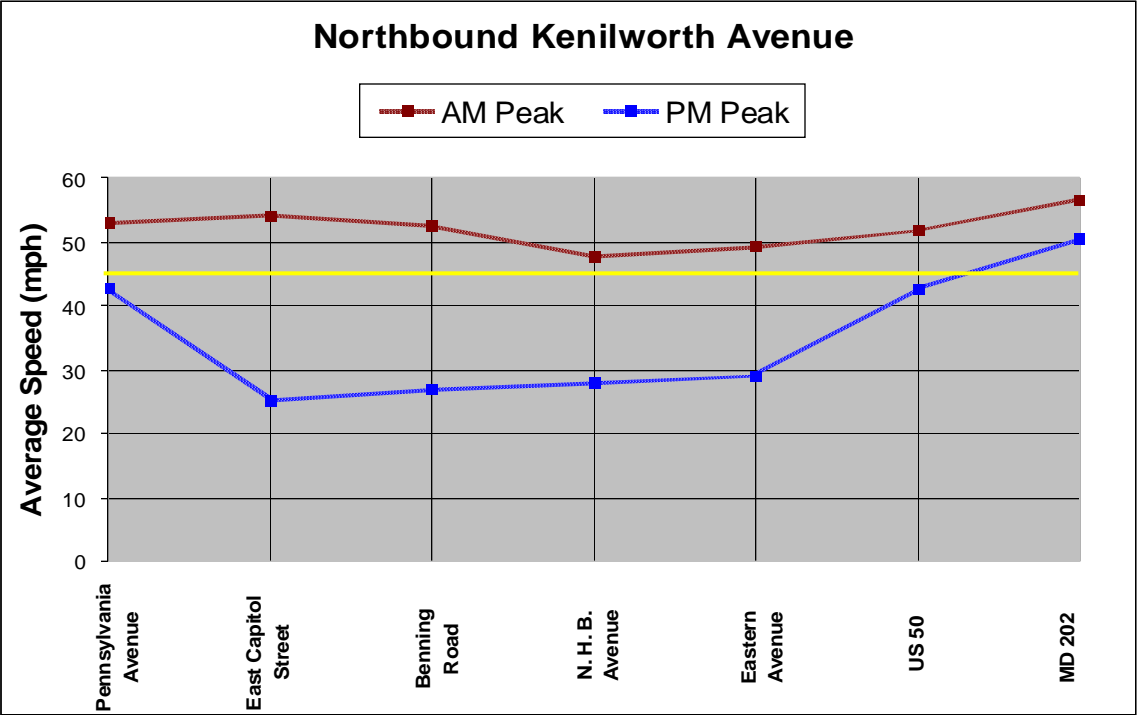


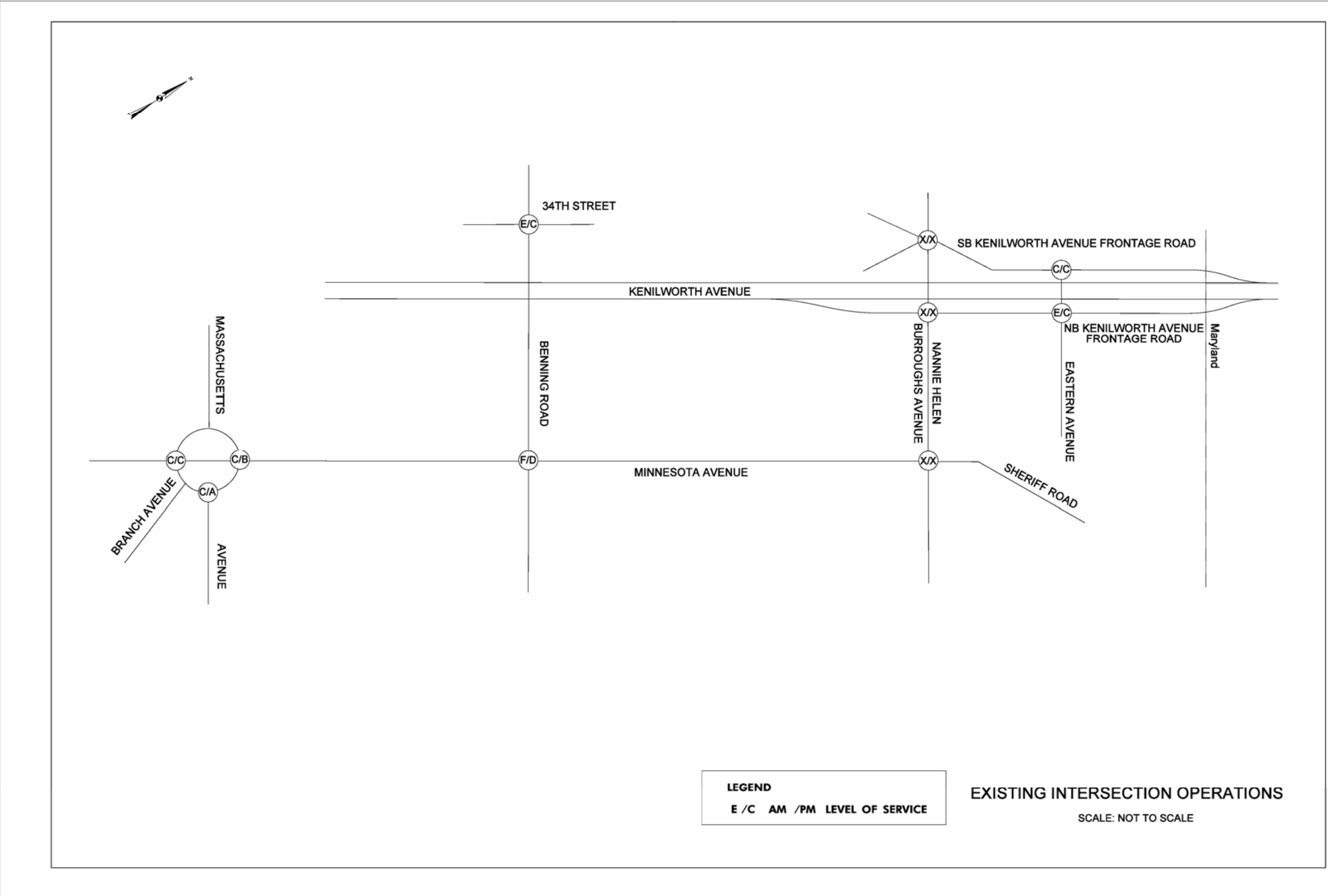
Table D.7 summarizes the existing intersection LOS. Several intersections are at or exceed capacity in one or both peak hours. The intersection of Minnesota Avenue and Benning Road as well as Randle Circle and Massachusetts Avenue operates at LOS F during the AM peak. The intersection of Minnesota Avenue and Nannie Helen Burroughs Avenue operates at LOS F during the PM peak.

Table D-7 - Existing Intersection Level of Service

Intersection	AM Peak Hour			PM Peak Hour		
	Cycle Length (sec)	LOS	Delay (sec)	Cycle Length (sec)	LOS	Delay (sec)
Minnesota Avenue and Benning Road	120	F	108.2	120	D	44.3
Minnesota Avenue and Burroughs Avenue	120	E	74.5	120	F	138.8
Minnesota Avenue and Randle Circle East	80	C	27.6	80	B	11.4
Minnesota Avenue and Randle Circle West	Unsig	A	5.6	Unsig	C	16.5
Randle Circle and Massachusetts Avenue	Unsig	F	80.0	Unsig	A	1.5
Randle Circle and Branch Avenue	Unsig	A	*	Unsig	A	*
Eastern Avenue and Northbound Kenilworth Avenue	120	D	42.0	120	B	17.3
Eastern Avenue and Southbound Kenilworth Avenue	120	C	31.2	120	D	40.9
Burroughs Avenue and Kenilworth Terrace	Unsig	E	*	Unsig	E	*
Burroughs Avenue and Northbound Kenilworth Avenue	120	B	12.7	120	C	23.2
Benning Road and 34th Street	100	E	62.6	100	C	22.2



Intersection LOS Diagram D.13



D.4 TRAFFIC SAFETY

Automobile crash data for Kenilworth Avenue was acquired from the Traffic Safety Branch for the District Department of Transportation. Data for the mainline, on- and off-ramps, and service roads was collected the period of January 1, 2001 to December 31, 2003. Additional data was also collected at the following intersections:

- Benning Road and 34th Street;
- Benning Road and Minnesota Avenue;
- Nannie Helen Burroughs Avenue and Kenilworth Avenue;
- Nannie Helen Burroughs Avenue and Minnesota Avenue; and
- Eastern Avenue and Kenilworth Avenue service roads.

During the three-year period (2001, 2002, and 2003) there were a total of 485 reported crashes along Kenilworth Avenue and its service roads

Data Collection

The original data, known as Freeways, Bridges and Interstate (FBI) crash data, was derived from District of Columbia Metropolitan Police Department Accident Reports. These reports were reviewed, summarized for selected criteria, and coded in a database. Types of data recorded included:

- Date of Accident
- Time
- Day of Week
- Type of Accident
- Location
- Type of Collision
- Road Type
- Road Condition
- Light Condition
- Weather
- Contributing Circumstances



Summary of Findings

Findings of a review of the Kenilworth Avenue crash data for the three most recent years are discussed below.

485 crashes occurred along the corridor over the three year period studied:

- 129 occurred in 2001;
- 141 occurred in 2002; and
- 215 occurred in 2003.

This represents a 67% increase in crashes between 2003 and 2001; a three year period.

Crash rates are an effective tool for measuring safety hazards at a particular location as they combine crash frequency with the traffic volume. Crash rates are expressed as “crashes per Million Vehicle Miles Traveled” (MVMT) for highway locations or “crashes per Million Entering Vehicles” (MEV) for intersection locations. In terms of crash rate, the highest rates occur north of East Capitol Street, and particularly north of Benning Road. Figure D-14 shows the crash history in terms of crash rate between the existing interchanges along Kenilworth Avenue.

Nearly 60 - 70% of all of the reported crashes occurred between Benning Road and Eastern Avenue. The location

of crashes has remained relatively constant over the past three years.

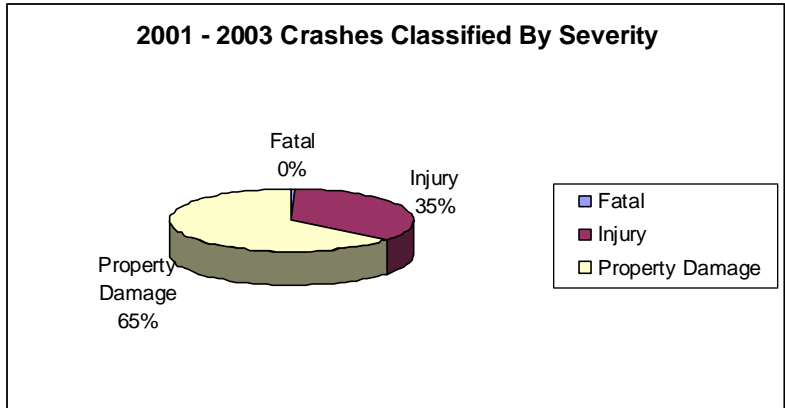


Figure D.15

The Traffic Safety Branch did not provide the fatal crash history for the corridor and as a result, the data does not represent the history of fatal crashes.

Injury crashes typically accounted for approximately 35% of the crashes, however, injury crashes peaked at 42% in 2002.

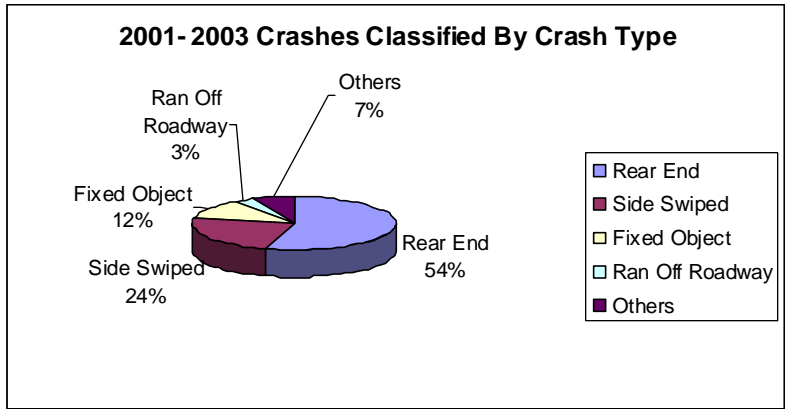


Figure D.16

The most frequent types of crashes were:

- rear-end;
- side swiped; and
- fixed object collisions.

In the last three years, the frequency of side swiped and fixed object collisions has decreased; however, rear-end crashes have increased.

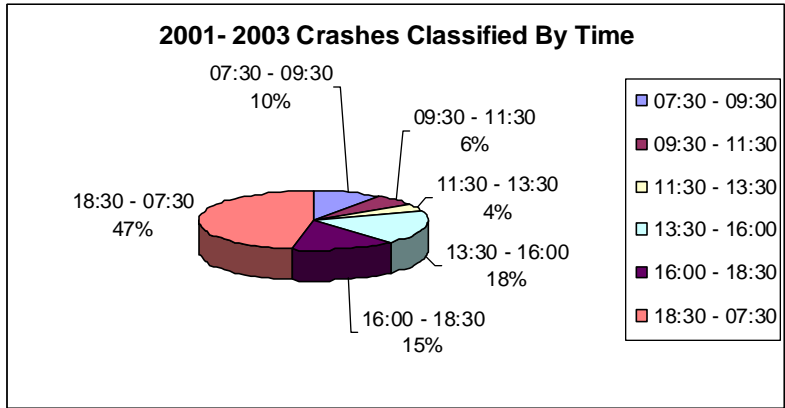


Figure D.17

The majority of the crashes occurred between 6:30 PM and 7:30 AM.

Approximately 10% (48 crashes) occurred during the AM peak hour.

15% (73 crashes) occurred during the PM peak hour.

The number of crashes occurring during the AM peak hour has decreased over the past three years.

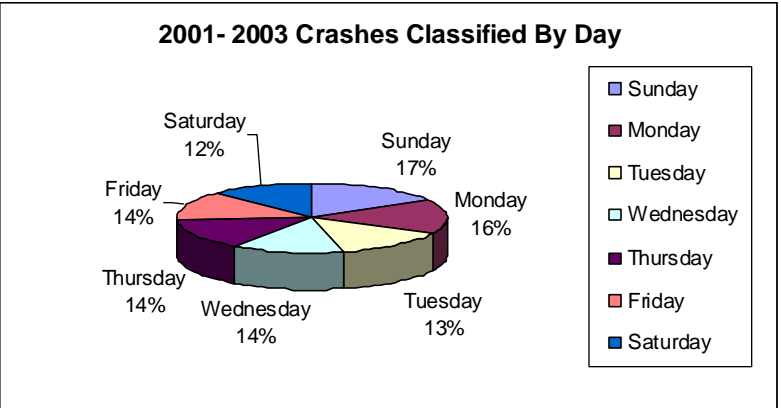


Figure D.18

The majority of crashes occur during the weekday.

During the past three years, the number of crashes that occurred during the weekday has increased 12%.

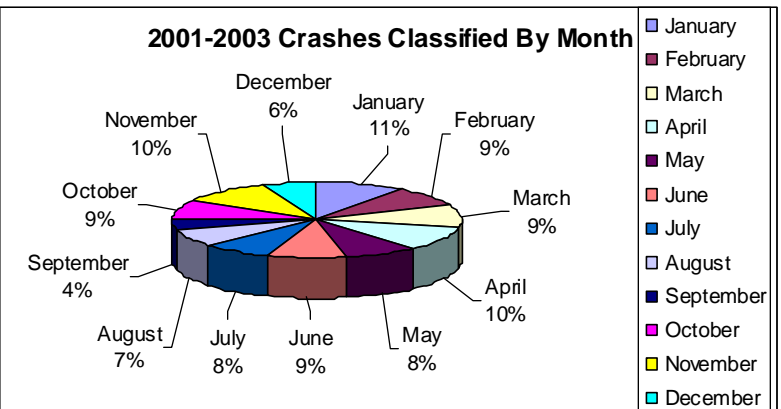


Figure D.19

The majority of crashes occur during the months of January, April and November.

January and April have shown the greatest increases in crashes over the past three years.

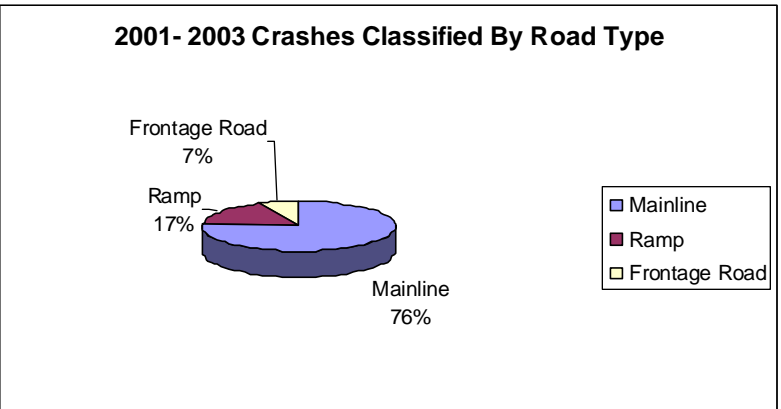


Figure D.20

Just over 70% of the crashes occurred along the mainline travel lanes for Kenilworth Avenue.

Approximately 20% of the crashes occurred on ramps and the remaining 10% occurred on the service roads.

Between 2002 and 2003, the number of crashes on the mainline increased 14%.

Analysis of Intersections

During the three-year period, there were a total of 385 crashes at the six adjacent signalized intersections:

- Benning Road and Minnesota Avenue
- Benning Road and 34th Street
- Nannie Helen Burroughs Avenue and Minnesota Avenue
- Nannie Helen Burroughs Avenue and Kenilworth Avenue
- Eastern Avenue and Kenilworth Avenue service road

A review of the crash data for the most recent three years is summarized in Table D.8.

Table D.8 – Intersection Analysis

<u>Intersection</u>	<u>Year 2001</u>	<u>No. of Crashes</u>			<u>Total</u>	<u>Percent of Total Crashes Involving Injury</u>	<u>Most Common Types of Crashes</u>	<u>Times Most Crashes Occur</u>	<u>Days Most Crashes Occur</u>
Benning Road and Minnesota Avenue	53	36	28		117	60%	rear-end side swiped left turn hit vehicle head on	6:30 PM and 7:30 AM 8% in AM peak hour 26% in the PM peak hour 6:30 PM and 7:30 AM	Weekdays
Benning Road and 34th Street	18	10	15		43	60%	rear-end side swiped	12% in AM peak hour 23% in PM peak hour 6:30 PM and 7:30 AM	Weekdays
Nannie Helen Burroughs Avenue and Minnesota Avenue	15	18	18		51	84%	rear-end right angle left turn hit vehicle	6% in the AM peak hour 12% in the PM peak hour. 6:30 PM and 7:30 AM	Weekdays
Nannie Helen Burroughs Avenue and Kenilworth Avenue	7	15	6		28	46%	rear-end right angle side swiped	11% in the AM peak hour 18% in the PM peak hour. 6:30 PM and 7:30 AM	Weekdays
Eastern Avenue and Kenilworth Avenue service road	23	13	17		53	42%	rear-end side swiped	10% in the AM peak hour 13% in the PM peak hour 20% between 1:30 and 4:00 PM	Weekends

Source: District Department of Transportation



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APPENDIX E - IMPLEMENTATION OF PEDESTRIAN IMPROVEMENTS

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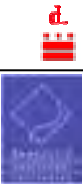
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IMPLEMENTATION OF PEDESTRIAN IMPROVEMENTS

E.1 PEDESTRIAN IMPROVEMENTS

Introduction

Non-motorized transportation improvements are needed in many parts of the Kenilworth Avenue Corridor. Critical locations for improvement include intersections with high numbers of reported pedestrian and bicycle crashes, major shared-use path access points, crossings near Metrorail stations and schools, and other places with unsafe conditions for walking and bicycling. While the entire set of recommendations from this study will be made over time, improving conditions at high-priority locations in the short-term can be beneficial to large numbers of pedestrians and bicyclists.

Tables E.1 and E.2 are improvements that can be improved as a part of a currently programmed DDOT project. Tables E.3, E.4 and E.5 are new projects that will be programmed as part of this project. Lastly, Table E.6 represents improvements that can be implemented as part of ongoing construction and maintenance programs.

Prioritization is based on pedestrian and bicycle demand in the corridor and how the project will improve the convenience and safety of non-motorized travel.



Table E.1 – Current Projects – High Priority

<u>Project/Program Name</u>	<u>Location(s)</u>	<u>Recommended Improvement(s)</u>	<u>Reference Plan Sheets</u>
Benning Road Reconstruction	Crossings of 36th Street and Kenilworth Avenue service roads	<ul style="list-style-type: none">• Make geometric improvements, traffic signal improvements, and stripe new crosswalks to provide safer crossings	Benning Road Reconstruction, Sheets 3-A and 3-B
	Minnesota Avenue and Benning Road	<ul style="list-style-type: none">• Add pedestrian signals, new crosswalks, reduced turning radii, and median islands to intersection	Benning Road Reconstruction, Sheet 3-C
	Fort Circle Trail at Benning Road (Benning Road and 42nd Street)	<ul style="list-style-type: none">• Provide pedestrian and bicycle crossing improvements, including trail crossing warning signs and directional signage for trail users	Benning Road Reconstruction, Sheet 3-D
Nannie Helen Burroughs Avenue Bridge Reconstruction	Nannie Helen Burroughs Avenue and Kenilworth Avenue interchange area	<ul style="list-style-type: none">• Provide pedestrian/bicycle access under Kenilworth Avenue• Connect Watts Branch Trail to Kenilworth Aquatic Gardens• Add crosswalks and curb ramps at intersection of NHB Avenue and Kenilworth Terrace• Stripe crosswalks at intersection of NHB Avenue and Minnesota Avenue	Nannie Helen Burroughs Avenue Bridge Reconstruction, Sheets 17-A, 17-B and 17-C
Anacostia Trail, Phase I	Access from Anacostia Trail to East Capitol Street Bridge	<ul style="list-style-type: none">• Provide new curb ramp and wider opening from bridge sidewalk to River Terrace neighborhood street and add stairs from bridge to provide direct access to trail for pedestrians	Anacostia Trail, Phase I, Sheets 1-A
	Anacostia Avenue crossings between River Terrace and Anacostia Trail	<ul style="list-style-type: none">• Add new crosswalks and curb ramps between River Terrace and trail• Widen sidewalk along Anacostia Avenue• Resurface existing portion of Anacostia Trail	Anacostia Trail, Phase I, Sheets 1-A and 1-B

Table E.2 – Current Projects – Medium Priority

<u>Project/Program Name</u>	<u>Location(s)</u>	<u>Recommended Improvement(s)</u>	<u>Reference Plan Sheets</u>
Anacostia Trail, Phase II	Access to Anacostia Park and Anacostia Trail from 40th Street and Jay Street	<ul style="list-style-type: none">• Construct new sidewalks along 40th Street• Upgrade shared-use trail crossing to meet ADA Accessibility requirements	Anacostia Trail, Phase II, Sheet 2-A
	Access to Anacostia Park and Anacostia Trail from G Street and Bayley Street, SE neighborhood	<ul style="list-style-type: none">• Construct new shared-use path under Kenilworth Avenue to connect neighborhood and park	Anacostia Trail, Phase II, Sheet 2-B
FY 2004 Budgeted Active Street Rehabilitation (East Capitol Street from Minnesota Avenue to 53rd Street)	Fort Circle Trail at East Capitol Street (East Capitol Street and 41st Street)	<ul style="list-style-type: none">• Add pedestrian and bicycle crossing improvements including crosswalks, trail crossing warning signs, pedestrian signals (if warranted), and directional signage for trail users	FY 2004 Budgeted Active Street Rehabilitation, Sheet 7
FY 2005 Budgeted Active Street Rehabilitation (Minnesota Avenue from Nash Street to Eastern Avenue)	Minnesota Avenue near Deanwood Metro Station	<ul style="list-style-type: none">• Add median crossing islands and/or curb extensions to improve crossings to the Deanwood Metrorail Station	FY 2005 Budgeted Active Street Rehabilitation, Sheets 8-A and 8-B

Table E.3 – New Projects – High Priority

<u>Project/Program Name</u>	<u>Location(s)</u>	<u>Recommended Improvement(s)</u>	<u>Reference Plan Sheets</u>
Minnesota Avenue Safety Improvements, Phase I (Benning Road to Nannie Helen Burroughs Avenue)	Minnesota Avenue on east side of Minnesota Avenue Metrorail Station	<ul style="list-style-type: none">Provide median islands, new crosswalk, and new pedestrian signals between school and Metrorail Station	Minnesota Avenue Safety Improvements, Phase I, Sheet 15

Table E.4 – New Projects – Medium Priority

<u>Project/Program Name</u>	<u>Location(s)</u>	<u>Recommended Improvement(s)</u>	<u>Reference Plan Sheets</u>
Fort Circle Trail Improvements (Joint DDOT/NPS project)	Extension of Fort Circle Trail to Watts Branch Trail	Add wide sidewalk on west side of 42nd Street (some sections of sidewalk may be constructed through sidewalk and alley improvement program)	Fort Circle Trail Improvements, Sheets 9-A and 9-B
Pedestrian Bridge Evaluation: Rehabilitation/Removal	Pedestrian bridges at Nash Street and Lane Place	Conduct final evaluation of pedestrian bridges for rehabilitation or removal	Pedestrian Bridge Evaluation: Rehabilitation/Removal, Sheet 12
Ward 7 Safe Routes to School Program	Brown Middle School and Houston Elementary School area; other school areas in Ward 7	Improve sidewalks and crosswalks near schools to improve environment for walking and bicycling to school	Ward 7 Safe Routes to School Program, Sheet 20
Minnesota Avenue Safety Improvements, Phase II (East Capitol Street to Benning Road)	Minnesota Avenue between East Capitol Street and Benning Road	Improve the visibility of sidewalks across driveways and improve crosswalks across Minnesota Avenue	Minnesota Avenue Safety Improvements, Phase II, Sheets 16-A and 16-B
Minnesota Avenue Metrorail Station Redevelopment Project (Joint DDOT/Developer project)	Kenilworth Avenue southbound service road; Minnesota Avenue Metrorail Station pedestrian bridge; new development area	Improve sidewalks, crosswalks, and lighting in and around the development west of the Minnesota Avenue Metrorail Station	Minnesota Avenue Metrorail Station Redevelopment Project, Sheets 14-A and 14-B

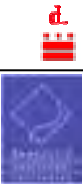
Table E.5 – New Projects – Low Priority

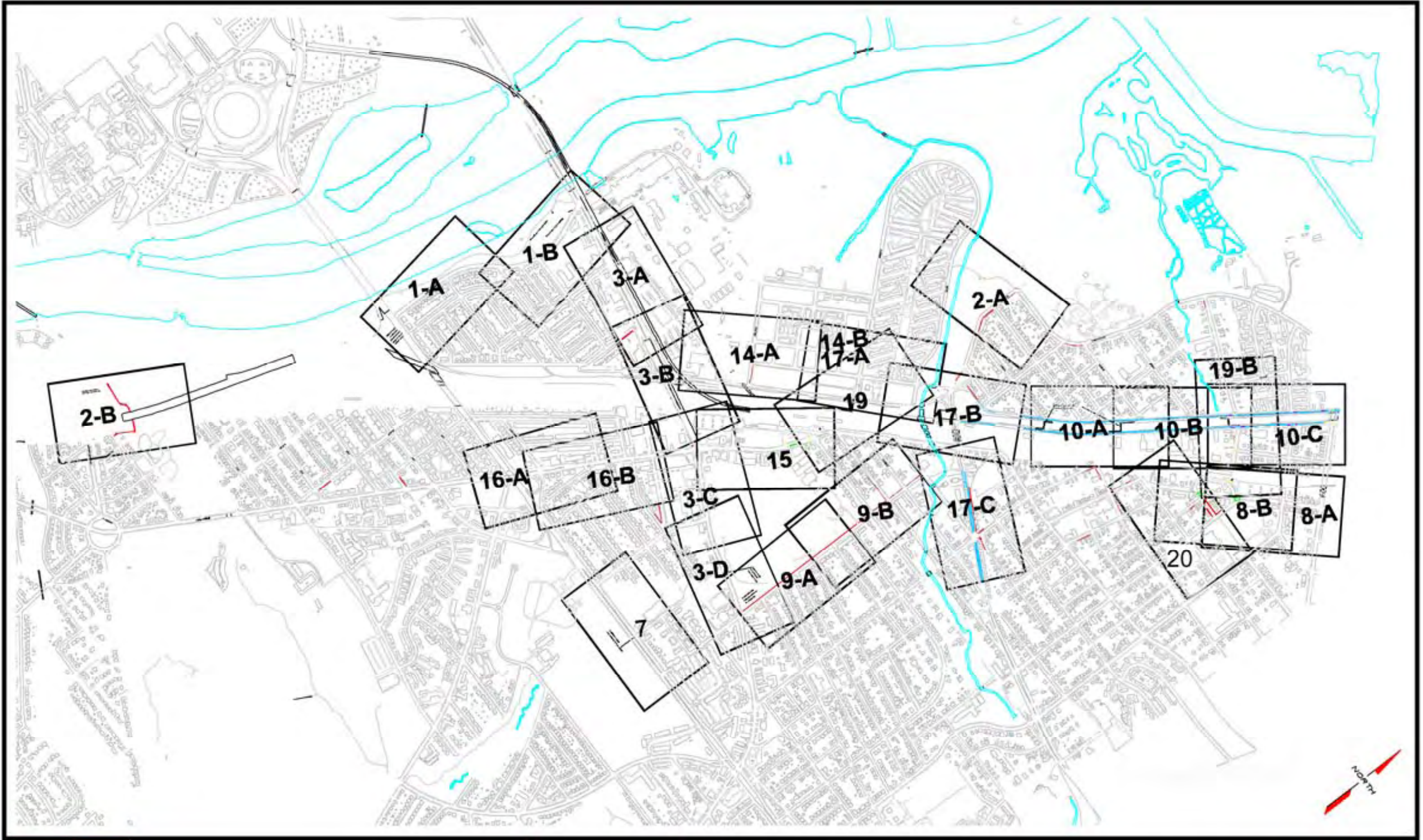
<u>Project/Program Name</u>	<u>Location(s)</u>	<u>Recommended Improvement(s)</u>	<u>Reference Plan Sheets</u>
Kenilworth Avenue Corridor Pedestrian Wayfinding	Signage near Metrorail Stations, parks, Anacostia Trail, schools	Improve signage to direct pedestrians and bicyclists to key destinations in the corridor	None



Table E.6 – Maintenance Projects

<u>Project/Program Name</u>	<u>Location(s)</u>	<u>Recommended Improvement(s)</u>	<u>Reference Plan Sheets</u>
Sidewalk, Curb, and Alley Maintenance Program	Sidewalks near the Deanwood Metrorail Station and curb ramps at the Pennsylvania Avenue interchange; other locations with missing/inaccessible sidewalk segments or curb ramps, especially in areas with high levels of pedestrian activity	Construct sections of missing sidewalk, add missing curb ramps, and make all sidewalks and curb ramps meet ADA guidelines	Sidewalk, Curb, and Alley Maintenance Program
Crosswalk Striping Maintenance Program	Nannie Helen Burroughs Avenue and 44th Street; other deficient locations, especially in areas with high levels of pedestrian activity	Stripe crosswalks at intersections where striping is missing or has worn away	Crosswalk Striping Maintenance Program
Pedestrian Signal Maintenance Program	Sheriff Road at 45th Street; other signalized locations, especially in areas with high levels of pedestrian activity	Add pedestrian countdown signals	Pedestrian Signal Maintenance Program
Lighting Improvement Maintenance Program	Lighting at all intersections, especially in areas with high levels of pedestrian activity	Add pedestrian-scale lighting	Lighting Improvement Maintenance Program





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APPENDIX F – INTERCHANGE COST ESTIMATES

Appendix F

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Kenilworth Avenue Corridor, Option 3

East Capitol Street to Nannie Helen

Burroughs Avenue F-1

Nannie Helen Burroughs Avenue

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Ord/Nash Street Plaza F-2

East Capitol Street Interchange

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East Capitol Street Scenario EC-2 F-3

East Capitol Street Scenario EC-3 F-4

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Benning Road Interchange

Benning Road Scenario BR-1 F-6

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Benning Road Scenario BR-5 F-8

Eastern Avenue Interchange

Eastern Avenue Scenario EA-1 F-9

Eastern Avenue Scenario EA-2 F-9



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Preliminary Cost Estimate

Kenilworth Avenue Option 3 (Depressed)
East Capitol Street to Nannie
Helen Burroughs Avenue
STA. 59+00 TO STA. 146+00

Item	Description	Unit	Quantity	Unit Price	Extension
1	COMMON EXCAVATION	CY	425,975	\$12.00	\$5,111,699
2	STRUCTURAL EXCAVATION	CY	56,429	25.00	1,410,733
3	BORROW STRUCTURAL BACKFILL	CY	28,253	12.00	339,035
4	PERVIOUS BACKFILL	CY	9,418	18.00	169,517
5	AGGREGATE BASE COURSE	CY	24,184	17.00	411,128
6	PAVEMENT	SY	96,736	50.39	4,874,527
7	RETAINING WALL	SF	254,276	40.00	10,171,040
8	BRIDGE AND TUNNEL	SF	300,600	225.00	67,635,000
9	PAVEMENT MARKINGS	LF	103,925	0.75	77,944
10	DEMOLITION OF HOUSES	LS	1	100,000	100,000
11	TRAFFIC SIGNS	LS	1	100,000	100,000
SUB-TOTAL					\$90,400,623

12	MOBILIZATION	4% OF SUB-TOTAL	\$3,616,025
13	STORM DRAINAGE	10% OF SUB-TOTAL	9,040,062
14	UTILITY WORKS	10% OF SUB-TOTAL	9,040,062
15	TRAFFIC LIGHTING/SIGNAL SYSTEMS	1% OF SUB-TOTAL	904,006
16	LANDSCAPING	5% OF SUB-TOTAL	4,520,031
TOTAL CONSTRUCTION COST			\$117,520,810

17	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST	\$29,380,202
18	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST	11,752,081
19	CONTINGENCIES	30% OF TOTAL CONSTR. COST	35,256,243
TOTAL PROJECT COST			\$193,909,336

NOTE: COST OF THE FOLLOWING ITEMS ARE NOT INCLUDED

1. ACQUISITION OF HOUSES.
2. RIGHT OF WAY OF CSX PROPERTY (12 ACRES).
3. RIGHT OF WAY OF PROPERTY (1.5 ACRE).

Preliminary Cost Estimate

Kenilworth Avenue Option 3 (Depressed)
Nannie Helen Burroughs
Avenue to Eastern Avenue
STA. 146+00 TO STA. 193+16

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	213,931	\$12.00	\$2,567,172
2	STRUCTURAL EXCAVATION	CY	31,547	25.00	788,667
3	BORROW STRUCTURAL BACKFILL	CY	2,116	12.00	25,389
4	PERVIOUS BACKFILL	CY	4,227	18.00	76,093
5	AGGREGATE BASE COURSE	CY	14,453	17.00	245,707
6	PAVEMENT	SY	57,813	50.39	2,913,214
7	RETAINING WALL	SF	114,140	40.00	4,565,600
8	BRIDGE AND TUNNEL	SF	98,136	225.00	22,080,600
9	PAVEMENT MARKINGS	LF	108,439	0.75	81,329
10	INSTALLATION OF STORM WATER PIPE	LF	350	8,500.00	2,975,000
11	DEMOLITION OF HOUSES	LS	1	30,000	30,000
12	TRAFFIC SIGNS	LS	1	32,000	32,000
13	NASH STREET EXTENSION				1,031,872
SUB-TOTAL					\$37,412,643

14	MOBILIZATION	4% OF SUB-TOTAL	\$1,496,506
15	STORM DRAINAGE	10% OF SUB-TOTAL	3,741,264
16	UTILITY WORKS	10% OF SUB-TOTAL	3,741,264
17	TRAFFIC LIGHTING/SIGNAL SYSTEMS	1% OF SUB-TOTAL	374,126
18	LANDSCAPING	5% OF SUB-TOTAL	1,870,632
TOTAL CONSTRUCTION COST			\$48,636,435

19	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST	\$12,159,109
20	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST	4,863,644
21	CONTINGENCIES	30% OF TOTAL CONSTR. COST	\$14,590,931
TOTAL PROJECT COST			\$80,250,119

NOTE: COST OF THE FOLLOWING ITEMS ARE NOT INCLUDED

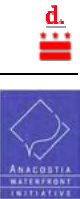
1. ACQUISITION OF HOUSES.
2. RIGHT OF WAY OF PROPERTY (2 ACRES).



Preliminary Cost Estimate

Kenilworth Avenue Option 3 (Depressed)
Ord/Nash Street Plaza
STA. 175+00

Item	Description	Unit	Quantity	Unit Price	Amount
1	STRUCTURAL EXCAVATION	CY	3,554	\$25.00	\$88,845
2	AGGREGATE BASE COURSE	CY	1,369	17.00	23,281
3	PAVEMENT	SY	6,092	50.39	306,987
4	PAVEMENT MARKINGS	LF	5,752	0.75	4,314
5	TRAFFIC SIGNS	LS	1	10,000	10,000
6	DEMOLITION OF PROPERTIES	LS	1	20,000	20,000
SUB-TOTAL					\$453,427
7	MOBILIZATION	4% OF SUB-TOTAL			\$18,137
8	STORM DRAINAGE	10% OF SUB-TOTAL			45,343
9	UTILITY WORKS	10% OF SUB-TOTAL			45,343
10	TRAFFIC LIGHTING/SIGNAL SYSTEMS	LS			60,000
11	LANDSCAPING	5% OF SUB-TOTAL			22,671
TOTAL CONSTRUCTION COST					\$644,920
12	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST			\$161,230
13	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST			64,492
14	CONTINGENCIES	30% OF TOTAL CONSTR. COST			193,476
TOTAL PROJECT COST					\$1,064,118



Preliminary Cost Estimate

East Capitol Street Interchange

Scenario EC-1

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	9,393	\$12.00	\$112,711
2	STRUCTURAL EXCAVATION	CY	2,385	25.00	59,630
3	AGGREGATE BASE COURSE	CY	1,022	17.00	17,378
4	PAVEMENT	SY	17,964	50.39	905,228
5	PAVEMENT MARKINGS	LF	20,780	0.75	15,585
6	TRAFFIC SIGNS	LS	1	10,000	10,000
SUB-TOTAL					\$1,120,532
7	MOBILIZATION	4% OF SUB-TOTAL			\$44,821
8	STORM DRAINAGE	10% OF SUB-TOTAL			112,053
9	UTILITY WORKS	10% OF SUB-TOTAL			112,053
10	TRAFFIC LIGHTING/SIGNAL SYSTEMS	LS			80,000
11	LANDSCAPING	5% OF SUB-TOTAL			56,027
TOTAL CONSTRUCTION COST					\$1,525,486
12	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST			\$381,372
13	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST			152,549
14	CONTINGENCIES	30% OF TOTAL CONSTR. COST			457,646
TOTAL PROJECT COST					\$2,517,052

Preliminary Cost Estimate

East Capitol Street Interchange

Scenario EC-2

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	29,156	\$12.00	\$349,867
2	STRUCTURAL EXCAVATION	CY	7,441	25.00	186,019
3	BORROW STRUCTURAL BACKFILL	CY	4,856	12.00	58,267
4	PERVIOUS BACKFILL	CY	1,619	18.00	29,133
5	AGGREGATE BASE COURSE	CY	3,189	17.00	54,211
6	PAVEMENT	SY	23,676	50.39	1,193,011
7	RETAINING WALL	SF	43,700	40.00	1,748,000
8	INSTALLATION OF STORM WATER PIPE	LF	1,200	8,500	10,200,000
8	PAVEMENT MARKINGS	LF	28,880	0.75	21,660
9	TRAFFIC SIGNS	LS	1	10,000	10,000
SUB-TOTAL					\$13,850,168
10	MOBILIZATION	4% OF SUB-TOTAL			\$554,007
11	STORM DRAINAGE	10% OF SUB-TOTAL			1,385,017
12	UTILITY WORKS	10% OF SUB-TOTAL			1,385,017
13	TRAFFIC LIGHTING/SIGNAL SYSTEMS	LS			160,000
14	LANDSCAPING	5% OF SUB-TOTAL			692,508
TOTAL CONSTRUCTION COST					\$18,026,716
15	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST			\$4,506,679
16	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST			1,802,672
17	CONTINGENCIES	30% OF TOTAL CONSTR. COST			5,408,015
TOTAL PROJECT COST					\$29,744,082



Preliminary Cost Estimate

East Capitol Street Interchange

Scenario EC-3

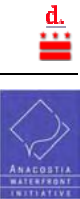
Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	8,519	\$12.00	\$102,228
2	STRUCTURAL EXCAVATION	CY	6,546	25.00	163,657
3	BORROW STRUCTURAL BACKFILL	CY	15,248	12.00	182,978
4	PERVIOUS BACKFILL	CY	980	18.00	17,633
5	AGGREGATE BASE COURSE	CY	2,806	17.00	47,694
6	PAVEMENT	SY	24,276	50.39	1,223,245
7	RETAINING WALL	SF	19,550	40.00	782,000
8	BRIDGE	SF	5,000	225.00	1,125,000
9	PAVEMENT MARKINGS	LF	29,180	0.75	21,885
10	TRAFFIC SIGNS	LS	1	10,000	10,000
SUB-TOTAL					\$3,676,321
11	MOBILIZATION	4% OF SUB-TOTAL			\$147,053
12	STORM DRAINAGE	10% OF SUB-TOTAL			367,632
13	UTILITY WORKS	10% OF SUB-TOTAL			367,632
14	TRAFFIC LIGHTING/SIGNAL SYSTEMS	LS			160,000
15	LANDSCAPING	5% OF SUB-TOTAL			183,816
TOTAL CONSTRUCTION COST					\$4,902,454
16	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST			\$1,225,614
17	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST			490,245
18	CONTINGENCIES	30% OF TOTAL CONSTR. COST			1,470,736
TOTAL PROJECT COST					\$8,089,050

Preliminary Cost Estimate

East Capitol Street Interchange (Diamond)

Scenario EC-4

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	186,005	\$12.00	\$2,232,060
2	STRUCTURAL EXCAVATION	CY	28,389	25.00	709,722
3	BORROW STRUCTURAL BACKFILL	CY	10,924	12.00	131,091
4	PERVIOUS BACKFILL	CY	3,641	18.00	65,545
5	AGGREGATE BASE COURSE	CY	12,167	17.00	206,833
6	PAVEMENT	SY	48,667	50.39	2,452,313
7	RETAINING WALL	SF	98,318	40.00	3,932,720
8	BRIDGE	SF	14,400	225.00	3,240,000
9	BRIDGE OVER RAILWAY	SF	38,400	450.00	17,280,000
10	BRIDGE DEMOLITION OVER RAILWAY	SF	19,200	70.00	1,344,000
11	INSTALLATION OF STORM WATER PIPE	LF	1,200	8,500	10,200,000
12	PAVEMENT MARKINGS	LF	53,200	0.75	39,900
13	TRAFFIC SIGNS	LS	1	20,000	20,000
SUB-TOTAL					\$41,854,185
14	MOBILIZATION	4% OF SUB-TOTAL			\$1,674,167
15	STORM DRAINAGE	10% OF SUB-TOTAL			4,185,418
16	UTILITY WORKS	10% OF SUB-TOTAL			4,185,418
17	TRAFFIC LIGHTING/SIGNAL SYSTEMS	LS			160,000
18	LANDSCAPING	5% OF SUB-TOTAL			2,092,709
TOTAL CONSTRUCTION COST					\$54,151,899
19	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST			\$13,537,975
20	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST			5,415,190
21	CONTINGENCIES	30% OF TOTAL CONSTR. COST			16,245,570
TOTAL PROJECT COST					\$89,350,633



Preliminary Cost Estimate

East Capitol Street Interchange (SPUI)

Scenario EC-5

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	186,005	\$12.00	\$2,232,060
2	STRUCTURAL EXCAVATION	CY	25,278	25.00	631,944
3	BORROW STRUCTURAL BACKFILL	CY	10,924	12.00	131,091
4	PERVIOUS BACKFILL	CY	3,641	18.00	65,545
5	AGGREGATE BASE COURSE	CY	10,833	17.00	184,167
6	PAVEMENT	SY	43,333	50.39	2,183,567
7	RETAINING WALL	SF	98,318	40.00	3,932,720
8	BRIDGE	SF	25,600	225.00	5,760,000
9	BRIDGE OVER RAILWAY	SF	38,400	450.00	17,280,000
10	BRIDGE DEMOLITION OVER RAILWAY	SF	19,200	70.00	1,344,000
11	INSTALLATION OF STORM WATER PIPE	LF	1,200	8,500	10,200,000
12	PAVEMENT MARKINGS	LF	47,200	0.75	35,400
13	TRAFFIC SIGNS	LS	1	20,000	20,000
SUB-TOTAL					\$44,000,494

14	MOBILIZATION	4% OF SUB-TOTAL	\$1,760,020
15	STORM DRAINAGE	10% OF SUB-TOTAL	4,400,049
16	UTILITY WORKS	10% OF SUB-TOTAL	4,400,049
17	TRAFFIC LIGHTING/SIGNAL SYSTEMS	LS	160,000
18	LANDSCAPING	5% OF SUB-TOTAL	2,200,025
TOTAL CONSTRUCTION COST			\$56,920,637

19	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST	\$14,230,159
20	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST	5,692,064
21	CONTINGENCIES	30% OF TOTAL CONSTR. COST	17,076,191
TOTAL PROJECT COST			\$93,919,051



Preliminary Cost Estimate

Benning Road Interchange

Scenario BR-1

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	77,845	\$12.00	\$934,146
2	STRUCTURAL EXCAVATION	CY	34,486	25.00	862,141
3	BORROW STRUCTURAL BACKFILL	CY	3,843	12.00	46,120
4	PERVIOUS BACKFILL	CY	1,281	18.00	23,060
5	AGGREGATE BASE COURSE	CY	14,780	17.00	251,252
6	PAVEMENT	SY	59,118	50.39	2,978,967
7	RETAINING WALL	SF	34,590	40.00	1,383,600
8	BRIDGE AND TUNNEL	SF	11,000	225.00	2,475,000
9	PAVEMENT MARKINGS	LF	59,197	0.75	44,398
10	BRIDGE DEMOLITION	SF	8,500	35.00	297,500
11	TRAFFIC SIGNS	LS	1	10,000	10,000
SUB-TOTAL					\$9,306,184

12	MOBILIZATION	4% OF SUB-TOTAL	\$372,247
13	STORM DRAINAGE	10% OF SUB-TOTAL	930,618
14	UTILITY WORKS	10% OF SUB-TOTAL	930,618
15	TRAFFIC LIGHTING/SIGNAL SYSTEMS	1% OF SUB-TOTAL	93,062
16	LANDSCAPING	5% OF SUB-TOTAL	465,309
TOTAL CONSTRUCTION COST			\$12,098,039

17	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST	\$3,024,510
18	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST	1,209,804
19	CONTINGENCIES	30% OF TOTAL CONSTR. COST	3,629,412
TOTAL PROJECT COST			\$19,961,765

Preliminary Cost Estimate

Benning Road Interchange

Scenario BR-2

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	77,998	\$12.00	\$935,978
2	STRUCTURAL EXCAVATION	CY	34,619	25.00	865,480
3	BORROW STRUCTURAL BACKFILL	CY	3,843	12.00	46,120
4	PERVIOUS BACKFILL	CY	1,281	18.00	23,060
5	AGGREGATE BASE COURSE	CY	14,837	17.00	252,226
6	PAVEMENT	SY	59,347	50.39	2,990,507
7	RETAINING WALL	SF	34,590	40.00	1,383,600
8	BRIDGE AND TUNNEL	SF	12,500	225.00	2,812,500
9	PAVEMENT MARKINGS	LF	59,675	0.75	44,756
10	BRIDGE DEMOLITION	SF	8,500	35.00	297,500
11	TRAFFIC SIGNS	LS	1	10,000	10,000
SUB-TOTAL					\$9,661,727

12	MOBILIZATION	4% OF SUB-TOTAL	\$386,468
13	STORM DRAINAGE	10% OF SUB-TOTAL	966,173
14	UTILITY WORKS	10% OF SUB-TOTAL	966,173
15	TRAFFIC LIGHTING/SIGNAL SYSTEMS	1% OF SUB-TOTAL	96,617
16	LANDSCAPING	5% OF SUB-TOTAL	483,086
TOTAL CONSTRUCTION COST			\$12,560,245

17	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST	\$3,140,061
18	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST	1,256,024
19	CONTINGENCIES	30% OF TOTAL CONSTR. COST	3,768,073
TOTAL PROJECT COST			\$20,724,404

Preliminary Cost Estimate

Benning Road Interchange

Scenario BR-3

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	82,093	\$12.00	\$985,119
2	STRUCTURAL EXCAVATION	CY	35,096	25.00	877,390
3	BORROW STRUCTURAL BACKFILL	CY	4,177	12.00	50,120
4	PERVIOUS BACKFILL	CY	1,392	18.00	25,060
5	AGGREGATE BASE COURSE	CY	15,041	17.00	255,697
6	PAVEMENT	SY	60,164	50.39	3,031,658
7	RETAINING WALL	SF	37,590	40.00	1,503,600
8	BRIDGE	SF	12,300	225.00	2,767,500
9	PAVEMENT MARKINGS	LF	59,725	0.75	44,794
10	BRIDGE DEMOLITION	SF	11,800	35.00	413,000
11	TRAFFIC SIGNS	LS	1	10,000	10,000
				SUB-TOTAL	\$9,963,938

12	MOBILIZATION	4% OF SUB-TOTAL	\$398,558
13	STORM DRAINAGE	10% OF SUB-TOTAL	996,394
14	UTILITY WORKS	10% OF SUB-TOTAL	996,394
15	TRAFFIC LIGHTING/SIGNAL SYSTEMS	1% OF SUB-TOTAL	99,639
16	LANDSCAPING	5% OF SUB-TOTAL	498,197
TOTAL CONSTRUCTION COST			\$12,953,119

17	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST	\$3,238,280
18	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST	1,295,312
19	CONTINGENCIES	30% OF TOTAL CONSTR. COST	3,885,936
TOTAL PROJECT COST			\$21,372,647

Preliminary Cost Estimate

Benning Road Interchange (Ramp)

Scenario BR-4

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	66,575	\$12.00	\$798,905
2	STRUCTURAL EXCAVATION	CY	34,594	25.00	864,861
3	BORROW STRUCTURAL BACKFILL	CY	45,437	12.00	545,240
4	PERVIOUS BACKFILL	CY	2,237	18.00	40,273
5	AGGREGATE BASE COURSE	CY	14,826	17.00	252,045
6	PAVEMENT	SY	59,305	50.39	2,988,368
7	RETAINING WALL	SF	67,830	40.00	2,713,200
8	BRIDGE	SF	69,100	225.00	15,547,500
9	PAVEMENT MARKINGS	LF	62,684	0.75	47,013
10	BRIDGE DEMOLITION	SF	24,350	35.00	852,250
11	BRIDGE DEMOLITION OVER RAILWAY	SF	24,000	70.00	1,680,000
12	TRAFFIC SIGNS	LS	1	10,000	10,000
SUB-TOTAL					\$26,339,656

13	MOBILIZATION	4% OF SUB-TOTAL	\$1,053,586
14	STORM DRAINAGE	10% OF SUB-TOTAL	2,633,966
15	UTILITY WORKS	10% OF SUB-TOTAL	2,633,966
16	TRAFFIC LIGHTING/SIGNAL SYSTEMS	LS	120,000
17	LANDSCAPING	5% OF SUB-TOTAL	1,316,983
TOTAL CONSTRUCTION COST			\$34,098,156

18	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST	\$8,524,539
19	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST	3,409,816
20	CONTINGENCIES	30% OF TOTAL CONSTR. COST	10,229,447
TOTAL PROJECT COST			\$56,261,957



Preliminary Cost Estimate

Benning Road Interchange

Scenario BR-5

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	84,715	\$12.00	\$1,016,582
2	STRUCTURAL EXCAVATION	CY	22,561	25.00	564,027
3	BORROW STRUCTURAL BACKFILL	CY	22,561	12.00	270,733
4	PERVIOUS BACKFILL	CY	2,452	18.00	44,143
5	AGGREGATE BASE COURSE	CY	9,669	17.00	164,373
6	PAVEMENT	SY	47,443	50.39	2,390,642
7	RETAINING WALL	SF	66,214	40.00	2,648,560
8	BRIDGE	SF	66,720	225.00	15,012,000
9	PAVEMENT MARKINGS	LF	52,689	0.75	39,517
10	BRIDGE DEMOLITION	SF	24,350	35.00	852,250
11	BRIDGE DEMOLITION OVER RAILWAY	SF	24,000	70.00	1,680,000
12	TRAFFIC SIGNS	LS	1	10,000	10,000
SUB-TOTAL					\$24,692,826
13	MOBILIZATION	4% OF SUB-TOTAL			\$987,713
14	STORM DRAINAGE	10% OF SUB-TOTA			2,469,283
15	UTILITY WORKS	10% OF SUB-TOTAL			2,469,283
16	TRAFFIC LIGHTING/SIGNAL SYSTEMS	LS			120,000
17	LANDSCAPING	5% OF SUB-TOTAL			1,234,641
TOTAL CONSTRUCTION COST					\$31,973,746
18	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST			\$7,993,436
19	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST			3,197,375
20	CONTINGENCIES	30% OF TOTAL CONSTR. COST			9,592,124
TOTAL PROJECT COST					\$52,756,680



Preliminary Cost Estimate

Eastern Avenue

Scenario EA-1

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	4,849	\$12.00	\$ 58,193
2	STRUCTURAL EXCAVATION	CY	5,263	25.00	131,574
3	BORROW STRUCTURAL BACKFILL	CY	837	12.00	10,041
4	PERVIOUS BACKFILL	CY	367	18.00	6,614
5	AGGREGATE BASE COURSE	CY	2,256	17.00	38,344
6	PAVEMENT	SY	8,711	50.39	438,953
7	RETAINING WALL	SF	7,531	40.00	301,240
8	BRIDGE	SF	32,400	225.00	7,290,000
9	PAVEMENT MARKINGS	LF	9,724	0.75	7,293
10	BRIDGE DEMOLITION	SF	14,875	35.00	520,625
11	TRAFFIC SIGNS	LS	1	10,000	10,000
SUB-TOTAL					\$8,812,878
12	MOBILIZATION	4% OF SUB-TOTAL			\$352,515
13	STORM DRAINAGE	10% OF SUB-TOTAL			881,288
14	UTILITY WORKS	10% OF SUB-TOTAL			881,288
15	TRAFFIC LIGHTING/SIGNAL SYSTEMS	1% OF SUB-TOTAL			88,129
16	LANDSCAPING	5% OF SUB-TOTAL			440,644
TOTAL CONSTRUCTION COST					\$11,456,741
17	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST			\$2,864,185
18	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST			1,145,674
19	CONTINGENCIES	30% OF TOTAL CONSTR. COST			3,437,022
TOTAL PROJECT COST					\$18,903,623

Preliminary Cost Estimate

Eastern Avenue

Scenario EA-2

Item	Description	Unit	Quantity	Unit Price	Amount
1	COMMON EXCAVATION	CY	21,885	\$12.00	\$ 262,620
2	STRUCTURAL EXCAVATION	CY	6,532	25.00	163,307
3	BORROW STRUCTURAL BACKFILL	CY	1,263	12.00	15,152
4	PERVIOUS BACKFILL	CY	421	18.00	7,576
5	AGGREGATE BASE COURSE	CY	2,800	17.00	47,592
6	PAVEMENT	SY	10,887	50.39	548,602
7	RETAINING WALL	SF	15,197	40.00	607,880
8	BRIDGE	SF	32,400	225.00	7,290,000
9	PAVEMENT MARKINGS	LF	11,900	0.75	8,925
10	BRIDGE DEMOLITION	SF	14,875	35.00	520,625
11	TRAFFIC SIGNS	LS	1	10,000	10,000
SUB-TOTAL					\$9,482,279
12	MOBILIZATION	4% OF SUB-TOTAL			\$379,291
13	STORM DRAINAGE	10% OF SUB-TOTAL			48,228
14	UTILITY WORKS	10% OF SUB-TOTAL			948,228
15	TRAFFIC LIGHTING/SIGNAL SYSTEMS	1% OF SUB-TOTAL			94,823
16	LANDSCAPING	5% OF SUB-TOTAL			474,114
TOTAL CONSTRUCTION COST					\$12,326,963
17	PLANNING AND ENGINEERING	25% OF TOTAL CONSTR. COST			\$3,081,741
18	CONSTRUCTION MANAGEMENT	10% OF TOTAL CONSTR. COST			1,232,696
19	CONTINGENCIES	30% OF TOTAL CONSTR. COST			3,698,089
TOTAL PROJECT COST					\$20,339,488



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