

# ROCK CREEK

## FAR WEST Livability Study

# ROCK CREEK FAR WEST LIVABILITY STUDY

Final Study Report and Recommendations

# Lead Agency



District Department of Transportation



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TURNING TRAFFIC MUST YIELD TO PEDESTRIANS

LOCAL 99 I.U.O.E.

# INTRODUCTION

The Rock Creek Far West Livability Study is an effort by the District Department of Transportation (DDOT) to improve transportation safety in the study area, which includes all of the District of Columbia's Ward 3 west of Massachusetts Avenue.

The Rock Creek Far West neighborhoods are challenged by transportation safety problems and quality of life issues caused by aggressive driving, challenging intersection geometry, outdated infrastructure, and multi-modal conflicts. DDOT sought a proactive approach to address demonstrated and potential problems and find solutions at a network level. This study, performed from January through September 2019, identifies specific projects to address these issues that DDOT can advance and program for implementation.



# WHAT IS LIVABILITY?

Livability refers to the quality of life as experienced by the people who live, work, and recreate in a community. In a transportation context, livability refers to improvements in public space that increase safety and access for all users of the transportation system.

Livability study areas include several neighborhoods and are conducted with a system-wide perspective in mind to evaluate traffic safety and recommend improvements.

Recommendations for intersections and streets are developed to provide solutions that do not shift the problem to adjacent blocks or intersections. Livability studies include robust public outreach, with the goal to ensure residents support each recommendation. Livability studies also align with Mayor Bowser's Vision Zero Initiative, which has an objective to reach zero fatalities and serious injuries to travelers of the District's transportation system by 2024.

Study areas are determined based on the Area Elements of the District of Columbia's Comprehensive Plan, as well as the overall transportation network of the District.

Each livability study concludes with a list of recommendations, which can include safer pedestrian crossings, more accessible bus stops, geometric adjustments that support intersection safety, signage for better driver information, and speed controls in sensitive areas.



# STUDY AREA IN CONTEXT



*The Rock Creek Far West study area lies entirely within the District's Northwest quadrant. All references to streets in this Final Report assume a NW suffix, unless otherwise stated. Data sources for all maps are listed in the table in the appendix.*

The Livability Study Area includes the western neighborhoods of the District. The Study Area is in the Northwest quadrant and is bounded by Massachusetts Avenue, Whitehaven Street, Whitehaven Parkway, Archbold Parkway, Foundry Branch Valley Park, the Potomac River, and the District's border with Maryland. The area is primarily residential with large institutions, open space, and clusters of commercial activity. The street network is divided by parks and institutional uses.

The Study Area is in Ward 3, and includes all of Advisory Neighborhood Commission (ANC) 3B, most of ANC 3D, and a small portion of ANC 3C.

**Total Square Miles: 4.028**

**Total Population: 42,300**

**Total Jobs: 14,570**

**ANCs: 3B - 3C - 3D**



# GOALS OF THE STUDY

The overarching goal of the Rock Creek Far West Livability Study is to identify opportunities for safer travel for residents of and visitors to the study area, and to improve the transportation network, regardless of how you get around. This will be done by focusing on **safety** and **accessibility**.

The primary objectives of the study are as follows:

- Develop a comprehensive approach to traffic calming and operational improvements for all people living in and visiting the area;
- Identify specific issues that impact safety and comfort of people walking, biking, using wheelchairs, riding transit, and driving, while also accommodating freight and delivery needs;

- Design cost-effective and measurable system improvements that benefit all users;
- Evaluate safety and access issues and solutions around neighborhood facilities including but not limited to: schools, parks, recreation centers, transit stops, and other key community facilities; and
- Create design solutions that will enhance comfort and livability for residents and visitors to the project area.

The diagram on page 10 provides a basic explanation of the overall process for the Livability Study as it relates to the primary study goal.



Wisconsin Avenue/Calvert Street/37th Street Intersection



# VISION ZERO



Vision Zero DC is an all hands-on-deck approach to transportation safety. By the year 2024, Washington, DC will eliminate fatalities and serious injuries to travelers of our transportation system through more effective use of data, education, enforcement, and engineering.

Vision Zero was first adopted in Sweden in 1997. Since then, fatal and serious injuries in Sweden have consistently declined, despite a regular increase of people driving, walking, biking, and using transit. In American cities, Vision Zero is a new philosophy and approach to traffic safety. Under Vision Zero, the design, operation, and support of our transportation network will reflect the fact that humans are not perfect. Travelers inevitably make mistakes resulting in traffic crashes. We do not need to accept that those crashes will inevitably lead to fatalities. Using a holistic set of tools that incorporates the disciplines of engineering, evaluation, law-enforcement, and education, **Vision Zero will eliminate all transportation-related fatalities and serious injuries on our streets by the year 2024.**

The Rock Creek Far West Livability Study will ensure that improvements are consistent with Vision Zero efforts.



# PLANNING PROCESS





**New Mexico Avenue/Garfield Street Intersection**

# UNDERSTANDING THE STUDY AREA

The following section presents a combination of transportation data and community characteristics, outlining the major themes of the Rock Creek Far West Livability Study. These focus foremost on the transportation-related quality of life challenges and opportunities in the Rock Creek Far West neighborhoods. Above all, the assessment relates how transportation and land use priorities intersect within the Study Area.

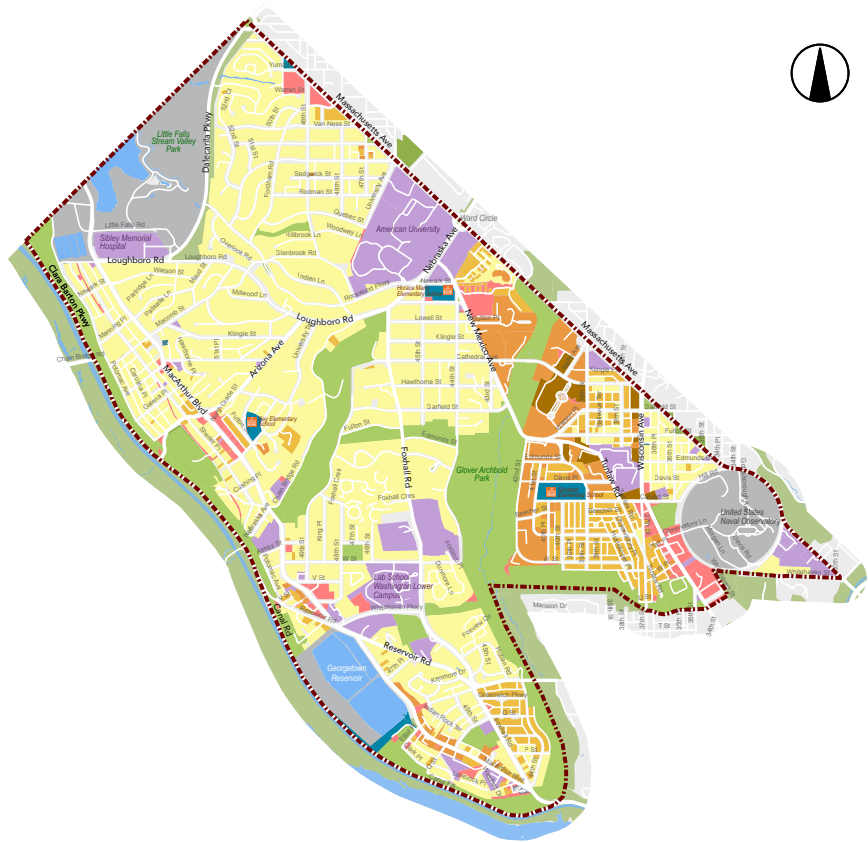


# Land Use & Zoning

## LEGEND

### Land Use

- Commercial
- Low Density Residential
- Low-Medium Density Residential
- Medium Density Residential
- High Density Residential
- Local Public
- Mixed Use
- Federal Public
- Parks and Open Space
- River and Reservoir
- Institutional
- Transport, Communication, Utility



The Rock Creek Far West area is mostly residential. Although there is medium and high density residential, almost 70% of the land area is mostly single-family homes on large lots. The medium and high density residential is near American University and along New Mexico Avenue and Wisconsin Avenue.

After residential, the next largest land uses are open space and large institutions. The open space includes publicly accessible parks and the Georgetown Reservoir. The large institutions include Sibley Memorial Hospital, American University, and the United States Naval Observatory. There are some neighborhood commercial corridors along Wisconsin Avenue, MacArthur Boulevard, and New Mexico Avenue.

**Almost 70% of the land area is single-family homes on large lots.**

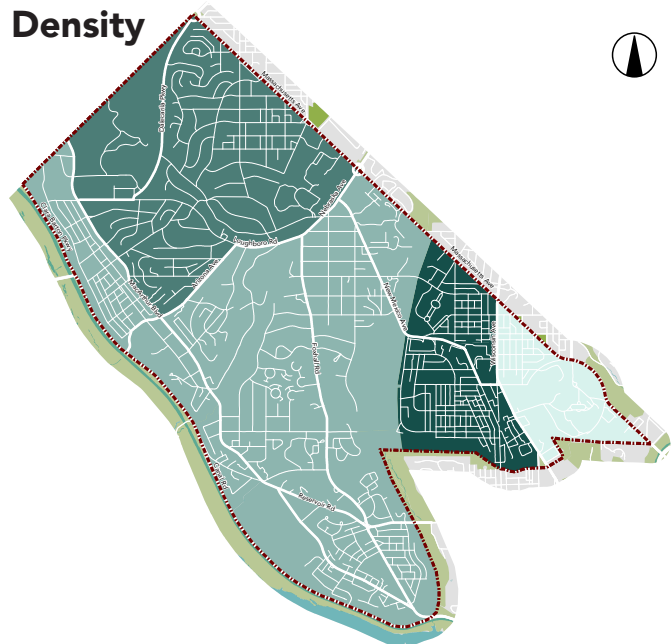
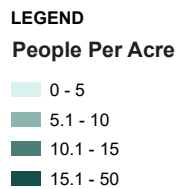
**Open space including publicly accessible parks and large institutions like Sibley Memorial Hospital and American University and the next largest land uses.**



# Demographics: *Population & Income*

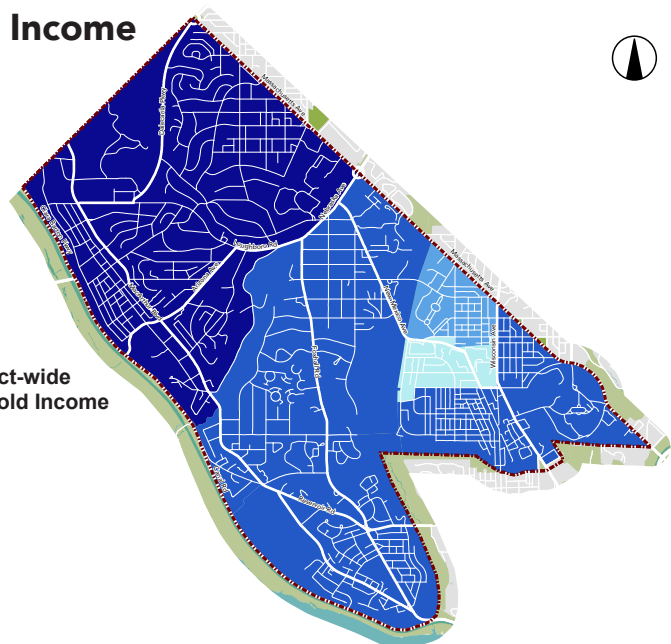
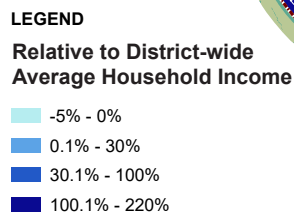
The most densely populated area is bordered by Massachusetts Avenue and Wisconsin Avenue, and bisected by Tunlaw Road. This area is zoned with most of the low-medium, medium, and high density residential parcels in the Study Area. The majority of the area is zoned as low density residential, in addition to federal land and institutional campuses, which helps account for the less densely populated areas. The southeastern corner of the Study Area, which is home to the United States Naval Observatory among other government buildings, has a notably low density.

## Population Density



To understand the Study Area in the context of the District, median household income is displayed as a percentage difference from the median household income of the entire District, \$75,506. The northern portion of the area has between double and triple the median. The two tracts that vary between -5% and 30% change from the District median, coincide with the medium and high density residential, as well as some institutional parcels. The central and southern tracts span between 30.1% - 100% higher median incomes than the District median.

## Household Income





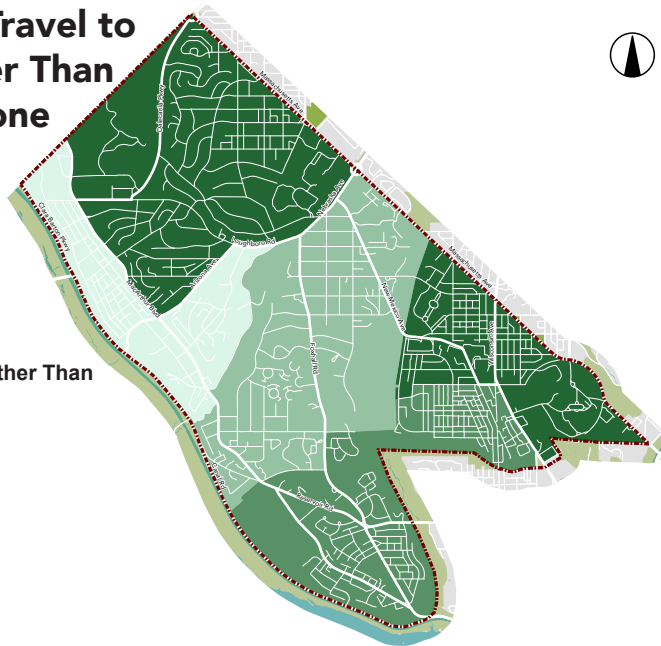
# Demographics: Commute Modes

## Means of Travel to Work Other Than Driving Alone

### LEGEND

#### Travel to Work Other Than Driving Alone

- 0% - 40%
- 40.1% - 50%
- 50.1% - 60%
- 60.1% - 70%



The tracts within the Study Area display a wide range in the percentage of residents who commute by non Single Occupancy Vehicle (SOV) modes. This measure was calculated by combining the percentages of workers who commute by walking, bicycling, public transit, or carpooling.

Both the northern and southeastern corners of the Study Area have between 60.1% - 70% non-SOV commuters. The northwest corner and central areas of the Study Area have the lowest range, between 0% - 50% non-SOV commuters.

The District's average for non-SOV commuters is about 60%.



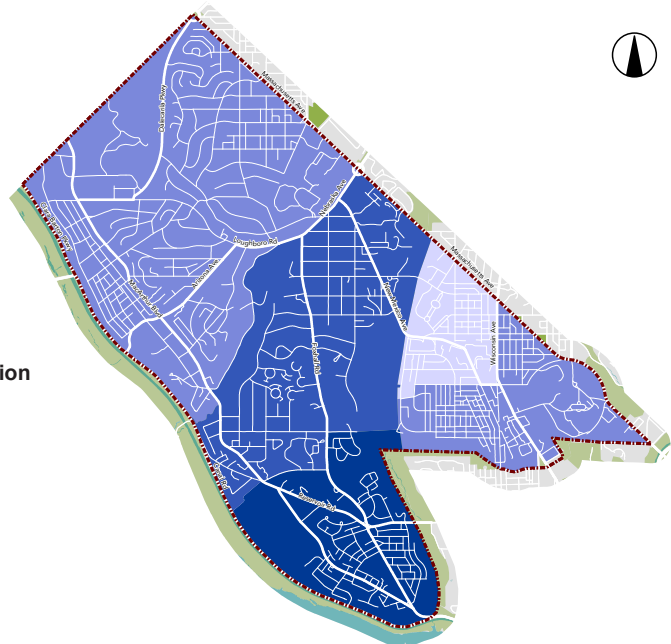
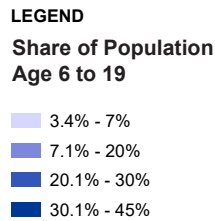


# Demographics:

## *Children and Senior Citizens*

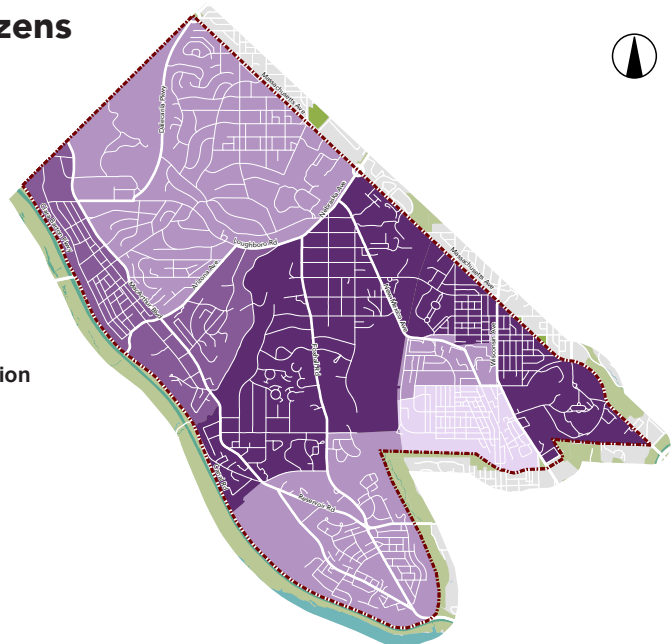
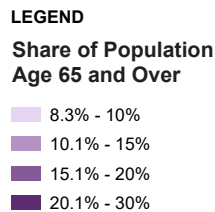
The total number of children in the District of Columbia has been increasing since 2010, and the neighborhoods in the Study Area display a sizable youth population. With a high of 45%, the southern tip contains a considerable amount of 6 to 19 year olds, and the majority of the area contains a high percentage of children. The number of school-age children, who may walk or ride bicycles to schools in the Study Area, helps to illustrate where special attention must be given to meet the needs of this group, such as safe crossings, speed management, and safe routes for bicycling.

### Children



With a number of tracts in the Study Area comprised of between 20.1 – 30% of people over age 65, the area is home to a notable share of senior citizens. A significant portion of the senior citizen population resides in the central tracts of the study area, in mostly low density residential areas. It is important to consider the needs of these residents, especially those who choose not to or cannot drive automobiles. Maintaining and improving connectivity to community destinations for this group can create a livable community for residents' entire lifetimes.

### Senior Citizens














# Bicycle Facilities: *Existing Network*

**LEGEND**

-  Planned Bikeshare
-  Capital Bikeshare
-  Climbing Lane
-  Existing Bike Lane
-  Shared Lane
-  Bicycle Trail
-  Trail Access



The Study Area has relatively few bicycle facilities and Bikeshare stations compared to other areas in the District.

Compared to other areas in the District, the Study Area has relatively few bicycle facilities and bikeshare stations. The Capital Crescent Trail and the Chesapeake and Ohio (C&O) Canal Trail run along the edge of the study area alongside the Potomac River. These two trails are difficult to access because of the topography and C&O Canal and Canal Road.

There are five existing Capital Bikeshare stations. DDOT plans to add two more stations within the Study Area.

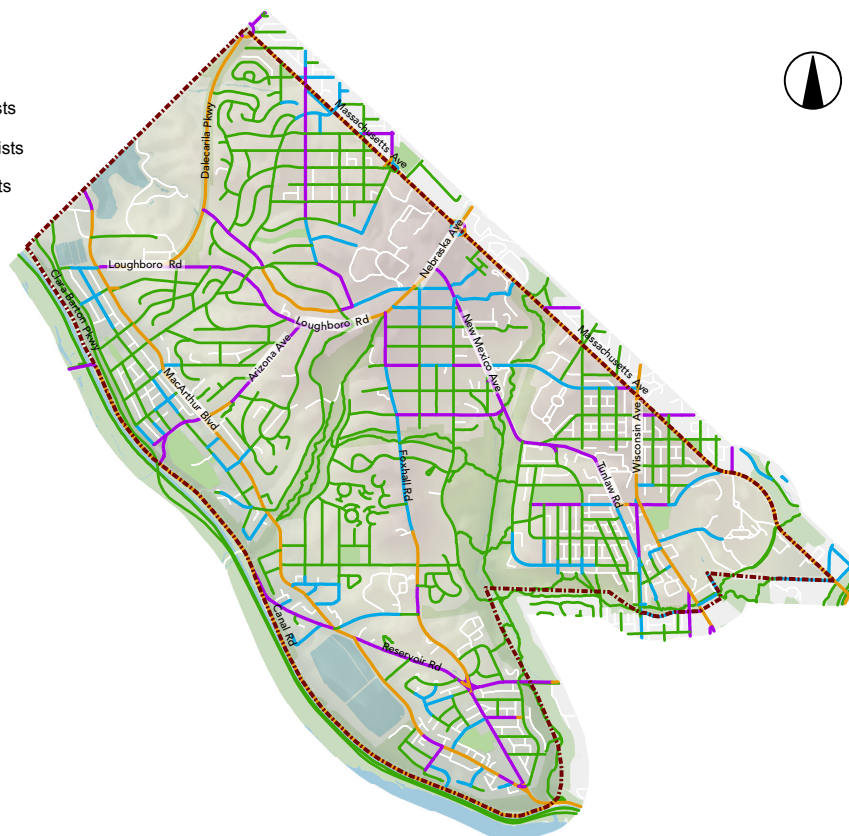


# Bicycle Facilities: Level of Traffic Stress (LTS)

LEGEND

- Level 1: Comfortable for All Bicyclists
- Level 2: Comfortable for Most Bicyclists
- Level 3: Comfortable for Some Bicyclists
- Level 4: Comfortable for Few Bicyclists

*Level of Traffic Stress (LTS) evaluates the impact of traffic on a bicyclist's experience and its analysis results classify streets into one of four "stress levels" for bicycling. LTS calculation is based on availability of bicycle facilities, roadway classification, and land use.*



The most widely used methodology for determining the existing bicycle stress level on streets is the Level of Traffic Stress (LTS) Method. This methodology helps to assess the comfort and connectivity of bicycle networks. This methodology was applied to the entire street network in the Study Area. Factors included in the LTS methodology that make people feel too unsafe to bike on a street or bike facility include interactions with fast moving traffic, frequent interactions with traffic of any speed, and obstructions in a bike facility that force a bicyclist into traffic.







As shown, most local roads within neighborhoods are generally rated as Level 1 streets and are comfortable for all bicyclists. However, the streets surrounding these neighborhoods are generally not comfortable for all bicyclists creating what are termed "bicycle islands." Prioritizing connections between these "bicycle islands" allows the area in which bicyclists feel comfortable to increase.

**Most local streets in the Study Area are generally comfortable for all bicyclists, but these areas are generally confined to "bicycle islands" in the Study Area.**



# Pedestrian Facilities: *Pedestrian Destinations*

**LEGEND**

-  Public School
-  Hospital
-  Metrobus Stop
-  Campus
-  Commercial Areas
-  Parks & Open Space



In the Rock Creek Far West area, several large institutions serve as significant pedestrian generators. In particular, the American University campus is a large generator due to a variety of factors, including the limited amount of student parking on campus.

Additional pedestrian generators include bus stops, commercial areas, public and private schools, and parks and recreation centers. As seen in the Study Area crash map on page 28, a recurring pattern of pedestrian crashes were found to occur at locations where people are crossing at unsignalized intersections.

**The American University campus is a large pedestrian destination within the Study Area.**

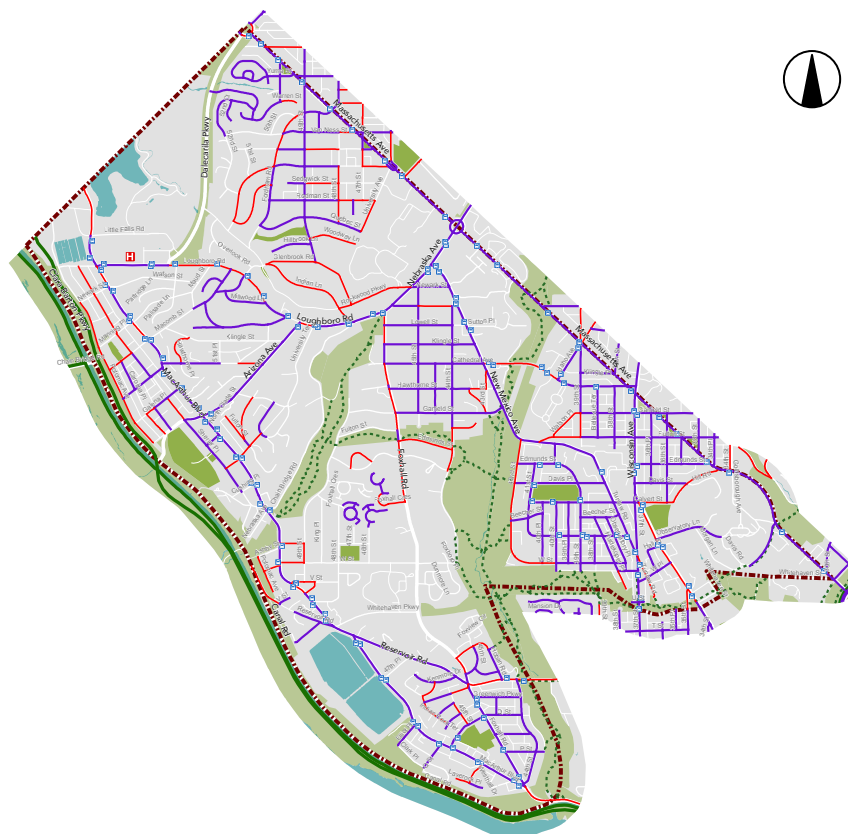


# Pedestrian Facilities:

## *Existing Pedestrian Network*

**LEGEND**

- Sidewalk One Side
- Sidewalk Both Sides
- Trails
- - - Unpaved Trails



**The Study Area includes several neighborhoods with missing sidewalks on one or both sides of the street.**

The Rock Creek Far West Study Area includes several neighborhoods missing sidewalks on both sides of the street. This reduces safe and convenient pedestrian access within these neighborhoods, and limits the area’s accessibility. This is especially problematic for people with disabilities including wheelchair users and visually-impaired pedestrians.

The District’s law requires installation of a sidewalk on at least one side of the street where pedestrians are legally permitted.

Improving pedestrian connectivity and safety means that more local trips can be accomplished on foot to destinations such as educational institutions, offices, restaurants and shops. More trips on foot could contribute to less traffic, relief for neighborhood streets, and more vibrant communities.



# Traffic Volumes

## LEGEND

Traffic Volume (Vehicles Per Day)

- < 8,000
- 8,0001 - 16,000
- 16,001 - 24,000
- > 24,001



The major streets in the Rock Creek Far West Study Area carry a moderate amount of daily traffic. There is higher traffic along the principal arterial streets like Clara Barton Parkway, Canal Road, Massachusetts Avenue, Wisconsin Avenue, and Nebraska Avenue with a traffic volume of over 24,000 vehicles per day. The majority of the minor arterial streets have a traffic volume between 8,000 to 16,000 vehicles per day along MacArthur Boulevard, Arizona Avenue, New Mexico Avenue, Dalecarlia Parkway, Foxhall Road, and Loughboro Road.

The majority of the streets in the Study Area are local streets that carry less than 8,000 vehicles per day. Dalecarlia Parkway and MacArthur Boulevard have the same number of lanes as Massachusetts Avenue, but carry about half to two-thirds the number of vehicles per day.

**Dalecarlia Parkway and MacArthur Boulevard have as many lanes as Massachusetts Avenue, but carry about half to two-thirds the number of vehicles per day.**

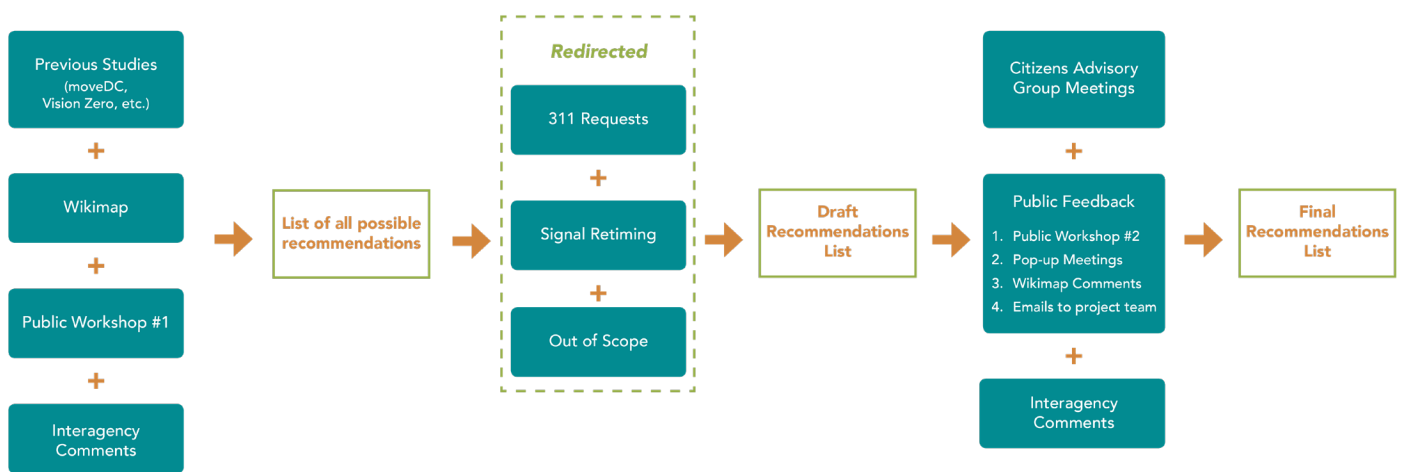
**The majority of the streets in the Study Area are local streets that carry less than 8,000 vehicles per day**

# HOW THE RECOMMENDATIONS WERE DEVELOPED

Public engagement is an important component of the Rock Creek Far West Livability Study process. Throughout the Livability Study, DDOT engaged the public at three public workshops, two Citizens Advisory Group (CAG) meetings, a series of engagement activities at community events and neighborhood public spaces, and numerous ANC meetings. DDOT also had ongoing communication with residents, ANC Commissioners, the DC Pedestrian and Bicycle Advisory Councils, and other stakeholders via the website, phone calls, and email.

Prior to the Livability Study, DDOT completed other studies and plans within the Study Area. In addition, the residents provided comments, ANC Resolutions, and other letters to DDOT regarding transportation concerns. Rather than start the process from a blank slate, the project team used the recommendations and public comments from previous efforts as the foundation for further outreach and initial recommendations. Based on feedback from Public Workshops, CAG meetings, the Wikimaps, and within the different administrations at DDOT, the project team refined the recommendations.

# How We Developed the Draft & Final Recommendations



## Previous Studies

The consultant team reviewed previous plans and studies detailing relevant recommendations and developed a document and maps summarizing the recommendations of the previous plans and studies.

## Wikimap

An interactive mapping station available at Public Workshops, community events, and on the project website that allowed attendees to share various transportation concerns on an online map of the Study Area.

## PW#1 Comments

Comments were received at each activity station during Public Workshop #1 and before and after the meeting via email.

## Interagency Comments

There was a workshop with multiple departments within DDOT to gather comments and recommendations from the selected departments.

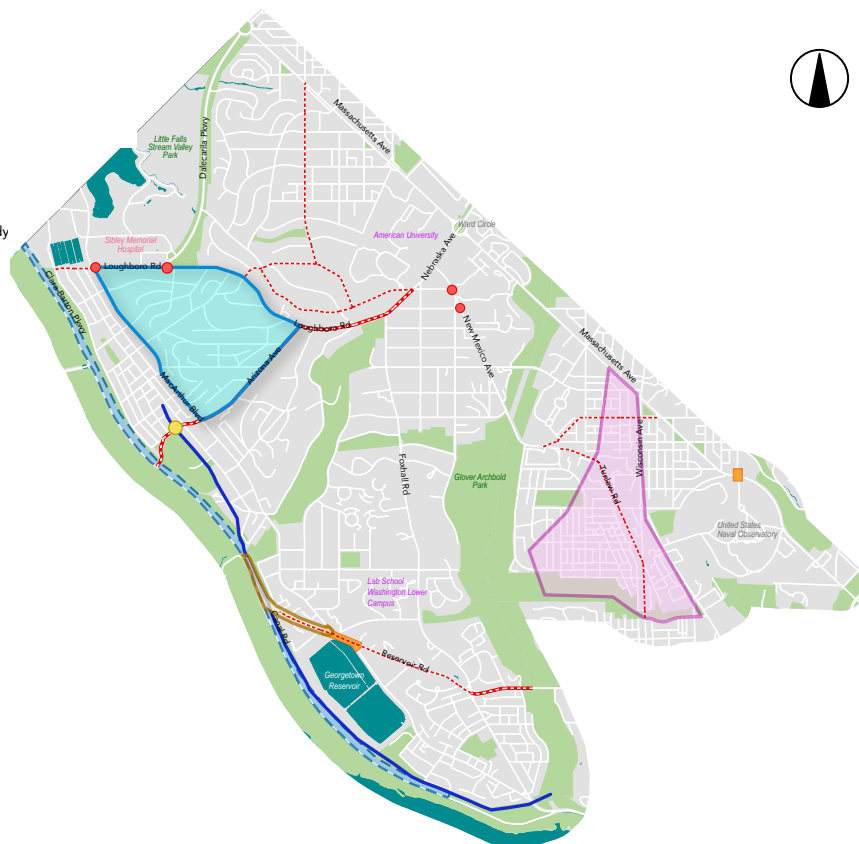
Some comments and suggested recommendations were redirected by DDOT. Those included items that could be handled through 311 requests, comments concerning signal retiming, and suggestions that were outside the scope of the livability study.



# PREVIOUS STUDIES & RECOMMENDATIONS

**LEGEND**

- - - moveDC Plan Cycle Track
- - - moveDC Plan Bike Lane
- Proposed Palisades Trolley Trail
- Arizona Avenue Pedestrian Bridge
- Citywide Traffic Signal Construction
- Kent Corner Safety Study
- Canal Road NW and Reservoir Road NW Study
- Preliminary Canal Rd NW Study
- DC Water Clean Rivers Project
- District Intersection Safety Study



Plan/Study Title	Agency	Complete Year	Recommendations Relevant to the Rock Creek Far West Study Area
The Palisades Trolley Trail and Foundry Trestle Feasibility Study and Concept Plan Project	DDOT	2019	The purpose of this feasibility study is to identify critical issues and challenges in developing a multi-use trail for pedestrians and bicyclists of all ages and abilities on the former Glen Echo Trolley line corridor, an area commonly referred to as the Palisades Trolley Trail. The project will determine if a trail along the corridor would provide a transportation utility for pedestrians and bicyclists, and it will develop a trail concept that can ultimately be designed and implemented. The feasibility study will include a comprehensive survey of the study area to determine topography, utilities, site conditions, and historic resources. In addition, an in-depth inspection of the Foundry Branch Trestle Bridge will be completed, and options developed to rehabilitate the Bridge for use by bicycles and pedestrians as part of the Palisades Trolley Trail. The project will be completed in 2019.





Plan/Study Title	Agency	Complete Year	Recommendations Relevant to the Rock Creek Far West Study Area
Kent Corner	DDOT	2017-2018	The purpose of the Kent Corner Neighborhood Traffic Safety Study was to modify traffic and/or parking requirements. There were recommended baseline improvements that will be retained through further phased improvements. These modifications were the results of a traffic calming assessment performed by DDOT in response to neighborhood concerns about morning and afternoon peak “cut through” traffic, congestion and backup at intersections, increased vehicular and pedestrian traffic using neighborhood streets to access Sibley Hospital, and parking conditions that reduce the roadway to single lane traffic.
Preliminary Study of Canal Road NW	DDOT	2016	This study examined four sections of Canal Road NW: from DC/Maryland Border to Chain Bridge, from Chain Bridge to Arizona Avenue, from Arizona Avenue to Reservoir Road, and from Reservoir Road to Clark Road. For each section, the study assessed whether the roadway met requirements for the typical section (based on roadway type), minimum radius, cross slope, minimum clear zone, minimum horizontal sightline offset, and desired horizontal sightline offset. None of the sections met the requirement for minimum clear zone. Chain Bridge to Arizona Avenue and Arizona Avenue to Reservoir Road sections did not meet horizontal sightline offset requirements.
Clean Rivers Project	District of Columbia Water and Sewer Authority (DC Water)	2015	Potomac River Project A is the first Green Infrastructure (GI) project proposed to be constructed in the Potomac River Sewershed to reduce the level of pollution to the Potomac River produced by the discharge of stormwater runoff and sanitary sewer flows, known as combined sewer overflows (CSOs). Potomac River Project A involves the construction of innovative GI technologies that include bioretention on planter strips and permeable pavement on streets and alleys. These practices will manage stormwater by taking advantage of the earth’s natural processes, such as allowing the water to infiltrate into the soil, evaporate into the air or be used by plants which expire it as vapor. In addition to managing stormwater, GI will contribute to beautifying the streetscape and making it safer and more welcoming for pedestrians, bicyclists, and drivers.














Plan/Study Title	Agency	Complete Year	Recommendations Relevant to the Rock Creek Far West Study Area
Vision Zero Action Plan	DDOT	2015	The Vision Zero Action Plan is built on four pillars: create safe streets, protect vulnerable users, prevent dangerous driving, and be responsive and transparent. Strategies include engineering solutions such as creating safe and accessible sidewalks, upgrading bus stops with hazardous conditions, and enhancing safety through placemaking.
moveDC	DDOT	2014	moveDC plans for the District's transportation system to make the city more livable, sustainable, prosperous, and attractive as it looks towards the future.
Glover Park Transportation Study	DDOT	2007	<p>1. Improve quality of life and provide transportation mode choice for residents and visitors.</p> <p>2. Improve operations and safety at specific intersections for all travel modes.</p> <p>3. Provide a plan of action with detailed recommendations to support the transportation and streetscape recommendations developed in the 2006 Commercial District Analysis report.</p> <p>Overall goal is to make drivers more aware of pedestrians crossing roadways with sounds, signs and signals.</p>



# Vision Zero Safety Concerns: *Public Perception*

## LEGEND

-  Critical Intersection (more than five different issues)
-  Fail to Stop/Yield to Pedestrian
-  Speeding
-  Stop Sign Running
-  Poor Visibility
-  Not Enough Time to Cross
-  Red Light Running
-  Jaywalking
-  Other Driving Issue
-  Other Walking Issue
-  Other Biking Issue



Pedestrian issues concentrated along 49th Street and Foxhall Road

**The intersections of Massachusetts Avenue and Wisconsin Avenue, and the intersection of Nebraska Avenue and New Mexico Avenue received several comments regarding safety concerns.**

During the development of the Vision Zero Action Plan, DDOT asked people who live, work, and play in the District to identify their safety concerns. The Vision Zero Map represents the public's perception of unsafe areas. Within the Rock Creek Far West Study Area, the public expressed concerns regarding drivers speeding, running red lights, and failing to yield to pedestrians, among others. Two locations that received several comments regarding safety are the intersection of Massachusetts Avenue and Wisconsin Avenue, and the intersection of Nebraska Avenue and New Mexico Avenue, where the public perceives that cars are speeding and not yielding to pedestrians. These overall themes guided specific safety analysis to help verify problem areas and causes.

The public identified other concerns related to challenges with biking, such as the lack of safe and connected bicycle facilities and sharing streets with speeding drivers. People would like to see bike connections to the Capitol Crescent Trail as well as facilities along Reservoir Road.



# Safety: Crashes



This map shows the density of traffic crashes in the Study Area. In a period of five years (2013 to 2018), there were approximately 320 crashes along Wisconsin Avenue including one fatality and nine pedestrian involved crashes.

Throughout the total area there were approximately 60 pedestrian-involved crashes. The crash data shows that pedestrian-involved crashes are typically located at unsignalized crosswalks or mid-block crossings. Most crashes that involved pedestrians occurred on collector and arterial streets.

The dataset used does not include data on crashes that involved bicycles.

NOTE - Ward Circle was studied as part of a previous Livability Study. DDOT recently completed a full signalization at the circle to address transportation concerns.

**Between 2013 and 2018, there were 2,733 crashes in the Study Area.**

**Areas of Concern: Wisconsin Avenue, the intersection of Wisconsin Avenue and Massachusetts Avenue.**



# HEARING FROM THE COMMUNITY AT EACH STAGE

DDOT worked with members of the community and key stakeholders to identify specific opportunities to improve accommodations for people walking, biking, using a wheelchair, riding transit, and driving. Throughout the duration of the livability study, there were three public workshops and two pop-up events. These events were held throughout the Study Area. The feedback obtained at these events were used to develop, refine, and assist in the selection of recommendations for short, medium, and long-term improvements in transportation safety in the RCFW Study area.

## Public Workshop #1

DDOT and the project team used feedback from the first public workshop to develop preliminary recommendations that would be presented at the next public workshop. The key takeaways from the public comments were:

- Install sidewalks on both sides of the street and improve crossings for people walking and biking
- Reduce speeding through traffic calming, especially during non-rush hour
- Prioritize people walking and biking
- Advance the recommendations in plans such as moveDC and Kent Corner Study

## Citizens Advisory Group #1

The CAG meeting included the ANCs in the study area and Ward 3 representatives from the Bicycle Advisory Council and Pedestrian Advisory Council. The attendees gave comments on the draft recommendations that will be used to inform the list. The key takeaways from the CAG comments were:

- Adding a sidewalk on the south side of Cathedral Avenue may require DDOT to engage with the National Park Service on projects that impact park lands.
- A cycle track on Nebraska Avenue/Loughboro Road is an idea worth considering, and we want to further understand the tradeoffs.
- There are concerns with the current width of Massachusetts Avenue sidewalks for a multiuse trail. Due to the speed of bikers on the trail it is recommended that the trail be widened or separate the trail between walkers and bikers.
- Bike boulevards in the Spring Valley area may be feasible, and the community has requested more information.



- Connection to Capital Crescent Trail: add trail access at Norton Street and Arizona Avenue.

### **Public Workshop #2 and Glover Park Day**

DDOT and the project team used feedback from both public events to inform the recommendations that DDOT presented at the final public workshop. The key takeaways from the public comments were:

- Ensure there is a safe route for biking between Mann Elementary School and Hardy Elementary School via New Mexico Avenue and Tunlaw Road
- Consider green infrastructure along areas where sidewalks are proposed.
- Concerns about the type of bicycle facility on Rockwood Parkway and Glenbook Road. Many are open to the idea of a bike boulevard if it includes traffic calming and minimizes impact to parking
- Debate on the need for sidewalks. Some residents, particularly parents, want sidewalks that connect to elementary schools and recreation facilities. Other residents do not think that sidewalks are needed and they are concerned about impacts to trees and landscaping.
- Consider additional areas for sidewalks and improved pedestrian crossings.

### **Public Workshop #3**

DDOT and the planning team used public comments from Public Workshop #3 to review final recommendations with the community, respond to questions for clarification on final recommendations, and identify specific concerns for further review. The key takeaways from the public comments were:

- Two opposite attitudes exist towards the Dalecarlia Parkway recommendation.
- Concerns regarding the type of bicycle facility on Loughboro Road, Rockwood Parkway, 49th Street, and Glenbrook Road. On streets where DDOT is recommending a bicycle boulevard, many residents are open to the idea if it includes traffic calming and minimizes impacts to parking.
- People who do not bike think this study is too heavily focused on biking. However, many residents support providing a better bicycle network in the neighborhood.
- DDOT should prioritize all the recommendations.



## **Wikimap**

To provide the public opportunities for comment on recommendations outside the public meetings, the study team provided an interactive online mapping tool to collect, organize, and visualize the thoughts of the community via WikiMapping. This mapping tool was a primary link on the RCFW study website which also published available resources about the study, including maps, informational documents, and printable notices of meetings and engagement events.

The first phase of the WikiMapping project was launched during the first public workshop. In this phase, residents and stakeholders could provide input on existing conditions on a map of the study area. For instance, they could tag a particular intersection and suggest that a new crosswalk there would improve pedestrian safety or highlight an existing street that would benefit from bicycle infrastructure. People could also view comments made by others, add their own comments, or indicate their agreement or disagreement. All of these comments were an important source for the draft and final recommendations.

The second phase of the WikiMapping project began along with Public Workshop #3. We updated the online map to display the draft recommendations for the study area. Residents and stakeholders could provide comments on the various recommendations or indicate their agreement or disagreement. People who were unable to attend public meetings or had additional comments could share them with the planning team. The online map garnered 491 comments from community stakeholders over the two phases.

## **Comments on Maps**

During all three public workshops and pop-up events, boards and maps were on display to help attendees understand the study goals and process, existing conditions, and recommendations. DDOT and members of the study's consultant team were positioned near each board and map to guide participants and collect stakeholder comments on post-it notes placed on specific locations on maps.

Post-it note comments were helpful in providing location specific data and comments unique to a particular area of concern. The planning team collected over 50 comments on post-it notes which contributed to the development of draft and final recommendations.



## **Title VI Forms**

The District Department of Transportation (DDOT) is committed to providing all citizens, regardless of race, color, age, gender, or national origin, the opportunity to participate in and respond to transportation plans, programs, and activities that may affect their community. Title VI Public Involvement Questionnaires were distributed at all three public workshops to voluntarily collect information from residents. In addition to collecting contact and demographic information, the Title VI questionnaire allows participants to submit comments/concerns on the study. During the three public workshops, the planning team collected 66 Title VI Public Involvement Questionnaires containing 22 comments about the study.

## **Emails**

Throughout the study planning process, the planning team received numerous emails from residents and stakeholders. Emails were also received through the study website. The project team responded to emails addressing comments and referred the content to the planning team for further review. Emailed comments covered a range of topics related to the study recommendations. Emails also provided residents and stakeholders an opportunity to address issues and receive a response to questions about the study or recommendations.



# PROJECT RECOMMENDATIONS

To address the existing conditions, the study recommends a series of physical design projects and more detailed analysis steps to introduce measures to manage traffic and enhance the study area's bicycle and pedestrian networks.



# MAJOR PROJECT TYPES

The Livability Study's project recommendations can be described as three major types:

**Pedestrian Enhancements** that make walking safer and more convenient. This focuses on crossings at intersections and mid-block locations, but also includes additions to sidewalks in some parts of the study area where sidewalks are missing. This also includes recommendations for traffic control devices, such as pedestrian hybrid beacon (HAWK) crossing signals or rapid flashing beacons that bring traffic to full stops when activated by pedestrians. This also includes formalizing pedestrian paths in places where there is already pedestrian activity.

**Bicycle Facility Improvements** that extend the current bicycle network. This includes a variety of bicycle facilities, including bicycle boulevards, bicycle lanes, and protected bicycle lanes. In some locations, the type of bicycle facility is not yet known, and would require further study.







**Special Project Focus Areas (Multi-intersection Studies)** that consist of specific locations or corridors throughout the study area that can be further analyzed to find approaches that meet the study objectives.

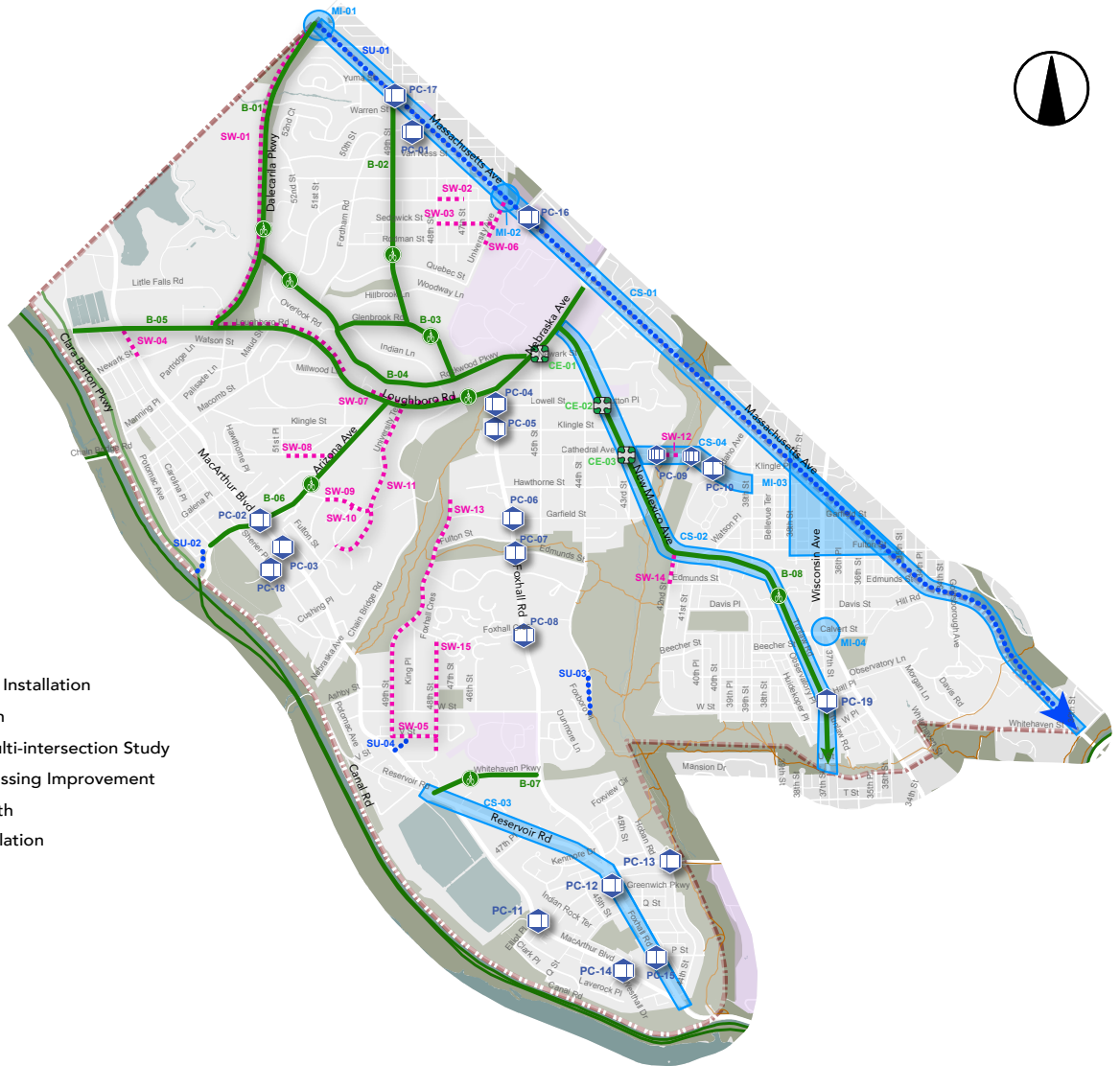


# MAP OF ALL RECOMMENDATIONS



### LEGEND

-  Bicycle Facility Installation
-  Curb Extension
-  Corridor or Multi-intersection Study
-  Pedestrian Crossing Improvement
-  Shared Use Path
-  Sidewalk Installation





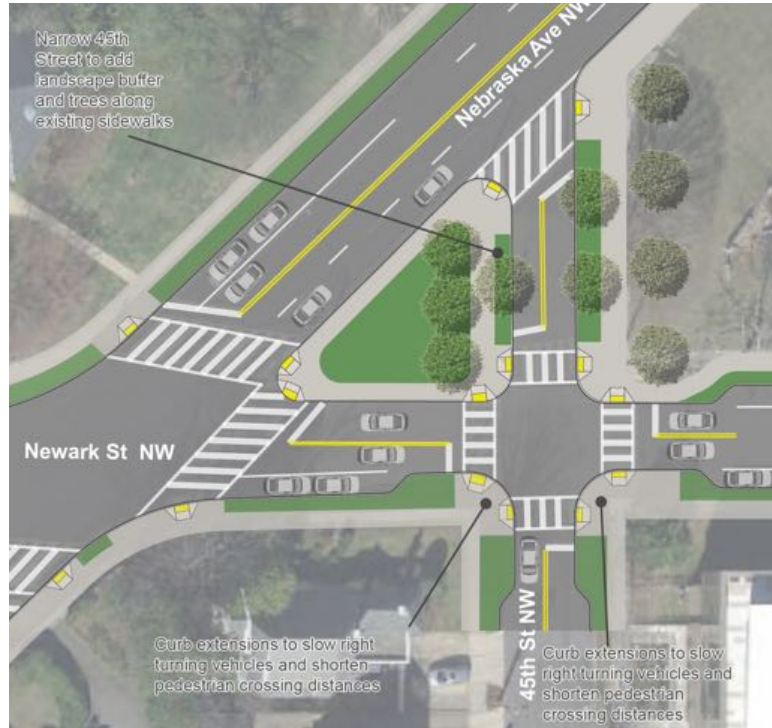
# PEDESTRIAN ENHANCEMENTS

The Livability Study has approached pedestrian enhancements through a variety of physical design treatments and potential traffic control solutions. Together, these would reduce crossing distances and introduce new crossings at a series of locations throughout the study area. While many of the recommendations discussed previously will also improve pedestrian safety, the Livability Study explored locations where traffic control or simple crosswalk enhancements (such as restriping or realignment) might be effective and most appropriate.



# NEBRASKA AVENUE/45TH STREET/NEWARK STREET/ ROCKWOOD PARKWAY CURB EXTENSION

Add curb extensions on Rockwood Parkway and Newark Street to reduce the intersection footprint, shorten pedestrian crossing distance, and control the speed of turning vehicles. During the public engagement process, the study team heard several concerns regarding safety at this intersection, including high perceived vehicle speeds, and cars not yielding to pedestrians while making turns.



## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$460,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None. All curb extensions are proposed in places where parking is prohibited by signage or through DC Municipal Code restrictions on parking.

PROJECT CE-02

# NEW MEXICO AVENUE/SUTTON PLACE/LOWELL STREET CURB EXTENSION



Add curb extensions on Lowell Street at New Mexico Avenue to reduce the intersection footprint, shorten pedestrian crossings, and manage the speeds of turning vehicles.

## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$280,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None. All curb extensions are proposed in places where parking is prohibited by signage or through DC Municipal Code restrictions on parking.

PROJECT CE-03

## NEW MEXICO AVENUE/CATHEDRAL AVENUE CURB EXTENSION

Add curb extensions on both sides of Cathedral Avenue to reduce the intersection footprint, shorten pedestrian crossings, and manage the speeds of turning vehicles (especially from New Mexico Avenue)



### PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$460,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None. All curb extensions are proposed in places where parking is prohibited by signage or through DC Municipal Code restrictions on parking.

## 48TH PLACE/FORDHAM ROAD AND 48TH STREET/FORDHAM ROAD/MASSACHUSETTS AVENUE PEDESTRIAN CROSSING IMPROVEMENTS



At these intersections, DDOT proposes to restripe existing crosswalks with a high-visibility, ladder-style design, mark crosswalks that are currently unmarked, and add raised crosswalks. Public comments identified safety challenges for pedestrians and the need for traffic calming.

### PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$100,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	Yes, up to 4 parking spaces on the north side of Fordham Road at the intersection with 48th Place would need to be removed to install ramps and crosswalks.





48th Place and Fordham Road

# MACARTHUR BOULEVARD/ARIZONA AVENUE PEDESTRIAN CROSSING IMPROVEMENT



Install ADA accessible high-visibility crosswalks and pedestrian ramps along with an extension of the MacArthur Boulevard median to provide pedestrian refuge for people crossing MacArthur Boulevard.

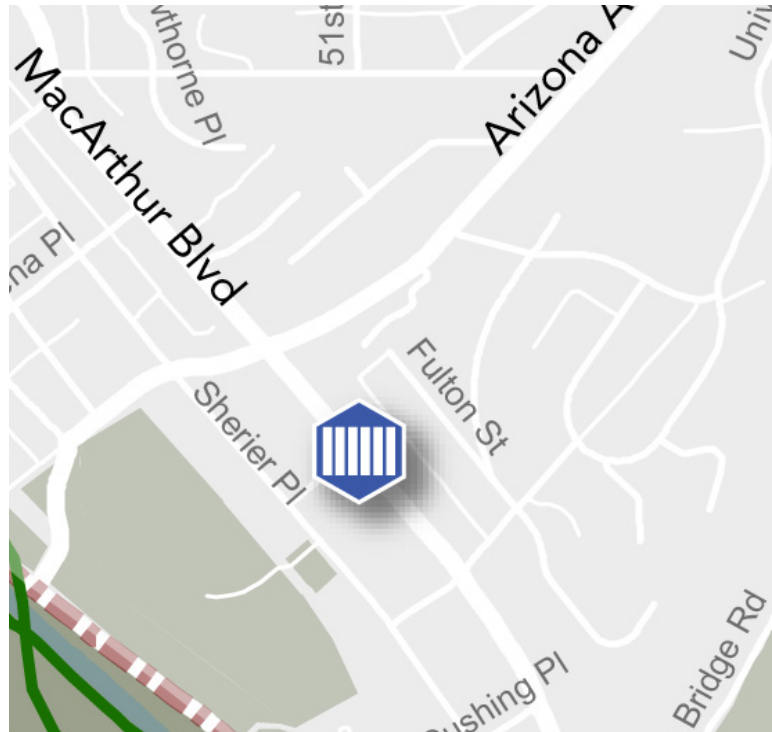
## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$120,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

PROJECT PC-03

# MACARTHUR BOULEVARD/EDMUNDS PLACE PEDESTRIAN CROSSING IMPROVEMENT

Conduct a traffic signal study at this intersection to improve pedestrian safety.



## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$320,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

## FOXHALL ROAD/LOWELL STREET AND FOXHALL ROAD/KLINGLE STREET PEDESTRIAN CROSSING IMPROVEMENT



Install ADA accessible high-visibility pedestrian crossings across Foxhall Road at the intersections of Lowell Street and Klingle Street. Public feedback indicated a desire for marked pedestrian crossings across Foxhall Road along with speed reduction treatments on Foxhall Road.

### PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$50,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

PROJECT PC-06, PC-07

## FOXHALL ROAD/GARFIELD STREET/ AND FOXHALL ROAD/EDMUNDS STREET PEDESTRIAN CROSSING IMPROVEMENT

Install ADA accessible high-visibility pedestrian crossings across Foxhall Road at the intersections of Garfield Street and Edmunds Street. Public feedback indicated a desire for marked pedestrian crossings across Foxhall Road along with speed reduction treatments on Foxhall Road.



### PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$50,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

# FOXHALL ROAD/FOXHALL CRESCENT PEDESTRIAN CROSSING IMPROVEMENT



Install ADA accessible high-visibility pedestrian crossings across Foxhall Road at the intersection of Foxhall Road and Foxhall Crescent. Public feedback indicated a desire for marked pedestrian crossings across Foxhall Road along with speed reduction treatments on Foxhall Road.

## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$50,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

PROJECT PC-09

# CATHEDRAL AVENUE/GLOVER ARCHBOLD TRAIL PEDESTRIAN CROSSING IMPROVEMENT



## PROJECT DETAILS

Implementation Priority	Short Term (2-4 years)
Estimated Project Cost	\$100,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

Provide ADA accessible high-visibility crosswalks across Cathedral Avenue near the Glover Archbold Trail.

# CATHEDRAL AVENUE/CATHEDRAL WEST CONDOMINIUMS CATHEDRAL AVENUE/IDAHO AVENUE PEDESTRIAN CROSSING IMPROVEMENT



Add ADA accessible high-visibility crosswalks across Cathedral Avenue on the south side of the Cathedral West Condominiums. Public feedback helped identify the need for the crossing to improve access to the bus stop across the street.

## PROJECT DETAILS

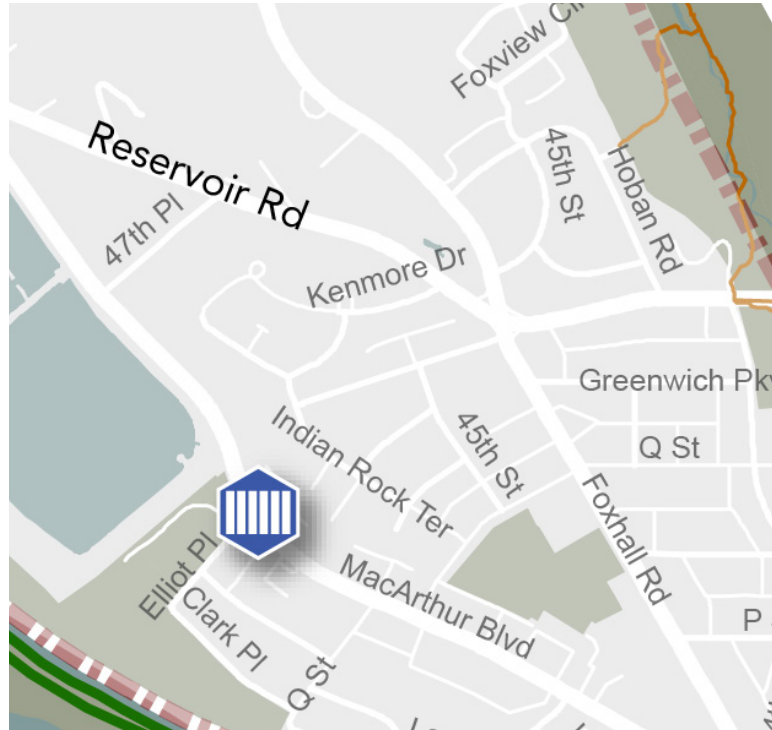
Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$50,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None



PROJECT PC-11

# MACARTHUR BOULEVARD/ELLIOT PLACE PEDESTRIAN CROSSING IMPROVEMENT

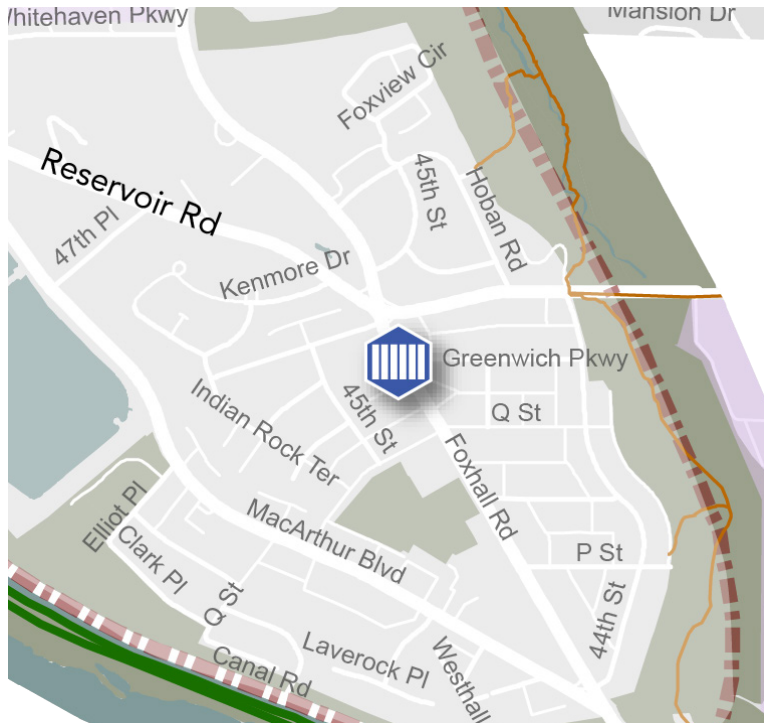
Perform traffic signal study at the intersection of MacArthur Boulevard and Elliot Place. People walking to the St. Patrick's Episcopal Day School and two bus stops at this intersection will benefit from the improved pedestrian crossing.



## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$320,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

# FOXHALL ROAD/GREENWICH PARKWAY PEDESTRIAN CROSSING IMPROVEMENT



Add ADA accessible high-visibility crosswalks across Foxhall Road, and evaluate moving the southbound bus stop from farside to nearside.

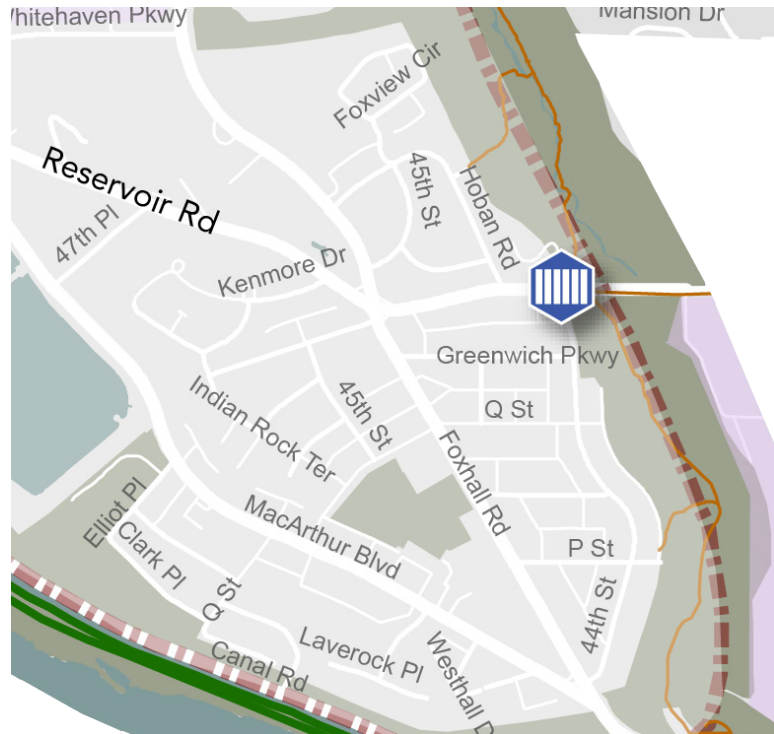
## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$50,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

PROJECT PC-13

## RESERVOIR ROAD/44TH STREET PEDESTRIAN CROSSING IMPROVEMENT

Add ADA accessible high-visibility crosswalks at the intersection to provide enhanced pedestrian crossings to the eastbound bus stop at the intersection.



### PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$250,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

# MACARTHUR BOULEVARD/LAVEROCK PLACE PEDESTRIAN CROSSING IMPROVEMENT



Add high-visibility crosswalks at the intersection to provide enhanced pedestrian crossings to the east-bound bus stop at the intersection.

## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$50,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

PROJECT PC-15

## FOXHALL ROAD/P STREET PEDESTRIAN CROSSING IMPROVEMENT

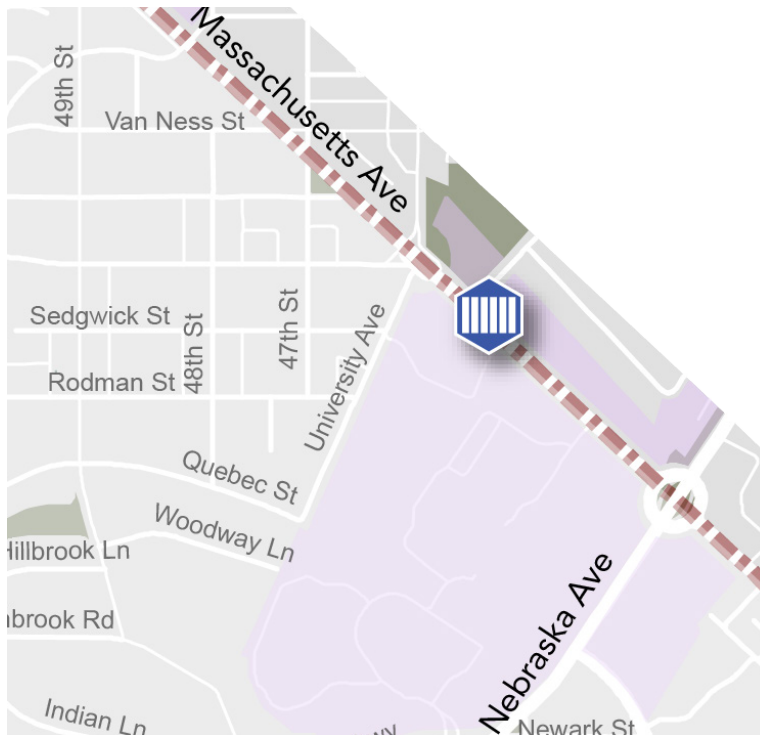
Add a pedestrian refuge island within the crosswalk across Foxhall Road on the north side of the intersection to slow vehicles and shorten and protect the pedestrian crossing.



### PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$260,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

# MASSACHUSETTS AVENUE/45TH STREET PEDESTRIAN CROSSING IMPROVEMENT



DDOT will conduct a signal warrant study as part of a feasibility assessment to consider providing signal control at the intersection. Public comments identified safety challenges associated with people walking through the intersection.

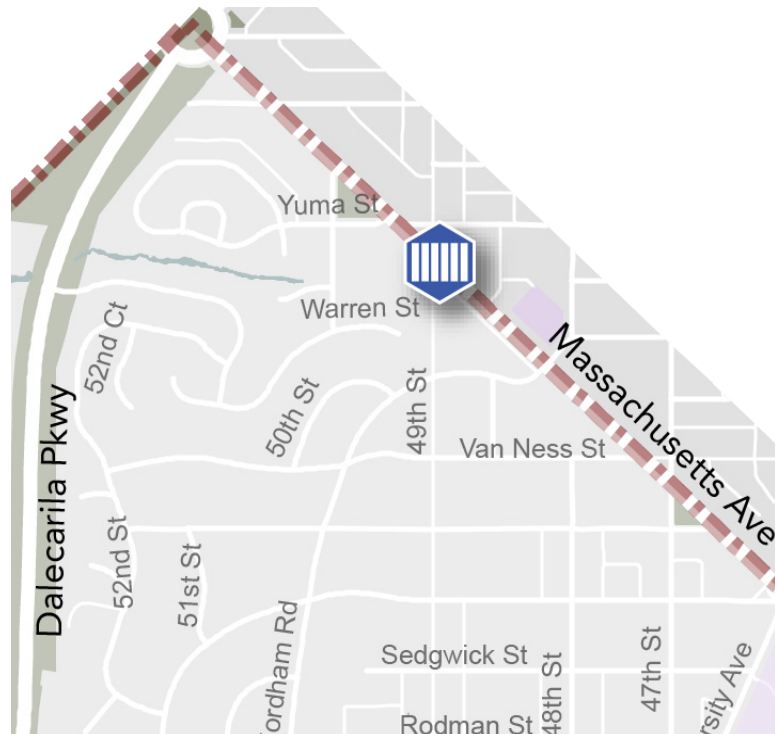
## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$250,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

PROJECT PC-17

## MASSACHUSETTS AVENUE/49TH STREET PEDESTRIAN CROSSING IMPROVEMENT

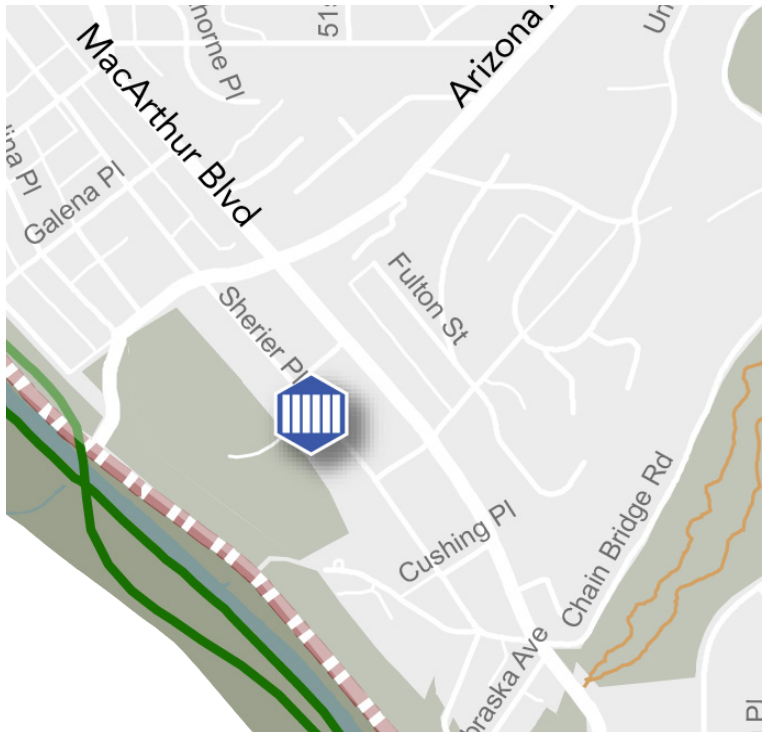
Install high-visibility crosswalks at the intersection to provide enhanced pedestrian crossings to the eastbound bus stop and Spring Valley Shopping Center.



### PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$50,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

# SHERIER PLACE AT PALISADES RECREATION CENTER PEDESTRIAN CROSSING IMPROVEMENT



Add crosswalk across Sherier Place at the entrance of the Palisades Recreation Center, and add other improvements to increase safety.

## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$50,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	Installing a crosswalk may require the loss of some parking spaces.



PROJECT PC-19

## 37TH STREET/TUNLAW ROAD PEDESTRIAN CROSSING IMPROVEMENT

Install ADA accessible high-visibility crosswalks across Tunlaw Road and remove parking within the intersection.



### PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$50,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	None

PROJECT SU-01  
**MASSACHUSETTS AVENUE  
 SHARED USE PATH**



Provide a shared-used path between Westmoreland Circle and Whitehaven Street alongside Massachusetts Avenue. Public feedback indicated a desire to provide a more comfortable option along the corridor for people who bike or use other shared-mobility devices. The shared-use path would be provided by widening the existing sidewalk on one side of the street to a width of at least 10 feet.

**PROJECT DETAILS**

Implementation Priority	Long Term (4-8 years)
Estimated Project Cost	\$5,050,000
Right-of-way need?	No
Coordination Needs	Neighborhood residents
On-Street Parking Reduction	None

PROJECT SU-02

# ARIZONA AVENUE SHARED USE PATH

Construct a connection between the Arizona Avenue bicycle and pedestrian bridge and the Capital Crescent Trail. The connection would be completed by providing a sidewalk on the west side of Arizona Avenue between Sherier Place and Carolina Place with a high-visibility crosswalk across Arizona Avenue. A shared-use path proposed as part of the Palisades Trolley Trail Feasibility Study would provide the connection between the new sidewalk and the Capital Crescent Trail. Significant grading would be required to provide an ADA accessible trail with a maximum grade of five-percent. The graphic on the right was created as part of the Palisades Trolley Trail Feasibility Study.



## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$360,000
Right-of-way need?	Yes, or at least easement or permission with National Park Service
Coordination Needs	National Park Service; neighborhood residents.
On-Street Parking Reduction	None

PROJECT SU-03  
**44TH STREET  
 SHARED USE PATH**



This recommendation is for a trail that would formalize the current pedestrian footpath between 44th Street and W Street. The streets currently dead-end, and while it is public right-of-way, existing conditions do not clearly convey this.

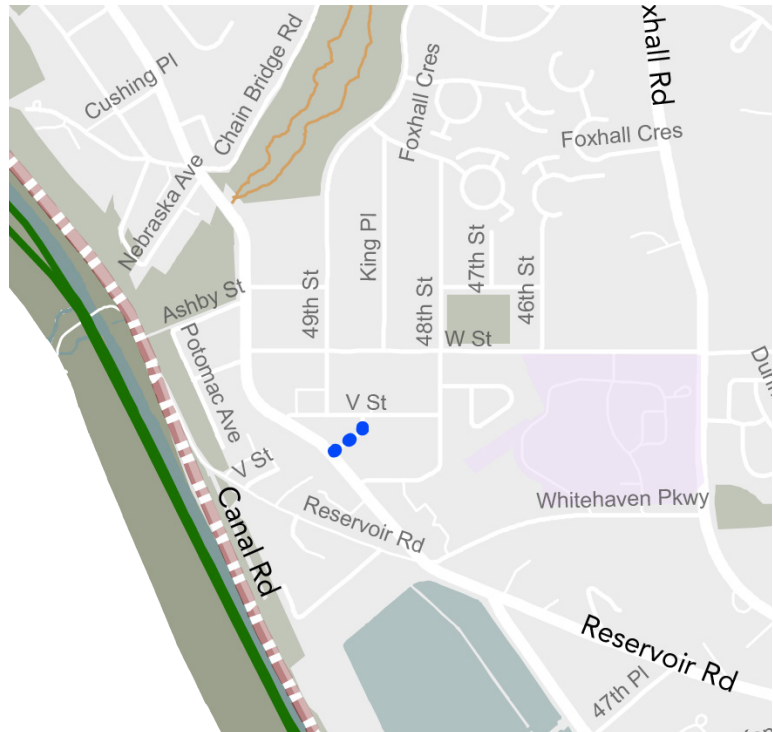
This project would provide pedestrian and bicycle access between the two streets, and allow for a direct link between the Wesley Heights and Palisades neighborhoods. There would be no access for cars. Once implemented, this trail could be a catalyst for future bike connections on 44th and W streets.

**PROJECT DETAILS**

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$380,000
Right-of-way need?	No
Coordination Needs	Neighborhood residents
On-Street Parking Reduction	None

PROJECT SU-04  
**48TH PLACE**  
**SHARED USE PATH**

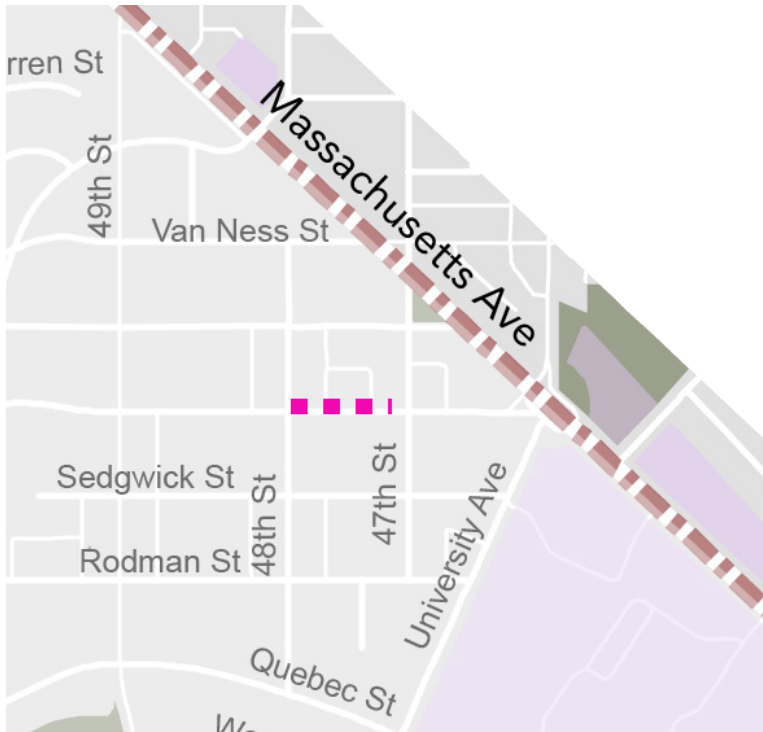
Redesign 48th Place between MacArthur Boulevard and V Street to enhance community activities and strengthen a sense of place. DDOT could use other locations as models, including the streets around Eastern Market and The Wharf.



**PROJECT DETAILS**

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$320,000
Right-of-way need?	No
Coordination Needs	Residents, adjacent property owners
On-Street Parking Reduction	None

PROJECT SW-02  
**TILDEN STREET  
 SIDEWALK INSTALLATION**



Complete the sidewalk gap on Tilden Street between Rockwood Parkway and Massachusetts Avenue. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment on Tilden Street.

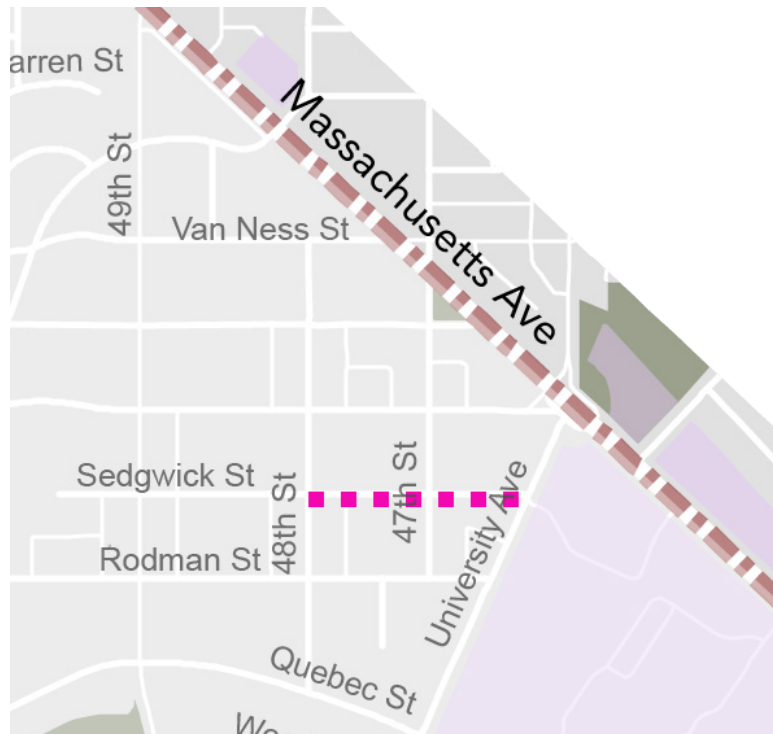
**PROJECT DETAILS**

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$370,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None

PROJECT SW-03

# SEDGWICK STREET SIDEWALK INSTALLATION

Complete the sidewalk gap on the south side of Sedgwick Street between University Avenue and 48th Street. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment on Sedgwick Street.



## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$270,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None

PROJECT SW-04  
**MACARTHUR BOULEVARD  
 SIDEWALK INSTALLATION**



Complete the sidewalk on the east side of MacArthur Boulevard between Loughboro Road and Watson Street. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment alongside MacArthur Boulevard.

**PROJECT DETAILS**

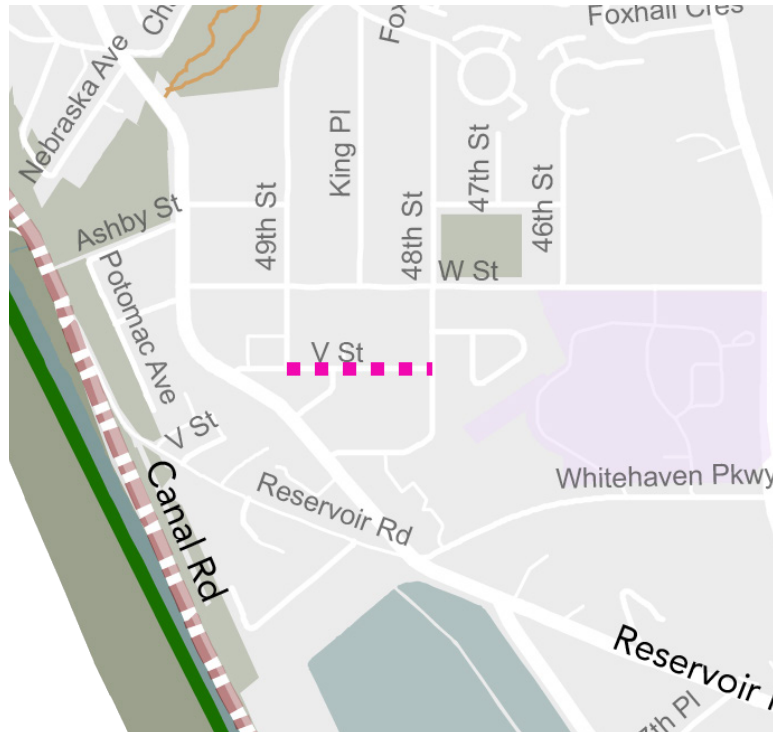
Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$260,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None



PROJECT SW-05

# V STREET SIDEWALK INSTALLATION

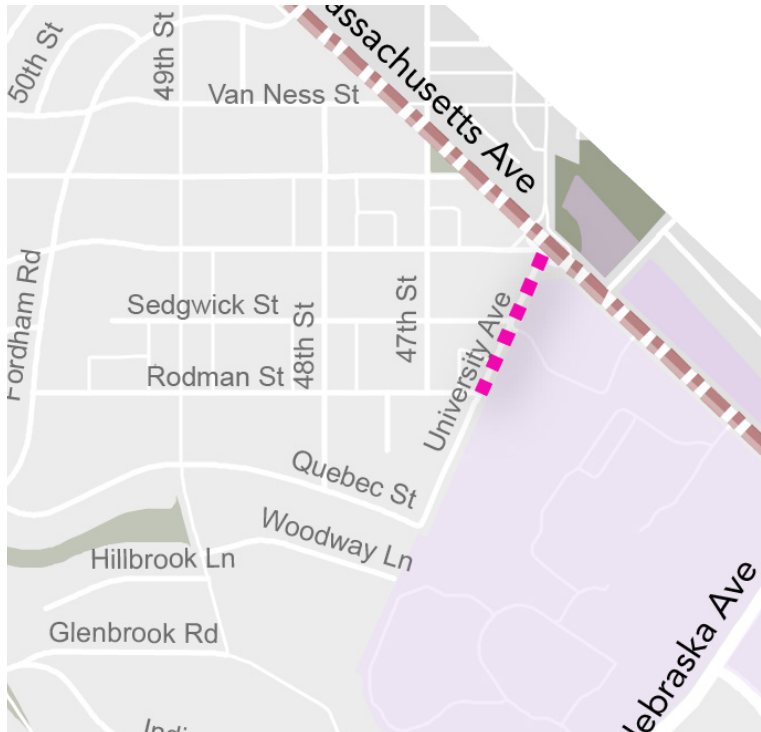
Install a sidewalk on the south side of V Street between 48th Street and 49th Street. At the first public workshop, residents noted a desire for a complete sidewalk network between 48th Street, 49th Street, and V Street to include a sidewalk on the south side of the street to provide access to the Palisades Library and neighborhood serving retail along MacArthur Boulevard.



## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$260,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None

PROJECT SW-06  
**UNIVERSITY AVENUE  
 SIDEWALK INSTALLATION**



Provide a sidewalk on the east side of University Avenue from Rodman Street to Massachusetts Avenue. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment alongside University Avenue.

This sidewalk installation would include pedestrian crossing improvements at the intersection of University Avenue and Rodman Street.

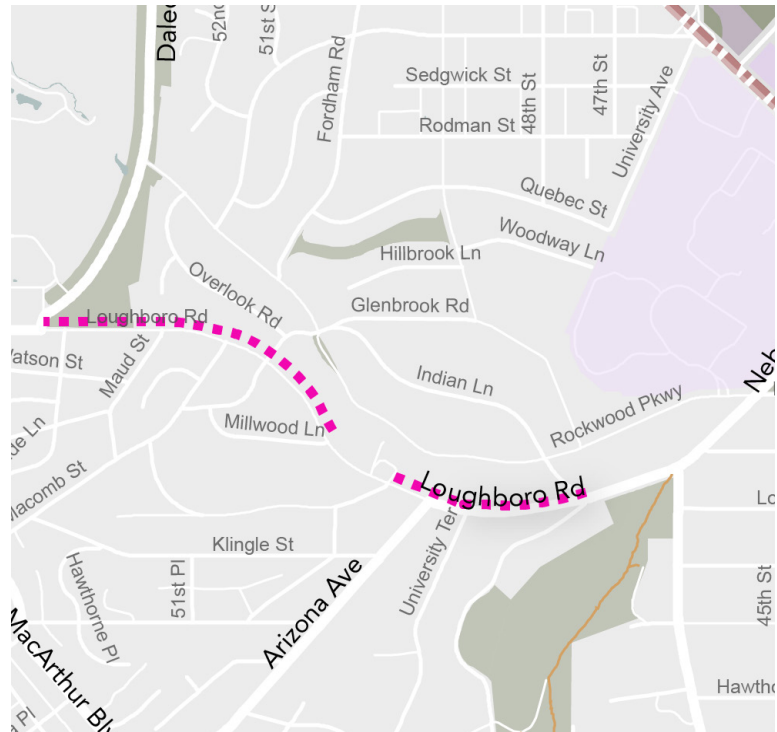
**PROJECT DETAILS**

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$310,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None

PROJECT SW-07

# LOUGHBORO ROAD SIDEWALK INSTALLATION

Complete the sidewalk gaps on the north side of Loughboro Road between Dalecarlia Parkway and Millwood Lane, and between Lowell Street and Chain Bridge Road to complete the sidewalk network. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment and provide safe access to the bus stops on the north side of Loughboro Road



## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$510,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None

PROJECT SW-08  
**CATHEDRAL AVENUE  
 SIDEWALK INSTALLATION**



**PROJECT DETAILS**

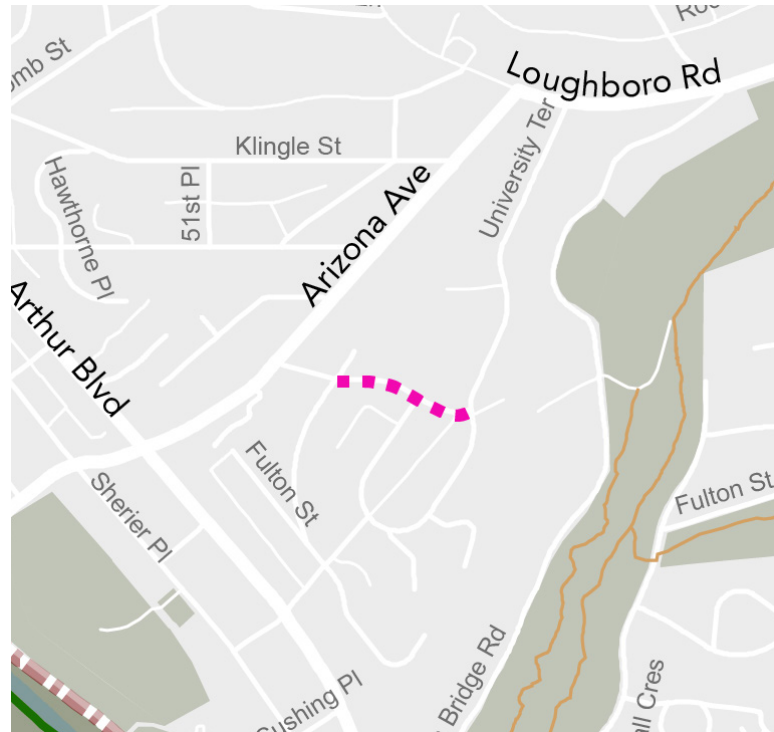
Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$280,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None

Provide a sidewalk on the south side of Cathedral Avenue west of Arizona Avenue. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment alongside Cathedral Avenue to connect to the sidewalk that was recently constructed on Arizona Avenue.

PROJECT SW-09

# GARFIELD STREET SIDEWALK INSTALLATION

Provide a sidewalk on the south side of Garfield Street between Hurst Terrace and University Terrace. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment alongside Garfield Street and a connection to Key Elementary School.



## PROJECT DETAILS

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$270,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None

PROJECT SW-10  
**ESKRIDGE TERRACE  
 SIDEWALK INSTALLATION**



Provide a sidewalk on both sides of Eskridge Terrace just south of Garfield Street to connect the existing sidewalk on Eskridge Terrace to the proposed sidewalk on the south side of Garfield Street. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment alongside Eskridge Street and a connection to Key Elementary School.

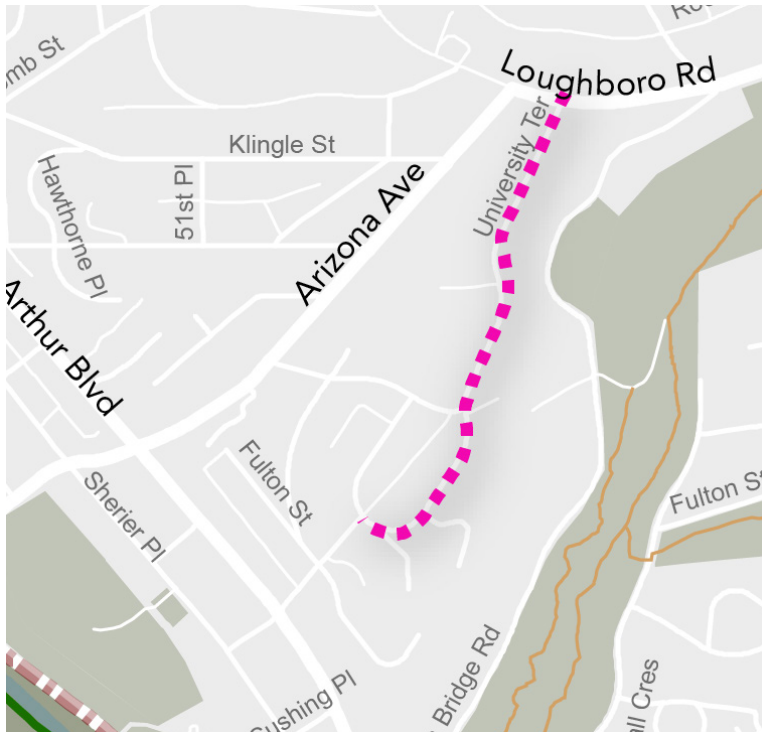
**PROJECT DETAILS**

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$240,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	May require a reduction of some parking spaces to build curb extensions on Eskridge Terrace



Eskridge Terrace & Garfield Street

PROJECT SW-11  
**UNIVERSITY TERRACE  
 SIDEWALK INSTALLATION**



Provide a sidewalk on at least one side of University Terrace between Loughboro Road and Dana Place. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment alongside University Terrace and a connection to Key Elementary School.

This recommendation aligns with previous DDOT work to install a sidewalk and add green infrastructure to manage stormwater on University Terrace

**PROJECT DETAILS**

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$320,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	Will be determined in the design phase



PROJECT SW-12  
**CATHEDRAL AVENUE  
 SIDEWALK INSTALLATION**

Provide a sidewalk on the south side of Cathedral Avenue between the access to the Glover-Archbold Trail and the Cathedral West Condominiums. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment alongside Cathedral Avenue.



**PROJECT DETAILS**

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$260,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	Will be determined in the design phase

PROJECT SW-13  
**49TH STREET  
 SIDEWALK INSTALLATION**



Provide a sidewalk on the west side of 49th Street between V Street and Garfield Street along with green infrastructure. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment alongside 49th Street. The green infrastructure provides stormwater management opportunities.

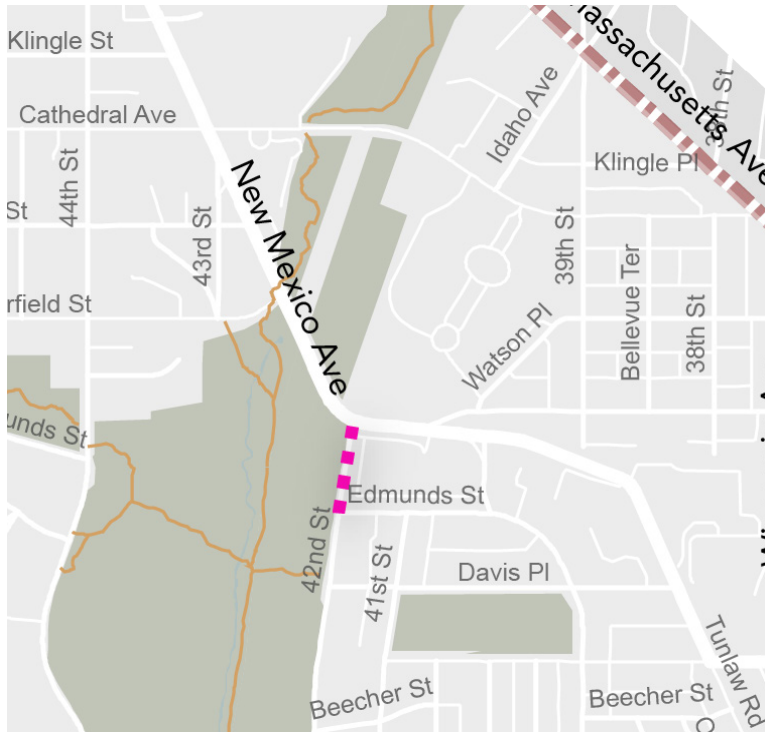
**PROJECT DETAILS**

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$420,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	Will be determined in the design phase



49th Street & Dexter Street

PROJECT SW-14  
**42ND STREET  
 SIDEWALK INSTALLATION**



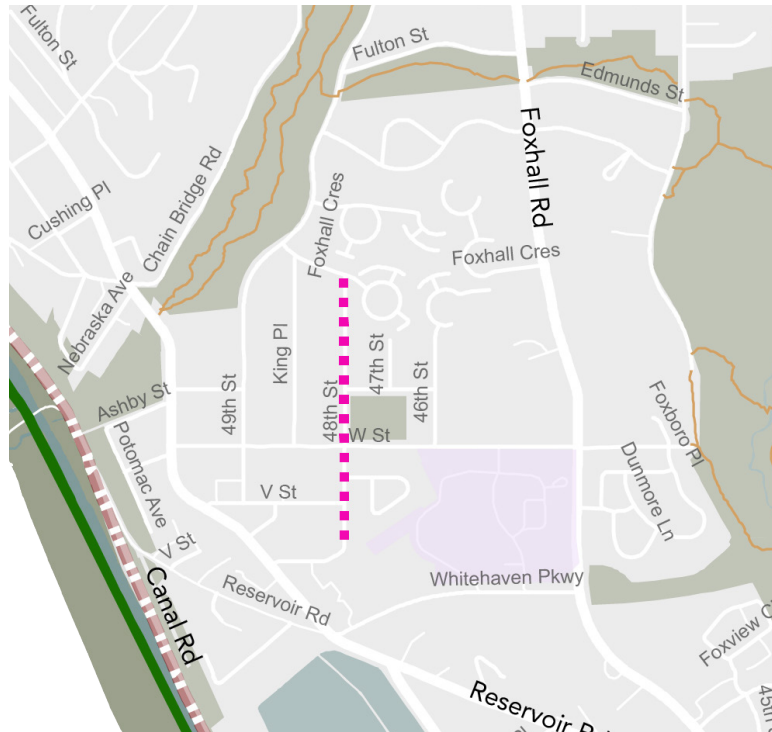
Provide a sidewalk on the west side of 42nd Street between Tunlaw Road and Edmunds Street. Completing the sidewalk on the west side of the street completes a sidewalk gap and provides a connection to the sidewalk on Tunlaw Street and convenient access to the community garden to the west of 42nd Street.

**PROJECT DETAILS**

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$260,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None

PROJECT SW-15  
**48TH STREET  
 SIDEWALK INSTALLATION**

Provide a sidewalk on 48th Street between U Street and Calvert Street. This is consistent with public feedback indicating a desire for a safe and complete pedestrian environment on 48th Street.



**PROJECT DETAILS**

Implementation Priority	Short Term (1-2 years)
Estimated Project Cost	\$330,000
Right-of-way need?	No
Coordination Needs	Residents of blocks where sidewalks are to be installed will receive a notice of intent.
On-Street Parking Reduction	None



# EXTENDING THE BICYCLE NETWORK

The study recommends several bicycle facilities: bicycle lanes, contraflow bicycle lanes, and bicycle boulevards. Some study recommendations need further study to determine the most appropriate type of bicycle facility. A bicycle boulevard, as implemented in the District, are streets that are already well-suited for bicycling (usually local street functional classification), that seek to attract bicyclists to the route by adding pavement markings, enhanced signage and wayfinding, and other treatments. The streets identified for potential bicycle boulevard treatment should be analyzed for speed and volume of motor vehicle traffic. Bicycle boulevards can usually be implemented with no impacts to parking. However, they are sometimes enhanced with traffic calming devices to enhance bicycle and overall transportation safety. If this is necessary, it may result in the loss of some parking spaces. This will be determined in the design phase.



## DALECARLIA PARKWAY BICYCLE FACILITY & SIDEWALK INSTALLATION

As part of the Livability Study, DDOT has completed an initial traffic analysis of Dalecarlia Parkway. The findings indicate that the street has excess vehicle capacity, meaning that the amount of existing traffic could be served by two lanes, instead of the four lanes that exist today. Dalecarlia Parkway currently lacks a sidewalk on either side of the street as well as any dedicated bicycle facilities. moveDC, DDOT's long-range transportation plan, recommends a bicycle facility on Dalecarlia Parkway, and the Priority Sidewalk Assurance Act of 2010 requires DDOT to install sidewalks on at least one side of streets that do not have them. The excess vehicle capacity would allow DDOT to repurpose existing lanes to install a pedestrian and bicycle facility on Dalecarlia Parkway, within existing DDOT right-of-way. This analysis included an evaluation of daily traffic volume data and peak hour traffic data. More information on this analysis, and other frequently asked questions, are included in Appendix D.

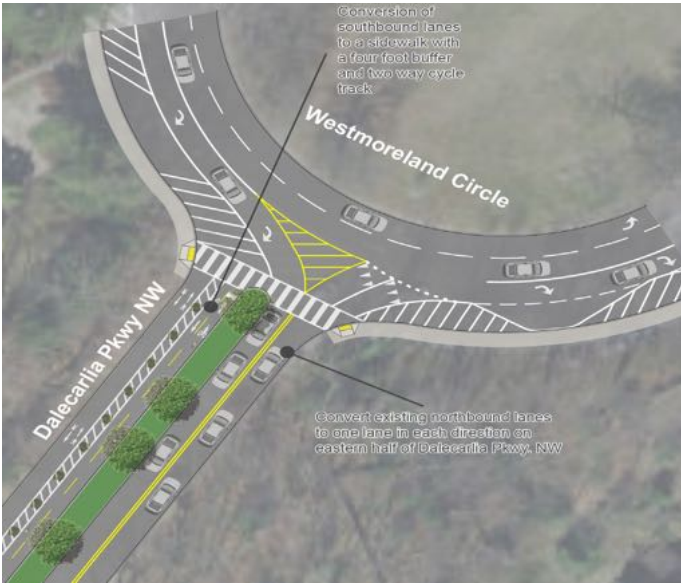
The Livability Study's Dalecarlia Parkway recommendation, based this initial traffic analysis, will require further analysis prior to implementation. After the Livability Study is complete, DDOT will need to collect new traffic data and perform additional analysis. Findings from this analysis will be presented to residents at a future public meeting for Dalecarlia Parkway. If this additional analysis supports a lane repurposing, taking into account the surrounding street network, DDOT will propose to pilot a temporary closure of two lanes of Dalecarlia Parkway to test it in real time. This temporary closure is anticipated to last approximately four to six weeks. This experiment would give DDOT, ANC 3D, residents, and nearby stakeholders, such as Sibley Hospital, an opportunity to experience the effects of the lane repurposing before any final decisions are made. DDOT has already engaged Sibley Hospital in this discussion and would continue to include them as the project advances. During the temporary closure, DDOT would conduct additional data collection and observations, and will welcome feedback from residents. DDOT may release a Notice of Intent during the temporary closure to formalize the comment process. Throughout this study, DDOT would monitor the effects on Dalecarlia Parkway and on neighboring streets.

DDOT will not make any decisions on an outcome for Dalecarlia Parkway until all the study described above is completed. DDOT would consider all data analysis and public comments and would share the analysis results and next steps with residents.

The renderings on the next pages display one potential conceptual design for repurposing two lanes on Dalecarlia Parkway. The short-term renderings show a bicycle and pedestrian facility installed on existing asphalt, and the long-term renderings show a sidewalk built into the street. The renderings were prepared to help residents understand what this could look like, and were not prepared to predetermine a specific outcome.

### PROJECT DETAILS

Implementation Priority	Short Term (1-2 years): Conduct study of repurposing two travel lanes of Dalecarlia Parkway Long Term (4-8 years): Full redesign
Estimated Project Cost	\$60,000 (Short Term Study) \$1,550,000 (Combined Long Term cost of full redesign)
Right-of-way need?	No
Coordination Needs	Residents will be notified as recommendations move forward, and will have future opportunities to provide comments. DDOT will notify and will coordinate with other agencies, including Sibley Hospital, US Army Corps of Engineers, National Park Service, and Maryland Department of Transportation.
On-Street Parking Reduction	Currently, there is no on-street parking on Dalecarlia Parkway.

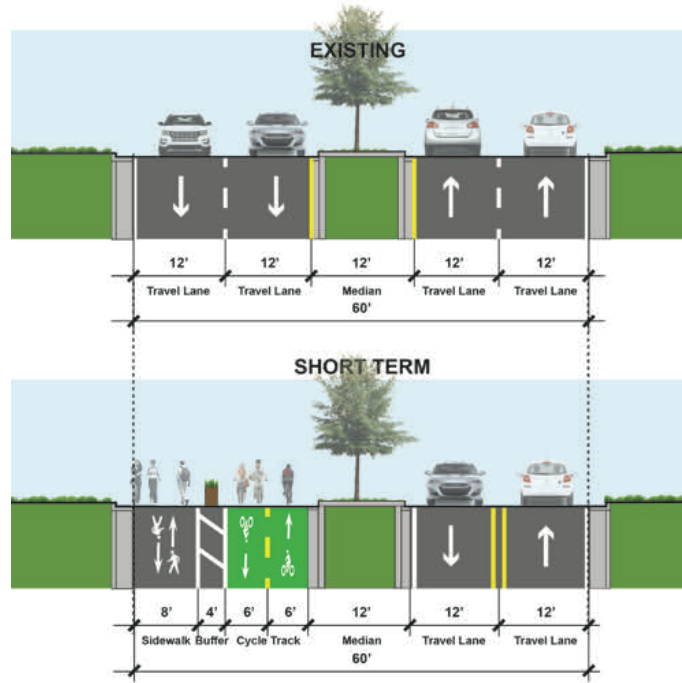


Short Term Conceptual Design

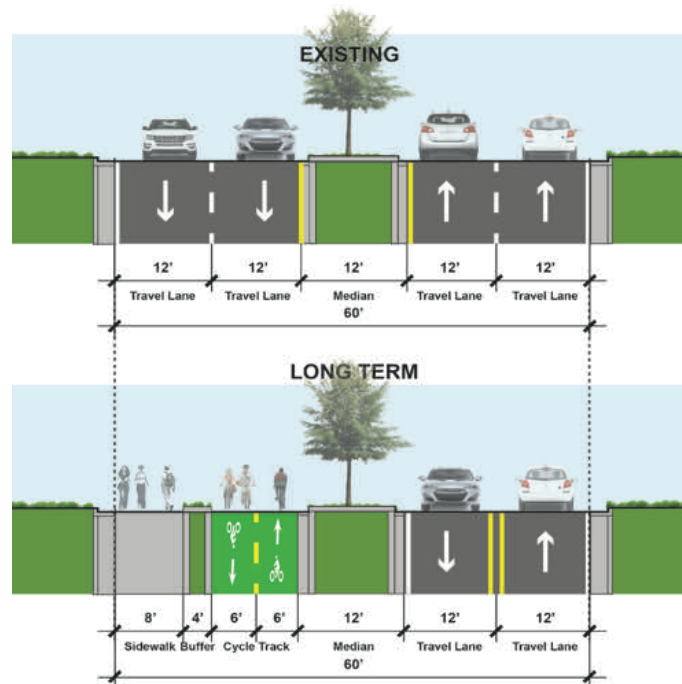


Long Term Conceptual Design





Short Term Cross Section



Long Term Cross Section

For more information on Dalecarlia Parkway, see analysis document in Appendix D.



Short-Term Rendering

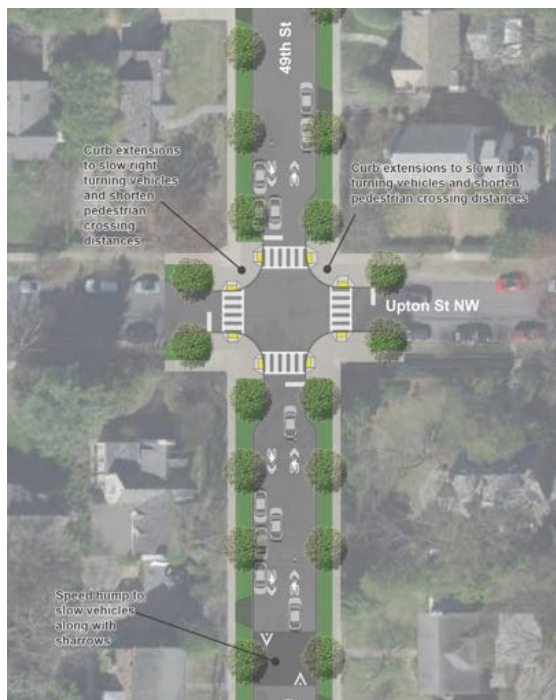


Long-Term Rendering

PROJECT B-02

# 49TH STREET BICYCLE FACILITY INSTALLATION

This recommendation would provide a bicycle boulevard on 49th Street. Recommendations in moveDC and public feedback indicated support for bicycle facilities on 49th Street. On bicycle boulevards, bicycles share travel lanes with cars. Bicycle boulevards do not eliminate all parking on one side of the street. The bicycle boulevard could include features such as signage and pavement markings, curb extensions, other traffic calming measures, and green infrastructure. These may require the loss of 1-2 parking spaces near proposed traffic calming, depending on design.



## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$1,550,000
Right-of-way need?	No
Coordination Needs	Residents will be notified as bicycle recommendations move forward.
On-Street Parking Reduction	Bicycle boulevards can usually be implemented with no to minimal impacts to on-street parking. There may be a loss of 1-2 spaces near proposed traffic calming.





49th Street & Upton Street

# GLENBROOK ROAD BICYCLE FACILITY IMPROVEMENT



Provide a bicycle boulevard on Glenbrook Road. Recommendations in moveDC, a resolution from ANC 3D, and public feedback indicated support for bicycle facilities on Glenbrook Road, but concern over potential on-street parking losses. A bicycle boulevard is recommended based on the available roadway width and to minimize parking losses. The bicycle boulevard will include traffic calming features such as signage and pavement markings, curb extensions, raised intersections, and green infrastructure.

## PROJECT DETAILS

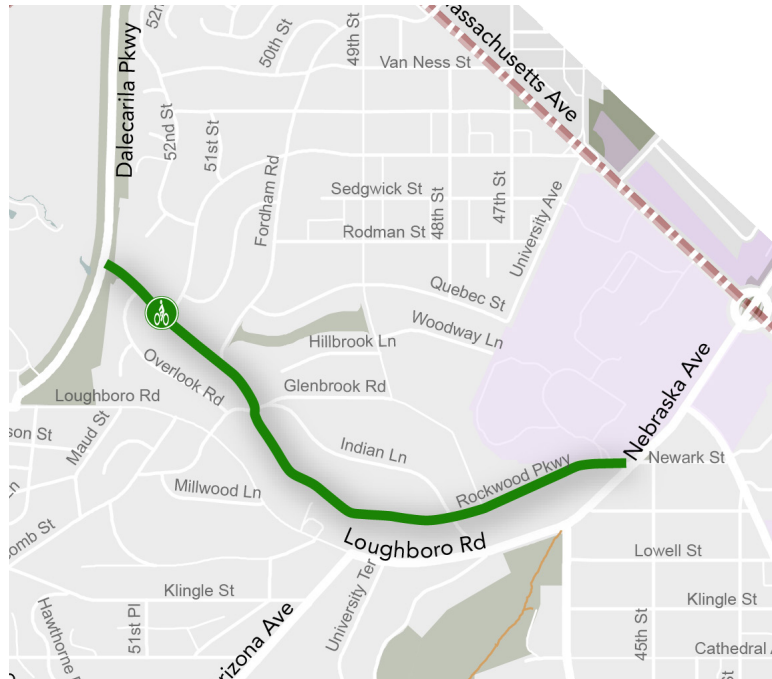
Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$550,000
Right-of-way need?	No
Coordination Needs	Communities will be notified as bicycle recommendations move forward.
On-Street Parking Reduction	Bicycle boulevards can usually be implemented with no to minimal impacts to on-street parking. There may be a loss of 1-2 spaces near proposed traffic calming.

PROJECT B-04

# ROCKWOOD PARKWAY BICYCLE FACILITY IMPROVEMENT

Provide a bicycle boulevard on Rockwood Parkway between Dalecarlia Parkway and Nebraska Avenue. Connecting the bicycle boulevard creates a key bicycle network connection with other bicycle facilities proposed in the Livability Study.

Recommendations in moveDC, a resolution from ANC 3D, and public feedback indicated support for bicycle facilities on Rockwood Parkway, but concern over potential on-street parking losses. A bicycle boulevard is recommended based on the amount of traffic on the street, available roadway width, and to minimize parking losses. The bicycle boulevard could include traffic calming features such as signage and pavement markings, curb extensions, raised intersections, and green infrastructure.



## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$1,250,000
Right-of-way need?	No
Coordination Needs	Residents will be notified as bicycle recommendations move forward.
On-Street Parking Reduction	Bicycle boulevards can usually be implemented with no impacts to on-street parking. There may be a loss of 1-2 spaces near proposed traffic calming.

## NORTON STREET/LOUGHBORO ROAD/NEBRASKA AVENUE BICYCLE FACILITY IMPROVEMENT

This recommendation would provide bicycle facilities between Ward Circle and the Capital Crescent Trail. moveDC recommends an off-street trail between Ward Circle and Rockwood Parkway, an on-street protected bike lane between Rockwood Parkway and Arizona Avenue, and bike lanes from Glenbrook Road to the Capital Crescent Trail. A letter from ANC 3D, endorsed at their March 2019 meeting, supports the moveDC recommendations.

During the Livability Study, public feedback indicated support for a complete east-west connection between the neighborhood and the Capital Crescent Trail. This recommendation combines the moveDC recommendations to provide an off-street facility between Ward Circle and Rockwood Parkway and a two-way protected bike lane on the north side of Nebraska Avenue and Loughboro Road between Rockwood Parkway and MacArthur Boulevard. The facility would transition to a bicycle boulevard on Norton Street to connect to the Capital Crescent Trail.

In order to implement this project, DDOT would need to repurpose one travel lane on Nebraska Avenue between Rockwood Parkway and Chain Bridge Road. On Loughboro Road, DDOT would need to remove parking spaces on the north side, or on blocks with no parking, DDOT would need to repurpose a travel lane. These impacts would be studied further before implementation.

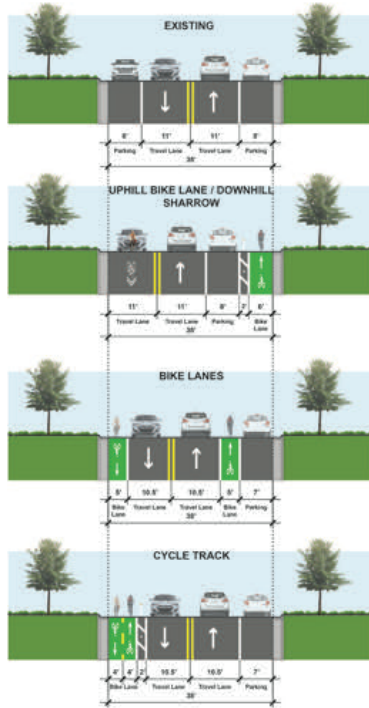
### PROJECT DETAILS

Implementation Priority	Nebraska Avenue between Ward Circle and Rockwood Parkway; Loughboro Road between Dalecarlia Parkway and MacArthur Boulevard; and Norton Street: Medium Term (2-4 years)  Nebraska Avenue between Rockwood Parkway and Chain Bridge Road; Loughboro Road from Chain Bridge Road to Dalecarlia Parkway: Long Term (4-8 years)
Estimated Project Cost	\$2,910,000
Right-of-way need?	No
Coordination Needs	Residents will be notified as bicycle recommendations move forward.
On-Street Parking Reduction	On-street parking spaces on the north side of Loughboro Road would need to be removed for the project. Bicycle boulevard on Norton Street can be implemented with no impacts to parking.



PROJECT B-06

# ARIZONA AVENUE BICYCLE FACILITY IMPROVEMENT



This recommendation would provide a bicycle facility on Arizona Avenue between Loughboro Road and the Carolina Place/ Capital Crescent Trail connection constructed in two phases. Recommendations in moveDC identify a cycle track between the Capital Crescent Trail and Loughboro Road. Public feedback indicated concerns related to speeding on Arizona Avenue and difficulty crossing the road by people walking and biking.

The bicycle facility would be constructed in two phases: Phase 1 provides a facility between Loughboro Road and MacArthur Boulevard, and Phase 2 connects the facility from MacArthur Boulevard to the Capital Crescent Trail. Three options have been developed for Phase 1; all of which would require removal of all parking on one side of Arizona Avenue.

1. Uphill protected bike lane and downhill sharrow
2. Bike lanes on both sides
3. Two-way cycle track on one side

The Palisades Trolley Trail Feasibility Study, which is occurring concurrently with this study, includes design concepts for connecting Arizona Avenue with the Capital Crescent Trail.

## PROJECT DETAILS

Implementation Priority	Long Term (4-8 years)
Estimated Project Cost	\$1,220,000
Right-of-way need?	No
Coordination Needs	Residents will be notified as bicycle recommendations move forward.
On-Street Parking Reduction	Phase 1: Would require removal of parking on one side of Arizona Avenue Phase 2: Will be determined in the design phase

PROJECT B-07  
**WHITEHAVEN PARKWAY  
 BICYCLE FACILITY IMPROVEMENT**



Provide a bicycle facility on Whitehaven Parkway between Foxhall Road and Reservoir Road. Public indicated support for a bicycle facility on Whitehaven Parkway to provide transportation options for the students at the George Washington University-Mount Vernon Campus and the Lab School. A facility on Whitehaven Parkway could potentially be connected to a future Palisades Trolley Trail.

**PROJECT DETAILS**

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$210,000
Right-of-way need?	No
Coordination Needs	Residents and adjacent institutions.
On-Street Parking Reduction	Depending on the bicycle facility that is installed, there may be loss of on-street parking.

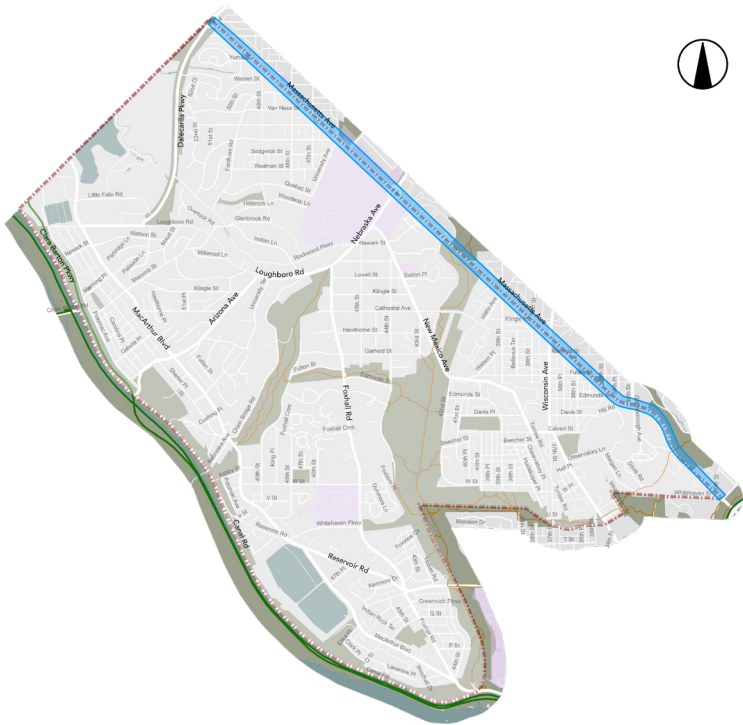


# SPECIAL PROJECT FOCUS AREAS

The Livability Study includes several project recommendations that will require ongoing discussion and study to find approaches that meet the study objectives and continue conversations with residents and stakeholders on transportation safety.



PROJECT CS-01  
**MASSACHUSETTS AVENUE  
 CORRIDOR STUDY**



Conduct a corridor-specific study of Massachusetts Avenue from the DC border to Whitehaven Street. During the public engagement process, residents expressed an interest in looking more closely at issues and opportunities along the corridor. Massachusetts Avenue is a major arterial route that serves as an evacuation route with numerous cultural resources and embassies located along the Avenue. A more in-depth study will be able to take a more in-depth look at the complex corridor demands.

**PROJECT DETAILS**

Implementation Priority	Long Term (4-8 years)
Estimated Project Cost	\$717,000
Right-of-way need?	Yes, or at least easement or permission with National Park Service.
Coordination Needs	National Park Service; neighborhood residents.
On-Street Parking Reduction	Will be determined in the corridor study.

# NEW MEXICO AVENUE/TUNLAW ROAD/37TH STREET CORRIDOR STUDY

Conduct a corridor-specific study of the New Mexico Avenue/Tunlaw Road/37th Street corridor. The corridor was identified repeatedly during the public engagement process and on the Vision Zero safety map. This corridor currently presents several challenges, including narrow sidewalks and an inconsistent bicycle network. While this study recommends widening sidewalks and improving the existing bike network to provide more comfortable pedestrian and bicycle facilities near Mann Elementary School and Hardy Middle School, a more in-depth study would be able to examine potential designs in more detail. At this early stage, it should be noted that improving the bicycle and sidewalk network would likely require significant reductions of on-street parking on this corridor, especially on Tunlaw where the roadway is narrower.

This project would likely be phased with Tunlaw Road and 37th Street as Phase 1, and New Mexico Avenue as Phase 2.



## PROJECT DETAILS

Implementation Priority	Long Term (4-8 years)
Estimated Project Cost	\$3,130,000 (B-08) \$440,000 (CS-02)
Right-of-way need?	No
Coordination Needs	Residents would be notified as future phases are advanced.
On-Street Parking Reduction	Will be determined in the future phases, but there could be significant reductions in on-street parking.

# RESERVOIR ROAD/FOXHALL ROAD CORRIDOR STUDY



Conduct a corridor-specific study of Reservoir Road and Foxhall Road. The corridor has access to schools, churches, embassies, and commercial properties. Public feedback provided concerns related to pedestrian, bicycle, and roadway issues at the three complex intersections along the corridor. Looking at the corridor and intersections more closely will allow for more well developed safety, operations, and design options to better serve the nearby community.

## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$155,000
Right-of-way need?	No.
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	Will be determined in the corridor study.

PROJECT CS-04

# CATHEDRAL AVENUE CORRIDOR STUDY

Conduct a corridor-specific study of Cathedral Avenue between New Mexico Avenue and 39th Street. The corridor was identified repeatedly during the public engagement process and within the Glover Park Transportation Study. This corridor currently presents several challenges, including an incomplete pedestrian network with an identified lack of pedestrian crossings and an inconsistent bicycle network. This study recommends adding pedestrian crossings and improving the existing bike network to provide more comfortable facilities for people walking and biking to the Glover-Archbold Trail, the N2 and N6 bus stops and the large residential complexes along the corridor. However, a more in-depth study will be able to identify a more complete network for people walking and biking.



## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$89,000
Right-of-way need?	No
Coordination Needs	Residents would be notified as future phases are advanced.
On-Street Parking Reduction	Will be determined in the future phases, but there may be reductions in on-street parking.

PROJECT MI-01  
**WESTMORELAND CIRCLE  
 MULTI-INTERSECTION STUDY**



Conduct a study of Westmoreland Circle. The complexities of the circle require more analysis to develop specific recommendations. Further, a more in-depth study will require coordination with the National Park Service, US Army Corps of Engineers, and Maryland Department of Transportation.

The study will also allow for a closer look at the proposed two-way bicycle facilities and shared-use path on Dalecarlia Parkway. A study will be able to look at potential pedestrian and bicycle connections to and through the circle.

**PROJECT DETAILS**

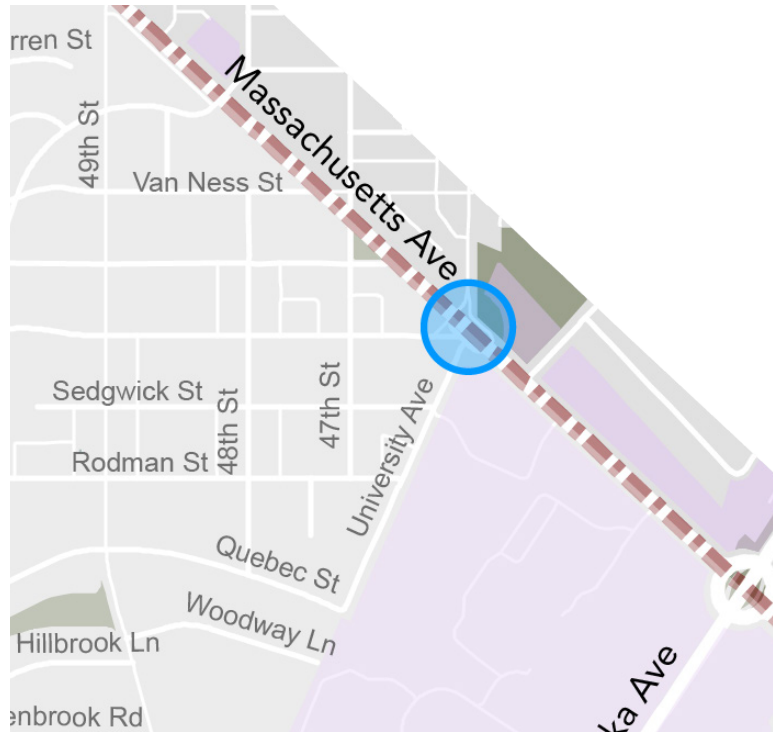
Implementation Priority	Long Term (4-8 years)
Estimated Project Cost	\$140,000
Right-of-way need?	Yes, or at least easement or permission with National Park Service
Coordination Needs	National Park Service; Maryland Department of Transportation; neighborhood residents.
On-Street Parking Reduction	None



PROJECT MI-02

# WESLEY CIRCLE MULTI-INTERSECTION STUDY

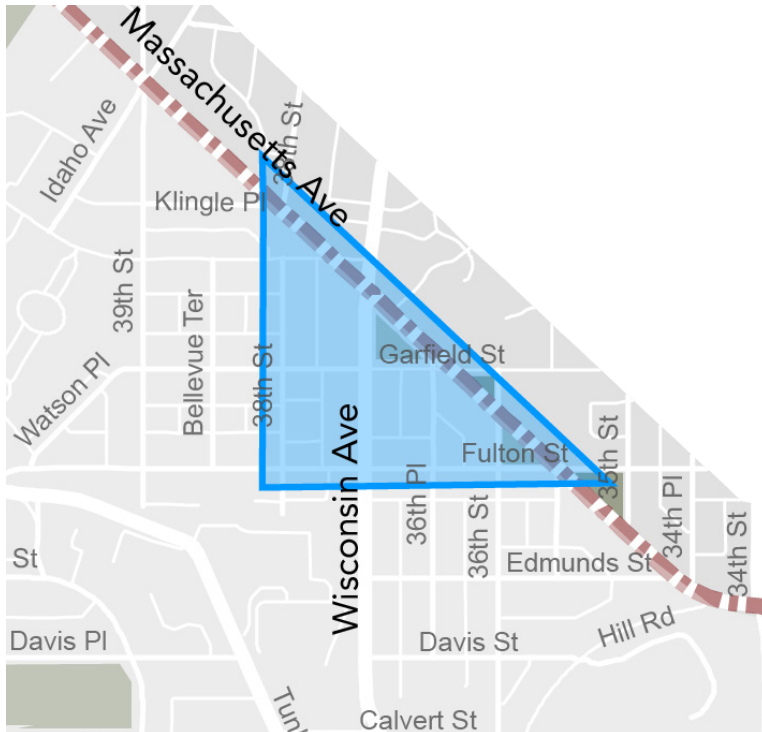
Conduct a study of Wesley Circle. The complexities of the circle require more analysis to develop specific recommendations. Public feedback indicates that the Circle creates a number of problems for pedestrians, especially where people have to walk across the slip lane for northbound traffic turning from Massachusetts Avenue onto 46th Street. This is further compounded by the wide turning radius and widened road to accommodate a bus stop. A more in-depth study of the Circle will develop opportunities to simplify intersection geometry to improve safety and enhance pedestrian and bicycle crossings.



## PROJECT DETAILS

Implementation Priority	Long Term (4-8 years)
Estimated Project Cost	\$100,000
Right-of-way need?	Yes, or at least easement or permission with National Park Service
Coordination Needs	National Park Service; neighborhood residents.
On-Street Parking Reduction	Will be determined in the design phase

# MASSACHUSETTS AVENUE / WISCONSIN AVENUE MULTI-INTERSECTION STUDY



Conduct a study of the area bound by Massachusetts Avenue, Fulton Street, and 38th Street. Public feedback indicated numerous safety and operations issues. While the Massachusetts Avenue and Wisconsin Avenue intersection is the center of the study, additional intersections are included to account for turn restrictions at the intersection and surrounding network impacts. The study would allow a more in-depth look at safety and circulation at the intersections.

This study will also include an evaluation of the intersection of Wisconsin Avenue and Fulton Street to see if a traffic signal should be installed.

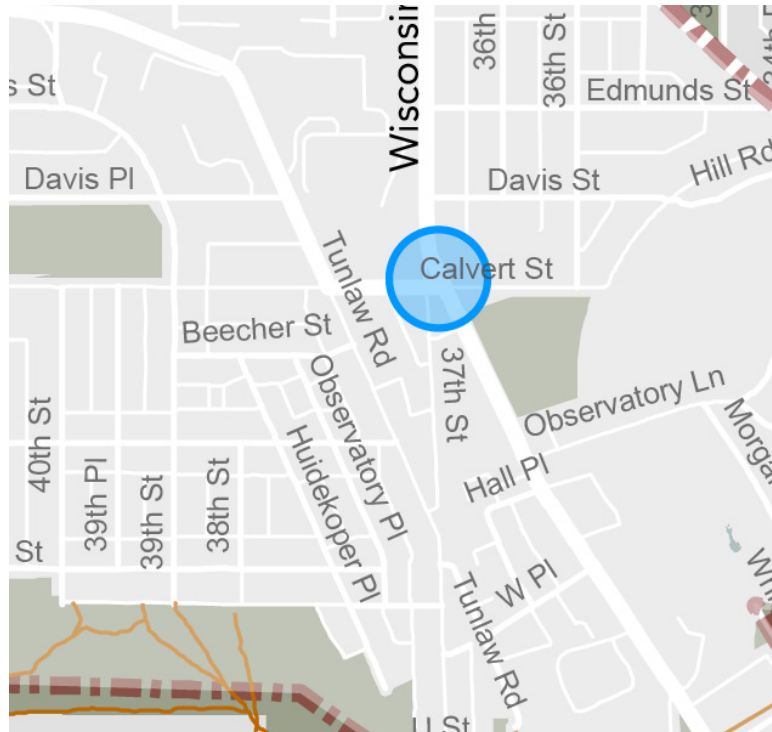
## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$400,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT
On-Street Parking Reduction	Will be determined in the design phase

PROJECT MI-04

# WISCONSIN AVENUE/CALVERT STREET/37TH STREET MULTI-INTERSECTION STUDY

Conduct a study of the Wisconsin Avenue intersection with 37th Street and Calvert Street. Public comments indicated confusion for people walking, biking and driving through the intersection along with associated safety concerns. A large number of pedestrian generators are located adjacent to the intersection including churches, commercial properties and high-density residential units. The complex intersection geometry requires more analysis to develop specific recommendations. A more in-depth study will be able to look into opportunities to simplify intersection geometry, potentially to include the closure of 37th Street between Wisconsin Avenue and Calvert Street.



## PROJECT DETAILS

Implementation Priority	Medium Term (2-4 years)
Estimated Project Cost	\$100,000
Right-of-way need?	No
Coordination Needs	None outside of DDOT.
On-Street Parking Reduction	Will be determined in the design phase

# IMPLEMENTATION

The Livability Study's recommendations have been made with a general eight-year timeframe for implementation in mind. Most of the recommended projects are in current District-owned right-of-way and most would be expected to have minimal environmental impact or complex construction needs that would cause projects to require more time to implement. However, some complex projects that will require more extensive environmental review, design, and construction preparation are anticipated to need the full extent of this timeframe.

The cost estimates in this section represent the costs for all stages of implementation, including construction. In some cases, DDOT may be able to install interim measures for a lower cost and shorter timeframe.

The implementation timeframe for each project depends on availability of funding. All of the recommendations will require budget to advance them to implementation.

DDOT will use the comments received from residents and stakeholders to assist in the prioritization of recommendations to implement. ANC 3B and 3D passed resolutions that commented on many of the recommendations and provided feedback on prioritization. These resolutions can be found at the end of the Public Workshop #3 Summary in Appendix C.



# PROJECT TIMEFRAME

All recommendations will be grouped into three categories based on the steps that would be necessary to implement them: short-term, medium-term, and long-term.

Each livability study recommendation represents an opportunity to improve transportation safety and access. Through subsequent work and coordination with residents, in some cases, DDOT may determine that the tradeoffs required to implement projects are not worth the benefits that would result from them. In these cases, the projects could be implemented differently, or not at all. These timeframes are also dependent on funding availability for each project.

**SHORT-TERM PROJECTS** (Two years from study completion) These projects can be completed through existing safety, traffic signal, bicycle, pedestrian, or other programs within DDOT, in addition to Mayor Bowser's Vision Zero Initiative.

Most of these projects do not require any environmental review. DDOT typically notifies residents of these projects through a Notice of Intent (NOI). The NOI process includes a 30-day commenting period. Included with the NOI would be a more detailed analysis if a lane configuration or traffic control change is included in the project. NOI submissions can also include additional figures, graphics, and explanatory text about the proposed change. NOI submissions would be developed separately from the Livability Study.

**MEDIUM-TERM PROJECTS** (Two to four years from study completion) These projects may involve more detailed design and engineering work, adding another phase to the project, along with additional time and public comment opportunities.

These projects may involve environmental documentation through the National Environmental Policy Act (NEPA) or the District of Columbia Environmental Policy Act (DCEPA), although it is not anticipated that this level of review or impact would be extensive.

For medium term projects, public comment opportunities are available during the environmental step, as well as the design and construction stages.

**LONG-TERM PROJECTS** (Four to eight years from study completion) These are more advanced projects likely to involve all stages of DDOT's project development process, with numerous opportunities for public comments.

These projects require more advanced design and environmental review and may also require acquisition of right-of-way or coordination with agency partners such as the National Park Service or neighboring jurisdictions. As capital projects, they need to be programmed into the budget process with detailed designs and right-of-way examination.

For long-term projects, public comment opportunities are available during the environmental, design, right-of-way, and construction stages.



# PROJECT IMPLEMENTATION

## TYPICAL DDOT PROJECT DEVELOPMENT PROCESS

### SHORT TERM (1-2 YEARS)

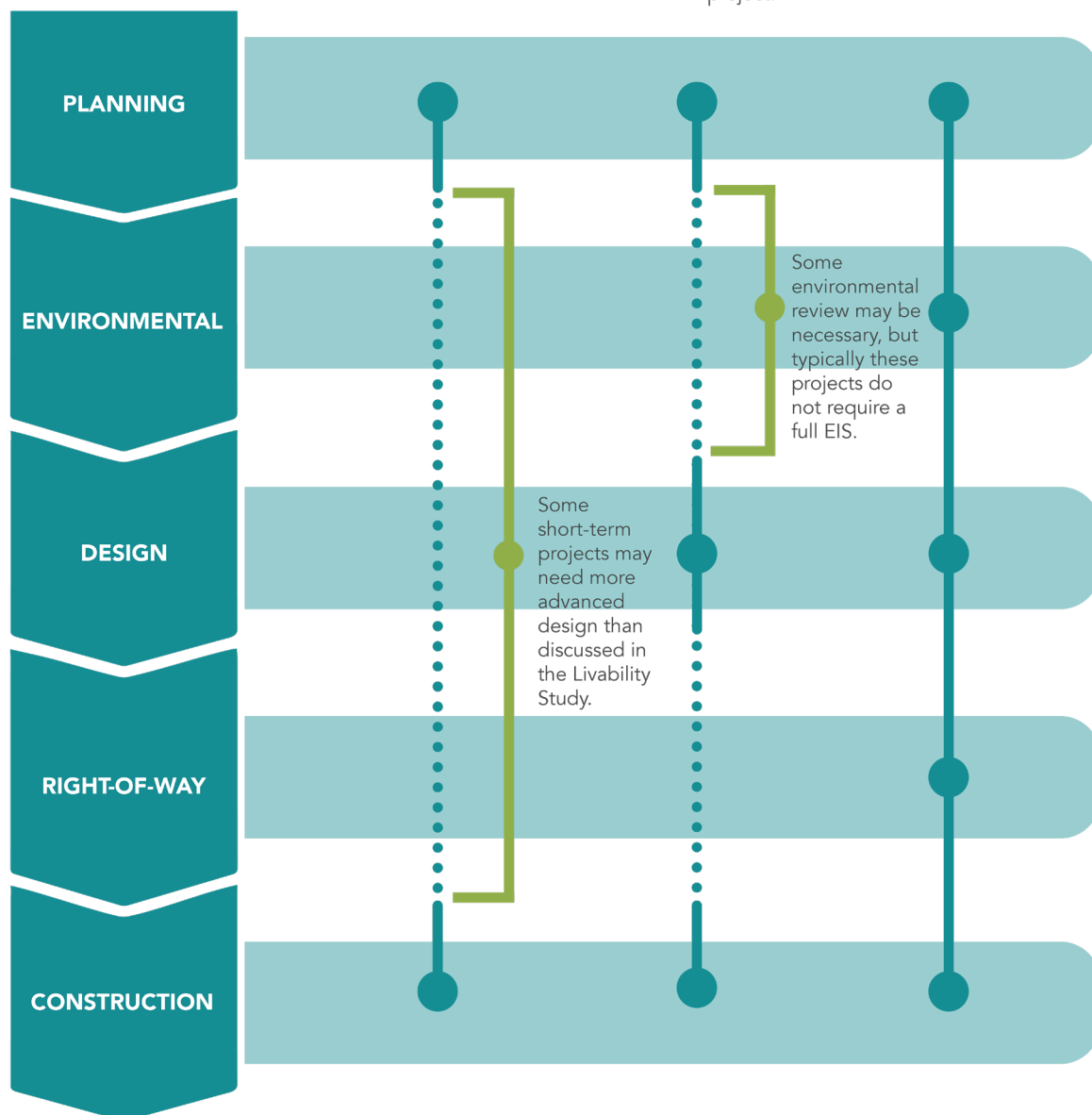
Can be executed through existing contracts and typically do not need capital funding design work or environmental clearance

### MEDIUM TERM (2-4 YEARS)

Typically need more advanced design, but may not be subject to a full environmental impact statement (EIS) depending on the nature of each project.

### LONG TERM (4-8 YEARS)

Larger capital projects, which need to be programmed into the budget process with detailed designs and right-of-way examination





# PROJECT COST ESTIMATES

The following tables provide planning-level estimates of cost for projects recommended in the study, intended to offer guidance on likely costs and provide DDOT with baseline information for budgeting and programming. These costs are likely to change as projects advance into more detailed design and prepare for construction, but they assume factors to account for this possible change. The timeframe for implementation is subject to availability of funding to undertake each project.

Cost estimates for this study were compiled using unit costs following DDOT standards and DDOT bid item costs. Estimates include the following allowances:

- 5 percent for landscaping
- 25 percent for stormwater management, pipes, and structures
- 2 percent for erosion and sediment control during construction
- 120 percent of curb and gutter cost for utility adjustment and relocation
- 1 percent for construction stakeout
- 15 percent for maintenance of traffic during construction
- 10 percent for construction mobilization
- 30 percent design contingency, to reflect the conceptual nature of the design

## CURB EXTENSIONS

Project ID	Recommendation Type	Estimated Cost	Timeframe for Implementation
CE-01	Curb Extension	\$460,000	Medium Term (2-4 years)
CE-02	Curb Extension	\$280,000	Medium Term (2-4 years)
CE-03	Curb Extension	\$460,000	Medium Term (2-4 years)

## SHARED USE PATHS

Project ID	Recommendation Type	Estimated Cost	Timeframe for Implementation
SU-01	Shared Use Path	\$5,050,000	Long Term (4-8 years)
SU-02	Shared Use Path	\$360,000	Medium Term (2-4 years)
SU-03	Shared Use Path	\$380,000	Medium Term (2-4 years)
SU-04	Roadway Improvement	\$320,000	Medium Term (2-4 years)



PEDESTRIAN CROSSING IMPROVEMENTS

Project ID	Recommendation Type	Estimated Cost	Timeframe for Implementation
PC-01	Pedestrian Crossing Improvement	\$100,000	Medium Term (2-4 years)
PC-02	Pedestrian Crossing Improvement	\$120,000	Short Term (1-2 years)
PC-03	Pedestrian Crossing Improvement	\$320,000	Short Term (1-2 years)
PC-04	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-05	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-06	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-07	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-08	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-09	Pedestrian Crossing Improvement	\$100,000	Short Term (1-2 years)
PC-10	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-11	Pedestrian Crossing Improvement	\$320,000	Medium Term (2-4 years)
PC-12	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-13	Pedestrian Crossing Improvement	\$250,000	Short Term (1-2 years)
PC-14	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-15	Pedestrian Crossing Improvement	\$260,000	Short Term (1-2 years)
PC-16	Pedestrian Crossing Improvement	\$250,000	Short Term (1-2 years)
PC-17	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-18	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)
PC-19	Pedestrian Crossing Improvement	\$50,000	Short Term (1-2 years)





## SIDEWALK IMPROVEMENTS

Project ID	Recommendation Type	Estimated Cost	Timeframe for Implementation
SW-01	Sidewalk Improvement	\$960,000	Long Term (4-8 years)
SW-02	Sidewalk Improvement	\$370,000	Medium Term (2-4 years)
SW-03	Sidewalk Improvement	\$270,000	Medium Term (2-4 years)
SW-04	Sidewalk Improvement	\$260,000	Short Term (1-2 years)
SW-05	Sidewalk Improvement	\$260,000	Short Term (1-2 years)
SW-06	Sidewalk Improvement	\$310,000	Short Term (1-2 years)
SW-07	Sidewalk Improvement	\$510,000	Short Term (1-2 years)
SW-08	Sidewalk Improvement	\$280,000	Medium Term (2-4 years)
SW-09	Sidewalk Improvement	\$270,000	Short Term (1-2 years)
SW-10	Sidewalk Improvement	\$240,000	Short Term (1-2 years)
SW-11	Sidewalk Improvement	\$320,000	Medium Term (2-4 years)
SW-12	Sidewalk Improvement	\$260,000	Medium Term (2-4 years)
SW-13	Sidewalk Improvement	\$420,000	Short Term (1-2 years)
SW-14	Sidewalk Improvement	\$260,000	Short Term (1-2 years)
SW-15	Sidewalk Improvement	\$330,000	Short Term (1-2 years)

## BICYCLE FACILITY IMPROVEMENTS

Project ID	Recommendation Type	Estimated Cost	Timeframe for Implementation
B-01	Bicycle Facility Improvement	\$590,000	Long Term (4-8 years)
B-02	Bicycle Facility Improvement	\$1,550,000	Medium Term (2-4 years)
B-03	Bicycle Facility Improvement	\$550,000	Medium Term (2-4 years)
B-04	Bicycle Facility Improvement	\$1,250,000	Medium Term (2-4 years)
B-05	Bicycle Facility Improvement	\$2,910,000	Long Term (4-8 years)
B-06	Bicycle Facility Improvement	\$1,220,000	Long Term (4-8 years)
B-07	Bicycle Facility Improvement	\$210,000	Medium Term (2-4 years)
B-08	Bicycle Facility Improvement	\$3,130,000	Long Term (4-8 years)



**CORRIDOR STUDIES & MULTI-INTERSECTION STUDIES**

Project ID	Recommendation Type	Estimated Cost	Timeframe for Implementation
CS-01	Corridor Study	\$717,000	Long Term (4-8 years)
CS-02	Corridor Study	\$440,000	Long Term (4-8 years)
CS-03	Corridor Study	\$155,000	Medium Term (2-4 years)
CS-04	Corridor Study	\$89,000	Medium Term (2-4 years)
MI-01	Multi-Intersection Study	\$140,000	Long Term (4-8 years)
MI-02	Multi-Intersection Study	\$100,000	Long Term (4-8 years)
MI-03	Multi-Intersection Study	\$400,000	Medium Term (2-4 years)
MI-04	Multi-Intersection Study	\$100,000	Medium Term (2-4 years)



**ROCK  
CREEK**  
**FAR WEST**  
**Livability Study**