ALABAMA AVENUE SE
CORRIDOR SAFETY STUDY

District Department of Transportation

Alabama Avenue SE Corridor Safety Study

Final Report

October 2017

WE ARE WASHINGTON DC

District Department of Transportation
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Office of Councilmember Vincent C. Gray, Ward 7
Office of Councilmember Trayon White, Sr., Ward 8
Advisory Neighborhood Commission 7B
Advisory Neighborhood Commission 7E
Advisory Neighborhood Commission 8B
Advisory Neighborhood Commission 8C
Advisory Neighborhood Commission 8E
Francis A. Gregory Neighborhood Library
Boys and Girls Club of Washington at THEARC
East Washington Heights Baptist Church
UPO Petey Greene Community Service Center
Gateway DC Pavilion at the R.I.S.E. Center
Giant Grocery Store at the Shops at Park Village

ALABAMA AVENUE SE
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Alabama Avenue SE Corridor Safety Study
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1.0 INTRODUCTION

The Alabama Avenue SE Corridor Study was conducted by the District Department of Transportation (DDOT) to asses existing traffic conditions and propose recommendations to improve safety and quality of life for all corridor users. This Final Report presents data, analysis, conclusions and recommendations for potential design changes and operational measures to improve safety, traffic operations, transit access, walkability and bikeability along the Alabama Avenue corridor.

1.1. Guiding Documents

The Study is part of the Mayor's Vision Zero Initiative to reach zero fatalities and serious injuries by the year 2024 and to create a multi-modal environment where transportation safety for pedestrians, bicyclists and vehicles is a number one priority. Alabama Avenue was identified as one of the 15 high crash corridors throughout the District that had more than one fatality during the period of 2010 – 2014. Vision Zero's goals of creating safe streets, protecting vulnerable roadway users and preventing dangerous driving are at the core of the Alabama Avenue Study.

The Study's recommendations were also shaped by moveDC, the District's multi-modal long-range transportation plan, which identifies Alabama Avenue as both a Transit Investment Corridor and as a candidate corridor for an on-street bicycle facility. moveDC envisions Alabama Avenue as multi-modal corridor serving the community with a plurality of transportation options in a livable environment.

1.2. Study Area

The Study Area is Alabama Avenue from Martin Luther King Avenue (MLK) to Ridge Road SE. This corridor is approximately four miles long and abuts a variety of land uses and a Metrorail station. Alabama Avenue generally follows a southwest/northeast alignment; however, for consistency and simplicity purposes, Alabama Avenue is referred to as a north/south corridor in this document, as it intersects with key east/west routes such as Suitland Parkway and Pennsylvania Avenue. **Figure 1** illustrates the Study Area.

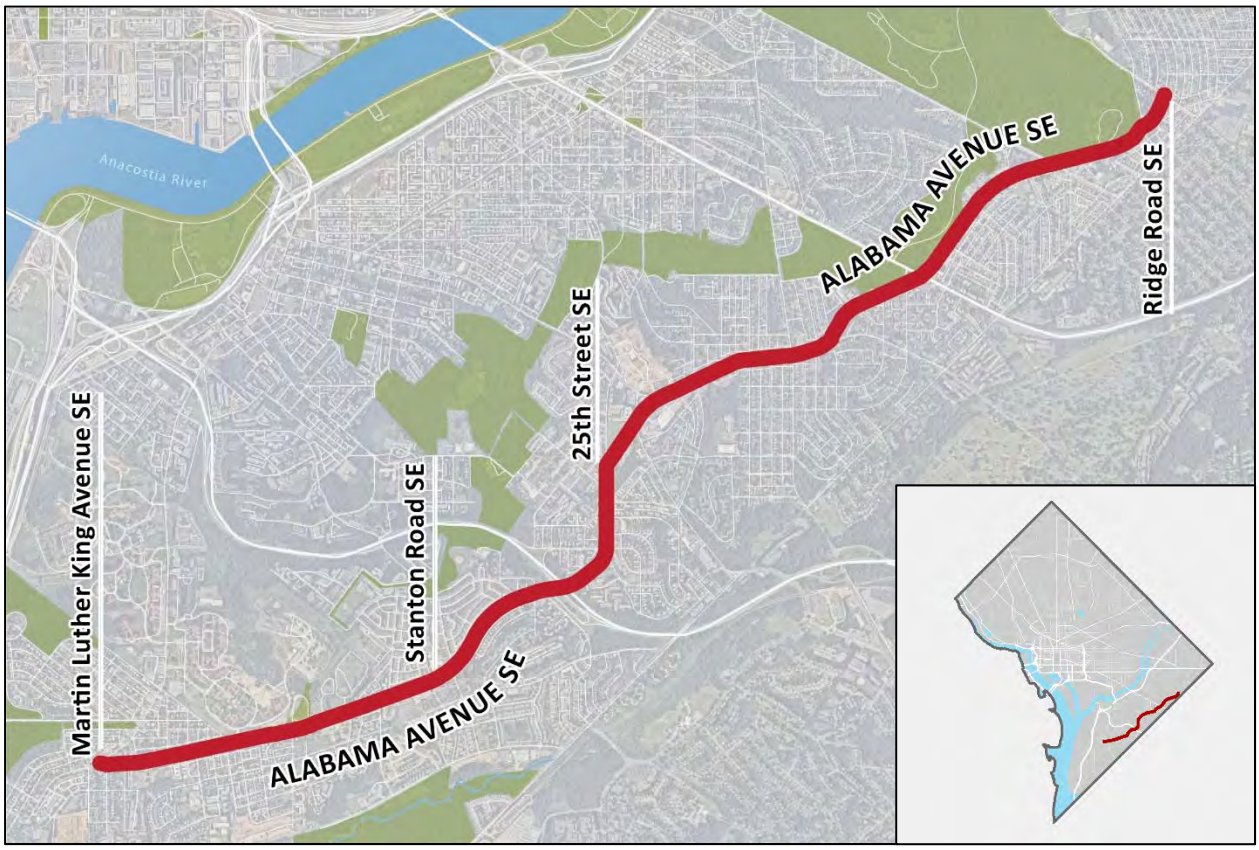


Figure 1 – Study Area

1.3. Intended Outcomes

The Study's primary goal is to improve safety for pedestrians, cyclists, vehicles, and transit users along Alabama Avenue. A related goal is to improve the daily lives of residents and visitors to the Alabama Avenue corridor by developing roadway designs that reduce speeding and the frequency of motor vehicle crashes while maintaining traffic operations. The Study seeks to achieve these goals by developing recommendations based on detailed data analysis, best design practices, and public/stakeholder input. The Study's outcome is a preferred set of roadway improvements along the Alabama Avenue corridor that achieves the objectives presented below.

- Improve pedestrian and cyclist comfort, safety, and mobility on Alabama Avenue
- Optimize the use of public space within the limited right-of-way of Alabama Avenue
- Prioritize pedestrians, cyclists, and transit users while maintaining operations for other modes
- Address public concerns regarding transportation operations and safety along Alabama Avenue
- Develop a feasible and implementable conceptual plan

1.4. Study Process

Figure 2 illustrates the process that the Alabama Avenue Corridor Safety Study followed in its analysis and recommendations, and how each of these steps were communicated through the study's public engagement process. The study process consisted of a series of structured tasks intended to support the development of planning-level recommendations through the use of empirical data and community input.

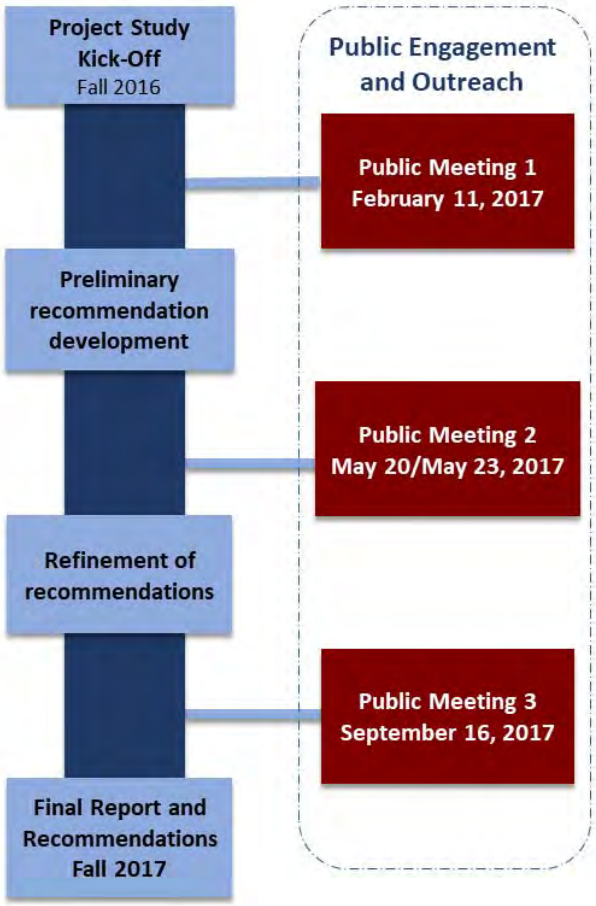


Figure 2 – Study Process

2.0 PUBLIC ENGAGEMENT

A robust and multi-pronged public engagement approach was employed to assess community concerns regarding traffic safety issues along Alabama Avenue, disseminate project-related information, and gather feedback/community input regarding potential roadway design changes.

2.1. Public Outreach Materials

The public engagement activities included the following elements:

- **Project website**, which hosted study materials including maps, informational documents, data presented at public meetings, preliminary recommendations, and notices of all upcoming public meetings. The website also provided an opportunity to submit comments, questions, and suggestions.
- **Postcards and door hangers** were distributed throughout surrounding neighborhoods with information about the project website and upcoming public meetings. Approximately 4,500 postcards were mailed and approximately 6,000 door hangers were distributed to residences within the Ward 7 and 8 study area.
- **Official DDOT Public Meeting Notices** and postings were made by DDOT social media (Twitter and Facebook) accounts.
- **Automated calls** were placed to inform residents living on or adjacent to Alabama Avenue about upcoming public meetings.

2.2. Coordination with Community Groups

A **Citizens Advisory Group (CAG)** was formed to expand community outreach. CAG members included representatives from each Area Neighborhood Commission (ANC) in the study area. DDOT hosted a CAG meeting with Ward 7 and 8 elected officials and community leaders prior to public meetings.

Neighborhood and civic organizations were contacted and sent information about public meetings. These organizations included:

- Anacostia Coordinating Council
- Anacostia Economic Development Corporation
- Congress Heights Community Association
- Congress Heights on the Rise
- East of the River Community Development Corporation
- Fairlawn Citizens Association
- Fort Davis Civic Association
- MPD – Sixth District (6D) and Seventh District (7D)
- Dupont Park Civic Association
- Hillcrest Civic Association
- Penn Branch Civic Association

2.3. Public Outreach Events

Three (3) public meetings were held over the course of the study to:

- Provide an overview of the study and what to expect during the process
- Share preliminary findings/recommendations with the community and solicit feedback
- Share final draft safety recommendations developed by the Study Team.

The meetings were held at various locations in Wards 7 and 8 including community/recreation centers, a church, and directly outside of a major supermarket. Visual aids such as large foam core boards and roll maps were used to present project-related information and solicit feedback from community residents. Team members and DDOT staff engaged with attendees and answered any questions/concerns. Each meeting also provided official comment cards for attendees to submit written comments.

Figure 3 – Public Meeting 1 Presentation

2.4. What We Heard

Public input focused heavily on traffic safety concerns along the Alabama Avenue corridor and at specific intersections. **Table 1** presents the major themes and what we heard from the community.

Table 1 | What We Heard

Project Theme	**What We Heard**
Traffic Safety	• Widespread concern about crashes along Alabama Avenue resulting in injuries and fatalities • Frequent complaints about speeding on Alabama Avenue and a need for traffic calming/speed control measures • Complaints about red light running and stop sign violations • Desire for better lighting on the corridor for pedestrian and cyclist safety • A strong desire for better pedestrian crossings (e.g., new crosswalks and enhanced crosswalk markings, traffic signals enhancements) • Desired for enhanced traffic safety enforcement and awareness
Accessibility	• Concerns about crossings at key intersections, particularly near schools and senior citizen housing and activity centers • Concerns about potential parking impacts of Study Recommendations
Traffic Operations	• Complaints about peak-hour traffic congestion at specific locations • Concerns about particular intersections with confusing and irregular geometry • Desire for Study Recommendations not to create vehicular congestion
Connectivity	• Desire for better-maintained pedestrian facilities and an expanded network for bicycles throughout the study area • Improved access to Bikeshare stations • Concerns about some bus stop locations

Appendix A provides a detailed summary of each public meeting, including meeting dates, locations, attendance, information presented, and what we heard.

3.0 EXISTING CONDITIONS

Community members along the corridor stressed the need for a safe, accessible, connected corridor that operates efficiently. Within those themes, specific concerns were raised throughout the public engagement process. These concerns include:

- Safety
- Number and severity of crashes
- Speeding
- Traffic operations
- Parking
- Pedestrian/cyclist accessibility

Each of these concerns wereexplored to better understand the corridor conditions with the aim of determining the best measures to enhance the corridor's operation for all users.

Figure 4 – Public Meeting 1 Activities

3.1. Roadway Characteristics

Alabama Avenue runs from Congress Heights to Capitol Heights and includes a diverse residential community with schools, churches and businesses. The corridor is at the heart Ward 7 and Ward 8 and serves as an important transportation facility for the Community.

With a mix of land uses along the study corridor, and a large number of institutions such as churches, schools, and a library, pedestrian travel on Alabama Avenue should be convenient and safe. While sidewalks and marked crosswalks are installed throughout the corridor, pedestrians may not always feel comfortable walking along, or crossing, Alabama Avenue due to high traffic volumes, frequent speeding, and narrow minimum sidewalk setback in some locations. Furthermore, significant gaps exist along the corridor where there are no marked crosswalks for pedestrians. Bicycle access is sub-optimal in some locations due to a lack of bike lanes, vehicular speeding, and congestion.

Figure 5 – Typical Bicycle and Pedestrian Infrastructure on Alabama Avenue SE

The corridor includes several major intersections and carries heavy volumes of cars, trucks and transit buses. Several intersections experience traffic congestion during peak hours. In addition, irregular on-street parking regulations and utilization result in confusion for drivers. **Table 2** provides a summary of the roadway's baseline characteristics.

Table 2 | Roadway Characteristics

Characteristic	**Description**
Transit Facilities	Alabama Avenue has both Metrobus Major Routes, which provide frequent seven-day bus service, and Metrobus Local Routes, with less frequent service and limited off-peak bus service. In addition to Metrobus service, the Congress Heights Metrorail station is located along Alabama Avenue at 13th Place, which serves the Green Line.
Bicycle Facilities	On-Street Bicycle lanes are marked between Pennsylvania Avenue and Burns Street. Capital Bikeshare has locations at MLK Avenue, 13th Street, Stanton Road, Good Hope Road and Pennsylvania Avenue on the corridor.
Pedestrian Facilities	Sidewalks of varying widths, curb ramps and pedestrian signals area provided along the corridor. The corridor has both controlled and uncontrolled pedestrian crossings.
Vehicular Facilities	For most of the corridor, Alabama Avenue has four lanes, two in each direction with curb side parking in the right lane. North of Pennsylvania Avenue, the roadway has two vehicular travel lanes.
Classification	Alabama Avenue is a minor arterial roadway.
Speed Limit	The posted speed limit along the corridor is 25 mph south of Pennsylvania Avenue and 30 mph north of Pennsylvania Avenue; however, within the multiple school zones along the corridor, a lower school speed limit of 15 mph is posted.
Land Use	Residential land use along the corridor is primarily low- and medium-density and several low-density commercial areas at located at Stanton Road, Good Hope Road, and Pennsylvania Avenue. Many institutional uses are also located on Alabama Avenue, such as schools, churches, recreation centers, a police station, and a library.

3.2. Crash Analysis

The Study Team reviewed crash data for Alabama Avenue between MLK and Ridge Road reported by police during 2013 to 2015. **Table 3** provides the overall numbers of total crashes, fatal crashes, injury crashes, and crashes that resulted in property damage only. **Table 3** also provides the number of crashes that involved pedestrians and bicycles.

A total of 875 crashes were reported for the three-year study period, four of which were fatal.

Of 475 injuries reported in the 312 injury crashes, 18 (4%) were classified as disabling injuries. The remainder (96%) were recorded by police as either "Nondisabling Injuries" or "Complaint of Pain, But No Visible Injury". Minor injury crashes often involve rear-end collisions that occur on approaches to intersections at relatively low speeds.

The occurrence of nearly 300 police-reported crashes per year affirms community concerns about safety along the Alabama Avenue corridor. The finding that more than 50 crashes involved pedestrians and cyclists suggests the need for measures to enhance safety for vulnerable road users.

Table 3 | Crash Statistics for Alabama Avenue SE Corridor for 2013-2015 (from R-8 Reports)

Crashes	**Total**	**Percentage**
Total Crashes	875	100%
Fatal Crashes	4	0.5%
Injury Crashes	312	36%
Property Damage Only Crashes	559	64%
Pedestrian Crashes (included in above)	45	5%
Bicycle Crashes (included in above)	10	1%

3.3. Speed Analysis

Speeding along Alabama Avenue was a primary concern discussed at public meetings. As shown in **Table 4**, this concern is supported by data collected by the Study Team. The posted speed limit for most of the roadway is 25 mph, but is 30 mph north of Pennsylvania Avenue where Alabama Avenue narrows to two lanes. Based on the data collected, throughout most of the corridor, more than half of vehicles traveling either northbound or southbound were exceeding the speed limit. The exceptions are in the denser areas in the southern part of the corridor near MLK Avenue and the schools adjacent to that intersection, and in various uphill sections along the corridor.

High speeds are related to the geometric design of Alabama Avenue, as most of the roadway is a four-lane cross-section with 12-foot wide lanes. Major intersections along the corridor are relatively wide and characteristic of suburban, low-density land uses with multiple turning lanes and long waits and crossings for pedestrians.

The downhill, southbound segment in the 2400 Block, measured in front of Garfield Elementary School, was the segment with the most speeding violations; 87 percent of vehicles were traveling faster than the 25 mph speed limit, and nearly half of those were traveling more than 11 mph over the speed limit. This speeding also occurred during the school drop-off/pick-up times, with more than 80 percent of vehicles speeding during the 8-9 AM and 3-4 PM hours that coincide with school schedules.

For each segment of the corridor studied, the 85th percentile speeds in the northbound and southbound directions were also tabulated. The 85th percentile speed is defined by the *DDOT Performance Measures Toolbox Report* as “the speed at or below which 85 percent of motor vehicles travel”. The 85th percentile speed is an industry standard metric for measuring operating speeds on a roadway. These speeds are shown on **Figure 6.**

Table 4 | Speed Data

Block	Direction	Speed Limit	Above Speed Limit	>10 mph over Speed Limit
500	NB	25	39%	1%
	SB	25	19%	1%
700	NB	25	53%	4%
	SB	25	16%	0%
800	NB	25	52%	3%
	SB	25	46%	9%
1200	NB	25	58%	5%
	SB	25	58%	5%
1500	NB	25	64%	15%
	SB	25	47%	6%
1700	NB	25	56%	3%
	SB	25	45%	2%
2100	NB	25	40%	2%
	SB	25	53%	4%
2400	NB	25	18%	1%
	SB	25	87%	45%
2800	NB	25	50%	6%
	SB	25	65%	19%
3100*	NB	25	55%	5%
	SB	25	69%	7%
3200	NB	25	52%	5%
	SB	25	73%	15%
3300	NB	25	64%	3%
	SB	25	16%	1%
3700	NB	25	38%	2%
	SB	25	53%	4%
3900	NB	30	23%	0%
	SB	30	20%	0%
4100	NB	30	35%	2%
	SB	30	52%	7%
4300	NB	25	71%	6%
	SB	25	71%	3%

Notes: NB = Northbound Alabama Avenue; SB = Southbound Alabama Avenue.
* Indicates location where speed data was collected from ATEU speed camera survey by MPD. All other locations give speed data that was collected by ATR machines.

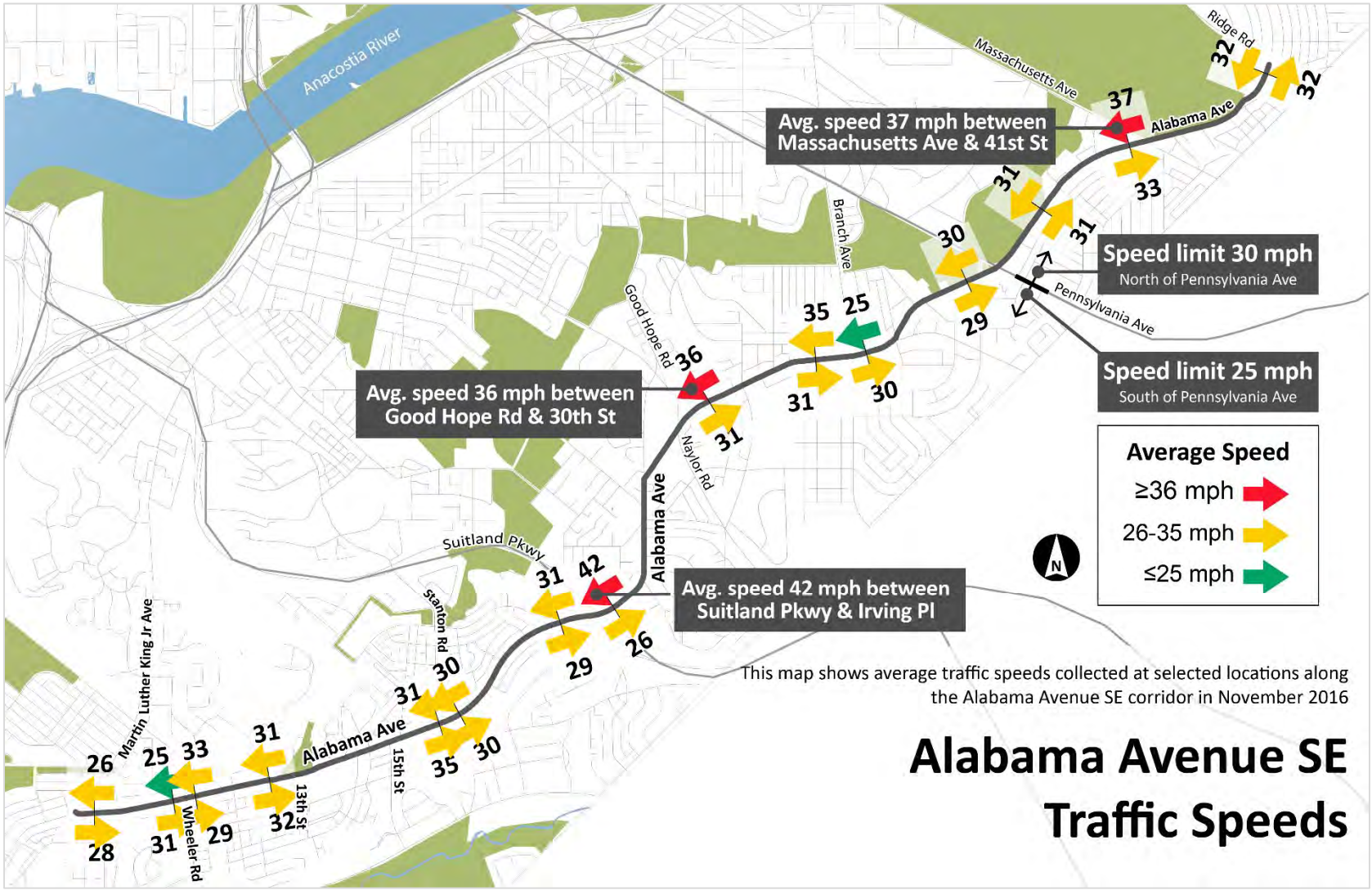


Figure 6 – 85th Percentile Speeds

3.4. Traffic Analysis

The community raised concerns about congestion and potential traffic impacts along the corridor. Data was collected to establish a comprehensive understanding of existing travel conditions and traffic operations along Alabama Avenue. This data analysis effort was combined with a field review of existing conditions and observations during peak periods to identify existing issues, inform the traffic analyses, and calibrate an Existing Conditions traffic model.

3.4.1. Data Collection

Existing traffic data established the baseline conditions (vehicular and pedestrian volumes, intersection and lane geometry, average travel times, etc.) upon which traffic conditions were analyzed and future traffic demand was projected. Twelve (12) key intersections were selected because they serve as critical gateways to the study area and/or were identified early-on as locations requiring significant capacity or safety improvements.

Weekday intersection turning movement counts were performed on Thursday, November 3, 2016, on a typical school day. Supplemental counts at 36th Place / Alabama Avenue and at Jasper Street/ Alabama Avenue were collected on Wednesday, December 14, 2016 and on Tuesday, January 10, 2017, respectively. Intersection turning movement (autos, bicycles, and heavy vehicles) and crosswalk pedestrian counts were performed during the weekday morning (6:00 to 9:00 AM) and evening (4:00 to 7:00 PM) peak periods at the key intersections listed in **Table 5**.

Table 5 | Study Intersections

Study Intersections: Turning Movement Counts

Randle Place /Alabama Avenue SE	Naylor Road /Alabama Avenue SE
11th Place / Alabama Avenue SE	Branch Avenue /Alabama Avenue SE
13th Street /Alabama Avenue SE	36th Place /Alabama Avenue SE
Stanton Road /Alabama Avenue SE	38th Street /Alabama Avenue SE
Irving Street– Jasper Street /Alabama Avenue SE	Pennsylvania Avenue /Alabama Avenue SE
Good Hope Road /Alabama Avenue SE	Ridge Road /Alabama Avenue SE

The intersection summary reports are included in Appendix C.

Bicycle turning movement counts and pedestrian crosswalk volumes were collected at the same time as the vehicle turning movement counts. The peak hour volumes used for bicycles and pedestrians coincide with the vehicle traffic peak hours. In general, bicycle volumes were very low, with no more than one peak hour bicycle observed at any one intersection approach during the peak hour, and with many intersections having no recorded bicycle activity during the peak periods. Many cyclists likely seek alternate routes to travel through the study area due to lack of bicycle facilities on Alabama Avenue. With formal bicycle facilities, an increase of cyclists using the street would be expected given Alabama Avenue's usefulness as a connection throughout Southeast DC.

Pedestrian volumes peaked near activity centers such as schools. These volumes were used for the existing intersection analysis, described in further detail later in this report.

Automatic Traffic Recorders were installed at 15 locations within the study area for a continuous seven-day period to obtain daily and hourly variations in traffic volumes, verify the intersection counts and collect the speed of each vehicle. The ATRs collected data on Alabama Avenue from Tuesday, November 29, 2016, through Tuesday, December 6, 2016 or Wednesday, December 14, 2016, through Wednesday, December 21, 2016, at the following locations:

Table 6 | Automatic Traffic Recorder Counts

ATR Count Locations	
500 block, between 5th Street and 6th Street SE	3200 block, between 32nd Street and 32nd Place SE
700 block, between 8th Street (west leg) and 8th Street (east leg) SE	3300 block, between Branch Avenue and 34th Street SE
800 block, between Wheeler Road and 9th Street SE	3700 block, between 37th Street and 38th Street SE
1200 block, between 12th Street and 13th Street SE	4100 block, between 41st Street and Massachusetts Avenue SE
1500 block, between 15th Place and Stanton Road SE	4300 block, between Burns Street and Ridge Road SE
1700 block, between Stanton Road and 18th Street/Stanton Terrace SE	2100 block between 21st Street and 22nd Street SE
2400 block, between Suitland Parkway and Irving Place SE	3900 block, between R Street and Q Street SE
2800 block, between Good Hope Road and 30th Street SE	

Based on the volume data from the turning movement counts and ATRs, the weekday morning (AM) and evening (PM) peak hours were determined to be the following: Weekday AM peak hour, 7:30 to 8:30 AM and Weekday PM peak hour, 4:45 to 5:45 PM. ATR summary reports are included in Appendix C, Existing Traffic Capacity Analysis.

3.4.1. Existing and Future Traffic Conditions

Intersection capacity analyses were performed for the key intersections listed in **Table 5** using the Synchro 9 software package. Results for overall intersection Level of Service (LOS) is presented in **Table 9**. Overall, vehicle traffic moved efficiently along Alabama Avenue except at intersections with key north-south routes such as Stanton Road, Good Hope Road, and Branch Avenue. The full intersection capacity analysis results and traffic analysis sheets from Synchro are in Appendix D.

Further observations from the Existing traffic analysis are shown in **Table 7**.

Table 7 | Existing Traffic Analysis Observations

Intersection	Observations
Alabama Avenue / Randle Place	Eastbound approach of Randle Place sometimes queues back to MLK Avenue during PM peak hour
Alabama Avenue / Stanton Road	Due to heavy pedestrian volumes, vehicles turning left or right sometimes queue up waiting for the crosswalks to clear
Alabama Avenue / Branch Avenue	While the Synchro analysis indicates an LOS of E for the AM and PM peak hours, in reality, the intersection likely operates at LOS F. The actual traffic volume at this intersection could not be fully counted because vehicles were waiting in long queues, sometimes taking several cycles to get through the intersection.
Alabama Avenue / 38th Street	Field observations indicate that the signal timing is optimized to keep northbound and southbound traffic on Alabama Avenue moving, and to keep the next intersection at Pennsylvania Avenue clear. This results in eastbound queues on 38th Street back to Pennsylvania Avenue, and west on Pennsylvania Avenue to Fort Davis Drive. Westbound approach queues back to V Street
Alabama Avenue / Pennsylvania Avenue	Eastbound congestion in the PM peak hour related to commuter traffic

3.4.2. Future Traffic Conditions

Traffic volumes were projected to a future design year of 2026, and a Future Conditions traffic analysis was performed for the horizon year to determine if traffic growth would result in any new intersections or lane groups that would operate at a poor LOS. The future growth projections accounted for background growth and the Congress Heights and Skyland projects currently in development. Further observations from the Future traffic analysis are shown in **Table 8**. A comparison of existing, proposed and build LOS is presented in **Table 9**. Discussion of Build Condition LOS is discussed in Chapter 7.3.

Table 8 | Future Traffic Analysis Observations

Intersection	Observations
Alabama Avenue / 13th Street	The westbound approach is projected to degrade from LOS D in Existing Conditions to LOS E during the AM peak hour in Future Conditions. This is largely due to additional traffic from the Congress Heights development.
Alabama Avenue / Naylor Road	Additional trips at this intersection from the Skyland development, degrades traffic operations from LOS C in Existing Conditions to LOS E in the PM peak hour in Future Conditions without further improvement.
Alabama Avenue / Good Hope Road	Additional trips and the geometric changes at this intersection from the Skyland development degrade traffic operations from LOS C in Existing Conditions to LOS E in the PM peak hour in Future Conditions without further improvement.

Table 9 | Level of Service Comparison Existing, Future and Build Condition

Intersection	AM Peak Hour			PM Peak Hour		
	Existing LOS	Future LOS	Build LOS	Existing LOS	Future LOS	Build LOS
Alabama Avenue / Randle Place	B	B	C	C	C	C
Alabama Avenue / 11th Place	A	B	B	A	B	B
Alabama Avenue / 13th Street	B	C	C	B	C	C
Alabama Avenue / Stanton Road	C	C	C	B	C	C
Alabama Avenue / Jasper Street	A	A	B	A	A	B
Alabama Avenue / Irving Street	A	B	B	B	B	C
Alabama Avenue / Naylor Road	E	E	E	C	E	D
Alabama Avenue / Good Hope Road	C	D	D	C	E	E
Alabama Avenue / Branch Avenue	E	F	C	D	E	D
Alabama Avenue / 36th Place (South Side)	A	A	A	A	A	A
Alabama Avenue / 36th Place (North Side)	A	A	A	A	A	A
Alabama Avenue / 38th Street	D	D	D	D	D	D
Alabama Avenue / Pennsylvania Avenue	C	D	C	E	E	E
Alabama Avenue / Ridge Road	N/A	N/A	N/A	N/A	N/A	N/A

3.5. Parking Utilization and Inventory

Two primary themes dominate concerns about parking on the Alabama Avenue corridor. One major concern is that curb side parking in the right lane is used intermittently, creating confusion for drivers who would like to use the right lane as a travel lane. This results in drivers weaving in and out of the right lane. The other concern is for the Study to consider the parking needs of adjacent properties when proposing recommendations.

Parking regulations in the study corridor vary throughout. Street parking is generally allowed, with some time-of-day restrictions. The utilization of on-street parking also varies along the corridor, with on-street parking more heavily used in the denser residential areas and near institutional land uses such as schools and recreation centers. Examples of parking conditions along the corridor are shown in **Figure 7**.

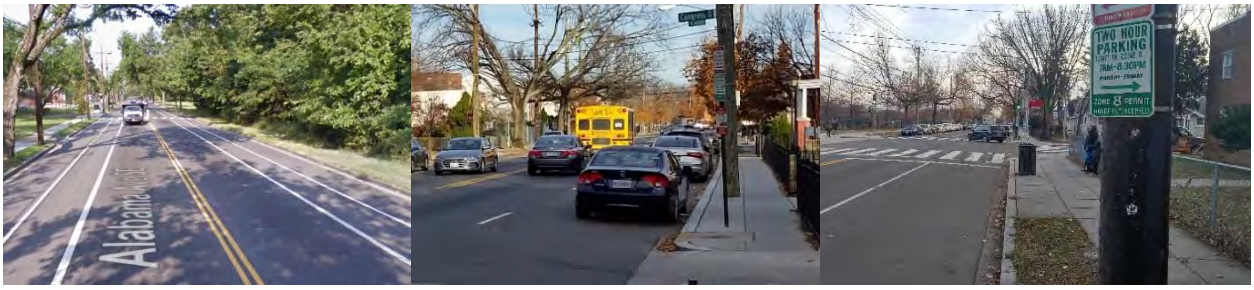


Figure 7 – Examples of Parking Configurations and Signs on Alabama Avenue SE

The Study Team conducted field observations of parking capacity and parking utilization for segments of Alabama Avenue. The field observations were conducted on weeknights (Thursday June 1, 2017) and (August 19, 2017) beginning at 9:30 pm and 6:30 pm, respectively, to capture residential parking, and on a Sunday morning (June 4, 2017) beginning at 9:30 am, to capture additional church-related curb parking. The results are tabulated in Appendix E.

During the observed periods, parking availability exceeded demand through most of the corridor. Several blocks have significant parking utilization on Sunday morning. At a few locations, parking utilization exceeded estimated capacity (e.g., Randle Place to 7th Street) due to illegal parking such as parking in bus stops. Based on the field observations, one segment was identified where weeknight parking utilization was especially heavy – R Street to Q Street. Two other blocks that raise concern in this regard are Congress Place to 15th Street, and 12th Street to 13th Street.

The parking inventory aided in the development of recommendations by highlighting parking demand on a block-by-block basis. The parking assessment also provided guidance on which side of the street has the heaviest demand.

3.6. Pedestrian Accessibility

Several themes regarding roadway streetscape and maintenance emerged after the field reviews and public meetings. Concerns with ADA compliant ramps, utility cuts through crosswalk, worn crosswalk markings and lack of pedestrian lighting were raised by the community and investigated by the Study Team. These types of issues can degrade accessibility and connectivity for pedestrians.

Several locations along the corridor lack ADA-compliant ramps at crosswalks entirely or have sub-standard ramps that need to be upgraded to meet ADA standards. Examples of these are shown in **Figure 8**.

Figure 8 – Examples of Missing/Substandard ADA Ramps at Bruce Place (left) and Naylor Road (right)

Utility cuts through crosswalks were observed throughout the corridor, which leads to crosswalks being less visible, and in many cases, difficult to navigate for those with limited mobility. An example of this is shown in **Figure 9**.

Figure 9 – Example of Utility Cut through Crosswalk (at 15th Place)

Roadway maintenance concerns were noted throughout the corridor and by public meeting attendees. These comments included faded pavement markings (as shown in **Figure 10**) and potholes.

Figure 10 – Example of Worn Pavement Markings (at Randle Place)

3.7. Location-Specific Conditions Assessment by Segment

The entire Alabama Avenue study corridor was examined to inventory existing bicycle and pedestrian infrastructure and to identify any operational or safety deficiencies at the intersections. To better assess the safety deficiencies along the corridor, Alabama Avenue was divided into segments or "natural breaks", where each segment has similar characteristics within the segment. General themes and trends for specific segments and intersections are described below. A full field review document is available in Appendix F.

The corridor was divided into four segments as follows:

- Segment 1: MLK Avenue to Suitland Parkway
- Segment 2: Suitland Parkway to Branch Avenue
- Segment 3: Branch Avenue to Pennsylvania Avenue
- Segment 4: Pennsylvania Avenue to Ridge Road

The issues along these segments and at selected intersections within these segments are described from south to north in the sections below.

3.7.1. MLK Avenue to Suitland Parkway

In this segment, Alabama Avenue is a four-lane roadway with a 25 mph speed limit. A typical cross-section is shown in **Figure 11**, which also shows an example of the scattered on-street parking along this segment. Parking regulations vary within this segment and by time of day, which creates inconsistent use of the right lane and often leads to driver confusion and last-minute merging while traveling the corridor. Major intersections along this segment include Randle Place, Wheeler Road, Stanton Road, and Suitland Parkway. The Congress Heights Metrorail station on the Green Line is located in this segment at 13th Street.

Figure 11 – Alabama Avenue SE at 10th Place, looking North

Existing conditions are shown in **Figure 12**, **Figure 13**, **Figure 14**, and **Figure 15**.

Figure 12
Segment #1 – Sheet 1 of 4:
Martin Luther King Jr Ave SE to 9th Pl SE

0' 100' 200'

- Aggressive driver behavior
- Confusion over right-of-way between drivers & pedestrians
- Traffic bearing right from northbound MLK Avenue onto northbound Alabama Avenue moves fast
- WMATA buses turning from southbound Alabama Avenue onto westbound 5th Street drive over the curb & sidewalk due to tight turn

WMATA buses turning from northbound Alabama Avenue onto eastbound Wheeler Road drive over the curb and sidewalk due to tight turn

Complex traffic control: confusion over right of way

Crosswalk across Randle Place is worn

Legend

Crash Trend	Uncontrolled Crosswalk	Missing Pedestrian Ramp	Challenging Intersection/ Roadway Geometry
Other Condition	Missing Crosswalk	Deficient Pedestrian Ramp	What We Heard (comments received from members of the community)
Missing Pedestrian Signal	Utility Cut Through Sidewalk	Deficient / Missing Sidewalk	

Figure 13
Segment #1 – Sheet 2 of 4:
9th Pl SE to Congress Heights Metro

0' 100' 200'

Legend

Crash Trend	Uncontrolled Crosswalk	Missing Pedestrian Ramp	Challenging Intersection/ Roadway Geometry
Other Condition	Missing Crosswalk	Deficient Pedestrian Ramp	What We Heard (comments received from members of the community)
Missing Pedestrian Signal	Utility Cut Through Sidewalk	Deficient / Missing Sidewalk	

Figure 14
Segment #1 – Sheet 3 of 4: Congress St SE to Stanton Terr SE

0' 100' 200'

- Drivers do not yield to the existing RRFB traffic control device
- General safety and traffic concerns

High volumes of turning vehicles to and from Alabama Avenue at this intersection and across the uncontrolled crosswalks

- 2 pedestrian crashes in 3 years, both involving turning vehicles conflicting with pedestrians in crosswalks
- 5 rear-end crashes in 3 years, suggests speeding &/or driver inattention

- Red-light running driver behavior and vehicle speeding observed
- Among the highest recorded peak-hour pedestrian volumes along the corridor

- 3 right-angle crashes in 3 years, suggests red-light running
- 5 rear-end crashes in 3 years, suggests speeding and driver inattention
- 4 pedestrian crashes in 3 years

Speeding vehicles do not properly yield to pedestrians in uncontrolled crosswalk

Legend

Crash Trend	Uncontrolled Crosswalk	Missing Pedestrian Ramp	Challenging Intersection/ Roadway Geometry
Other Condition	Missing Crosswalk	Deficient Pedestrian Ramp	What We Heard (comments received from members of the community)
Missing Pedestrian Signal	Utility Cut Through Sidewalk	Deficient / Missing Sidewalk	

Figure 15
Segment #1 – Sheet 4 of 4:
Stanton Terr SE to 23rd St SE

0' 100' 200'

Segment (1/3 of a mile) with no pedestrian crossing

Skewed alignment and large corner radii

Legend

- Crash Trend
- Uncontrolled Crosswalk
- Missing Pedestrian Ramp
- Challenging Intersection/ Roadway Geometry
- Other Condition
- Missing Crosswalk
- Deficient Pedestrian Ramp
- What We Heard (comments received from members of the community)
- Missing Pedestrian Signal
- Utility Cut Through Sidewalk
- Deficient / Missing Sidewalk

3.7.2. Suitland Parkway to Branch Avenue

In this segment, Alabama Avenue is a four-lane roadway with a 25 mph speed limit, and on-street parking is generally prohibited. A typical cross-section is shown in **Figure 16**. There are several major signalized intersections along this segment including 25th Street, Naylor Road, Good Hope Road, and Branch Avenue. These intersections, as shown in the example image in **Figure 17**, are car-centric and lead to long waiting times and long crossings for pedestrians.

Figure 16 – Alabama Avenue SE at 32nd Place, looking South

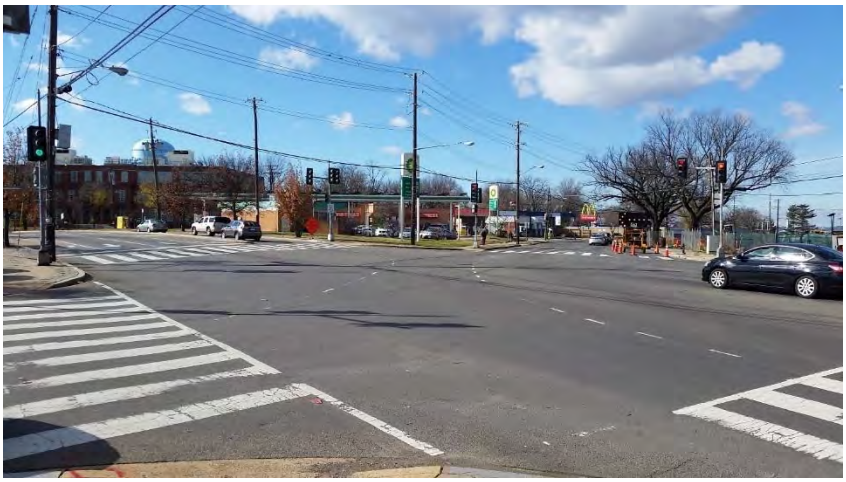


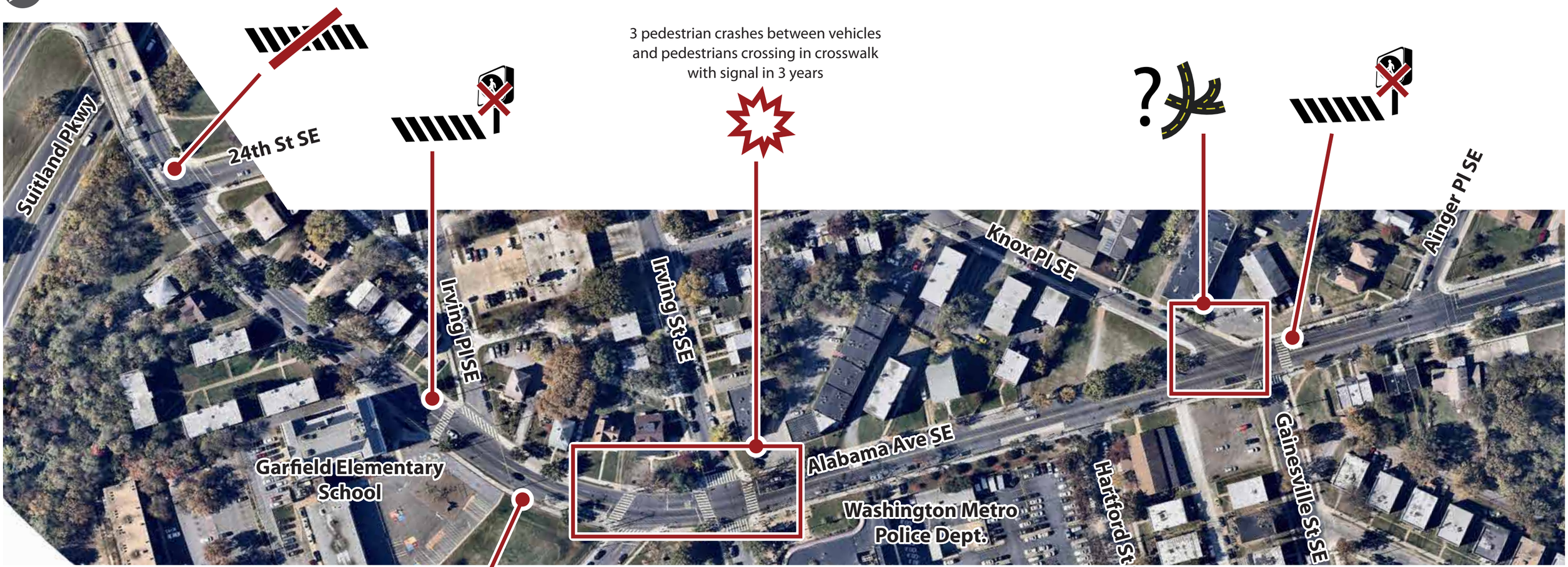
Figure 17 – Alabama Avenue SE at Good Hope Road, looking South

Good Hope Marketplace, a large commercial area with a supermarket and other retail, is located at the intersection with Good Hope Road. Additionally, the Skyland Town Center development is currently under construction and is also adjacent to the intersection of Alabama Avenue and Good Hope Road.

Existing conditions are shown in **Figure 18**, **Figure 19**, and **Figure 20**.

Figure 18
Segment #2 – Sheet 1 of 3:
Suitland Pkwy to Ainger Pl SE

0' 100' 200'



3 pedestrian crashes between vehicles and pedestrians crossing in crosswalk with signal in 3 years

Legend

- Crash Trend
- Uncontrolled Crosswalk
- Missing Pedestrian Ramp
- Challenging Intersection/ Roadway Geometry
- Other Condition
- Missing Crosswalk
- Deficient Pedestrian Ramp
- What We Heard (comments received from members of the community)
- Missing Pedestrian Signal
- Utility Cut Through Sidewalk
- Deficient / Missing Sidewalk

Figure 19
Segment #2 – Sheet 2 of 3:
25th St SE to Good Hope Rd SE

0' 100' 200'

- Confusing navigation for drivers
- Wide right-turn lane with large radius

Pedestrians crossing mid-block

Legend

Crash Trend	Uncontrolled Crosswalk	Missing Pedestrian Ramp	Challenging Intersection/ Roadway Geometry
Other Condition	Missing Crosswalk	Deficient Pedestrian Ramp	What We Heard (comments received from members of the community)
Missing Pedestrian Signal	Utility Cut Through Sidewalk	Deficient / Missing Sidewalk	

Figure 20
Segment #2 – Sheet 3 of 3:
30th St SE to Branch Av SE

0' 100' 200'

Car-centric signal timings, leading to long waits to cross and insufficient time to cross for some pedestrians

Aggressive driving

Legend

Crash Trend	Uncontrolled Crosswalk
Other Condition	Missing Crosswalk
Missing Pedestrian Signal	Utility Cut Through Sidewalk

Legend

Missing Pedestrian Ramp	Challenging Intersection/ Roadway Geometry
Deficient Pedestrian Ramp	What We Heard (comments received from members of the community)
Deficient / Missing Sidewalk	

3.7.3. Branch Avenue to Pennsylvania Avenue

Between Branch Avenue and Pennsylvania Avenue, Alabama Avenue continues the four-lane cross-section with a posted speed limit of 25 mph (see **Figure 21**). On-street parking is more prevalent here, especially near the Francis A. Gregory Neighborhood Library near 36th Place. Major signalized intersections along this segment include Suitland Road, 38th Street, and Pennsylvania Avenue.

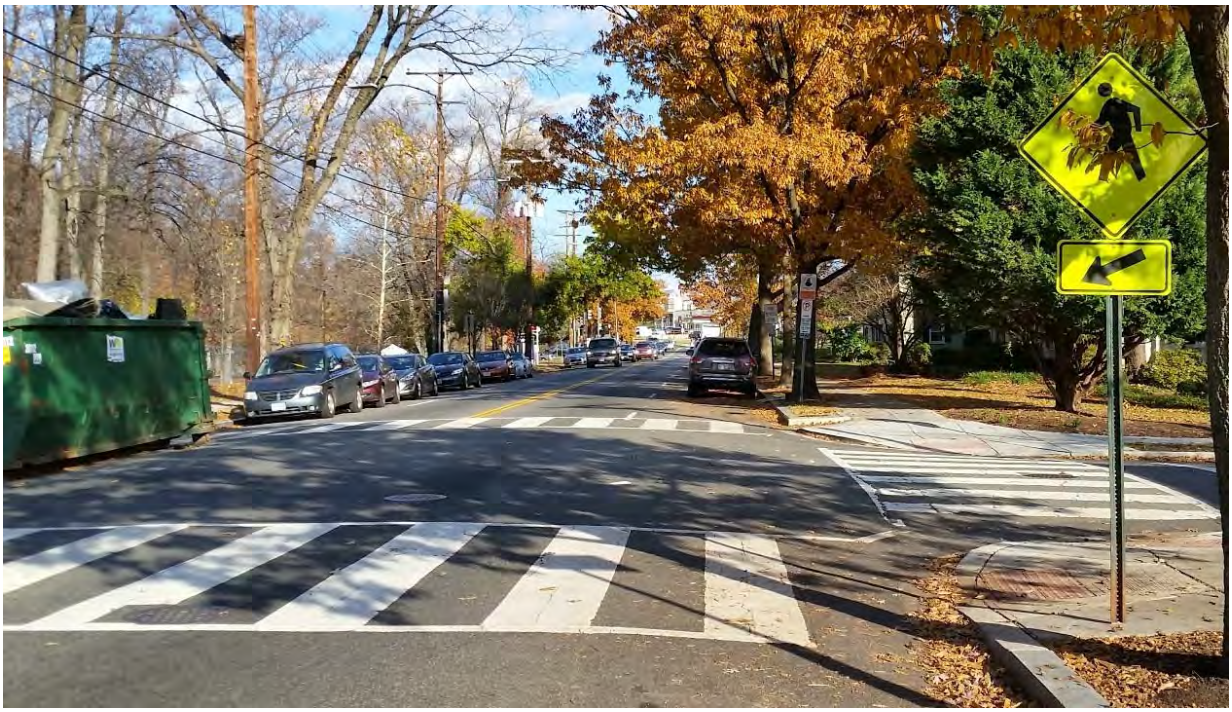
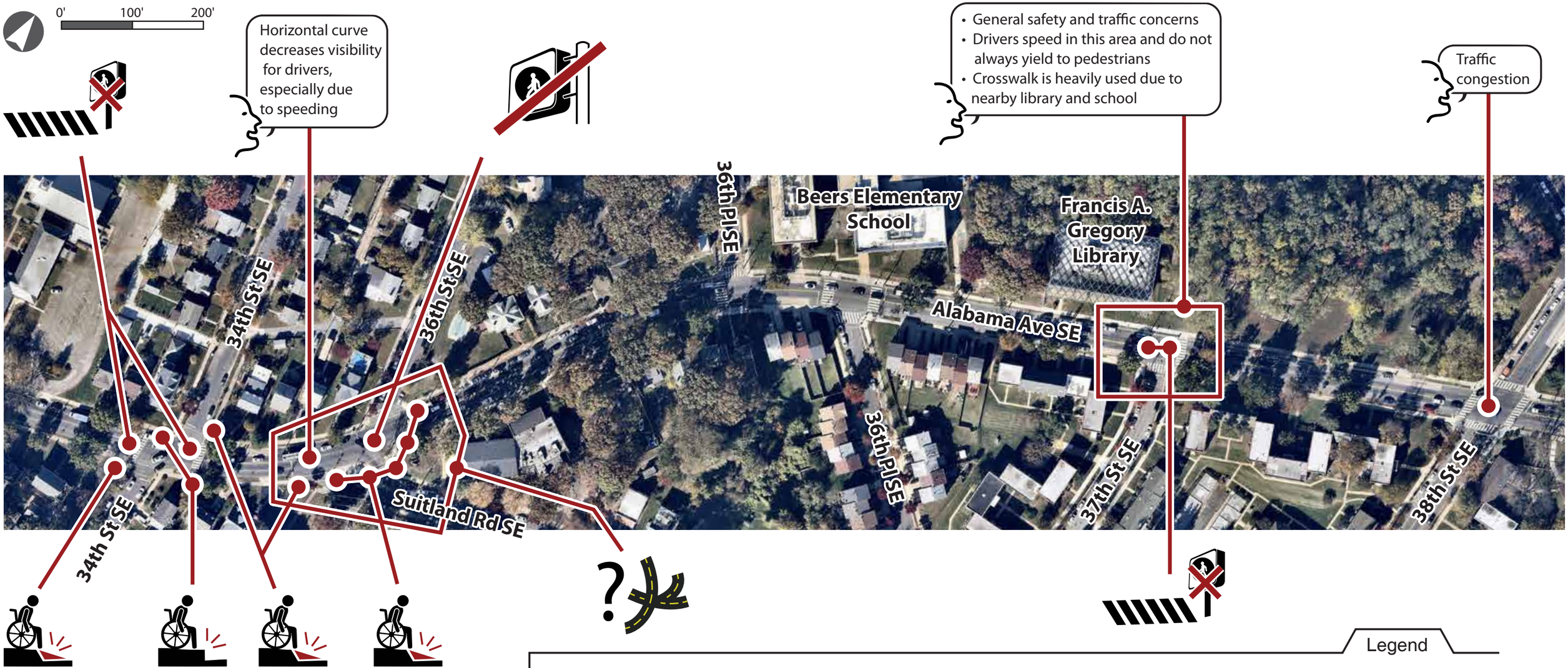


Figure 21 – Alabama Avenue SE at 37th Street, looking North

Adjacent land use is primarily residential, with more single-family homes that are set back from the street than Segment #1 and Segment #2. Bicycle activity in this segment was limited, with very few bicyclists observed during the peak hours. Pedestrian activity was mainly centered around 36th Place and the school and library located near that intersection.

Existing Conditions are shown in **Figure 22**.

Figure 22
Segment #3 – Sheet 1 of 1:
34th St SE to 38th St SE



3.7.4. Pennsylvania Avenue to Ridge Road

North of Pennsylvania Avenue, the character of Alabama Avenue changes significantly. Alabama Avenue is reduced from a four-lane to a two-lane roadway with a bicycle lane in each direction, as shown in **Figure 23**. The posted speed limit along this segment increases to 30 mph, compared to the 25 mph posted for the rest of the corridor.

There are several all-way stop-controlled intersections, and an example of one of these intersections is shown in **Figure 23**. The west side of the roadway is primarily open space and is adjacent to Fort Davis Park and Fort Circle Park, and the east side of the roadway is lined with low-density residences that are set back from the street. At Bowen Road, Alabama Avenue veers off to the north and becomes a two-lane roadway with no bicycle lanes until the end of the study corridor at Ridge Road. There is limited Metrobus service in this segment.

Figure 23 – Alabama Avenue SE at 41st Street, looking South

Existing conditions are shown in **Figure 24**, **Figure 25**, and **Figure 26**.

Figure 24
Segment #4 – Sheet 1 of 3:
38th St SE to Q St SE

0' 100' 200'

- 6 pedestrian crashes in 3 years
- 4 rear-end crashes in 3 years, suggests speeding & driver inattention
- 3 right-angle crashes in 3 years, suggests red-light running
- 42% of crashes occurred during hours of darkness

High speeds and lack of compliance at all-way stop-controlled intersection

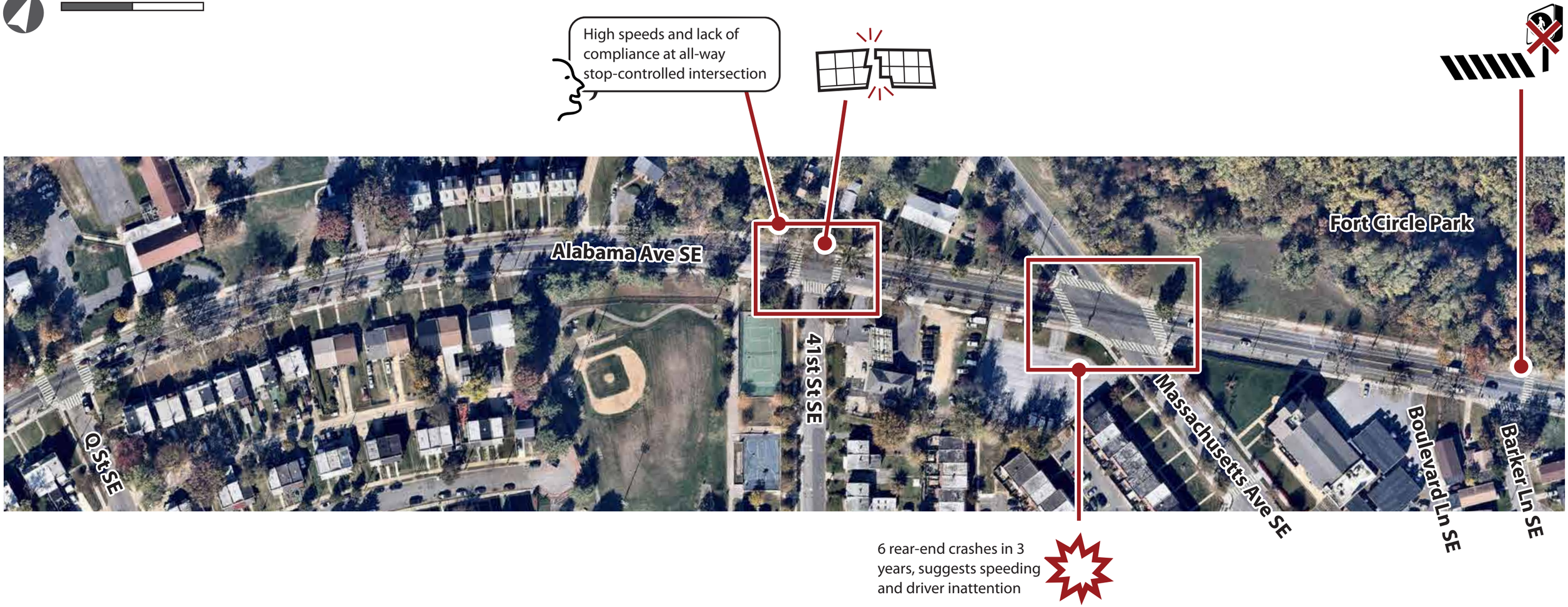
High speeds and lack of compliance at all-way stop-controlled intersection

Legend

- Crash Trend
- Other Condition
- Missing Pedestrian Signal
- Uncontrolled Crosswalk
- Missing Crosswalk
- Utility Cut Through Sidewalk
- Missing Pedestrian Ramp
- Deficient Pedestrian Ramp
- Deficient / Missing Sidewalk
- Challenging Intersection/ Roadway Geometry
- What We Heard (comments received from members of the community)

Figure 25
Segment #4 – Sheet 2 of 3:
Q St SE to Barker Ln SE

0' 100' 200'

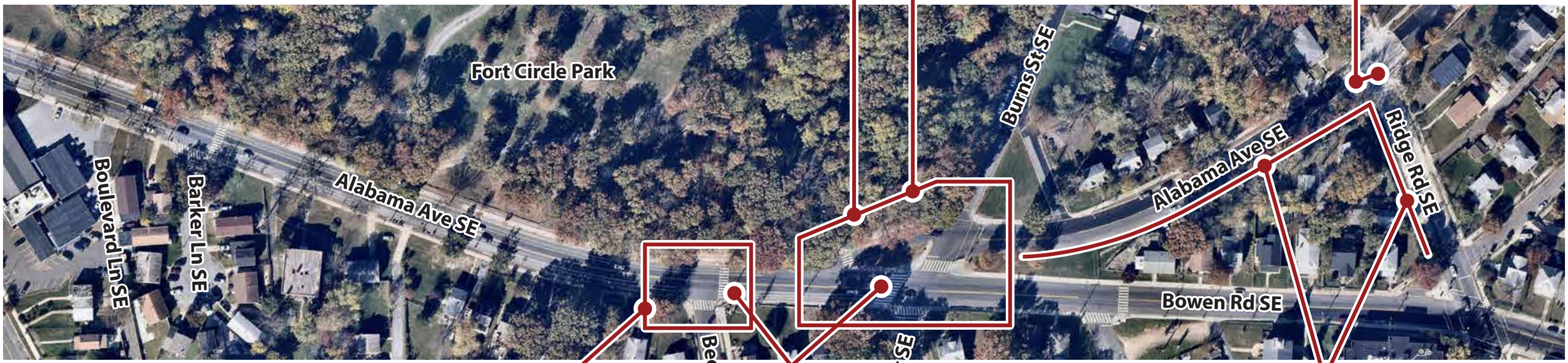


Legend

- Crash Trend
- Other Condition
- Missing Pedestrian Signal
- Uncontrolled Crosswalk
- Missing Crosswalk
- Utility Cut Through Sidewalk
- Missing Pedestrian Ramp
- Deficient Pedestrian Ramp
- Deficient / Missing Sidewalk
- Challenging Intersection/ Roadway Geometry
- What We Heard (comments received from members of the community)

Figure 26
Segment #4 – Sheet 3 of 3:
Boulevard Ln SE to Ridge Rd SE

0' 100' 200'



Legend

- Crash Trend
- Other Condition
- Missing Pedestrian Signal
- Uncontrolled Crosswalk
- Missing Crosswalk
- Utility Cut Through Sidewalk
- Missing Pedestrian Ramp
- Deficient Pedestrian Ramp
- Deficient / Missing Sidewalk
- Challenging Intersection/ Roadway Geometry
- What We Heard (comments received from members of the community)

4.0 ROADWAY TREATMENT ELEMENTS

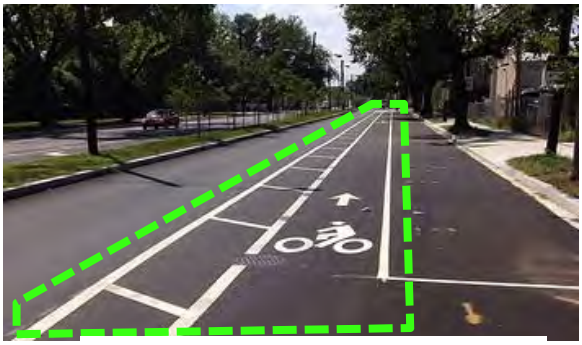
The project recommendations aim to address transportation safety issues raised by the community and confirmed by the existing conditions analysis. The recommendations were also shaped by moveDC (the District's multi-modal long-range transportation plan) which identifies Alabama Avenue as both a Transit Investment Corridor and a candidate for on-street bicycle lanes.

Community members raised concerns about vehicular speeding and aggressive driving, which create uncomfortable conditions for pedestrians and cyclists. Vehicular speed effects the severity of crash outcomes, thus a primary strategy for Alabama Avenue is to use engineering safety interventions that calm traffic, reduce speeding, and increase pedestrian and cyclist visibility. These recommendations also aim to account for special conditions along the corridor, such as irregular parking usage, congested intersections, and areas with confusing geometry.

The recommendations draw from the traffic calming and safety "Toolbox" in **Table 10** which includes roadway treatments that are applicable to the Alabama Avenue corridor. **Table 10** describes each treatment and explains the benefits of each treatment. Where available, a Crash Reduction Factor (CRF) associated with the potential treatment is given. The CRFs, obtained from the Crash Modification Factors Clearinghouse, estimate the percent reduction in crashes if the treatment were installed.

Table 10 | Toolbox of Roadway Treatments

Raised Medians		
Raised medians are curbed sections that separate lanes of traffic within the street.  *Nannie Helen Burroughs Avenue near 48th Street NE*	• Facilitate pedestrian crossings • Improve pedestrian visibility to motorists • Reduce vehicular conflicts • Slow vehicle speeds • Provide space for lighting and landscaping.	CRF: 46% for Pedestrian Crashes[i]
Curb Extensions		
Curb extensions extend a portion of the sidewalk into the parking lane at an intersection or midblock crossing.  *Nannie Helen Burroughs Avenue at 49th Street NE*	• Reduce pedestrian crossing distance and exposure to traffic • Improve driver and pedestrian visibility • Separate parking maneuvers from vehicles turning at the intersections • Narrow the street bed, resulting in a calming effect • Encourage pedestrian crossing at preferred locations • Keep vehicles from parking too close to intersections /blocking crosswalks • Provide wider waiting areas at crosswalks • Reduce the effective curb return radius and slow turning traffic	

Buffered Bicycle Lanes		
Buffered bicycle lanes are bicycle lanes with channelized area separating the bicycle lane from the travel lane  *Nannie Helens Burroughs Avenue NE*	• Provide greater distance between cyclists and vehicles • Provide opportunity to narrow the travel lane for motor vehicles and calm traffic • Provide a space for cyclists to pass one another	
Pedestrian Refuge Islands		
A Pedestrian Refuge Island is a raised island in the roadbed, where pedestrians can pause when crossing the street. A Pedestrian refuge island allows pedestrians to cross one direction of traffic at a time and provides protection from vehicles.  *Sheriff Road NE*	• Provide pedestrian protection from motor vehicles • Calm vehicular traffic • Reduce pedestrian wait time • Simplify pedestrian crossings by allowing pedestrians one direction of traffic at a time	CRF: 46% for Pedestrian Crashes[ii]

<table>
<tr><th colspan="3">Geometric Realignment</th></tr>
<tr><td>Geometric realignment means redesigning skewed or complex intersections to have a simpler, more conventional configuration.</td><td>Slows turning traffic
Improves sight distance
Simplifies traffic signal phasing
Reduces complexity and driver confusion
Shortens pedestrian crossings</td><td></td></tr>
<tr><th colspan="3">High-Intensity Activated crosswalks</th></tr>
<tr><td>A HAWK (High-Intensity Activated crossWalK) signal, also known as a Pedestrian Hybrid Beacons, is a signal beacon designed to help pedestrians safely cross busy streets. When activated, a HAWK signal stops traffic with a red signal and allows pedestrians to cross with a ‘walk’ signal. Depending on the signal design, a HAWK signal can be activated by a pedestrian push-button or by automatic detection of pedestrians.</td><td rowspan="2">Provide Signal Protection for Pedestrians crossing the street
Balance the needs of pedestrians with drivers, by keeping vehicular signal delay to a minimum
Dramatically increase the likelihood that drivers stop for Pedestrians wishing to cross the street.</td><td rowspan="2">CRF: 69% for Pedestrian Crashes[iii]</td></tr>
<tr><td> 

Connecticut Avenue at Northampton Street, NW</td></tr>
</table>

<table>
<tr><th colspan="3">Rapid Flashing Beacons</th></tr>
<tr><td>The Rapid Flashing Beacon (RFB) combines flashing beacons and pedestrian warning signs. When activated by pedestrians, it provides a high-visibility strobe-like warning to drivers.</td><td rowspan="2">Draw attention to pedestrians crossing at uncontrolled crosswalks
Increase driver compliance in yielding to pedestrians</td><td rowspan="2"></td></tr>
<tr><td> 
Alabama Avenue at 15th Place SE</td></tr>
<tr><th colspan="3">Leading Pedestrian Intervals</th></tr>
<tr><td>A Leading Pedestrian Interval (LPI) is a signal timing adjustment that gives pedestrians a head start when crossing the street. The ‘walk’ signal for pedestrians appears at least three seconds before the green signal for drivers. Because pedestrians start to cross before cars begin moving, they are already well into the crosswalk when signal changes to green. As a best practice, intersections with LPIs do not allow vehicles to turn right on red.</td><td>Reduce pedestrian/ vehicular conflict by increasing the visibility of pedestrians
Give pedestrians priority by giving them a head start</td><td>CRF: 37% for Pedestrian and Bike Crashes[iv]</td></tr>
</table>

[i]Zegeer, C. V., Stewart, R., Huang, H., and Lagerwey, P., "Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations: Executive Summary and Recommended Guidelines." FHWA-RD-01-075, McLean, Va., Federal Highway Administration, (2002).

[ii]Zegeer, C. V., Stewart, R., Huang, H., and Lagerwey, P., "Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations: Executive Summary and Recommended Guidelines." FHWA-RD-01-075, McLean, Va., Federal Highway Administration, (2002)

[iii]Fitzpatrick, K. and Park, E.S. Safety Effectiveness of the HAWK Pedestrian Crossing Treatment, FHWA-HRT-10-042, Federal Highway Administration, Washington, DC. (2010). Also published in: Fitzpatrick, K., E.S.Park, and S. Turner. "Effectiveness of the HAWK Pedestrian Crossing Treatment". ITE Journal, Vol. 82, No. 4, Washington, D.C., (2012)

[iv]Fayish, A.C. and F. Gross, "Safety Effectiveness of Leading Pedestrian Intervals Using the Empirical Bayes Method." TRB 88th Annual Meeting Compendium of Papers CD-ROM. Washington, D.C., (2009).

5.0 CORRIDOR-LEVEL TREATMENTS

The first three treatments in the Toolbox in **Table 10**, raised medians, buffered bicycle lanes and curb extensions, were used to develop recommended cross-sections for the corridor. All three recommended Cross-Sections convert Alabama Avenue to a two-lane roadway. Even though Alabama Avenue is marked with four travel lanes, it currently operates as a two-lane roadway in most segments due to on-street parking or vehicles waiting to turn at signalized intersections. By designing the roadway with a two-lane cross section, traffic calming elements can be used to reduce driver speeds and increase safety at pedestrian crossings.

Each of the recommended Cross-sections has been selected as the preferred treatment for at least one segment of the corridor, and transitions over one or two blocks would be provided between adjacent segments with different Cross-sections. At some locations where traffic volumes are highest, retaining the four existing travel lanes is recommended in lieu of any of the three recommended Cross-sections.

Cross-sections were selected for segments on Alabama Avenue based on agency guidance, data analysis, and input from community members. **Figure 27** presents an overview of the corridor, showing where each Cross-section is recommended and **Table 11** provides a summary of the Cross-sections.

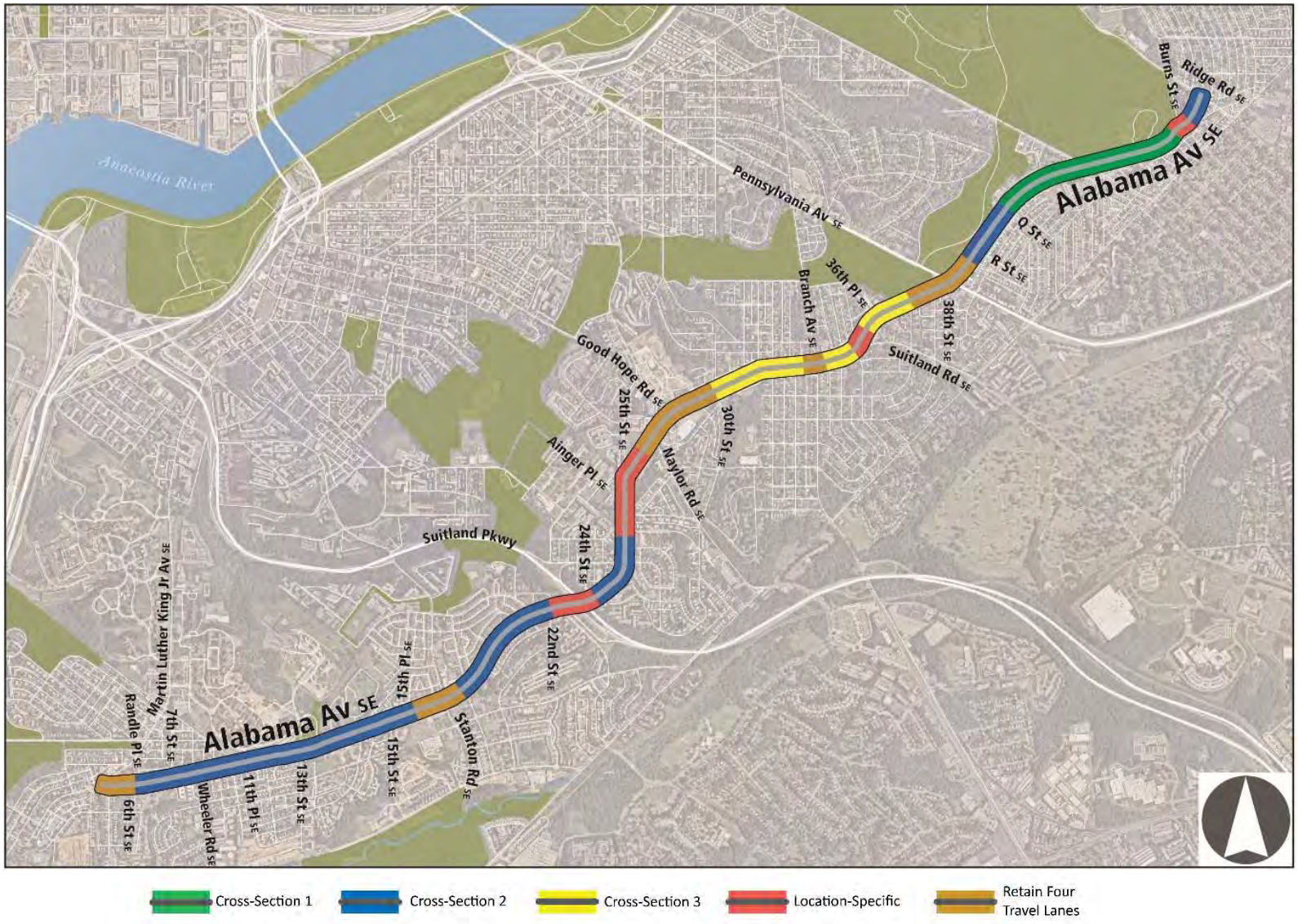


Figure 27 – Recommendations for Alabama Avenue

5.1. Cross-sections

All three Cross-sections address safety concerns by calming traffic. However, they differ in their provisions for bicycle lanes and/or on-street parking as well the selection of safety features such as curb extensions and medians. All Cross-sections maintain the existing curb-to-curb width, which generally ranges from 40 feet to 44 feet, except at some intersections where the roadway widens to provide additional turn lanes.

The physical characteristics of the three Cross-sections are summarized below in **Table 11.**

Table 11 | Cross-Section Alternatives Comparison

Cross Section #	On-Street Parking	Marked Bicycle Lanes	Raised Median	Curb Extensions	Lane shifts at intersections?	Pedestrian crossings shortened?
One	None	Yes	Yes	No	At bus stops and left-turn lanes	With median refuge island
Two	One side only	Yes	No	One side only	At bus stops and left-turn lanes	With curb extension on one side
Three	Both sides	No	No	Both sides	At left-turn lanes	With curb extensions on both side

5.1.1. Cross-section One

The first Cross-section has buffered bicycle lanes and a median for pedestrian refuge. Between intersections, Cross-section One would have the geometry shown below in **Figure 28** for both the 40-foot and 44-foot roadway widths. Bicycle lanes would be adjacent to the curb, with a buffer to separate bicyclists from vehicular traffic. A median would provide pedestrian refuge at intersections. Eleven-foot travel lanes are proposed to minimize lane widths to promote traffic calming while also considering the needs of WMATA buses. Where Cross-section One is implemented, all on-street parking would be eliminated.

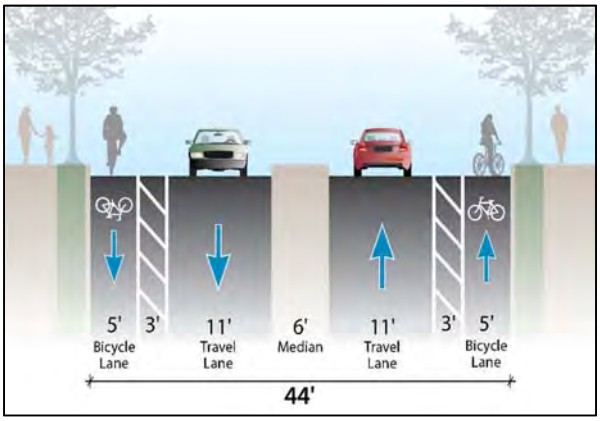


Figure 28 – Cross-section One

This Cross-section is also illustrated in **Figure 29** to demonstrate how it would look at intersections. At bus stops, the Cross-section would transition to eliminate the median and bicycle lanes to allow for space for the bus to pull over into the stop. Bicyclists and buses would share space through bus stops.

This Cross-section does not provide for curb extensions at intersections, as the curbside lanes are bicycle lanes.

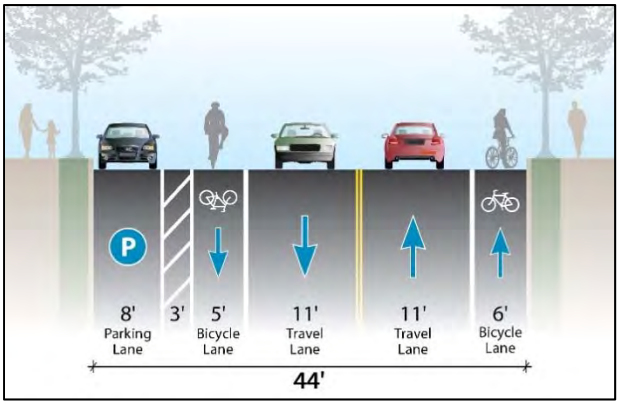
Figure 29 – Cross-section One Typical Intersection Rendering

5.1.2. Cross-section Two

Cross-section Two also provides on-street bicycle lanes, but maintains on-street parking on one side of the street to minimize the loss of parking. Between intersections, Alabama Avenue would have the geometry shown below in **Figure 30**. The side of the street with the parking lane can vary throughout the corridor based on surrounding land use and evaluation of existing parking behavior. Bicycle lanes are adjacent to the curb in one direction and adjacent to a buffered parking lane in the other direction.

Figure 30 – Cross-section Two

This Cross-section is also illustrated in **Figure 31** to demonstrate how it would look at intersections. At



intersections, the parking lane would convert to curb extensions for pedestrians to increase visibility and decrease the crossing distance. As in Cross-section One, bicyclists and buses would share space through bus stops.

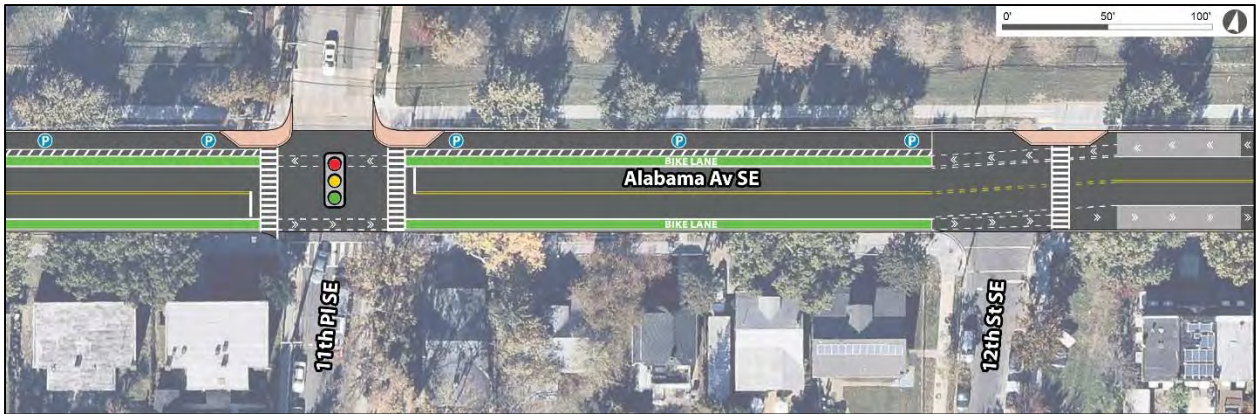


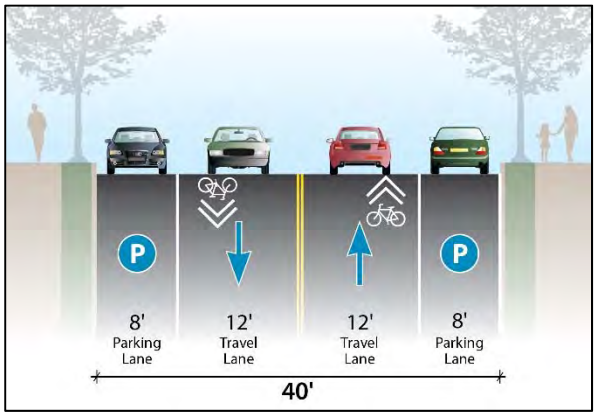
Figure 31 – Cross-section Two Typical Intersection Rendering

5.1.3. Cross-section Three

Cross-section Three provides on-street parking on both sides of the street, with curb extensions to increase pedestrian safety and calm traffic. The travel lane would be marked as a shared-use facility for bicyclists. Between intersections, Alabama Avenue would have the geometry shown below in **Figure 32**.

Figure 32 – Cross-section Three

This Cross-section is also illustrated to demonstrate how it would look at intersections. At intersections,



the parking lanes would convert to curb extensions to increase visibility and decrease the crossing distance for pedestrians.

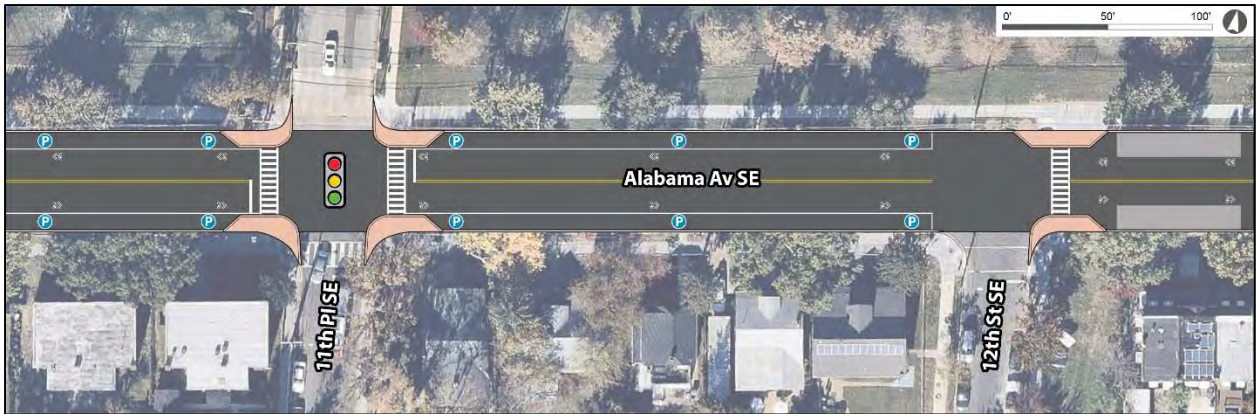


Figure 33 – Cross-section Three Typical Intersection Rendering

5.1.4. Retain Four Travel Lanes

Traffic analysis was performed to determine where Cross-sections One, Two and Three are feasible, to identify locations where four-lane sections and left-turn lanes would be required, and where LPIs could be accommodated without creating significant traffic impacts.

Traffic analyses were performed using Synchro for the 2026 design year and is included as Appendix D.

Four-lane roadways are needed at the following high-volume intersections:

- Stanton Road (15th Place to 18th Street SE)
- Naylor Road/Good Hope Road (25th Street to 30th Street SE)
- Branch Avenue (32nd Place to 34th Street SE)
- 38th Street/Pennsylvania Avenue

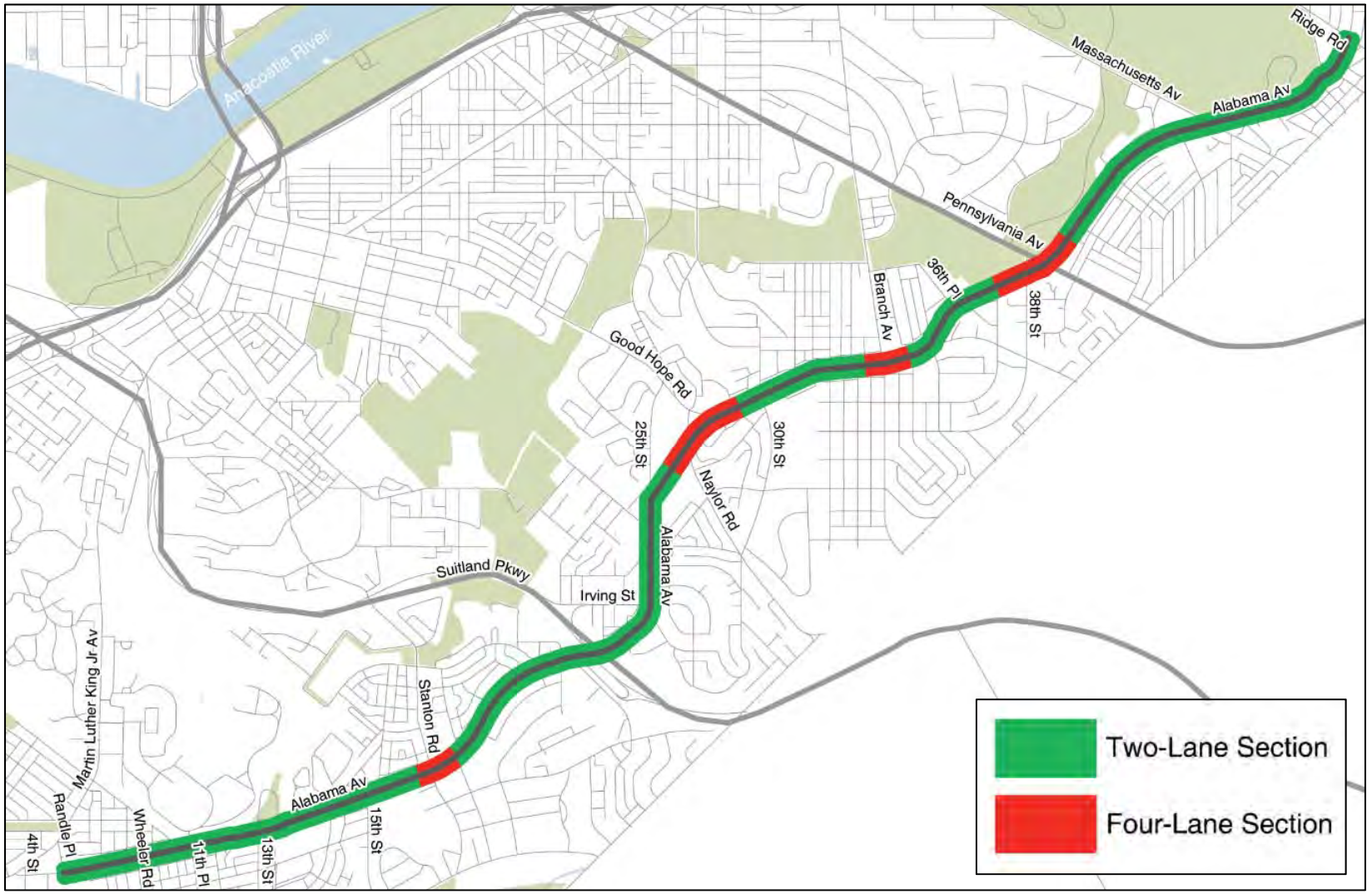


Figure 34 – Two Lane and Four Lane Sections

5.2. Recommended Cross-Section Locations

Cross-sections were selected for each segment on Alabama Avenue based on agency guidance, data analysis and input from community members. While all the Cross-sections would improve safety by calming traffic, reducing conflicts, increasing visibility, and/or adding facilities for pedestrians and cyclists, each section of the corridor has different characteristics. Therefore, different Cross-sections are recommended for each section of the corridor. An overview of where each Cross-section is recommended is shown in **Figure 27**, summarized **Table 12** and discussed in detail below.

Table 12 | Summary of Corridor-Level Recommendations

Segment	Length	Key Landmarks	Recommendation	Notes
Randle Place to 7th Street	0.1 miles	Rehoboth Baptist Church	4-lane cross-section for transition	Transition from 4 lanes, curb extensions on east curb only (no change to parking)
7th Street SE to 15th Place SE	0.7 miles	Malcolm X Elementary School, Congress Heights Metrorail station	Cross-section 2	Bike lanes; parking retained on east curb – same side as Malcolm X Elementary School (72 of 197 parking spots removed)
15th Place SE to 18th Street SE	0.3 miles	Stanton Road, Giant shopping center	Retain 4-lane cross section due to high traffic volumes. Traffic signal improvements recommended. (no change to parking)	
18th Street SE to 25th Street SE	0.9 miles	Suitland Parkway interchange, Garfield Elementary School, MPD Seventh District	Cross-section 2	Bike lanes; refuge islands; parking retained on east curb – same side as Garfield Elementary and MPD (104 of 217 parking spots removed)
25th Street SE to 30th Street SE	0.4 miles	Naylor Road, Good Hope Road, Safeway shopping center	Retain 4-lane cross section due to high traffic volumes. Traffic signal improvements recommended. (no changes to parking)	
30th Street SE to 33rd Street SE	0.2 miles	Residential	Cross-section 3	Parking retained on both sides of street; curb extensions; refuge islands; bicycles share travel lane with vehicles (8 of 83 parking spots removed)
32nd Place SE to 34th Street SE	0.2 miles	Branch Avenue	Retain 4-lane cross section due to high traffic volumes. Traffic signal improvements recommended. (no changes to parking)	
34th Street SE to 38th Street SE	0.4 miles	Beers Elementary School, Francis Gregory Library	Cross-section 3	Parking retained on both sides of street; curb extensions; refuge islands; bicycles share travel lane with vehicles (8 of 48 parking spots removed)
38th Street SE to R Street SE	0.2 miles	Gas station, Fort Davis shopping center, Pennsylvania Ave	Retain 4-lane cross section due to high traffic volumes. Traffic signal improvements recommended. (no changes to parking)	
R Street SE to Q Street SE	0.2 miles	Adjacent to Fort Circle Park	Cross-section 2	Bike lanes; parking retained on east curb – same side as residential use (27 of 51 parking spots removed)
Q Street SE to Burns Street SE	0.6 miles	Adjacent to Fort Circle Park	Cross-section 1	Bike lanes; no curb parking on either side of street (200 parking spots removed)
Burns Street SE to Ridge Road SE	500 feet	Residential	Cross-section 2	Bike lanes; parking retained on west curb – same side as homes without driveways (4 of 20 parking spots removed)

Key Elements of Cross-sections

Cross-section 1	Provides buffered bike lanes and median for pedestrian refuge. Bike lanes adjacent to curb, with buffer to separate bicyclists from vehicle traffic. Median provides pedestrian refuge at intersections and facilitates 11-foot travel lanes to promote traffic calming and allow WMATA buses to travel corridor.
Cross-section 2	Provides on-street bicycle facility, but retains parking on one side of street. Bike lanes adjacent to curb in one direction and adjacent to buffered parking lane in other direction.
Cross-section 3	Provides on-street parking on both sides of street, with curb extensions to increase pedestrian safety and add another traffic calming element to corridor. This Cross-section does not provide bike lanes, but the travel lane will be a shared-use facility between vehicles and bicycles
Retain 4-Lane Cross Section	Retains 4-lane cross section due to high traffic volumes. Spot improvements recommended, such as traffic signals changes and pedestrian crosswalk enhancements.

5.3. Recommended Cross-Section Discussion

5.3.1. 7th Street SE to 18th Street SE

The MLK Avenue Corridor Study includes the intersection of Randle Place at Alabama Avenue, therefore, recommendations for the present study begin between 7th Street SE and Randle Place. This section is approximately 0.9 miles in length, and includes Malcolm X Elementary School, the Congress Heights Metrorail station, and the Shops at Park Village. The recommendation for Alabama Avenue from 7th Street to 15th Place SE is **Cross-section Two**, a combination of on-street parking with curb extensions and dedicated bicycle lanes. These recommendations are illustrated in **Figure 35**, **Figure 36**, and **Figure 37**. Parking would be located on the east curb – the same side of the street as Malcolm X Elementary School, with corresponding curb extensions. Parking would be removed from the west curb, as parking is already prohibited on the west curb for most of this segment, although illegal parking does occur near the Metrorail station.

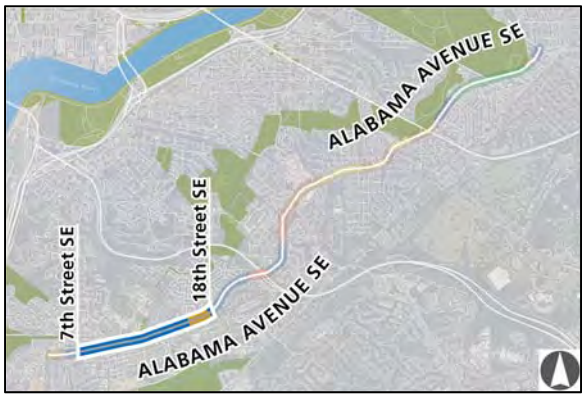
Bicycle facilities on this portion of the corridor would connect with the proposed bicycle facilities on MLK Avenue and provide bicycle access to the Congress Heights Metro station. Parking surveys show that community parking needs would be accommodated with the remaining parking on one side of the street. Illegal parking observed near the Metrorail station may require additional signing and enforcement.

The treatment would transition north of 15th Place, with the last curb extension at 15th Street.

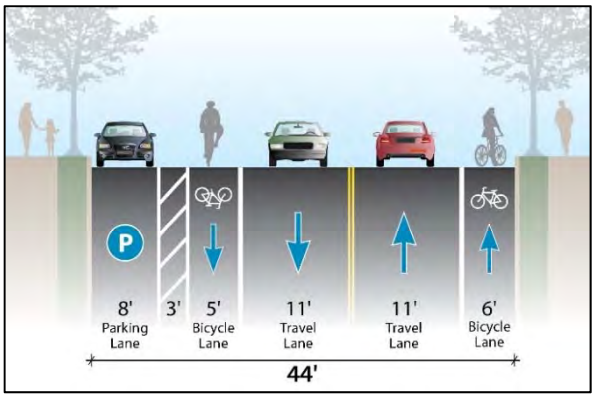
Within this segment, Stanton Road, located north of 15th Place, carries heavy traffic between Suitland Parkway and Alabama Avenue and leads to key roadways just over the Maryland border. Alabama Avenue also carries heavy traffic in this area to and from Suitland Parkway and the medium-density housing and commercial centers. Due to high traffic volumes, the Stanton Road intersection and its approaches require maintaining four travel lanes to avoid significant congestion and queuing.

While a reduction to a two-lane roadway is not possible at this intersection, other improvements can be made at this location to improve safety. This intersection currently has an LPI with right turns on red

permitted. Best practices for an LPI include prohibited right turns on red at intersections with an LPI; therefore, it is recommended that right turns on red be prohibited to further increase pedestrian safety. This improvement is discussed further in Chapter 7.3.



Key Map: 7th Street to 18th Street SE



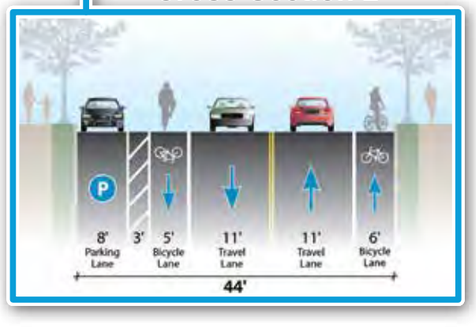
Cross-Section Two

Figure 35
Martin Luther King Jr Ave SE to 9th Pl SE

0' 100' 200'

Revitalization of MLK Jr. Avenue SE, Phase 2

Cross-Section 2



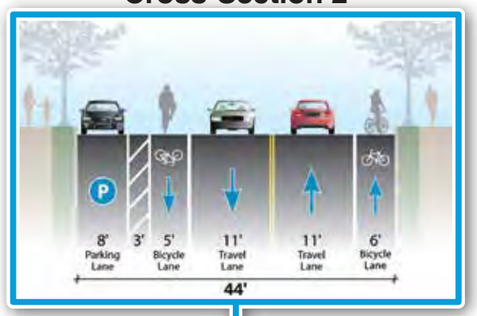
Legend

Curb Extension

Figure 36
9th Pl SE to Congress Heights Metro

0' 100' 200'

Cross-Section 2

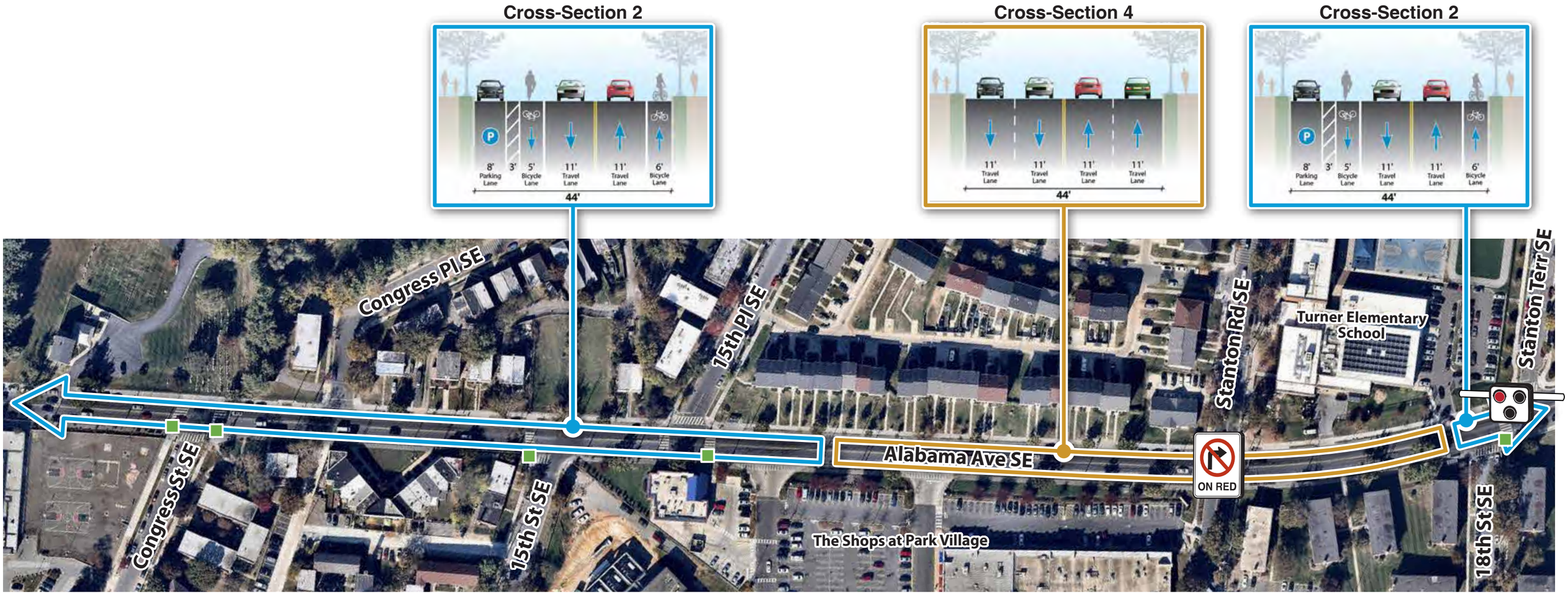


Legend

- Leading Pedestrian Interval
- Curb Extension

Figure 37
Congress St SE to Stanton Terr SE

0' 100' 200'



Legend

- Prohibit Right Turn On Red
- High Intensity Activated Crosswalk
- Curb Extension

5.3.2. 18th Street SE to 25th Street SE

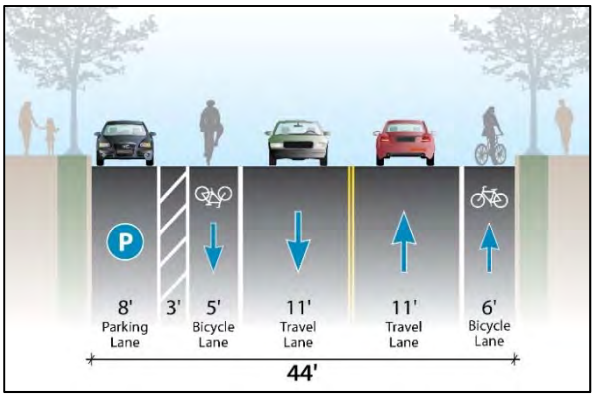
This section is approximately 0.9 mile in length, and includes the Suitland Parkway interchange, Garfield Elementary School, and the Metropolitan Police Department (MPD) Seventh District building. **Cross-section Two** is recommended from 18th Street to 25th Street SE. These recommendations are illustrated in **Figure 38** and **Figure 39**. Parking surveys indicate that community parking demand would be accommodated with one parking lane on the east curb – the same side of the street as Garfield Elementary School and the MPD building. Bicycle lanes would improve bicycle access to Suitland Parkway trail.

The design would also provide curb extensions to shorten pedestrian crossings and calm traffic. Near Garfield Elementary School at Irving Place, a pedestrian refuge island is recommended. Pedestrian refuge islands are also recommended at 24th Street and Webster Place as discussed in Chapter 7.1. Between Ainger Place and Knox Place, the southbound/west curb would be a bus stop and travel lane that would transition to a bike lane.

Turn lanes are recommended at three study intersections on this segment:

- A southbound right-turn lane is recommended at Bruce Place
- A southbound left-turn lane is recommended at Jasper Street
- A southbound left-turn lane and a northbound left-turn lane are recommended at Irving Street

Key Map: 18th Street to 25th Street SE

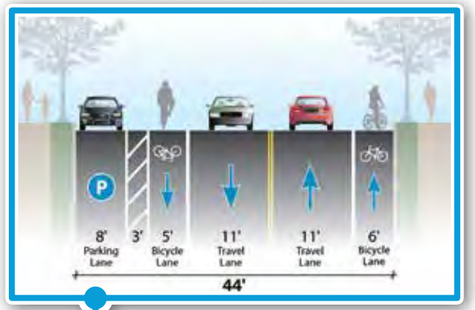


Cross-Section Two

Figure 38
Stanton Terr SE to 23rd St SE

0' 100' 200'

Cross-Section 2



Cross-Section 4

Location - Specific

Legend

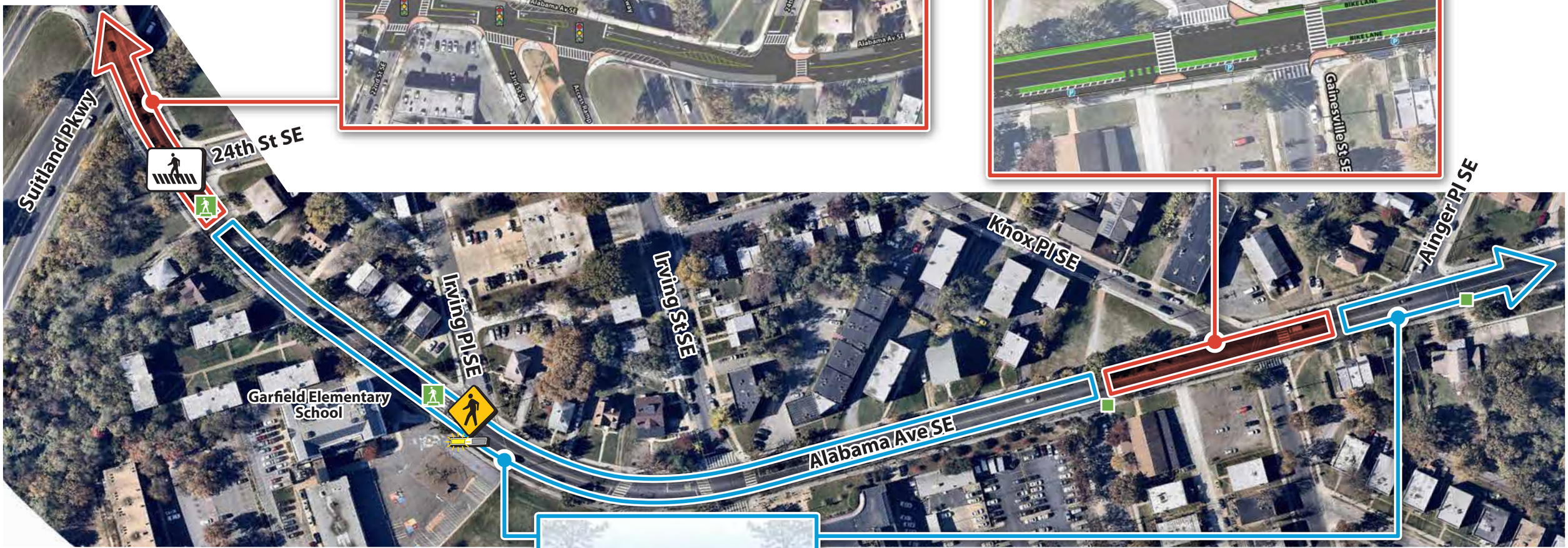
- New Crosswalk
- Curb Extension
- Potential Pedestrian Refuge Island

Figure 39
Suitland Pkwy to Ainger Pl SE

0' 100' 200'

Location - Specific

Location - Specific



Cross-Section 2

Legend

- New Crosswalk
- Rapid Flashing Beacon
- Curb Extension
- Potential Pedestrian Refuge Island

5.3.3. 25th Street SE to 30th Street SE

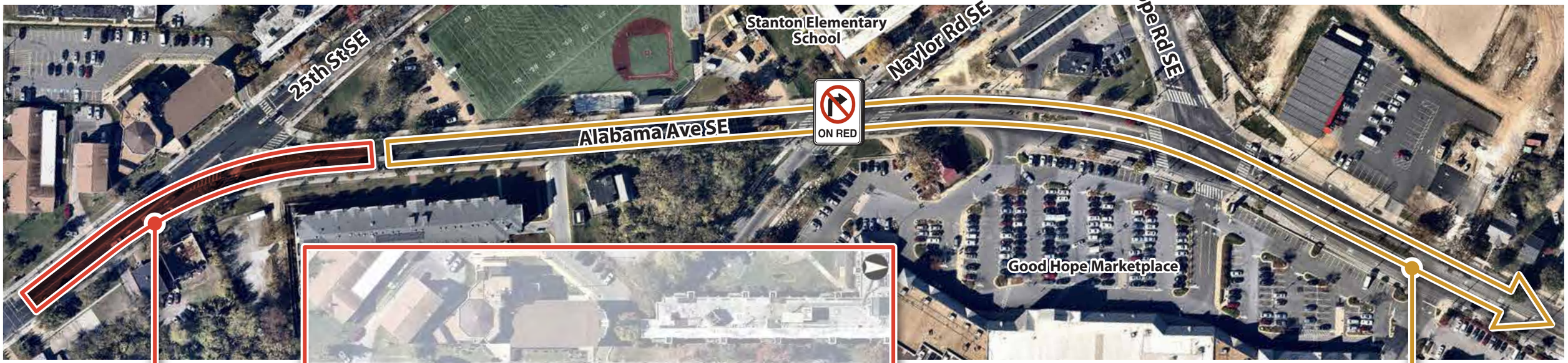
This short section is approximately 0.4 mile in length, and includes the Safeway-anchored shopping center. Naylor Road carries heavy traffic between Suitland Parkway and Alabama Avenue and leads to key roadways and the Naylor Road Metro station just over the Maryland border. Good Hope Road carries commuter traffic to and from central DC, as it runs parallel to Suitland Parkway to the south and Pennsylvania Avenue to the north. These intersections are also closely spaced (approximately 500 feet apart), which adds to the complexity at this location. Due to high traffic volumes, the Naylor Road and Good Hope Road intersections and their approaches would not be a good candidate for any of the three Cross-sections, and four travel lanes are needed. These recommendations are illustrated in **Figure 40**.

While a reduction to a two-lane roadway is not possible at these intersections, there are other improvements that can be made to improve safety. The Naylor Road intersection currently has an LPI with right turns on red permitted on some approaches. Best practices for an LPI include prohibited right turns on red at intersections with an LPI; therefore, it is recommended that right turns on red be prohibited on all approaches to further increase pedestrian safety. This improvement is discussed further in Chapter 7.3.

Key Map: 25th Street to 30th Street SE

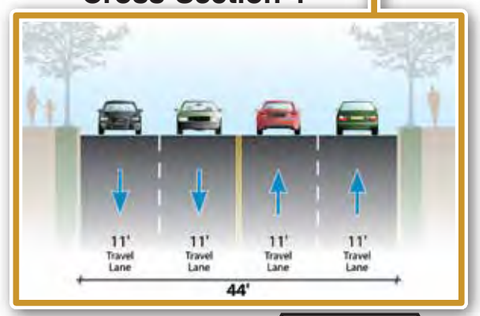
Figure 40
25th St SE to Good Hope Rd SE

0' 100' 200'



Location - Specific

Cross-Section 4



Legend

ON RED Prohibit Right Turn On Red

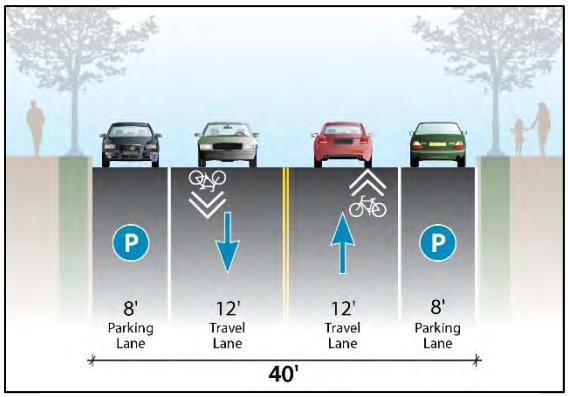
5.3.4. 30th Street SE to 38th Street SE

This section is approximately 0.8 mile in length, and includes Beers Elementary School, Francis Gregory Library, and the congested intersection with Branch Avenue.

Cross-section Three is recommended in the segment between 30th Street and 38th Street, which has a 40-foot roadbed. These recommendations are illustrated in **Figure 41** and **Figure 42**. This area would benefit from curb extensions on both sides of Alabama Avenue that will shorten pedestrian crossings and calm vehicular traffic. Cross-section Two is not viable in this segment because 40 feet is not wide enough width for curb extensions, marked bicycle lanes, and bus stops outside of the travel lanes. While the parking surveys showed limited demand between 30th Street and 32nd Place, the surveys showed more significant parking demand between 35th Street and 38th Street. This stretch is appropriate for a shared bicycle lane facility. Pedestrian refuge islands are recommended at 30th Street, 32nd Street and 37th Street to calm traffic and facilitate pedestrian crossings.

Within this section, Branch Avenue carries heavy traffic between Suitland Parkway, Alabama Avenue, and Pennsylvania Avenue to the north. It also connects to key roadways and the Naylor Road Metro station just over the Maryland border. Branch Avenue is the only major north-south connection in this area of the District and therefore is congested throughout the day, especially at the intersection with Alabama Avenue. As such, opportunities for traffic calming at this intersection are limited due to the severe congestion and vehicle queuing, and limited right-of-way at this intersection. Due to high traffic volumes, four travel lanes would be maintained at the Branch Avenue intersection, which would extend to near 32nd Place to the south and near 35th Street to the north.

Key Map: 30th Street to 38th Street SE

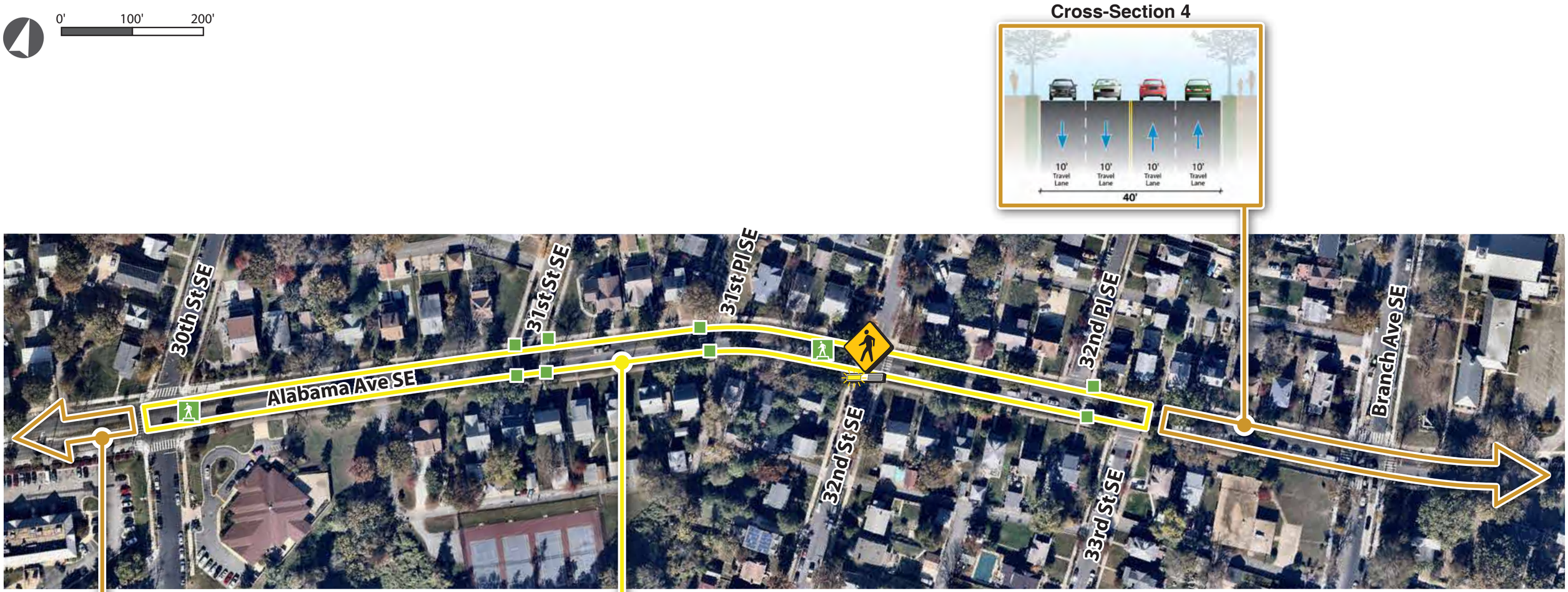


Cross-Section Three

While a reduction to a two-lane roadway is not possible near Branch Avenue, signal timing and phasing adjustments can slightly improve operations at this intersection. By converting the Alabama Avenue approaches from split phasing (where each Alabama Avenue approach gets green on separate signal phases) to permitted phasing (where both approaches would share the same signal phase), Alabama Avenue traffic would receive more green time per signal cycle and vehicle queuing would be reduced. This would also reduce driver frustration, which has safety benefits.

Figure 41
30th St SE to Branch Av SE

0' 100' 200'



Cross-Section 4

Cross-Section 4

Cross-Section 3

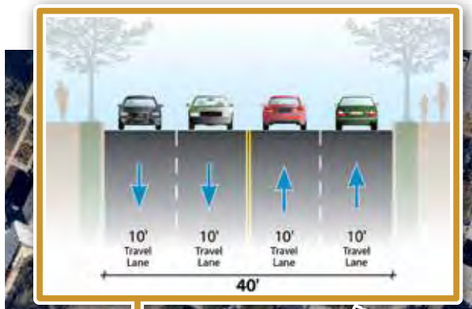
Legend

- Rapid Flashing Beacon
- Curb Extension
- Potential Pedestrian Refuge Island

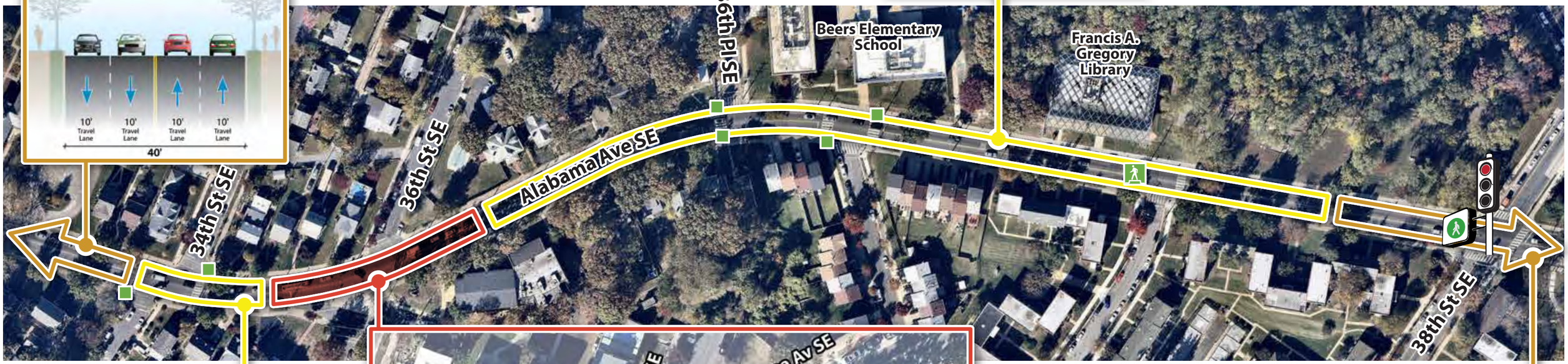
Figure 42
34th St SE to 38th St SE

0' 100' 200'

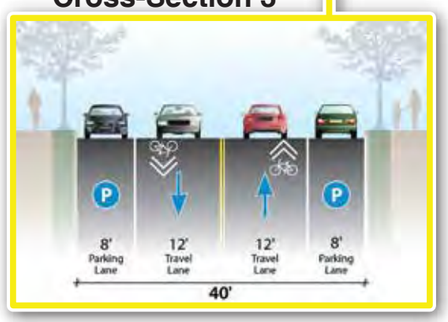
Cross-Section 4



Cross-Section 3



Cross-Section 3



Location - Specific

Cross-Section 4

Legend

- Leading Pedestrian Interval
- Curb Extension
- Potential Pedestrian Refuge Island

5.3.5. 38th Street SE to Pennsylvania Avenue SE

This one-block section provides a brief transition from residential land use and associated community facilities to the busy intersection with Pennsylvania Avenue and commercial land uses along Alabama Avenue. Pennsylvania Avenue carries significant commuter traffic to and from central DC and connects to key roadways over the Maryland border. The intersections of Pennsylvania Avenue and 38th Street with Alabama Avenue are also closely spaced (approximately 300 feet apart), which adds to the complexity at this location. Due to high traffic volumes, the 38th Street and Pennsylvania Avenue intersections and their approaches cannot accommodate any of the three Cross-sections as they require maintaining four travel lanes. These recommendations are illustrated in **Figure 43**.

While a reduction to a two-lane roadway is not possible at these intersections, there are other incremental improvements that can be made to improve safety. The 38th Street intersection currently

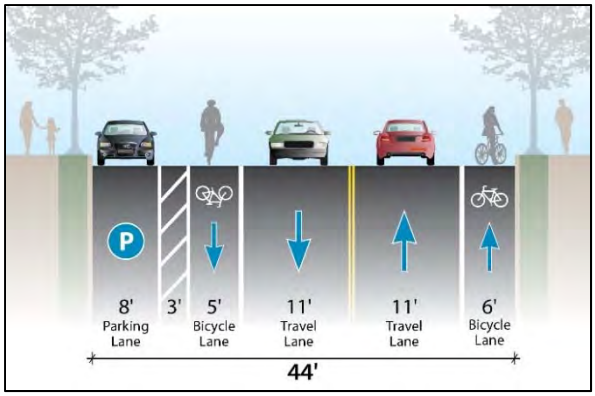
Key Map: 38th St to Pennsylvania Ave SE

has high pedestrian activity due to the bus stops and shopping area at this intersection, and this pedestrian traffic conflicts with turning traffic from 38th Street to Alabama Avenue. An LPI at this intersection is feasible and would benefit pedestrian safety without degrading vehicle operations to an unacceptable level. This improvement is discussed further in Chapter 7.3.

5.3.6. Pennsylvania Avenue SE to Q Street SE

This section is approximately 0.3 mile in length, and includes a gas station and the busy Fort Davis neighborhood shopping center. The recommended cross-section from Q Street to Pennsylvania Avenue is **Cross-section Two**, with parking permitted on the east curb. These recommendations are illustrated in **Figure 43**. Surveys indicate significant community demand for parking near Q Street, and the existing bicycle facilities should be improved to provide sufficient space for cyclists. This treatment would transition between bicycle facilities and shared travel lanes at the approach to Pennsylvania Avenue.

Key Map: Pennsylvania Ave to Q St SE



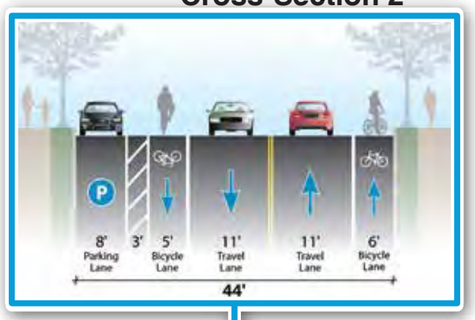
Cross-Section Two

Alabama Avenue SE Corridor Safety Study

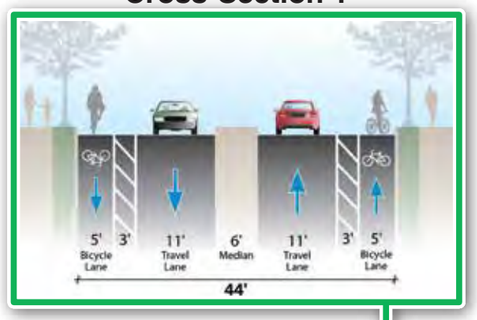
0' 100' 200'

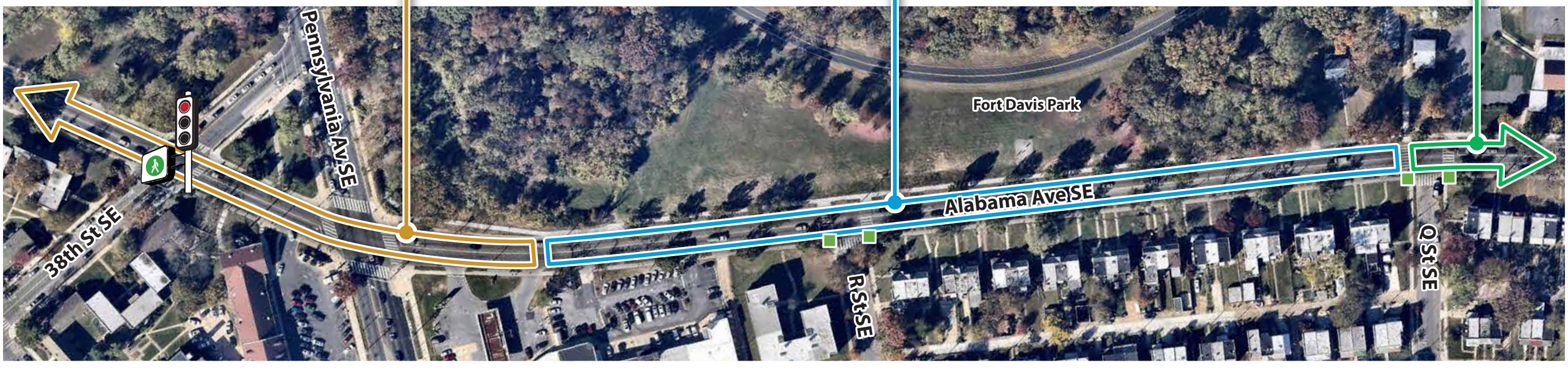
Cross-Section 4

Cross-Section 2



Cross-Section 1





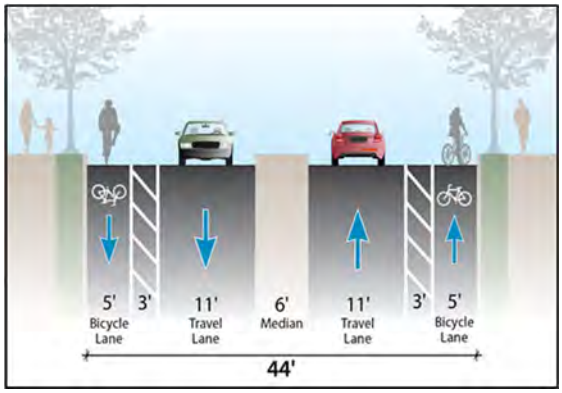
Legend

- Leading Pedestrian Interval
- Potential Pedestrian Refuge Island

5.3.7. Q Street SE to Burns Street SE

This section (which includes the intersection with Massachusetts Avenue) is approximately 0.6 mile in length, is residential, and is adjacent to Fort Circle Park. **Cross-section One** is recommended from Q Street to Burns Street to improve the existing bicycle facilities and calm traffic. These recommendations are illustrated in **Figure 44** and **Figure 45**. Parking surveys indicate extremely limited demand for parking in this area. Where there is little or no demand for parking, it is better to remove parking and allocate roadway space for an active use so that parking lanes are not mistaken for travel lanes or used for passing. Underutilized parking lanes can also make a roadway feel wider and thus contribute to higher travel speeds.

Key Map: Q Street to Burns Street SE



Cross-Section One

Figure 44
Q St SE to Barker Ln SE

0' 100' 200'

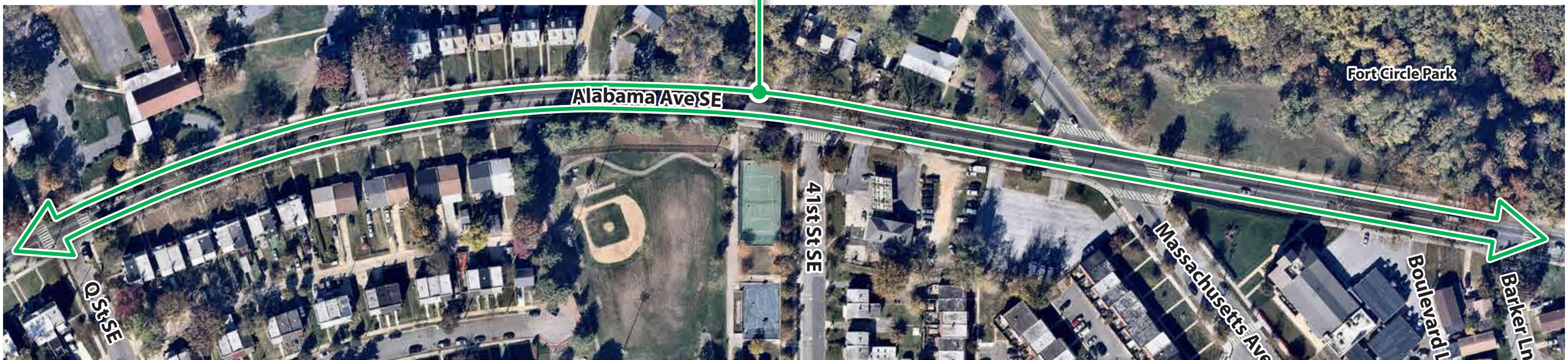
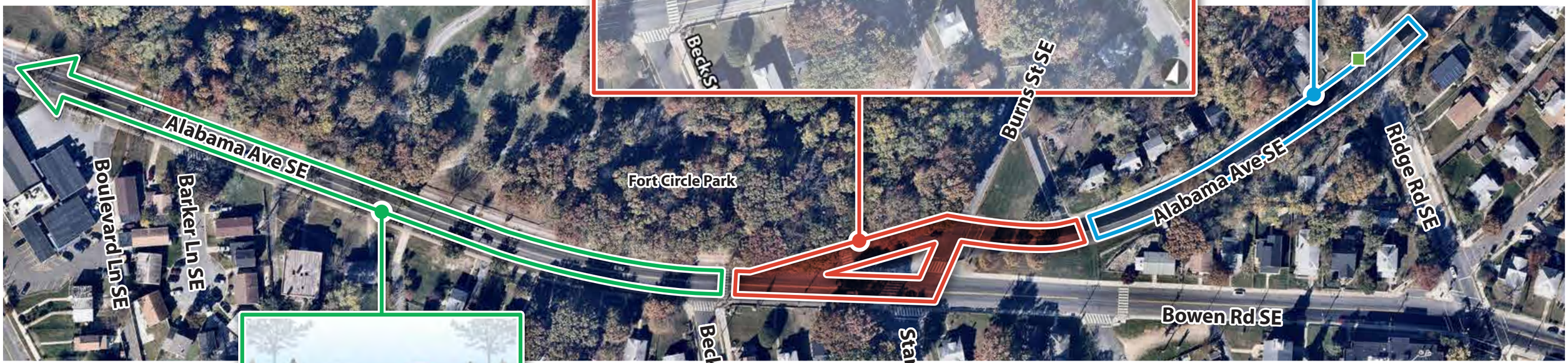


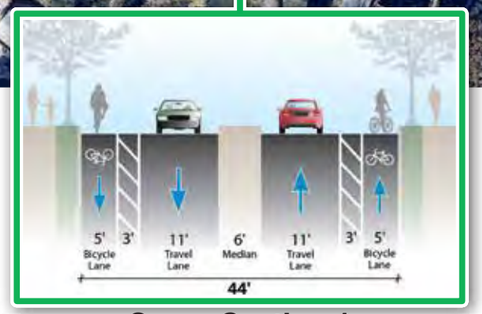
Figure 45
Boulevard Ln SE to Ridge Rd SE

0' 100' 200'

Location - Specific

Cross-Section 2





Cross-Section 1

Legend

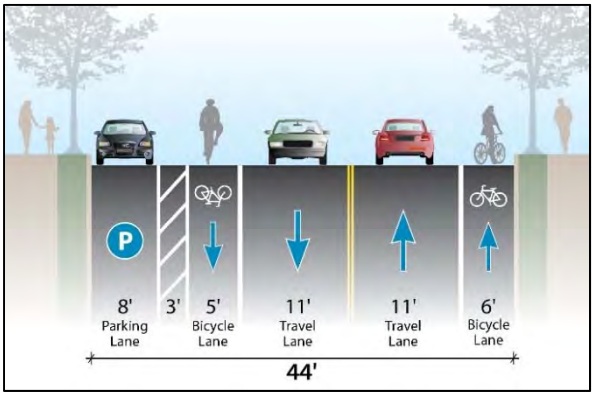
Curb Extension

5.3.8. Burns Street SE to Ridge Road SE

This section is approximately 500 feet in length and residential. The Alabama Avenue corridor near Ridge Road is primarily residential with limited demand for community parking throughout the day. With a proposed bicycle facility for Ridge Road in the planning stages, **Cross-section Two** is recommended for this segment to provide on-street parking and a bicycle facility.

5.4. Parking Impacts

Key Map: Burns Street to Ridge Road SE



Cross-Section Two

When developing recommendations, DDOT worked to maintain on-street parking along the corridor, particularly in areas where parking is currently utilized. An effort was taken to consolidate parking to meet existing demand while providing a consistent lane alignment and traffic calming interventions.

The corridor currently has an estimated 941 on-street parking spots and the recommended treatment would reduce that number to 518 parking spots. Parking will be lost primarily on the southern end of the corridor from 7th Street to 25th Street and on the northern end of the corridor, from R Street to Ridge Road. Approximately of 423 parking spots would be removed in order to accommodate the safety improvements.

The section from 7th Street to 25th Street is largely Cross-section Two and will permit parking on the east curb. Of the estimated 414 parking spots currently along this stretch of roadway, 176 will be removed.

The segment most impacted by reduced on-street parking is between Q Street and Ridge Road SE which would lose 204 parking spaces. Parking utilization surveys found seven (7) parked vehicles on weeknights and 47 vehicles parked on Sunday in that stretch of roadway. The area between Pennsylvania Avenue and R Street would be Cross-section Two which permits cars to park on the east side of the street. This block would lose 27 of 54 parking spots currently available.

6.0 LOCATION-SPECIFIC TREATMENTS

The cross-section recommendations described in Chapter 5.0 are applicable for most of the Alabama Avenue corridor, which consists of relatively standard four-leg and T-intersections. However, some locations will require a customized, location-specific recommendation due to complex road configurations. These locations include intersections with complex or atypical geometry that do not follow the cross-section recommendations for the rest of the corridor, as well as selected pedestrian crossings.

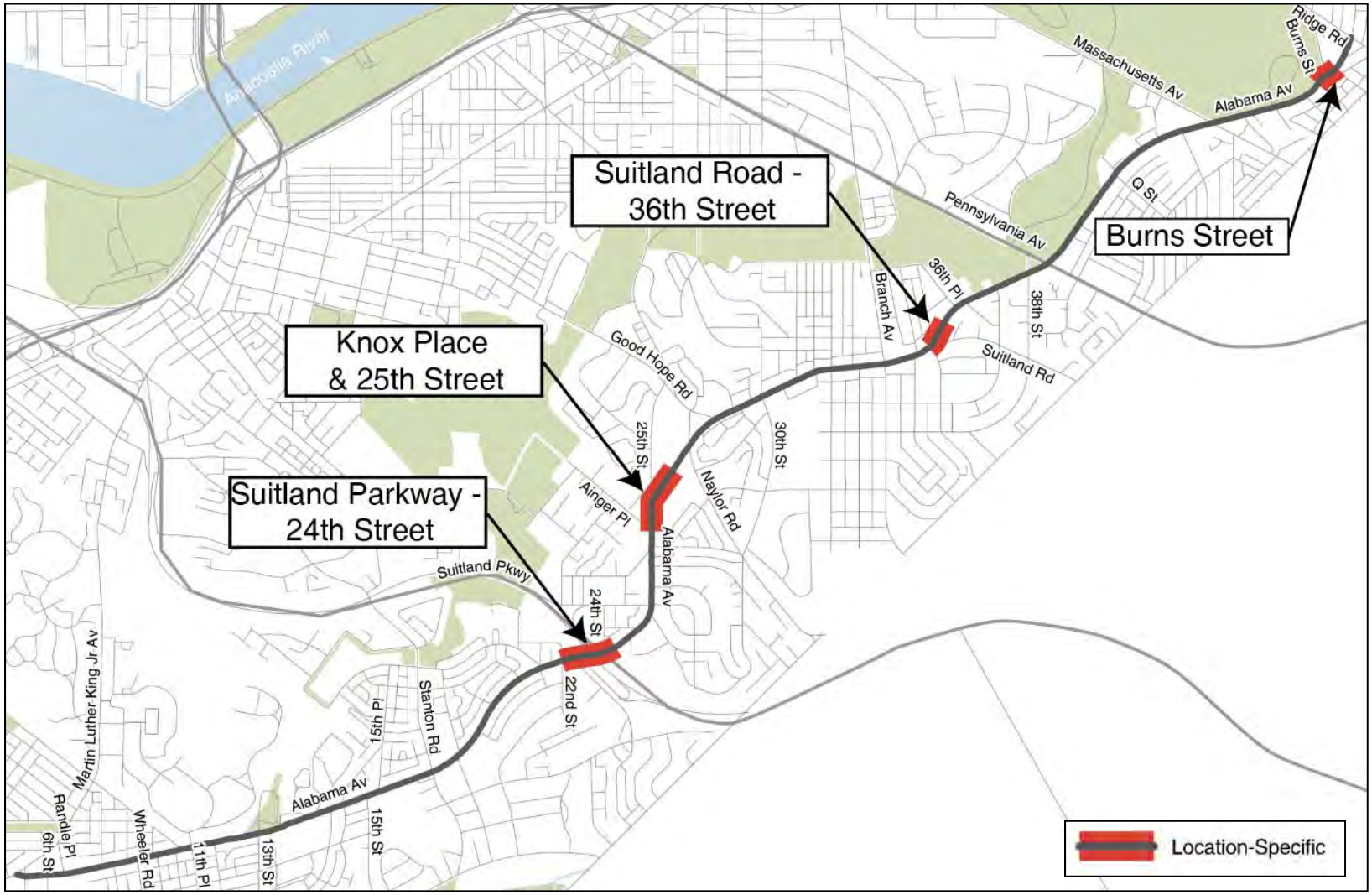


Figure 46 – Location-Specific Intersection Improvements

6.1. Suitland Parkway/24th Street

The existing intersections at Suitland Parkway/24th Street and Alabama Avenue are shown in **Figure 47**. The current segment has the following deficiencies and considerations:

- High-speed turns to Suitland Parkway access ramp
- No crosswalk across Alabama Avenue at 24th Street (existing bus stop at this intersection)
- Confusing navigation for drivers, vehicles waiting to turn left and right blocking through traffic

Figure 47 – Suitland Parkway/24th Street at Alabama Avenue, Existing

The recommended design for this segment is shown in **Figure 48**.

Figure 48 – Suitland Parkway/24th Street at Alabama Avenue, Recommendation

The recommended design has the following features:

- Curb extensions to slow turns, shorten crossings, and increase pedestrian space
- New crosswalk with RFB across Alabama Avenue at 24th Street
- Left- and right-turn lanes to formalize existing driver behavior and clarify movements for high-volume turns

Additional improvements that should be studied in a later design phase would be:

- Relocating the eastbound bus stop on Alabama Avenue at 24th Street to the far side of the intersection to improve sight distance for the new proposed crosswalk
- Widen the south sidewalk between 22nd Street and 24th Street
- Bicycle connection to Suitland Parkway Trail

6.2. Knox Place

The existing intersection at Knox Place and Alabama Avenue is shown in **Figure 49**. The current configuration has the following deficiencies and considerations:

- Large turn radii, which results in high-speed turns from Alabama Avenue to Knox Place
- Long pedestrian crossing

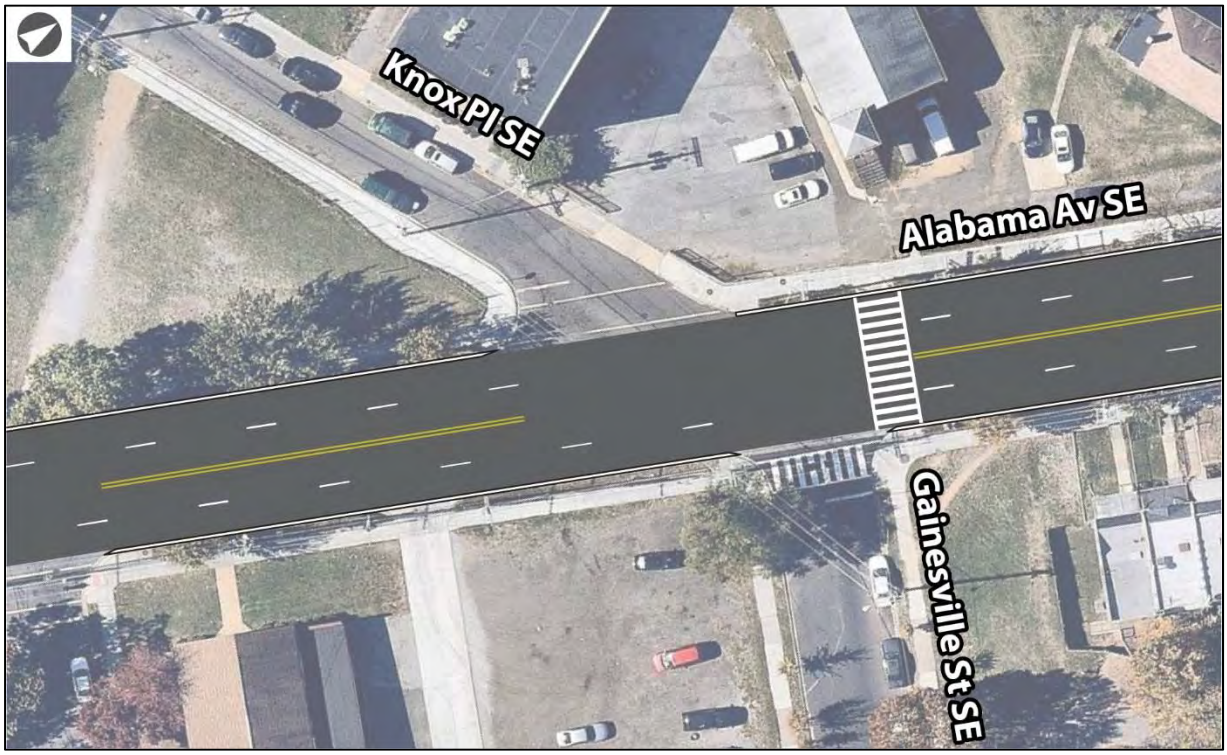


Figure 49 – Knox Place at Alabama Avenue, Existing

The recommended design for this intersection is shown in **Figure 50**.

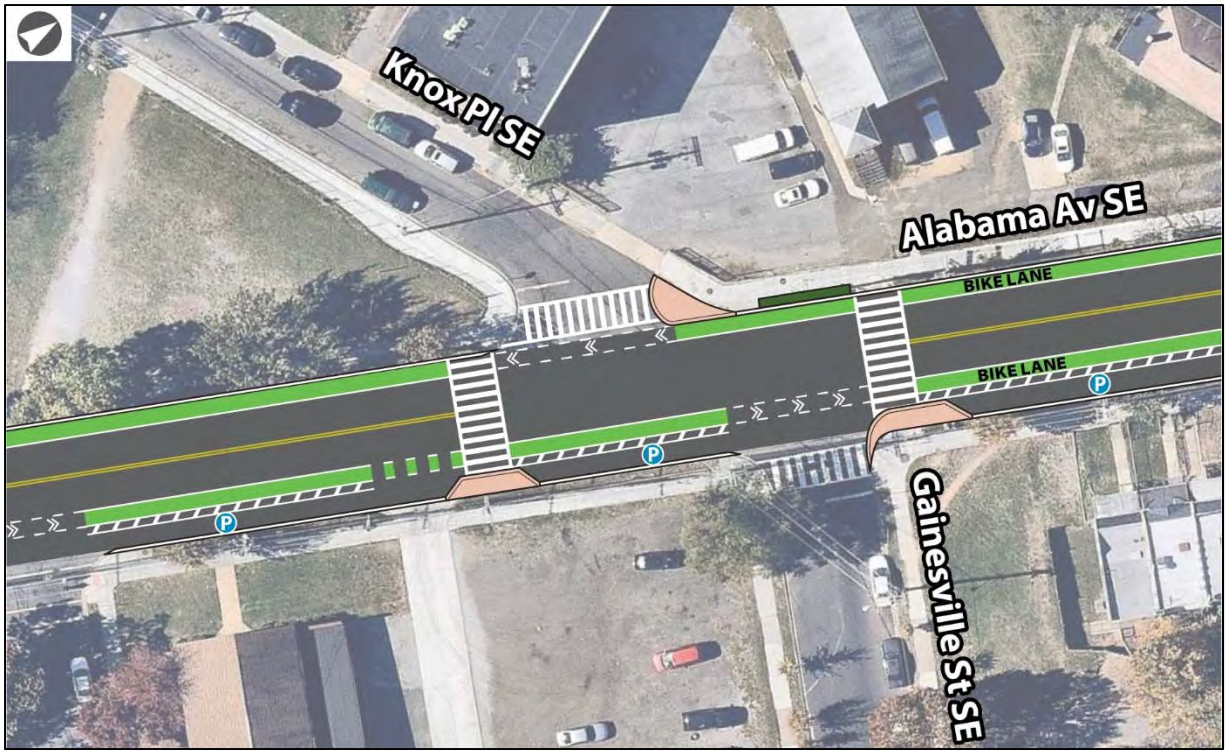


Figure 50 – Knox Place at Alabama Avenue, Recommendation

The recommended design has the following features:

- Curb extensions to slow turns, shorten crossings, and increase pedestrian space
- Incorporates bicycle lanes and one side of on-street parking from cross-section Cross-section Two

6.3. 25th Street

The existing intersection at 25th Street and Alabama Avenue is shown in **Figure 51**. The current configuration has the following deficiencies and considerations:

- Large turn radii, which results in high-speed turns
- High-volume turns
- Uncontrolled crosswalk across a high-speed, high-volume turn
- Schools and church in immediate area

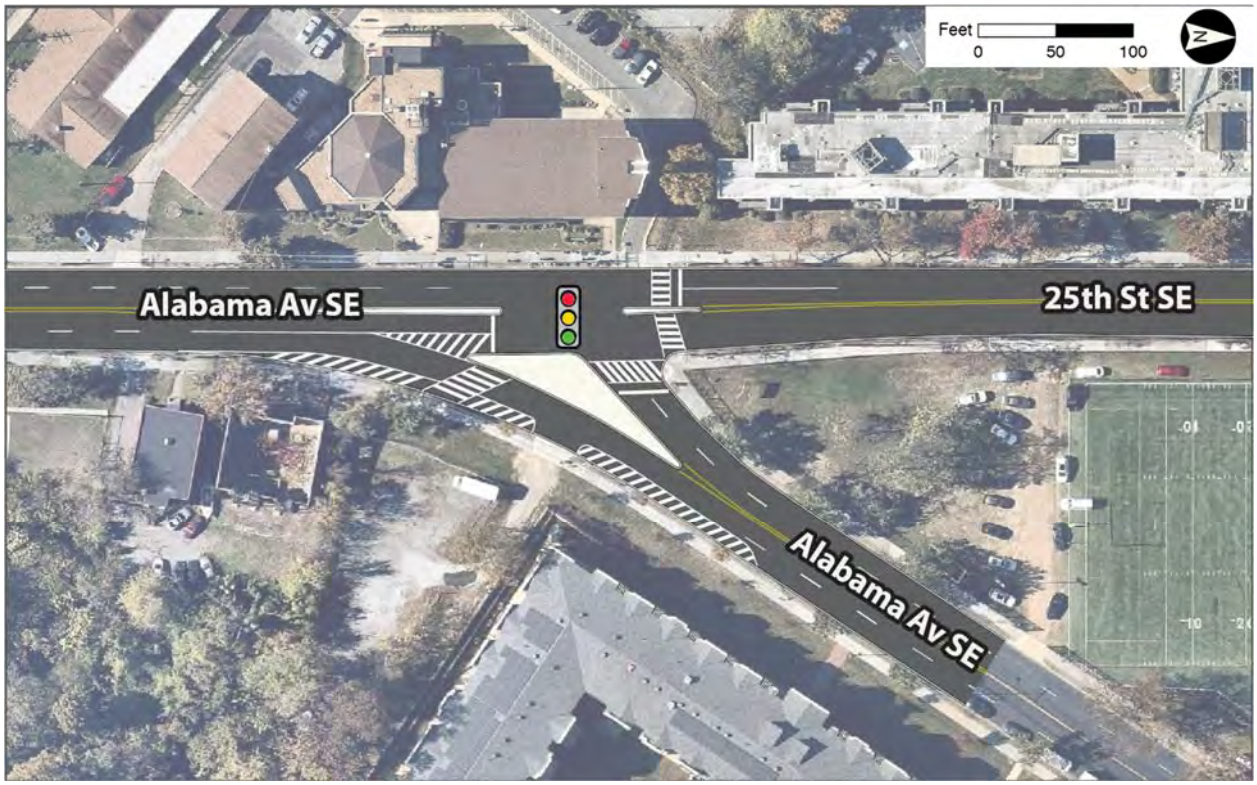


Figure 51 – 25th Street at Alabama Avenue, Existing

The recommended design for this intersection is shown in **Figure 52**.

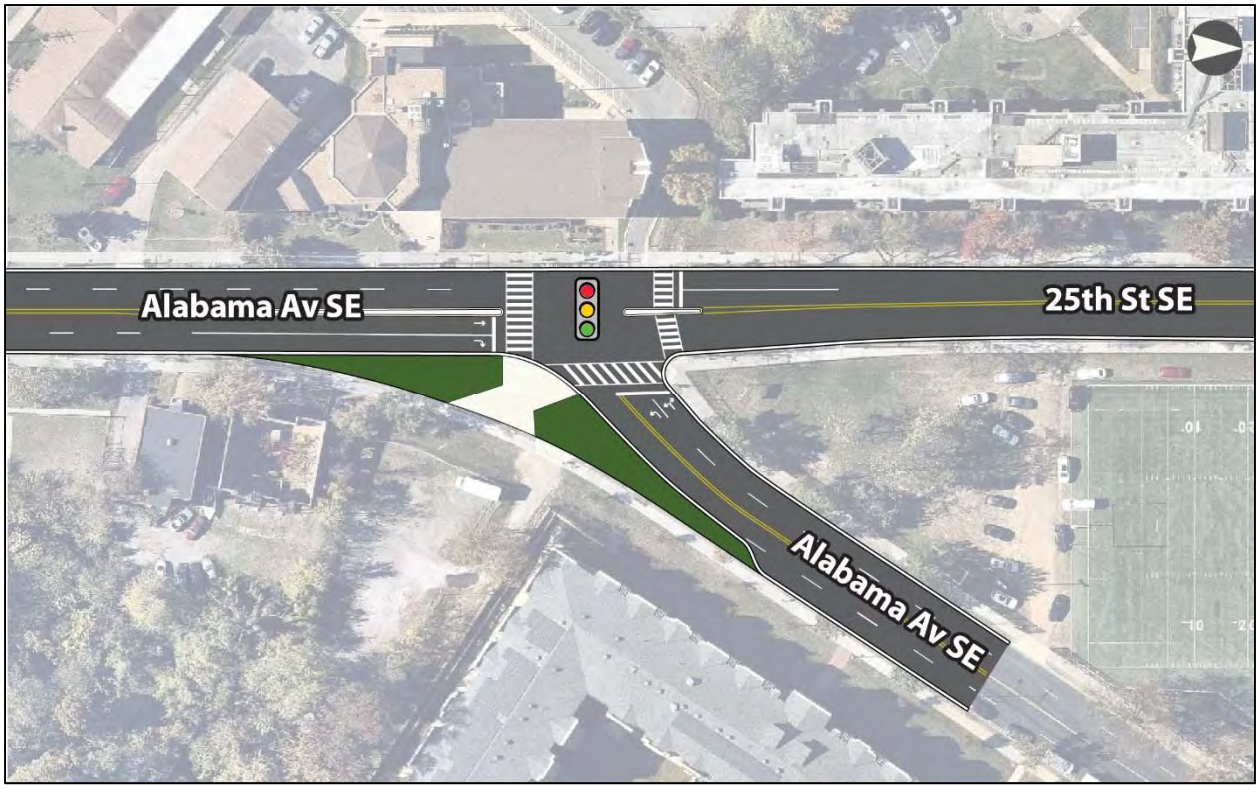


Figure 52 – 25th Street at Alabama Avenue, Recommendation

The recommended design has the following features:

- Slower right-turn for NB Alabama Avenue movement
- Provides new south-leg crosswalk
- Creates useable open space

Additional design aspects for bicyclists should be considered in final design.

6.4. Suitland Road/36th Street

The existing intersection at Suitland Road/36th Street and Alabama Avenue is shown in **Figure 53**. The current configuration has the following deficiencies and considerations:

- Confusing navigation for drivers and unclear right-of-way
- Long pedestrian crossings, especially across Suitland Road leg
- Missing crosswalk across Alabama Avenue (south leg)
- Frequent illegal turning maneuvers from 36th Street northbound to Alabama Avenue westbound against the flow of traffic

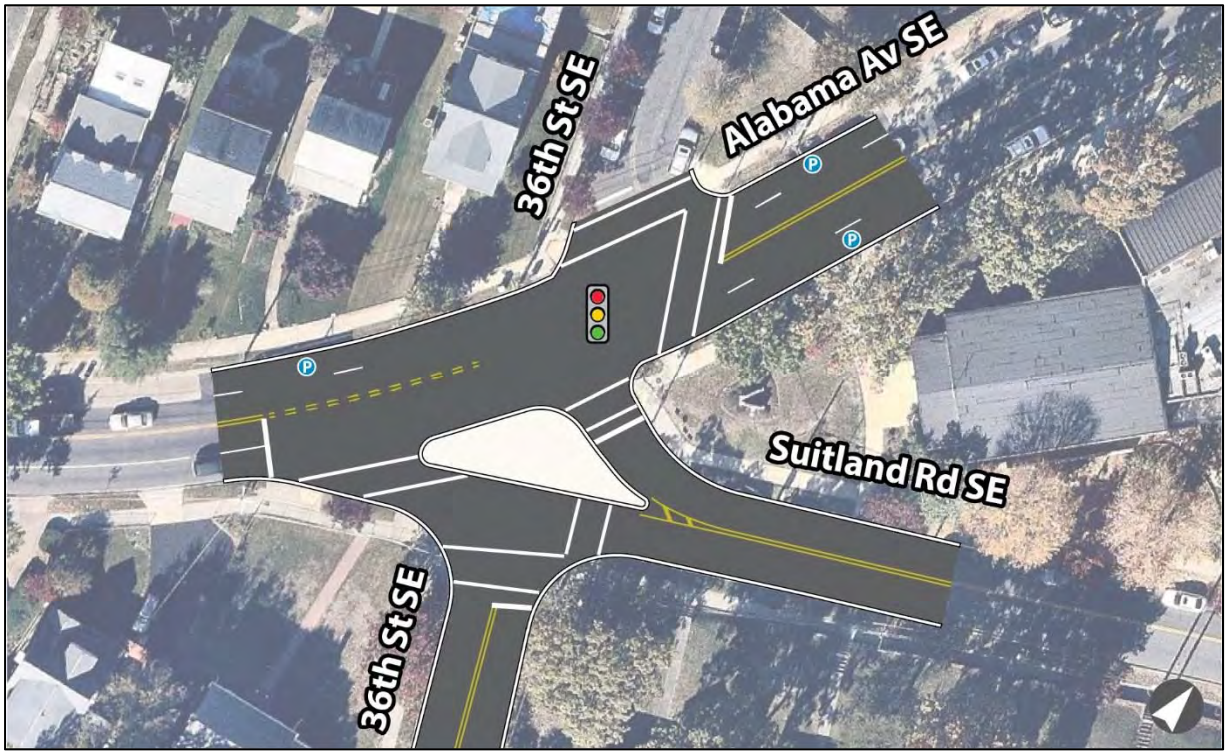


Figure 53 – Suitland Road/36th Street at Alabama Avenue, Existing

The recommended design for this intersection is shown in **Figure 54.**

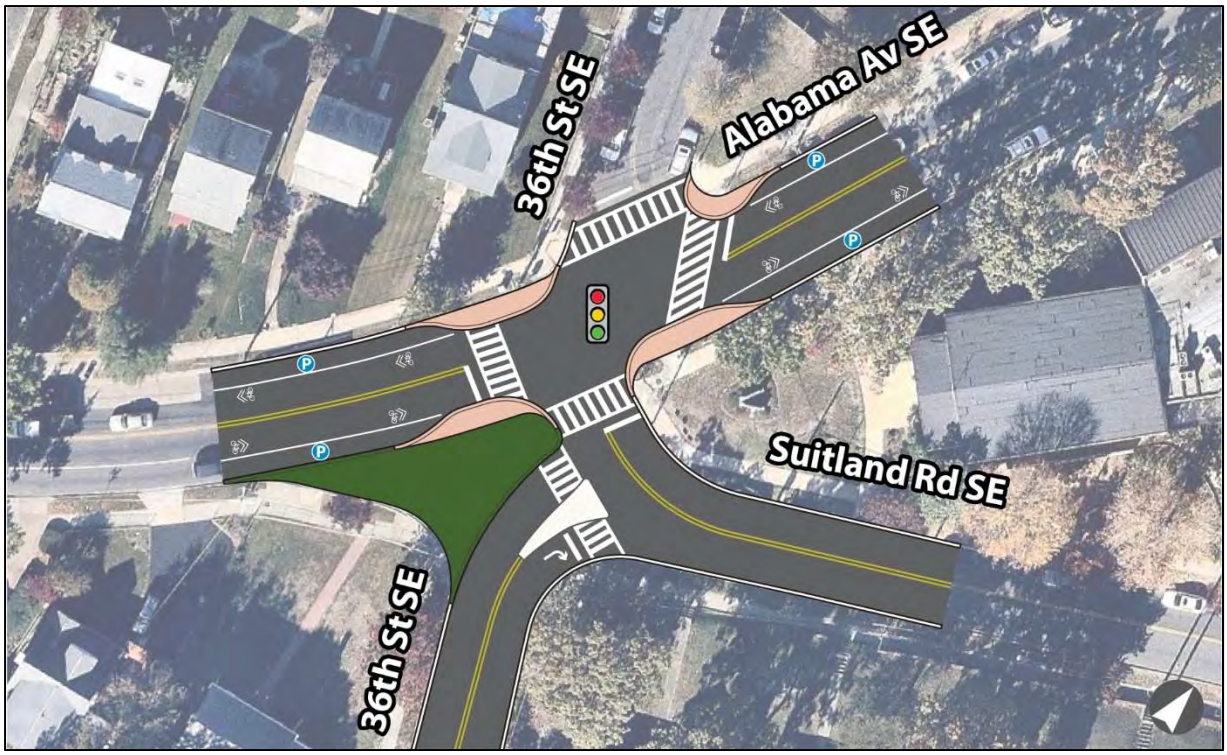


Figure 54 – Suitland Road/36th Street at Alabama Avenue, Recommendation

The recommended design has the following features:

- Safer and shorter pedestrian crossings
- New crosswalk across Alabama Avenue
- Clarifies right-in/right-out only at 36th Street
- Simplifies intersection for drivers and eliminates potential for turns from 36th Street against the flow of traffic

Additional design aspects to prevent illegal turning movements, such as medians, should be considered in final design.

6.5. Burns Street/Bowen Road

The existing intersection at Burns Street/Bowen Road and Alabama Avenue is shown in **Figure 55**. The current configuration is confusing for drivers to navigate, and right-of-way between drivers and between drivers and pedestrians is unclear. There are also multiple decision points within a short distance.

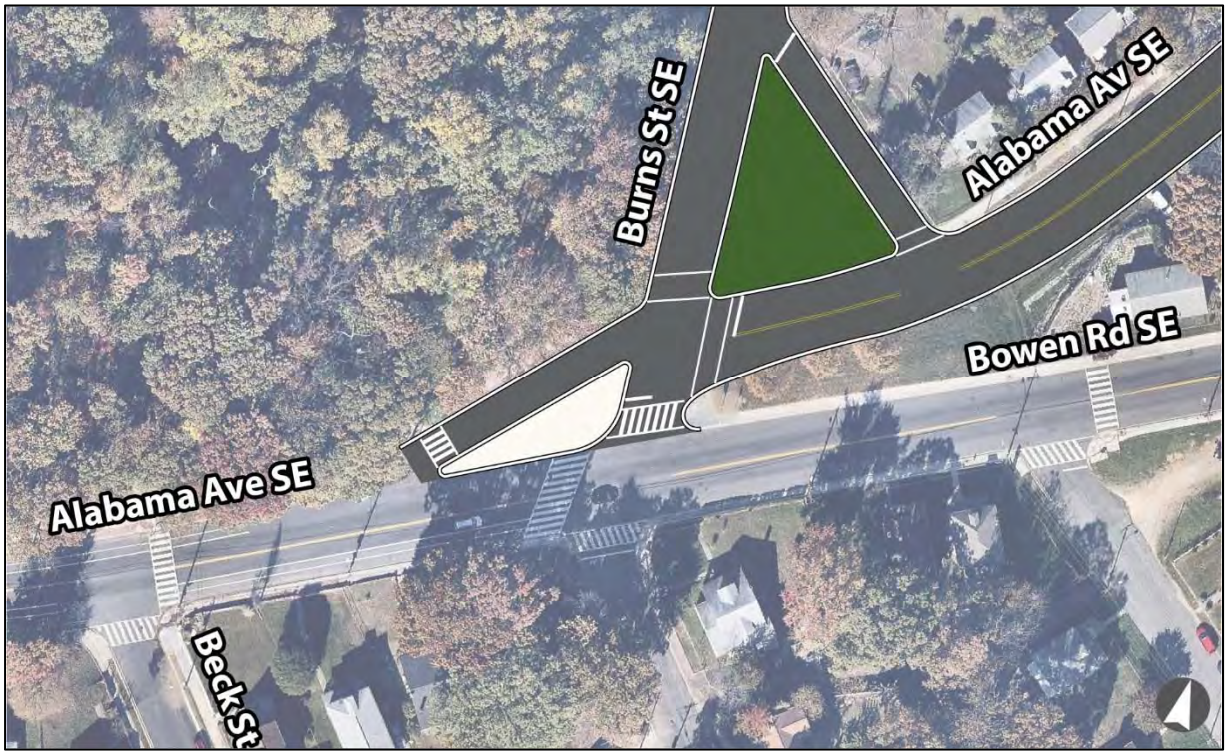


Figure 55 – Burns Street/Bowen Road at Alabama Avenue, Existing

The recommended design for this intersection is shown in **Figure 56**.

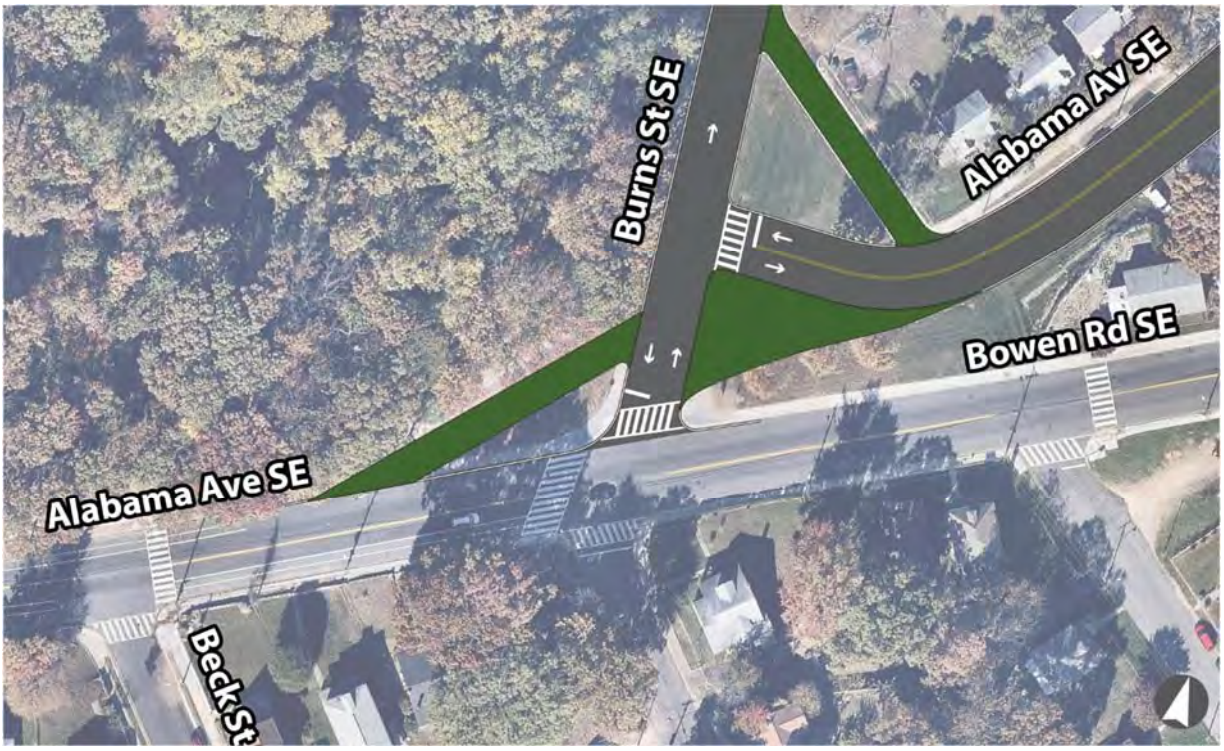


Figure 56 – Burns Street/Bowen Road at Alabama Avenue, Recommendation

The recommended design closes unnecessary intersection legs to decrease driver confusion and clarify right-of-way. All existing movements are maintained, but with fewer conflict points, more separation between intersections, additional marked crosswalks, and an increase in available open space.

7.0 PEDESTRIAN IMPROVEMENTS

In addition to the recommended cross-sections, pedestrian improvements are proposed at certain locations to further enhance pedestrian safety. These locations and treatments are detailed below.

7.1. New Crosswalks and Median Refuge Islands

New crosswalks are proposed along Alabama Avenue, shown in **Figure 57**. These new crosswalks, as well as some existing crosswalks (as shown in **Figure 57**), will also have median refuge islands to enhance pedestrian safety and visibility at these new crosswalks. These locations were selected based on field review, surrounding land uses, community feedback, and distance to other pedestrian crossings.

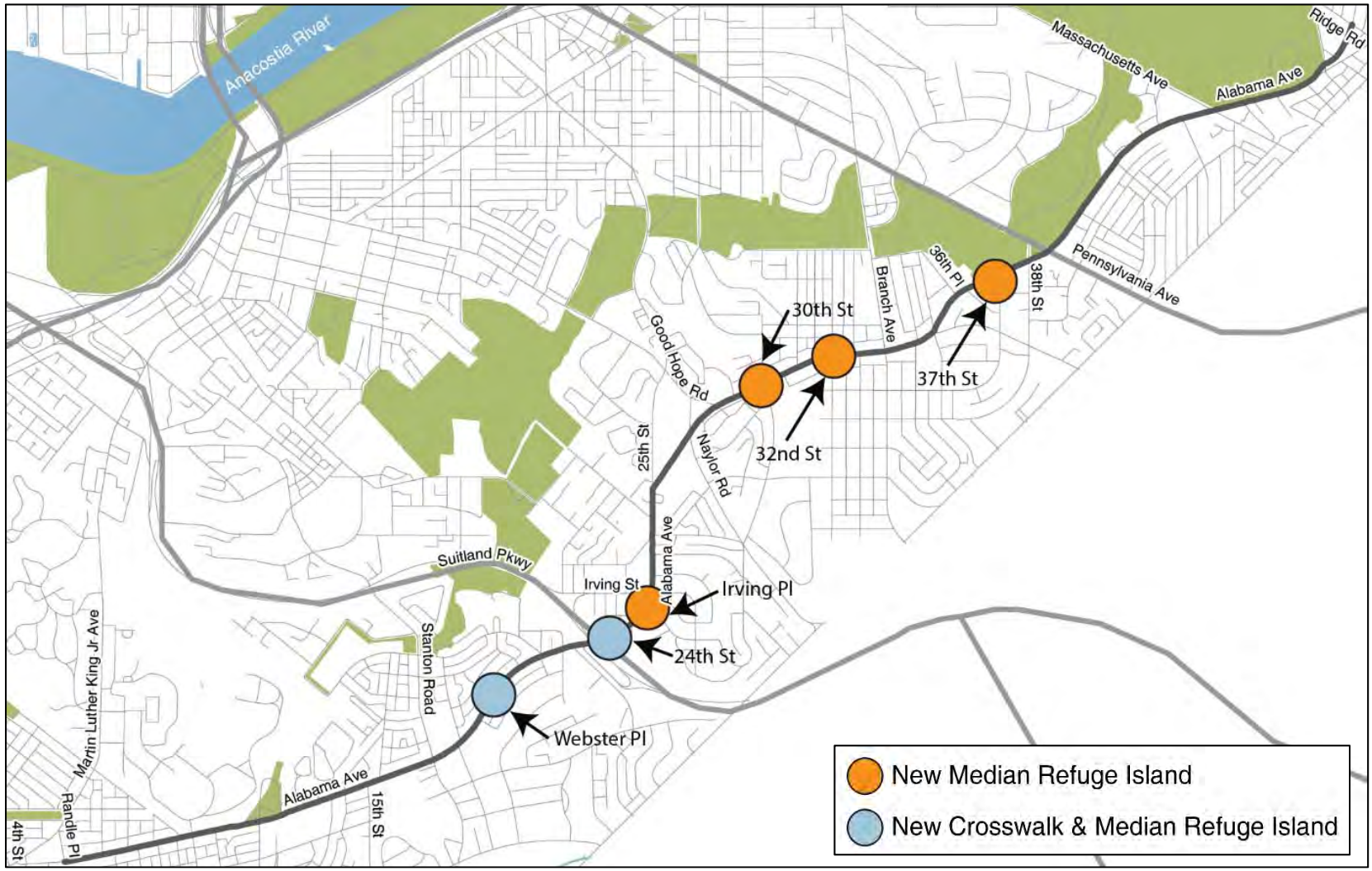


Figure 57 – New Crosswalk and Median Refuge Island Locations

7.2. Rapid Flashing Beacons (RFBs) and High Intensity Activated Crosswalks (HAWKs)

RFBs and HAWKs greatly increase pedestrian safety at uncontrolled crosswalks. RFBs are recommended to be installed at selected existing crosswalks, as shown in **Figure 58**. A HAWK is proposed at the 18th Street intersection and is also shown in **Figure 58**. These locations were selected based on field review, surrounding land uses, community feedback, and distance to other controlled pedestrian crossings.

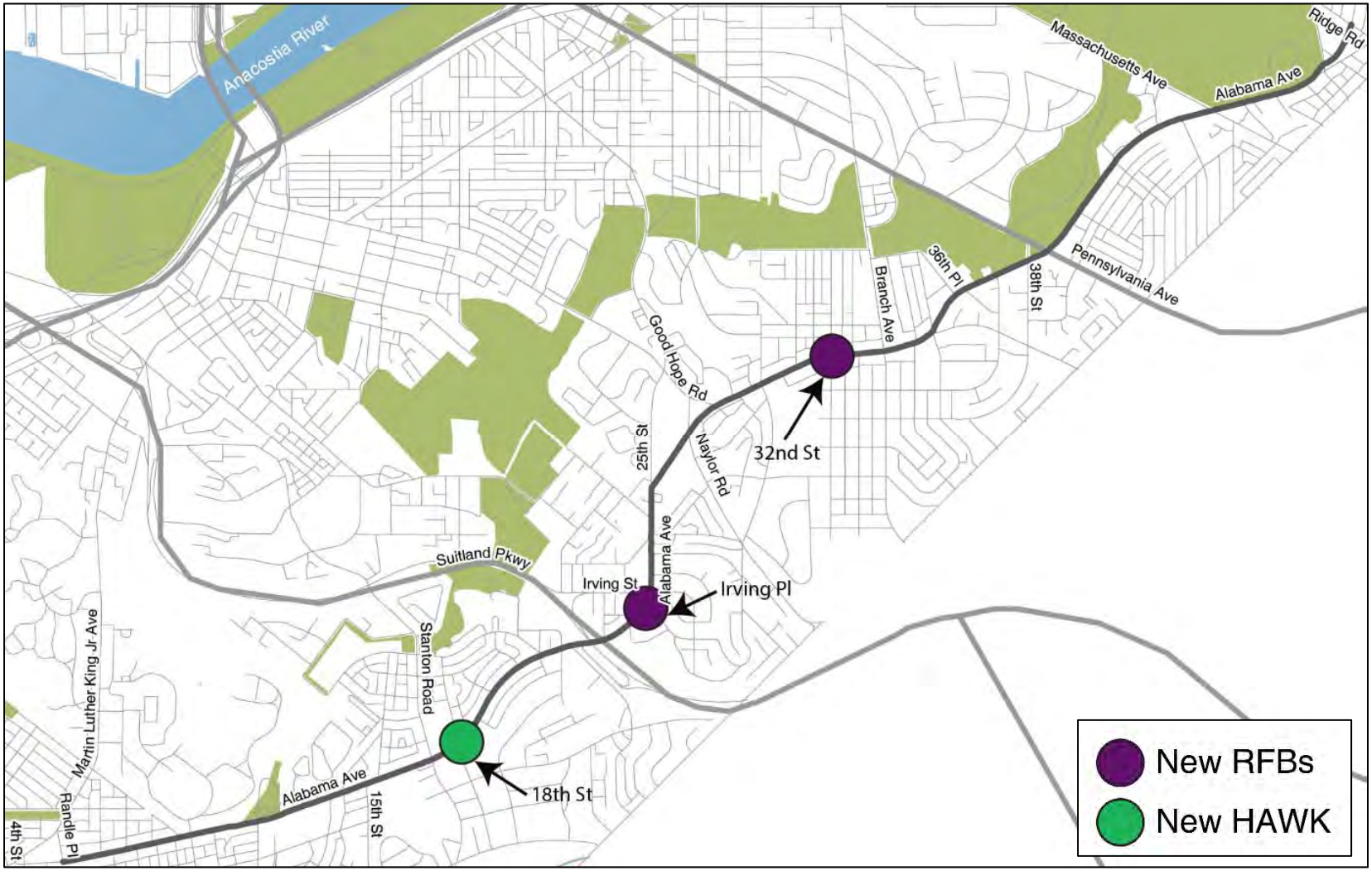


Figure 58 – Proposed RFB Locations

7.3. Leading Pedestrian Intervals (LPIs)

LPIs greatly increase pedestrian safety at signalized intersections where vehicles are turning concurrently with pedestrians crossing in a crosswalk. Four signalized intersections along Alabama Avenue were identified that have high pedestrian activity and concurrent pedestrian crossings with turning vehicles, making these locations good candidates for LPIs. **Figure 59** shows the locations of existing and proposed LPIs, and the recommended improvements are summarized in **Table 13** along with the traffic analysis results for the future condition that confirm that they are feasible without significantly impacting vehicular traffic operations.

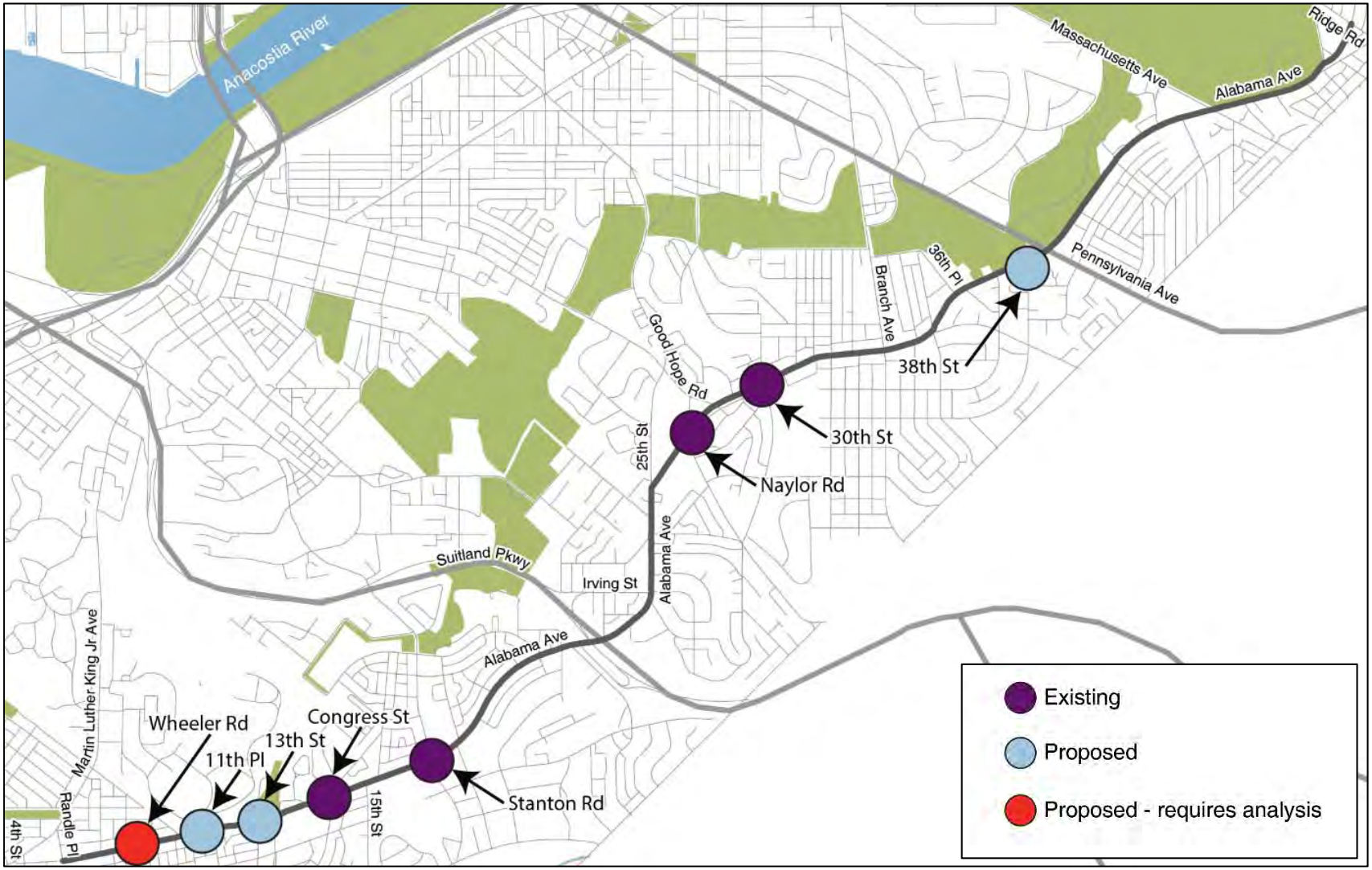


Figure 59 – Existing and Proposed LPI Locations

The selected locations at 11th Place, 13th Street, and 38th Street (shown in **Figure 59**) were evaluated to determine traffic operations with the proposed LPIs. Since Wheeler Road was not a selected study intersection for this project, DDOT will evaluate the feasibility and appropriateness of an LPI at a later stage.

Stanton Road and Naylor Road are study intersections with existing LPIs. These intersections, however, do not prohibit right turns on red, which further reinforces pedestrian safety at intersections with an LPI. The traffic analysis results show that right turns on red can be prohibited at these locations without significant traffic impacts.

Table 13 | Traffic Analysis: Before and After LPI Implementation

Intersection	Time Period	Proposed Improvement	Before		After	
			LOS	Delay	LOS	Delay
11th Place	AM	Implement 6 second LPI for 11th Place signal phase and restrict right turns on red.	B	11.2	B	19.1
	PM		B	12.0	B	19.8
13th Street	AM	Implement 3 second LPI for all signal phases and restrict right turns on red.	C	27.8	C	39.1
	PM		C	29.0	D	38.8
Stanton Road	AM	LPI already exists. Add right turn on red restriction.	C	25.8	C	29.2
	PM		C	24.9	C	28.8
Naylor Road	AM	LPI already exists. Add right turn on red restriction.	E	75.7	E	77.1
	PM		D	41.5	D	42.7
38th Street	AM	Implement 6 second LPI for 38th Street signal phase and restrict right turns on red.	D	50.4	D	53.5
	PM		D	49.8	E	63.4

8.0 IMPLEMENTATION

As the Alabama Avenue project progresses through the development process, some recommendations will require more time than others to implement. DDOT will continue to analyze and refine the recommendations during the environmental review and preliminary design process.

The DDOT development process has the following steps:

Most of the recommendations from the Alabama Avenue Study are within the existing roadbed and are expected to have minimal environmental impact or complex construction needs. However, some of the site-specific projects may require more extensive environmental review, design and construction preparation. While many of the recommendations from the Alabama Avenue Study can be implemented in the near term, others may require four or more years before implementation.

8.1. Short Term Projects

Recommendations identified as short-term projects—such as signal timing adjustments, signage and striping improvements—can be completed through existing safety, asset management, and maintenance programs within DDOT. These do not typically require environmental review and community members are typically made aware of these projects moving forward through a notice of intent. Several of the recommendations will be reviewed and may be implemented through current DDOT programs such as the Citywide Signal Optimization Plan.

8.2. Medium Term Projects

These projects may involve more detailed design and engineering work, adding another phase to the project and likely requiring additional time and funding to plan and complete. They may include environmental documentation through the National Environmental Policy Act (NEPA) or the District of Columbia Environmental Policy Act (DCEPA), although it is not expected that this level of environmental review or impact would be extensive. Examples include pedestrian refuge islands and curb extensions.

8.3. Long-Term Projects

These are more advanced projects likely to involve each of the major stages of DDOT's typical project development process. They will require more advanced design and environmental review, but may also require acquisition of right-of-way or coordination. Recommendations for intersection realignments would likely be long-term projects.

8.4. Cost Analysis

Table 14 below provides a summary of planning-level cost estimates for the recommended improvements. These estimates are intended to offer guidance on likely costs and provide baseline information for budgeting and programming. The following allowances were included: 5 percent for landscaping, 20 percent for design, 15 percent for Maintenance of Traffic, 10 percent for Mobilization and 30 percent for Contingency. A more detailed Cost Estimate is in Appendix H.

Table 14 | Planning-Level Cost Estimates

Treatment		Cost
Bike Lane and other signs/markings for cross-sections	$	467,222
HAWK Signal at 18th Street	$	195,000
Rapid Flashing Beacons at Irving Place and 32nd Street	$	131,492
Upgrade to ladder crosswalk markings at Ainger Place, 31st Street. New Crosswalks at Webster Place and 24th Street	$	17,285
Bus Stop Changes	$	655,727
Cross-section One raised median from Q Street to Bowen Road	$	352,421
Curb Extensions throughout corridor	$	2,856,516
Pedestrian Refuge Islands at Webster Place, 24th Street, Irving Place, 30th Street, 32nd Street and 37th Street	$	221,423
Site Specific Recommendations at Burns Road, 25th Street and Suitland Road	$	1,333,542
Total	**$**	**6,230,628**