



CITY COUNCIL WORK SESSION AGENDA

Work Session - Draft Greenbelt Road Corridor Plan Recommendations

Work Session - Municipal Building & Virtual

This meeting will be held in-person and virtual.

**25 Crescent Road
Greenbelt, MD 20770**

OR

Virtual Participation:

Join Zoom Webinar

<https://us02web.zoom.us/j/84923423158?pwd=SIH6CO38U2OQ3K5tUiCT37lmoVyuuz.1>

Webinar ID: 849 2342 3158

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In advance, the hearing impaired is advised to use Video Relay Services (VRS) at 711 to submit your questions/comments or contact the City Clerk at (301) 474-8000 or email banderson@greenbeltmd.gov.

**Wednesday, May 25, 2022
8:00 PM**

Work Session Packet

Draft Greenbelt Road Corridor Plan Recommendations

Suggested Action:

The draft Greenbelt Road Corridor Plan is available to view and download on the project webpage, <https://www.greenbeltmd.gov/government/greenbelt-road-md-193-corridor-plan>. Specific

recommendations and next steps begin on report page 141. Background information underpinning the recommendations is contained within the draft report and was addressed during the March 23 joint Council work session held with College Park and Berwyn Heights's Councils. The meeting recording is also available on the project webpage.

[DRAFT_Greenbelt_Road__MD_193__Corridor_Plan_pgs 1-25.pdf](#)

[DRAFT_Greenbelt_Road__MD_193__Corridor_Plan_pgs 26-50.pdf](#)

[DRAFT_Greenbelt_Road__MD_193__Corridor_Plan_pgs 51-75.pdf](#)

[DRAFT_Greenbelt_Road__MD_193__Corridor_Plan_pgs 76-100.pdf](#)

[DRAFT_Greenbelt_Road__MD_193__Corridor_Plan_pgs 101-125.pdf](#)

[DRAFT_Greenbelt_Road__MD_193__Corridor_Plan_pgs 126-150.pdf](#)

[DRAFT_Greenbelt_Road__MD_193__Corridor_Plan_pgs 151-175.pdf](#)

[DRAFT_Greenbelt_Road__MD_193__Corridor_Plan_pgs 176-199.pdf](#)

City Council Work Session Agenda Item Report

Meeting Date: May 25, 2022

Submitted by: Shaniya Lashley-Mullen

Submitting Department: Administration

Item Type: Work Session Item

Agenda Section: Work Session Packet

Subject:

Draft Greenbelt Road Corridor Plan Recommendations

Suggested Action:

The draft Greenbelt Road Corridor Plan is available to view and download on the project webpage, <https://www.greenbeltmd.gov/government/greenbelt-road-md-193-corridor-plan>. Specific recommendations and next steps begin on report page 141. Background information underpinning the recommendations is contained within the draft report and was addressed during the March 23 joint Council work session held with College Park and Berwyn Heights's Councils. The meeting recording is also available on the project webpage.

Attachments:

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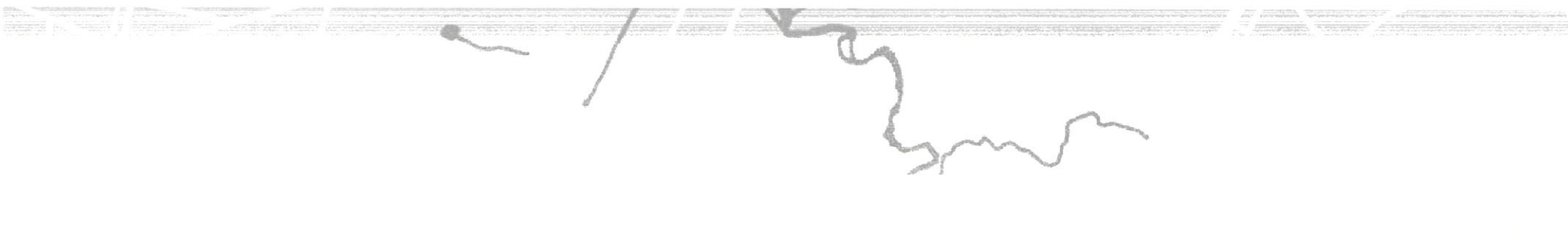
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GREENBELT ROAD (MD 193) CORRIDOR PLAN

GREENBELT, MARYLAND

May 2022





Greenbelt Road (MD 193) Corridor Plan

Greenbelt, Maryland



Prepared for:
City of Greenbelt, Maryland
25 Crescent Road
Greenbelt, Maryland 20770

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Kittelson Project Number 26820

May 2022



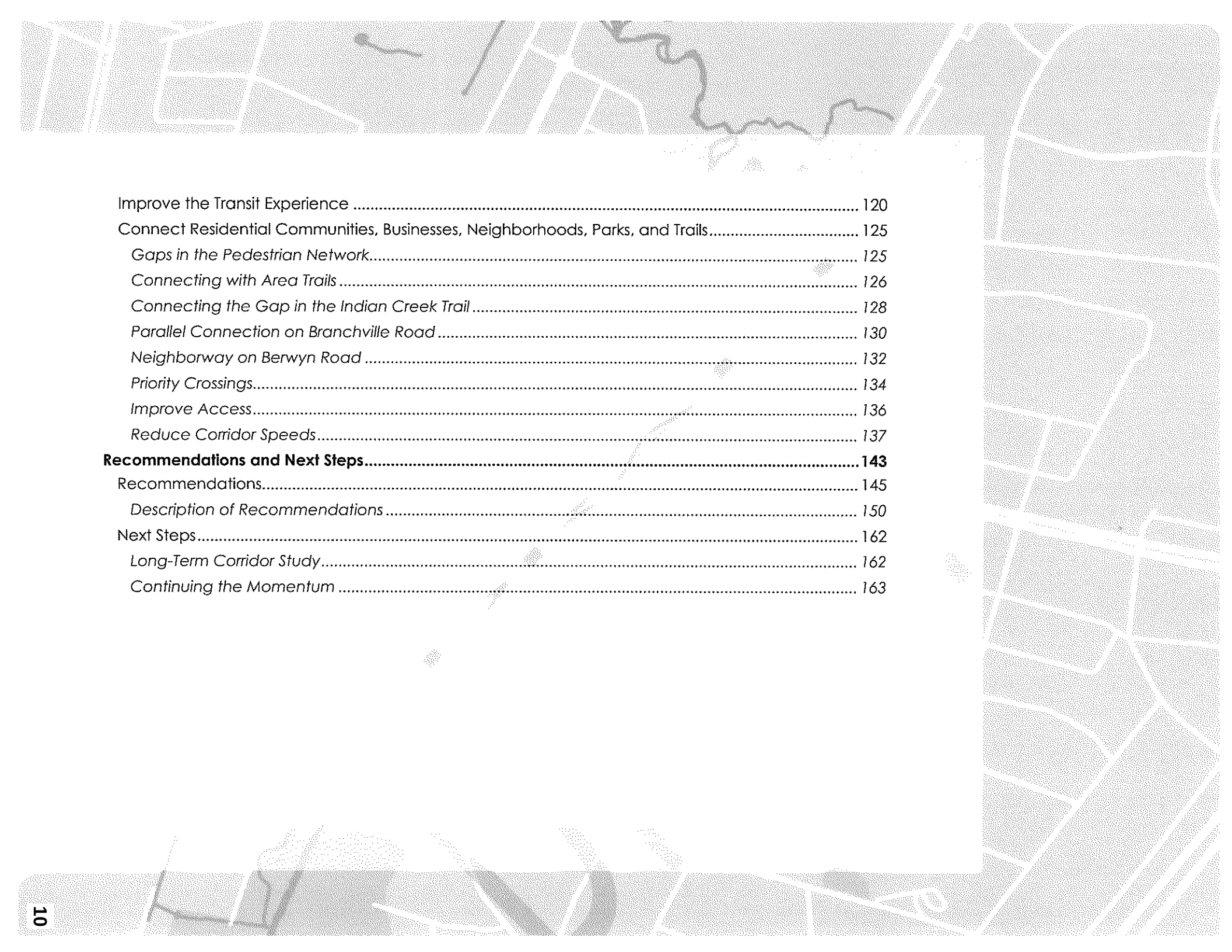
This project was funded by the Metropolitan Washington Council of Governments (MWCOG)
as part of the FY 2022 Transportation Land-Use Connections (TLC) Program



CONTENTS

Introduction	17
Project Background	17
The Transportation Project Process.....	19
Corridor Studies.....	21
Plan Considerations	21
Related Efforts	22
Maryland SHA Design (2003)	22
Greenbelt Metro Area and MD 193 Corridor Sector Plan (2013)	22
Greenbelt Bus Stop Safety and Accessibility Report (2013).....	23
Greenbelt Pedestrian and Bicyclist Master Plan (2014).....	24
Greenbelt Senior Mobility and Accessibility Needs and Barriers Study (2017)	25
Creating a Future for Greenbelt Road/MD-193 (2018)	25
Walkable Bikeable Berwyn Heights Task Force Recommendations (2020)	25
Prince George's County 2035 Master Plan of Transportation (2021 - Ongoing)	26
Adjacent Bicycle and Pedestrian Designs and Projects.....	26
East Coast Greenway.....	28
Community Walk Hosted By Delegate Washington	29
Greenbelt Road (MD 193) Corridor Plan Study Process	31
Project Goals	35
Community Outreach.....	39
Visioning Meeting	39
Interactive Map.....	41
Roadway and Area Characteristics.....	45

Right-of-Way	45
Curb-To-Curb Width	46
The Bridge.....	46
Utilities.....	51
Posted Speed Limit.....	51
Existing Land Use.....	53
Equity Emphasis Areas	55
Pedestrian Facilities	57
<i>Pedestrian Level of Comfort</i>	57
Bicycle Facilities	60
<i>Bicycle Level of Traffic Stress</i>	63
Transit Services	65
Traffic Conditions.....	74
<i>Daily Traffic Volumes</i>	74
<i>Peak-Hour Volumes</i>	74
<i>Number of Travel Lanes</i>	78
Crash History.....	80
Realizing Greenbelt Road's Potential	85
Right-Size the Corridor to the Potential Demand	86
<i>Matching the Demand</i>	87
Make the Corridor a Place People Want to Walk and Bike	99
<i>Walking Along Greenbelt Road</i>	99
<i>Crossing Greenbelt Road</i>	101
<i>Biking Along Greenbelt Road</i>	106



Improve the Transit Experience	120
Connect Residential Communities, Businesses, Neighborhoods, Parks, and Trails.....	125
<i>Gaps in the Pedestrian Network</i>	125
<i>Connecting with Area Trails</i>	126
<i>Connecting the Gap in the Indian Creek Trail</i>	128
<i>Parallel Connection on Branchville Road</i>	130
<i>Neighborway on Berwyn Road</i>	132
<i>Priority Crossings</i>	134
<i>Improve Access</i>	136
<i>Reduce Corridor Speeds</i>	137
Recommendations and Next Steps.....	143
Recommendations.....	145
<i>Description of Recommendations</i>	150
Next Steps.....	162
<i>Long-Term Corridor Study</i>	162
<i>Continuing the Momentum</i>	163

LIST OF FIGURES

Figure 1. Study Corridor	18	Figure 16. Existing Bridge Cross-Section	49
Figure 2. Generalized Transportation Project Process	20	Figure 17. Approximate Curb to Curb Widths	50
Figure 3. 2003 Maryland SHA Design Concept	22	Figure 18. Utility pole in the middle of the sidewalk between Cunningham Drive and 61 st Avenue (Google Streetview)	51
Figure 4. Greenbelt Metro Area and MD 193 Corridor Sector Plan.....	23	Figure 19. Posted Speed Limits	52
Figure 5. Rhode Island Avenue Protected Bike Lane Rendering	26	Figure 20. Examples of Corridor Land Uses	53
Figure 6. Proposed Separated Bike Lanes on Cherrywood Lane between Breezewood Drive and the Greenbelt Metrorail Station	27	Figure 21. Existing Land Use.....	54
Figure 7. Greenbelt Road on the East Coast Greenway	28	Figure 22. Equity Emphasis Areas	56
Figure 8. East Coast Greenway.....	28	Figure 23. Existing Pedestrian Facilities.....	58
Figure 9. Corridor Study Process.....	31	Figure 24. Pedestrian Level of Comfort Urban Pathway Look-Up Table.....	59
Figure 10. Project Goals	35	Figure 25. Pedestrian Level of Comfort Controlled Crossings Look-Up Table.....	60
Figure 11. Visioning Meeting Questions and Community Responses.....	40	Figure 26. Pedestrian crossing at 58 th Avenue.....	60
Figure 12. Interactive Map.....	41	Figure 27. The current bike facilities on Greenbelt Road are unusable and intermittent.....	61
Figure 13. Steep Topography alongside Greenbelt Road (MD 193) limits options even where right-of-way is available	46	Figure 28. People were observed biking along Greenbelt Road despite the unwelcoming and adverse conditions	61
Figure 14. Approximate Right-of-Way Widths.....	47	Figure 29. Existing & Proposed Bike Facilities.....	62
Figure 15. Existing "Typical" Greenbelt Road (MD 193) Corridor Cross-Section.....	48	Figure 30. The Range of Bicycle Riders	63
		Figure 31. Bicycle Level of Traffic Stress Scores and the Corresponding Range of Bicycle Riders	64

Figure 32: Bus Stop on Greenbelt Road at Branchville Road.....	65	Figure 46. All vehicle crashes (2015 – 2021)	81
Figure 33. Study Corridor Bus Routes.....	66	Figure 47. Pedestrian & Bicycle Crashes (2015 – 2021)	82
Figure 34. C2 WMATA Metrobus on Greenbelt Road.....	67	Figure 48. Categories for Realizing Greenbelt Road's Potential	85
Figure 35. Metrobus Average Weekday Ridership by Stop (2019)	68	Figure 49. Current Distribution of Right-of-Way on Greenbelt Road (MD 193)	87
Figure 36. TheBus Average Weekday Ridership by Stop (2019)	69	Figure 50. Recommended Section of Greenbelt Road (MD 193) to Remove One Travel Lane in Each Direction.....	90
Figure 37. UM-Shuttle Average Weekday Ridership by Stop (2019)	70	Figure 51. Potential Alternative Intersection Options at Greenbelt Road (MD 193) Intersections.....	96
Figure 38. Metrobus, TheBus, UM-Shuttle - Average Weekday Ridership by Stop (2019)	71	Figure 52. Continuous Green-T Intersection.....	97
Figure 39. Metrobus Average Weekday Trip Schedule Deviation by Stop (2019)	72	Figure 53. Design Options for Achieving a "Somewhat Comfortable" Pathway Pedestrian Level of Comfort	99
Figure 40. Metrobus Average Weekday Bus Speeds by Stop (2019)	73	Figure 54. Option for Improving Pedestrian Comfort on the Bridge.....	100
Figure 41. Greenbelt Road (MD 193) Daily Traffic Volumes (2001 – 2021)	75	Figure 55. Design Needs for Achieving a "Somewhat Comfortable" Controlled Crossing Pedestrian Level of Comfort	101
Figure 42. Total Peak Hour Volumes (Combined Peak Hour Volumes, including background developments, site development and annual growth).....	76	Figure 56. Pedestrian Refuge Islands (Greenbelt Pedestrian and Bicyclist Master Plan)	102
Figure 43. Critical Lane Volume Methodology	76	Figure 57. Constricting Right-Turn Slip Lanes (Greenbelt Pedestrian and Bicyclist Master Plan).....	102
Figure 44. Number of Conflicting Travel Lanes for Pedestrians Crossing Greenbelt Road	77		
Figure 45. Existing Number of Travel Lanes	79		

Figure 58. Example Combination of Pedestrian Treatments	103	Figure 72. Two-Way Cycletrack with Shared-Use Path on the Alternate Side	117
Figure 59. Recommendations to Improve Pedestrian Crossings Specific to Certain Locations	105	Figure 73. Right-of-Way Distribution: Two-Way Cycletrack with Shared-Use Path on the Alternate Side	117
Figure 60. FHWA Bikeway Selection Guide	106	Figure 74. Shared-Use Paths on Both Sides of the Road	118
Figure 61. NACTO Urban Bike Design Guide Bicycle Facility Selection (Adapted).....	107	Figure 75. Right-of-Way Distribution: Shared-Use Paths on Both Sides of the Road	118
Figure 62. Median on Greenbelt Road	112	Figure 76. Separated Bike Lane Options and Steps for Moving from Short-Term Options to the Long-Term Vision.....	119
Figure 63. Existing Corridor Cross-Section.....	113	Figure 77. WMATA C2 Bus.....	120
Figure 64. One-Way Separated Bike Lane "Pilot"	114	Figure 78. Recommendations to Improve the Transit Experience	121
Figure 65. Right-of-Way Distribution: One-Way Separated Bike Lane "Pilot"	114	Figure 79. Greenbelt Road (MD 193) Cross-Section with Sidewalk Level One-Way Bike Lanes and Dedicated Bus Lanes.....	124
Figure 66. One-Way Separated Bike Lane "Pilot" on the Bridge	114	Figure 80. Conceptual Greenbelt Road (MD 193) Pedestrian Frontage Changes as Part of the Beltway Plaza Phase I Redevelopment	125
Figure 67. Sidewalk Level One-Way Separated Bike Lane	115	Figure 81. Recommended Separated Bike Lane Connection on Greenbelt Road to Connect to Area Trails and Key Destinations.....	127
Figure 68. Right-of-Way Distribution: Sidewalk Level One-Way Separated Bike Lane	115	Figure 82. View of Ballev Avenue to the South of Greenbelt Road (MD 193) from Greenbelt Road	128
Figure 69. Sidewalk Level One-Way Separated Bike Lane on the Bridge	115		
Figure 70. Two-Way Cycletrack with Lane Removal in One Direction	116		
Figure 71. Right-of-Way Distribution: Two-Way Cycletrack with Lane Removal in One Direction	116		

Figure 83. Recommended Connection to Close the Gap in the Indian Creek Trail.....	129	Figure 89. Recommended Bicycle and Pedestrian Connections	135
Figure 84. Potential Branchville Road Bicycle and Pedestrian Connection over the CSX and WMATA Railroad Tracks, Aerial View (Top), View from Greenbelt Road Bridge (Bottom)	130	Figure 90. Conceptual Corridor Before Access Management (Top), and After Access Management (Bottom)	136
Figure 85. Recommended Parallel Connection on Branchville Road	131	Figure 91. Posted Speed Limit Reduction to 25 mph on Georgia Avenue in Wheaton, Maryland (Maryland SHA Context Driven Toolkit)	137
Figure 86. Neighborway Design Elements.....	132	Figure 92. Sample Countermeasures for a Suburban Activity Center from the Maryland SHA Context Driven guide (Adapted).....	144
Figure 87. Proposed Berwyn Heights Neighborway ..	133	Figure 93. All Recommendations Specific to Certain Locations.....	149
Figure 88. Continental "High-Visibility" Crosswalk Striping at an Intersection as shown in the Maryland SHA Context Driven Guidebook (Adapted)	134		

LIST OF TABLES

Table 1. Greenbelt Road (MD 193)/Cherrywood Lane Intersection Traffic Conditions – Existing Roadway Configuration	78
Table 2. Greenbelt Road (MD 193)/Cherrywood Lane Intersection Traffic Conditions – Existing Roadway Configuration and One-Lane Removed in Both Directions	89
Table 3. Greenbelt Road/Cherrywood Lane Intersection Traffic Conditions with Innovative/Unconventional/Alternative Intersection Forms.....	95
Table 4. Considerations of One-Way Separated Bike Lanes, Two-Way Cycletracks, and Shared-Use Paths	109
Table 5. Bus Priority Treatments and Impacts in the National Capitol Region	123
Table 6. Recommendation Summary	146

APPENDICES

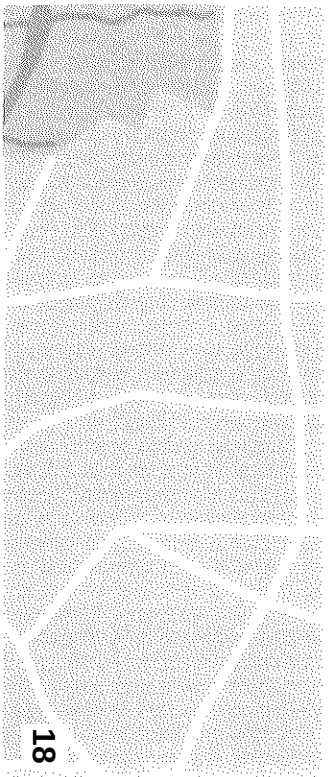
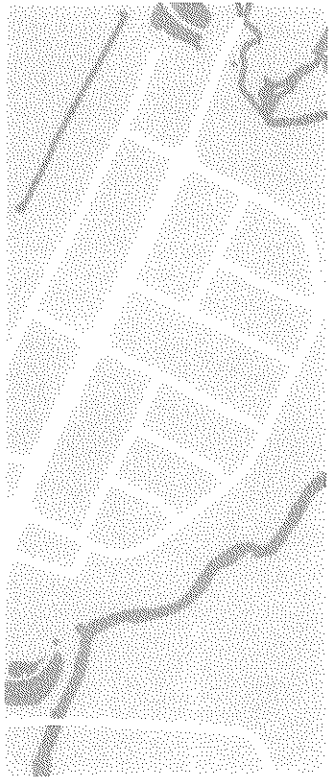
Appendix A: Community Walk Hosted by Delegate Washington

Appendix B: Visioning Meeting

Appendix C: Interactive Map







Section 1 Introduction



INTRODUCTION

The City of Greenbelt initiated the Greenbelt Road Corridor Plan to address transportation challenges and build off previous plans and studies along the Greenbelt Road corridor. The main objectives of this project are to increase multimodal connectivity to destinations and residential communities along and across the corridor and improve safety for all road users. This report documents the existing conditions, identifies opportunities, and proposes recommendations for the next steps in the planning process.

PROJECT BACKGROUND

This planning and design project is the outcome of technical assistance provided by the Metropolitan Washington Council of Governments (MWCOG) Transportation-Land Use Connections (TLC) program. Kittelson & Associates Inc., (Kittelson), in collaboration with Foursquare Integrated Transportation Planning (Foursquare ITP), provided support to the City of Greenbelt, Town of Berwyn Heights, the City of College Park, and their local communities to propose recommendations for the Greenbelt Road Corridor Plan. The project team includes members of the consultant team and staff from the City of Greenbelt and MWCOG. The consultant team evaluated design alternatives for all travel modes and proposed short-term and long-term recommendations along Greenbelt Road (MD 193) between Route 1 and Kenilworth Avenue (MD 201).

The Greenbelt Road corridor is a major east-west state road located in northern Prince George's County. It connects the City of Greenbelt, the Town of Berwyn Heights, and the City of College Park. The corridor supports a growing mixed-use community with recent new residential developments. Several previous and ongoing studies, discussed in the next section, analyzed existing conditions, and identified possible multimodal improvements. This project builds on the previous recommendations and develops new and updated recommendations for facilities for all modes of transport.

Figure 1 shows the study area and corridor.

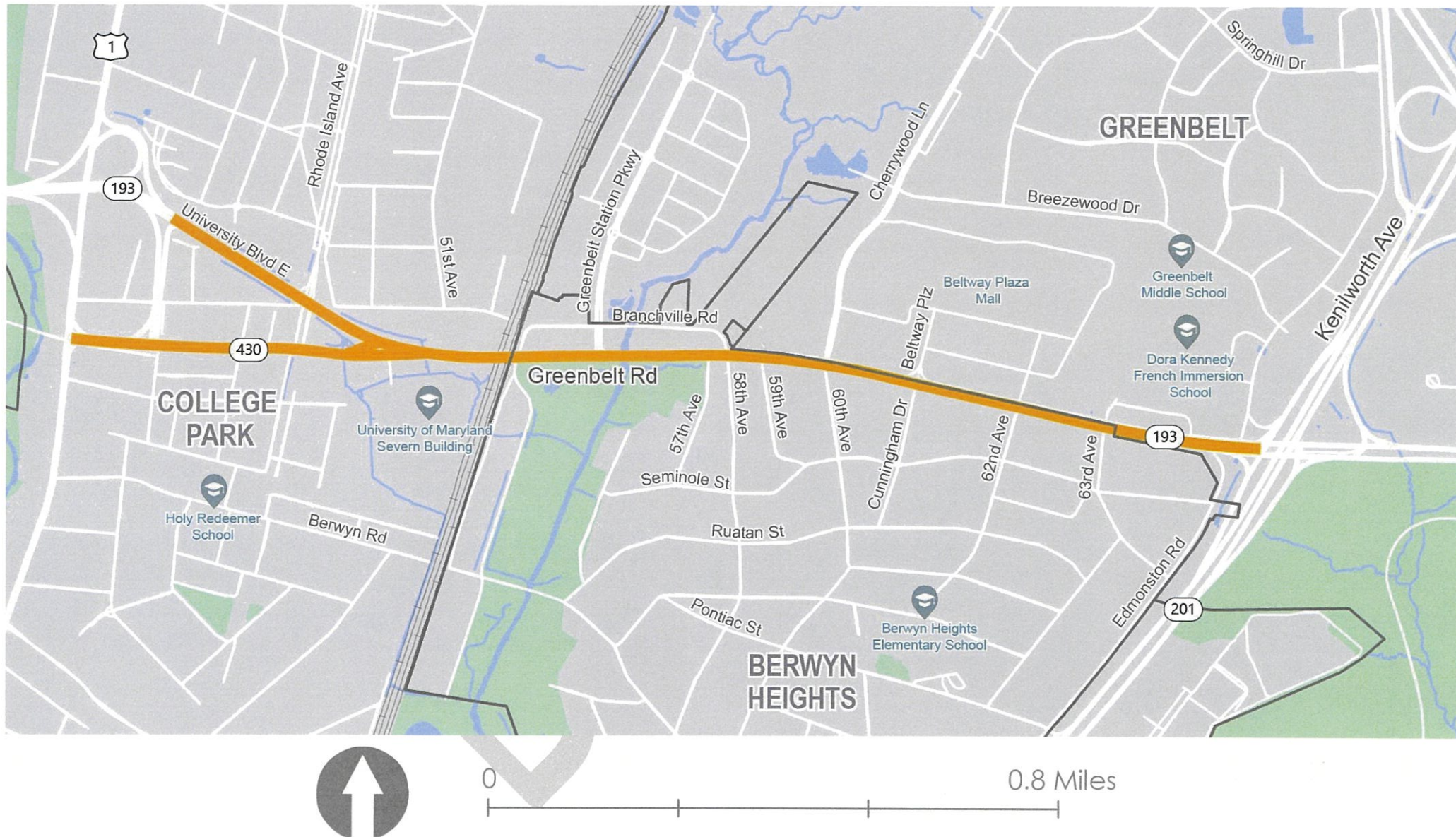


Figure 1. Study Corridor

THE TRANSPORTATION PROJECT PROCESS

Moving transportation projects from needs identification to construction is often an involved process that can take a number of years.



Figure 2 shows the general phases and activities associated with moving a project towards construction. While the graphic shows the project phases linearly, depending on the project, funding, and political circumstances, some of these phases can be combined, skipped, or occur out of order. Smaller efforts, like installing flex-posts or adjustments to signing and markings, can occur relatively quickly, moving from needs identification to planning, engineering, and design almost simultaneously, and towards construction in a manner of months. However, more extensive efforts like the nearby reconstruction of US 1 (Baltimore Avenue) College Avenue to MD 193 (University Boulevard), which the Maryland State Highway Administration (Maryland SHA) is currently undertaking, can take many years and require significant funding.

As noted in Figure 2, the Greenbelt Road (MD 193) Corridor Plan is in the planning stage of the transportation project process. Some Greenbelt Road (MD 193) Corridor Plan outcomes could potentially be moved quickly from the planning stage through engineering and design towards construction; other longer-term recommendations would necessitate a multi-year effort.

Because Greenbelt Road (MD 193) is owned and operated by Maryland SHA and bisects the City of Greenbelt, the Town of Berwyn Heights, and the City of College Park and is located in Prince George's County, coordination between all jurisdictions, in addition to the Washington Metropolitan Area Transit Authority (WMATA), and the Maryland-National Capital Park and Planning Commission (M-NCPPC) as seen during the Greenbelt Road (MD 193) Corridor Plan Study Process, will continue to be necessary.

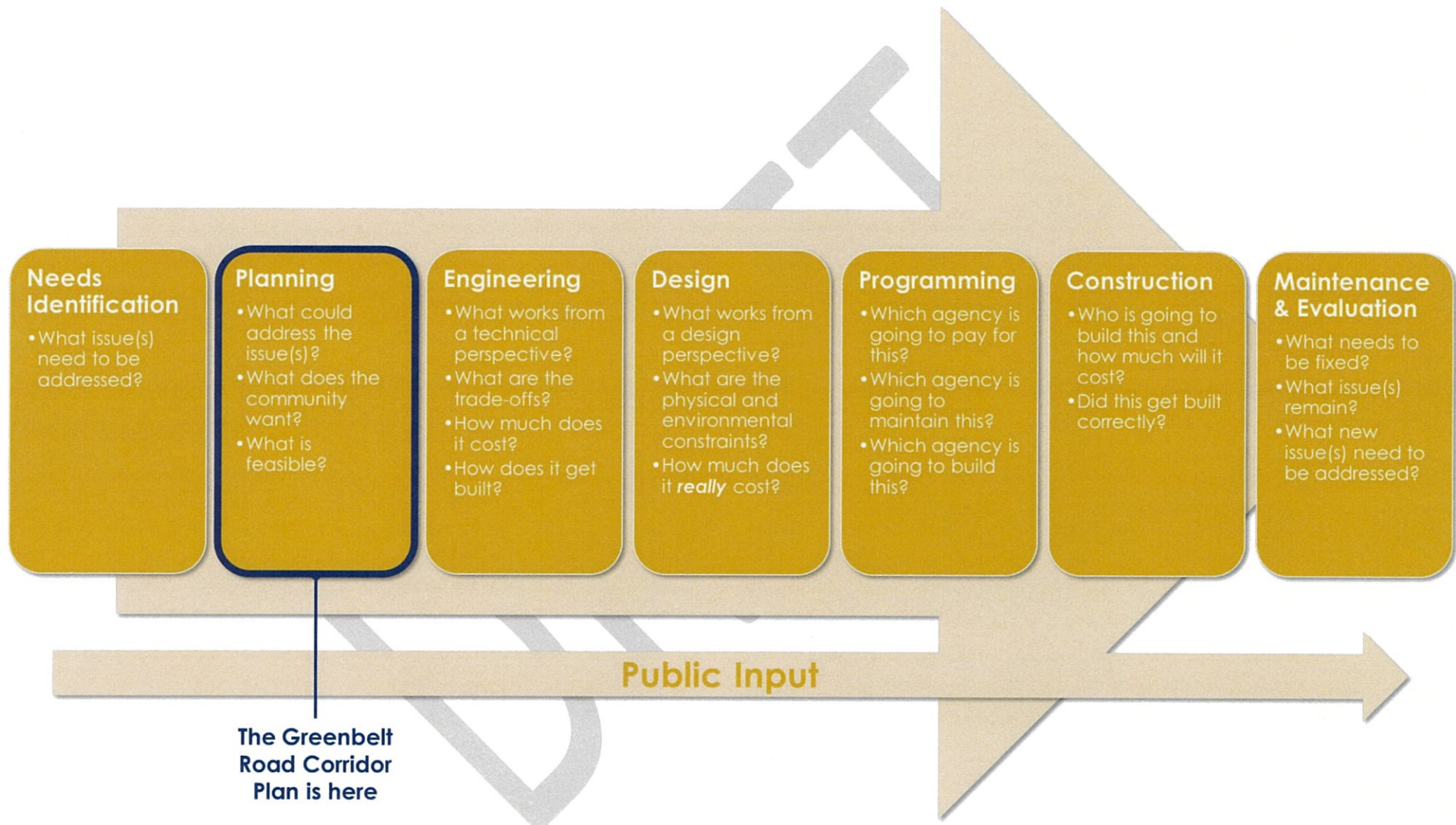


Figure 2. Generalized Transportation Project Process

CORRIDOR STUDIES

Corridor plans and studies, like the Greenbelt Road (MD 193) Corridor Plan, enable early conversation and exploration of community needs, resulting in recommendations that support a cohesive vision for the corridor. The community's role is to share needs, lived experiences, priorities, and ideas. This input helps develop recommendations and inform agency decision-making. The outcome of these efforts is the documentation of expectations for project areas that can be carried forward, referenced, and considered by decision-makers and the public. Factors considered during corridor studies are shown to the right.

PLAN CONSIDERATIONS



Transportation modes



Equity



Landscaping and streetscape



Stormwater and utility limitations



Adjacent land uses, including parks and trails



Property impacts



Future development



Safety

RELATED EFFORTS

Over the past twenty years, various plans, studies, and projects have been conducted and proposed relevant to current Greenbelt Road efforts. This section summarizes a few of these relevant and related efforts to establish a baseline for this project, along with a starting point to understand community interests along the corridor and initial ideas for ideas and recommendations to consider.

MARYLAND SHA DESIGN (2003)

The Maryland SHA released potential design concepts in 2003 that were never implemented. Figure 3 shows the design concept for the section of Greenbelt Road between Cherrywood Lane and 63rd Avenue. The design concepts generally keep the same cross-section along Greenbelt Road that exists today but provide landscaping opportunities in the

medians and along the roadway edges. Further, the design concept fills in the sidewalk gap on the north side of Greenbelt Road between Beltway Plaza and 62nd Avenue that continues to exist today.

GREENBELT METRO AREA AND MD 193 CORRIDOR SECTOR PLAN (2013)

In 2013, the Greenbelt Metro Area and MD 193 Corridor Sector Plan was released. The plan studied called for a unifying experience along the MD 193 Corridor to tie the sector plan area together and foster a shared sense of character and place. The plan sought to support public sector reinvestment in reconstructing the MD 193 Corridor to improve safety and connectivity and complement new land-use regulations and developments. In particular, the sector plan recommends building pedestrian- and bicycle-friendly, low- to moderate-

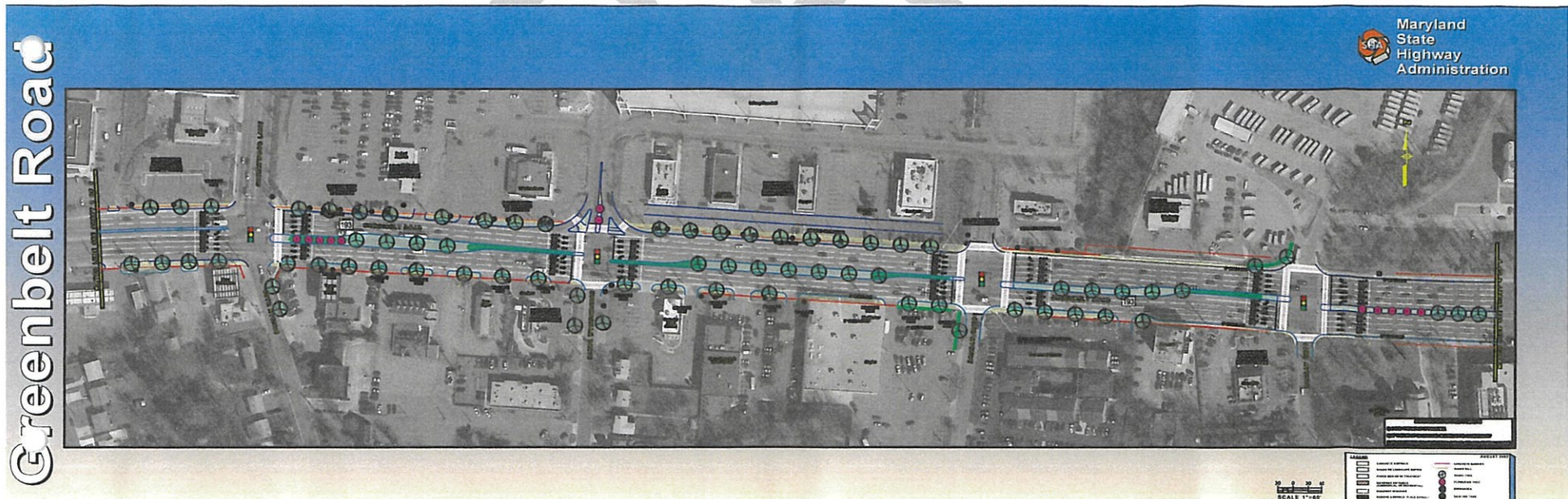


Figure 3. 2003 Maryland SHA Design Concept

density commercial development that distinguishes MD 193 as an important corridor in the county and reducing traffic conflicts by implementing access management techniques such as reducing curb cuts on MD 193, encouraging transit use, introducing pedestrian and bicycle facilities, and encouraging alternate routes for through traffic. Figure 4 shows recommendations from the sector plan, including a "revitalized commercial corridor" along MD 193 (Greenbelt Road) and new and enhanced pedestrian/bike connections across Greenbelt Road connecting the Indian Creek Trail and parallel to Greenbelt Road across Cherrywood Lane in alignment with Breezewood Drive.

GREENBELT BUS STOP SAFETY AND ACCESSIBILITY REPORT (2013)

The 2013 Greenbelt Bust Stop Safety and Accessibility Report reviewed all bus stops in the City of Greenbelt to answer the following questions:

- Can passengers wait at the stop without being in danger?
- Are stops reasonably close to a safe street crossing location?
- Can/Should the street crossing location be improved?
- Can passengers get to the stop along a reasonably safe path?

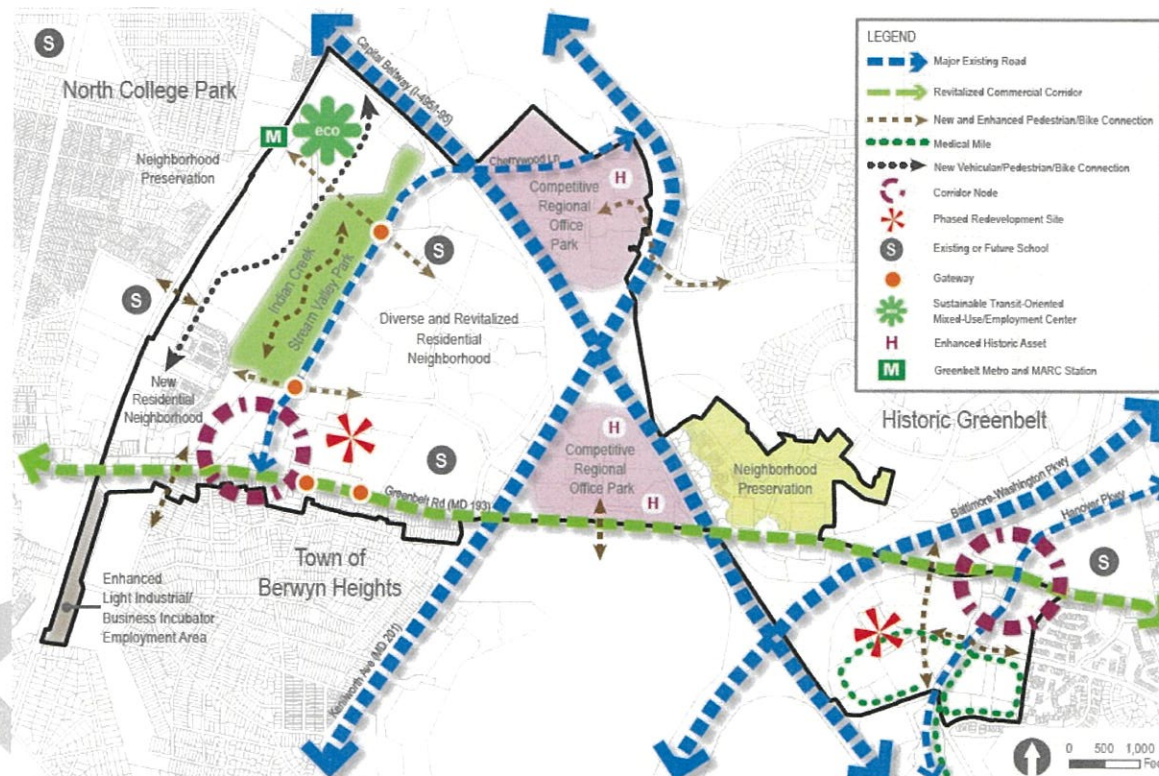


Figure 4. Greenbelt Metro Area and MD 193 Corridor Sector Plan

Along Greenbelt Road, the assessment found that despite all identified bus stops having sidewalks and lighting, the bus stops were not safer than other stops in the City that did not have sidewalks. The study also noted that stops along Greenbelt Road do not have landing pads and that the bus stop with the second-highest number of boardings in the City is the stop located on Greenbelt Road eastbound near Cherrywood Lane.

GREENBELT PEDESTRIAN AND BICYCLIST MASTER PLAN (2014)

The 2014 Greenbelt Pedestrian and Bicyclists Master Plan identified pedestrian and bicyclist access issues and concerns via stakeholder meetings, web-based public input gathering, and evaluating data collected from past City of Greenbelt Advisory Planning Board (APB) efforts to create a pedestrian and bicyclist master plan.

Pertaining to Greenbelt Road, the plan notes:

Greenbelt Road abuts each neighborhood and many of the major destinations in the city and conceivably could provide direct connections between 'pods.' However, several APB members and community stakeholders have said that the road width, and volume and speed of traffic, combined with the perceived lack of bicycle and pedestrian facilities make many feel so unsafe that they routinely seek other alternatives, including driving, taking a bus, or following circuitous routes that take them well out of their way.

Uncomfortable sidewalks were identified by residents on Greenbelt Road from Rhode Island Avenue to Hanover Parkway, with the plan saying, "Sidewalks parallel the high-speed, high volume roadway. There is no buffer along significant stretches and almost no tree shade." At the intersection of Greenbelt Road/63rd Avenue, the long crossing with no pedestrian refuge island was identified as an issue. A resident noted, "Many middle school students cross this street."

High-level recommendations about Greenbelt Road from the Greenbelt Pedestrian and Bicyclists Master Plan are shown in the box to the right.

The city should work with the Maryland State Highway Administration to transform Greenbelt Road into a "livable street" that accommodates motorists, bicyclists, pedestrians, and transit riders safely and comfortably.

Greenbelt Road is the thread that ties the city together. It is the only road that connects all of Greenbelt's neighborhoods, and it is the fastest and most direct route to many of the city's key destinations. Yet, despite its paramount strategic importance for pedestrian and bicycle travel, Greenbelt Road is extremely uncomfortable to navigate by these modes. As a result, people who might otherwise travel by foot and bike choose instead to travel by motor vehicle, contributing to traffic congestion, air pollution, obesity levels, and other ills. In order to create a safer and more comfortable environment for pedestrians and bicycles on Greenbelt Road, the following are recommended:

- Provide continuous, dedicated pedestrian and bicycle facilities along the entire length of Greenbelt Road through the city.
- Slow vehicular speeds both on Greenbelt Road itself and at points where cross-streets and highway on- and off-ramps intersect Greenbelt Road.
- Minimize conflict points through access management.
- Improve the safety and convenience of pedestrian crossings by shortening crossing distances, improving pedestrian visibility, and providing additional crossing opportunities.
- Adjust pedestrian signal timing to ensure adequate crossing time to pedestrians of all abilities. Consider leading pedestrian intervals to increase pedestrian visibility and reduce conflicts between pedestrians and turning vehicles.
- Pursue streetscape enhancements to improve pedestrian and bicyclist comfort. Create buffers to separate vehicular traffic from pedestrian and bicycle traffic. Install trees to provide shade and additional protection from motor vehicles.

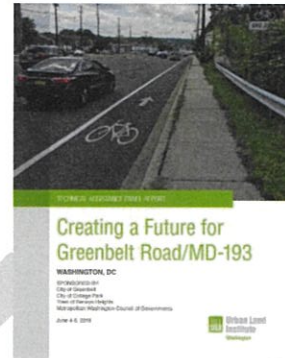
Specific recommendations from the Greenbelt Pedestrian and Bicyclists Master Plan along Greenbelt Road include:

- Construct a sidewalk on the north side of Greenbelt Road between Cunningham Drive and 62nd Avenue; install a crosswalk across Cunningham Drive on the north side of Greenbelt Road (High Priority, requires coordination with Greenbelt Plaza and Maryland SHA)
- Pedestrian improvements at the intersection of Greenbelt Road (MD 193)/63rd Avenue (Medium Priority, requires coordination with Maryland SHA)
- Install shared-lane markings (sharrows) on Branchville Road from Greenbelt Road to Berwyn Road (Medium Priority, not City of Greenbelt Right-of-Way)
- Construct a grade-separated crossing at the intersection of Greenbelt Road (MD 193)/Edmonston Road (Medium Priority, State of Maryland Right-of-Way)

GREENBELT SENIOR MOBILITY AND ACCESSIBILITY NEEDS AND BARRIERS STUDY (2017)

The 2017 Greenbelt Senior Mobility and Accessibility Needs and Barriers study identified key areas where Greenbelt's older adult and disabled populations are underserved and recommended transportation projects to serve these populations best. The study included a survey, with one resident saying, "I find Greenbelt Road too dangerous to cross at any intersection any time of the day."

The study identified improvements to the built environment as a key to providing mobility options and quality of life improvements to the entire community, not just seniors and people with disabilities.



CREATING A FUTURE FOR GREENBELT ROAD/MD-193 (2018)

This technical assistance panel report aimed to support local stakeholders in addressing economic, land-use, and transportation challenges along Greenbelt Road with holistic recommendations to improve the community's quality of life. One of the common themes for ideas for future development included prioritizing pedestrian and bicycle improvements, such as increasing safety for pedestrians and cyclists, improving connections between destinations, and adding to the existing trail network. The study also assessed various alternatives for the existing roadway to improve functionality for all road users. Input to the study was provided by a panel including residents, employers, and city representatives.

WALKABLE BIKEABLE BERWYN HEIGHTS TASK FORCE RECOMMENDATIONS (2020)

The 2020 Walkable Bikeable Berwyn Heights, Task Force Recommendations, identifies a series of recommendations to build on recent successful efforts to upgrade their pedestrian infrastructure. The recommendations, notably many of which could be implemented at relatively low cost, are intended to "make the Town an even friendlier place for pedestrians and both commuter and recreational cyclists."

Along Greenbelt Road, the Task Force identifies opportunities for wayfinding signage to direct people biking to more comfortable routes, several quick-build options near specific businesses, and options for improving crossings across

Greenbelt Road. The bolder “reach for the sky” recommendations encourage the Town to work with Maryland SHA and the City of Greenbelt to consider pedestrian overpasses across Greenbelt Road at 58th Avenue, Cunningham Drive, and 63rd Avenue. Additionally, the Task Force recommends the Town work with property owners along Greenbelt Road to build infrastructure, including high-quality bicycle racks, sidewalks, and footpaths to encourage cyclist and pedestrian traffic.

PRINCE GEORGE'S COUNTY 2035 MASTER PLAN OF TRANSPORTATION (2021 - ONGOING)

Prince George's County 2035 Master Plan of Transportation is expected to be finalized in September 2023. The master plan will assess existing conditions, define new visions and goals, and provide strategies for implementing proposed recommendations. The Greenbelt Road corridor has been identified as a priority for Prince George's County in existing condition analyses. Greenbelt Road between Route 1 and Kenilworth Avenue (MD 201) has been identified as a high priority, Tier 1 segment for bike facility improvements with proposals for a shared-use path. The corridor section along University Boulevard has been marked as a Tier 2 priority segment for the same proposed facilities. The area north of the corridor has also been identified as a pedestrian focus area for facility improvements.

ADJACENT BICYCLE AND PEDESTRIAN DESIGNS AND PROJECTS

Several other bicycle and pedestrian-focused efforts adjacent to the study area include the City of Greenbelt's **Cherrywood**

Lane Green and Complete Street Retrofit, shown in Figure 6. The proposed concept design includes one-way separated bike lanes on Cherrywood Lane between Breezewood Drive and the Greenbelt Metrorail Station. In addition to providing a comfortable bike facility on Cherrywood Lane, the proposed plans would shorten pedestrian crossing distances, provide pedestrian refuge islands for people crossing Cherrywood Lane, and improve bus stops and transit facilities.

The City of Greenbelt's **Greenbelt Station WMATA Trail** provides a design for a trail connection between Greenbelt Station and the Greenbelt Metrorail Station. The design connects to the existing Indian Creek Trail and includes a section with a ten-foot-wide boardwalk, with the rest of the trail consisting of a nine-foot wide asphalt trail.

The City of College Park's **Rhode Island Avenue Protected Bike Lane** project, shown in Figure 5, provides a comfortable bicycle facility on Rhode Island Avenue north of Greenbelt Road to connect north College Park and the Hollywood Commercial District with downtown College Park, Riverdale Park, Hyattsville, and Metro/MARC via the existing Rhode Island Avenue Trolley Trail south of Greenbelt Road.



Figure 5. Rhode Island Avenue Protected Bike Lane Rendering

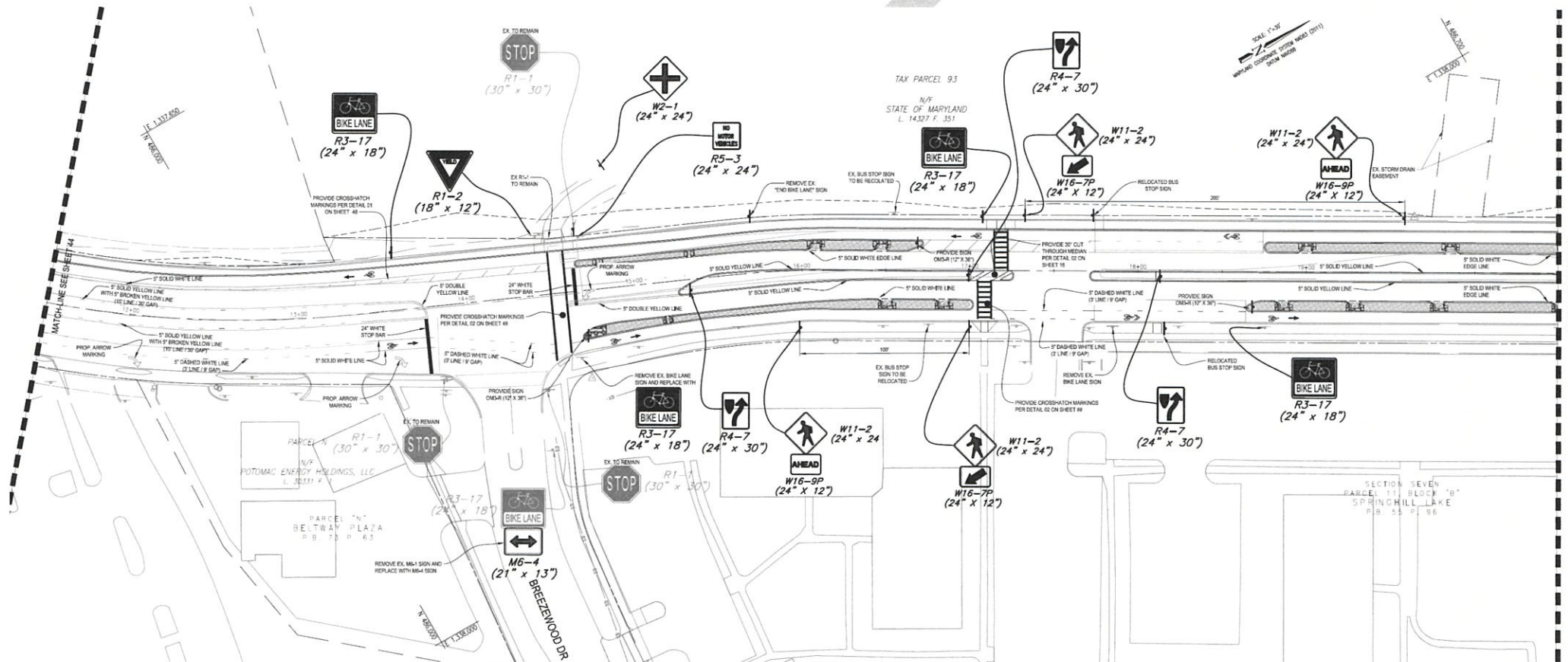


Figure 6. Proposed Separated Bike Lanes on Cherrywood Lane between Breezewood Drive and the Greenbelt Metrorail Station

EAST COAST GREENWAY

The East Coast Greenway connects 15 states and 450 cities and towns for 3,000 miles from Maine to Florida. The Greenway is implemented through partnerships with local, state, and national agencies and organizations to promote the establishment, stewardship, and public enjoyment of a safe and accessible multi-user greenway linking cities and towns from Maine to Florida. The East Coast Greenway, shown in Figure 8 with Greenbelt Road identified, "provides a safe space for people of all ages and abilities to develop active lifestyles, interact and make positive impacts on the environment, boost local economic development, and connect with diverse communities." As shown in Figure 7, Greenbelt Road provides a crucial connection along the East Coast Greenway from Cherrywood Lane to the north to the Indian Creek Trail to the south.

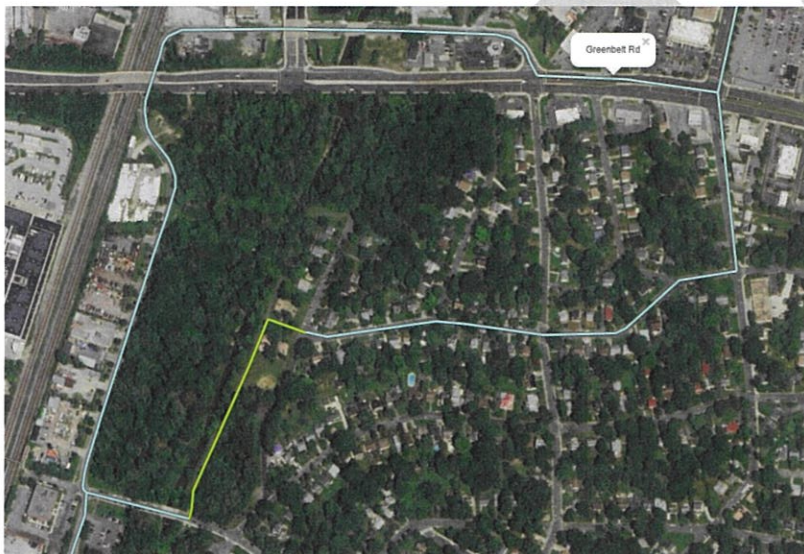


Figure 7. Greenbelt Road on the East Coast Greenway

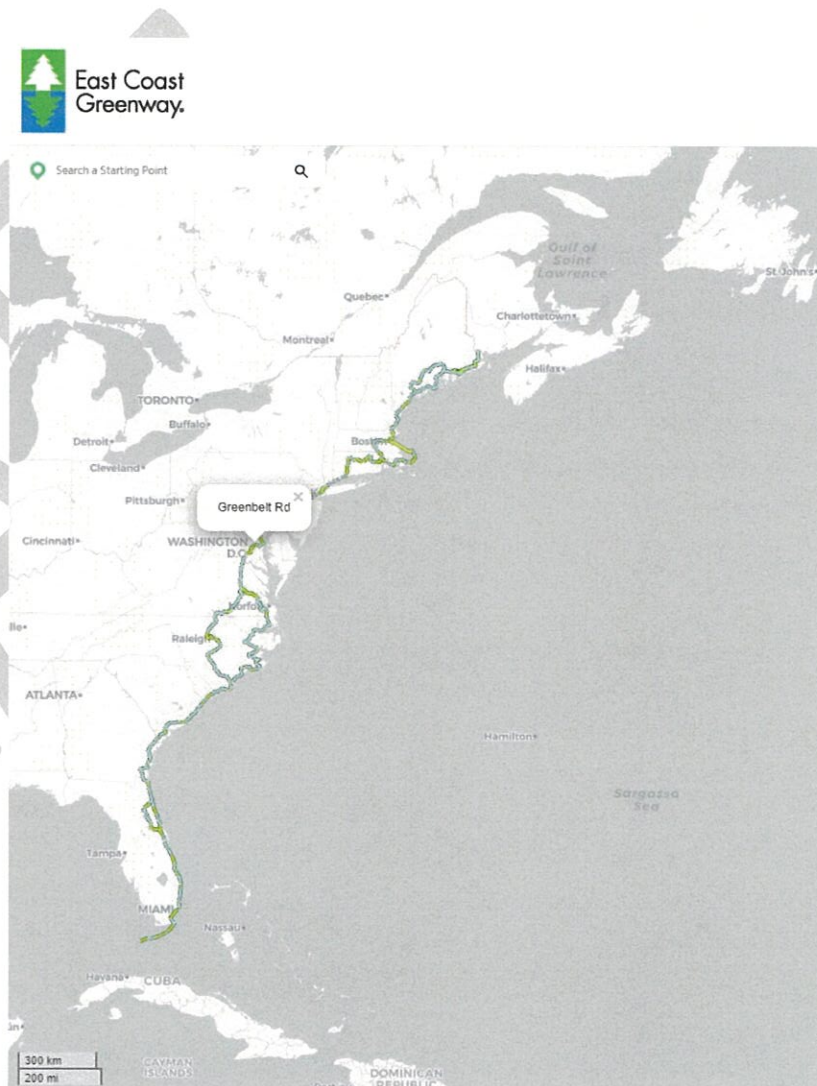


Figure 8. East Coast Greenway

COMMUNITY WALK HOSTED BY DELEGATE WASHINGTON



THE MARYLAND HOUSE OF DELEGATES

In September 2021, Maryland State Delegate Alonzo T. Washington led a community walk of Greenbelt Road between US Route 1 and Kenilworth Avenue. While the community walk preceded the kick-off of the Greenbelt Road (MD 193) Corridor Plan study process, the timing of the walk and information gleaned from the effort led by Delegate Washington proved advantageous to the study process.

After the community walk, Delegate Washington documented Areas of Concern identified during the walk in a letter to Maryland SHA requesting short-term immediate safety concerns be addressed and long-term funds allocated “for a comprehensive streetscape and pedestrian safety revitalization plan as requested by [Prince George’s] County.”

The following list summarizes the Areas of Concern listed in Delegate Washington’s letter:

■ **Greenbelt Road Corridor**

- Sidewalks are narrow and not friendly for people walking
- Lack of usable bicycle facilities along the length of the corridor, with no bike connectivity to the Indian Creek Trail or the Rhode Island Avenue Trolley Trail
- Bus stops are not ADA compliant
- Sidewalks are cracked and in poor condition
- Crosswalk markings are hard to see and lack visibility
- The medians along the corridor are old, outdated, and ugly

■ **Greenbelt Road/Rhode Island Avenue**

- A right-turn-only lane on the westbound University Boulevard (MD 193) approach has a receiving lane across Rhode Island Avenue, and drivers were observed misusing the lane as a through lane

■ **Greenbelt Road Bridge over CSX and WMATA rail tracks**

- A guard rail prevents access to steps leading to Branchville Road

■ **Greenbelt Road/Greenbelt Station Parkway**

- The pedestrian crossing signal on the south side of Greenbelt Road is located behind a fence, creating accessibility issues
- Maintenance requested for a felled sign and damaged fence

■ **Greenbelt Road/Cunningham Drive Intersection**

- Both the bike lane and sidewalk end abruptly
- Landscape overgrowth and sign maintenance requested
- Crosswalk markings are faded and lack visibility
- No sidewalk on the north side of Greenbelt Road between Cunningham Drive and 62nd Avenue

■ **Greenbelt Road/62nd Avenue Intersection**

- Both the bike lane and sidewalk end abruptly
- Landscape overgrowth and sign maintenance requested
- Crosswalk markings are faded and lack visibility

■ **Greenbelt Road/63rd Avenue Intersection**

- Insufficient crossing time across Greenbelt Road, along with a lack of a pedestrian refuge island
- Crosswalk markings are faded and lack visibility

Maryland SHA Response

As a follow-up to the walk, the Maryland SHA committed to the following:



- Upgrade all crosswalks along the corridor to the new high visibility or Continental Crosswalk standard as soon as warmer weather returns in the Spring
- A series of service requests to trim and mow and address downed signs
- A corridor-wide speed limit reduction
- A shared concern about the lack of bicycle connectivity and the evaluation of opportunities to improve bicycle accommodations
- The review of the Greenbelt Road Corridor Plan (this study)
- Proposing to install vertical delineators behind the crosswalk at the University Boulevard/Rhode Island Avenue intersection to prevent drivers from using the right-turn lane as a through lane
- Addressing the concern regarding the pedestrian pushbutton located behind the fence at the Greenbelt Road/Greenbelt Station Parkway intersection

- The pursuit of a new crosswalk across the south leg of the Greenbelt Road/60th Avenue intersection, along with No Turn on Red signs along the eastbound and westbound Greenbelt Road approaches
- After identifying substandard pedestrian pushbuttons and signal posts at the Greenbelt Road/62nd Avenue intersection, SHA relayed the information to be addressed. Further, SHA is "pursuing and developing the necessary documentation to install a new crosswalk along the east leg of the intersection"
- The review and consideration of supplemental walk time to cross Greenbelt Road at 63rd Avenue and "perhaps modifying the programming for specific peak hours associated with pedestrian demand on the south leg"

Appendix A contains Delegate Washington's letter to Maryland SHA along with Maryland SHA's response to Delegate Washington.

The consultant team recommends Maryland SHA complete the tasks identified in their response to Delegate Washington.

GREENBELT ROAD (MD 193) CORRIDOR PLAN STUDY PROCESS

The project team developed a streamlined planning process to guide the project through various tasks. The project began with a technical kick-off meeting held on December 9, 2021, which included representatives from the City of Greenbelt, Town of Berwyn Heights, City of College Park, Prince George's County, M-NCPPC, WMATA, and Maryland SHA. As part of the existing conditions analysis, the consultant team developed a series of maps based on readily available data. This information was discussed with the general public during a visioning meeting on February 10, 2022. At the same time, an interactive project map discussed further in the Community Outreach section of this document was made available for public commenting.

A corridor field walk with representatives from the City of Greenbelt, Town of Berwyn Heights, City of College Park, Prince George's County, Maryland SHA, and WMATA was held on March 9, 2022.

Using the information from the visioning meeting alongside the outputs from the existing conditions analysis and field walk, opportunities along the

corridor were identified, vetted, reconsidered, and modified to establish draft recommendations.

These recommendations were discussed at a City of Greenbelt Council work session on March 23, 2022, which included elected officials from the Town of Berwyn Heights and the City of College Park.

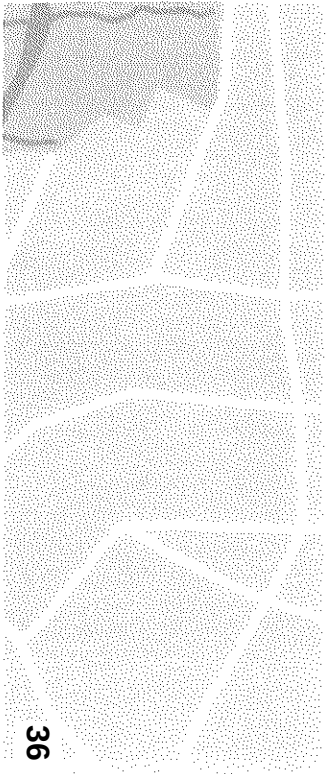
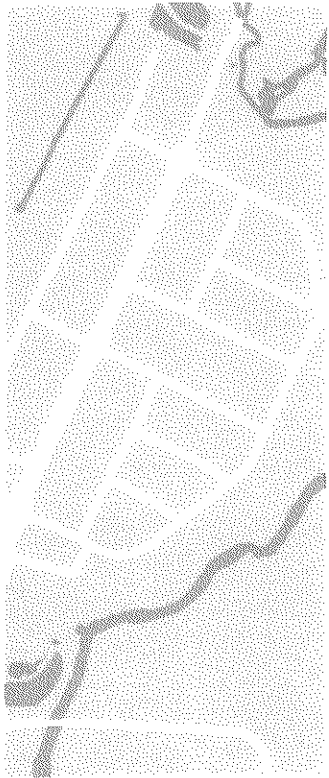
The recommendations were revised and refined using feedback from the work session, and a draft Greenbelt Road (MD 193) Corridor Plan was provided to the City for review in late April 2022. Feedback was received from Agency Placeholder, Agency Placeholder, Agency Placeholder, Agency Placeholder, Agency Placeholder, and Agency Placeholder in May 2022, and the report was finalized in June 2022.

Figure 9 shows the overall planning process.



Figure 9. Corridor Study Process





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Section 2 Project Goals



PROJECT GOALS

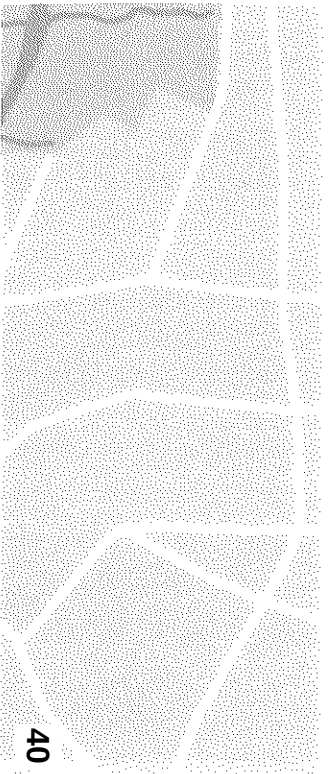
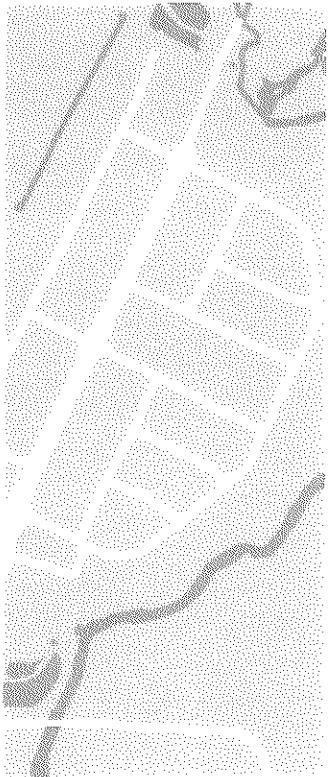
At the onset of the project, the project team identified four draft goals for the project. The goals are intended to further the overarching vision of creating a well-connected, safe, and accessible corridor along Greenbelt Road. The draft goals were presented to the public at the visioning meeting on February 10, 2022. Feedback from that meeting was used to modify the goals to better reflect community feedback. Figure

10, below, displays the final community-identified project goals.



Figure 10. Project Goals





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Section 3 Community Outreach



COMMUNITY OUTREACH

The project team developed multiple engagement opportunities to hear directly from residents and visitors.

This feedback was used to understand the community's concerns and desires regarding the Greenbelt Road (MD 193) corridor. The City of Greenbelt created a project website (<https://www.greenbeltmd.gov/government/greenbelt-road-md-193-corridor-plan>) to provide information about the project and alert the community to upcoming activities. The project team led a visioning meeting and developed an interactive map to share information and hear about the project from residents, visitors, employees, and business owners. The interactive map remained open for public feedback through the end of March 2022 and remains available for the public to see comments and review existing conditions information about the corridor. The project team also facilitated a field walk and council work session in March 2022.

VISIONING MEETING

A virtual visioning meeting was hosted on February 10, 2022. A total of 61 participants joined the meeting. City staff kicked off the meeting, and presenters from the consultant team reviewed the corridor plan process and area, discussed the corridor plan goals, the existing conditions and opportunities, and facilitated breakout rooms and group discussions before reviewing the interactive map.

During the visioning meeting, the public was asked to engage with the project team by responding to questions using interactive polling and collecting participant feedback using Slido. During the meeting, participants were asked six questions, which are displayed with the responses received in Figure 11. As shown, the community expressed strong feelings about the current "unfriendly, dangerous, and ugly" road, and expressed a desire to be able to use the road to bike, walk, and reach parks and nearby retail establishments on foot or by biking. During the Slido engagement, responses were received from 42 unique participants.

Facilitated breakout groups were used to collect additional feedback from residents. Questions were answered throughout the meeting and during a question and answer session to respond to any immediate questions or comments. **A link to a recording of the public presentation, along with presentation slides, are available in Appendix A**



Figure 11. Visioning Meeting Questions and Community Responses

INTERACTIVE MAP

From February 10, 2022, through March 31, 2022, the project team hosted [an interactive map](#) to gather location-specific feedback on issues and opportunities along the Greenbelt Road (MD 193) Corridor. There were 128 comments submitted on the interactive map. The comments were consistent with the feedback obtained during the visioning meeting. They reflected a powerful desire to change the character and feel

of Greenbelt Road from a facility that is hostile to people walking and biking to a roadway that connects users to destinations and is designed to facilitate the demand for people to walk and bike along and across the roadway.

Figure 12 shows the interactive map, and comments from the interactive map are available in Appendix B.

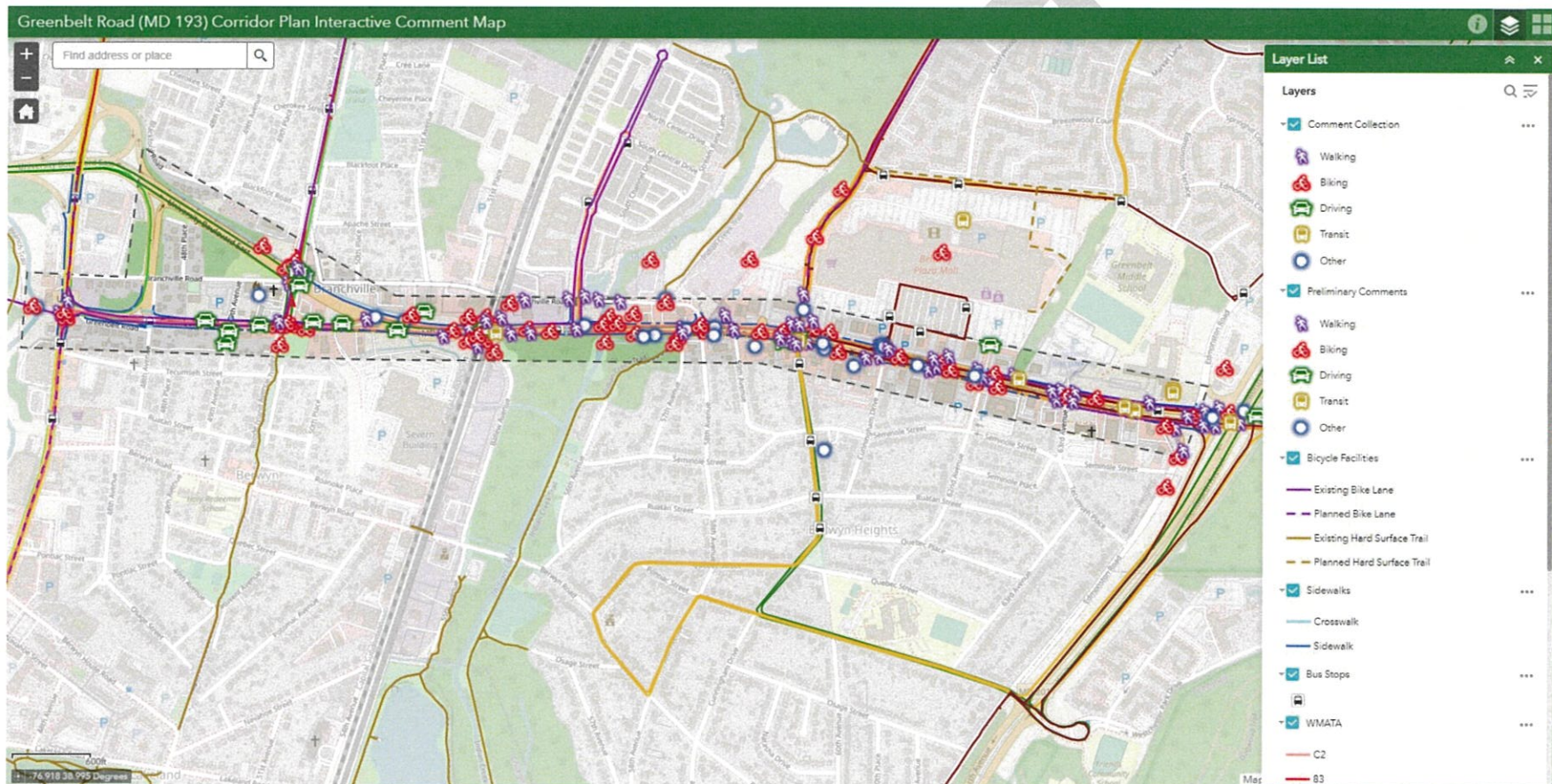
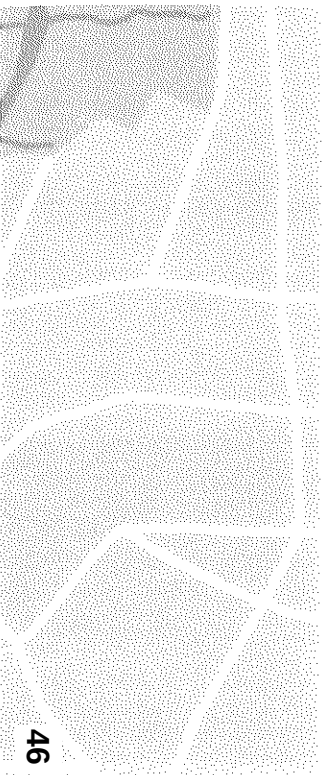
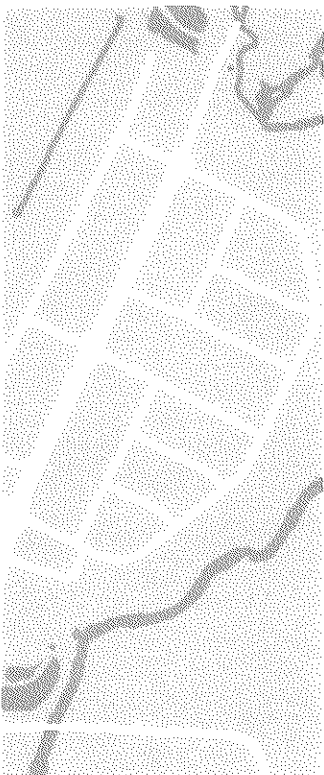


Figure 12. Interactive Map





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Section 4 Roadway and Area Characteristics



ROADWAY AND AREA CHARACTERISTICS

This section summarizes the study area, focusing on the roadway right-of-way and curb-to-curb width, utilities, existing land uses and equity information, pedestrian and bicycle facilities, transit services, traffic conditions, and recent crash history.

RIGHT-OF-WAY

In corridor planning, the “right-of-way” typically refers to the area owned by a public agency and reserved for transportation purposes. Along Greenbelt Road (MD 193), the Maryland SHA owns the right-of-way. Accordingly, Maryland SHA has ultimate control over plans and designs for the area within the corridor’s right-of-way. Adjacent to the corridor’s right-of-way, the land is owned by a variety of public and private entities.

When re-imagining a corridor like Greenbelt Road (MD 193), it is easier to work within the existing right-of-way because a public agency already owns this land, and the proposed use would be consistent with the right-of-way’s designated reserved use for transportation purposes. New facilities that do not repurpose current facilities, like additional vehicular travel lanes, dedicated transit lanes, bike lanes, expanded sidewalks, or landscaping, all require space within a roadway’s cross-section (the “width” of the roadway). Proposed cross-sections that extend into adjacent properties would require expensive property acquisition and are much more challenging to fund and construct than designs that fit within a roadway’s available right-of-way. For this reason, design concepts on Greenbelt Road (MD 193) that necessitate taking land beyond

the available right-of-way are not preferred unless the property take is unavoidable and provides a significant benefit. However, design concepts that fit within the corridor’s right-of-way would not require property takes and provides opportunities for redesigning or reconfiguring the roadway.

The consultant team measured the approximate right-of-way widths along Greenbelt Road (MD 193) from the distances between parcels using available parcel data from Prince George’s County Planning Department. Along most of the corridor, the approximated right-of-way extends 10 to 15 feet on both sides of the roadway beyond the edge of the sidewalk. However, property that has been developed, or, as shown in Figure 13, steep topography, can limit the ability to use available right-of-way, even where right-of-way is available.

Figure 14 displays the approximate right-of-way widths along the study corridor. The right-of-way along Greenbelt Road is approximately 120 feet wide in the middle of the corridor, with most sections ranging between 120 feet to 140 feet. The section of Greenbelt Road designated as MD 430 has a right-of-way of approximately 80 feet, as does the bridge over the CSX and WMATA rail tracks. The intersections of Greenbelt Road/48th Avenue and Greenbelt Road/University Boulevard each have a right-of-way of approximately 225 feet. Figure 15 illustrates the typical cross-section on Greenbelt Road (MD 193) within the available right-of-way, and Figure 16 shows the bridge’s cross-section over the CSX and WMATA rail tracks.



Figure 13. Steep Topography alongside Greenbelt Road (MD 193) limits options even where right-of-way is available

CURB-TO-CURB WIDTH

Within the corridor right-of-way, the area between the curbs (the "curb-to-curb width") provides more immediate opportunities for short-term improvements as there are no conflicts to be addressed with adjacent property owners or topography. As discussed in the next section, long-term

recommendations extending beyond the curb-to-curb width may also be constrained by the cost of moving or relocating utilities. For these reasons, design concepts that fit within the corridor's existing curb-to-curb width are preferred.

Approximate measurements of the available curb-to-curb width were taken using aerial images from Google Earth. Figure 17 displays the curb-to-curb widths along the corridor. The typical curb-to-curb width is 80 to 90 feet, but the curb-to-curb width along Greenbelt Road ranges from 72 feet wide on the bridge over the CSX and WMATA rail tracks, as displayed visually in Figure 16, to 118 feet east of 63rd Avenue. The section of Greenbelt Road, designated as MD 430, has a curb-to-curb width of approximately 60 feet.

THE BRIDGE

The bridge over the CSX and WMATA rail tracks provides a constrained section of right-of-way and curb-to-curb width. Based on research conducted by the consultant team, the current bridge was built in 1942 and reconstructed in 1988. According to information from the Federal Highway Administration's [Long-Term Bridge Performance](#) program, the bridge has sidewalk widths of 4.3 feet and 4.9 feet, with "fair" deck condition and superstructure ratings and "satisfactory" substructure ratings. The bridge is not listed as structurally deficient and is not listed as a ["poor" rated bridge](#) by Maryland SHA.

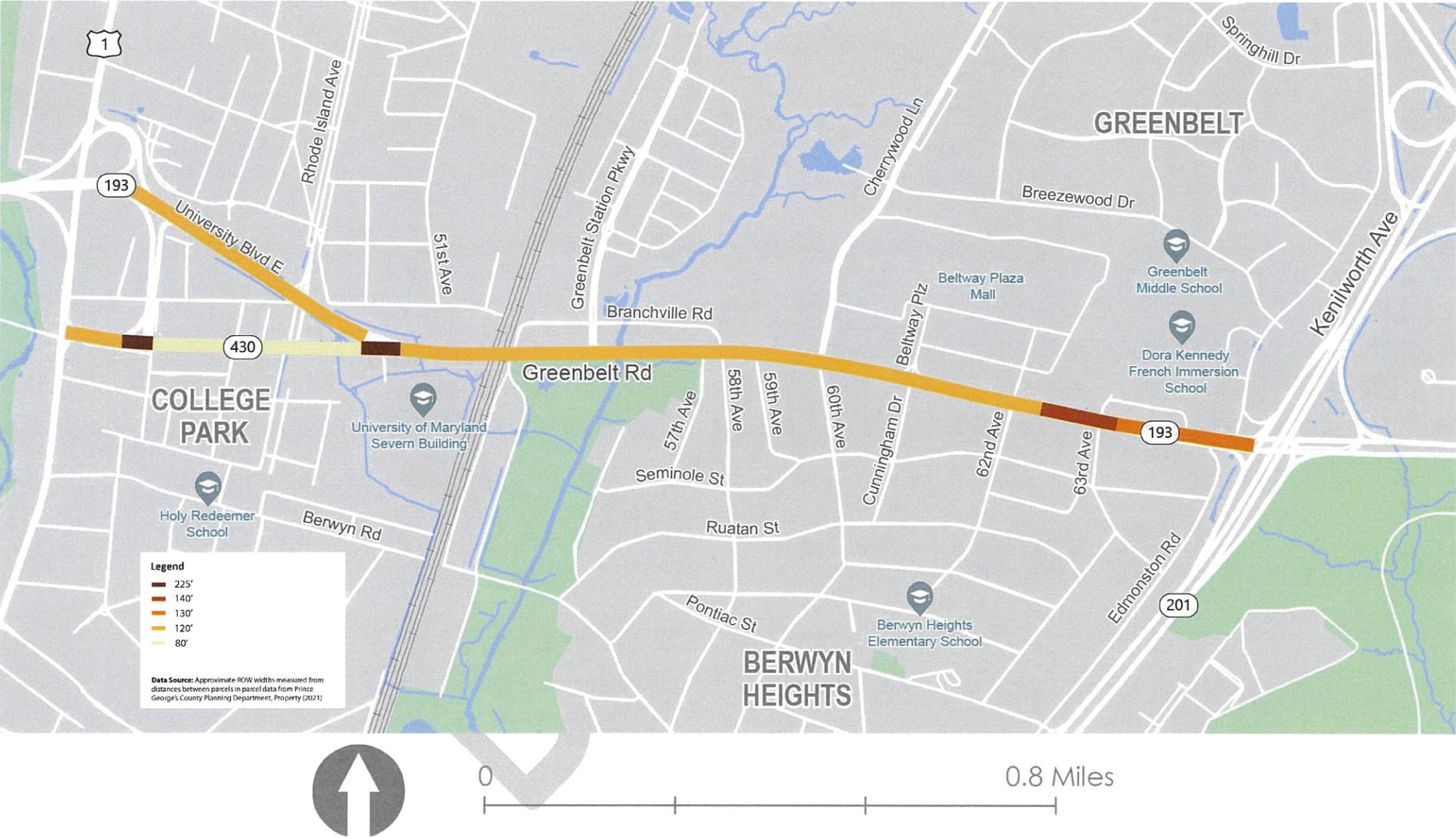


Figure 14. Approximate Right-of-Way Widths

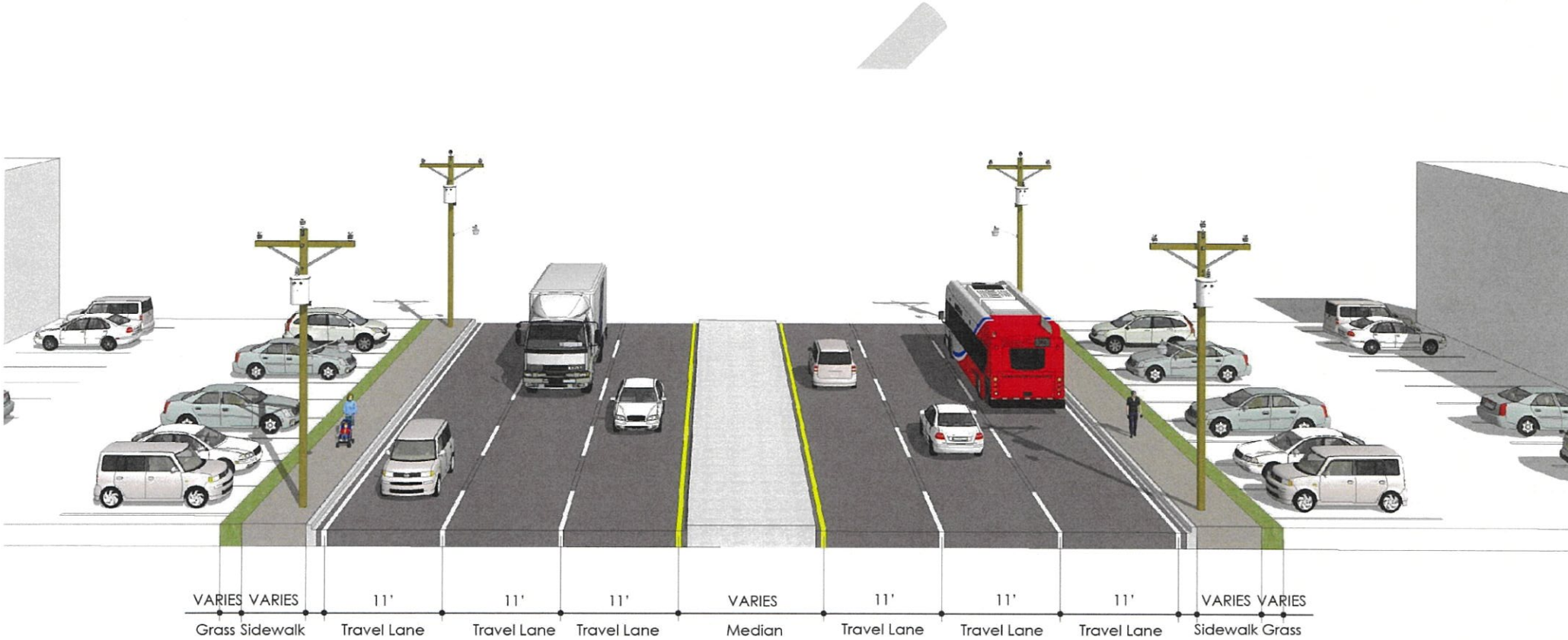


Figure 15. Existing "Typical" Greenbelt Road (MD 193) Corridor Cross-Section

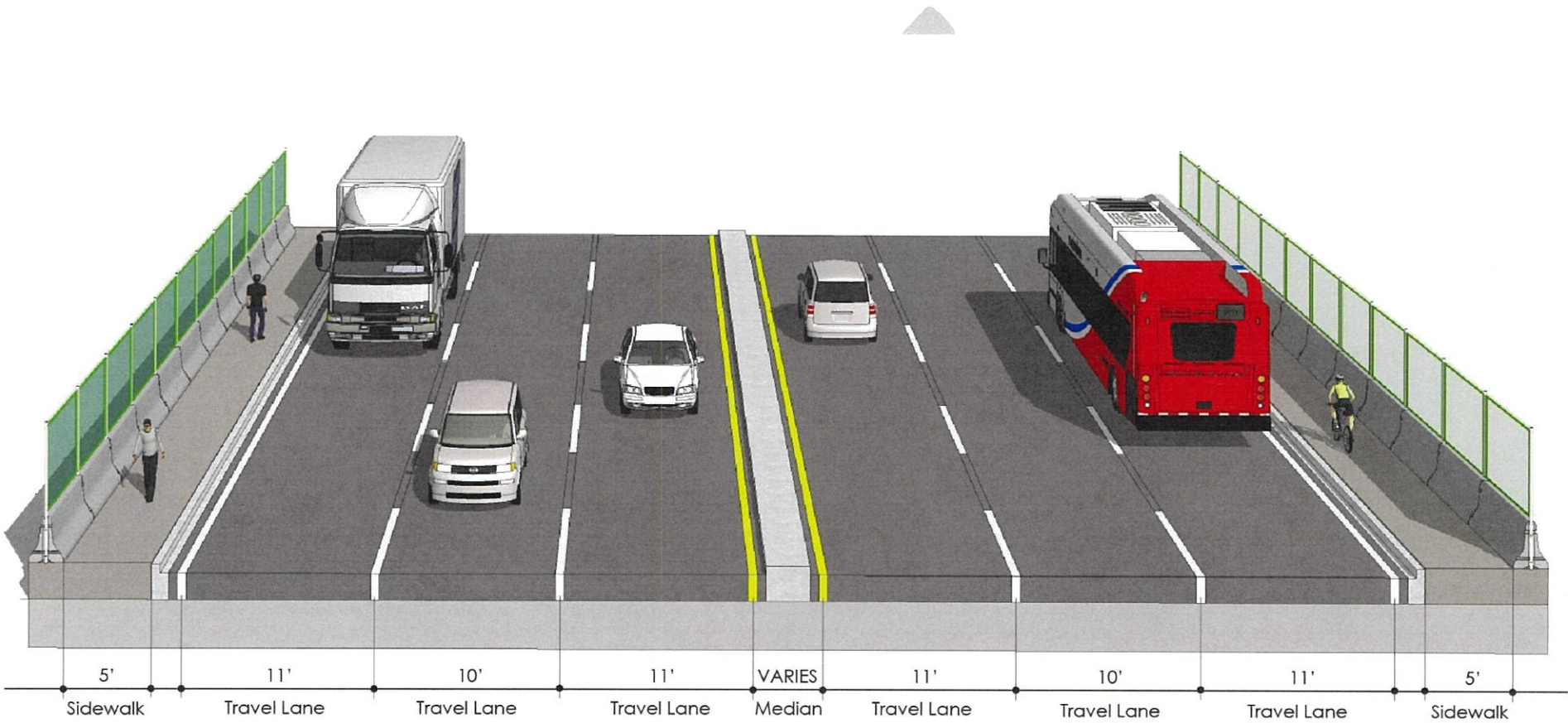


Figure 16. Existing Bridge Cross-Section

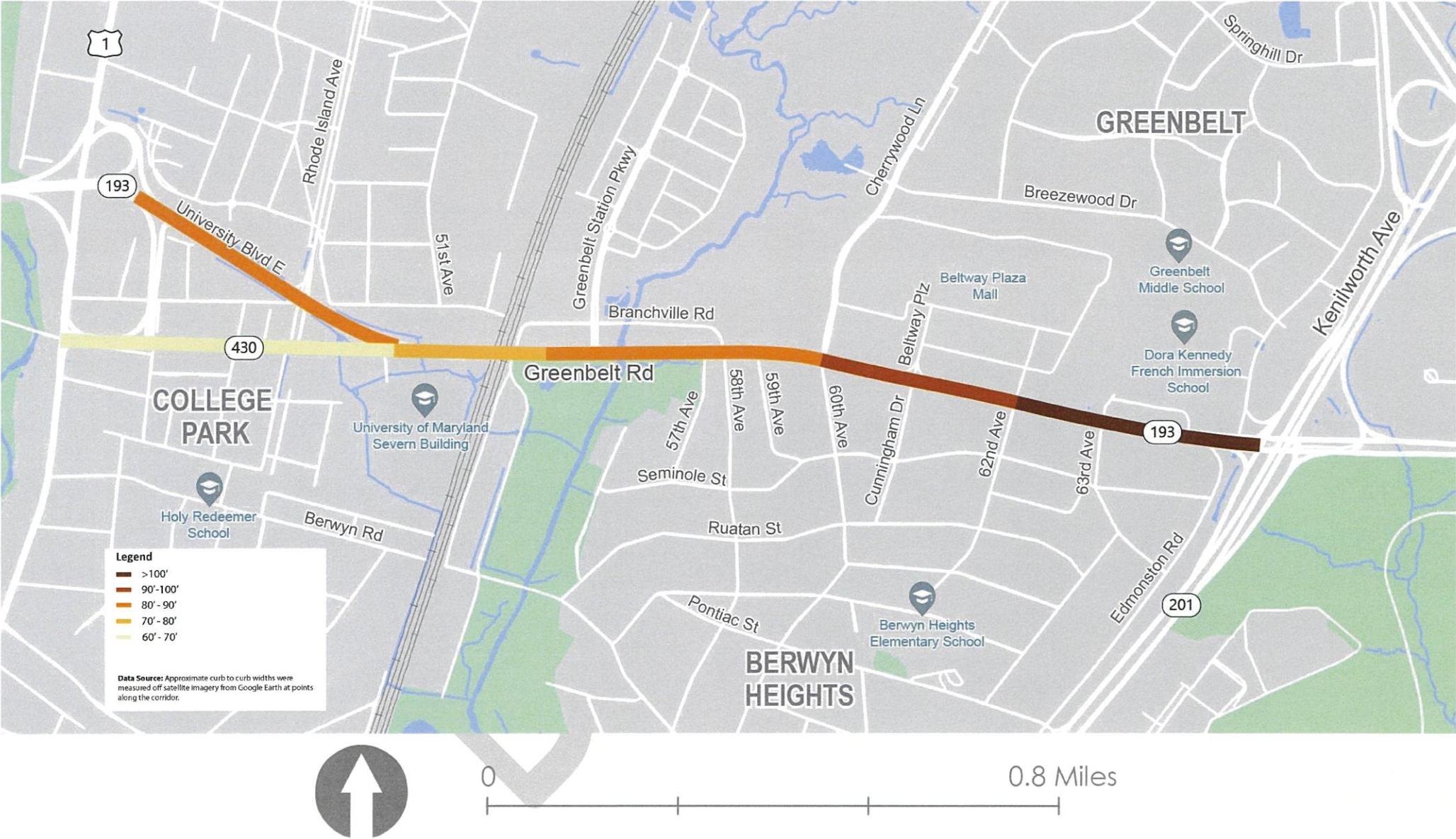


Figure 17. Approximate Curb to Curb Widths

UTILITIES

Overhead utilities are present along Greenbelt Road, with utility poles often located in the middle of sidewalks on both sides of the roadway, as shown in Figure 18. The presence of overhead utilities results in a less activated space and can create a less welcoming environment for pedestrians, bicyclists, and transit users on the study corridor. Further, the location of utility poles in the middle of the sidewalk creates accessibility challenges, particularly for people with low or no vision and people with mobility disabilities. We assume the presence of overhead utilities, utility poles, and associated guy wires present constraints for longer-term vision recommendations and impact the feasibility of specific alternatives.

POSTED SPEED LIMIT

As shown in Figure 19, the posted speed limit along the primary portion of Greenbelt Road, designated as MD 193 40 mph, and the posted speed limit along the portion of Greenbelt Road, designated as MD 430, is 30 mph. Based on conditions observed during the field walk on March 9, 2022, and referenced in the previous plans and studies, particularly Delegate Washington's letter to Maryland SHA, it is likely that the operating speeds on Greenbelt Road exceed the posted speed limits.



Figure 18. Utility pole in the middle of the sidewalk between Cunningham Drive and 61st Avenue (Google Streetview)

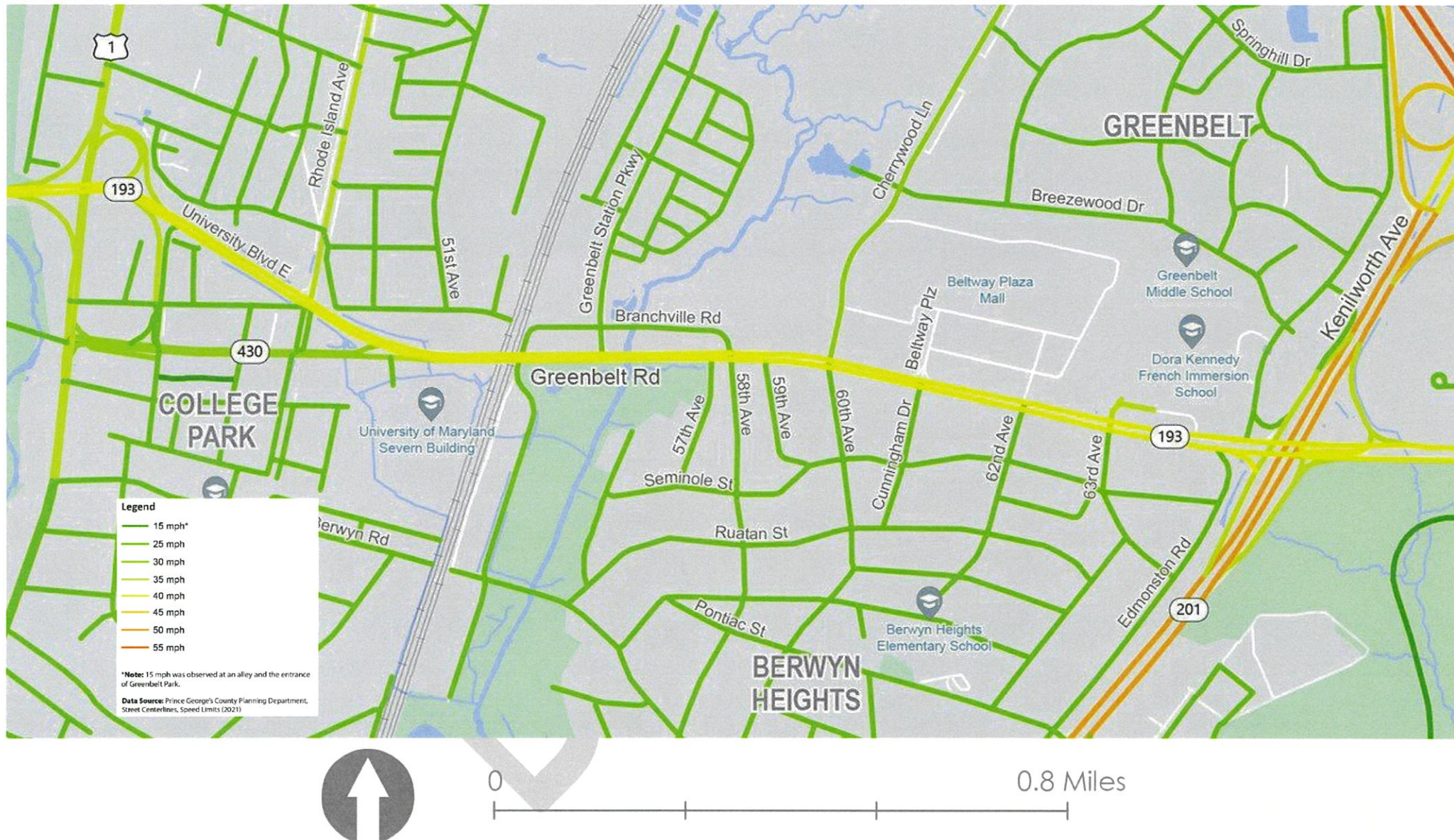


Figure 19. Posted Speed Limits

EXISTING LAND USE

The study area has a mix of residential, commercial/retail, and institutional land uses. Single-family residential uses are concentrated along the stretch of Greenbelt Road designated as MD-430 between Route 1 and Rhode Island Avenue. Between Rhode Island Avenue and MD 193, Greenbelt Road is fronted by retail land uses and the entrance to the University of Maryland's (UMD's) Severn Library, which houses UMD Library's high-density shelving facility, and contains unique, semi-rare, and important research collections. University Boulevard between Route 1 and 57th Avenue is a vehicular connection with little interaction with land uses. Commercial and retail land uses are concentrated along Greenbelt Road between 57th Avenue and 63rd Avenue. Some institutional land uses along the corridor include the French Immersion School and Greenbelt Middle School, located north of Greenbelt Road between 63rd Avenue and Kenilworth Avenue. Figure 20 provides examples of corridor land uses, and Figure 21 shows the existing land uses in the study area.

**Residential uses
along Greenbelt
Road between
Route 1 and Rhode
Island Avenue.**



**Commercial and
retail land uses
fronting Greenbelt
Road between 57th
Ave and 63rd Ave**



**Low interaction
between land uses
and mostly a
vehicular
connection on
University Blvd
between 48th Ave
and 57th Ave**



**Connection to
schools along
Greenbelt Road
between 63rd Ave
and Kenilworth
Ave (French
Immersion School,
Greenbelt Middle
School)**



Figure 20. Examples of Corridor Land Uses



Figure 21. Existing Land Use

EQUITY EMPHASIS AREAS

To better understand the corridor context and ensure equity considerations are addressed in planning and developing opportunities and ideas for the Greenbelt Road (MD 193) Corridor, equity factors along the corridor were reviewed using Equity Emphasis Areas.

In 2017, the National Capital Region Transportation Planning Board (TPB) adopted a methodology for identifying Equity Emphasis Areas. The methodology uses tract-level Census data to identify communities with significant concentrations of low-income and/or minority populations. Tracts are identified as Equity Emphasis Areas if one of two criteria are met: a concentration of individuals identified as low-income more than 1.5 times the regional average, or high concentrations of two or more minority groups, or concentrations of one or more minority groups together with low-income concentrations at or above the regional average. Index scores are used to ensure these conditions are met, and scores above 4.00 are considered Equity Emphasis Areas.

Within the study area, the entire area to the north of the corridor is considered as equity emphasis areas. The area south of the corridor and west of the CSX and WMATA rail tracks is also considered as equity emphasis areas. Figure 22 displays the equity emphasis area index scores for the tracts along the corridor.

When looking into the individual components of the Equity Emphasis Areas along the corridor, the area north of Greenbelt Road and east of Cherrywood Lane has a total index score of 11.91 and consists of a low-income concentration of 2.6 times the regional average, an African American population of 2.4

times the regional average, and a Hispanic or Latino population of 1.8 times the regional average.

The area north of Greenbelt Road between Cherrywood Lane and the CSX and WMATA rail tracks has a total index score of 10.15. It consists of a low-income concentration of 1.9 times the regional average, an African American population of 1.6 times the regional average, and a Hispanic or Latino population of 2.7 times the regional average.

The area of the corridor west of the CSX and WMATA rail tracks has a total index score of 10.46. It consists of a low-income concentration of 3.0 times the regional average and an Asian population of 1.6 times the regional average.



Figure 22. Equity Emphasis Areas

PEDESTRIAN FACILITIES

While there are limited pedestrian facilities along Greenbelt Road, the existing facilities are hostile and uninviting for people walking.

Fewer people are likely to walk in less comfortable environments. The experience is more uncomfortable for those who must than it might be with a fresh design.

Figure 23 shows the existing pedestrian facilities along Greenbelt Road. As shown, the pedestrian facilities along Greenbelt Road lack continuity, notably on the north side of Greenbelt Road between Cunningham Drive and 62nd Avenue. The planned redevelopment of Beltway Plaza Mall is expected to remedy this gap. Currently, the frontage improvement plans showing the installation of this sidewalk are in the conceptual phases and subject to Maryland SHA review.

Where pedestrian facilities do exist, minimal pedestrian activity is seen. This can be attributed to the uncomfortable design of the pedestrian facilities, which often requires people walking to travel on a narrow sidewalk, with no buffer from vehicles on Greenbelt Road, and obstacles including utility poles and a poorly maintained walkway to navigate around.

Greenbelt Road also serves as a barrier for people wanting to cross the roadway on foot. Pedestrians need to cross seven to nine travel lanes at intersections, often without a median wide enough for refuge. The presence of many commercial driveways that provide vehicular access directly to and from the travel lanes results in discontinuous sidewalks. These are noted particularly between 58th Avenue and 63rd Avenue on the south side of the street, and between Greenbelt Station Parkway and Cunningham Drive on the north side of the street.

Previous studies and comments from residents have noted pedestrian signal phasing and timing as challenges. The crossing at 63rd Avenue is particularly crucial as it provides access to schools on the north side of Greenbelt Road.

PEDESTRIAN LEVEL OF COMFORT

A planning concept termed the Pedestrian Level of Comfort helps to objectively quantify the comfort and, therefore, the desirability for people walking to use a facility. Using [methodology from Montgomery County, Maryland](#), the Pedestrian Level of Comfort was assessed on Greenbelt Road (MD 193). Pedestrian Level of Comfort measures how comfortable it is to walk or cross pathways and crossings, and determines a comfort score for crossings and pathway segments. The four main scores are:

- Very comfortable (score = 1)
- Somewhat comfortable (score = 2)
- Uncomfortable (score = 3)
- Undesirable (score = 4)

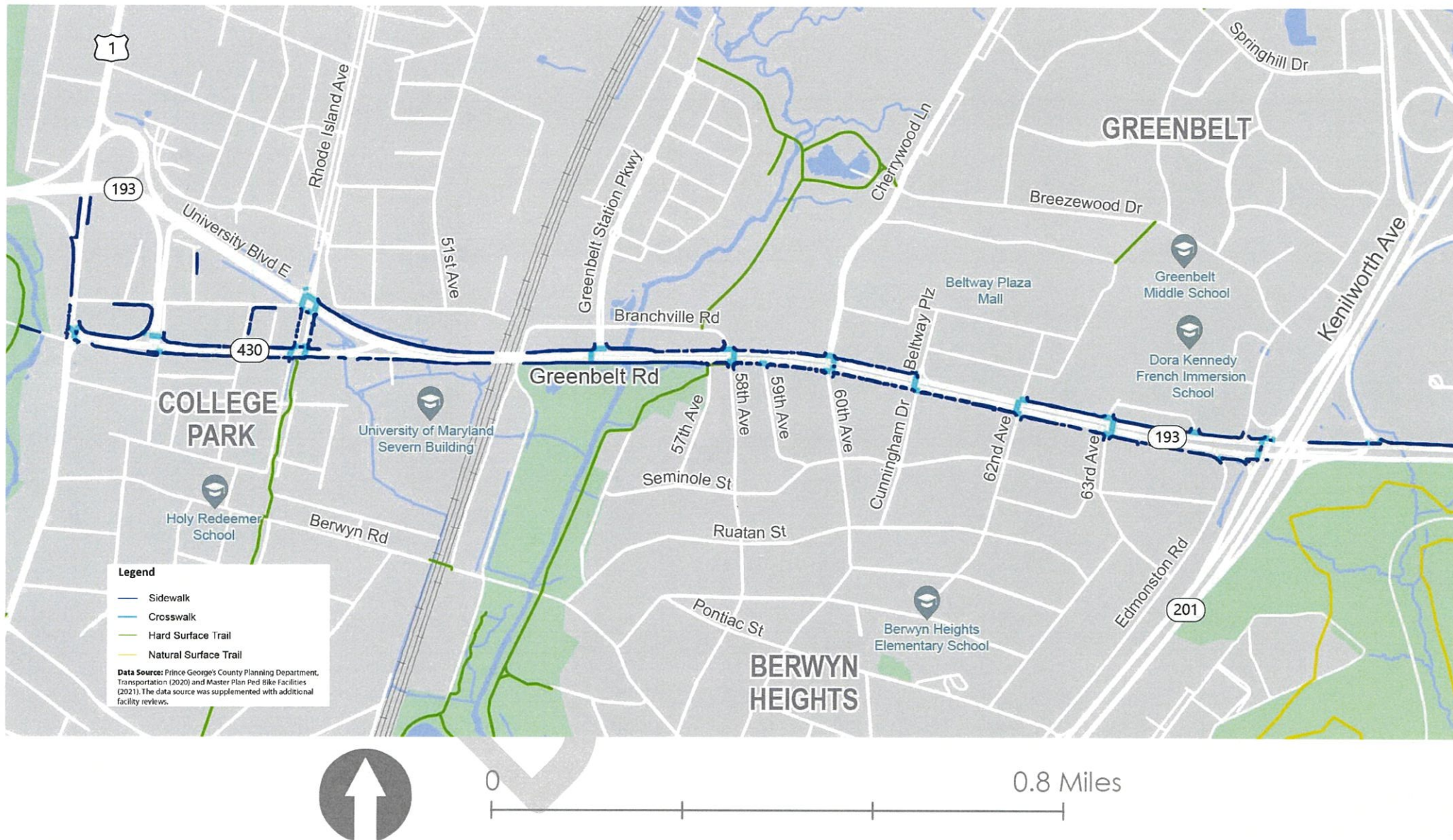


Figure 23. Existing Pedestrian Facilities

Pathway Pedestrian Level of Comfort

Along pathways, or in the case of Greenbelt Road, the sidewalks along the roadway, factors that influence the Pedestrian Level of Comfort score include: land use, sidewalk width, posted speed limit, sidewalk buffer width (the space between the sidewalk and the road), sidewalk condition, and traffic volume or the roadway's functional classification.

Figure 24 provides a look-up table for determining the Pedestrian Level of Comfort along pathways. As shown, for an urban land use (the leftmost column of the table), a pathway width of less than five feet, a posted speed limit of greater than or equal to 40 mph, a buffer width of two feet or less, and no separated bike lanes, **the Pathway Pedestrian Level of Comfort for Greenbelt Road is a four, which is the worst possible score, and described as "Undesirable."** However, the table assumes the pathway is in good condition. While the Pedestrian Level of Comfort score maxes out at four, the poorly maintained nature of the sidewalks on Greenbelt Road makes the facilities even less desirable than indicated.

	PATHWAY WIDTH	POSTED SPEED LIMIT	PATHWAY BUFFER WIDTH / ON-STREET SEPARATION											
			0 ft to <2 ft			2 to <5 ft			5 to <8 ft			≥8 ft		
			No SBL	1SBL	2SBL	No SBL	1SBL	2SBL	No SBL	1SBL	2SBL	No SBL	1SBL	2SBL
URBAN	No walkway		Use "No Pathway" Table											
	< 5ft	< 25 mph	4	3	1	4	3	1	3	2	1	2	1	1
		25 mph	4	3	1	4	3	1	3	2	1	2	1	1
		30 mph	4	3	1	4	3	1	3	2	1	2	1	1
		35 mph	4	3	2	4	3	2	3	2	1	2	1	1
		≥ 40 mph	4	4	3	4	3	2	3	2	2	2	1	1
	≥5 to 8 ft	< 25 mph	2	2	1	2	2	1	2	1	1	1	1	1
		25 mph	2/3*	2	1	2/3*	2	1	2	1	1	1	1	1
		30 mph	4	3	1	3	2	1	2	1	1	1	1	1
		35 mph	4	3	2	3	2	2	3	2	1	2	1	1
		≥ 40 mph	4	4	3	4	3	2	3	2	2	2	1	1
	≥8 to 10 ft	< 25 mph	2	2	1	2	1	1	1	1	1	1	1	1
		25 mph	2	2	1	2	1	1	1	1	1	1	1	1
		30 mph	4	3	1	3	2	1	2	1	1	1	1	1
		35 mph	4	3	2	3	2	2	3	2	1	2	1	1
		≥ 40 mph	4	4	3	4	3	2	3	2	2	2	1	1
	≥10 ft	< 25 mph	2	1	1	2	1	1	1	1	1	1	1	1
		25 mph	2	2	1	2	1	1	1	1	1	1	1	1
		30 mph	3	2	1	3	2	1	2	1	1	1	1	1
		35 mph	4	3	2	3	2	2	3	2	1	1/2^	1	1
		≥ 40 mph	4	4	3	4	3	2	3	2	2	1/2^	1	1

Figure 24. Pedestrian Level of Comfort Urban Pathway Look-Up Table

SBL = Separated Bike Lane, 1SBL = One-Way Separated Bike Lane,
2SBL – Two-Way Separated Bike Lane (Cycletrack)

Modified from: https://mcatlas.org/pedplan/images/FINAL_PLOC_Methodology_APPENDIX.pdf

Crossing Pedestrian Level of Comfort

At controlled (signalized or stop-controlled) pedestrian crossings, the factors influencing the Pedestrian Level of Comfort score include the number of lanes, the median type, the crosswalk type, and the posted speed limit. Figure 25 provides a look-up table for determining the Pedestrian Level of Comfort at crossings. Using the pedestrian crossing at 58th Avenue, as shown in Figure 26, as an example, for crossings with six or more lanes, a raised or hardened centerline median, a marked crosswalk type, and a posted speed limit of greater than or equal to 40 mph, the **Crossing Pedestrian Level of Comfort is a four, which is the worst possible score, and is described as "Undesirable."**

# OF LANES	MEDIAN TYPE	CROSSWALK TYPE	POSTED SPEED LIMIT				
			< 25 mph	25 mph	30 mph	35 mph	>= 40
1 to 3*	Raised Refuge Island	High Visibility	1	1	2	3	4
		Marked	1	1	3	3	4
		Unmarked	2	2	4	4	4
	Raised/Hardened Centerline	High Visibility	1	1	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	2	4	4	4
	Painted/None	High Visibility	1	2	2	3	4
		Marked	1	2	3	3	4
		Unmarked	2	3	4	4	4
4 to 5	Raised Refuge Island	High Visibility	1	2	2	3	4
		Marked	1	2	2	3	4
		Unmarked	2	3	4	4	4
	Raised/Hardened Centerline	High Visibility	2	2	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Painted/None	High Visibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4
6+	Raised Refuge Island	High Visibility	3	3	3	4	4
		Marked	3	3	3	4	4
		Unmarked	4	4	4	4	4
	Raised/Hardened Centerline	High Visibility	3	3	4	4	4
		Marked	3	3	4	4	4
		Unmarked	4	4	4	4	4
	Painted/None	High Visibility	4	4	4	4	4
		Marked	4	4	4	4	4
		Unmarked	4	4	4	4	4

Figure 26. Pedestrian crossing at 58th Avenue

Figure 25. Pedestrian Level of Comfort Controlled Crossings Look-Up Table

Source: https://mcatlas.org/pedplan/images/FINAL_PLOC_Methodology_APPENDIX.pdf



BICYCLE FACILITIES

At the February 10, 2022, Visioning Meeting, people who regularly bike were asked if they choose to ride on Greenbelt Road. Not a single person indicated they were comfortable doing so.

As a six-lane divided roadway with a posted speed limit of 40 mph and even higher operating speeds, asking bicyclists to “share the lane” is harrowing.

There are dedicated on-street bicycle facilities on some portions of Greenbelt Road. However, public sentiment indicated they are rarely, if ever, used by even the most experienced cyclists. Despite the uncomfortable and adverse conditions for people biking, people were observed traveling along the roadway by bike, as shown in Figure 28. However, they were observed traveling on sidewalks rather than on the roadway.

There are also turning conflicts with vehicles along the corridor, particularly in areas with many driveway access points, noted particularly between 58th Avenue and 63rd Avenue on the south side of the street and between Greenbelt Station Parkway and Cunningham Drive on the north side of the street, which increases safety concerns for bicyclists. Figure 29 shows the existing and proposed bicycle facilities along the study corridor.

Figure 27. The current bike facilities on Greenbelt Road are unusable and intermittent



Figure 28. People were observed biking along Greenbelt Road despite the unwelcoming and adverse conditions



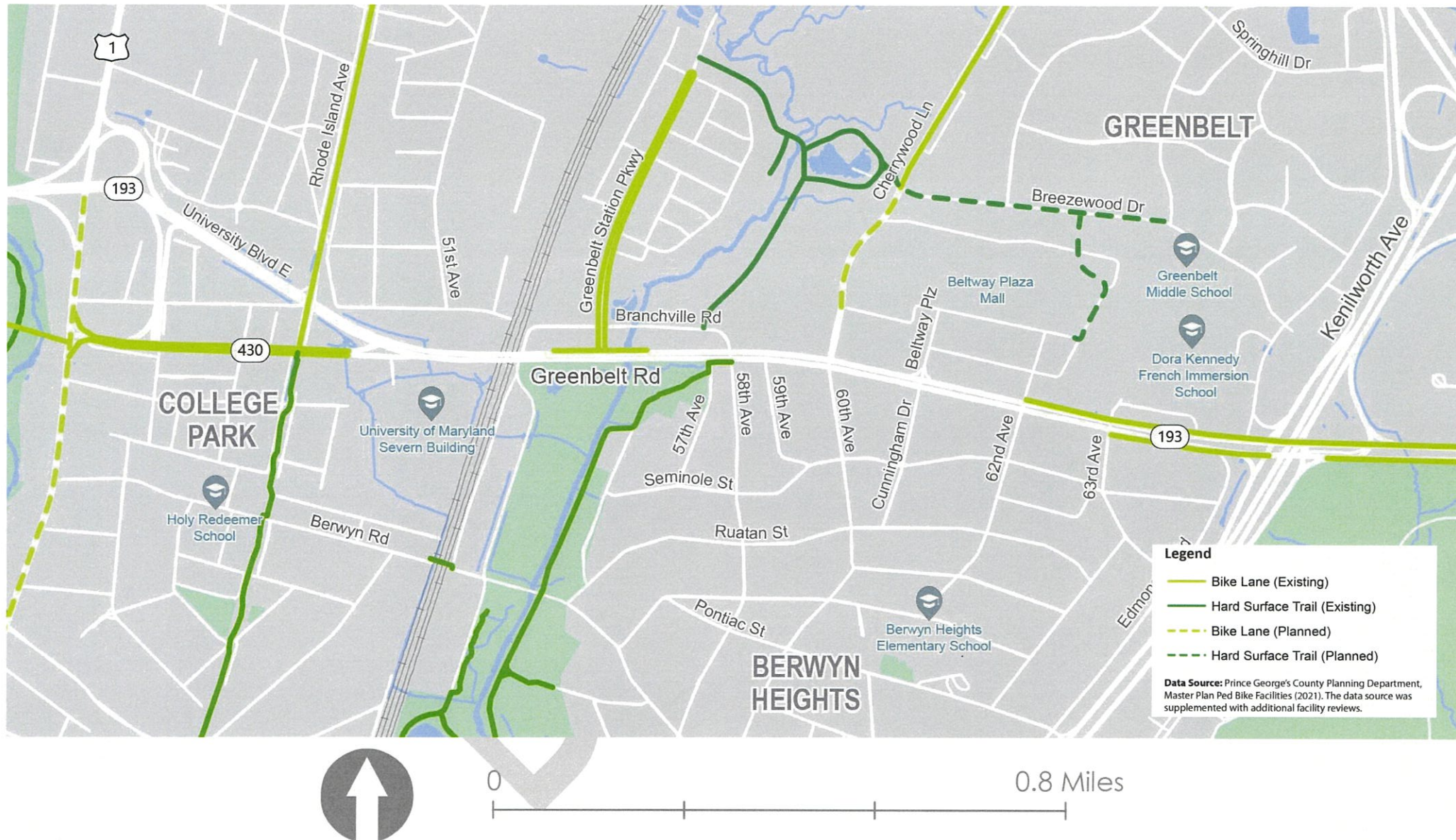


Figure 29. Existing & Proposed Bike Facilities

In recent years, transportation practitioners have begun to understand that increasing bicycle ridership requires a bicycle network that is planned and designed with facilities that are comfortable for a range of bicycle riders. Figure 30 displays the results of several national surveys that asked respondents to self-identify their level of comfort or confidence riding bicycles in four broad categories. As per these surveys, most people fall into the 'interested but concerned' group, representing people who want to ride bikes regularly but feel unsafe due to a lack of comfortable bicycle infrastructure and safe riding conditions. This group of individuals has a lower tolerance for stressful riding situations than the 'highly confident' group of people biking. Targeting the 'interested but concerned' group of cyclists is necessary to enable people of all ages and abilities to feel safe and comfortable.

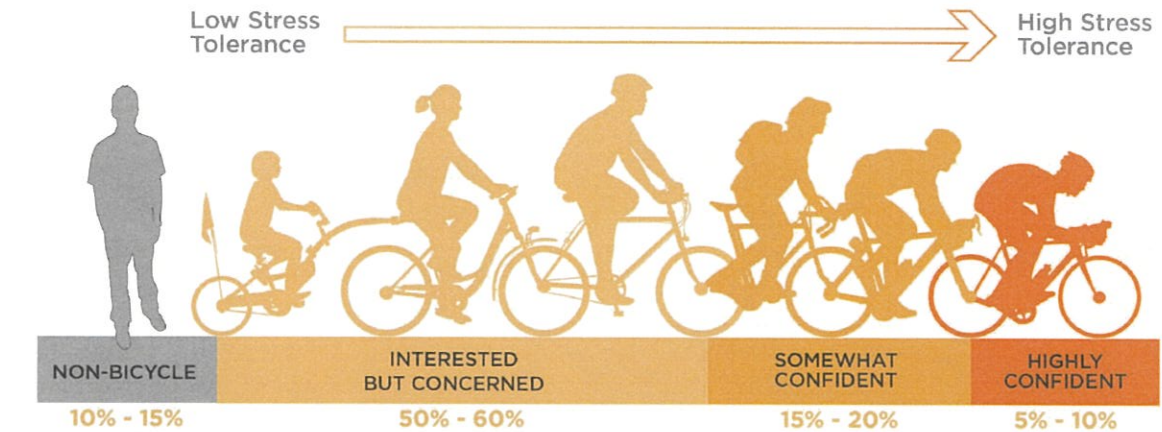


Figure 30. The Range of Bicycle Riders

- Interactions with fast-moving traffic (greater than 25 mph, approximately)
- Frequent interactions with traffic of any speed (greater than 8,000 vehicles per day, approximately)
- Obstructions in a bike facility that force a bicyclist into traffic (debris, parked cars obstructing bike lanes, etc.)
- Dangerous pavement conditions (inadequate snow removal, frequently broken asphalt, slippery gravel or maintenance plates, wheel-catching storm grates, etc.)

BICYCLE LEVEL OF TRAFFIC STRESS

Similar to how Pedestrian Level of Comfort allows for an objective analysis to validate what we know subjectively about the quality of pedestrian facilities, a Bicycle Level of Traffic Stress analysis allows for the objective analysis of bicycle facilities to understand the bicycle facilities that are comfortable for the range of bicycle riders. People on bikes are vulnerable street users, and the presence of any one of several factors can make people feel unsafe and uncomfortable riding a bike along a street. The factors that make people on bikes feel unsafe or uncomfortable using a street or bike facility include:

Bicycle Level of Traffic Stress is a four-point scoring system that indicates how comfortable a street is for distinct types of cyclists. Streets are categorized into four levels or scores, from Level of Traffic Stress one being the most comfortable and least stressful, to Level of Traffic Stress four being the least comfortable and most stressful. The four levels of Level of Traffic Stress scores are summarized in Figure 31. The level of stress scores is described by the range of bicycle riders comfortable at each stress level.

Consistent with the public sentiment from the visioning meeting and the description of the corridor in the related previous plans and studies, **Greenbelt Road is a Level of Traffic Stress of four, which is the worst possible score and corresponds to a "high-stress street."** Theoretically, a street with a Level of Traffic Stress of four would be usable by 'Highly Confident' cyclists; however, as indicated in the visioning meeting, even these cyclists prefer to take alternative routes rather than use Greenbelt Road.

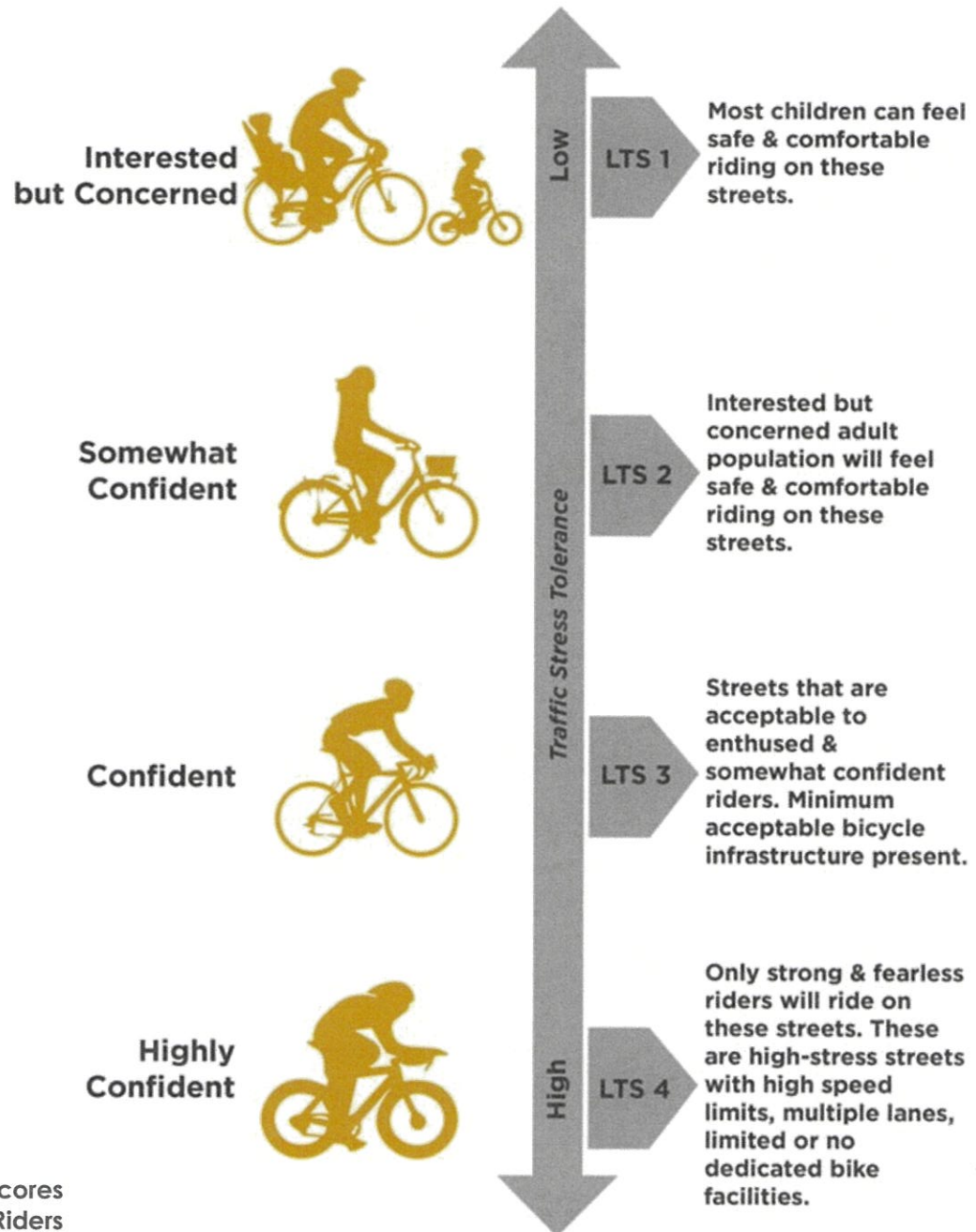


Figure 31. Bicycle Level of Traffic Stress Scores and the Corresponding Range of Bicycle Riders

TRANSIT SERVICES

Prince George's County TheBus, WMATA Metrobus, the University of Maryland Shuttle (Shuttle-UM), and the Regional Transportation Agency of Central Maryland (RTA) operate transit services along the study corridor. Bus stops in the corridor are typically a flag and a concrete pad on the sidewalk, with a bench, shelter, or trash can on rare occasions. The following image and maps illustrate the state of transit in the study area. Figure 32 shows the bus stop on Greenbelt Road approaching Branchville Road, near retail establishments and the Indian Creek Trail. This stop is typical of most bus stops on the corridor.

Figure 33 shows the bus routes in the study corridor. Metrobus operates four routes in the corridor; the 83 connects Beltsville and Rhode Island Ave Metro, the C2 between Greenbelt Metro and Twinbrook Metro, the G14 between Greenbelt Metro and New Carrollton Metro, and the R12 between Greenbelt Metro and Deanwood Metro. TheBus operates two routes in the corridor, the 15X and 16, from Greenbelt Metro to New Carrollton Metro. While four Shuttle-UM routes originating from UM-College Park Campus run along the corridor, only the 143 to Greenbelt serves bus stops in the study corridor. The 127 to Mazza GrandMarc, 141 to Gaithersburg, and 142 to Columbia travel through the corridor for a short way without serving any stops. In addition, Shuttle-UM routes generally require passengers to present a university ID to the driver. RTA operates one route, 302, from Greenbelt Metro to Laurel, but the route does not serve stops along the study corridor.



Figure 32: Bus Stop on Greenbelt Road at Branchville Road



Figure 35 through Figure 38 show ridership activity at bus stops in the study corridor. Figure 35 shows average weekday ridership (boardings and alightings) for Metrobus routes. Metrobus boardings and alightings are highest at the Beltway Plaza Mall and the stop on Cherrywood Lane and Greenbelt Road. TheBus weekday ridership is also the highest on Cherrywood Lane and Greenbelt Road, as seen in Figure 36. As shown in Figure 37, Shuttle-UM routes ridership activity in the corridor is highest on Greenbelt Road at Greenbelt Station Parkway. Figure 38 shows the data from all three agencies on one map.

Additional data availability for Metrobus routes allowed for the analysis of schedule deviations and average bus speeds.

Figure 39 shows the number of minutes a bus is deviating from its official schedule; a value of '-1' means bus trips are arriving at the stop an average of one minute ahead of schedule, and

'4' means bus trips are arriving on average four minutes after the scheduled time, for example. WMATA defines any trips arriving at a stop two minutes early and up to 7 minutes late as "on time." The most significant average schedule deviation along Greenbelt Road stops are eastbound stops west of 60th Avenue. In contrast, all westbound stops and stops east of 60th Avenue have better on-time performance.

Figure 40 shows the average bus speed between stops for all Metrobus routes. Average speeds are above 15 miles per hour along Greenbelt Road except for the stop-to-stop segments in front of Beltway Plaza Mall, where average bus speeds fall below 15 miles per hour.

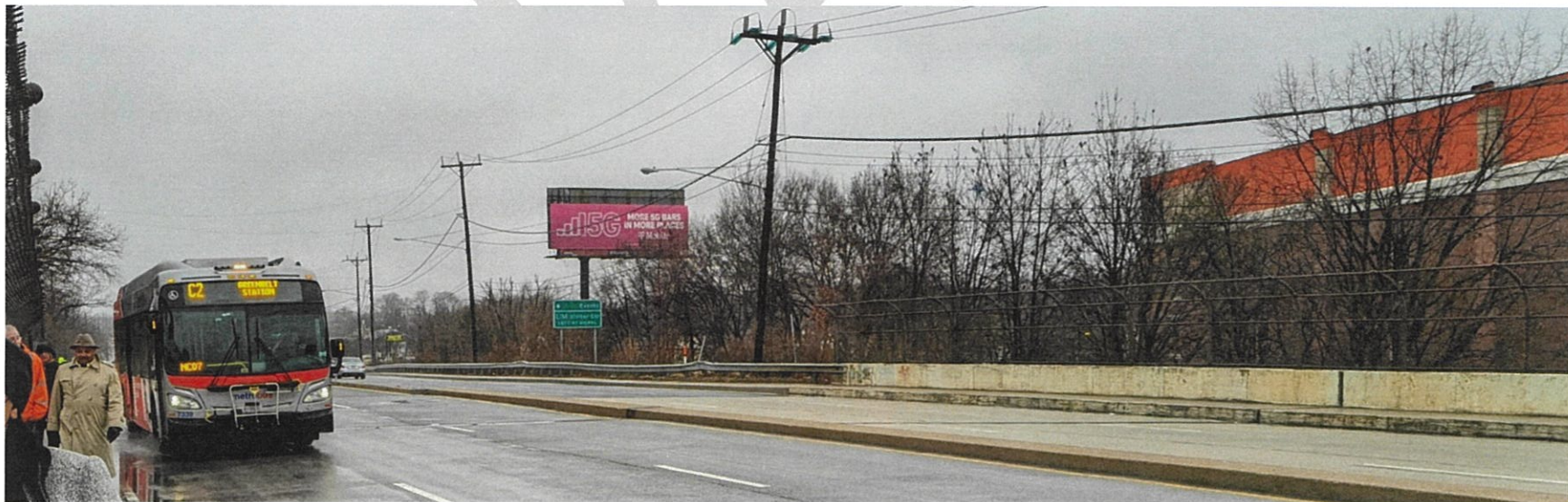


Figure 34. C2 WMATA Metrobus on Greenbelt Road

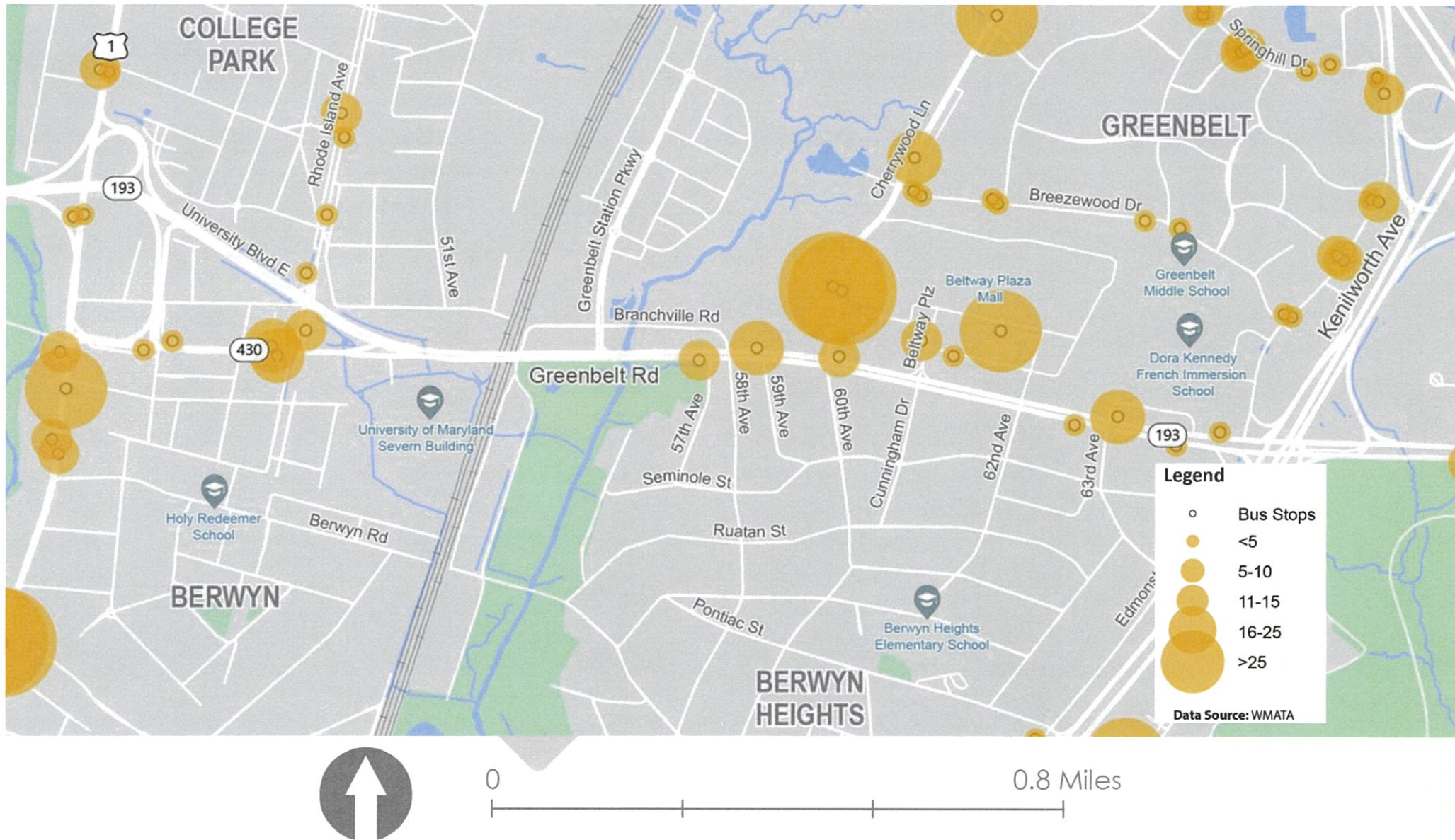


Figure 35. Metrobus Average Weekday Ridership by Stop (2019)

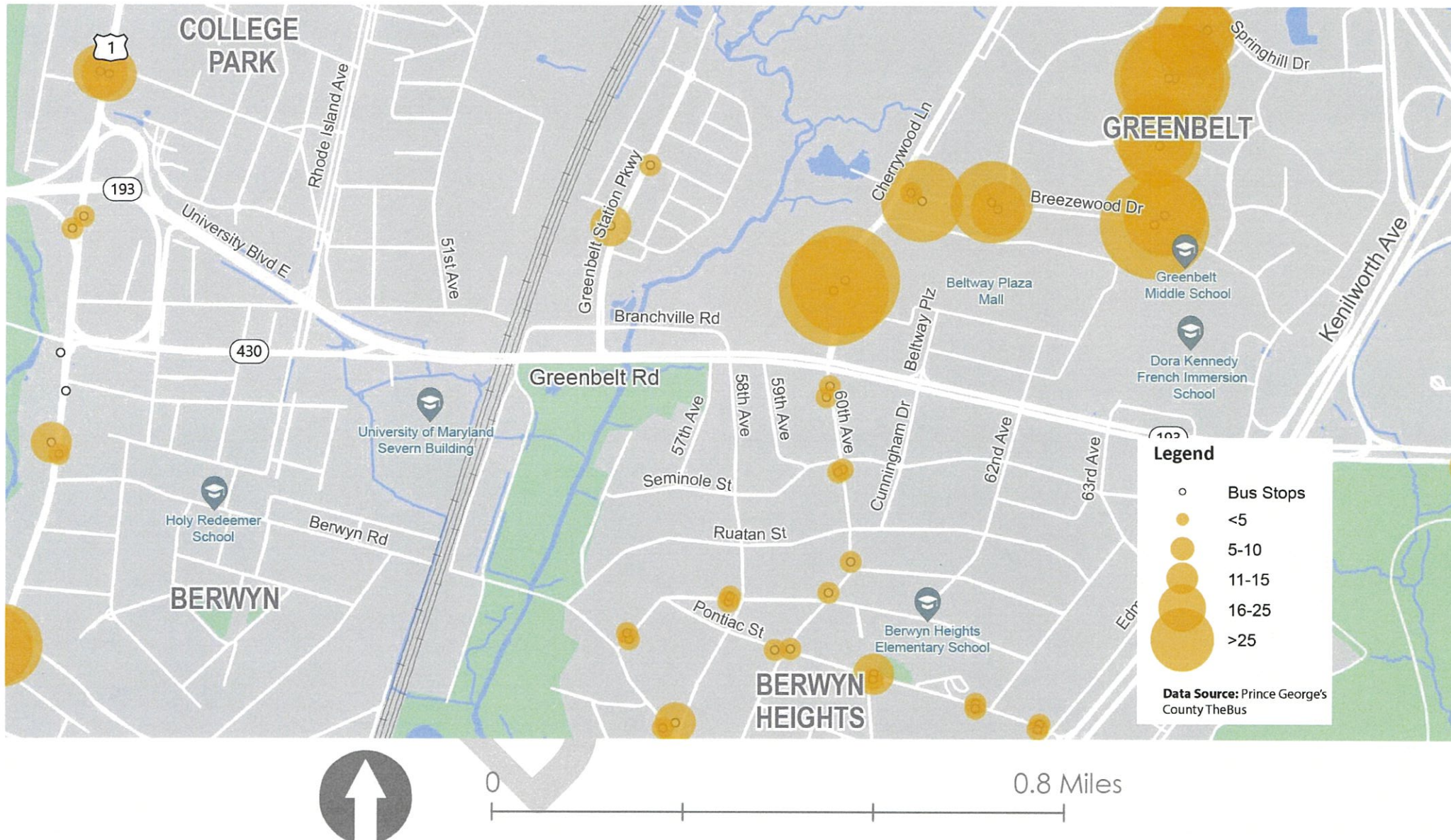


Figure 36. TheBus Average Weekday Ridership by Stop (2019)

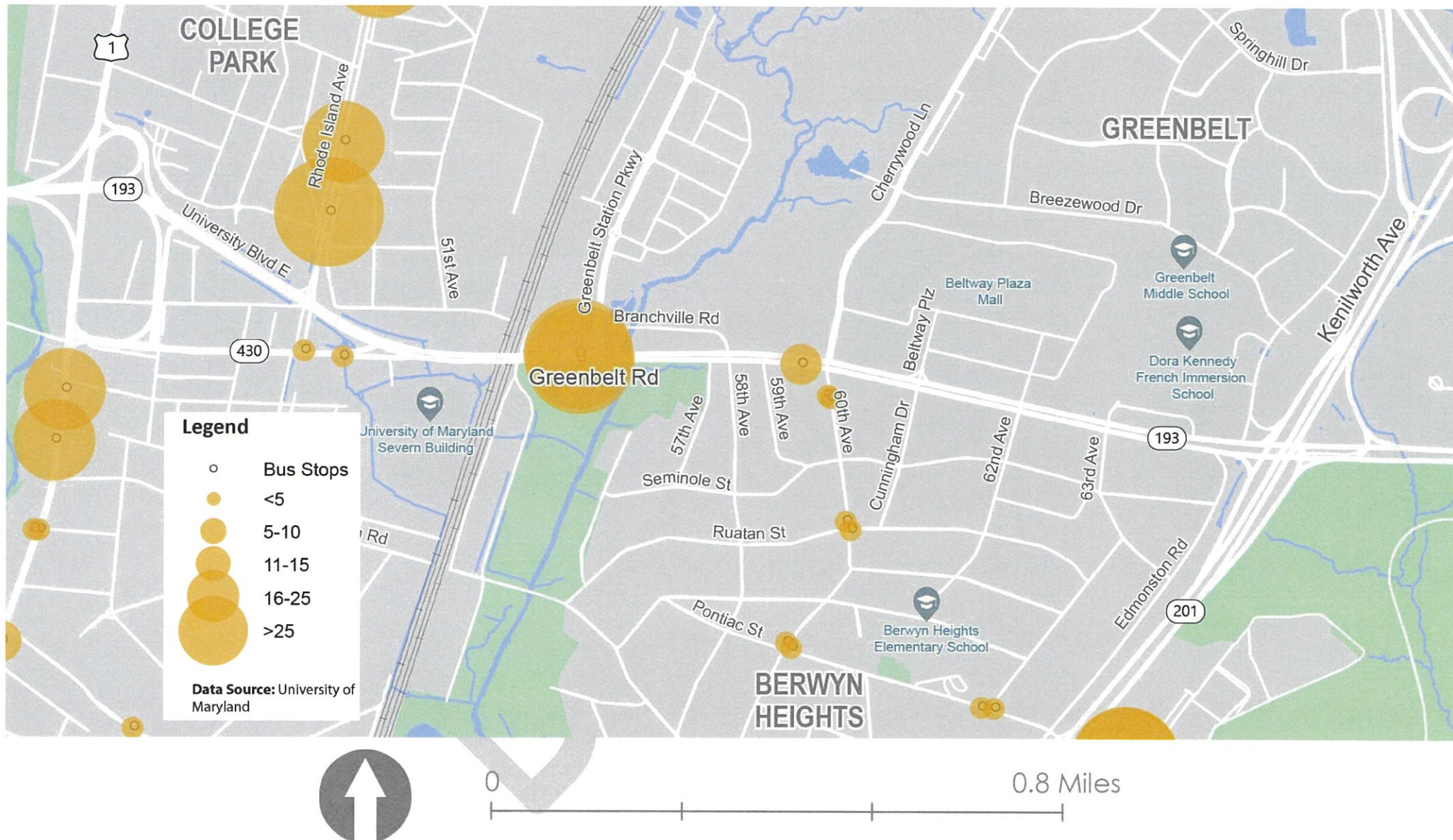


Figure 37. UM-Shuttle Average Weekday Ridership by Stop (2019)

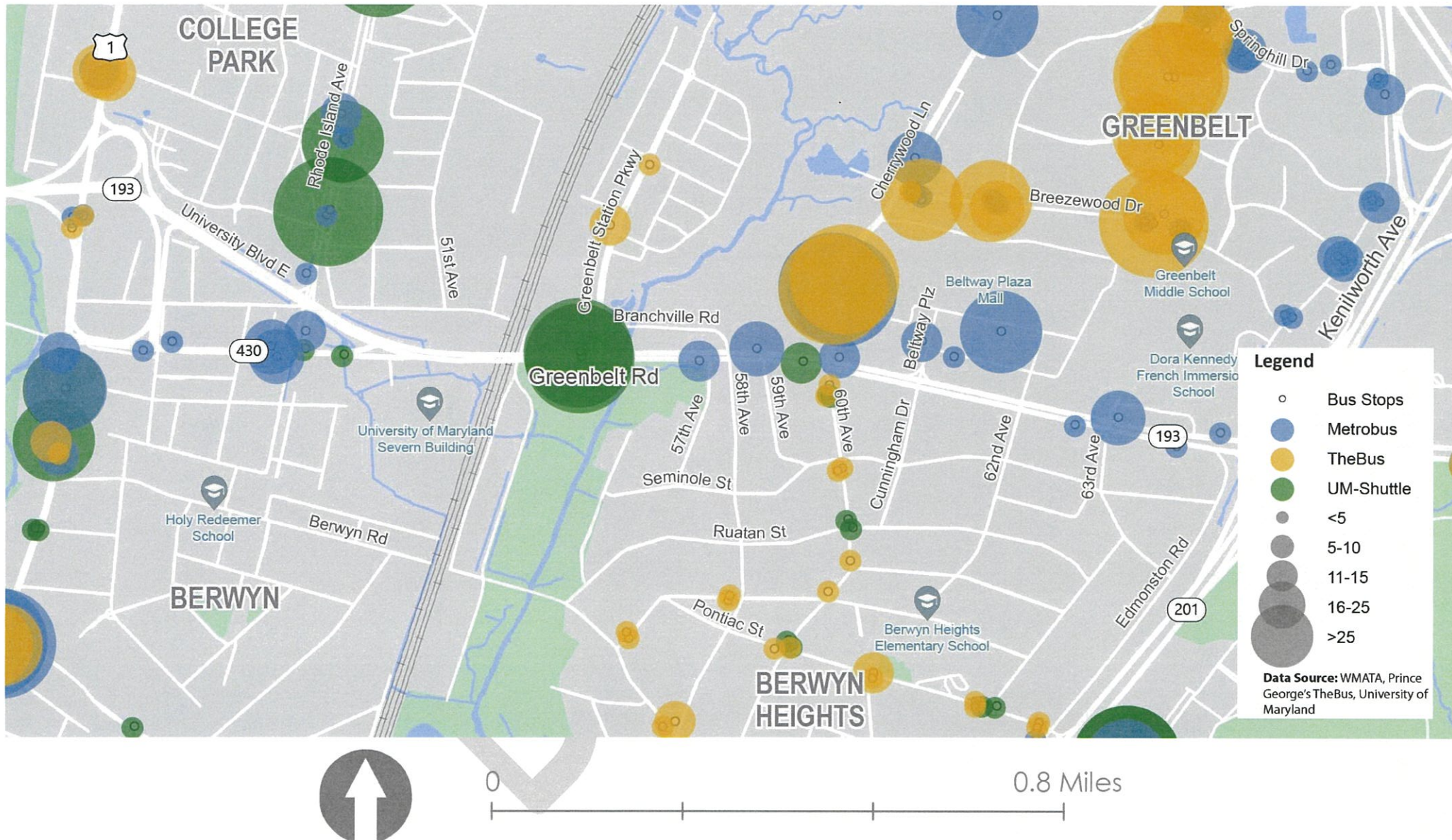


Figure 38. Metrobus, TheBus, UM-Shuttle - Average Weekday Ridership by Stop (2019)

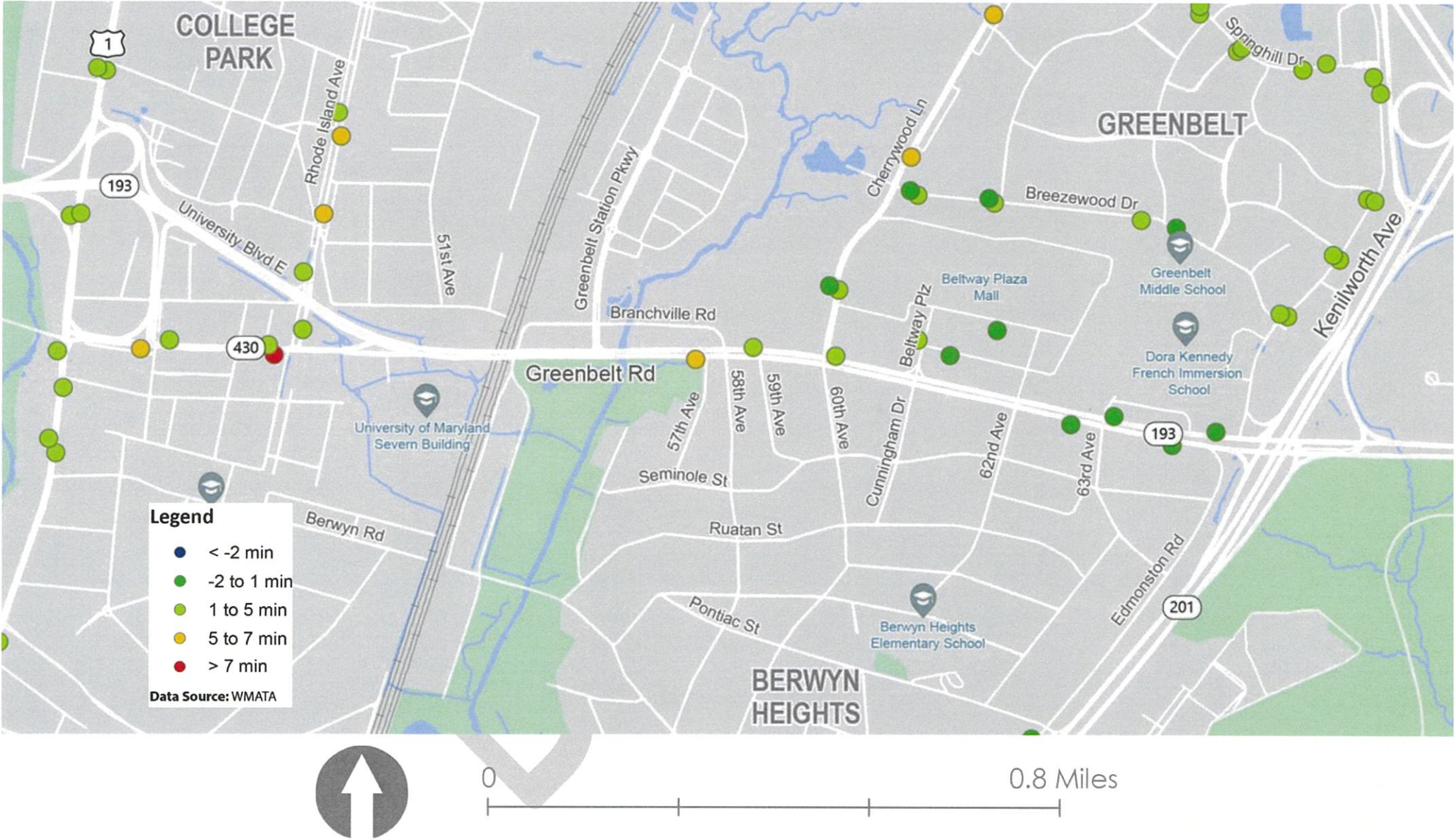


Figure 39. Metrobus Average Weekday Trip Schedule Deviation by Stop (2019)

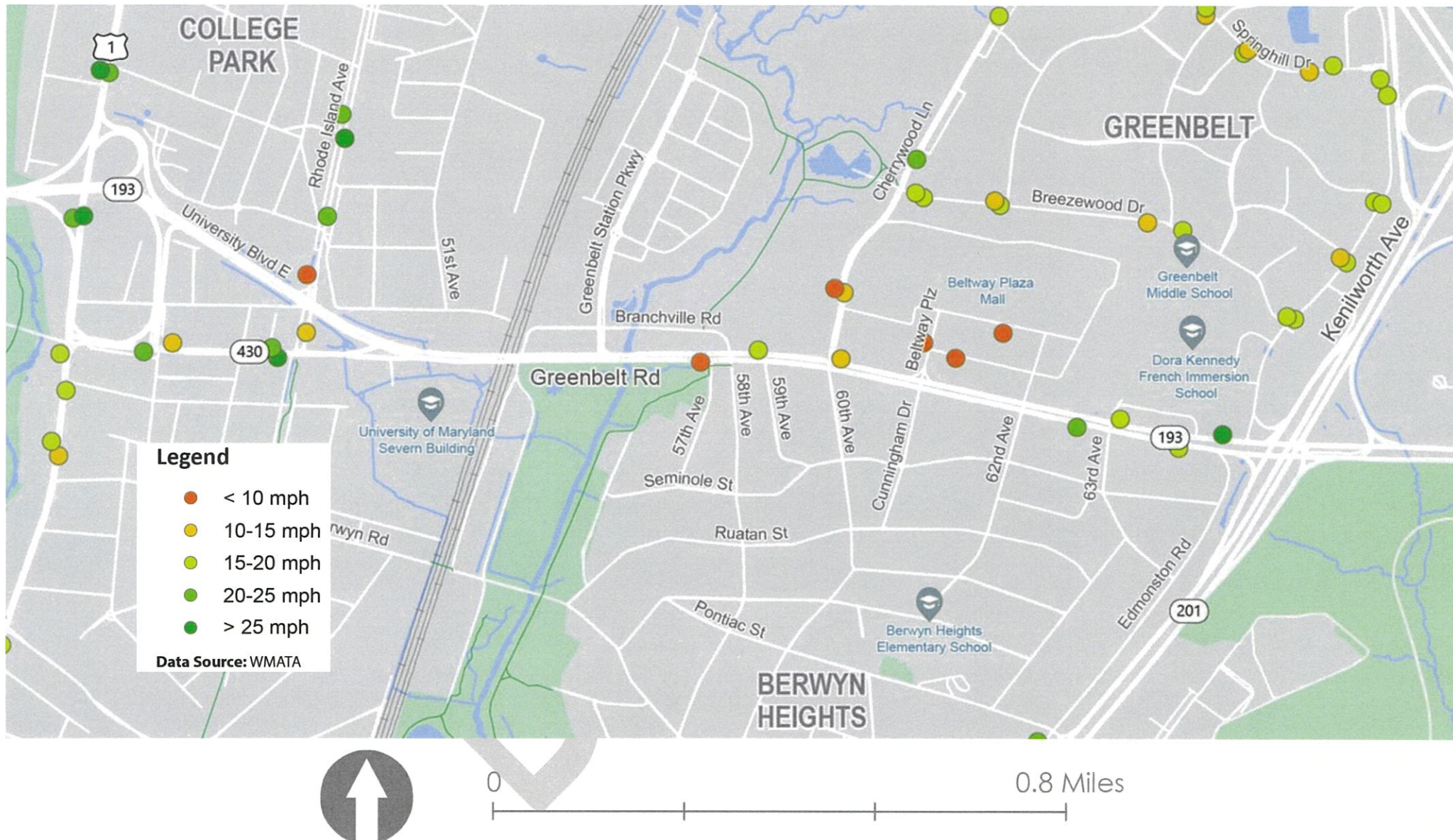


Figure 40. Metrobus Average Weekday Bus Speeds by Stop (2019)

TRAFFIC CONDITIONS

Greenbelt Road (MD 193) is the primary east-west road through the City of Greenbelt, Town of Berwyn Heights, and City of College Park. The road is operated by Maryland SHA and is classified as a Principal Arterial. As an arterial road, the road is expected to serve both through and local traffic, with controlled access to abutting properties and at-grade intersections.

DAILY TRAFFIC VOLUMES

Figure 41 shows the average annual daily traffic along Greenbelt Road since 2001, sourced from [Maryland SHA's Internet Traffic Monitoring System \(ITMS\)](#). The average annual daily traffic is calculated by dividing the total traffic in both roadway directions over a year by 365 days and represents the average daily traffic. Daily traffic volumes in 2001 were 46,571 and rose to 53,050 in 2006. As gas prices rose in 2007, followed by the recession in 2008, traffic volumes declined to 46,222 in 2009. The volumes then remained relatively constant through 2016 before rising to 49,420 in 2018 and 49,421 in 2019. Coinciding with the COVID-19 pandemic, traffic volumes decreased to 41,272 in 2020 and 36,700 in 2021.

Events like the recession in 2008 and the COVID-19 pandemic in 2020 have clear and lasting effects on traffic volumes. As seen in Figure 41, traffic volumes on Greenbelt Road never returned to pre-recession levels after the recession. At this point, the lasting effects of the COVID-19 pandemic are unknown; however, factors like continued workplace flexibility can have far-reaching impacts on the overall transportation system. For instance, allowing workers to work from home one day a week indefinitely has the potential to reduce daily traffic volumes by 20%, representing an enormous change in

commuter patterns and the transportation network. Additional factors, such as transportation costs (gas prices), transit usage, and changes in land use, all factor into the lasting effects of the decrease in traffic volumes.

Locally, in mid-2021, [Maryland SHA data](#) indicated that traffic volumes across the state were at or surpassed traffic volumes from 2019. Based on the daily traffic volume data from Maryland SHA's ITMS and local sentiment, traffic volumes on Greenbelt Road appear to be lagging the return of traffic volumes across the state of Maryland.

PEAK-HOUR VOLUMES

While daily traffic volumes are helpful as a planning tool to understand the changes in corridor demand over time, peak-hour volumes, representing one-hour traffic volumes during the busiest hours of the day (typically the weekday morning and weekday evening), are used to make decisions about intersection control (traffic signal, all-way-stop control, roundabout, etc.). Data from the Traffic Impact Analysis for Beltway Plaza (Beltway Plaza TIA), revised in January 2020, was reviewed to understand the peak-hour traffic volume demands in the corridor.

To provide a 'conservative' review, the peak-hour volume data reviewed was the Total Peak Hour Volumes, found in Exhibit 9 of the Beltway Plaza TIA and shown in Figure 42. The 'Total Peak Hour Volumes' are calculated through the following steps:

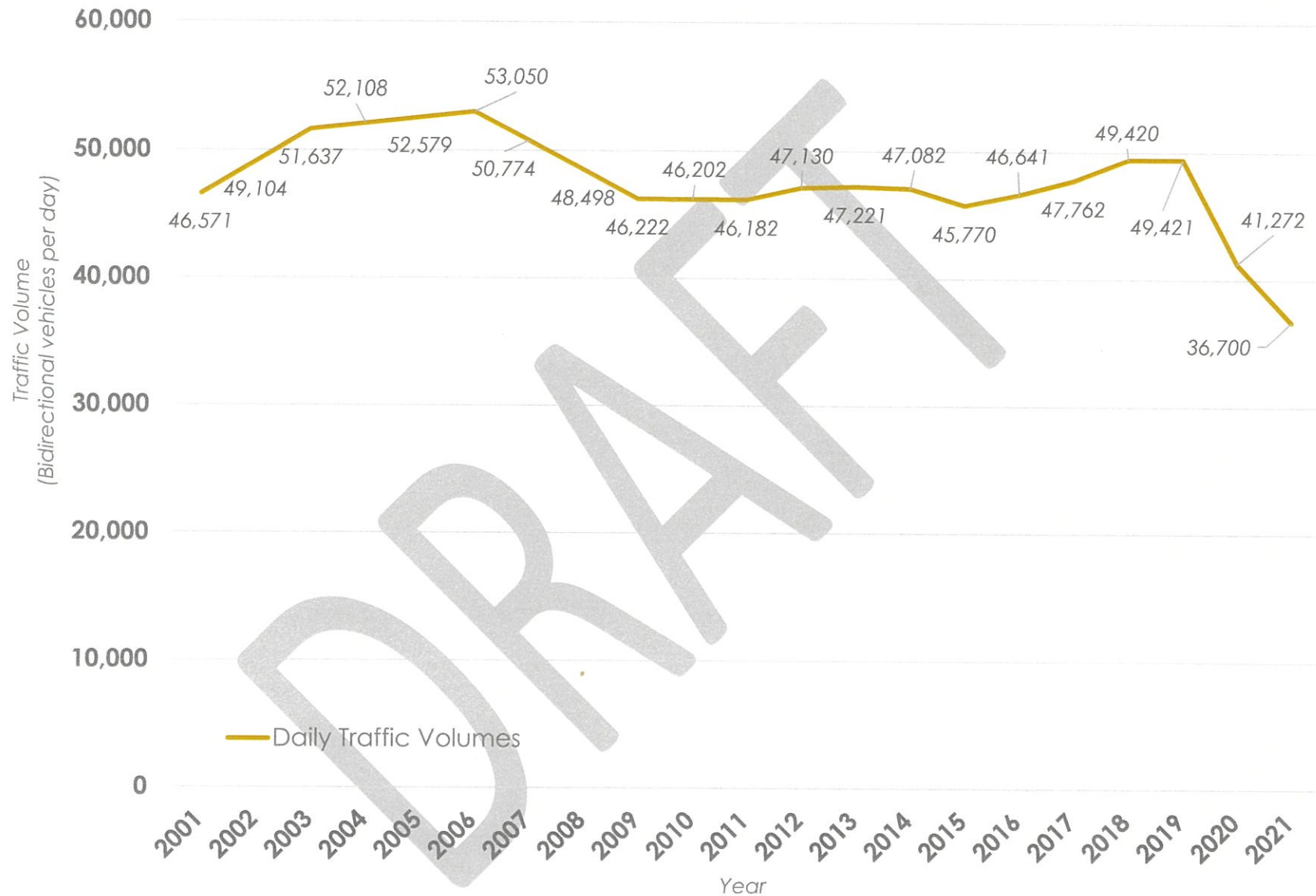


Figure 41. Greenbelt Road (MD 193) Daily Traffic Volumes (2001 – 2021)

Source: https://maps.roads.maryland.gov/itms_public/

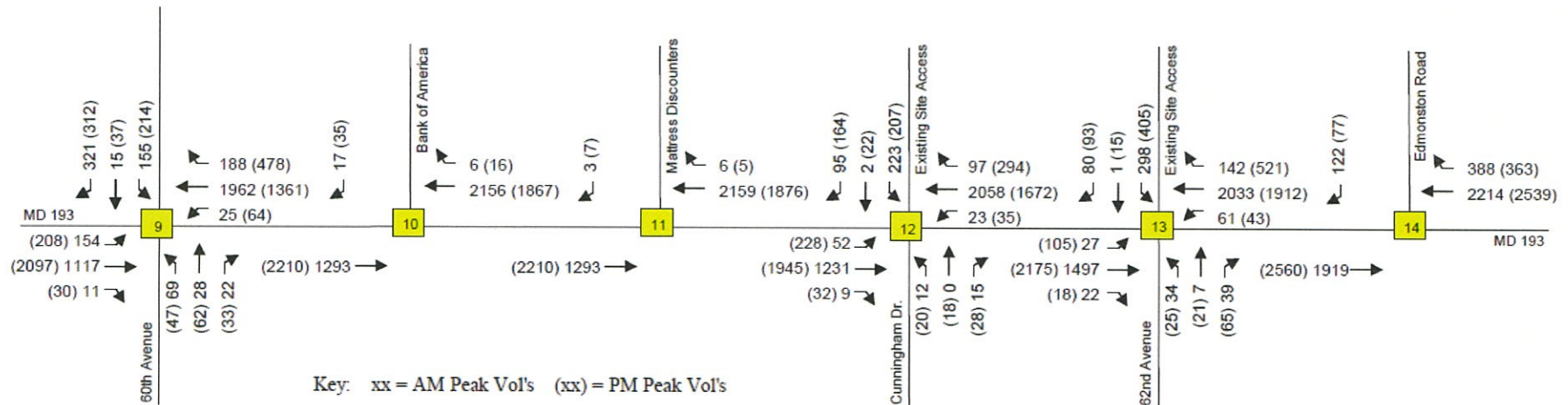


Figure 42. Total Peak Hour Volumes (Combined Peak Hour Volumes, including background developments, site development and annual growth)

(Source: Beltway Plaza TIA, 2020)

- The volumes start with traffic volumes collected in September and October of 2018 (note that traffic volumes in 2018 were at their highest level since 2007)
- The 2018 volumes are grown using a 0.5% growth rate over six years to account for regional growth
- Trip generation estimates from approved background developments are added
- Trip generation estimates from the proposed site development, in this case, the Beltway Plaza redevelopment, are added

Using **critical lane volume (CLV)** methodology, which takes the sum of peak-hour traffic volumes that cross at a single point in an intersection. The intersection capacity and 'level of service' can be identified at a planning level.

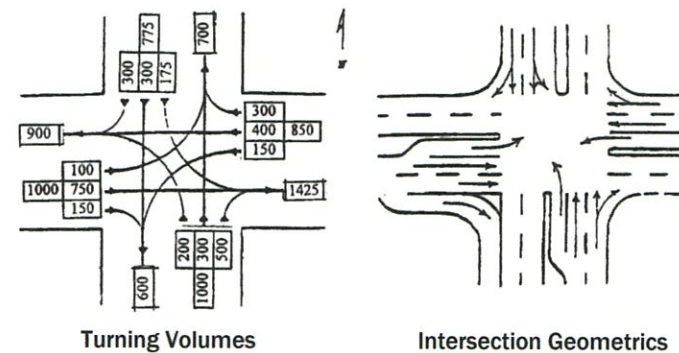


Figure 43. Critical Lane Volume Methodology

Figure 42 shows the Total Peak Hour Volumes, representing the combined peak hour volumes, including background developments, site development, and annual growth, along Greenbelt Road between 60th Avenue (Cherrywood Lane) and Edmonston Road retrieved from the Beltway Plaza TIA (2020).

Using an assumed intersection capacity of 1,600 (consistent with M-NCPPC and Maryland SHA guidance), the intersection **volume-to-capacity ratio** (v/c ratio) can be calculated. The v/c ratio represents the roadway demand (vehicle volumes) compared to roadway supply (carrying capacity). This metric provides a useful indication of whether the physical geometry provides sufficient capacity for the intersection.

The CLV outputs also provide a **level-of-service** (LOS) output based on the available capacity. The LOS is reported as a letter and is a qualitative measure used to relate the quality of motor vehicle traffic service. LOS "D" or "E" are considered acceptable for peak hours. LOS "B" or "C" are considered acceptable for off-peak hours.

Because of the planning-level nature of this effort, the Greenbelt Road (MD 193)/Cherrywood Lane intersection was used as a representative intersection for the potential available capacity at other intersections along the Greenbelt Road (MD 193) corridor. Using weekday evening (PM), peak-hour volumes from the 'Total Traffic' volumes in the Beltway Plaza TIA, the CLV, v/c ratio, and LOS were calculated for the Greenbelt Road (MD 193)/Cherrywood Lane intersection. The PM peak hour volumes were used because the PM peak hour typically represents the higher of the two daily peak hours and corresponds with time periods when retail establishments are open and are likely generating more trips. As previously indicated, the use of the 'Total Traffic' volumes from the Beltway Plaza TIA is likely conservative, representing base traffic volumes from 2018 that are significantly higher than exist on the corridor today, six years of applied regional growth that is likely more than six years away due to the higher base volumes, background developments that have not broken ground, and trips from the proposed Beltway Plaza

redevelopment that are also many years away from being realized.

In addition to the metrics previously described, the number of conflicting travel lanes for pedestrians crossing Greenbelt Road was also counted to establish a baseline for considering additional options at intersections described in the Right-Size the Corridor to the Potential Demand section of this document. The **number of conflicting travel lanes for pedestrians crossing Greenbelt Road** represents the total number of travel lanes pedestrians need to navigate to cross Greenbelt Road, as shown visually in Figure 44.



Figure 44. Number of Conflicting Travel Lanes for Pedestrians Crossing Greenbelt Road

Table 1 shows the Greenbelt Road (MD 193)/Cherrywood Lane intersection traffic conditions outputs using the CLV, v/c ratio, LOS, and the number of conflicting travel lanes for pedestrians crossing Greenbelt Road methodology previously described. The intersection has a v/c ratio of 0.74 and a LOS of 'C' under the future-year condition using the existing roadway configuration.

Table 1. Greenbelt Road (MD 193)/Cherrywood Lane Intersection Traffic Conditions – Existing Roadway Configuration

	Existing Roadway Configuration
Critical Lane Volume (CLV)	1180
Volume-to-Capacity Ratio (V/C)	0.74
Level-of-Service (LOS)	C
Number of Conflicting Travel Lanes for Pedestrians Crossing Greenbelt Road	7-8

NUMBER OF TRAVEL LANES

To further lay the groundwork for considering additional options at intersections and along the corridor described in the Realizing Greenbelt Road's Potential section of this document, the number of travel lanes along Greenbelt Road (MD 193) was mapped and is displayed in Figure 45. The portion of Greenbelt Road designated as MD 430 has one travel lane in each direction, with additional lanes at intersections. University Boulevard, west of where Greenbelt Road splits, has two travel lanes in each direction. East of University Boulevard, the primary section of Greenbelt Road (MD 193) has three travel lanes in each direction, with channelized right-turn lanes near Greenbelt Station Parkway and in front of Beltway Plaza. Between 62nd Avenue and 63rd Avenue, Greenbelt Road (MD 193) has four travel lanes in each direction.

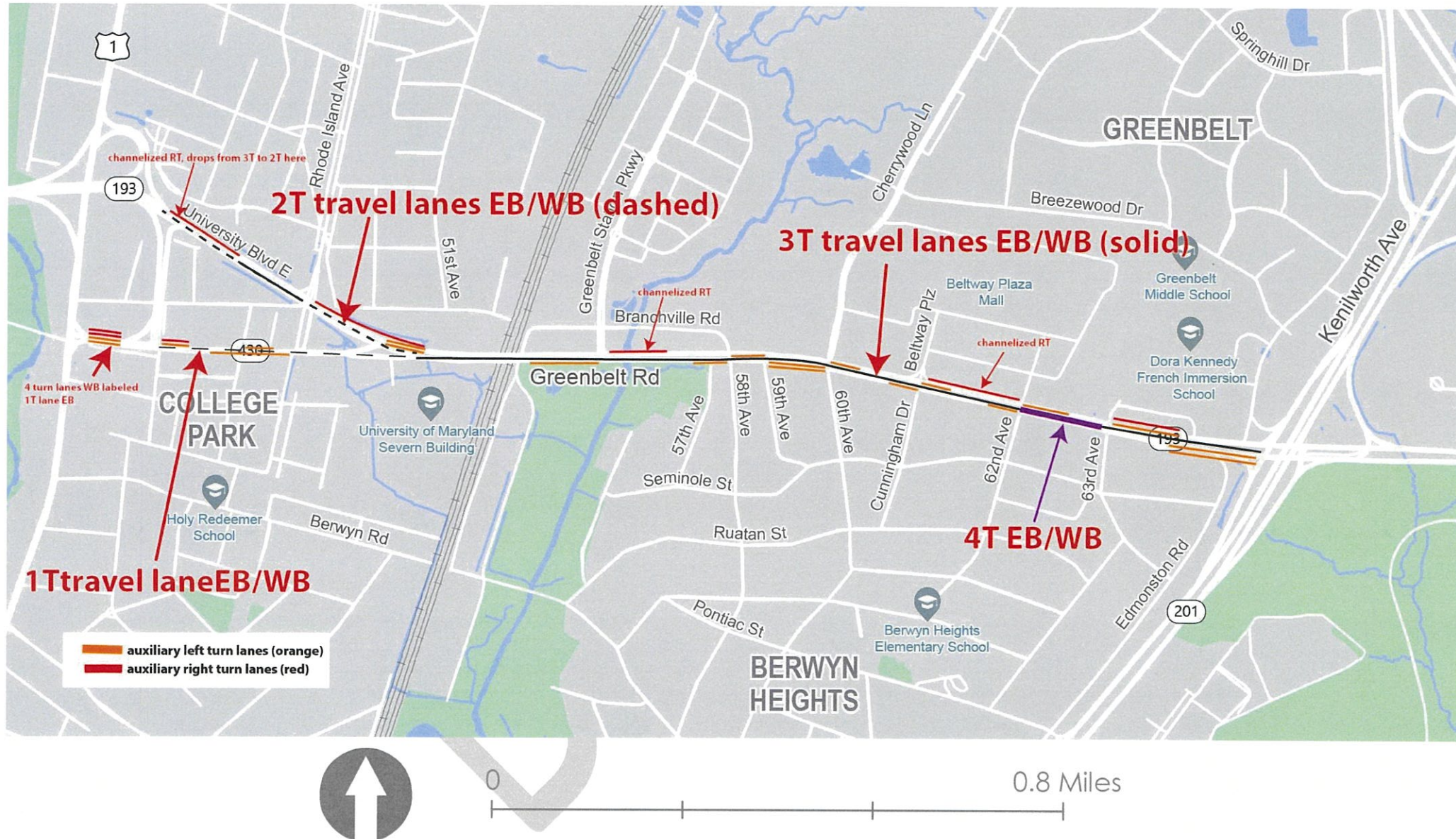


Figure 45. Existing Number of Travel Lanes

T=Through Lane, RT = Right-Turn Lane; EB = Eastbound, WB=Westbound

CRASH HISTORY

Traffic safety data were reviewed, and crash data from Prince George's County, including from the County's Vision Zero program for crashes from years 2015 to 2020 and the County crash spreadsheet for crashes from the years 2019 to 2021, along with the Maryland State Police statewide vehicle crashes from years 2015 to 2021 were tabulated. The consultant team rectified and removed any duplicate crash data for all three sources.

Figure 46 displays a crash density map of all area crashes from the years 2015 to 2021. The number of crashes is centered at intersections. The Rhode Island Avenue/University Boulevard and Greenbelt Road/Cherrywood Lane intersections stand out.

Crashes involving people walking and biking were separated from all crashes and are summarized in Figure 47. As shown, two pedestrian fatalities were reported during the six years. One pedestrian fatality was reported at the Greenbelt Road/Cherrywood Lane intersection. Another was reported on Kenilworth Avenue, just north of Greenbelt Road (MD 193) and slightly outside of the study area for this effort. Unfortunately, the reviewed crash data contains limited additional information about the circumstances regarding these crashes.

In addition to the two pedestrian fatalities, two bicyclists were injured in reported crashes, one occurring at the Greenbelt Road/Greenbelt Station Parkway intersection and the other occurring at the Greenbelt Road/Cunningham Drive intersection. Ten additional pedestrian injury crashes were reported throughout the study area.

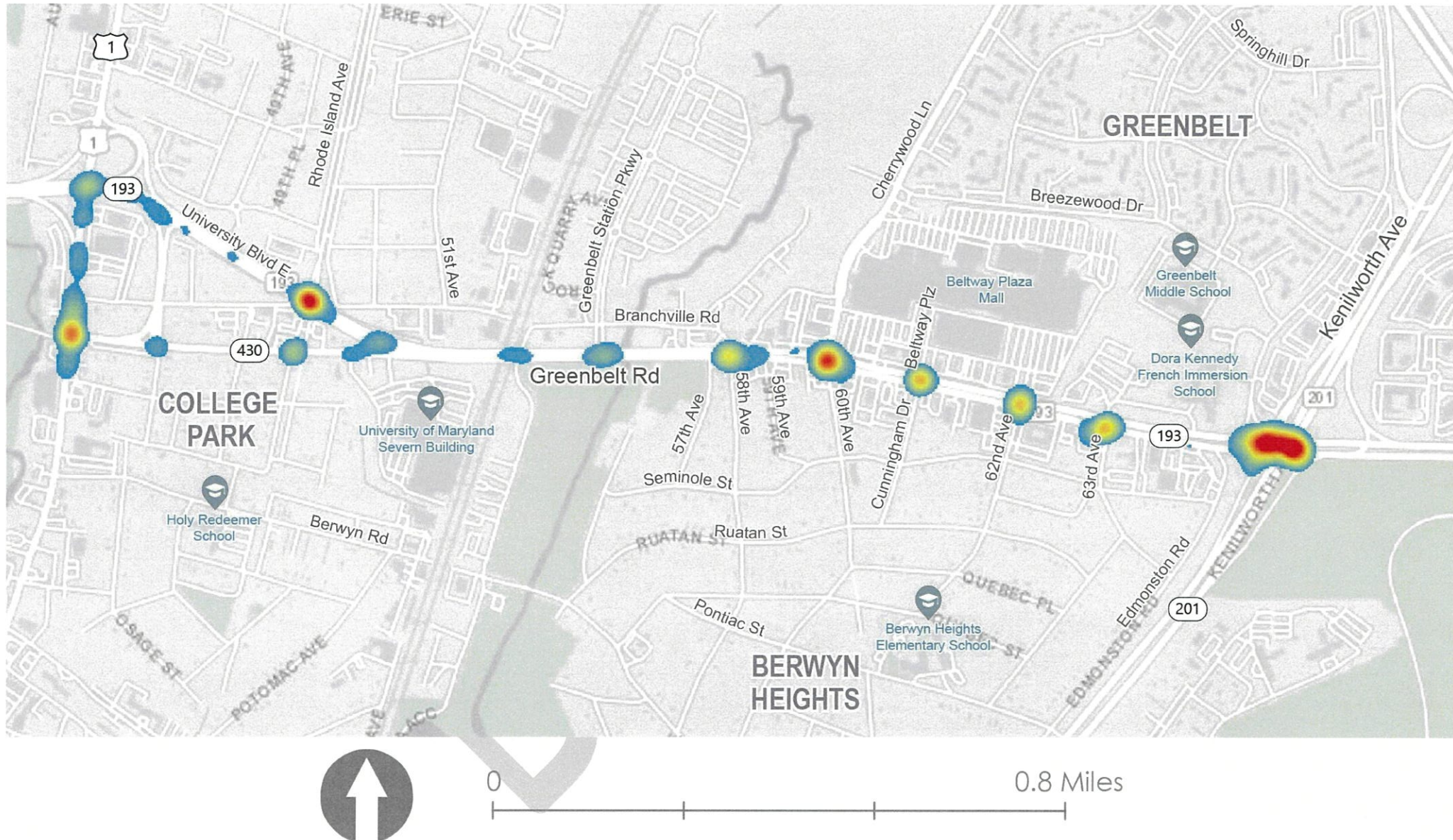


Figure 46. All vehicle crashes (2015 – 2021)

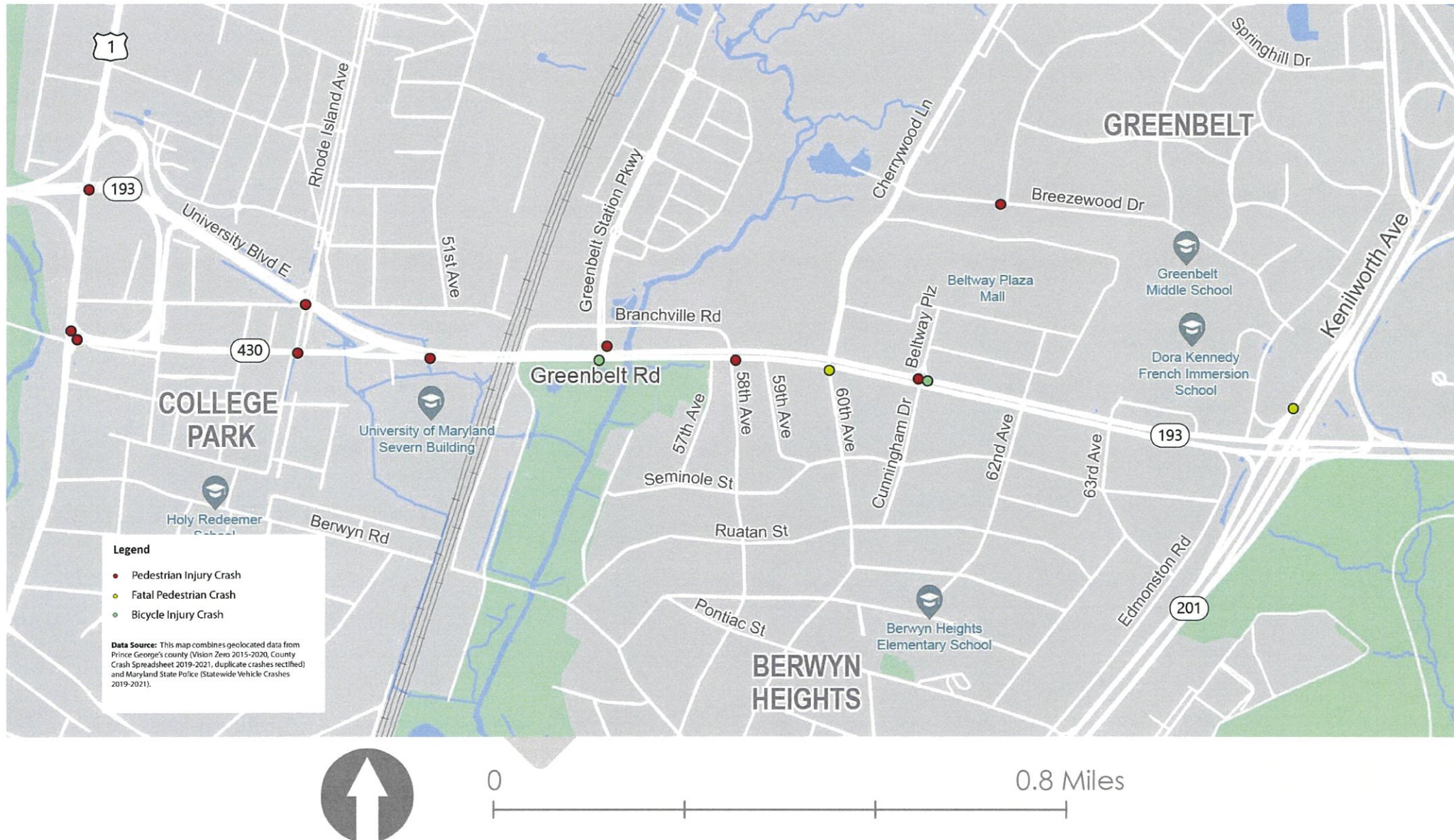
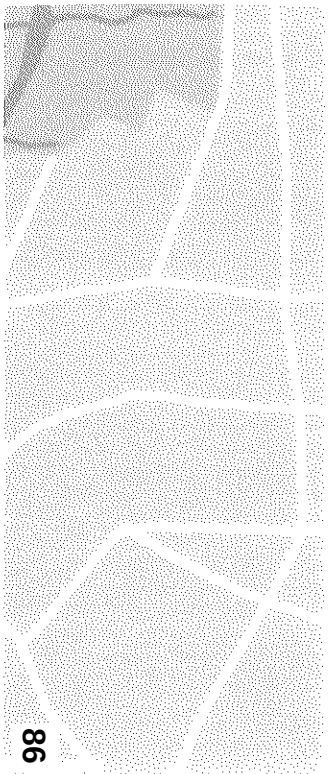
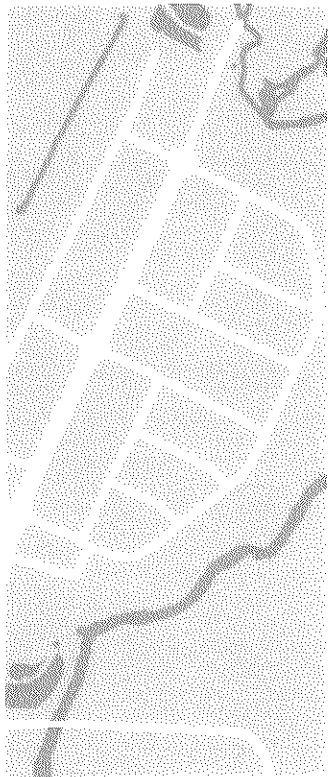


Figure 47. Pedestrian & Bicycle Crashes (2015 – 2021)



DRAFT

Section 5 Realizing Greenbelt Road's Potential



REALIZING GREENBELT ROAD'S POTENTIAL

As evidenced by the passionate voices heard at the February 10, 2022, visioning meeting, along with the great interest from the City of Greenbelt Council and elected officials from the Town of Berwyn Heights and the City of College Park that participated on March 23, 2022, Council Work Session, there is a strong community desire to change the look, feel, and operations of the Greenbelt Road corridor to a street the community can be proud to carry their name and represent their community. As pointed out by a user on the interactive map, “[we need to] decide whether this is infrastructure for cars to pass through or a place for people.”

After presenting initial recommendations at the March 23, 2022 work session, the consultant team revised and refined the recommendations and organized the ideas into four categories, shown in Figure 48 and described further in the subsequent sections.



Figure 48. Categories for Realizing Greenbelt Road's Potential

RIGHT-SIZE THE CORRIDOR TO THE POTENTIAL DEMAND

A consistent theme from the reviewed previous plans, studies, and community feedback is that people want to walk and bike on Greenbelt Road. In contrast, no previous plan, study, or community comment indicated a desire to make driving easier on Greenbelt Road. In reviewing the community comments during the visioning meeting, shown in Figure 11, or the feedback from the Interactive Map, available in Appendix B, not a single comment mentions congestion or the lack of vehicle capacity.

National studies have shown that areas with a greater propensity for people to walk and bike typically display several community characteristics, all of which are found along the Greenbelt Road corridor. These factors include diverse land uses, nearby destinations like trails or retail and proximity to transit. As the Roadway and Area Characteristics section of this report describes, the Greenbelt Road (MD 193) corridor meets these factors. This indicates that the missing element to realizing the potential demand for walking and biking on Greenbelt Road is the design of the road itself.

Walking and biking are low-cost, healthy, and non-polluting options for everyday travel. Providing opportunities for people to walk and bike is critical to equitable community investments. To provide community enhancements equitably, improvements should be prioritized in locations close to underrepresented or vulnerable populations, which, as described in the Equity Emphasis Areas section of this report, are present in the area surrounding Greenbelt Road.

These characteristics indicate that Greenbelt Road is ripe to be re-envisioned as a safe and comfortable roadway for people to walk and bike. However, the treatments necessary to provide safe and comfortable facilities like wider sidewalks buffered from the roadway or separated bike lanes require space. As indicated in the Right-of-Way and Curb-To-Curb Width discussion, there is limited space to work with along Greenbelt Road. As such, it is necessary to consider rebalancing the right-of-way distribution.

Figure 49 displays the current typical right-of-way distribution on the corridor. This distribution of space matches the existing Greenbelt Road (MD 193) corridor cross-section shown in Figure 15. 'Motor Vehicles' indicates space available for vehicles such as automobiles and transit vehicles. 'Non-motor Vehicles' indicates space for walking and biking, which is currently limited to the narrow sidewalks along Greenbelt Road. 'Other' indicates surface area used for non-transportation purposes, typically to provide separation, such as a median to separate traffic going different directions. The 'other' category is broken down into 'Planted,' which refers to areas of grass or landscaping, and 'Paved,' which refers to the hardscaped area like the concrete median that exists on most of the corridor.

Figure 49. Current Distribution of Right-of-Way on Greenbelt Road (MD 193)

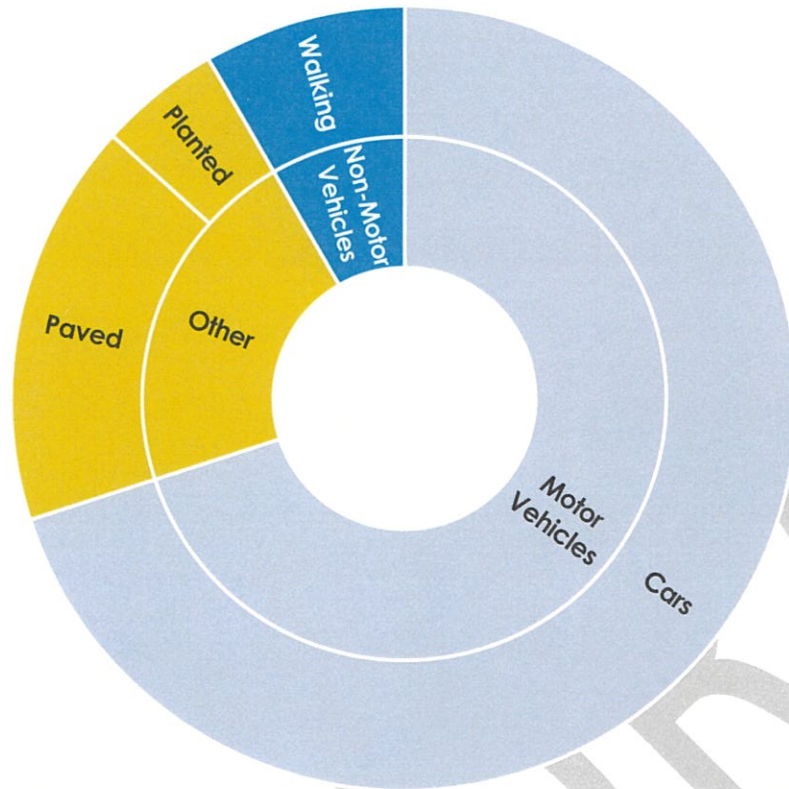


Figure 49 visually demonstrates how much of the current right-of-way is used by motor vehicles, leaving little to no room for people walking or biking. Further, except for the small amount of planted space, all remaining roadway space consists of impervious surfaces. Impervious surfaces do not allow the natural soaking of rainwater into the ground. Instead, the rainwater accumulates and flows rapidly into storm drains. Reducing the amount of impervious surfaces can provide aesthetic benefits in the form of landscaping and greenery

while also providing stormwater management and additional environmental benefits. The visual clearly shows that the amount of existing right-of-way dedicated to car travel is out of alignment with the community's stated desires.

The following subsections discuss how the corridor's right-of-way distribution can be brought into alignment with the community's vision for the corridor.

MATCHING THE DEMAND

The consultant team reviewed high-level planning thresholds to assess whether removing travel lanes to provide space for pedestrian and bicycle facilities could be an option. As described in The Transportation Project Process section, ideas from the Planning step that are moved forward would be analyzed further in the Engineering step before proceeding to Design and eventually Construction. At that time, more detailed analyses, including the collection of current traffic volumes and more advanced analysis methods, including procedures described in the most current edition of the [Highway Capacity Manual](#), would further assess the feasibility of options described during the Planning step. At this time, the Planning step is only concerned with what ideas should move forward for further consideration.

A review of the daily traffic volumes on Greenbelt Road (MD 193), described in the Daily Traffic Volumes section, indicates that daily traffic volumes in 2021 were 36,700, which, due to the COVID-19 pandemic, is down from a recent peak of 49,420 vehicles per day in 2019. The lasting effects of the COVID-19 pandemic are unknown; however, factors like continued workplace flexibility, transportation costs (gas prices), transit usage, and changes in land use all factor into the lasting effects of the decrease in traffic volumes. What is

known is the apparent current demand and need for a roadway that is safe and comfortable for people to walk and bike, which presciently occurs at a point in time when the reduction in motor vehicle demand provides an opportunity to consider repurposing the travel lanes for other uses.

A simple analysis tool for reviewing roadway capacity using daily traffic volumes is available from the Florida Department of Transportation's (FDOT's) [Quality/Level of Service Handbook](#) (Q/LOS). The Q/LOS uses the Highway Capacity Manual procedures to develop roadway capacity and quality/level of service look-up tables for planning-level analyses. Using thresholds provided in the Q/LOS Handbook, the generalized daily traffic volume threshold for a six-lane divided roadway is approximately 59,900 vehicles per day. The threshold is approximately 39,800 vehicles per day for a four-lane divided roadway. These thresholds indicate that with the recent drop in traffic volumes over the past few years, a reduction in travel lanes from six to four through lanes is worth further consideration.

As a comparison, University Boulevard (MD 193) west of US Route 1 has four through lanes. The daily traffic volumes on this section of University Boulevard were 40,712 in 2020 and 48,751 in 2019. In 2006, when the daily traffic volume on Greenbelt Road (MD 193) peaked, the daily traffic volume on University Boulevard (MD 193) west of US Route 1 was 46,780. University Boulevard (MD 193) has consistently operated with traffic volumes above the FDOT Q/LOS daily traffic volume thresholds as a four-lane roadway. Further, the 48,751 vehicles per day in 2019 is comparable to the near-term peak daily traffic volume of 49,420 vehicles per day in 2019 on Greenbelt Road (MD 193).

As seen by both the Q/LOS and a review of traffic volumes on the nearby four-lane section of University Boulevard (MD 193)

west of US Route 1, it is reasonable to conclude that Greenbelt Road (MD 193) could accommodate current and pre-COVID-19 traffic volumes as a four-lane roadway. As a result, considering a four-lane cross-section on Greenbelt Road (MD 193) is worth further review.

Testing a Lane Reduction

As discussed in the Peak-Hour Volumes section, peak-hour volumes are used to make more informed decisions about intersection control options (traffic signal, all-way-stop control, roundabout, etc.) and the number of lanes needed for each control option. Using the methodology previously described in the Peak-Hour Volumes section, weekday evening (PM), peak-hour volumes from the 'Total Traffic' volumes in the Beltway Plaza TIA were used to calculate the CLV, v/c ratio, and LOS for the Greenbelt Road (MD 193)/Cherrywood Lane intersection in its current configuration. To provide a simple test of the feasibility of removing a travel lane in each direction of Greenbelt Road (MD 193), the CLV, v/c ratio, and LOS were calculated for the Greenbelt Road (MD 193)/Cherrywood Lane intersection with one lane removed in both directions of Greenbelt Road (MD 193).

Table 2 provides the results after removing one through lane in each direction. The CLV at the Greenbelt Road (MD 193)/Cherrywood Lane intersection increases from 1180 to 1535, the v/c ratio increases from 0.74 to 0.96, and the LOS increases from C to C E. The number of conflicting travel lanes for pedestrians crossing Greenbelt Road is reduced from 7-8 (7 on the west side of the intersection, 8 on the east side) to 5-6. While removing one travel lane in each direction degrades motor vehicle performance, the projected traffic operations remain within acceptable limits, following the [Maryland SHA Context Driven guide](#) that identifies LOS E as acceptable for a

suburban activity center where a balanced approach is required.

Table 2. Greenbelt Road (MD 193)/Cherrywood Lane Intersection Traffic Conditions – Existing Roadway Configuration and One-Lane Removed in Both Directions

	Existing Roadway Configuration	Removal of One Through Lane in Each Direction	Removal of One Through Lane in Each Direction with Turn-Lane Adjustment
Critical Lane Volume (CLV)	1180	1535	1480
Volume-to-Capacity Ratio (V/C)	0.74	0.96	0.93
Level-of-Service (LOS)	C	E	E
Number of Conflicting Travel Lanes for Pedestrians Crossing Greenbelt Road	7-8	5-6	5

An option for mitigating the effects of removing one travel lane in each direction at the Greenbelt Road (MD 193)/Cherrywood Lane intersection is to remove one eastbound left-turn lane. Removing one eastbound left-turn lane reduces the CLV to 1480, the v/c ratio to 0.93, and the LOS remains an E, as shown in Table 2. Plus, the number of conflicting travel lanes for pedestrians crossing Greenbelt Road is reduced to five. This represents two to three fewer conflicting

travel lanes for a person crossing the street, which represents a significant benefit.

Because of the planning-level nature of this effort, the Greenbelt Road (MD 193)/Cherrywood Lane intersection was used as a representative intersection for the potential available capacity at other intersections along the Greenbelt Road (MD 193) corridor. As previously discussed, the use of the 'Total Traffic' peak-hour volumes represents traffic volumes that are likely substantially higher than are found on the corridor today, starting with the use of base traffic volumes from 2018, which is near the recent peak in traffic volumes on the corridor, six years of applied regional growth that is likely more than six years away due to the higher base volumes, background developments that have not broken ground, and trips from the proposed Beltway Plaza redevelopment that are also many years away from being realized.

Additional analyses are needed before moving forward with removing one through lane in each direction. This includes the collection of current traffic volumes, conducting intersection operations analyses for both weekday a.m. and p.m. peak hours at all corridor intersections, and reviewing and updating corridor-wide signal timing.

The consultant team recommends removing one through lane in each direction of Greenbelt Road (MD 193) from the section designated as MD 430 to Kenilworth Avenue in the eastbound direction and from Kenilworth Avenue to Rhode Island Avenue in the westbound direction, as shown in Figure 51. The removal of one through lane in each direction should be done in conjunction with analyzing the corridor intersections using current traffic volumes and include a review of corridor-wide signal timing.

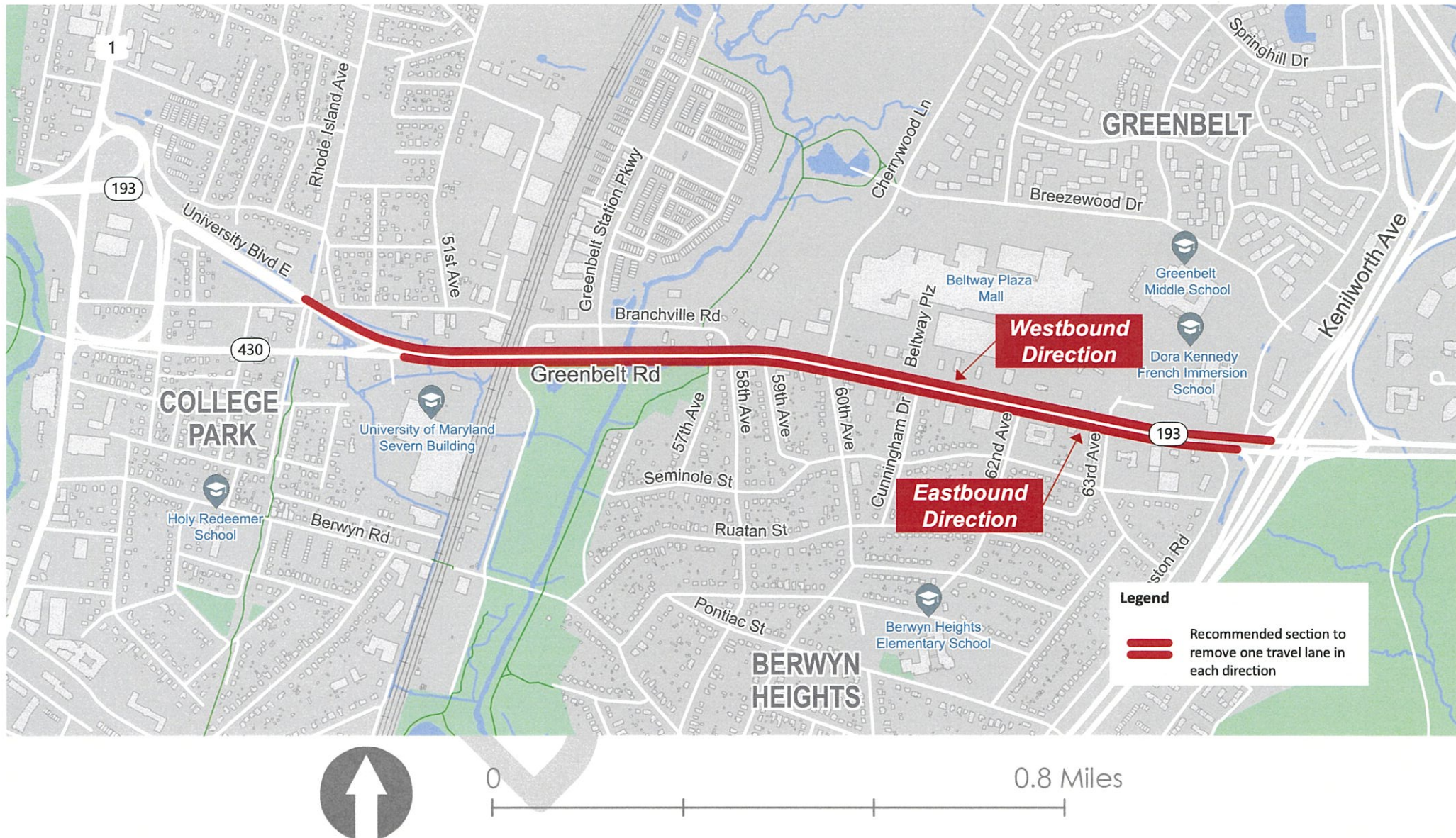


Figure 50. Recommended Section of Greenbelt Road (MD 193) to Remove One Travel Lane in Each Direction

Innovative/ Unconventional/ Alternative Intersections

While the lane reduction test indicates that a lane reduction could be a feasible option at the Greenbelt Road (MD 193)/Cherrywood Lane intersection, additional intersection options were considered that allow motor vehicle operations to function at a level similar to the existing roadway configuration, even with a reduction in the number of through lanes.

These additional intersection options include what have been termed Innovative, Unconventional, or Alternative Intersections. These intersection designs principally reconfigure left-turn movements to reduce the number of through lanes and minimize vehicle delay. In so doing, these intersection forms modify vehicle, pedestrian, and bicycle movements to provide new options to reduce delay, increase efficiency, and potentially provide safer travel for road users.

The consultant team used the Virginia Department of Transportation's (VDOT's) [Junction Screening Tool](#) (VJuST) to analyze alternative intersections. The stated purpose of the VJuST is for use when "considering and screening innovative intersection and interchange configurations that address mobility and safety issues. This sketch-level tool can help identify and screen innovative intersection and interchange configurations to be evaluated for further study, analysis, and design."

As noted in this document and the VJuST tool guidance, "The results provided in the VDOT Junction Screening Tool are not meant to replicate the results obtained from more detailed traffic operations, safety, and design analyses. As such, the VDOT Junction Screening Tool is intended to provide information to users that will aid them in the planning,

screening, and decision-making processes used to determine which innovative intersection and interchange configurations should move forward to a more detailed analysis."

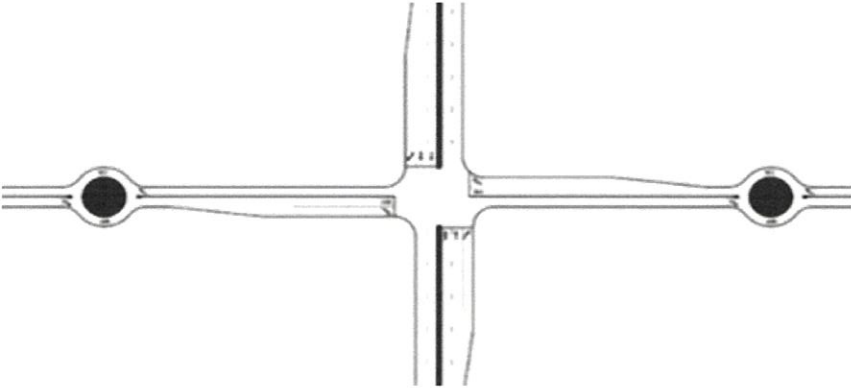
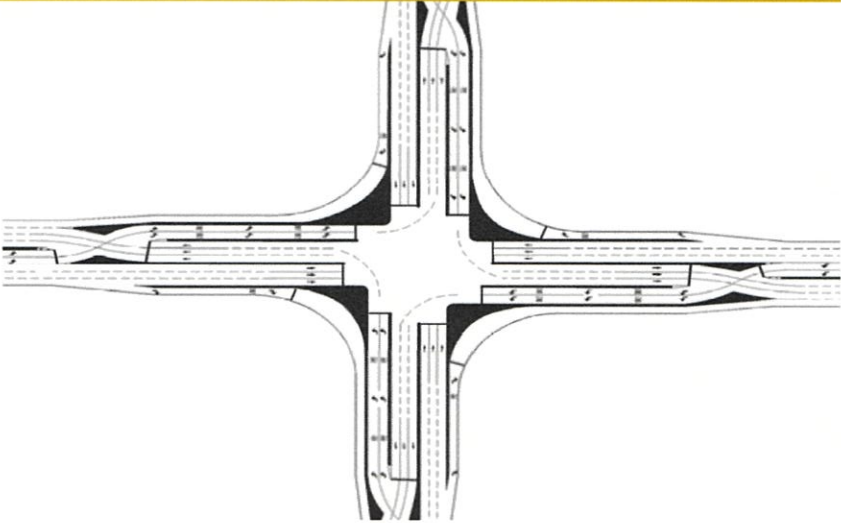
The VJuST is an altered version of the Federal Highway Administration's (FHWA's) Capacity Analysis for the Planning of Junctions (CAP-X) software, which uses CLV methodology to provide sketch-level capacity assessments for innovative intersection and interchange configurations using peak hour volumes. The VJuST determines the v/c ratio using the following methodology:

Some of the innovative intersection or interchange configurations are divided into multiple zones, with each zone representing a location with conflicting volumes, such as a signalized intersection or crossover. The CLV method is applied individually for each zone to calculate a V/C ratio. This method determines the maximum volume per lane that must be accommodated during each signal phase and sums the critical phase volumes to determine the overall critical volume that must be accommodated by the zone. A value of 1,600 passenger cars per lane is assumed for the maximum intersection CLV. The calculated CLV for a zone is then divided by the maximum intersection CLV to determine the V/C ratio for that zone. The maximum V/C ratio of all zones that make up an innovative intersection or interchange configuration is summarized in the Results Worksheet. This V/C ratio represents the worst bottleneck in the configuration.

Before proceeding with the analysis, eight potential intersection forms were identified as potentially feasible for the Greenbelt Road (MD 193) corridor. Apart from the section of Greenbelt Road designated as MD 430, where roundabouts were considered, intersection forms with grade separation and roundabouts were not considered feasible. The eight forms are described on the following pages.

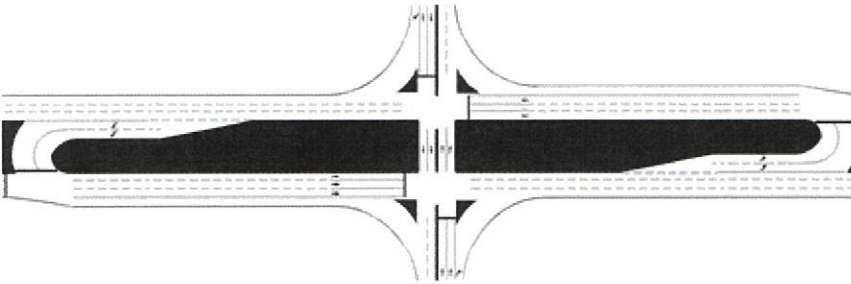
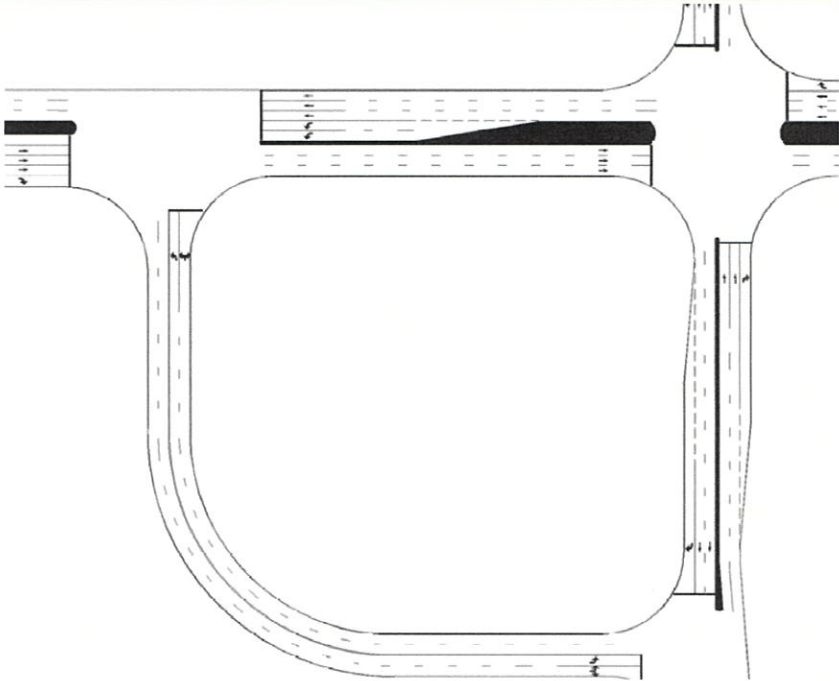
Overview of Innovative/ Unconventional/ Alternative Intersection Forms Considered for Greenbelt Road (MD 193)

Information adapted from the Virginia Department of Transportation Junction Screening Tool

Bowtie	Full/Partial Displaced Left-Turn
	
Description The bowtie intersection is an alternative to the Median U-Turn intersection. Left-turn movements from both roadways are removed from the main intersection. They are executed via a U-turn at a roundabout on the minor roadway downstream of the main intersection. Removing the left-turn movements allows for two-phase signal control.	Description Left-turning vehicles cross over to the other side of the roadway at a signalized intersection several hundred feet in advance of the main intersection. The protected left turns occur simultaneously with the opposing through movements at the main intersection, allowing for two- (full) or three-phase (partial) signal control. This design is also referred to as a Continuous Flow Intersection or Crossover Displaced Left Intersection.
Where Should this Design Be Considered? The bowtie intersection should be considered on roadways with high through volumes on the major roadway and low through and left-turn volumes on the minor roadway. Arterials with narrow medians and limited ROW should be considered.	Where Should this Design Be Considered? Left-turning vehicles cross over to the other side of the roadway at a signalized intersection several hundred feet in advance of the main intersection. The protected left turns occur simultaneously with the opposing through movements at the main intersection, allowing for two- (full) or three-phase (partial) signal control. This design is also referred to as a Continuous Flow Intersection or Crossover Displaced Left Intersection.

Overview of Innovative/ Unconventional/ Alternative Intersection Forms Considered for Greenbelt Road (MD 193) (Continued)

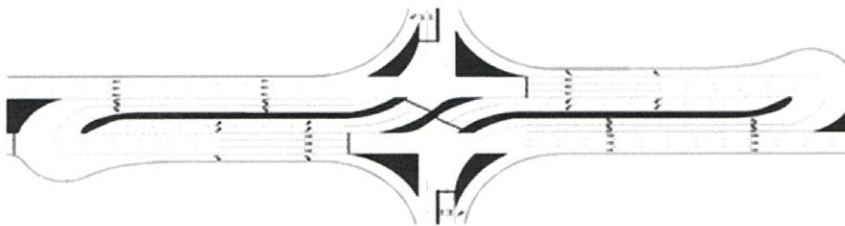
Information adapted from the Virginia Department of Transportation Junction Screening Tool

Full/Partial Median U-Turn	Quadrant Roadway
	
Description Left-turn movements from the major roadway (partial) or both roadways (full) are removed from the main intersection. Instead, these vehicles execute a left turn at a median opening on the major roadway downstream of the main intersection. Removing the left-turn movements allows for two- (full) or three-phase (partial) signal control. This tool assumes all intersections are signalized. However, this intersection can be designed as partially unsignalized.	Description All four left-turn movements are rerouted onto a connector road in one quadrant, allowing for two-phase signal control at the main intersection and three-phase signal control at the intersections with the connector road. This tool assumes all intersections are signalized. However, this intersection can be designed as partially unsignalized.
Where Should this Design Be Considered? The median U-turn intersection should be considered on high-speed, median-divided highways with moderate left-turn volumes on the major roadway and minor left-turn volumes on the minor roadway.	Where Should this Design Be Considered? The quadrant roadway intersection should be considered if an existing roadway can be used as a connection roadway or if there are heavy left-turn and through volumes on the major and minor roadways. The ratio of minor road volume to total intersection volume is typically less than or equal to 0.35.

Overview of Innovative/ Unconventional/ Alternative Intersection Forms Considered for Greenbelt Road (MD 193) (Continued)

Information adapted from the Virginia Department of Transportation Junction Screening Tool

Restricted Crossing U-Turn



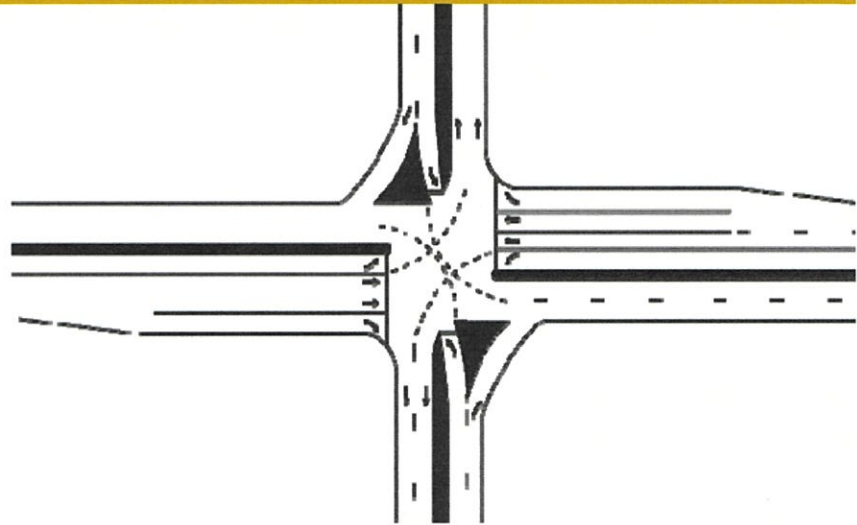
Description

Minor roadway left turns and through movements are removed from the main intersection. These vehicles turn right onto the major roadway before making a U-turn at a downstream median opening. Removing these movements allows for two-phase signal control at the main intersection. This design is also referred to as a super street intersection. This tool assumes all intersections are signalized. However, this intersection can be designed as partially or fully unsignalized.

Where Should this Design Be Considered?

The restricted crossing U-turn intersection should be considered on high-speed, median-divided highways with high through and left-turn volumes on the major roadway and low through volumes on the minor roadway.

Thru-Cut



Description

Through movements from the minor roadway are removed from the main intersection. These vehicles use other routes in the road network to travel across the major street. This design enables protected left turns from both minor street roadways to operate concurrently. Removing minor roadway through movements allows for two- or three-phase signal control, depending on major roadway left-turn phasing.

Where Should this Design Be Considered?

The thru-cut should be considered for roadways with low minor roadway through volumes, sufficient road network to enable minor roadway through movements via alternate routes, and few pedestrian crossings.

The results of the analysis of various Innovative/ Unconventional/ Alternative Intersection forms at the Greenbelt Road/Cherrywood Lane are displayed in Table 3. The resulting CLVs vary from 1300 (with the installation of a partial displaced left-turn intersection) to 1481 (with the installation of a full median U-turn configuration). Both the full and displaced left-turn configurations operate at LOS C (the same LOS as the existing roadway configuration), and the

bowtie, partial median U-turn, quadrant roadway, restricted crossing U-turn, and thru-cut configurations all operate at LOS D. The full and partial median U-turn configurations provide the fewest number of conflicting travel lanes for pedestrians crossing Greenbelt Road (MD 193). Figure 49 provides potential alternative intersection options at Greenbelt Road (MD 193) intersections for discussion purposes. A discussion of these options is provided after the figure.

Table 3. Greenbelt Road/Cherrywood Lane Intersection Traffic Conditions with Innovative/Unconventional/Alternative Intersection Forms

Intersection Form	Critical Lane Volume (CLV)	Volume-to-Capacity Ratio (V/C)	Level-of-Service (LOS)	Number of Conflicting Travel Lanes for Pedestrians Crossing Greenbelt Road
Existing Roadway Configuration	1180	0.74	C	7-8
Removal of One Through Lane in Each Direction	1535	0.96	E	5-6
Removal of One Through Lane in Each Direction with Turn-Lane Adjustment	1480	0.93	E	5
Bowtie	1420	0.89	D	5
Full Displaced Left-Turn	1270	0.79	C	5
Partial Displaced Left-Turn	1300	0.81	C	6
Full Median U-Turn	1481	0.93	E	4-5
Partial Median U-Turn	1452	0.84	D	4-5
Quadrant Roadway	1430	0.89	D	4-6
Restricted Crossing U-Turn	1303	0.81	D	5-6
Thru-Cut	1371	0.86	D	5

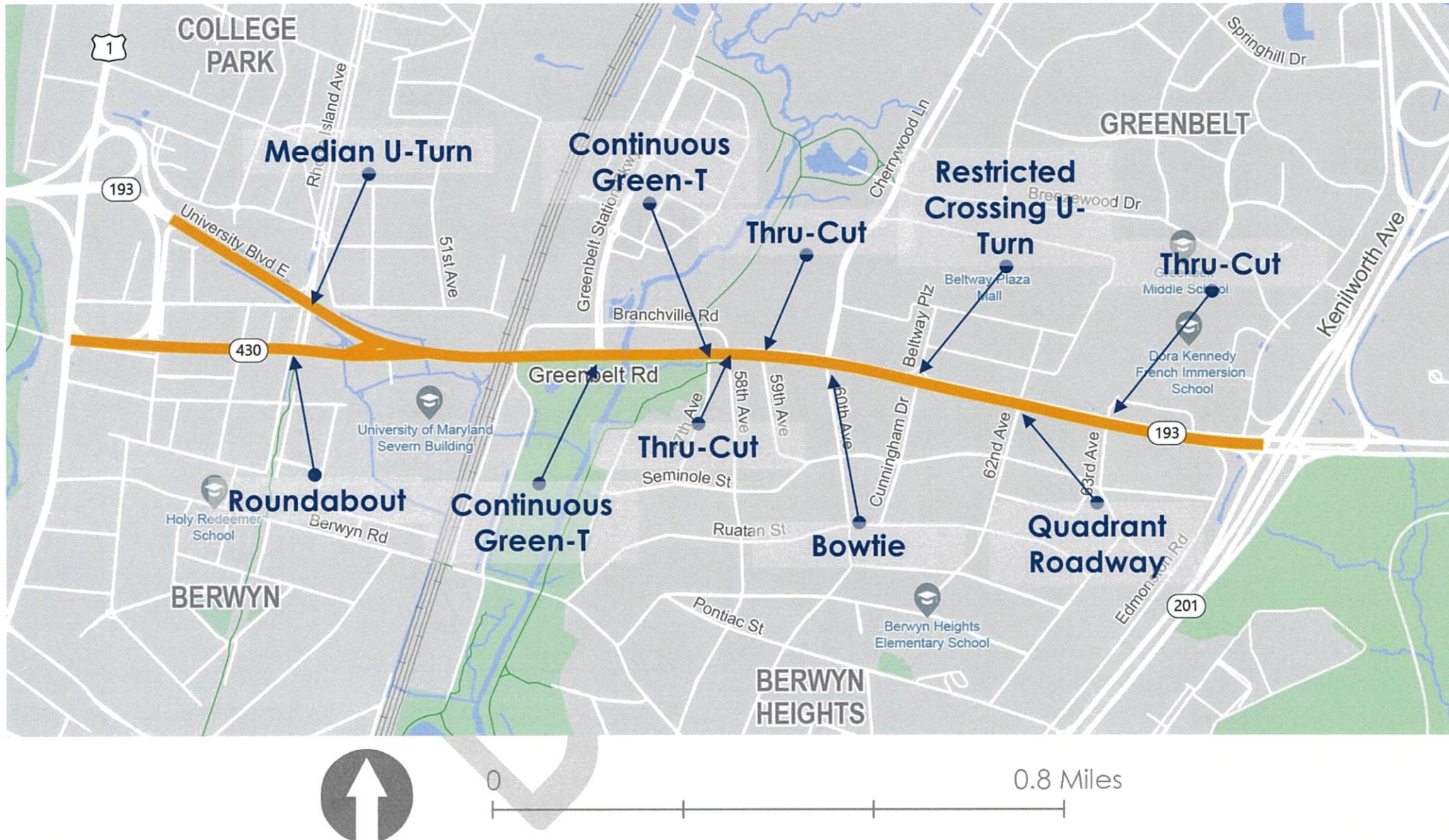


Figure 51. Potential Alternative Intersection Options at Greenbelt Road (MD 193) Intersections

(For discussion purposes only. Multiple intersection configurations for any individual intersection should be considered before advancing a preferred option.)

A rudimentary review was completed to identify potential intersection form options for intersections along the Greenbelt Road (MD 193) corridor, as shown in Figure 51. These options are described below.

Greenbelt Road (MD 430)/Rhode Island Avenue

A roundabout was identified as an option for the Greenbelt Road (MD 430)/Rhode Island Avenue intersection. This intersection has the lowest volume demands of any intersection along the corridor. A roundabout has the potential to provide safety and operational benefits while serving as a gateway treatment between the transition to the primary section of Greenbelt Road (MD 193) to the east and the lower-speed, lower-volume, more residential section of Greenbelt Road (430) to the west. A roundabout at this intersection could also incorporate artwork in the central island denoting the start of the Rhode Island Avenue Trolley Trail to the south of the intersection and help facilitate bicycle movements between the separated bike lanes on Rhode Island Avenue to the north and the Trolley Trail to the south.

University Boulevard (MD 193)/Rhode Island Avenue

A median U-turn was identified as an option for the University Boulevard (MD 193)/Rhode Island Avenue intersection. The configuration of the median U-turn intersection helps facilitate through movements on both roadways and could help accommodate the higher number of through movements on Rhode Island Avenue compared to other side streets on the corridor.

Greenbelt Road (MD 193)/Greenbelt Station Parkway and Greenbelt Road (MD 193)/57th Avenue

A continuous green-T intersection configuration was identified as a potential option for both the Greenbelt Road (MD

193)/Greenbelt Station Parkway and Greenbelt Road (MD 193)/57th Avenue intersections. These are the only two "T" intersections (three-leg intersections) on the corridor. The continuous green-T intersection configuration, shown in Figure 52, helps facilitate through movement traffic on the top end of the "T."

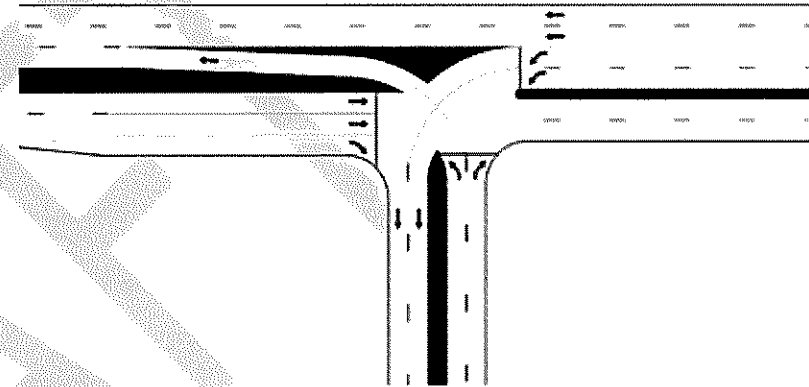


Figure 52. Continuous Green-T Intersection

Greenbelt Road (MD 193)/58th Avenue, Greenbelt Road (MD 193)/59th Avenue, and Greenbelt Road (MD 193)/63rd Avenue

These three intersections were identified as possible thru-cut intersections. The thru-cut intersection configuration removes through movements from the side street and provides the potential to substantially reduce the number of conflicting travel lanes for pedestrians crossing Greenbelt Road at these locations.

Greenbelt Road (MD 193)/60th Avenue/Cherrywood Lane

A bowtie was considered at the Greenbelt Road (MD 193)/60th Avenue/Cherrywood Lane to help facilitate higher demand left-turn movements to and from the side streets. Further, roundabouts could provide potential gateway

treatments to transition the side streets at the Cherrywood Lane/Beltway Plaza entrance and the 60th Avenue/Seminole Street intersections.

Greenbelt Road (MD 193)/Cunningham Drive/Beltway Plaza

A restricted crossing U-turn was considered a possibility at the Greenbelt Road (MD 193)/Cunningham Drive/Beltway Plaza intersection. Like the bowtie, the restricted crossing U-turn intersection helps facilitate turning movements to and from the side streets while requiring side street through movements to use U-turns on Greenbelt Road (MD 193).

Greenbelt Road (MD 193)/62nd Avenue

A quadrant roadway was identified as an option for the Greenbelt Road (MD 193)/62nd Avenue intersection. A quadrant roadway pulls all turning movements onto a connector road in one quadrant, which could be provided as part of the redevelopment of the Beltway Plaza Mall. This configuration would result in additional vehicular traffic using the roadways through the redeveloped area, providing additional potential customers to the retail core.

If the removal of one travel lane in each direction on Greenbelt Road degrades traffic operations to substandard conditions that are not able to be addressed through signal timing adjustments, adding or removing turn lanes or turn restrictions, or other mitigations, the consultant team recommends the consideration of alternative intersection types to retain the narrower corridor cross-section and alleviate traffic congestion at intersections. While some degradation in traffic operations is likely with the removal of one travel lane in each direction, the benefit gained from providing comfortable, low-stress facilities for people walking and biking is significant, and based on community desire and safety considerations, should be prioritized over traffic flow.

MAKE THE CORRIDOR A PLACE PEOPLE WANT TO WALK AND BIKE

WALKING ALONG GREENBELT ROAD

To facilitate the stated demand for walking along and across Greenbelt Road (MD 193), the design of the road needs to change. As previously highlighted, the context of Greenbelt Road, with its varied land uses, nearby pedestrian destinations, and local demographics, all suggest a location with a high propensity for walking. The only missing variable is safe and comfortable facilities to walk.

In this report's Pedestrian Level of Comfort section, the Pathway Pedestrian Level of Comfort was identified as a four, which is the worst possible score, and described as "Undesirable." The consultant team used the information shown previously in Figure 24, which provides a pedestrian level of comfort for urban pathways look-up table, to determine what would be necessary for the walkways along Greenbelt Road to be at least "somewhat comfortable" (a Pedestrian Level of Comfort score of two or better). The identification of "somewhat comfortable" as the desired condition represents a minimum threshold for attracting people who want to walk along Greenbelt Road and a starting point for identifying recommendations to improve the corridor's walking experience. Based on this analysis, to achieve even a "somewhat comfortable" condition for walkways on Greenbelt Road, one of the options shown in Figure 53 is needed.

As shown in Figure 53, to provide walking facilities that are not hostile to people walking, the distance between people walking and moving cars (the buffer distance) and the width of the walkway needs to be increased, and the speed limit

needs to be reduced. However, reducing the speed limit without accompanying roadway design changes is likely to have minimal to no change in the operating speed of vehicles on Greenbelt Road (MD 193).

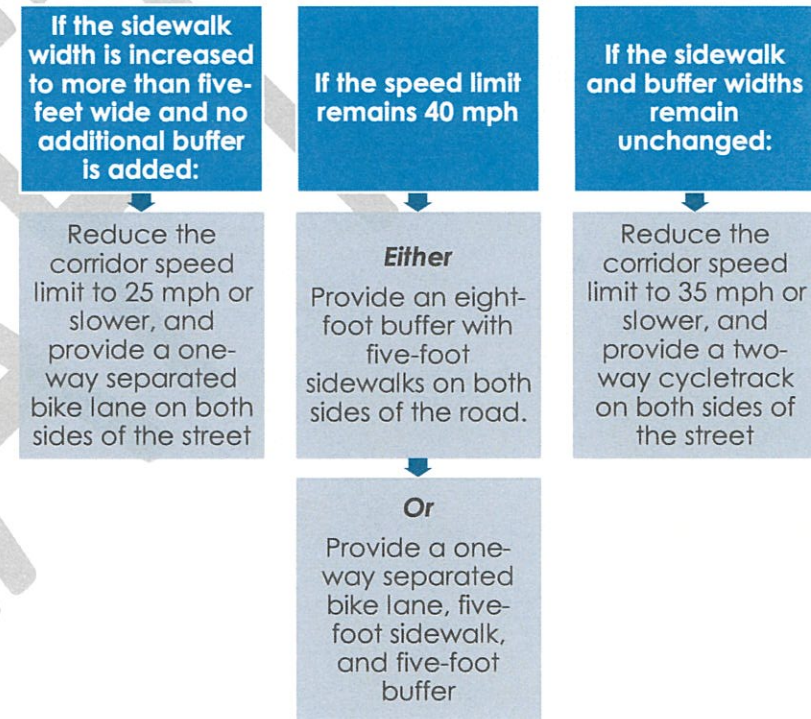


Figure 53. Design Options for Achieving a "Somewhat Comfortable" Pathway Pedestrian Level of Comfort

The bridge over the CSX and WMATA rail tracks provides a constrained cross-section that does not allow for the use of buffers between the road and sidewalk or widening the sidewalk. One option for providing a buffer between the roadway and sidewalk is the use of one-way separated bike lanes, as discussed previously. If one-way separated bike lanes are not pursued on Greenbelt Road, an alternative option for improving pedestrian comfort on the bridge is using Jersey Barriers or other devices to provide greater separation between the roadway and sidewalk, as shown in Figure 53.

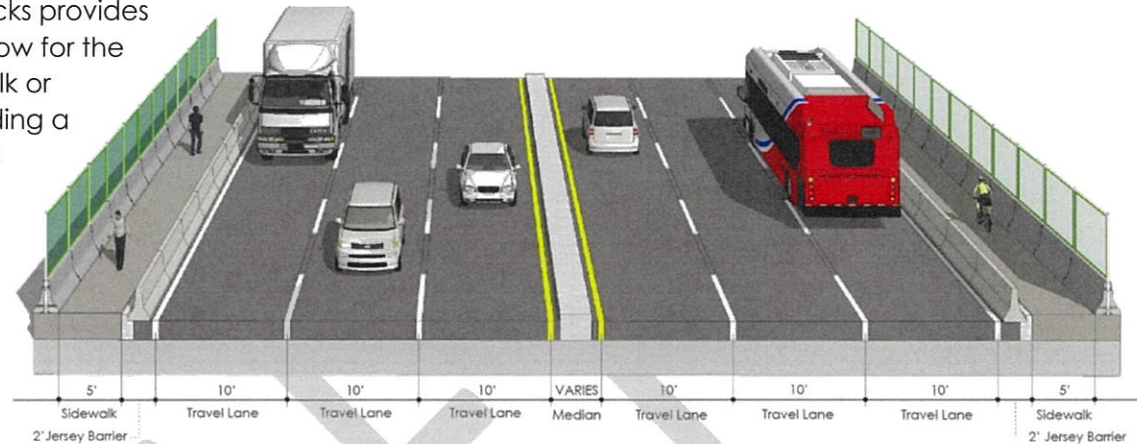


Figure 54. Option for Improving Pedestrian Comfort on the Bridge

The consultant team recommends increasing the sidewalk width to more than five feet along the length of the corridor, reducing the corridor speed limit to 25 mph, and providing one-way separated bike lanes on both sides of the street. This recommendation is likely possible within the existing curb-to-curb width by repurposing a travel lane in each direction to provide one-way separated bike lanes and in locations where the sidewalk width is less than five feet, narrowing the lanes on Greenbelt Road to extend the sidewalk into the existing roadway.

If the corridor speed limit is not reduced to 25 mph, the consultant team recommends either one-way separated bike lanes on both sides of the street with five-foot buffers provided between the sidewalk and separated bike lanes or increasing the buffer between the road and sidewalk to eight feet.

If a roadway travel lane is not repurposed to provide one-way separated bike lanes, the consultant team recommends using Jersey Barriers or similar devices on the bridge to provide greater separation between the roadway and sidewalk.

CROSSING GREENBELT ROAD

In the Pedestrian Level of Comfort section of this report, the Crossing Pedestrian Level of Comfort was identified as a four, the worst possible score, and described as "Undesirable." The consultant team used the information shown previously in Figure 25, which provides a pedestrian level of comfort for the controlled crossings look-up table, to determine what would be necessary for the pedestrian crossings on Greenbelt Road to be at least "somewhat comfortable" (a Pedestrian Level of Comfort score of two or better). The identification of "somewhat comfortable" as the desired condition represents a minimum threshold for attracting people who want to cross Greenbelt Road and a starting point for identifying recommendations to improve the corridor's walking experience. Based on this analysis, to achieve even a "somewhat comfortable" condition for controlled crossings on Greenbelt Road, all of the items shown in Figure 55 are needed.

In addition to these treatments to improve existing crossings, additional elements have the potential to further improve the ability to cross Greenbelt Road (MD 193). These include adding **signalized mid-block crossings with pedestrian refuge islands** in locations where long stretches exist without crossings, **removing or constricting right-turn slip lanes**, as shown in Figure 57, and **removing right-turn deceleration/acceleration lanes**.

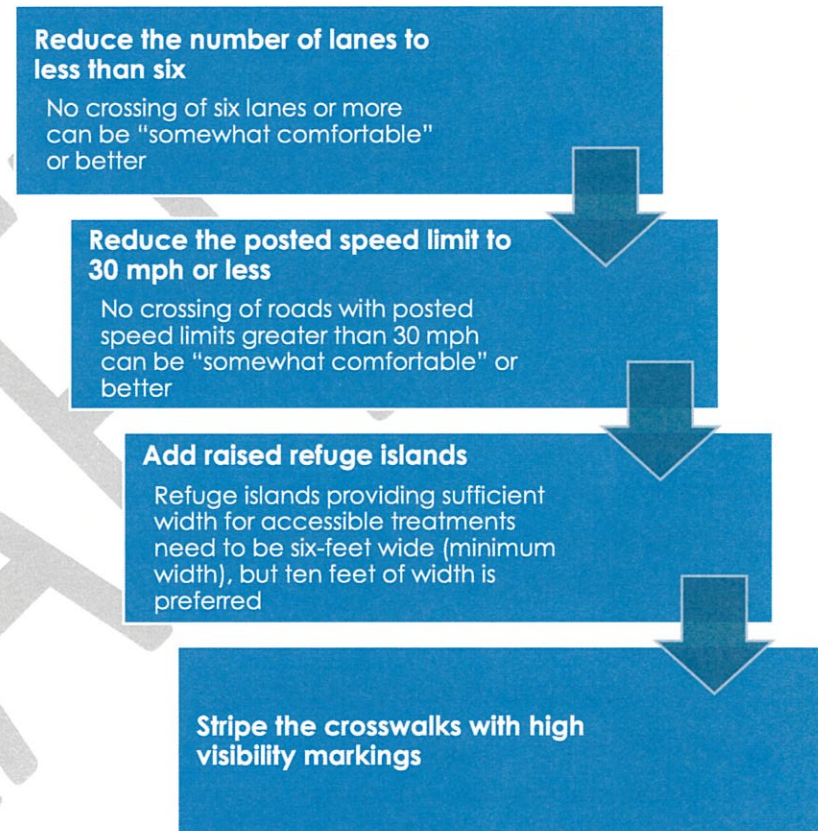


Figure 55. Design Needs for Achieving a "Somewhat Comfortable" Controlled Crossing Pedestrian Level of Comfort

Signalized mid-block crossings with pedestrian refuge islands

help facilitate safer pedestrian crossings to places people want to go without requiring significant out-of-distance travel by pedestrians. For instance, The Dora Kennedy French Immersion School entrance is across Greenbelt Road from the G14 and R12 WMATA Metrobus stop near the Shell gas station. Walking from the entrance to the Dora Kennedy French Immersion School to the pedestrian crossing across 63rd Avenue and then to the bus stop is approximately 1,200 feet. With an assumed walking speed of 3.5 feet per second, it would take someone close to six minutes to walk to the bus stop. By comparison, a car traveling 40 mph (the posted speed limit on Greenbelt Road) would travel four miles in the same amount of time it takes the pedestrian to cross the street.

The **removal or constriction of right-turn slip lanes** helps reduce vehicle speeds during turning movements and alleviates the feeling that the roadway is a highway that prioritizes vehicles over people. While removing right-turn slip lanes is preferred, constricting the right-turn slip lanes, as shown in Figure 57, can also help reduce vehicle speeds while allowing large vehicle turning movements as necessary.

Right-turn acceleration/deceleration lanes are auxiliary lanes that allow right-turning vehicles to or from the side street to accelerate or decelerate along the major road (Greenbelt Road) before merging into the through lane or turning onto the side street. Right-turn acceleration/deceleration lanes are useful at unsignalized intersections with high running speeds on the major road and many large vehicles entering the higher-speed major road. The current context and identified future vision of Greenbelt Road do not meet any of these criteria.

An example of what these treatments look like when combined for the section of Greenbelt Road (MD 193) between Cunningham Drive and 62nd Avenue is shown in Figure 58.

Figure 56.
Pedestrian
Refuge Islands
(Greenbelt
Pedestrian
and Bicyclist
Master Plan)

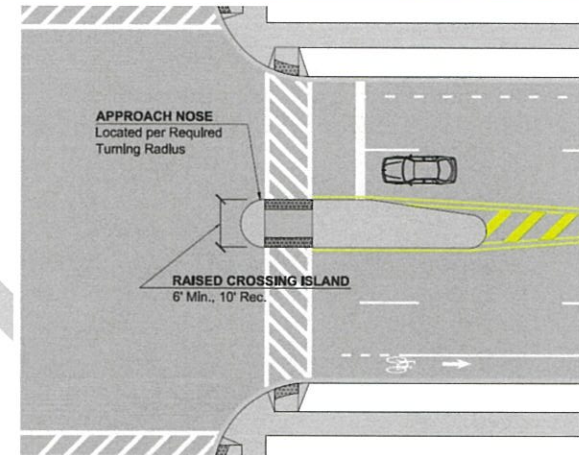
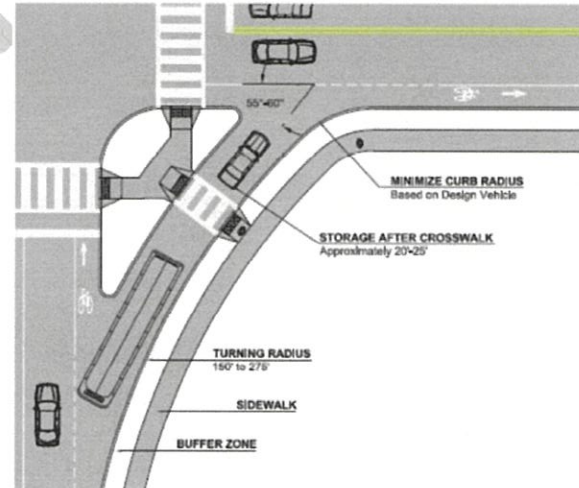


Figure 57.
Constricting
Right-Turn Slip
Lanes
(Greenbelt
Pedestrian
and Bicyclist
Master Plan)



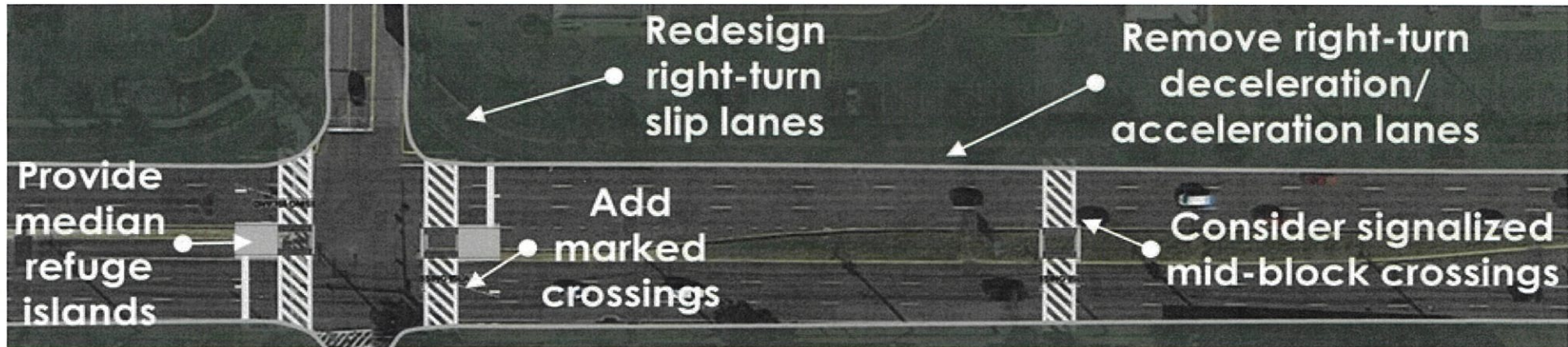


Figure 58. Example Combination of Pedestrian Treatments

Serving Pedestrians at Traffic Signals

Further, signal timing enhancements provide additional opportunities to improve pedestrian crossings and reduce the risk of severe (fatal or injury) crashes involving pedestrians. Potential signal timing enhancements include:

- Shorter cycle lengths
- Long WALK intervals
- Eliminating conflicts with parallel turns
- Provide Accessible Pedestrian Signals (APS) devices
- Proper clearance intervals (yellow and all-red signal phases)

Shorter cycle lengths and **long WALK intervals** provide less pedestrian and transit delay, better compliance by people walking and biking, and fewer speeding opportunities for people driving. Cycle lengths should be made as short as possible, with an ideal maximum cycle length of 100 seconds. The WALK interval length should be set as long as possible to fit within the parallel vehicular phase. The "rest in WALK" setting should be used for coordinated phases.

Signal timing strategies can also help **eliminate conflicts with parallel turns**. These strategies include **only using protected left-turns** on multilane roads like Greenbelt Road and **removing all "permitted" turning movements**. Additionally, **removing "right turn on red"** and using **protected right-turns** in conjunction with **right-turn overlaps** accommodates turning vehicles while protecting people walking and biking from turn conflicts.

Pedestrian-activated warning devices, including **Accessible Pedestrian Signals (APS)**, communicate information about the WALK and DON'T WALK intervals at signalized intersections in non-visual formats to pedestrians who are blind or have low vision. These include APS buttons, flashing warning signs, and audible indicators and are required under Section 4E.11 of the Manual of Uniform Traffic Control Devices (MUTCD).

Clearance interval calculations (yellow and all-red signal phases) should also be confirmed and updated when reviewing corridor signal timing to ensure appropriate values are used for the corridor conditions and reflect changes in the posted speed limit.

The consultant team recommends:

- **Removing one through lane in each direction of Greenbelt Road (MD 193)**
- **Reducing the corridor speed limit to 25 mph**
- **Providing marked high-visibility pedestrian crossings on every signalized intersection approach**
- **Adding raised pedestrian refuge islands at every marked crossing across Greenbelt Road**
- **Adding signalized mid-block crossings with pedestrian refuge islands at the following locations (shown in Figure 59):**
 - The east side of 59th Avenue to provide access to the C2 WMATA Metrobus stop on the north side of Greenbelt Road
 - Between Cherrywood Lane and Cunningham Drive/Beltway Plaza and between Cunningham Drive/Beltway Plaza and 62nd Avenue to provide access to retail on both sides of the street
 - Between 62nd Avenue and 63rd Avenue to provide more direct access to the G14 and R12 WMATA Metrobus stop on the south side of the street
 - Aligned near the entrance to the Dora Kennedy French Immersion School and the G14 and R12 WMATA Metrobus stop on the south side of the street to provide direct access to both destinations
- **Remove the right-turn slip lanes at the following locations (shown in Figure 59):**
 - The north approach of the Greenbelt Road/Beltway Plaza intersection
 - The Greenbelt Station Parkway approach at the Greenbelt Road/Greenbelt Station Parkway intersection
 - The north approach of the University Boulevard/Rhode Island Avenue intersection
 - The north approach of the Greenbelt Road/48th Avenue intersection
- **Remove the right-turn acceleration/deceleration lanes at the following locations (shown in Figure 59):**
 - The north side of Greenbelt Road between Edmonston Road and 63rd Avenue
 - Between 63rd Avenue and 62nd Avenue
 - Between 62nd Avenue and Beltway Plaza
 - Both the east and west approaches of the Greenbelt Road/Greenbelt Station Parkway intersection
 - The south side of Greenbelt Road between 63rd Avenue and Edmonston Road
- **Adjust the corridor signal timing to support pedestrian crossings by enacting the following strategies at all signalized intersections along the corridor:**
 - Reduce cycle lengths to the shortest length possible, ideally less than 100 seconds, or as low as possible
 - Set the WALK interval as long as possible
 - Eliminate conflicts with parallel turns by removing all "permitted" left- and right-turns, and only allowing "protected" turning movements
 - Remove "right-turn-on-red" at all intersections
 - Provide Accessible Pedestrian Signals at all crossings
 - Adjust clearance intervals corridor-wide to reflect changes to the posted speed limit and corridor conditions.

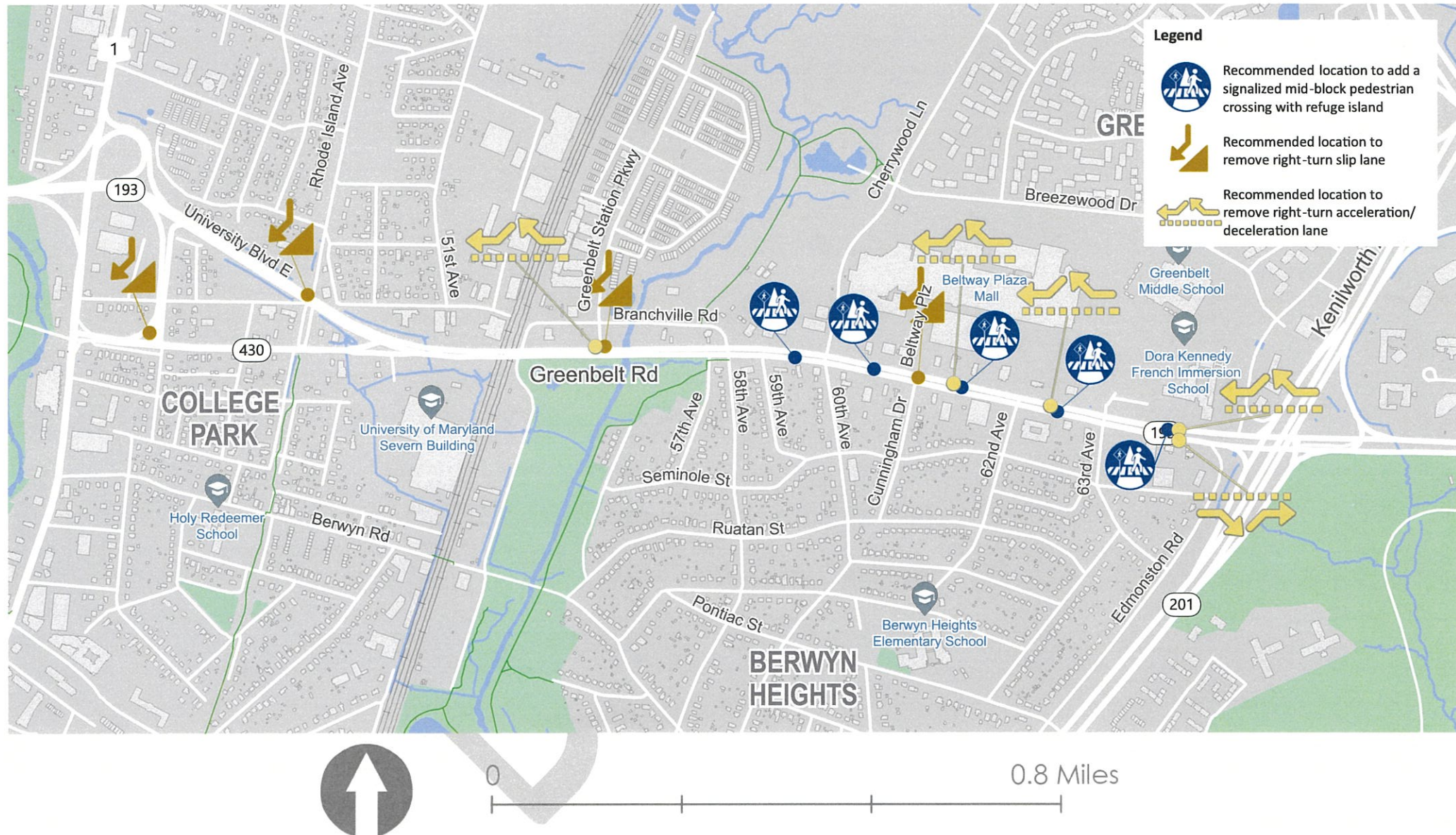


Figure 59. Recommendations to Improve Pedestrian Crossings Specific to Certain Locations

BIKING ALONG GREENBELT ROAD

Similar to providing comfortable facilities for people to walk, to provide low-stress options for people to bike on or along Greenbelt Road (MD 193), the design of the road needs to change.

Using the FHWA Bike Facility Selection Guide, shown in Figure 60, and the NACTO Urban Bike Design Guide Bicycle Facility Selection table, shown in Figure 61, the only viable bike facility options along Greenbelt Road (MD 193) are one- or two-way separated bike lanes or shared-use paths. For this discussion, we refer to two-way separated bike lanes as “two-way cycletracks.”

Types of Separated Bike Lanes

Separated bike lanes are facilities for exclusive use by bicyclists located within or directly adjacent to the roadway and are physically separated from motor vehicle traffic with a vertical element. The combination of lateral buffer distance and vertical separation elements (such as flexible delineators, curbs or height differences, or vehicle parking) can alleviate some of the stressors of on-street bicycling.

One-Way Separated Bike Lanes

One-way separated bike lanes, also known as protected bike lanes, are one-way bicycle facilities that use various methods for physical protection from passing traffic. The minimum desired width for a separated bike lane is five feet. A buffer should be used to locate bollards, planters, signs, or other forms of physical protection. In the absence of a raised median or curb, the minimum desired width of the painted buffer is three feet.

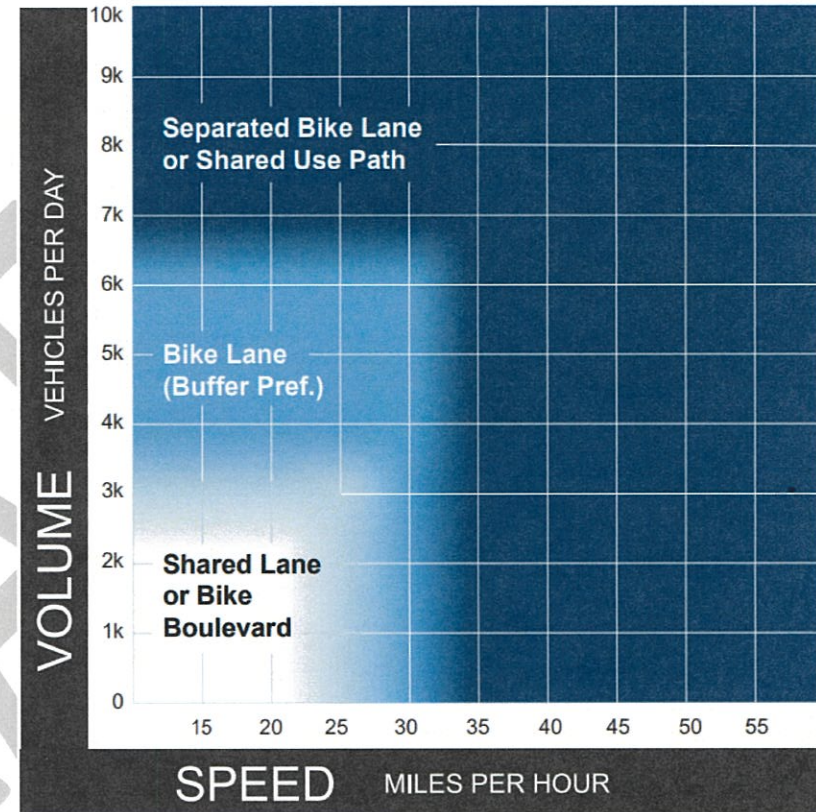


Figure 60. FHWA Bikeway Selection Guide

Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		Any	Any of the following: high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts [†]	Protected Bicycle Lane
< 10 mph	Less relevant		Pedestrians share the roadway	Shared Street
≤ 20 mph	≤ 1,000 – 2,000	No centerline, or single lane one-way	< 50 motor vehicles per hour in the peak direction at peak hour	Bicycle Boulevard
≤ 25 mph	≤ 500 – 1,500			Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane
	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way		Buffered or Protected Bicycle Lane
	≤ 3,000 – 6,000		Low curbside activity, or low congestion pressure	Protected Bicycle Lane
	Greater than 6,000	Multiple lanes per direction		Protected Bicycle Lane, or Reduce Speed
Greater than 26 mph	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion pressure	Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed
	Greater than 6,000	Any	Any	Protected Bicycle Lane
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		Any	High pedestrian volume	Bike Path with Separate Walkway or Protected Bicycle Lane
			Low pedestrian volume	Shared-Use Path or Protected Bicycle Lane

Figure 61. NACTO Urban Bike Design Guide Bicycle Facility Selection (Adapted)

Highlighted green text represents conditions on Greenbelt Road
Highlighted blue text represents appropriate all ages and abilities bicycle facilities

Two-Way Cycletracks

Two-way cycletracks are physically separated facilities that allow bicycle movement in both directions on one side of the road. Two-way cycletracks share some of the same design characteristics as one-way separated bike lanes. Still, they may require additional considerations at driveways and crossing locations. Two-way cycletracks can be used on streets where there is not enough room for a one-way separated bike lane on both sides of the street. The desirable two-way cycle track width is 12 feet, with a minimum width of eight feet in constrained locations.

Raised Bicycle Facilities

Raised bicycle facilities are vertically separated from motor vehicle traffic and can be one-way or two-way. Both one-way separated bike lanes and two-way cycletracks can be constructed as raised bicycle facilities. Raised cycle tracks may be at the level of the adjacent sidewalk or set at an intermediate level between the roadway and sidewalk to segregate the cycle track from the pedestrian area.

Shared-Use Paths

Shared-use paths, also known as multiuse paths, sidepaths, or off-street trails, are intended for exclusive use by pedestrians and non-motorized and "e" vehicles (e.g., bicycles, e-bicycles, and e-scooters). Since shared-use paths are intended for bicyclists and pedestrians of all abilities, they are typically relatively level and are constructed with a relatively smooth surface, such as asphalt or fine aggregate.

In certain instances, such as on rural or suburban roads connecting urban areas, building a shared-use path adjacent to the main roadway may be advantageous as a substitute for a sidewalk. In this case, the shared-use path should meet the

general criteria to serve adequately as a sidewalk or pathway. High pedestrian volumes, driveways, obtrusive bollards, sharp geometry, and crossings degrade bicycling comfort on shared-use paths and should be avoided. In locations where pedestrians are present or expected, and bicycles are also present, even in relatively small numbers, bicycles should be separated from pedestrians if possible, using one of the separated bicycle facilities described in the previous section.

Separated Bike Lane Options for Greenbelt Road

In the context of Greenbelt Road, either one-way separated bike lanes, two-way cycletracks, or shared-use paths are viable options. The one-way separated bike lanes and two-way cycletracks can also be designed as raised facilities. Table 4 provides a series of considerations regarding the choice between these facility types.

The considerations noted in Table 4, along with funding availability, redevelopment along the corridor, and other external factors like political will, all influence the identification of a preferred separated bike lane option for Greenbelt Road.

Following Table 4 and a discussion about the short-term, medium-term, and long-term options, a series of figures has been developed displaying the available options for implementing separated bike lanes on Greenbelt Road. These figures provide examples of what the corridor could look like with each option. A chart showing the right-of-way distribution for the option shown accompanies each figure. Figure 63 displays the existing roadway cross-section for context. Figure 76 shows the separated bike lane options by time period and the steps for moving from short-term options to the long-term corridor vision.

Table 4. Considerations of One-Way Separated Bike Lanes, Two-Way Cycletracks, and Shared-Use Paths

Bicycle Facility Option	One-Way Separated Bike Lanes	Two-Way Cycletracks	Shared-Use Paths
Implementation requirements	Both sides of the roadway	One side of the roadway	One side at a time or both sides simultaneously (preferred)
Cross-section width	- The pilot option is between the curb-to-curb width - The raised option is between the back edges of the existing sidewalks	The pilot option is between the curb-to-curb width	Fits between the back edges of the existing sidewalks
Opportunity to pilot within existing curb-to-curb width	Yes	Yes, but more complex	No
Usage of space	Separates people walking and biking	Separates people walking and biking	Shares space between people walking and biking
Additional requirements	- The removal of one travel lane in each direction - Substantive barriers between people biking and traffic for comfort	- The removal of one travel lane on one side of the road - Substantive barriers between people biking and traffic for comfort - Signal timing restrictions (no turns on red) - Bicycle signal heads in the contraflow direction	The removal of one travel lane on each side of the road a shared-use path is used
Conflicts (transit stops, driveways, side streets) to address	On both sides of the roadway	On the side of the roadway with the two-way cycletrack	On each side of the road a shared-use path is used
Landscaping and Utilities	The long-term option provides a two-foot buffer on both sides of the roadway that serves as a narrow strip suitable for low-growth landscape, limited stormwater management, and the placement of roadway signs and utilities	None	Each side with a shared-use path provides a five-foot buffer that allows opportunities for high-growth landscaping (trees), stormwater management, and the placement of roadway signs and utilities

Short-Term

Two options are available for implementing separated bike lanes on Greenbelt Road in the short term. The first option, **one-way separated bike lanes "pilot" on each side of the road**, shown in Figure 64, repurposes one travel lane in each direction to provide one-way separated bike lanes. This option also improves the pedestrian level of comfort by providing a buffer between the roadway and the sidewalk. As shown in Figure 64, the proposed one-way separated bike lanes would have a three-foot buffer between the bike lanes and roadway, which would contain flex-post and curb stops, a six-foot bike lane, and a two-foot buffer between the bike lane and sidewalk. If additional funding becomes available or the pilot becomes a long-term element on Greenbelt Road, the two-foot buffer between the bike lane and sidewalk could be used to extend the sidewalk in locations where the sidewalk width is less than five feet wide. Figure 66 shows what the one-way separated bike lane pilot would look like on the bridge. Figure 65 shows the right-of-way distribution with one-way separated bike lanes on each side of the road.

The second option for a separated bike lane pilot on Greenbelt Road is a **two-way cycletrack "pilot" on one side of the road**, shown in Figure 70. This option repurposes one travel lane on one side of the road to provide the two-way cycletrack. This option marginally improves the pedestrian level of comfort on the side of the road with the two-way cycletrack. It does not affect the pedestrian level of comfort on the other side of the road. As shown in Figure 70, the proposed two-way cycletrack on one side of the road would have a one-foot buffer between the cycletrack and roadway, which would contain flex-post and curb stops, and two five-foot bike lanes with one bike lane traveling in the contraflow direction. Using a two-way cycletrack on one side of the road

comes with additional considerations, including signal timing restrictions, mainly no turns on red across the cycle track due to bicyclists traveling in the contraflow direction, and a need for bicycle signals at crossings in the contraflow direction. However, the two-way cycletrack only requires the use of one side of the roadway and could be an option if repurposing a travel lane on both sides of the roadway becomes challenging. Figure 71 shows the right-of-way distribution with a two-way cycletrack on one side of the road.

The consultant team recommends the one-way separated bike lanes on each side of the road as a short-term pilot.

However, if the implementation of one-way separated bike lanes on each side of the road becomes challenging, the consultant team recommends using a two-way cycletrack on one side of the road as a short-term pilot.

Medium-Term

An additional benefit of the two-way cycletrack in the near term is that it provides the option of using a **two-way cycletrack with a shared-use path on the alternate side** in the medium-term, as shown in Figure 72. This option repurposes one travel lane in each direction. It requires the construction of new curb, gutter, drainage, and a shared-use path within the existing area between the current edge of the sidewalk and the roadway on one side of the road. The pedestrian level of comfort is marginally improved on the side of the road with the two-way cycletrack and significantly improved on the side of the road with the shared-use path. The construction of the shared-use path also provides an opportunity to adjust utilities

on that side of the road, including moving utilities underground or away from the shared-use path, including to the five-foot buffer between the road and shared-use path, allowing for a continuous clear zone along the shared-use path. Further, the construction of a 12-foot shared-use path allows for the use of a five-foot landscape strip between the roadway and shared-use path that provides opportunities for trees, landscaping, and pervious surfaces that allow for stormwater management and additional environmental benefits. Figure 73 shows the right-of-way distribution with a two-way cycletrack with a shared-use path on the alternate side.

The consultant team recommends a two-way cycletrack with a shared-use path on the alternate side if an opportunity arises to reconstruct a significant length of Greenbelt Road on only one side of the road.

Long-Term

Two options are available for implementing separated bike lanes on Greenbelt Road in the long term. The first option, **sidewalk level one-way separated bike lanes** shown in Figure 67, makes permanent the one-way separated bike lane pilot on each side of the road, shown in Figure 64. This option makes the one-way separated bike lane pilot permanent by constructing new curb, gutter, drainage, and a raised bike lane and widened sidewalk within the existing area between the current edge of the sidewalk and roadway on both sides of the road. The construction of the sidewalk level one-way separated bike lanes also provides an opportunity to adjust utilities on both sides of the road, including moving utilities underground or in the two-foot buffer between the road and raised bike lanes to provide continuous clear zones. The reconstruction allows the sidewalk to be widened to eight-feet

wide to further improve the pedestrian level of comfort. A two-foot buffer between the roadway and raised bike lanes allows space for a narrow landscape strip that provides opportunities for landscaping and pervious surfaces that allow for stormwater management and additional environmental benefits.

It should be noted that either of the short-term pilot options provides the opportunity to pursue sidewalk-level one-way separated bike lanes. However, the medium-term option involving a two-way cycletrack with a shared-use path on the alternate side would likely preclude the ability to pursue sidewalk level one-way separated bike lanes. Figure 69 shows the sidewalk level one-way separated bike lanes on the bridge, and Figure 68 shows the right-of-way distribution with sidewalk level one-way separated bike lanes.

The second long-term option is using **shared-use paths on both sides of the road**, as shown in Figure 74. This option repurposes one travel lane in each direction and requires the construction of new curb, gutter, drainage, and a shared-use path within the existing area between the current edge of the sidewalk and roadway on both sides of the road. The pedestrian level of comfort is significantly improved on both sides of the road. The construction of the shared-use paths also provides opportunities to adjust utilities on both sides of the road, including moving utilities underground or away from the shared-use path, including to the five-foot buffer between the road and shared-use path, allowing for continuous clear zones along the shared-use paths. Further, the construction of the 12-foot shared-use paths allows for the use of five-foot landscape strips between the roadway and shared-use paths that provides opportunities for trees, landscaping, and pervious surfaces that allow for stormwater management and additional environmental benefits. Figure 75 shows the right-of-

way distribution with **shared-use paths on both sides of the road.**

The consultant team recommends using shared-use paths on both sides of the road as a long-term vision for the corridor. The shared-use paths on both sides of the road provide significant pedestrian level of comfort benefits while also providing an all ages and abilities bicycle connection on both sides of the roadway. In addition, the use of shared-use paths provides opportunities for landscaping, including trees, in the area between the roadway and shared-use path, providing aesthetic and environmental benefits.

While the consultant team prefers shared-use paths on both sides of the road due to the additional landscaping and environmental benefits, the consultant team also suggests that sidewalk-level one-way separated bike lanes are entirely appropriate for the corridor and should be pursued if the corridor context or other elements change between the time this study is released and the time a long-term vision is being designed for the corridor.

Median

The median on Greenbelt Road, shown in Figure 62, was described by the community as unattractive and a key contributor to the corridor's lack of a sense of place.

As described in the Crossing Greenbelt Road section, the consultant team recommends pedestrian refuge islands at all signalized crossings. Providing pedestrian refuge islands will require rebuilding the median, which provides opportunities to provide a more uniform and attractive median that includes landscaping and stormwater management capabilities. The corridor's median can be rebuilt piecemeal or in sections, and none of the separated bike lane options impact the ability to rebuild the median.

The consultant team recommends rebuilding the corridor's median as opportunities arise to provide pedestrian refuge islands at all signalized crossings and landscaping to improve the corridor's aesthetics and provide stormwater management capabilities.



Figure 62. Median on Greenbelt Road

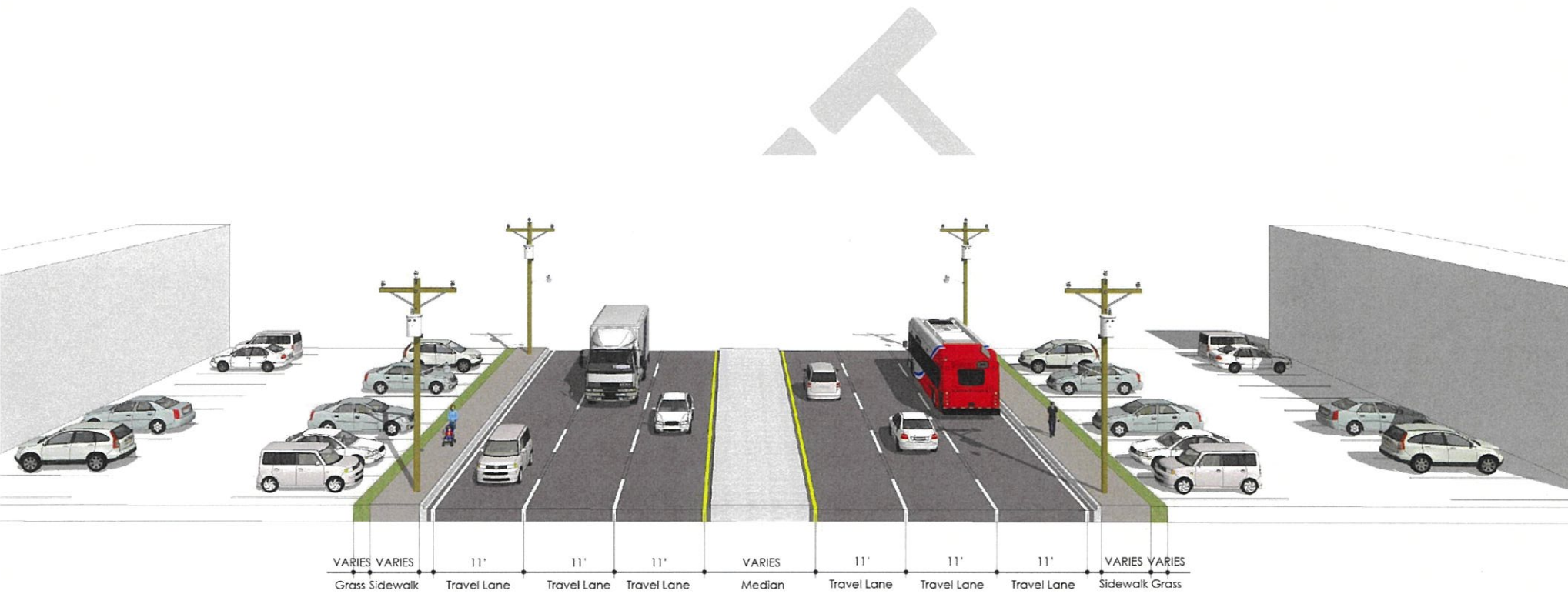


Figure 63. Existing Corridor Cross-Section

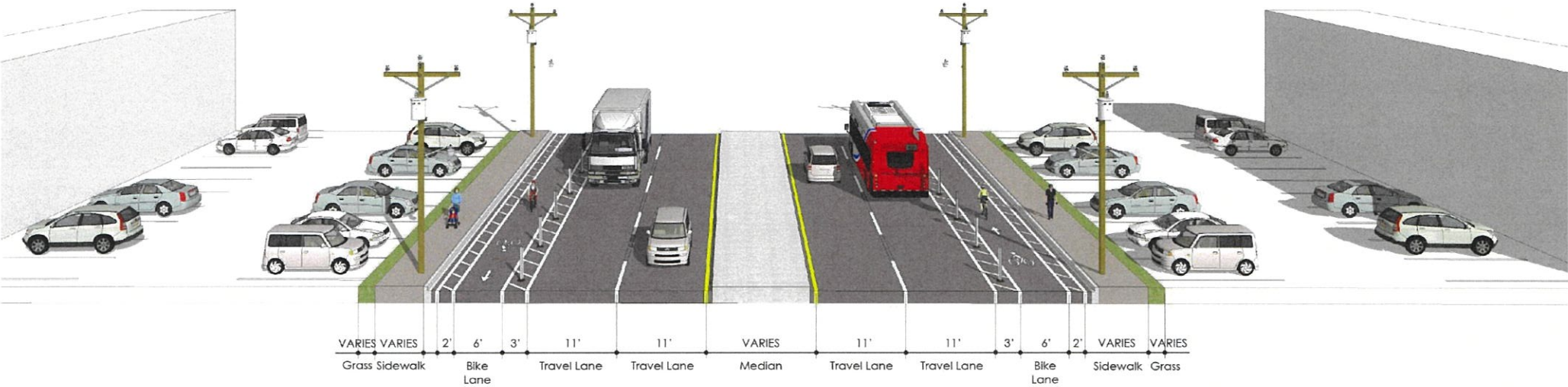


Figure 64. One-Way Separated Bike Lane "Pilot"

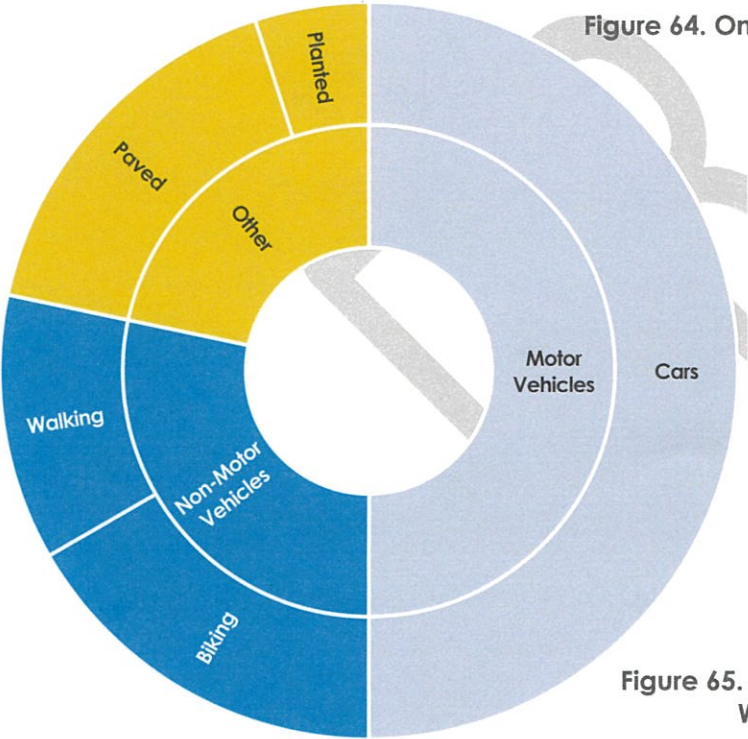


Figure 65. Right-of-Way Distribution: One-Way Separated Bike Lane "Pilot"

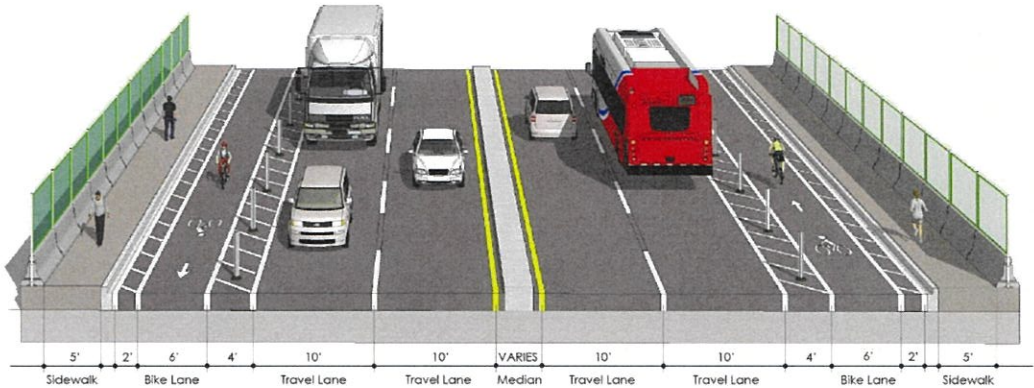


Figure 66. One-Way Separated Bike Lane "Pilot" on the Bridge

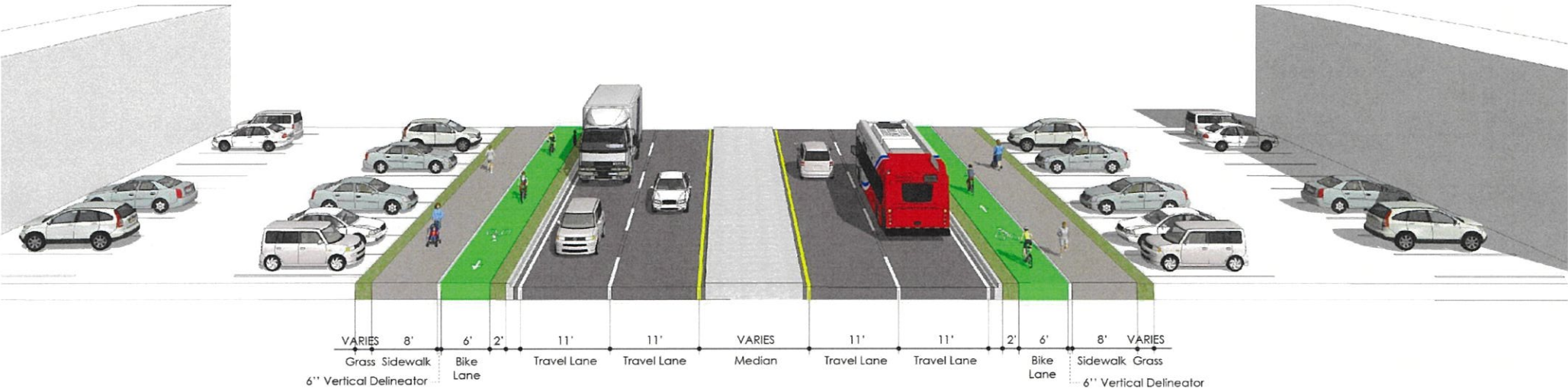


Figure 67. Sidewalk Level One-Way Separated Bike Lane

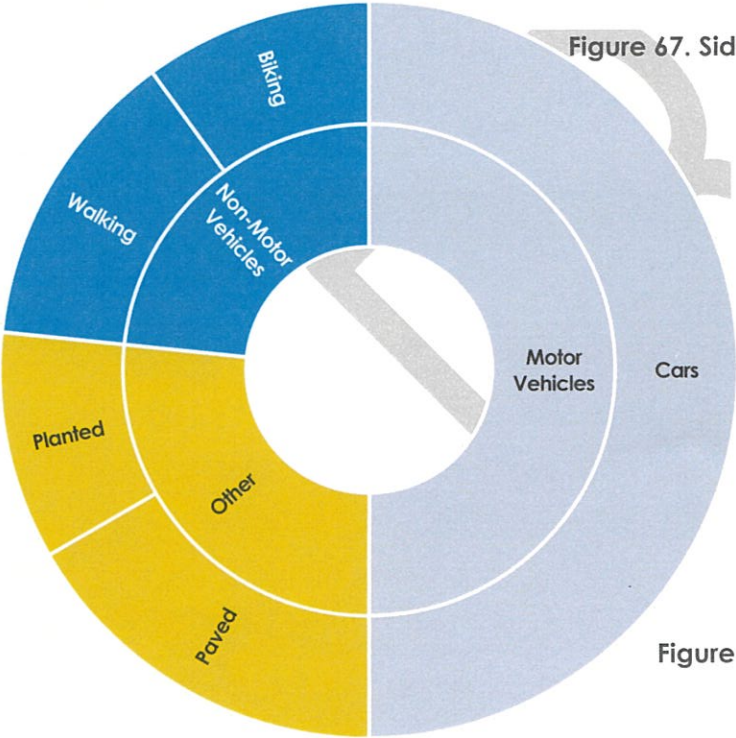


Figure 68. Right-of-Way Distribution: Sidewalk Level One-Way Separated Bike Lane

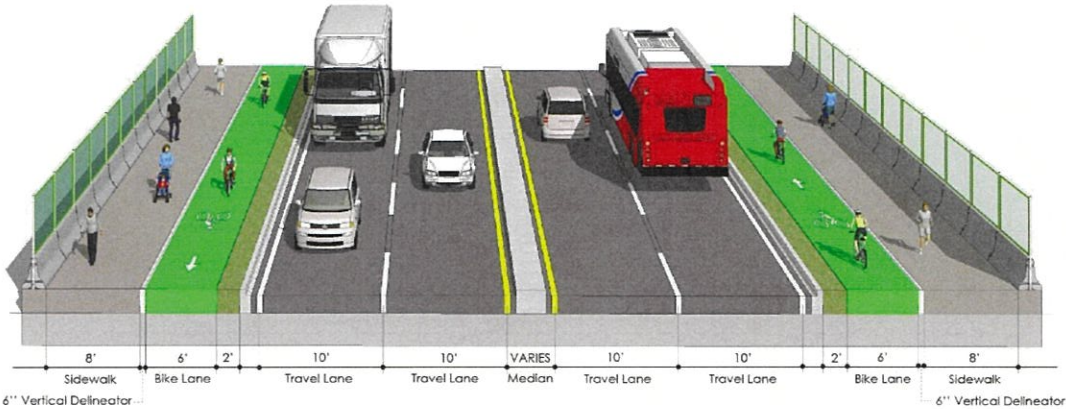


Figure 69. Sidewalk Level One-Way Separated Bike Lane on the Bridge

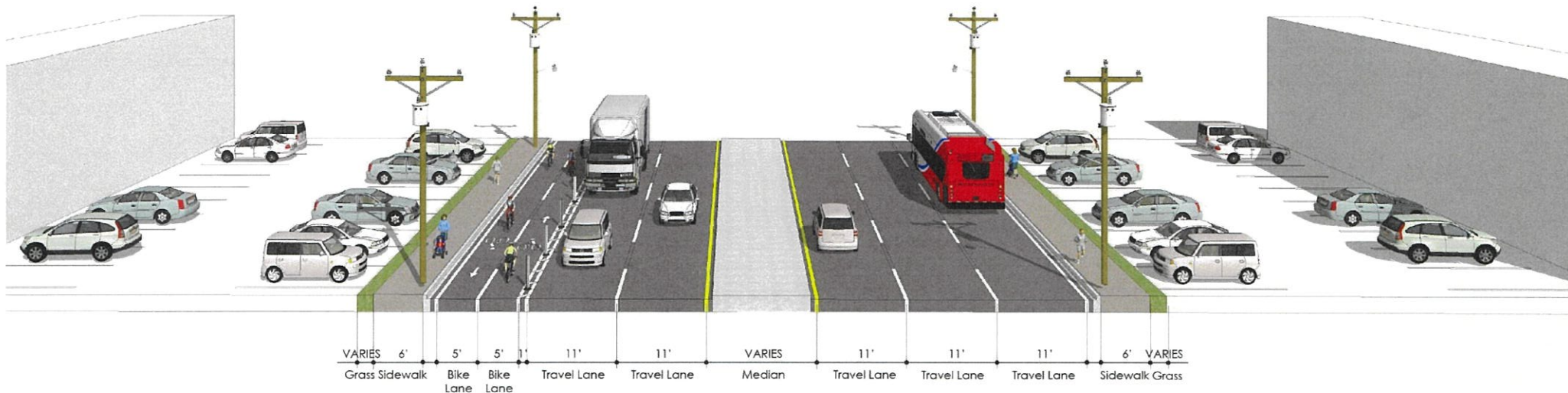


Figure 70. Two-Way Cycletrack with Lane Removal in One Direction

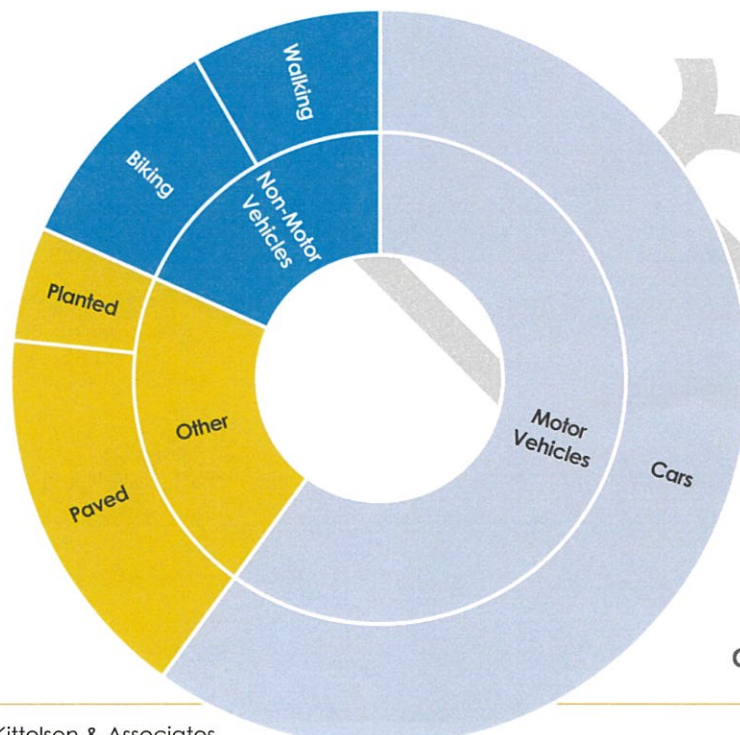


Figure 71. Right-of-Way Distribution: Two-Way Cycletrack with Lane Removal in One Direction

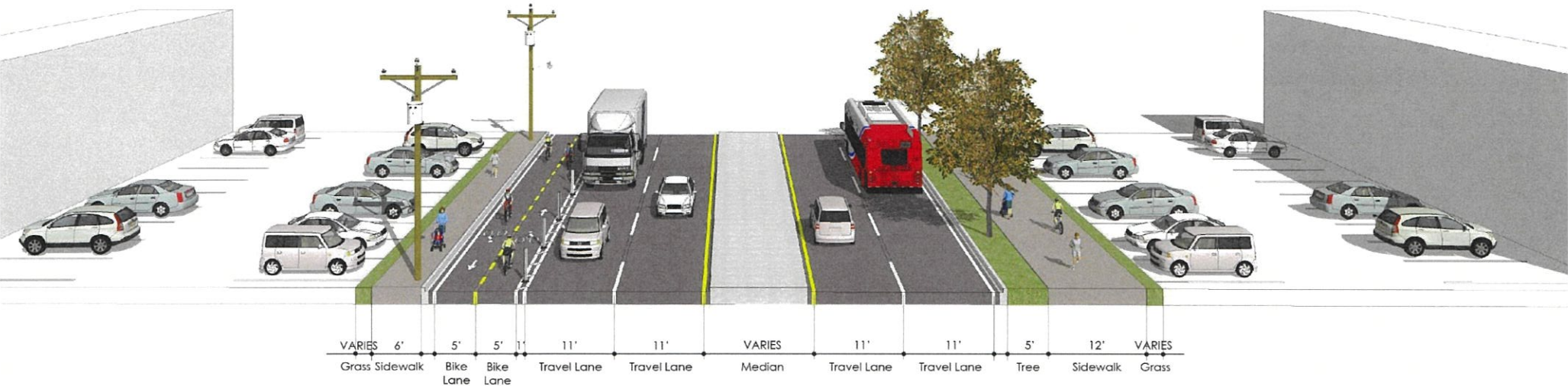


Figure 72. Two-Way Cycletrack with Shared-Use Path on the Alternate Side

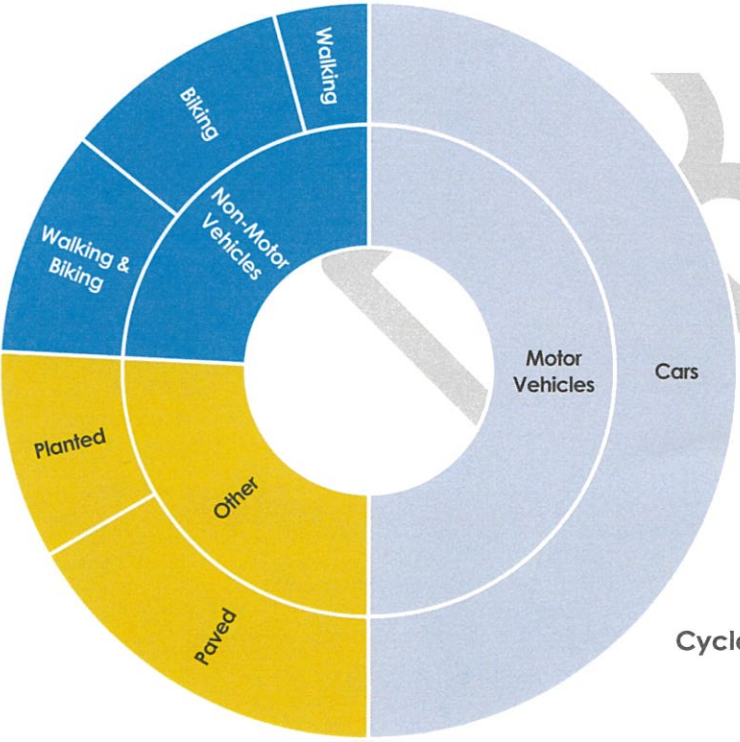


Figure 73. Right-of-Way Distribution: Two-Way Cycletrack with Shared-Use Path on the Alternate Side

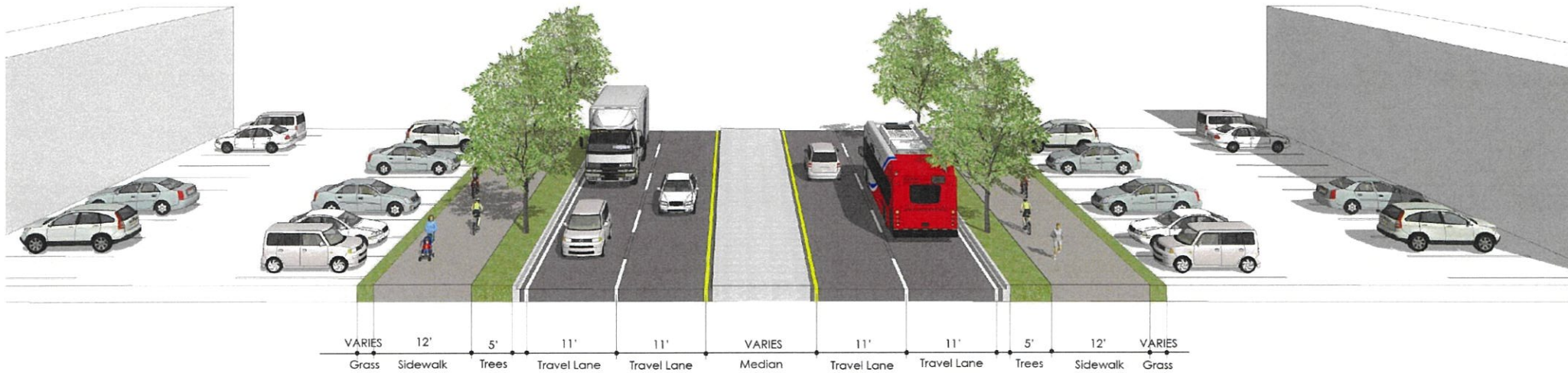


Figure 74. Shared-Use Paths on Both Sides of the Road

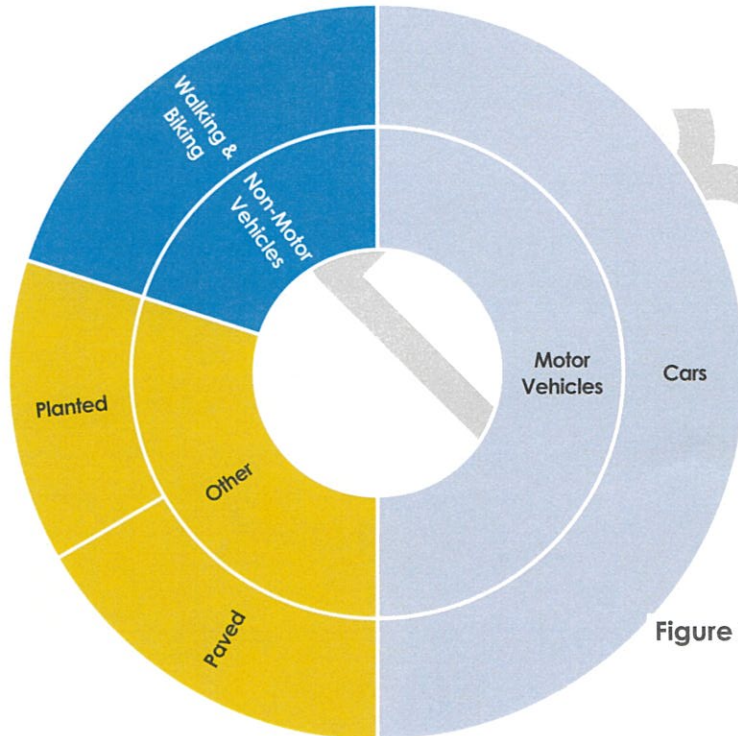


Figure 75. Right-of-Way Distribution: Shared-Use Paths on Both Sides of the Road

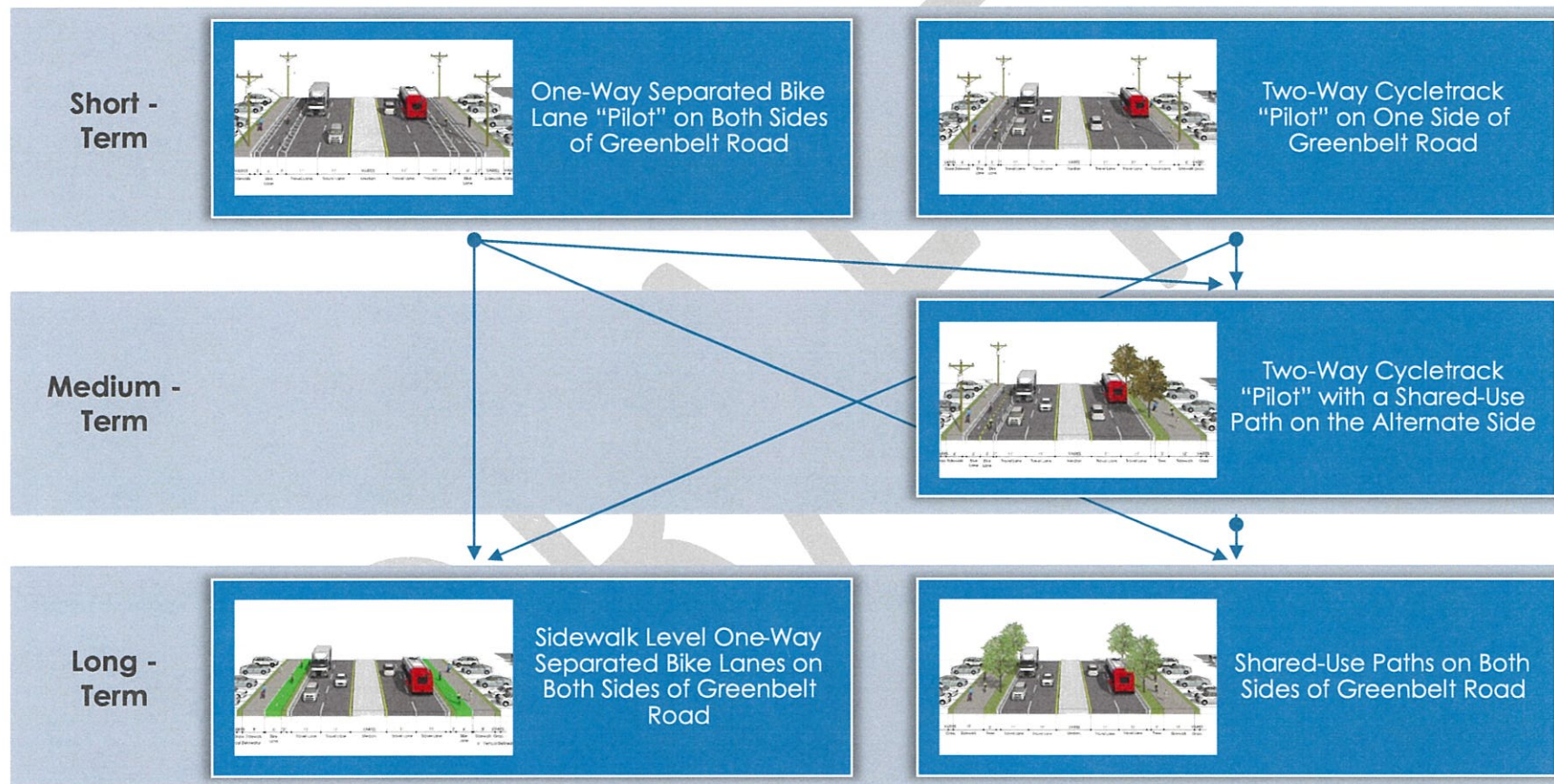


Figure 76. Separated Bike Lane Options and Steps for Moving from Short-Term Options to the Long-Term Vision

IMPROVE THE TRANSIT EXPERIENCE

Bus stops are the entry points to transit service for most riders. Good bus stops are comfortable places to wait and are surrounded by safe and accessible pedestrian infrastructure. Investing in bus stop amenities and improving pedestrian infrastructure in the surroundings of bus stops are key strategies for enhancing the experience of existing transit riders and attracting new ones. Therefore, all bus stops in the study corridor should be upgraded to meet ADA requirements with sufficient landing zone, sidewalk width, and clear zone. Additionally, as shown in Figure 78, seating and/or shelter should be provided at the following bus stops:

- With an average of 40 boarding per day, benches are recommended, and shelters are suggested at the bus stops at **Greenbelt Road/Greenbelt Station Parkway**.
- With an average of more than ten daily boardings, benches are suggested at the bus stops on **Greenbelt Road/59th Avenue** and **Greenbelt Road/63rd Avenue** in the westbound direction.

A landing zone should provide a minimum clear zone of five feet long (parallel to the curb) and eight feet deep (from the edge of curb to the back of the sidewalk) at all bus stops. Along Greenbelt Road (MD 193), no current bus stop provides sufficient depth to meet accessibility requirements. In Montgomery County, Maryland, the Montgomery County Complete Streets Design Guide recommends installing bus bulbs at bus stops that do not have sufficient width to within one to two feet from the edge of the travel lane to obtain eight feet of depth at the bus stop. In locations where the current travel lanes do not provide enough space to obtain the proper bus stop depth, the travel lanes can be narrowed in front of the bus stops.

Beyond bus stop improvements, bus priority treatments can also boost rider experience by improving bus speeds, reliability, and overall efficiency. Currently, Metrobus routes experience slow speeds at stops at the Beltway Plaza Mall, Cherrywood Lane and Greenbelt Road, and Greenbelt Road and 57th Avenue in the eastbound direction. However, overall issues with reliability are limited in the study corridor, with Metrobus routes mainly operating within the on-time window of up to two minutes ahead of schedule or five minutes late. A notable exception is route C2 eastbound to Greenbelt station.



Figure 77. WMATA C2 Bus

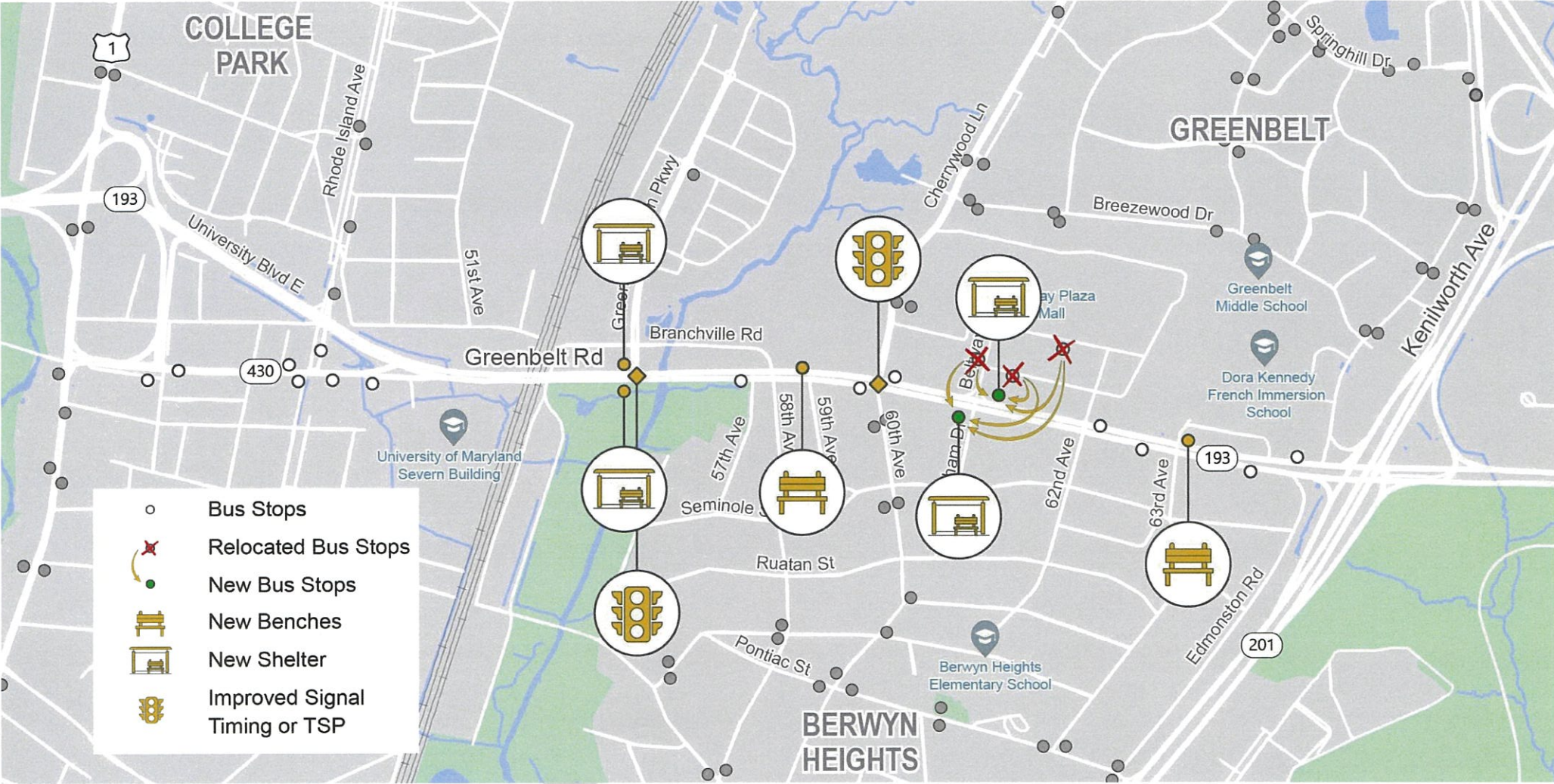


Figure 78. Recommendations to Improve the Transit Experience

A combination of the treatments listed below can be installed to improve future speed or reliability issues resulting from more significant development along the study corridor.

- **Dedicated bus lanes/guideways** are lanes restricted to buses by signage and/or pavement markings. Bus lanes can be at all times, during peak periods only, or at other specific times.
- **Transit Signal Priority (TSP)** is a suite of tools that allows transit vehicles to communicate with traffic signals to adjust the signal phasing or timing, usually in the form of extending a green light for a few seconds or reducing a red light by a few seconds when a bus is approaching a traffic signal to allow for smoother transit operations. TSP requires sensors on buses, sensors embedded in the road and signals, and a cellular network that connects the bus to the signal and a traffic management center. At this time, only some WMATA buses have been outfitted with TSP technology.
- **Queue Jumps** are transit-only lane segments leading up to and at intersections that allow buses to “jump” over a queue of vehicles at a signal. Queue jumps are often used with other technology to allow a bus to enter an intersection before other traffic. The locations where right-turn acceleration/deceleration lanes are to be closed, as discussed in the Crossing Greenbelt Road section, are good candidates for the use of queue jumps.
- **Stop consolidation** reduces the frequency of stops a bus route makes, allowing for more efficient service.

In the short-term, improved signal timing or transit signal priority (TSP) at high-ridership stops, including Greenbelt Road and Greenbelt Station Parkway, and Cherrywood Lane, and stop consolidation at the Beltway Plaza Mall, as shown in Figure 67, have the potential to improve the transit rider experience in the corridor. Both strategies aim to reduce travel time and delays by giving transit vehicles preference at intersections or

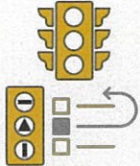
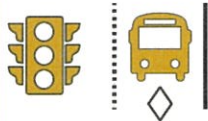
reducing a route’s number of stops and circuitry. In addition, with an improved and safer pedestrian environment in the study corridor, Metrobus routes R12 and G14 could gain speed by not serving the Beltway Plaza Mall parking lot and garage. However, it is also worth noting that bus priority treatments differ in terms of implementation costs, both financial and political, and their benefits, as detailed in Table 5.

Figure 79 displays a cross-section of Greenbelt Road (MD 193) with sidewalk level one-way separated bike lanes and dedicated bus lanes.

While the current bus frequency and ridership on Greenbelt Road (MD 193) do not support the consideration of dedicated bus lanes, if land-use and development changes along the corridor leading to an increase in bus frequency and ridership, dedicated bus lanes could provide an opportunity to improve transit performance. The use of dedicated bus lanes and sidewalk level separated bike lanes, as shown in Figure 79, would require 20 to 30 feet (10 to 15 feet on each side of the roadway) of additional space beyond the current edge of the sidewalk along the corridor.

The consultant team recommends moving forward with the recommendations shown in Figure 78, with the installation of new benches and shelters prioritized. In locations where the current travel lanes do not provide enough space to obtain the proper bus stop depth, the travel lanes should be narrowed in front of the bus stops. The relocation and consolidation of bus stops should be pursued in coordination with WMATA. Transit priority at some locations on a conditional basis should be pursued in conjunction with other efforts described in this report. Queue jumps should also be pursued in conjunction with closing the right-turn acceleration/deceleration lanes previously described. However, potential implications to the implementation of separated bike lanes should be considered, with the implementation of separated bike lanes prioritized.

Table 5. Bus Priority Treatments and Impacts in the National Capital Region

Improvement	Improvement Description	Cost to Implement	Degree of Difficulty to Implement	Cost Savings/ Performance Improvements	Level of Anticipated Improvement	
	TSP	Installed at some intersections, operated on a conditional basis	\$0.3M to \$9.0M per mile	Low to Moderate*	8% in travel time savings; \$0.2M to \$1.6M cost savings annually	Low
	Dedicated Lane	Dedicated lane on existing road	\$0.2M to \$1M per mile	Low	\$0.25M in savings per year; 10-14% travel time savings, up to 27% increase in reliability	Moderate
	TSP and Queue Jumps	A dense network of TSP and queue jumps at some intersections	\$0.3M to \$20M per mile	Low to Moderate*	1-10% in travel time savings; \$0.3M to \$1.7M cost savings annually	Low
	TSP and Dedicated Guideway	A dense network of TSP, exclusive bus right-of-way	\$30M to \$80M per mile	High	18-66% in travel time savings; \$0.55M to \$1.8M cost savings annually	High

*TSP implementation costs and degree of difficulty to implement can be wide-ranging due to variations in technology and hardware

Source: [Bus Priority Best Practices Synthesis for the National Capital Region](#)

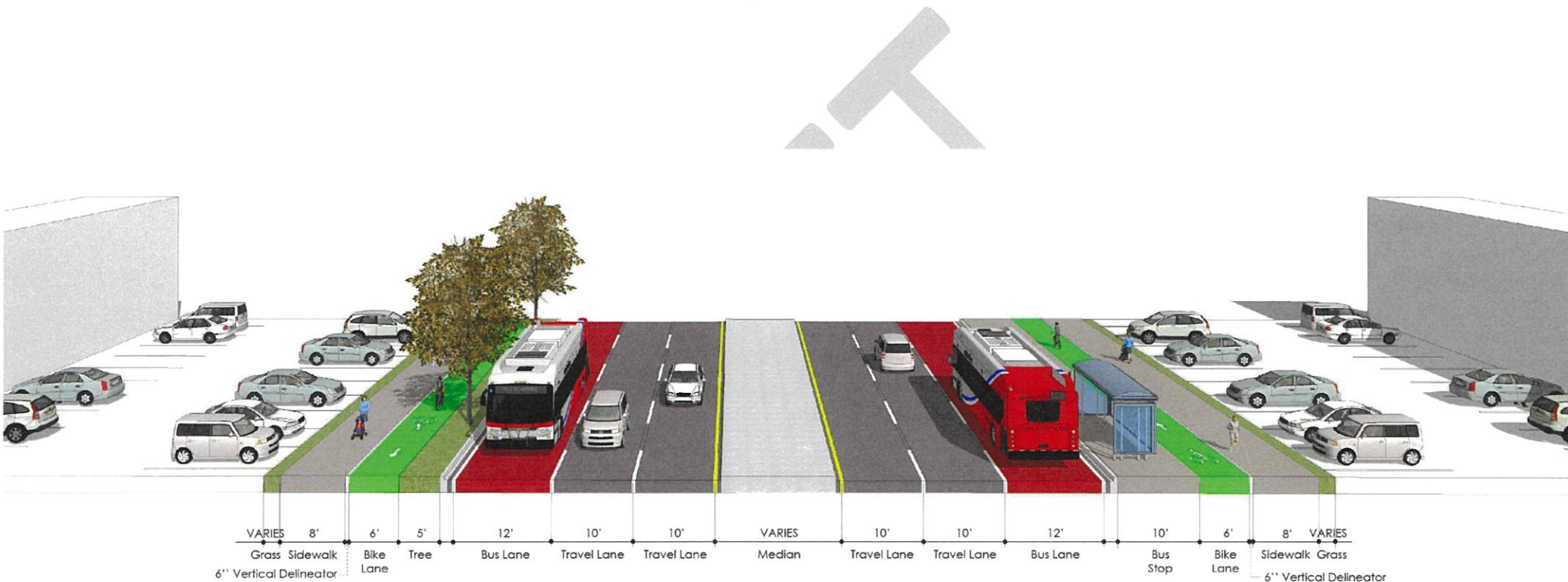


Figure 79. Greenbelt Road (MD 193) Cross-Section with Sidewalk Level One-Way Bike Lanes and Dedicated Bus Lanes

CONNECT RESIDENTIAL COMMUNITIES, BUSINESSES, NEIGHBORHOODS, PARKS, AND TRAILS

A key goal for the Greenbelt Road (MD 193) corridor plan is to connect the residential neighborhoods, parks, and trails along the corridor. Except for some recreational trips, walking and biking networks will not see a great deal of activity without places to go. Along Greenbelt Road, however, a variety of places to go already exist, including schools, retail, parks, and trails. Connecting these places can provide the opportunity to serve the potential walking and biking demand along Greenbelt Road and increase the number of people going to and from these destinations on foot or bike. This section provides recommendations for several essential network connections on Greenbelt Road and parallel to Greenbelt Road.

GAPS IN THE PEDESTRIAN NETWORK

Along Greenbelt Road (MD 193), the most significant gap in the pedestrian network is the missing sidewalk on the north side of Greenbelt Road (MD 193) between Cunningham Drive/Beltway Plaza and 62nd Avenue. As part of the Beltway Plaza Phase I redevelopment, conceptual plans identify a potential sidewalk connection, as shown in Figure 80. The proposed sidewalk would be five feet wide with approximately a five-foot buffer. Using the pedestrian level of comfort look-up table shown in Figure 24, this proposed sidewalk would provide a pedestrian level of comfort of three, which is "uncomfortable" but an improvement on the "undesirable"

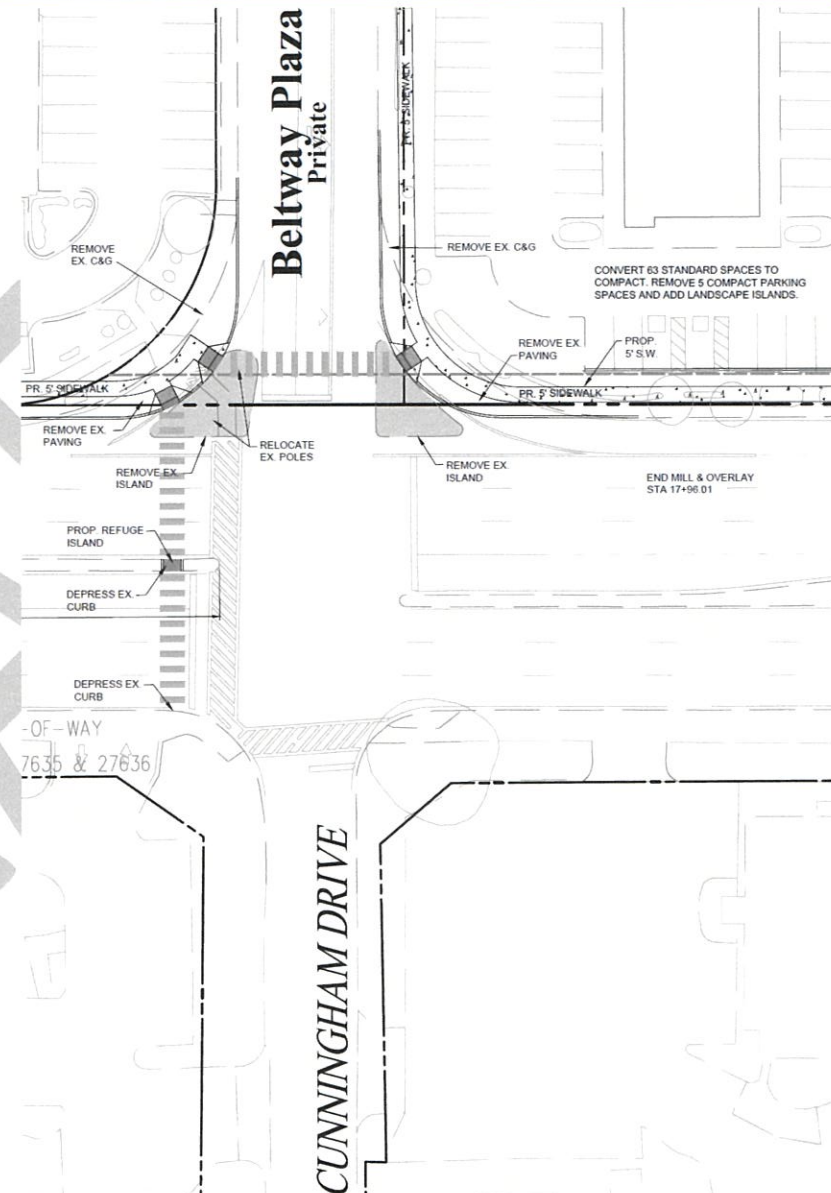


Figure 80. Conceptual Greenbelt Road (MD 193) Pedestrian Frontage Changes as Part of the Beltway Plaza Phase I Redevelopment

Figure adapted to only show pedestrian changes

rating for the rest of the Greenbelt Road (MD 193) corridor. To improve the score to a two, which would be "somewhat comfortable," either the speed limit on Greenbelt Road would need to be reduced to 30 mph or a separated bike lane added to Greenbelt Road alongside the new sidewalk. As previously described, the consultant team recommends the speed limit on Greenbelt Road be reduced to 25 mph and one-way separated bike lanes provided on both sides of the road.

In addition to closing the sidewalk gap on the north side of Greenbelt Road (MD 193) between Cunningham Drive/Beltway Plaza and 62nd Avenue, the conceptual plans for the Beltway Plaza Phase I redevelopment also show proposed pedestrian refuge islands for people crossing Greenbelt Road and closures of the right-turn slip lanes at the Beltway Plaza entrance, which are both consistent with consultant team recommendations previously described.

The consultant team recommends the sidewalk connection to close the gap between Cunningham Drive/Beltway Plaza and 62nd Avenue be built as proposed and supplemented with a reduction in the corridor speed limit to 25 mph along with repurposing one travel lane on both sides of the street to one-way separated bike lanes.

CONNECTING WITH AREA TRAILS

Along Rhode Island Avenue, three separate trails provide connections to the north and south, including the Paint Branch Trail, which connects to Greenbelt Road just to the west of US Route 1 via Metzert Road, the Rhode Island Avenue Trolley Trail, which connects to Greenbelt Road at Rhode Island Avenue, and the Indian Creek Trail which connects to Greenbelt Road to the north off of Branchville Road, and to the south off of 57th Avenue. Additionally, the proposed separated bike lanes on Cherrywood Lane provide connections north to the Greenbelt Metro Station from Breezewood Drive, with low-stress connections from Breezewood Drive to Greenbelt Road via the Indian Creek Trail.

Bicycle connections on Greenbelt Road should prioritize connecting these facilities to complete gaps in the area's bicycle network. As shown in Figure 81, providing separated bike lane connections consistent with the facility-type recommendations in the Separated Bike Lane Options for Greenbelt Road section on Greenbelt Road (MD 430) from the Paint Branch Trail to Rhode Island Avenue and then on University Boulevard (MD 193) from Rhode Island Avenue to Greenbelt Road (MD 193) and continuing to 63rd Avenue would connect all four of these facilities, along with the Dora Kennedy French Immersion School and Greenbelt Middle School. The existing bike lanes on Rhode Island Avenue between Greenbelt Road (MD 430) and University Boulevard (MD 193), which connects these two separate sections, should be enhanced to have low-stress facilities.

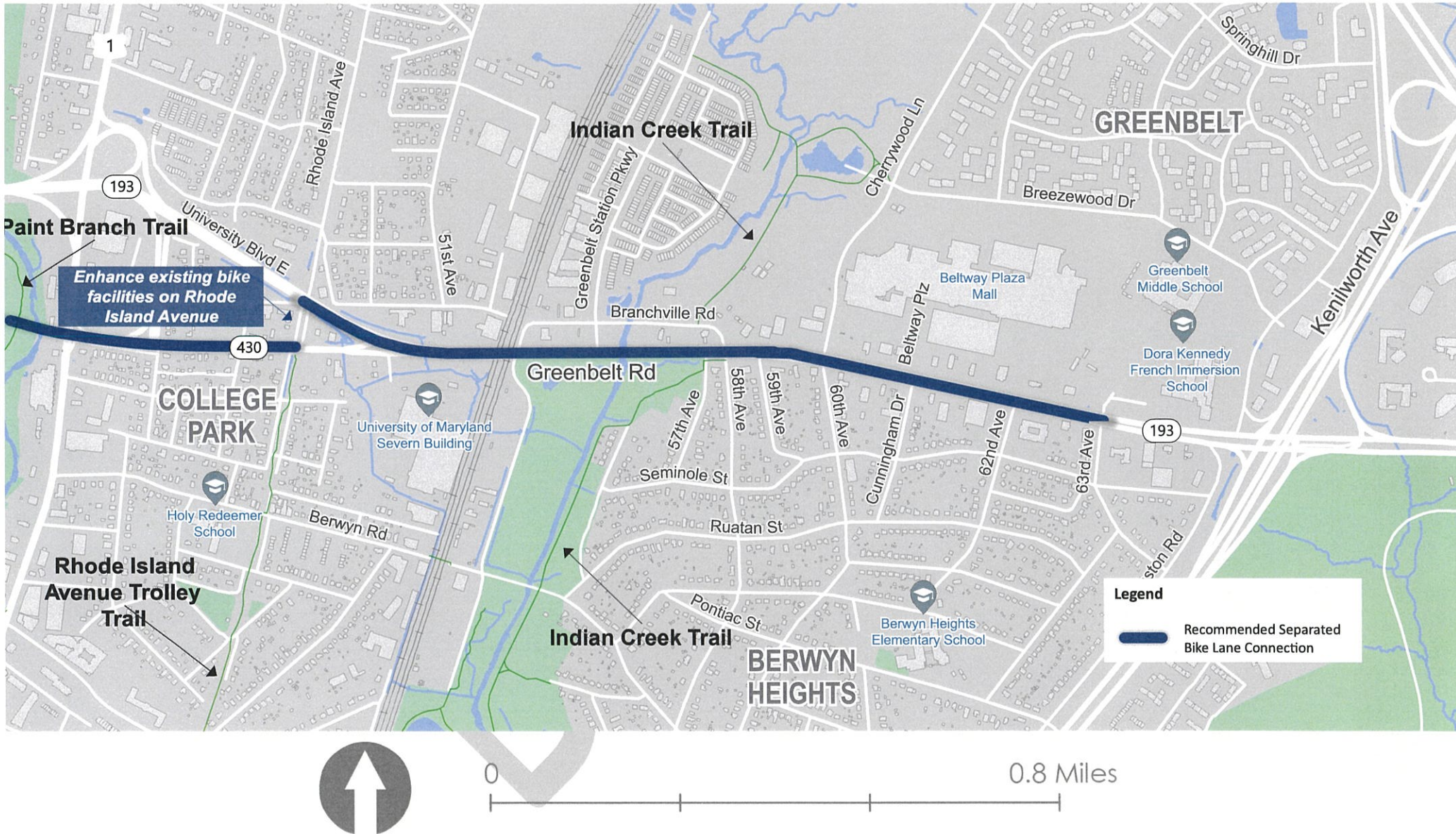


Figure 81. Recommended Separated Bike Lane Connection on Greenbelt Road to Connect to Area Trails and Key Destinations

The consultant team recommends prioritizing the section of Greenbelt Road shown in Figure 81 for separated bike lanes consistent with the facility type recommendations described in the Separated Bike Lane Options for Greenbelt Road section. As described, the facility-type could start with a one-way separated bike lane pilot and be modified over time as redevelopment occurs or long-term plans come to fruition. Over time, the consultant team recommends the expansion of the separated bike lanes to the east as additional sections of Greenbelt Road are studied.

CONNECTING THE GAP IN THE INDIAN CREEK TRAIL

Greenbelt Road (MD 193) creates a gap in the Indian Creek Trail between 57th Avenue from the south and Branchville Road to the north. Currently, people walking and biking on the Indian Creek Trail from the south are expected to cross 57th Avenue to go east on the sidewalks along Greenbelt Road (MD 193), cross 58th Avenue (a crossing is not available on the west side of the Greenbelt Road (MD 193)/58th Avenue/Branchville Road intersection), cross Greenbelt Road (MD 193), and travel on a sidewalk on Branchville Road to rejoin the Indian Creek Trail.

While the Walkable Bikeable Berwyn Heights Task Force Recommendations propose a grade-separated crossing at 58th Avenue to close the gap in the Indian Creek Trail, the combination of Branchville Road and Ballew Avenue, as noted by several residents at the February 10, 2022, visioning meeting, already provides a grade-separated option. Providing comfortable and low-stress walking and biking facilities on

Branchville Road between Ballew Avenue (shown in Figure 82) and the Indian Creek Trail, and on Ballew Avenue, between Branchville Road and the Indian Creek Trail, is a low-cost option for closing the gap in the Indian Creek Trail is provided. This connection is shown in Figure 83.



Figure 82. View of Ballew Avenue to the South of Greenbelt Road (MD 193) from Greenbelt Road

The consultant team recommends developing options for providing comfortable and low-stress facilities for people walking and biking on Branchville Road and Ballew Avenue, as shown in Figure 83, to close the gap in the Indian Creek Trail. South of Greenbelt Road, the connection can either continue south on Ballew Avenue to connect to the trail via Berwyn Road or connect through the trails around Lake Artemesia.

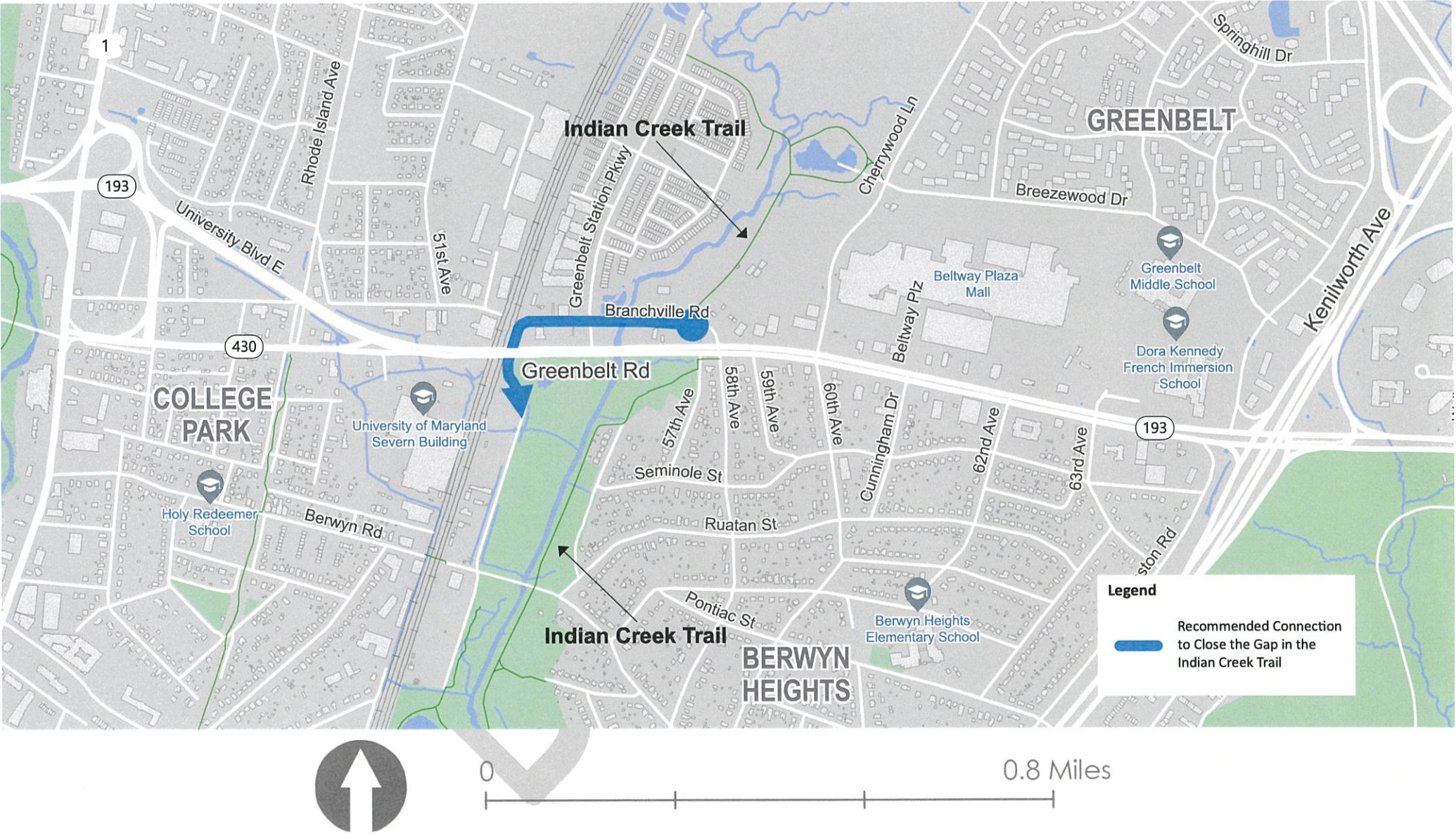


Figure 83. Recommended Connection to Close the Gap in the Indian Creek Trail

PARALLEL CONNECTION ON BRANCHVILLE ROAD

Providing connections for walking and biking on parallel routes to Greenbelt Road (MD 193) also has the opportunity to complete network gaps. While parallel connections can provide multimodal opportunities in lieu of using Greenbelt Road (MD 193), an even more resilient and robust network could be developed by developing parallel facilities in addition to those on Greenbelt Road (MD 193).

One option for a parallel facility is to build on the connection on Branchville Road between the Indian Creek Trail and Ballew Avenue by providing a pedestrian and bicycle connection over the CSX and WMATA railroad tracks, as shown in Figure 85. Then provide comfortable, low-stress walking and biking facilities on Branchville Road to Rhode Island Avenue to connect to the proposed Rhode Island Avenue protected bike lanes and the Rhode Island Avenue Trolley Trail.

A pedestrian and bicycle connection aligned with Branchville Road would be a complex and expensive effort, requiring coordination with CSX, WMATA, Prince George's County, and the Town of Berwyn Heights, and navigating potential environmental, regulatory, and permitting processes. However, a connection on Branchville Road could connect the proposed separated bike lanes on Cherrywood Lane via the Indian Creek Trail to the proposed Rhode Island Avenue separated bike lanes and the Rhode Island Avenue Trolley Trail and fill a key network gap while providing redundancy in the area's pedestrian and bicycle network.

While keeping in mind the inherent challenges in establishing a parallel connection on Branchville Road, the consultant team recommends considering the connection.

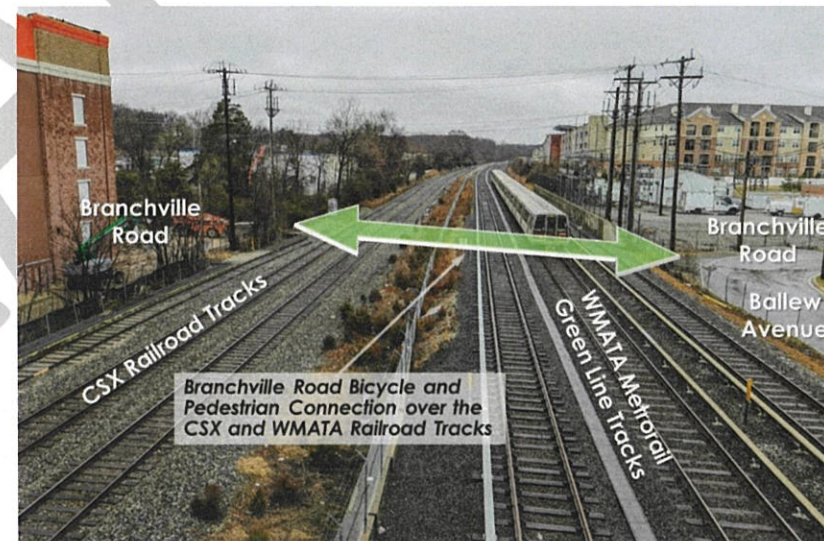
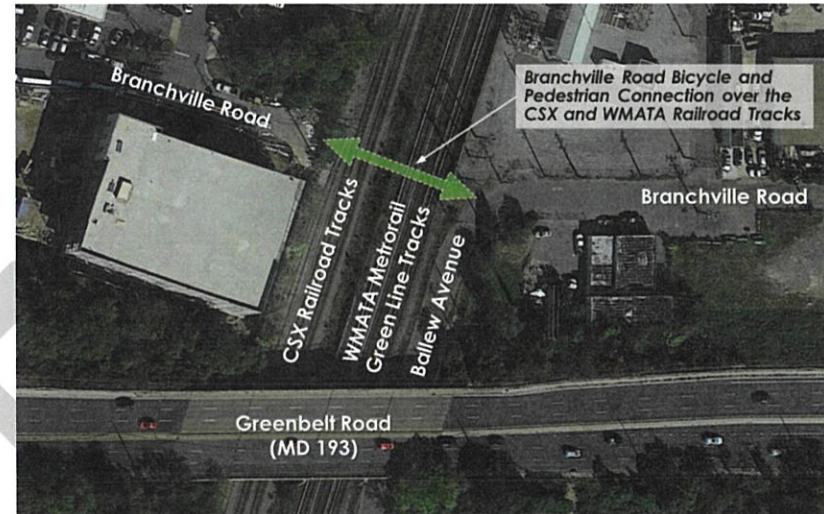


Figure 84. Potential Branchville Road Bicycle and Pedestrian Connection over the CSX and WMATA Railroad Tracks, Aerial View (Top), View from Greenbelt Road Bridge (Bottom)

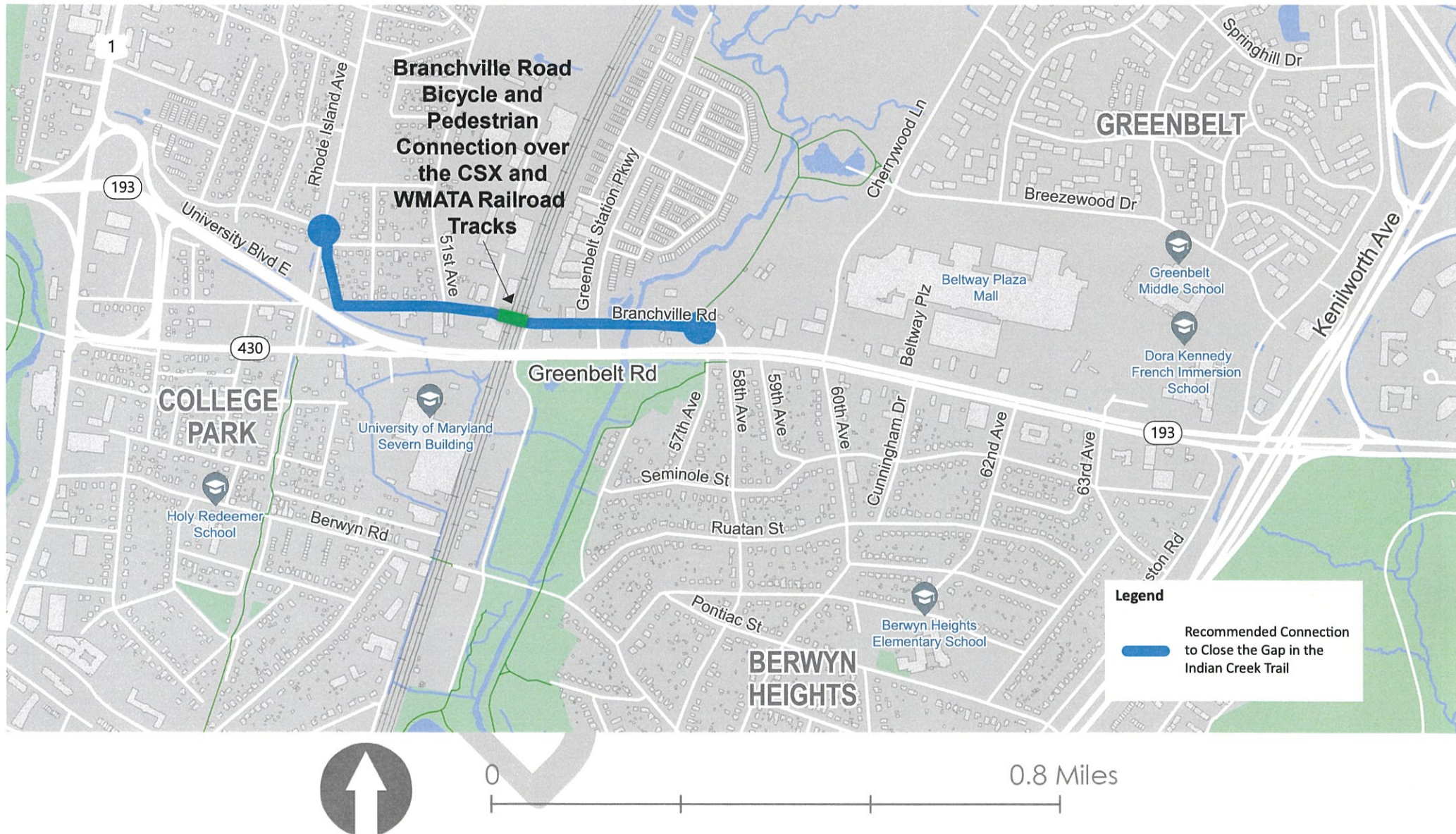


Figure 85. Recommended Parallel Connection on Branchville Road

An additional option for a parallel pedestrian and bicycle route to Greenbelt Road is the development of a neighborway through the Town of Berwyn Heights.

Neighborhoods are streets with sidewalks without specific bicycle facilities and low motorized traffic volumes, which may use shared lanes and sharrows to provide a low-stress bicycle facility. These facilities often use speed and volume management treatments to prioritize bicycle travel while creating a more comfortable environment for people walking. These treatments may be referred to as "bicycle boulevards" or by other names, including neighborhood greenways, bicycle priority streets, neighborhood connectors, or local bicycle streets. Figure 86 includes design elements typically associated with neighborhood streets.

The Berwyn Heights neighborbowway would formalize the section of Berwyn Road from US Route 1 to the west, over the CSX and WMATA railroad tracks using the available pedestrian and bicycle connection, to 57th Avenue, north on 57th Avenue to Pontiac Street, and then east on Pontiac Street to Kenilworth Avenue, as a neighborway. This route provides connections to US Route 1, the Rhode Island Avenue Trolley Trail, the parking facility for Lake Artemesia, the Indian Creek Trail, the Berwyn Heights Community Center, Berwyn Heights Elementary School, and Greenbelt Park after crossing Kenilworth Avenue. This route is shown in Figure 87.

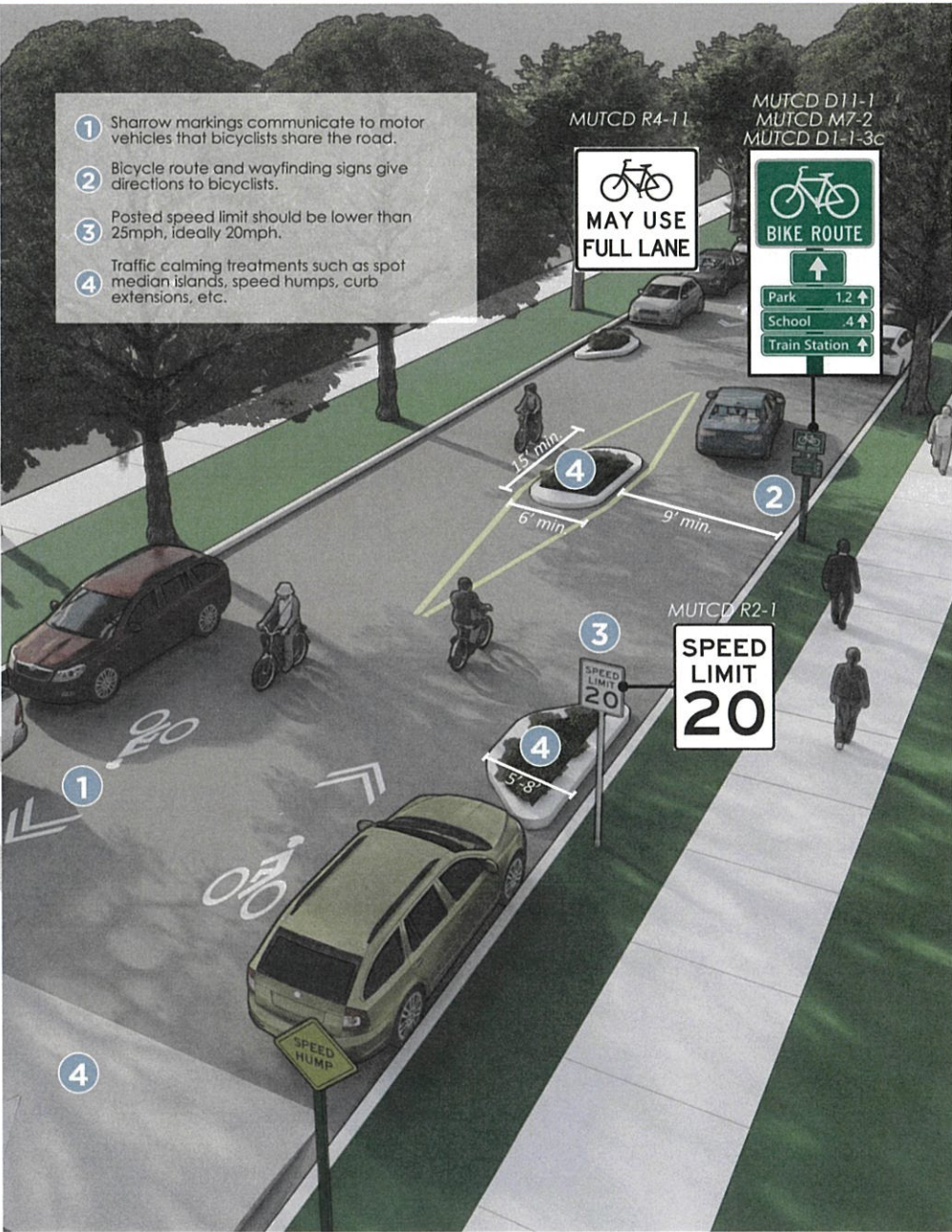


Figure 86. Neighborway Design Elements

Berwyn Road, 57th Avenue, and Pontiac Avenue already have sharrow shared-lane markings and other elements associated with neighborways, including wayfinding and low-speed elements like traffic humps. Because the section of Pontiac Street is uphill from 57th Avenue towards Kenilworth Avenue, design elements associated with the neighborway should prioritize people biking from the west to the east since it is more comfortable to bike downhill.

By specifically branding Berwyn Road as a "neighborway" or other community-specific names, the connection could attract more people to walk and bike through Berwyn Heights and connect to the many destinations along the way.

The consultant team recommends the Town of Berwyn Heights formalizes the "Berwyn Heights Neighborway."

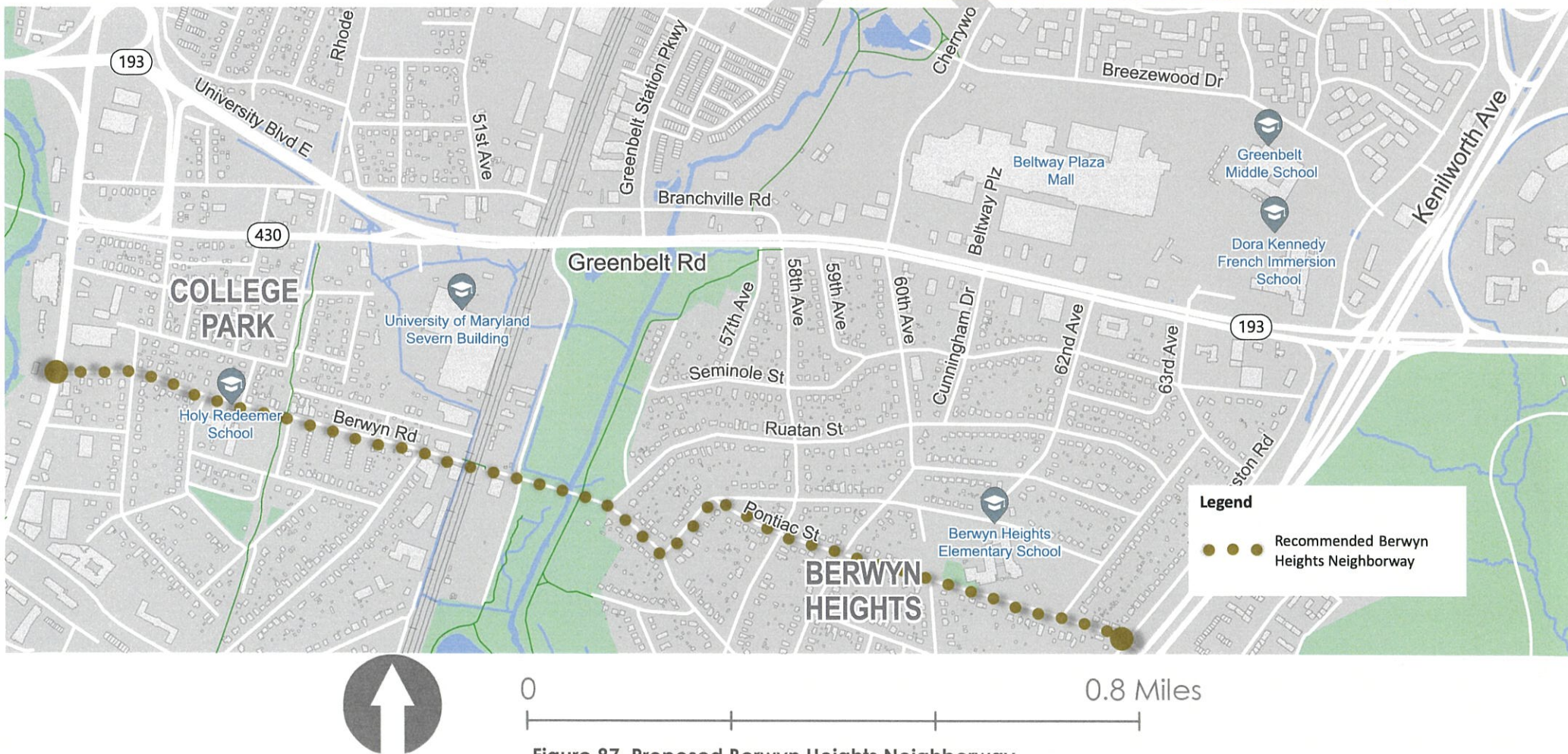


Figure 87. Proposed Berwyn Heights Neighborway

PRIORITY CROSSINGS

In the previous plans and studies, and the February 10, 2022, visioning meeting, the inability to cross Greenbelt Road (MD 193) and desire to do so, was explicitly noted at Cherrywood Lane/60th Avenue and 63rd Avenue. An enhanced pedestrian crossing at Cherrywood Lane/60th Avenue would provide a connection from Berwyn Heights to the Beltway Plaza mall, Greenbelt Metrorail station to the north, and the Indian Creek Trail and Lake Artemesia to the south. At 63rd Avenue, an enhanced pedestrian crossing would connect to the Dora Kennedy French Immersion School and Greenbelt Middle School. These priority crossings are shown in Figure 89, along with all of the previously described bicycle and pedestrian connections in this section.

High-visibility marked crossings should be provided across all four intersection approaches at both locations. At the Greenbelt Road (MD 193)/60th Avenue/Cherrywood Lane intersection, crossings are not provided across the south 60th Avenue approach or the west Greenbelt Road approach,

trapping pedestrians who arrive at the intersection by foot to the southwest corner of the intersection. At the Greenbelt Road (MD 193)/63rd Avenue intersection, pedestrian crossings are not provided across the west Greenbelt Road (MD 193) approach and are not marked across the north 63rd Avenue/School Bus Yard entrance approach.

Additionally, as discussed in the Crossing Greenbelt Road section, pedestrian refuge islands should be provided for all pedestrian crossings across Greenbelt Road (MD 193), particularly at these priority crossings. Figure 88 shows an example intersection with continental high-visibility crosswalk striping, as shown in the [Maryland SHA Context Driven Guidebook](#).

The consultant team recommends that high-visibility marked crossings with pedestrian refuge islands be provided across all four intersection approaches at Greenbelt Road (MD 193)/60th Avenue/Cherrywood Lane and Greenbelt Road (MD 193)/63rd Avenue intersections.



Figure 88. Continental "High-Visibility" Crosswalk Striping at an Intersection as shown in the [Maryland SHA Context Driven Guidebook](#) (Adapted)

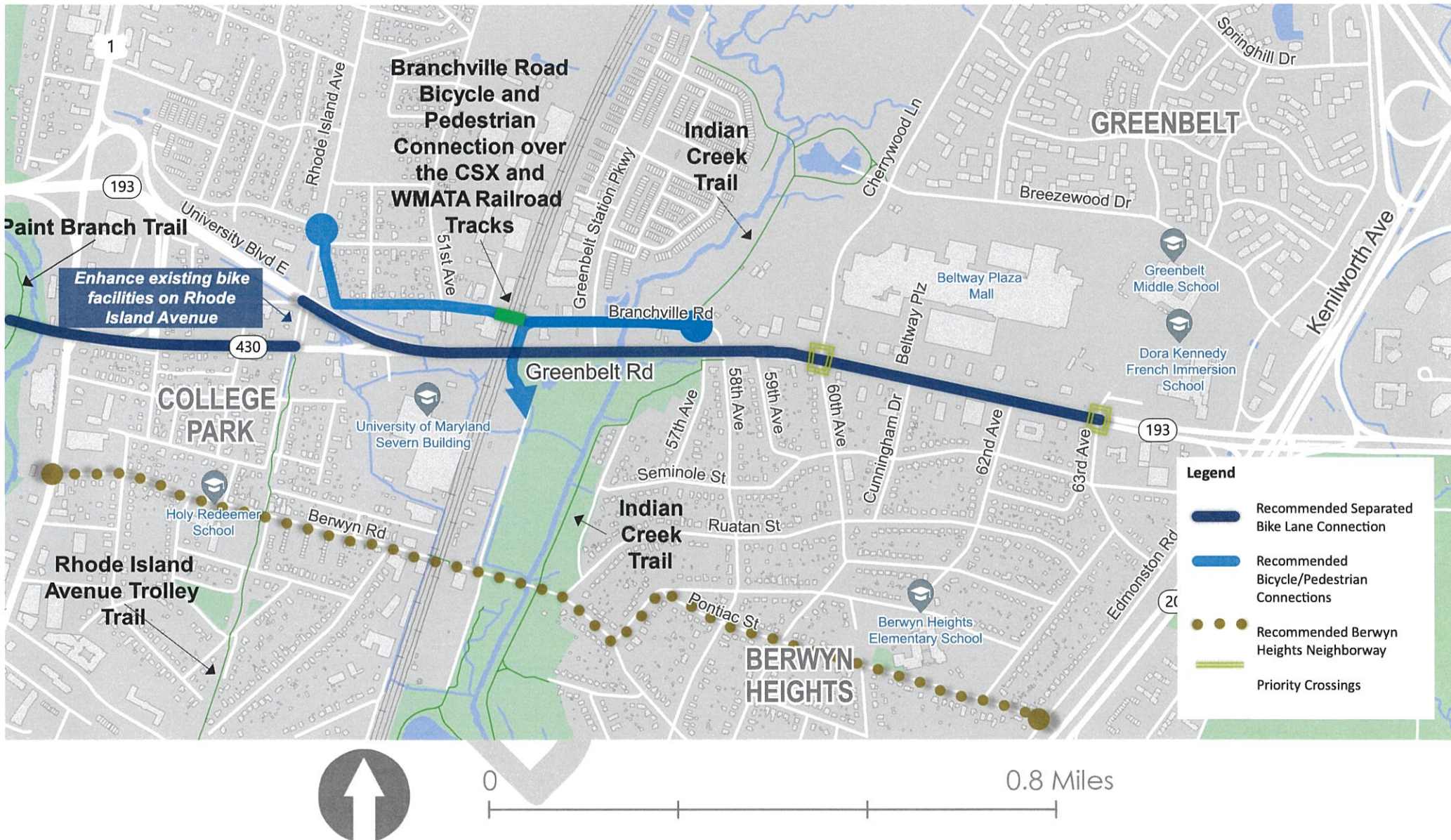


Figure 89. Recommended Bicycle and Pedestrian Connections

IMPROVE ACCESS

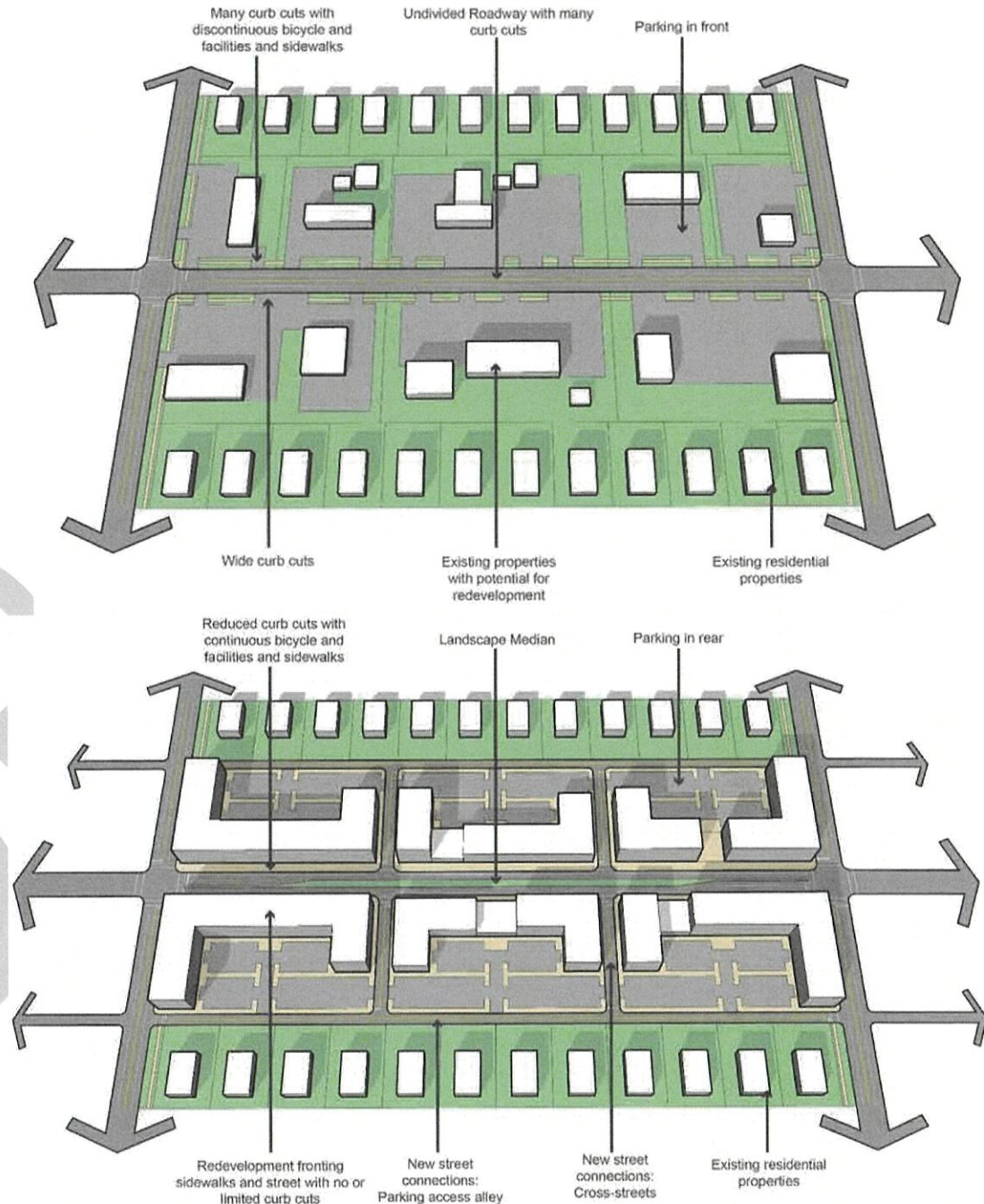
Access management refers to the design, application, and control of entry and exit points, like driveways, along a roadway. The Federal Highway Administration defines access management as the "programmatic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway." Thoughtful access management along a corridor can simultaneously:

- Enhance safety for all modes
- Facilitate walking and biking by reducing the number of conflict points at driveways
- Reduce trip delay and congestion by improving roadway capacity
- Allow for the eventual construction of continuous walking and biking facilities on parallel routes
- Provide stormwater and environmental amenities

The following access management strategies, as shown in Figure 90, can be used individually or in combination with one another to provide access management along a corridor:

- Driveway closure, consolidation, or relocation.
- Limited-movement designs for driveways (such as right-in/right-out only).

Figure 90. Conceptual Corridor Before Access Management (Top), and After Access Management (Bottom)



- Raised medians that preclude cross-roadway movements.
- Intersection designs such as roundabouts or those with reduced left-turn conflicts, like alternative intersection designs, as previously discussed.
- Turn lanes (i.e., left-only, right-only, or two-way-left-turn).
- Lower speed one-way or two-way off-arterial circulation roads facilitate parallel connections and access via side streets.

Figure 90 shows a conceptual corridor before and after access management concepts are applied. Access management also allows for the creation of parallel routes that provide new network connections over time, alternative routes for people walking and biking, and new access points. Incorporating access management into all proposed developments along Greenbelt Road (MD 193) and working with current property owners along Greenbelt Road provides opportunities to reduce potential conflict points, particularly with people walking and biking while improving roadway capacity and providing stormwater and environmental amenities.

The consultant team recommends pursuing all possible access management strategies along Greenbelt Road.

REDUCE CORRIDOR SPEEDS

Many of the recommendations previously identified call for a reduction from the current posted speed limit of 40 mph to 25 mph. As previously discussed, a posted speed limit of 25 mph provides additional comfort to pedestrians and a lower-stress environment for people biking. An example of a speed limit reduction is shown in Figure 91.



Figure 91. Posted Speed Limit Reduction to 25 mph on Georgia Avenue in Wheaton, Maryland (Maryland SHA Context Driven Toolkit)

Maryland data shows that 19.5% of crashes involving people walking or biking on roads with posted speed limits of 30 to 40 mph resulted in a serious injury or fatality. By contrast, 9.2% of crashes involving people walking or biking on roads with a posted speed limit of 25 mph resulted in a serious injury or fatality. When breaking out fatal crashes from serious injury crashes, 4.1% of crashes involving people walking or biking on roads with posted speed limits of 30 to 40 mph resulted in a fatality. In comparison, 0.7% of crashes involving people walking or biking on roads with a posted speed limit of 25 mph resulted in a fatality.

It should be noted that changes to the posted speed limit do not necessarily cause changes to corridor travel times. For instance, a corridor with a higher speed limit but poor signal progression may require vehicles to stop at signalized intersections more often and result in longer corridor travel times than a corridor with a lower speed limit and well-timed signals.

The Maryland SHA Context Driven Toolkit provides additional information on the procedures to adjust speed limits on SHA roads, like Greenbelt Road:

As part of the proactive treatments aimed at increasing safety for vulnerable road users, Maryland SHA has the option, particularly within the highlighted context zones, to consider posted speed limit reductions if speed is identified as a factor in pedestrian- or cyclist-related crashes along a corridor. Posted speed limit reductions require study as part of the application, but engineering judgment may be used to identify safety concerns and potential geometric modifications to complement the reduction in posted speed limit.

Posted speed limit reductions are not always sufficient for changing the operating speed of a roadway. Measures like

enforcement can be cost- and resource-prohibitive, which can necessitate reinforcing the change in posted speed limit with other roadway design elements that are self-enforcing and encourage motorists to travel at or below the target speed (the operating speed that the designer intends for drivers to use) to maximize the safety benefit of the speed limit reduction.

Additional roadway design elements that can help reinforce slower speeds include **narrower travel lanes, landscaping, reducing the number of travel lanes, signal timing adjustments, and signalized mid-block crossings.**

Many of these roadway design elements have been discussed previously, including **reducing the number of travel lanes** in the Matching the Demand section, **signal timing adjustments** in the Serving Pedestrians at Traffic Signals section, and **signalized mid-block crossings**, in the Crossing Greenbelt Road section.

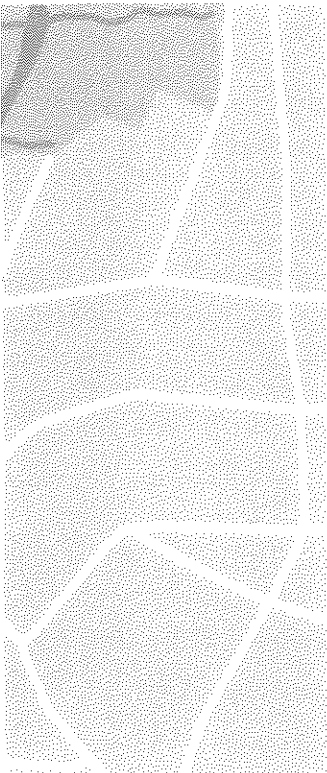
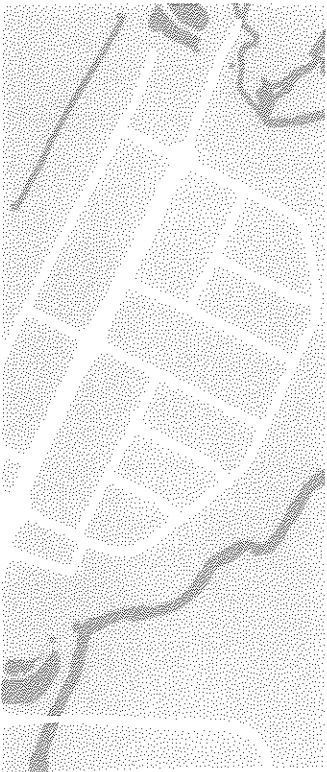
Narrowing travel lanes to ten feet helps reduce vehicle speeds and improve safety outcomes without impacting traffic operations. On Greenbelt Road, narrowing travel lanes adjacent to bus stops can provide an opportunity to expand the depth of the bus stop to meet accessibility requirements and have space to install either a bench or shelter, as identified in the Improve the Transit Experience section.

Providing landscaping along Greenbelt Road and within a rebuilt median provides additional self-enforcing encouragement to motorists to reduce vehicle speeds. Studies have shown that roadways lined with trees reduce average speeds up to eight miles per hour, and other studies identified a 46% reduction in the number of crashes after landscaping was added to roadways. In addition, landscaping provides the opportunity to reduce the amount of impervious surface area and provide permeable ground cover that allows stormwater

management and additional environmental benefits. Along Greenbelt Road, rebuilding the median to provide pedestrian refuge islands and signalized mid-block crossings likely provides the most immediate-term opportunity to provide landscaping and trees along the corridor. Either of the Long-Term Separated Bike Lane Options for Greenbelt Road provides opportunities for landscaping. However, the shared-use paths on both sides of the road provides more space for landscaping than the one-way sidewalk level separated bike lanes, including space sufficient for high-growth landscaping, including trees.

The consultant team recommends reducing the posted speed limit to 25 mph in conjunction with additional roadway design elements to reinforce the slower speed environment, including narrower travel lanes, landscaping along the edges of the corridor and within rebuilt corridor medians, reducing the number of travel lanes, implementing corridor-wide signal timing adjustments, and adding signalized mid-block crossings with pedestrian refuge islands.





Section 6 Next Steps



RECOMMENDATIONS AND NEXT STEPS

The Greenbelt Road (MD 193) Corridor Plan was developed in the context of twenty-plus years of effort by the community to see change along the corridor. The Related Efforts reviewed as part of this project revealed a consistent desire to prioritize Greenbelt Road as a Place, in contrast to a high-speed route for cars to pass through. The information from the Related Efforts and community feedback was used to establish goals for the Greenbelt Road (MD 193) Corridor Plan:

- Facilitate the **comfortable, equitable, and safe movement of all people along and across Greenbelt Road (MD 193)**, whether they are **walking, biking, riding transit, or driving**.
- Provide **key connections** to residential communities, businesses, neighborhoods, parks, and trails along and across the corridor.
- Support **livability and economic development** by improving access to, through, and across the corridor.
- Create a **greener and more human-scale environment** to serve the people living along the corridor.

Because of the limited usable Right-of-Way along the corridor, the developed recommendations largely fit between the existing back edges of the sidewalks on both sides of the street. In a few cases, the recommendations are contained within the existing Curb-To-Curb Width, which facilitates more simplistic implementation by not requiring modifications to existing curb and gutter or drainage systems. Recommendations that adjust the corridor's cross-section face constraints due to The Bridge over the CSX and WMATA rail

tracks. This Corridor Plan document has presented cross-section options specific to the bridge.

Within the corridor's study area, the entire area to the north of the corridor and the area south of the corridor and west of the CSX and WMATA rail tracks are considered as Equity Emphasis Areas.

As a six-lane divided roadway with a posted speed limit of 40 mph and even higher operating speeds and no buffer between the roadway and narrow sidewalk, the road is hostile and uninviting for people walking, and asking bicyclists to "share the lane" is harrowing.

A review of the daily traffic volumes on Greenbelt Road (MD 193), described in the Daily Traffic Volumes section, indicates that daily traffic volumes in 2021 were 36,700, which, due to the COVID-19 pandemic, is down from a recent peak of 49,420 vehicles per day in 2019. As previously discussed, the lasting effects of the COVID-19 pandemic are unknown; however, factors like continued workplace flexibility, transportation costs (gas prices), transit usage, and changes in land use all factor into the lasting effects of the decrease in traffic volumes. What is known is the clear current demand and need for a roadway that is safe and comfortable for people to walk and bike, which presciently occurs at a point in time when the reduction in motor vehicle demand provides an opportunity to consider repurposing the travel lanes for other uses.

A review of corridor-wide crash data over the past six years identified two pedestrian fatalities after being struck by a person driving a car, along with ten pedestrian and two

bicycle crashes resulting in injuries after being struck by a person driving a car.

This section's recommended projects and strategies align with the community-identified project goals. The recommendations were grouped into the following categories, which were developed to align with the goals:

- Right-Size the Corridor to the Potential Demand
- Make the Corridor a Place People Want to Walk and Bike
- Improve the Transit Experience
- Connect Residential Communities, Businesses, Neighborhoods, Parks, and Trails

While the recommendations in this section are presented independently, greater synergies can be found when recommendations are combined. Figure 92 shows an example of a combination of countermeasures for a suburban activity center context, similar to Greenbelt Road, from the [Maryland SHA Context Driven guide](#). These countermeasures, many of which are also applicable to Greenbelt Road, provide compounding safety benefits when implemented in tandem.

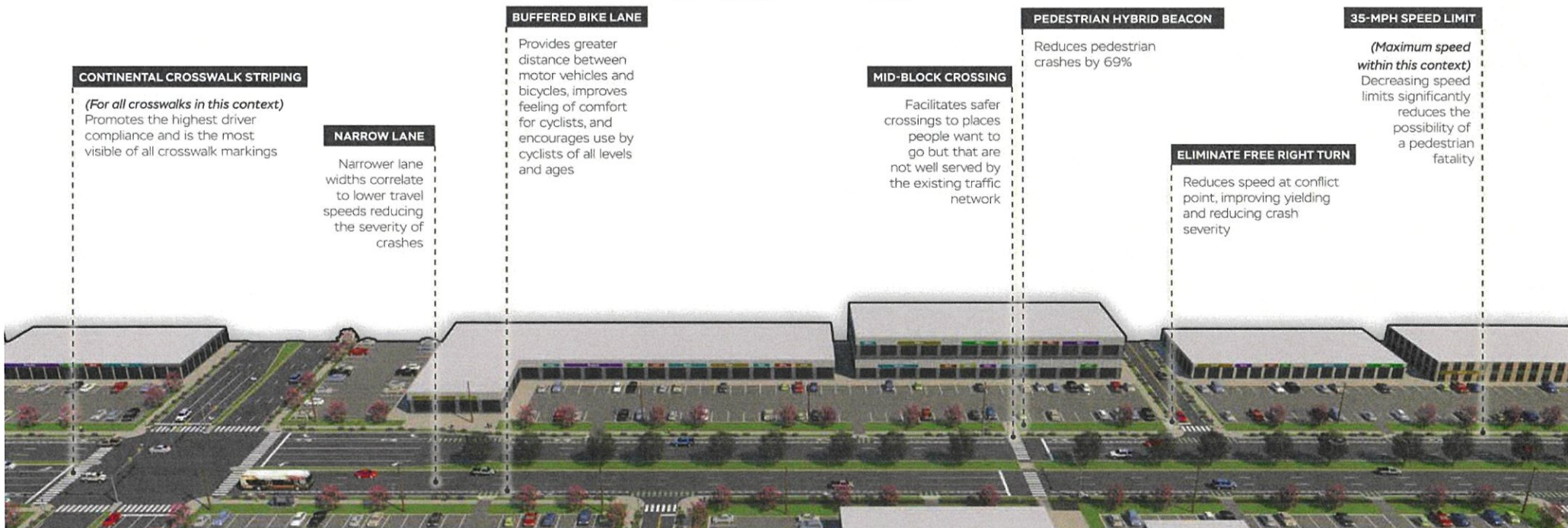


Figure 92. Sample Countermeasures for a Suburban Activity Center from the [Maryland SHA Context Driven guide](#) (Adapted)

RECOMMENDATIONS

Throughout the Greenbelt Road (MD 193) Corridor Plan document, recommendations have been highlighted as shown below:

The consultant team recommends...

The highlighted recommendations are described in greater detail in the sections preceding each recommendation or set of recommendations. In this section, the recommendations are repeated with limited additional information to provide context and enough information to allow the recommendations to be understood without returning to the main body of the Corridor Plan document. A summary list of all recommendations is provided in Table 6. After Table 6, Figure 93 shows the recommendations with specific locations. A description of the Table 6 columns is below.

ID

A unique ID has been assigned to each recommendation for ease in identifying and labeling recommendations on maps and tracking recommendations throughout this section.

Recommendation

The title of the recommendation. The section following Table 6 provides additional details about the recommendations.

Category

The category each recommendation belongs to. For ease in displaying the categories in the table, the categories have been shortened as follows:

- **Match Demand** = Right-Size the Corridor to the Potential Demand
- **Place for People** = Make the Corridor a Place People Want to Walk and Bike
- **Transit Experience** = Improve the Transit Experience
- **Connections** = Connect Residential Communities, Businesses, Neighborhoods, Parks, and Trails

Timing

The generalized timeframe for each recommendation to be realized is provided. The timeframe considers The Transportation Project Process and reflects the potential steps each recommendation may have to pass through to be implemented. The projects have been divided into "short-term" and "long-term" timeframes.

Short-term projects follow a timeline of roughly less than five years. These projects are a mix of what are considered "quick-build" efforts and follow a relatively short implementation timeline, with limited additional analysis or coordination necessary, and some projects that will require additional analysis, coordination, or design and construction.

Long-term projects follow a timeline of roughly five or more years. These projects are the most involved and require additional coordination, analysis, design, and construction. These projects tend to be larger scale and require more funding than short-term projects.

Agency Coordination

The agency responsible for leading a recommendation towards implementation is **identified and bolded**, and additional agencies that would be involved in the project process are listed.

Relative Cost

The estimated costs provide initial generalized planning-level cost estimates for each recommendation based on the consultant team's general knowledge of recent projects in the Washington, D.C. Metro region. The costs are estimated based on three ranges, detailed below:

- Low: \$ (Less than \$250,000)
- Moderate: \$\$ (\$250,001 to \$1,000,000)
- Highest: \$\$\$ (\$1,000,000+)

Table 6. Recommendation Summary

ID	Recommendation	Category	Timing	Agency Coordination	Relative Cost
1A	Repurpose one through lane on each side of Greenbelt Road	Match Demand	Short	Maryland SHA	\$
1B	Conduct an updated traffic operations analysis with current traffic volumes	Match Demand	Short	Maryland SHA	\$
1C	Review signal-timing at all corridor intersections	Match Demand	Short	Maryland SHA	\$
2	Consider alternative intersections	Match Demand	Long	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County, WMATA	\$\$\$
3A	Increase the sidewalk width corridor-wide to more than five feet	Place for People	Short	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County, WMATA	\$\$
3B	Reduce the corridor speed limit to 25 mph	Place for People	Short	Maryland SHA	\$
3C	Increase the buffer distance between the road and sidewalks	Place for People	Long	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County, WMATA	\$\$\$
3D	Add Jersey Barriers to the bridge to provide separation between the road and sidewalk	Place for People	Short	Maryland SHA	\$
4A	Provide marked high-visibility crossings on every signalized intersection approach	Place for People	Short	Maryland SHA , Greenbelt, Berwyn Heights, College Park	\$
4B	Add raised pedestrian refuge islands at every marked crossing across Greenbelt Road	Place for People	Long	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County	\$\$\$
4C	Add signalized mid-block crossings with pedestrian refuge islands	Place for People	Long	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County	\$\$\$
4D	Remove right-turn slip lanes	Place for People	Short	Maryland SHA , Greenbelt, Berwyn Heights, College Park	\$\$

ID	Recommendation	Category	Timing	Agency Coordination	Relative Cost
4E	Remove right-turn acceleration/deceleration lanes	Place for People	Short	Maryland SHA , Greenbelt, Berwyn Heights, College Park	\$
4F	Reduce cycle lengths to the shortest length possible	Place for People	Short	Maryland SHA	\$
4G	Set the WALK interval as long as possible	Place for People	Short	Maryland SHA	\$
4H	Remove all "permitted" turns	Place for People	Short	Maryland SHA	\$
4I	Remove right-turn-on-red	Place for People	Short	Maryland SHA	\$
4J	Provide Accessible Pedestrian Signals at all crossings	Place for People	Short	Maryland SHA	\$
4K	Adjust clearance intervals corridor-wide	Place for People	Short	Maryland SHA	\$
5A	Install one-way separated bike lane pilot	Place for People	Short	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County, WMATA	\$
5B	Install two-way cycletrack	Place for People	Short	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County, WMATA	\$
5C	Install two-way cycletrack with a shared-use path on the alternate side	Place for People	Long	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County, WMATA	\$
5D	Install shared-use paths on both sides	Place for People	Long	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County, WMATA	\$
5E	Install sidewalk-level one-way separated bike lanes on both sides	Place for People	Long	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County, WMATA	\$
5F	Rebuild the Median	Place for People	Long	Maryland SHA , Greenbelt, Berwyn Heights, College Park, Prince George's County	\$

ID	Recommendation	Category	Timing	Agency Coordination	Relative Cost
6A	Install new benches and shelters at corridor transit stops	Transit Experience	Short	Maryland SHA, WMATA, Greenbelt, Berwyn Heights	\$\$
6B	Relocate and Consolidate Bus Stops	Transit Experience	Short	Maryland SHA, WMATA, Greenbelt, Berwyn Heights	\$
6C	Queue Jumps	Transit Experience	Short	Maryland SHA Greenbelt, Berwyn Heights, College Park, WMATA	\$
6D	Transit Signal Priority	Transit Experience	Long	WMATA, Maryland SHA Greenbelt, Berwyn Heights, College Park	\$\$
7A	Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue	Connections	Short	Greenbelt, Maryland SHA	\$\$
7B	Connect the gap in the Indian Creek Trail	Connections	Short	Greenbelt, Berwyn Heights, Maryland SHA	\$\$
7C	Establish a parallel connection on Branchville Road	Connections	Long	Greenbelt, Berwyn Heights, Prince George's County, WMATA, CSX	\$\$\$
7D	Formalize the "Berwyn Heights Neighborway"	Connections	Short	Berwyn Heights	\$
8	Implement Access Management	Connections	Long	Maryland SHA, Greenbelt, Berwyn Heights, College Park	\$\$\$
9A	Narrow travel lanes	Connections	Long	Maryland SHA, Greenbelt, Berwyn Heights, College Park, WMATA	\$
9B	Enhance corridor landscaping	Connections	Long	Maryland SHA, Greenbelt, Berwyn Heights, College Park	\$\$



Figure 93. All Recommendations Specific to Certain Locations

DESCRIPTION OF RECOMMENDATIONS

1A. Repurpose one through lane on each side of Greenbelt Road

Related recommendations:

- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 1C. Review signal-timing at all corridor intersections
- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue
- 8. Implement Access Management
- 9B. Enhance corridor landscaping

1B. Conduct an updated traffic operations analysis of the corridor intersections with current traffic volumes

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1C. Review signal-timing at all corridor intersections
- 3B. Reduce the corridor speed limit to 25 mph

- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide

1C. Review signal-timing at all corridor intersections

While it is preferable to review all corridor signals at the same time, concentrating on the segment from Greenbelt Station Parkway to 63rd Avenue would provide substantial benefit through the area with the highest concentration of signalized intersections. In conjunction with a review of corridor-wide signal timing, signal equipment along the corridor should also be assessed.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 3B. Reduce the corridor speed limit to 25 mph
- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide
- 6D. Transit Signal Priority

2. Consider alternative intersections

If the removal of one travel lane in each direction on Greenbelt Road degrades traffic operations to substandard conditions that are not able to be addressed through signal timing adjustments, adding or removing turn lanes or turn

restrictions, or other mitigations, the consideration of alternative intersection types to retain the narrower corridor cross-section and alleviate traffic congestion at intersections is recommended. While some degradation in traffic operations is likely with removing one travel lane in each direction, the benefit gained from providing comfortable, low-stress facilities for people walking and biking is significant and, based on community desire and safety considerations, should be prioritized over traffic flow.

Related recommendations:

- 8. Implement Access Management

3A. Increase the sidewalk width corridor-wide to more than five feet

This is likely possible within the existing curb-to-curb width by repurposing a travel lane in each direction to provide one-way separated bike lanes and in locations where the sidewalk width is less than five feet, narrowing the lanes on Greenbelt Road to extend the sidewalk into the existing roadway.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 6A. Install new benches and shelters at corridor transit stops

- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue
- 8. Implement Access Management
- 9A. Narrow travel lanes
- 9B. Enhance corridor landscaping

3B. Reduce the corridor speed limit to 25 mph

- **Maryland SHA's response to Delegate Washington identified a reduction in the posted speed limit**

Related recommendations:

- 1C. Review signal-timing at all corridor intersections
- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue
- 8. Implement Access Management
- 9A. Narrow travel lanes
- 9B. Enhance corridor landscaping

3C. Increase the buffer distance between the road and sidewalks

If the corridor speed limit is not reduced to 25 mph, the consultant team recommends either one-way separated bike

lanes on both sides of the street with five-foot buffers provided between the sidewalk and separated bike lanes or increasing the buffer between the road and sidewalk to eight feet.

Related recommendations:

- 3B. Reduce the corridor speed limit to 25 mph
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue
- 8. Implement Access Management
- 9A. Narrow travel lanes
- 9B. Enhance corridor landscaping

3D. Add Jersey Barriers to the bridge to provide separation between the road and sidewalk

If a roadway travel lane is not repurposed to provide one-way separated bike lanes, the consultant team recommends using Jersey Barriers or similar devices on the bridge to provide greater separation between the roadway and sidewalk.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides

- 5E. Install sidewalk-level one-way separated bike lanes on both sides

4A. Provide marked high-visibility crossings on every signalized intersection approach

- **Maryland SHA's response to Delegate Washington committed to upgrading the corridor crosswalks to high-visibility crossings**
- **Maryland SHA's response to Delegate Washington committed to providing a new marked crosswalk across the south leg of the Greenbelt Road/60th Avenue intersection**
- **Maryland SHA's response to Delegate Washington committed to the installation of a new crosswalk along the east leg of the Greenbelt Road/62nd Avenue intersection**

All signalized intersection approaches should be provided with marked high-visibility crosswalks, and all crossings along Greenbelt Road should have marked high-visibility crossings. In particular, high-visibility marked crossings should be prioritized across all four intersection approaches at Greenbelt Road (MD 193)/60th Avenue/Cherrywood Lane and Greenbelt Road (MD 193)/63rd Avenue intersections.

Related recommendations:

- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 1C. Review signal-timing at all corridor intersections

4B. Add raised pedestrian refuge islands at every marked crossing across Greenbelt Road

In particular, pedestrian refuge islands should be prioritized for all Greenbelt Road crossings at Greenbelt Road (MD 193)/60th Avenue/Cherrywood Lane and Greenbelt Road (MD 193)/63rd Avenue intersections.

Related recommendations:

- 4A. Provide marked high-visibility crossings on every signalized intersection approach
- 5F. Rebuild the Median
- 8. Implement Access Management
- 9B. Enhance corridor landscaping

4C. Add signalized mid-block crossings with pedestrian refuge islands

Signalized mid-block crossings with pedestrian refuge islands should be installed at the following locations:

- The east side of 59th Avenue to provide access to the C2 WMATA Metrobus stop on the north side of Greenbelt Road
- Between Cherrywood Lane and Cunningham Drive/Beltway Plaza and between Cunningham Drive/Beltway Plaza and 62nd Avenue to provide access to retail on both sides of the street
- Between 62nd Avenue and 63rd Avenue to provide more direct access to the G14 and R12 WMATA Metrobus stop on the south side of the street
- Aligned near the entrance to the Dora Kennedy French Immersion School and the G14 and R12 WMATA Metrobus stop on the south side of the street to provide direct access to both destinations

Related recommendations:

- 5F. Rebuild the Median
- 8. Implement Access Management
- 9B. Enhance corridor landscaping

4D. Remove right-turn slip lanes

Right-turn slip lanes should be removed at the following locations:

- The north approach of the Greenbelt Road/Beltway Plaza intersection
- The Greenbelt Station Parkway approach at the Greenbelt Road/Greenbelt Station Parkway intersection
- The north approach of the University Boulevard/Rhode Island Avenue intersection
- The north approach of the Greenbelt Road/48th Avenue intersection

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 4E. Remove right-turn acceleration/deceleration lanes
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 6C. Queue jumps
- 8. Implement Access Management

4E. Remove right-turn acceleration/deceleration lanes

Right-turn slip lanes should be removed at the following locations:

- The north side of Greenbelt Road between Edmonston Road and 63rd Avenue
- Between 63rd Avenue and 62nd Avenue
- Between 62nd Avenue and Beltway Plaza

- Both the east and west approaches of the Greenbelt Road/Greenbelt Station Parkway intersection
- The south side of Greenbelt Road between 63rd Avenue and Edmonston Road

- **Maryland SHA's response to Delegate Washington committed to the installation of vertical delineators behind the crosswalk at the University Boulevard/Rhode Island Avenue intersection to prevent drivers from using the right-turn lane as a through lane**

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 4D. Remove right-turn slip lanes
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 6C. Queue jumps
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue
- 8. Implement Access Management

4F. Reduce cycle lengths at all corridor intersections to the shortest length possible, ideally less than 100 seconds, or as low as possible.

While it is preferable to review all corridor signals at the same time, concentrating on the segment from Greenbelt Station Parkway to 63rd Avenue would provide substantial benefit

through the area with the highest concentration of signalized intersections.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 1C. Review signal-timing at all corridor intersections
- 3B. Reduce the corridor speed limit to 25 mph
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue

4G. Set the WALK interval as long as possible

While it is preferable to review all corridor signals at the same time, concentrating on the segment from Greenbelt Station Parkway to 63rd Avenue would provide substantial benefit through the area with the highest concentration of signalized intersections.

- **Maryland SHA's response to Delegate Washington committed to providing supplemental WALK time to cross Greenbelt Road at 63rd Avenue**

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 1C. Review signal-timing at all corridor intersections

- 3B. Reduce the corridor speed limit to 25 mph
- 4F. Reduce cycle lengths to the shortest length possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide
- 6D. Transit Signal Priority
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue

4H. Eliminate conflicts with parallel turns by removing all "permitted" left- and right-turns, and only allowing "protected" turning movements

While it is preferable to review all corridor signals at the same time, concentrating on the segment from Greenbelt Station Parkway to 63rd Avenue would provide substantial benefit through the area with the highest concentration of signalized intersections.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 1C. Review signal-timing at all corridor intersections
- 3B. Reduce the corridor speed limit to 25 mph
- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide
- 6D. Transit Signal Priority
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue

4I. Remove "right-turn-on-red" at all intersections

While it is preferable to review all corridor signals at the same time, concentrating on the segment from Greenbelt Station Parkway to 63rd Avenue would provide substantial benefit through the area with the highest concentration of signalized intersections.

- **Maryland SHA's response to Delegate Washington committed to installing "No Turn on Red" signs along the eastbound and westbound approaches at the Greenbelt Road/60th Avenue intersection**

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 1C. Review signal-timing at all corridor intersections
- 3B. Reduce the corridor speed limit to 25 mph
- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide
- 6D. Transit Signal Priority
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue

4J. Provide Accessible Pedestrian Signals at all crossings

While it is preferable to review all corridor signals at the same time, concentrating on the segment from Greenbelt Station Parkway to 63rd Avenue would provide substantial benefit through the area with the highest concentration of signalized intersections.

- **Maryland SHA's response to Delegate Washington committed to addressing the concern related to the pedestrian pushbutton located behind the fence at the Greenbelt Road/Greenbelt Station Parkway intersection**
- **Maryland SHA's response to Delegate Washington committed to addressing the substandard pedestrian pushbuttons and signal posts at the Greenbelt Road/62nd Avenue intersection**

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 1C. Review signal-timing at all corridor intersections
- 3B. Reduce the corridor speed limit to 25 mph
- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4K. Adjust clearance intervals corridor-wide
- 6D. Transit Signal Priority
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue

4K. Adjust clearance intervals corridor-wide to reflect changes to the posted speed limit and corridor conditions.

While it is preferable to review all corridor signals at the same time, concentrating on the segment from Greenbelt Station Parkway to 63rd Avenue would provide substantial benefit through the area with the highest concentration of signalized intersections.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 1C. Review signal-timing at all corridor intersections
- 3B. Reduce the corridor speed limit to 25 mph
- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 6D. Transit Signal Priority
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue

5A. Install one-way separated bike lane pilot

Install one-way separated bike lanes on both sides of the road as a pilot along Greenbelt Road (MD 430) from the Paint Branch Trail to Rhode Island Avenue and then on University Boulevard (MD 193) from Rhode Island Avenue to Greenbelt Road (MD 193) and continuing to 63rd Avenue.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 3B. Reduce the corridor speed limit to 25 mph
- 3C. Increase the buffer distance between the road and sidewalks
- 3D. Add Jersey Barriers to the bridge to provide separation between the road and sidewalk
- 4E. Remove right-turn slip acceleration/deceleration lanes

- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue
- 8. Implement Access Management
- 9A. Narrow travel lanes

5B. Install a two-way cycletrack pilot

If the implementation of one-way separated bike lanes on each side of the road becomes challenging, the consultant team recommends using a two-way cycletrack on one side of the road as a short-term pilot along Greenbelt Road (MD 430) from the Paint Branch Trail to Rhode Island Avenue, and then on University Boulevard (MD 193) from Rhode Island Avenue to Greenbelt Road (MD 193) and continuing to 63rd Avenue.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 3B. Reduce the corridor speed limit to 25 mph
- 3C. Increase the buffer distance between the road and sidewalks
- 3D. Add Jersey Barriers to the bridge to provide separation between the road and sidewalk
- 4E. Remove right-turn slip acceleration/deceleration lanes
- 5A. Install one-way separated bike lane pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides

- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 8. Implement Access Management
- 9A. Narrow travel lanes

5C. Install two-way cycletrack with a shared-use path on the alternate side

The consultant team recommends a two-way cycletrack with a shared-use path on the alternate side if an opportunity arises to reconstruct a significant length of Greenbelt Road on only one side of the road.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 3B. Reduce the corridor speed limit to 25 mph
- 3C. Increase the buffer distance between the road and sidewalks
- 3D. Add Jersey Barriers to the bridge to provide separation between the road and sidewalk
- 4E. Remove right-turn slip acceleration/deceleration lanes
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 8. Implement Access Management
- 9A. Narrow travel lanes
- 9B. Enhance corridor landscaping

5D. Install shared-use paths on both sides

The consultant team recommends using shared-use paths on both sides of the road as a long-term vision for the corridor. The shared-use paths on both sides of the road provide significant pedestrian level of comfort benefits while also providing an all ages and abilities bicycle connection on both sides of the roadway. In addition, the use of shared-use paths provides opportunities for landscaping, including trees, in the area between the roadway and shared-use path, providing aesthetic and environmental benefits.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 3B. Reduce the corridor speed limit to 25 mph
- 3C. Increase the buffer distance between the road and sidewalks
- 3D. Add Jersey Barriers to the bridge to provide separation between the road and sidewalk
- 4E. Remove right-turn slip acceleration/deceleration lanes
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 8. Implement Access Management
- 9A. Narrow travel lanes
- 9B. Enhance corridor landscaping

5E. Install sidewalk-level one-way separated bike lanes on both sides

While the consultant team prefers shared-use paths on both sides of the road due to the additional landscaping and environmental benefits, the consultant team also suggests that sidewalk-level one-way separated bike lanes are entirely appropriate for the corridor and should be pursued if the corridor context or other elements change between the time this study is released and the time a long-term vision is being designed for the corridor.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 3B. Reduce the corridor speed limit to 25 mph
- 3C. Increase the buffer distance between the road and sidewalks
- 3D. Add Jersey Barriers to the bridge to provide separation between the road and sidewalk
- 4E. Remove right-turn slip acceleration/deceleration lanes
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 8. Implement Access Management
- 9A. Narrow travel lanes
- 9B. Enhance corridor landscaping

5F. Rebuild the corridor's median as opportunities arise to provide pedestrian refuge islands at all signalized crossings and landscaping to improve the corridor's aesthetics and stormwater management capabilities.

Related recommendations:

- 4B. Add raised pedestrian refuge islands at every marked crossing across Greenbelt Road
- 4C. Add signalized mid-block crossings with pedestrian refuge islands
- 8. Implement Access Management
- 9B. Enhance corridor landscaping

6A. Install new benches and shelters at corridor transit stops

Bus shelters with benches should be installed at the bus stops at Greenbelt Road/Greenbelt Station Parkway. Benches should be installed at the bus stops on Greenbelt Road/59th Avenue and Greenbelt Road/63rd Avenue in the westbound direction. In locations where the current travel lanes do not provide enough space to obtain the proper bus stop depth, the travel lanes should be narrowed in front of the bus stops.

Related recommendations:

- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 6B. Relocate and Consolidate Bus Stops
- 9A. Narrow travel lanes

6B. Relocate and Consolidate Bus Stops

Stop consolidation at the Beltway Plaza Mall, as shown in Figure 67, has the potential to remove the circuitous routes through the Beltway Plaza Mall area.

Related recommendations:

- 6A. Install new benches and shelters at corridor transit stops
- 6D. Transit Signal Priority

6C. Queue Jumps

The locations where right-turn acceleration/deceleration lanes are to be closed are good candidates for the use of queue jumps. The use of queue jumps should consider trade-offs with implementing a separated bike lane, with the implementation of separated bike lanes prioritized.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 4E. Remove right-turn acceleration/deceleration lanes
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 6D. Transit Signal Priority

6D. Transit Signal Priority

Consider the installation of transit priority at some intersections on a conditional basis.

Related recommendations:

- 1C. Review signal-timing at all corridor intersections
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide
- 6B. Relocate and Consolidate Bus Stops
- 6C. Queue jumps

7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue

Ideally, this would be done in conjunction with a reduction in the corridor speed limit to 25 mph and repurposing one travel lane on both sides of the street to one-way separated bike lanes.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 3B. Reduce the corridor speed limit to 25 mph
- 3C. Increase the buffer distance between the road and sidewalks
- 4D. Remove right-turn slip lanes
- 4E. Remove right-turn acceleration/deceleration lanes
- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4J. Provide Accessible Pedestrian Signals at all crossings
- 4K. Adjust clearance intervals corridor-wide
- 5A. Install one-way separated bike lane pilot
- 9B. Enhance corridor landscaping

7B. Connect the gap in the Indian Creek Trail

Options for providing comfortable and low-stress facilities for people walking and biking on Branchville Road and Balley Avenue to close the gap in the Indian Creek Trail should be developed. South of Greenbelt Road, the connection can either continue south on Balley Avenue to connect to the trail via Berwyn Road or connect through the trails around Lake Artemesia.

Related recommendations:

- 7C. Establish a parallel connection on Branchville Road

7C. Establish a parallel connection on Branchville Road

Because of the likely challenges associated with crossing the CSX and WMATA rail tracks, this recommendation may be difficult to realize but could provide a comfortable and low-stress option between the Indian Creek Trail and bicycle connections on Rhode Island Avenue

Related recommendations:

- 7B. Connect the gap in the Indian Creek Trail

7D. Formalize the "Berwyn Heights Neighborway"

By specifically branding the Berwyn Road – 57th Street – Pontiac Street route as a "neighborway" or other community-specific names, and using speed and volume management treatments to prioritize bicycle travel while creating a more comfortable environment for people walking, the connection could attract more people to walk and bike through Berwyn Heights and connect to the many destinations along the way.

8. Implement Access Management

All potential access management strategies should be considered along Greenbelt Road, including:

- Driveway closure, consolidation, or relocation.
- Limited-movement designs for driveways (such as right-in/right-out only).
- Raised medians that preclude cross-roadway movements.
- Intersection designs such as roundabouts or those with reduced left-turn conflicts, like the alternative intersections discussed previously.

- Lower speed one-way or two-way off-arterial circulation roads facilitate parallel connections and access via side streets.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 2. Consider alternative intersections
- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 3B. Reduce the corridor speed limit to 25 mph
- 3C. Increase the buffer distance between the road and sidewalks
- 4B. Add raised pedestrian refuge islands at every marked crossing across Greenbelt Road
- 4C. Add signalized mid-block crossings with pedestrian refuge islands
- 4D. Remove right-turn slip lanes
- 4E. Remove right-turn acceleration/deceleration lanes
- 5A. Install one-way separated bike lane pilot
- 5B. Install two-way cycletrack
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 5F. Rebuild the Median
- 9B. Enhance corridor landscaping

9A. Narrow travel lanes

Narrow travel lanes on Greenbelt Road to ten-feet wide to help reduce vehicle speeds without impacting traffic operations.

Related recommendations:

- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 3B. Reduce the corridor speed limit to 25 mph
- 3C. Increase the buffer distance between the road and sidewalks
- 5A. Install one-way separated bike lane pilot
- 5B. Install two-way cycletrack
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 6A. Install new benches and shelters at corridor transit stops
- 9B. Enhance corridor landscaping

9B. Enhance corridor landscaping

- **Maryland SHA's response to Delegate Washington identified commitments to continue periodic maintenance to trim and mow grass and landscaping along the corridor and remove downed signs**

Landscaping along the edges of the corridor and within the corridor's median should be enhanced where it currently exists and added where it does not. Trees should be provided in locations with five or more feet of width.

Related recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 3B. Reduce the corridor speed limit to 25 mph

- 3C. Increase the buffer distance between the road and sidewalks
- 4B. Add raised pedestrian refuge islands at every marked crossing across Greenbelt Road
- 4C. Add signalized mid-block crossings with pedestrian refuge islands
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 5F. Rebuild the Median
- 7A. Close the sidewalk gap between Cunningham Drive/Beltway Plaza and 62nd Avenue
- 8. Implement Access Management
- 9A. Narrow travel lanes

NEXT STEPS

As described in The Transportation Project Process section, this report occurs in the Planning step of the much longer Transportation Project Process. As evidenced by Maryland SHA concept designs dating back to 2003, the Greenbelt Road (MD 193) corridor has remained in the planning stage for at least the past twenty years. Moving forward from the planning stage requires a combination of short-term and long-term initiatives, continued community support for change, coordination between local agencies, Prince George's County and the State of Maryland, and political will and project champions.

Ultimately, Greenbelt Road (MD 193) is Maryland State Route, and the Maryland SHA has control over what happens to the roadway. The Maryland SHA recently developed a planning and design guide for state roadways called "Context Driven:

Access and Mobility for All Users." This design guide provides guidance consistent with the emphasis on providing safe, comfortable, and low-stress facilities for people walking and biking described in this document and that the transportation-land use context is key to identifying designs appropriate for a range of users.

The preceding recommendations provide a comprehensive review of what's possible along the corridor. At this juncture, momentum for moving the project away from the planning stage into the next steps of the transportation project process involves pushing to implement the many short-term recommendations, including piloting the repurposing of one through lane on each side of the road with one-way separated bike lanes, reducing the corridor speed limit, and enhancing the corridor's pedestrian crossings. At the same time, many of the projects that are independent of the corridor, including the Berwyn Heights neighborway and connecting the gap in the Indian Creek Trail, should be advanced.

LONG-TERM CORRIDOR STUDY

To start the process of realizing long-term change along the corridor, the municipalities should pursue a broader study of the corridor that includes engineering and design so that future funding opportunities can be realized. To do so, the City of Greenbelt, the Town of Berwyn Heights, the City of College Park, and Prince George's County should work with Maryland SHA to pursue a long-term corridor study that advances the corridor to the engineering and design phases of the transportation project process.

This study would collect current traffic data and also incorporate lessons learned and data from repurposing one through lane in each direction. Traffic projections that incorporate recent changes in traffic volume trends, along

with long-term land-use and expected mode shift data, would be incorporated into the study. The study would also develop a long-term strategy for the bridge over the CSX and WMATA railroad tracks and align that strategy with the identified long-term corridor vision. The study's outputs should provide designs that can be moved forward by local agencies, Prince George's County, and the State of Maryland for funding and final design while also collectively advancing (or updating) the following recommendations:

- 1A. Repurpose one through lane on each side of Greenbelt Road
- 1B. Conduct an updated traffic operations analysis with current traffic volumes
- 1C. Review signal-timing at all corridor intersections
- 3A. Increase the sidewalk width corridor-wide to more than five feet
- 4B. Add raised pedestrian refuge islands at every marked crossing across Greenbelt Road
- 4C. Add signalized mid-block crossings with pedestrian refuge islands
- 4D. Remove right-turn slip lanes
- 4F. Reduce cycle lengths to the shortest length possible
- 4G. Set the WALK interval as long as possible
- 4H. Remove all "permitted" turns
- 4I. Remove right-turn-on-red
- 4K. Adjust clearance intervals corridor-wide
- 5A. Install one-way separated bike lane pilot
- 5B. Install a two-way cycletrack pilot
- 5C. Install two-way cycletrack with a shared-use path on the alternate side
- 5D. Install shared-use paths on both sides
- 5E. Install sidewalk-level one-way separated bike lanes on both sides
- 8. Implement Access Management
- 9A. Narrow travel lanes
- 9B. Enhance corridor landscaping

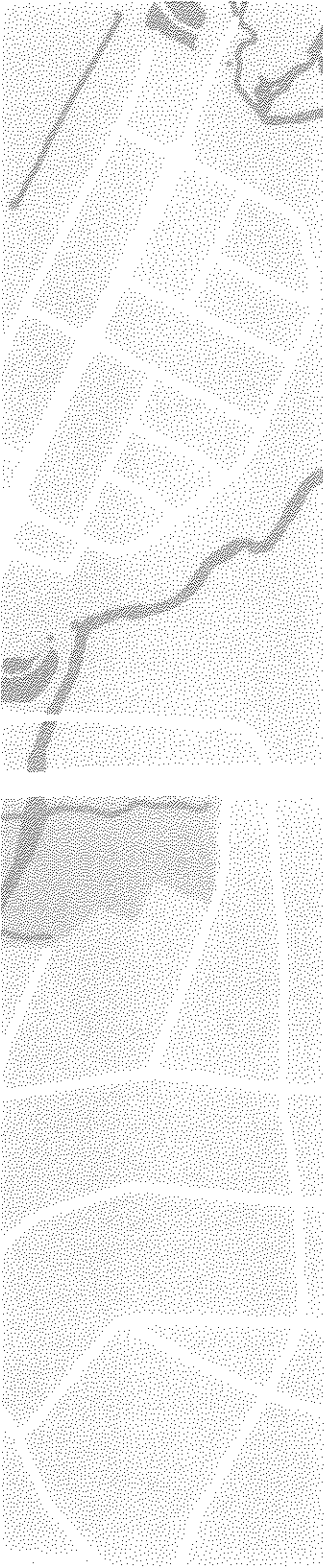
CONTINUING THE MOMENTUM

The "Creating a Future for Greenbelt Road/MD0193 document developed by the Urban Land Institute in 2018 stated:

"While community stakeholders have a strong sense of pride for their community, their vision is not always clear, which makes it a challenge to attract new investment, to make public improvements, or even to define what this place is. Stakeholders agreed that they wanted to see a better bicycle and pedestrian environment, different kinds of retail, quality open space, and the ability to age in place, but there is no proactive voice calling for the changes needed to make this happen. There is an opportunity to craft a comprehensive vision for the area and find champions for it, enabling this place to reach its full potential."

Four years later, the consultant team that led the Greenbelt Road (MD 193) Corridor Plan saw it differently. The community was clear in its long-term vision for the corridor, which is reflected in the developed project goals. Champions emerged during the project process, including staff from the City of Greenbelt, who continually underscored the community's voice and excitement for realizing change along Greenbelt Road and pushed the consultant team to be bold in their ideas and recommendations. Staff and elected officials from all three municipalities, the County, Maryland SHA, and WMATA, were present and active participants throughout the entirety of the project process and have all committed to seeing real change as an outcome of this effort. And the community walk hosted by Delegate Washington that preceded this study but which provided a great deal of momentum leading into this study was fortuitous to the study process.





Appendix A Community Walk Hosted by Delegate Washington



APPENDIX A: COMMUNITY WALK HOSTED BY DELEGATE WASHINGTON

Page 1 of Delegate
Washington's Letter
to Maryland SHA

ALONZO T. WASHINGTON
Legislative District 22
Prince George's County

Vice Chair
Ways and Means Committee

Chair, Education Subcommittee



The Maryland House of Delegates
6 Bladen Street, Room 131
Annapolis, Maryland 21401
410-841-3652 • 301-858-3652
800-492-7122 Ext. 3652
Fax 410-841-3699 • 301-858-3699
Alonzo.Washington@house.state.md.us

THE MARYLAND HOUSE OF DELEGATES ANNAPOLIS, MARYLAND 21401

September 27, 2021

Mr. Greg Slater
Secretary, Maryland Department of Transportation
7201 Corporate Center Drive
Hanover, MD 21076

Mr. Tim Smith
Administrator, State Highway Administration
707 North Calvert Street
Baltimore, MD 21202

Dear Secretary Slater & Administrator Smith,

On Tuesday, September 21st, I conducted a community walk of Route 193 (between Route 1 and Kenilworth Ave) with local elected officials, nearby residents, and a SHA District Engineer. Along our walk, we identified a plethora of issues with this stretch of road that present safety concerns for residents. Greenbelt Road improvements have long been a priority of Prince George's County. As you may know, this [2018 study by the Washington Urban Land Institute](#) was also conducted to detail the needed improvements for traffic flow and pedestrian safety along this stretch of road.

I am hopeful that the Maryland Department of Transportation and State Highway Administration, as you develop your respective budgets for this fiscal year, take these issues seriously and address them in a timely fashion.

Below I have listed our extensive areas of concern that were identified on the walk. I am requesting that MDOT SHA first address the short term, immediate safety concerns that are listed below; but also begin to allocate long term funds for a comprehensive streetscape and pedestrian safety revitalization plan as requested by the County. I look forward to working with you to have these longstanding issues addressed along such an important road in our community.

Intersection of 193W and 62nd Ave

- The bike lane on 193W ends abruptly after intersection with 62nd Ave.
- The sidewalk ends abruptly making the turn on the corner into Wendy's.
- The 'bike lane ends' sign is crooked in front of the Wendy's.
- Lots of plant overgrowth from the PGCP's bus lot down to the sidewalk – need clarification on whose responsibility this is.

Pedestrian Crossing of 193 near the bridge over Kenilworth Ave

- Major concerns with the off ramp from Kenilworth Ave to Route 193W. Cars are making immediate right turns where there is a pedestrian crossing.

- There should be some additional traffic calming measures along the ramp to ensure drivers slow down as they approach this intersection.
- There is a “no right on red” sign here, yet drivers routinely do so anyways – putting pedestrians at risk. This signage should be made more clear.
- SHA said they will send us their information regarding their rationale for the setup of this intersection.
- There should be a buffer between the sidewalk and road near the Kenilworth off ramp. SHA noted the presence of utility poles in this area, however residents noted the sidewalk could be on the other side of the poles. There is a decently large green space in this area that could be utilized.
- Would like some additional information regarding the storm water management in the median of 193 – specifically near the bridge over Kenilworth.
- There is only 23 seconds to cross 193 at the intersection on the bridge over Kenilworth. Need to increase the amount of time here. The area in the median is also pretty small if people do not have enough time to cross – leading to additional safety concerns.

Intersection of 193E and 63rd Ave

- There is not enough time to get across for students at intersection of 63rd and 193. This is an especially important area of concern due to the many middle school students that cross this road daily.
 - Residents noted that there should be a larger pedestrian refuge area in the median, or even a bridge over the road. Berwyn Heights Mayor Amanda Dewey said it’s considered the most dangerous area for pedestrians in their entire town.
 - SHA noted that it would be possible to tweak the timing of the crosswalk and make it longer during peak hours of usage by students.
- There is no bike lane on 193E between 63rd and all the way down to where 193 turns into Greenbelt Rd in College Park.

Intersection of 193E and 60th Ave

- There is no pedestrian crossing signal at all on 60th Ave, parallel with 193E. This needs to be addressed immediately as a traffic hazard.
- Additionally a traffic concern was noted – there is not enough time for traffic in the left turn lane here on 60th Ave (coming from Berwyn Heights) to turn onto 193.

Greenbelt Station and 193

- SHA sign for Route 193 has been knocked down across from Greenbelt Station. It may be the aftermath of a crash. Damaged area of fence also needs to be replaced.
- The pedestrian crossing signal to get to Greenbelt station from 193E is behind the fence, creating accessibility issues.

Intersection of 193 and Rhode Island Ave

- At the Intersection of Rhode Island and 193W - People abuse right turn lane of 193W as a through lane to get to Route one. Creates traffic issues. We also witnessed a crash that could have been a result of this.
- 193W guardrail gets in the way of pedestrian access steps to get down to Branchville Rd.

Miscellaneous Concerns

- In general, sidewalks along 193 are too thin and are not pedestrian-friendly.

- There is an ADA non-compliant bus station in front of the Shell gas station (193E). Need to find proper entity to have this station moved. (Stop ID: 3003396)
- Cracked sidewalks and faded markings are concerns up and down all of route 193. Would like some additional follow up on whose responsibility it is to maintain sidewalks.
 - SHA noted that sidewalks are generally the responsibility of municipalities to maintain.
 - There are several spots where sidewalks are covered with tar. SHIA remarked that this should be a temporary measure during utility repairs – however residents noted that many of these spots have been there a long time. This creates additional concerns because of the lack of bike lanes along portions of 193 – bicyclists have to ride over these uneven surfaces.
- It was noted that these crosswalk markings are very thin, especially when compared to places in Washington DC. SHIA should look into making these markings wider and more visible. While faded markings are a consistent issue along the road, and SHIA should monitor more closely this issue, here are a few specific areas that need to be re-painted:
 - 63rd Avenue and 193
 - 62nd Avenue and 193 (largely unpainted)
 - Cunningham Dr and 193
- Residents noted that median beautification should be a priority. SHA noted that median upkeep is the responsibility of their organization. They just look old, outdated, ugly. Medians should be a point of pride for residents of this area. Noticeable difference between here and other jurisdictions in Montgomery County and elsewhere.
- There is no sidewalk at all along 193W between Cunningham Dr and 62nd Ave.
- There are bike connectivity issues along 193. Difficult to get from the Indian Creek trail to Lake Artemisia, or to the Trolley Trail. This is a major connection that could be useful for bikers and pedestrians, need to make sure it's easier. SHA should conduct a study of this issue and make recommendations.

You will also find a folder of pictures (with corresponding descriptions) of the various issues we identified on the walk attached [here](#). I stand ready to work with you to address the pressing needs along Route 193.

Sincerely,



Alonzo T. Washington
Maryland State Delegate

cc: County Executive Angela Alsobrooks
County Councilmember Calvin Hawkins
County Councilmember Mel Franklin
County Councilmember Todd Turner
Greenbelt City Council
Berwyn Heights Town Council
SHA District 3 Engineer Erica Rigby
SHA Traffic Engineer Joseph Moges



Larry Hogan
Governor
Boyd K. Rutherford
Lt. Governor
James F. Ports, Jr.
Secretary

Office of the Secretary

March 7, 2022

The Honorable Alonzo T. Washington
The House of Delegates of Maryland
131 House Office Building
6 Bladen Street
Annapolis MD 21401

Dear Delegate Washington:

Thank you for contacting the Maryland Department of Transportation (MDOT) regarding pedestrian, bicyclist, and motorist safety within the section of MD 193 (University Boulevard / Greenbelt Road) from US 1 (Baltimore Avenue) to MD 201 (Kenilworth Avenue) in Prince George's County and the feedback received during the September 21, 2021 community walk. As the Secretary of MDOT, I appreciate the opportunity to respond.

Following the community walk, a priority work order was developed by MDOT State Highway Administration (MDOT SHA) District 3 to upgrade all existing crosswalks in the corridor to our new high visibility or Continental Crosswalk standard. Additionally, a series of service requests were initiated to trim and mow and to address all downed signs within this section of MD 193. While the crosswalk marking installations were not completed before Winter conditions became prohibitive, they are slated for installation as soon as warmer weather returns in the Spring.

Regarding the remainder of the concerns along this section of MD 193, we have been performing an ongoing detailed evaluation and our findings are detailed below.

After reviewing the intersection of MD 193 at MD 201, we relayed concerns from the field walk associated with litter and any other impediments within pedestrian refuge along the West leg median to the District 3 Maintenance office. The MDOT SHA Office of Traffic and Safety (OOTS) is reviewing and considering supplementing pedestrian walk time to ensure adequate time to execute a single stage crossing. With respect to the Southbound MD 201 ramp approach to MD 193, we would like to note that a recent signal reconstruction improvement project fully signalized the double right turn approach. This served to improve motorists and pedestrian safety and operations. A supplemental *No Turn on Red* sign will also be installed to further enhance motorist awareness and compliance.

The Honorable Alonzo T. Washington
Page Two

With respect to MD 193 at 63rd Avenue, MDOT SHA OOTS is reviewing and considering supplementing pedestrian walk time to ensure adequate time to execute a single stage crossing for the West leg and perhaps modifying the programming for specific peak hours associated with pedestrian demand on the South leg. The MDOT SHA will also evaluate enhanced lighting at this signalized intersection.

At the intersection of MD 193 at 62nd Avenue, we found that the pedestrian pushbutton panels on the Southwest corner were significantly faded, and the pedestrian pushbutton and signal post on the Northeast corner was struck and slightly askew. We immediately relayed this information to our OOTS Traffic Operations Division to be addressed. We are pleased to inform you that we are now pursuing and developing the necessary documentation to install a new crosswalk along the East leg of this intersection.

With respect to the intersection of MD 193 at 60th Avenue / Cherrywood Lane, we are actively pursuing a new pedestrian crossing on the South leg. We are also installing *No Turn on Red* signage along the Eastbound and Westbound approaches to this intersection to enhance pedestrian safety.

The MDOT SHA Maintenance Shop will be addressing the downed sign near the intersection of MD 193 at Greenbelt Road as part of their routine maintenance. We are still working hard to address nearby issues including the fence and associated pedestrian pushbutton concerns.

With respect to the intersection of MD 193 at Rhode Island Avenue, we are proposing to restrict motorist abuse by installing vertical delineators behind the crosswalk on the rightmost lane on the West leg. Additionally, we are pursuing a corridor-wide improvement per the MDOT SHA Context Driven Guidelines, proposing to establish a speed limit reduction along MD 193 from East of MD 201 at the intersection of Walker Drive / Park Central Drive up to and including US 1 (Baltimore Avenue) for a total length of approximately two (2) miles. As these efforts advance, our District 3 office will certainly update you on our schedule.

A concern mentioned in your letter to Secretary Slater noted missing sidewalk along the North side of MD 193 between Cunningham Drive / Beltway Plaza and 62nd Avenue. This discontinuity is due to geometric constraints associated with the existing roadway design and our right of way (ROW). We would also note that there is an existing series of utility poles impeding the ideal sidewalk path and that the City of Greenbelt is responsible for maintaining the sidewalk pursuant to State law.

The Honorable Alonzo T. Washington
Page Three

With respect to your concerns about bicycle connectivity to and from Indian Creek Trail, MDOT SHA evaluates opportunities to improve bicycle accommodations both on-road (including marked bicycle lanes and shared lane applications) and off-road facilities. It is MDOT SHA's policy to provide these accommodations as part of all roadway projects to the maximum extent feasible based upon design guidance provided in our MDOT SHA Bicycle Policy and Design Guidelines. The MDOT's principal mission is to enhance the quality of life for Maryland's citizens by providing a balanced and sustainable multimodal transportation system. Bicycling and walking are important modes of transportation that support this goal.

We would also like to assure you that we are included, interested, and actively participating in the Greenbelt Road Corridor Plan review. This joint effort includes the Washington Metropolitan Area Transit Authority (WMATA), MDOT SHA, Prince George's County Department of Public Works and Transportation, the Town of Berwyn Heights, the City of Greenbelt, and others. This Corridor Plan review is actively considering short- and long-term improvement recommendations ranging from pedestrian amenities, bicycle facilities, safety improvements, and bus transit improvements. The MDOT SHA is open to suggestions and will be happy to receive and review the final report.

Thank you again for contacting us. We appreciate hearing from you. If you need further assistance or wish to schedule a meeting, please contact Ms. Erica Rigby, MDOT SHA District 3 Engineer, at 301-513-7300 or erigby@mdot.maryland.gov. Ms. Rigby will be happy to assist you. Of course, you may always contact me directly.

Sincerely,

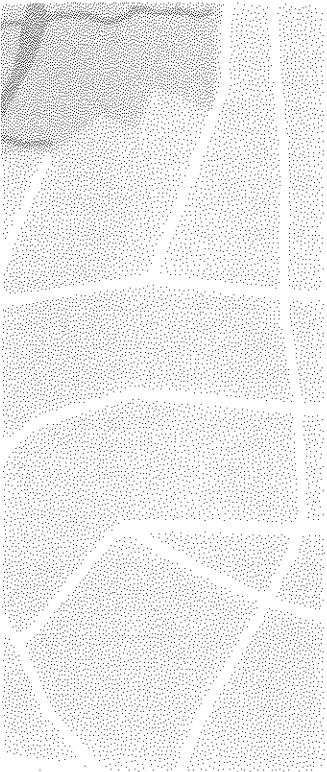
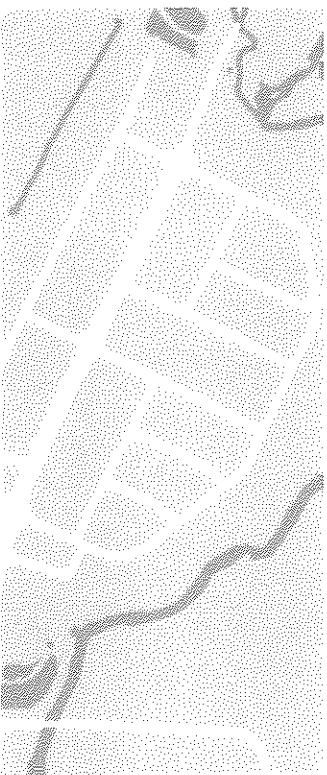


James F. Ports, Jr.
Secretary

cc: Berwyn Heights Town Council
Greenbelt City Council
Mr. Joseph Moges, Traffic Engineer, MDOT SHA
Ms. Erica Rigby, District 3 Engineer, MDOT SHA
Tim Smith, P.E., Administrator, MDOT SHA





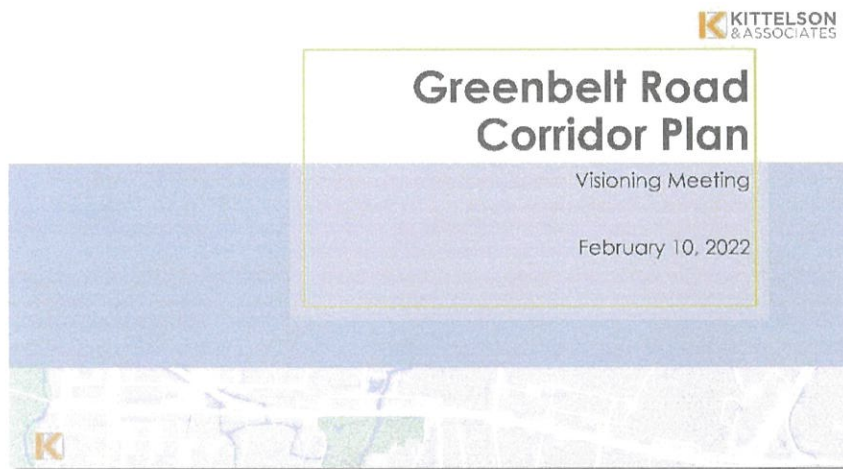


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Appendix B Visioning Meeting



APPENDIX B: VISIONING MEETING



1

Agenda

- » Corridor Plan Process and Area
 - » Slide Poll
 - » Use Q&A feature in Zoom for questions/clarifications
- » Corridor Plan Goals
 - » Slide Polls – join at slido.com with code #773183
- » Existing Conditions & Opportunities
 - » Zoom Breakout Rooms
 - » Report Back
- » Public Comment Map

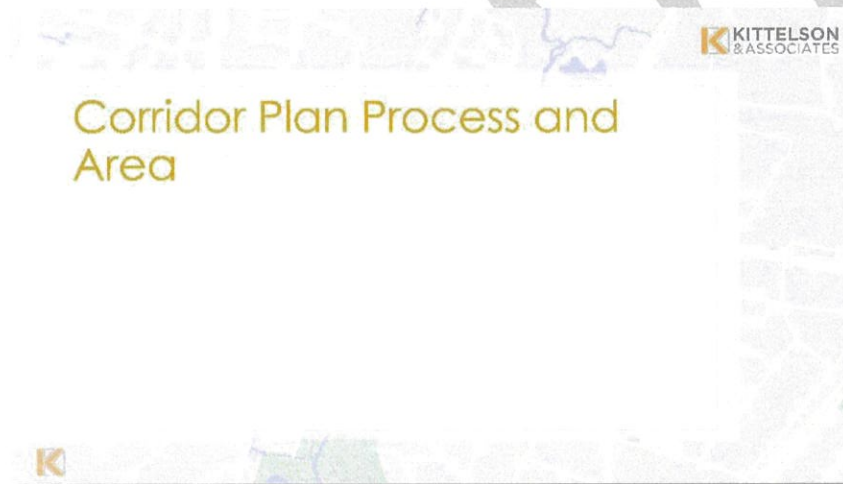


Scan the QR code to view and add to the public comment map. Map closes March 31, 2022.

Web address for public comment map is <https://map.maps.arcgis.com/apps/webappviewer/index.html?id=7e27d1046264e0adcd2eacd3616472>



2



3

Transportation Project Phases



The Greenbelt Road Corridor Plan is here



Source: April 2022, Greenbelt Road Corridor Plan

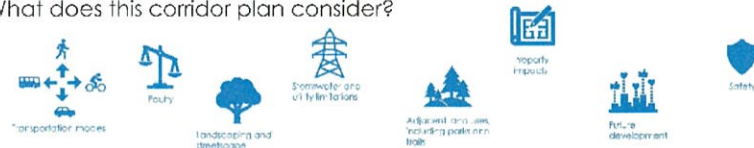
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Corridor Plan Process

What is the purpose of this corridor plan?

Enable early conversation and exploration of community needs, resulting in recommendations that support a cohesive vision for the corridor.

What does this corridor plan consider?



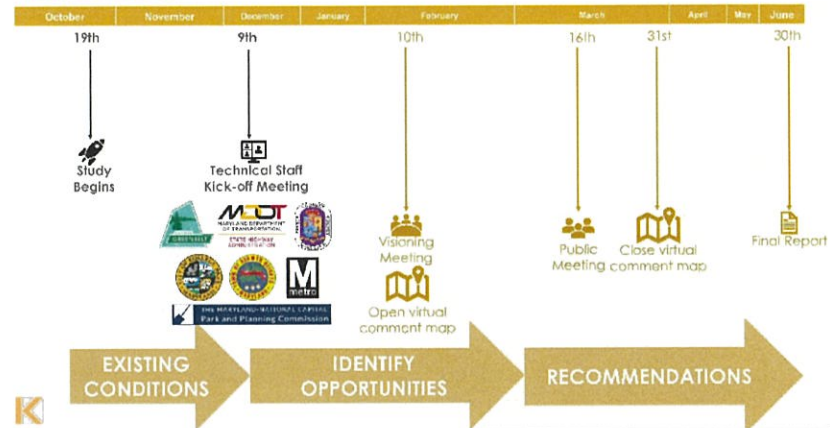
What is the public's role in the corridor plan process?

To share needs, lived experiences, priorities, and ideas. This input helps develop recommendations and inform agency decision-making.

K

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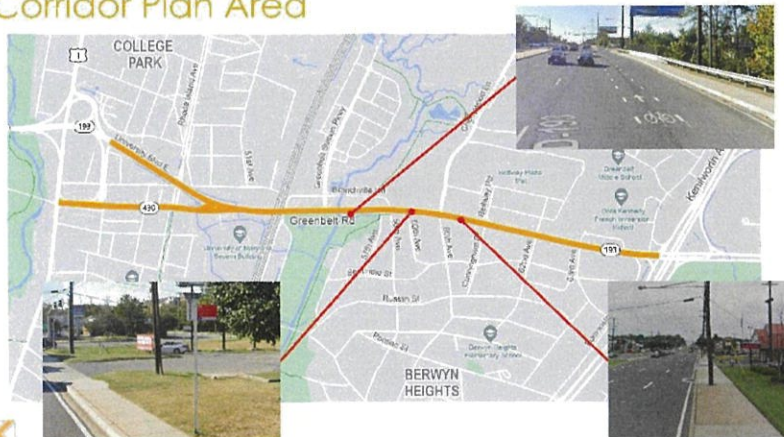
Schedule



K

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Corridor Plan Area



K

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Join at [slido.com](https://www.slido.com/join/773183)
#773183

8

slido



What is one word you would use to describe
Greenbelt Road?

9

Corridor Plan Goals

K KITTELSON
& ASSOCIATES

10

slido



What is your travel mode when using Greenbelt Road
(drive, walk, bike, bus, etc.)?

11

slido



What is your travel purpose when using Greenbelt
Road? (commute, run errands, take kids to school, etc.)

12

slido



What travel mode would you like to use on Greenbelt Road? (drive, walk, bike, bus, etc.)

13

slido



What travel purpose would you like to use Greenbelt Road for (commute, run errands, take kids to school, etc.)?

14

Draft Goals



Facilitate the **comfortable** and **safe** movement of people along and across Greenbelt Road (MD 193), whether they are **walking, biking, riding transit, or driving**.



Provide **key connections** to residential **neighborhoods, parks, and trails**.



Support **livability** and **economic development** by improving access to, through, and across the corridor.



Connect communities along and across the corridor, so Greenbelt Road (MD 193) **reduces barriers** to travel.



15

slido



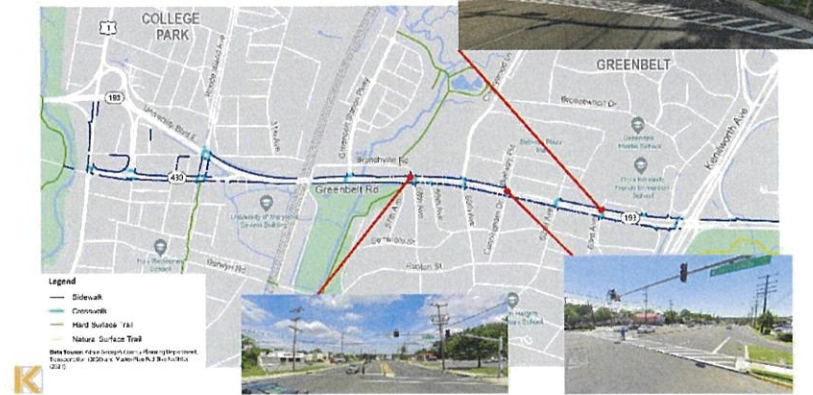
What goal areas or considerations are most important to you? Please feel free to suggest new ones.

16



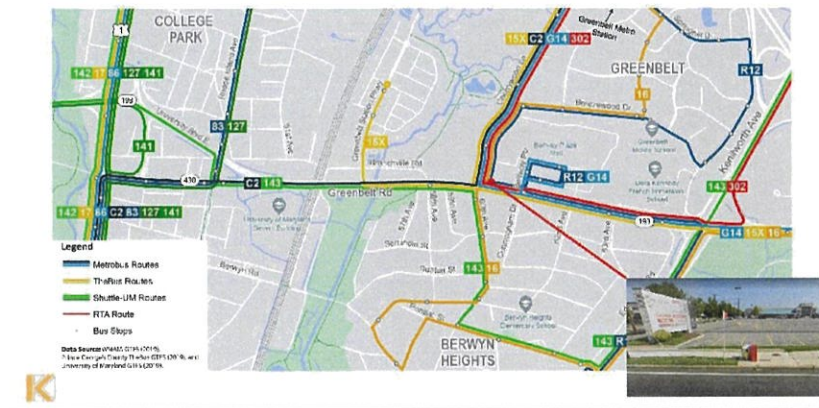
17

Walking Experience



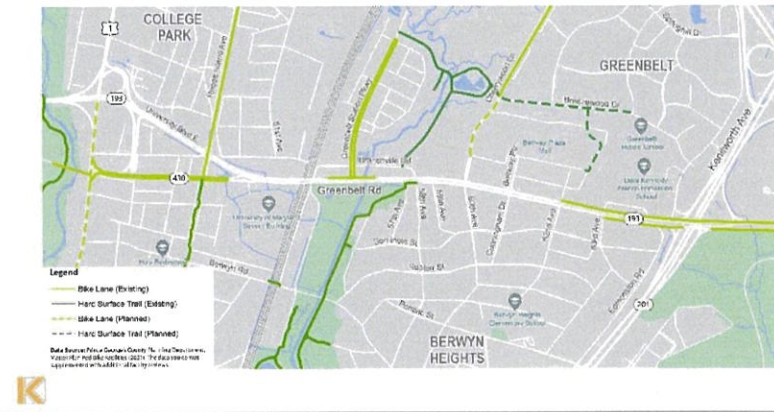
18

Bus Experience



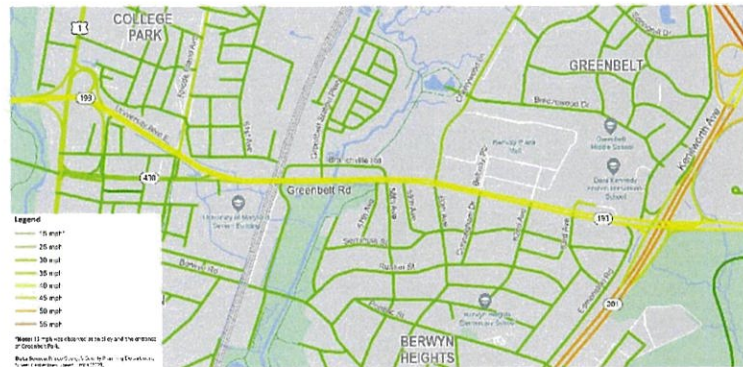
19

Bicycle Experience



20

Traffic Conditions



21

Opportunities – Breakout Discussions

Discussion Question 1: What would you consider to be strengths, or things you would like to see preserved, on Greenbelt Road?

Discussion Question 2: What goal, either presented by the consultant or one you would add, do you have for the corridor?

Discussion Question 3: What do you want Greenbelt Road to look and feel like?



22

Opportunities – Report Back

Discussion Question 1: What would you consider to be strengths, or things you would like to see preserved, on Greenbelt Road?

Discussion Question 2: What is one goal, either presented by the consultant or one you would add, that you have for the corridor?

Discussion Question 3: What do you want Greenbelt Road to look and feel like?



23

Public Comment Map



24

Public Comment Map

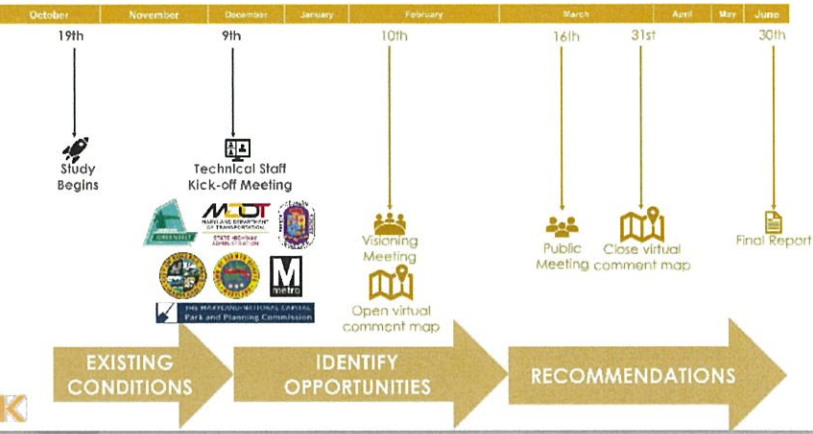


Scan the QR code to view and add to the public comment map. Map closes March 31, 2022.



Web address for public comment map is <https://11p.maps.arcgis.com/apps/webappviewer/index.html?id=7e271c1046284ea1a6ca28accd36f6472>

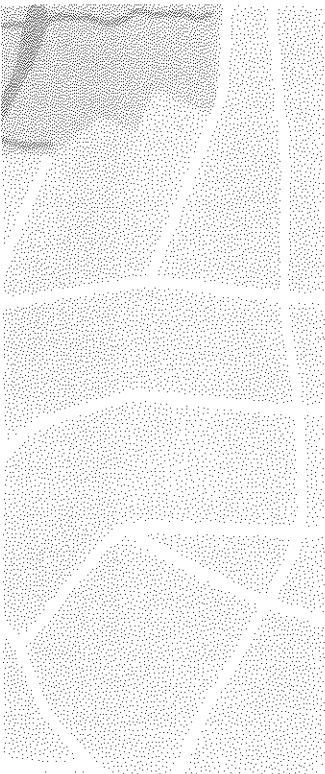
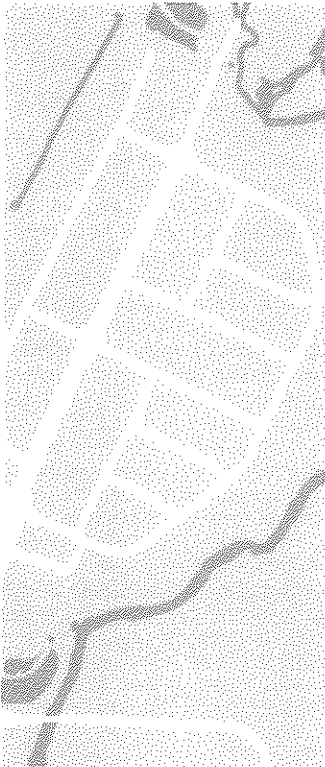
Schedule



Thank You!

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GENTZ & KIRK
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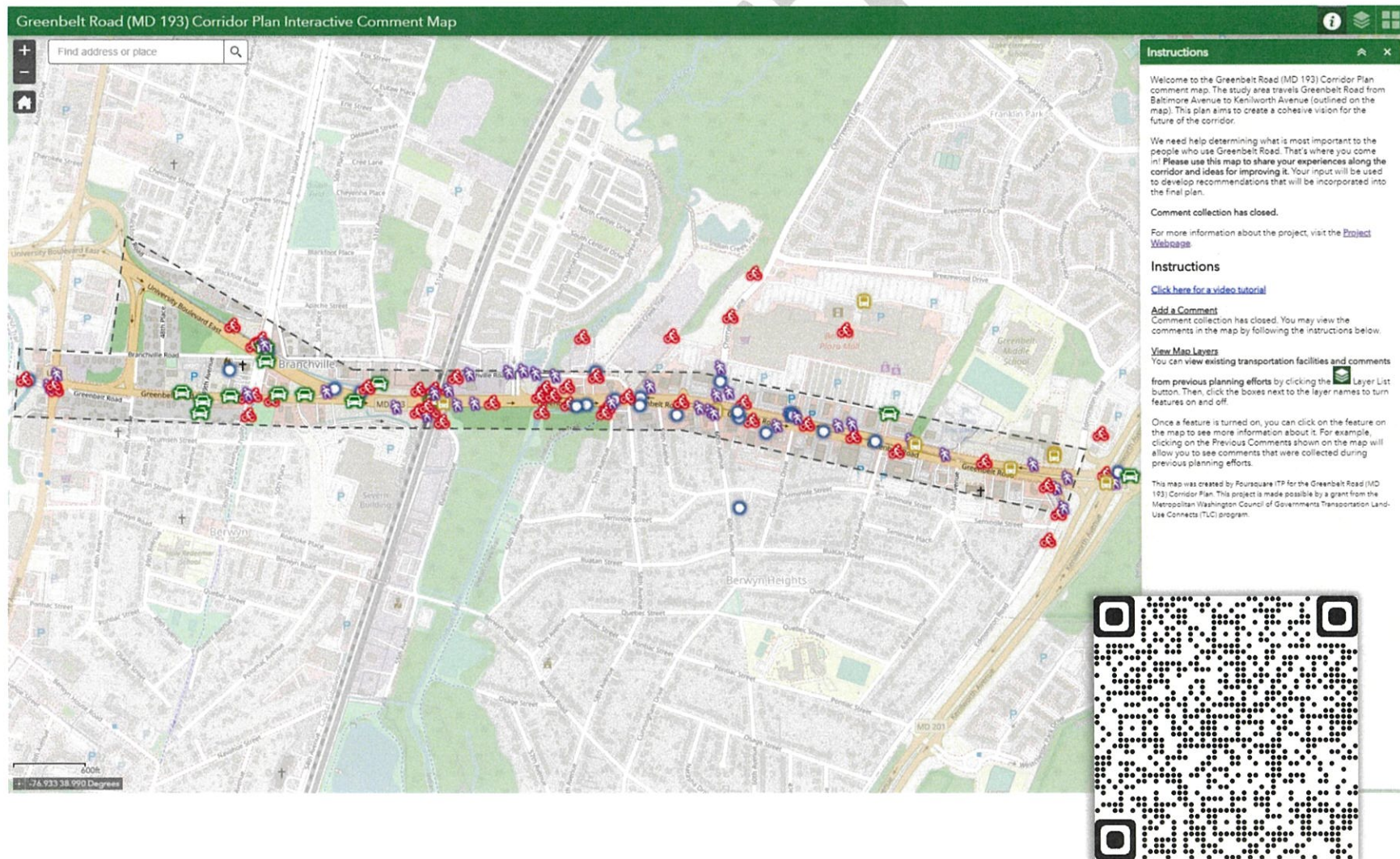
Appendix C

Interactive Map



APPENDIX C: INTERACTIVE MAP

The public comments received from the interactive map are provided on the following pages. The map is available to review at the following URL <https://fmap.maps.arcgis.com/apps/webappviewer/index.html?id=7e27fd1046264ea1adcd2eacd36f6472>, or by using the QR code on the bottom right of the image below.



Location	Theme	Comment	Commenter	Latitude	Longitude
Not Specified	Other	Road diet along the entire stretch.	Person C	-76.91422571	38.99816627
Cherrywood lane	Walking	There is no sidewalk on the east side of Cherrywood; this entire road and the intersection with Greenbelt Rd are poor for pedestrians	Person M	-76.91196276	38.99820731
entire study area	Biking	protected bike lanes are needed along the entire corridor. In addition, there should be a safe way for cyclists to transition from Greenbelt Rd to southbound Kenilworth, where this is a bike lane.	Person M	-76.90050436	38.99642294
near the bus lot	Walking	A safe and inviting pedestrian route along the east side of the Beltway Plaza parking area would encourage peds traveling between Greenbelt MD, Franklin Park, and Berwyn Heights, and destinations along Greenbelt Rd	Not Provided	-76.90623356	38.99717338
Ballew Ave	Biking	a separated bike/ped path is needed along the east side of Ballew. Heavy truck traffic makes this route unsafe, but it's also a critical connection between Greenbelt and Lake Artemesia/College Park	Not Provided	-76.92007376	38.99764032
57th ave	Biking	An improved connection for Indian Creek Trail users to cross Greenbelt Rd and reach Cherrywood Lane is needed	Not Provided	-76.91520287	38.99795717
trolley trail	Biking	crossing Greenbelt Rd at the northern terminus of the trolley trail is dangerous. An improved crossing is needed	Person M	-76.92558838	38.99824066
Edmonston to Greenbelt Park	Biking	The ULI report indicates the concept of a bike/ped crossing of Kenilworth here, connecting Berwyn Heights to Greenbelt Park. I think that's a great idea	Person M	-76.90219952	38.99488867
bridge over Kenilworth	Biking	pseudo bike lane on the bridge over Kenilworth is narrow and usually filled with debris	Person B	-76.90063311	38.99734014
WB 193	Biking	I turn left off of 193 onto 430 when I bike to UMD. Deciding when to move into the left lane of 193 in order to make the left turn is a tricky decision.	Person B	-76.92076040	38.99837407
across from the schools	Walking	students living in Berwyn Heights should have a good way to cross 193 in order to walk to school.	Person B	-76.90522505	38.99683985
Edmonston Rd & 193	Transit	In addition to the schools, there is the bank and an office park just north of 193, so having a good bus stop to serve these destinations would be nice. Would want a stop for both directions.	Not Provided	-76.90200640	38.99687320
Not Specified	Other	Unightly rusted bent fence on bridge and too narrow of sidewalk for safe biking	Person V	-76.92244081	38.99827610

Location	Theme	Comment	Commenter	Latitude	Longitude
Sidewalk	Other	Sidewalk has two large gaps where the two sewer tops are wider than a bike wheel which dangerously can make one crash	Not Provided	-76.92322938	38.99836365
Bridge	Other	Metal fence on bridge is unsightly	Person V	-76.90011410	38.99643753
Median strip	Other	Concrete median strip is deteriorating. And always has debris and wild weeds growing.	Person V	-76.91496281	38.99810934
Bridge	Biking	Sidewalk on bridge is unprotected and very narrow on bridge	Person V	-76.92011265	38.99818855
Fence	Other	Fence along this side is broken in many spots and weeds are unsightly next to it	Person V	-76.91579966	38.99799677
All businesses along here	Other	All businesses along here need to be required to upkeep their landscaping and curb appeal. Very unsightly businesses especially little ceaser	Person V	-76.91424398	38.99798843
Branchville	Biking	If branchville road joined via tunnel or bridge on both sides of the track, then this would be a very safe way to travel to/from lake artmesia and college park. This could avoid any road crossings.	Person V	-76.91965668	38.99865548
Branchville road	Walking	Branchville road needs a sidewalk and/or protected bike lane the full length the lake artmesia since the lake is so popular and this road is the safest method to get there since no busy roads needs to be crossed or traveled on	Person V	-76.91925434	38.99870551
Parking lot	Biking	Needs bike racks in safe areas at beltway plaza. Most are hidden or in places where they will get stolen since people hang out in those locations. Very unsafe leaving a bike anywhere at mall. I know two people who had their bike stolen	Not Provided	-76.91118089	38.99807182
Not Specified	Biking	The traffic sensors at this intersection do not detect people on bikes. Bicyclists are dependent on people in cars to trigger the sensors. The traffic signals should accommodate all road users.	Not Provided	-76.91460563	38.99819967
Not Specified	Biking	Not sure if the improvements to this intersection are finished, but the position of the bike lane on southbound Rhode Island is confusing. There should be a crosswalk for people on bikes to cross Greenbelt Road to connect to the Trolley Trail.	Not Provided	-76.92583872	38.99819411
Not Specified	Other	Hardening this corner would improve safety for people walking and biking. Cars turning right off University Blvd travel too fast, fail to maintain their lane, and often end up in the bike lane.	Not Provided	-76.92516996	38.99922246
Not Specified	Biking	The Trolley Trail is awesome! If there were protected, beginner & family friendly bike lanes or sidepaths along Greenbelt Road, it would greatly improve connectivity for nearby communities.	Not Provided	-76.92575825	38.99778832

Location	Theme	Comment	Commenter	Latitude	Longitude
Not Specified	Other	The Cherrywood Lane Complete & Green Street Project will greatly improve this street for people walking and biking. https://www.greenbeltmd.gov/home/showpublisheddocument/15985/636995619318200000	Not Provided	-76.91186620	38.99852902
Not Specified	Other	If the Indian Creek Trail gets extended to the Greenbelt Metro Station, it will further increase transit access to the Greenbelt Road Corridor.	Not Provided	-76.91552294	38.99874442
Not Specified	Biking	Bike facilities should be added, and should be protected or separated from car traffic. MDSHA does not have a good track record for bike lanes in the county. Don't settle for the unsafe, inequitable, and unfair design they install elsewhere.	Not Provided	-76.90793944	38.99728525
Not Specified	Walking	Remove the slip lanes on Cunningham to make it safer to cross on foot.	Not Provided	-76.90984649	38.99775740
Not Specified	Walking	Sidewalks should be buffered from car traffic. Vegetation or tree lined buffers would really improve walking and the appearance of the street.	Not Provided	-76.91018266	38.99752046
Not Specified	Walking	Is there a way to maintain this street access to Greenbelt Road without it being a high-speed off ramp design?	Not Provided	-76.90193666	38.99607030
Not Specified	Biking	Consider working with Berwyn Heights and College Park to use Edmonston Road as an alternative bikeway to Kenilworth Ave. The unprotected, inconsistent lanes, next to 50mph traffic on Kenilworth are not safe or that useful.	Not Provided	-76.90188123	38.99551510
Trolley Trail to Beltway Plaza	Biking	Greater pedestrian and cyclist connectivity is needed between the Trolley Trail and Beltway Plaza. Greenbelt Road is unfriendly to both pedestrians and cyclists,	Person Y	-76.92079311	38.99786664
Cherrywood Rd	Biking	Greenbelt Rd contains heavy vehicular traffic and is perilous for pedestrians and cyclists. These two groups might access Beltway Plaza better via a point north of Greenbelt Rd and behind Beltway Plaza.	Person Y	-76.91085369	39.00102449
Indian Creek Trail	Biking	It would improve safety and mobility greatly to extend Indian Creek Trail northward under Greenbelt Rd and connect with trails around Greenbelt Station.	Person Y	-76.91703675	38.99839117
Junction 193 and Greenbelt Rd	Driving	Greenbelt Rd is two ways West of junction w/193, but it suddenly and dangerously loses a lane, right as it approaches Severn Building turn, just before 7-11.	Person K	-76.92264843	38.99808979
193 & 59th Ave	Other	At least 3 gas stations block to block; makes for more difficult biking and walking due to constant in and outs of cars here.	Person K	-76.91314708	38.99775712

Location	Theme	Comment	Commenter	Latitude	Longitude
Drive-thru Beer Place	Other	The existence of a place that privileges "driving thru" for alcohol, next to at least three other fast food places, sends a signal that this is an area that prioritizes vehicles over pedestrians.	Not Provided	-76.91050005	38.99734978
FinishMaster Auto Body	Driving	It's odd how inaccessible this whole area is from 193 via car.	Person K	-76.92195487	38.99847208
RI Ave x University Blvd	Biking	Removing the slip lane here would make the bike lane much safer. Could temporarily block it with jersey barriers or flex posts to test it out.	Person A	-76.92560179	38.99938681
Greenbelt Road	Transit	Is BRT (bus rapid transit) a possibility?	Not Provided	-76.91198216	38.99787182
Indian Creek Trail	Biking	There is a major disconnect in the Indian Creek Trail on either side of Greenbelt Rd. This connection should be made continuous, direct, intuitive, and guided with clear signage, including the East Coast Greenway signage.	Person E	-76.91551937	38.99867007
Not Specified	Biking	Create a more direct east-west connection with a protected bikeway and wide sidewalk with greenery and traffic separation to link the East Coast Greenway and Capital Trails Network between the Anacostia River Tributary Trail System and the WB&A Trail	Person E	-76.91091901	38.99765320
Greenbelt Rd and Greenbelt Station Pkwy	Biking	All bike facilities should be protected and that protection should continue all the way to and through each intersection with protected intersections, per NACTO guidance	Person E	-76.91719270	38.99822436
Greenbelt Rd	Other	Land uses along Greenbelt Rd need to be changed to create walkable, mixed uses that eliminate setbacks, driveways, reduce/eliminate parking, and tie into trails and transit with amenities to make the space more comfortable to bike and walk.	Person E	-76.91130525	38.99770115
University Boulevard & Rhode Island Ave slip lane	Biking	This slip lane should be closed. It is especially unsafe for people on bikes using Rhode Island Ave because it encourages high vehicle speed at a location where low speed and caution should be the priority	Person H	-76.92538503	38.99951870
Not Specified	Walking	Tighten corner radius for greater pedestrian safety. The corner radius must require drivers to slow down to safely complete a turn. This, and every other one, does not.	Person H	-76.90262670	38.99661263

Location	Theme	Comment	Commenter	Latitude	Longitude
Greenbelt Station Parkway	Biking	This design of long mixing zone to move right turns across the bike lane are inexcusable for an agency that claims to prioritize safety. They accommodate high driving speeds with the pretext of accommodating bicyclists, but no bicyclist feels safe here.	Person H	-76.91680484	38.99824150
entire section	Biking	Please take a look at the "bike lanes" that were drawn onto 193 headed west from Lanham toward the BW Parkway, because these feel unsafe to me. The bike lanes often disappear entirely, and sometimes, they merge with right turn lanes for the cars.	Person L	-76.90406508	38.99669806
57th Ave and Greenbelt Rd	Walking	Much needed traffic-separated connections across MD 193 linking the Indian Creek Trail segments, which connect to the Capital Trails Network as well as the East Coast Greenway	Person G	-76.91507144	38.99804889
193	Biking	biking/ walking on 193 that connects to trails	Person I	-76.90930201	38.99755694
Trolley Trail at intersections 193 and RI Ave	Biking	The crosswalks are not respected by motorized traffic. This goes for walking too.	Person D	-76.92623211	38.99984156
Entire Area	Biking	It seems like there will be either a separated trail only on one side of the road or center running bike lanes. Please consider how bicycles will access businesses and ensuring safe turning and street crossings for bikes	Person S	-76.90816475	38.99972066
Entire Area	Biking	Report mentions using buffered bike lanes as an option. Please reconsider using protected or separated bike lanes. Would you let your child ride on a bike next to highway traffic that's only separated by paint?	Person R	-76.91330386	38.99957891
Indian Creek	Biking	Is it possible to have Indian Creek Trail cross Greenbelt Road via an underpass instead of crossing 6 lane highway?	Person R	-76.91713406	38.99785711
All driveways	Biking	I should not have to have my head turned 180 degrees when crossing driveways and slip lanes to ensure a car doesn't merge into me at 45mph (like on 193). We need tight turning radii to slow cars and enough buffer from road that I can see cars turning	Person R	-76.90221025	38.99614777
Metzerott Road	Biking	Making this intersection easier for cyclists would make connecting to Metzerott (a useful E-W route) would make this ride safer	Person F	-76.93142487	38.99836573

Location	Theme	Comment	Commenter	Latitude	Longitude
Not Specified	Biking	I biked Indian Creek Trail when I first started biking to explore area. Was very confused when trail just dumped me onto a 6 lane highway with no indication on how to cross or where I could go	Person R	-76.91529406	38.99782376
Entire Area	Biking	Lower speed limits to reduce fatality risk of pedestrians and cyclists. Going 10mph faster = 5x more likely to kill pedestrian/bike in crash. Safety >>>> Speed. Vision Zero is a county goal and we should act like it	Person R	-76.91592170	38.99955807
Bridge	Other	The sidewalk on this bridge is completely overgrown and not maintained	Person R	-76.93218930	38.99856585
Metzerott	Walking	No pedestrian connection/sidewalk connecting to businesses coming up Metzerott from Paint Branch Trail	Person R	-76.93160994	38.99843661
Metzerott Rd approaching Route 1	Biking	Signage is very confusing here. It says there is a bike route when coming from Paint Branch trail (I guess the bike lanes on Greenbelt Road?) but above that it says "DO NOT ENTER" because road is one-way. Are bikes allowed to go wrong way on this one-way	Person R	-76.93233414	38.99859503
RI ave and Univ Blvd	Driving	Numerous traffic accidents including several fatalities over many years. Speeding, increases in traffic, lane marked for right turn only at RI needs better signage. Drivers regularly use this lane for thru traffic.	Person P	-76.92528797	38.99933294
RI Ave. and Univ. Blvd	Walking	Walking in this area is not safe. Traffic does not yield when turning North onto RI Ave from Univ. Blvd. including school buses. Put up a sign "'NO TURN ON RED'" - it might help. The sidewalk along Univ. Blvd/Greenbelt is very narrow and ends at RI Ave.	Person P	-76.92529334	38.99937255
RI Ave to Southway, Greenbelt	Driving	There are currently over 12 traffic lights between RI Ave. and Southway in Greenbelt (less than 3 miles). They are rarely timed to keep traffic moving through the area, thus numerous backups and cloged intersections.	Person P	-76.92523701	38.99900776
Greenbelt Rd/Univ. Blvd - West bound	Biking	Where did that bike lane goto? It suddenly ends at a curb/angled sidewalk. Really poor planning.	Person P	-76.92228926	38.99840742
Paint Branch Trail Greenbelt Road Connection	Biking	There needs to be a safe, comfortable solution for cyclists crossing the heavy route 1 traffic. This would provide an essential connection between UMD and nearby communities along Paint Branch trail to this bike network expansion	Person R	-76.93147315	38.99848455

Location	Theme	Comment	Commenter	Latitude	Longitude
Not Specified	Walking	no right on red or a red light camera would be useful here	Not Provided	-76.91215856	38.99785919
Not Specified	Transit	Can buses serving Beltway Plaza use the redeveloped back side of the mall instead of the current routing?	Not Provided	-76.90760953	39.00037309
Not Specified	Other	The slip lanes allow buses to serve Beltway Plaza. If they are removed, buses will need an alternate way to serve the mall.	Not Provided	-76.90976603	38.99780500
Not Specified	Other	the only way to make this bike/ped/transit rider friendly is to reduce lanes and slow traffic	Not Provided	-76.90728767	38.99715462
Not Specified	Transit	There are already existing bus stops at this location. Is the request for improved stops/crossings?	Not Provided	-76.90201445	38.99682109
Not Specified	Walking	need sidewalk between Cunningham Dr and 62nd Ave entrances to Beltway Plaza	Not Provided	-76.90837665	38.99751733
Not Specified	Biking	The Complete and Green Street redesign planned for Cherrywood Lane from Greenbelt Road to Edmonston Road looks awesome! Add complimentary improvements to Greenbelt Road to improve bike/ped connectivity. (https://www.greenbeltmd.gov/home/showpublisheddocument/15985/636995619318200000)	Not Provided	-76.91156222	39.00004166
Greenbelt Rd	Biking	A physically separated bike lanes are the difference between my using a bike versus a car to get my groceries	Person J	-76.91858747	38.99806503
Greenbelt Rd	Biking	Separated bike line are the difference between me me taking a bike versus car to get groceries	Person J	-76.91302636	38.99807244
Bridge	Biking	Make the bridge wider for safer biking or have dedicated lane	Person Q	-76.92030979	38.99837407
Entire Greenbelt road	Biking	Extend cycling lanes and protected areas	Person Q	-76.90666271	38.99693991
on kenilworth	Biking	road from ivy lane to kenilworth needs a bike/walking lane or at least in the grass area	Person Z	-76.89895226	38.99847691
Greenbelt Road & University Blvd	Driving	Two lanes suddenly and confusingly squeeze to one lane. Advise drivers sooner which lane is through. Better yet, redesign the intersection.	Person T	-76.92411317	38.99823232
GB Rd Westbound & Kenilworth Southbound	Driving	The first light here is not visible when you pull up to the stop line. All the lights are very hard to see at sunset.	Person T	-76.89976675	38.99634372
Greenbelt Road under Beltway	Biking	The entire stretch of Greenbelt Road needs a safe, dedicated bike lane. This is an especially bad stretch: currently, it's far too dangerous to ride in the roadway, with no shoulder, and the sidewalk is cracked, narrow, and not cleared of snow.	Person T	-76.88927932	38.99594765

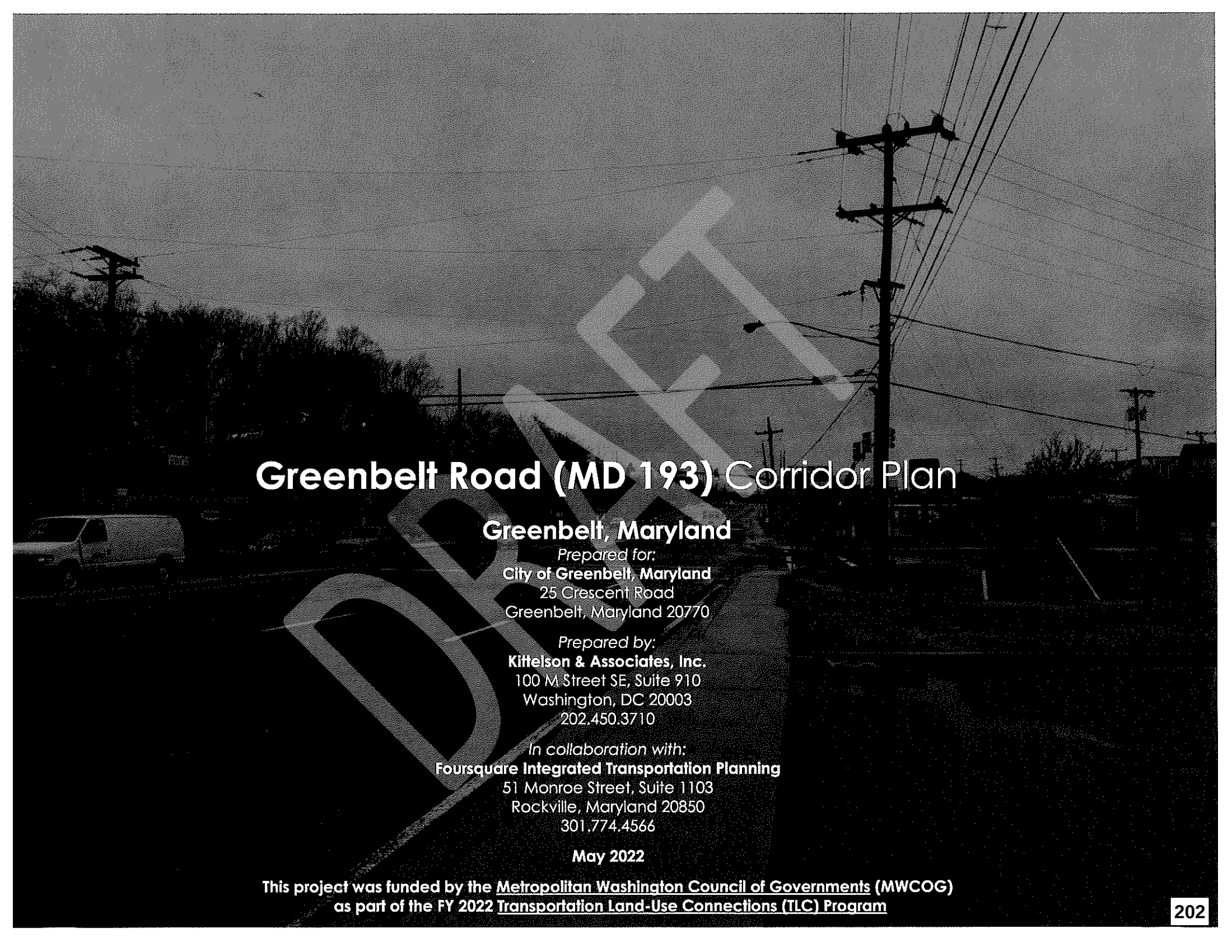
Location	Theme	Comment	Commenter	Latitude	Longitude
Not Specified	Transit	A bus stop at Greenbelt Park would increase accessibility to the park for those without a car or preferring not to drive	Person U	-76.89530456	38.99581450
Not Specified	Walking	Make the whole parking lot/connecting to Greenbelt Rd area more pedestrian-friendly for pedestrians to access the mall	Person U	-76.90797448	38.99755094
Not Specified	Walking	Sidewalks around the gas station and all along eastbound road should be buffered	Person U	-76.91247447	38.99792525
Not Specified	Biking	Dedicated bike lane is needed. My partner suffered a bad crash here while changing lanes on his bike	Person U	-76.92036679	38.99787066
Not Specified	Other	With plans to redevelop the area around the mall, it seems like there can be improvements to pedestrian safety (e.g., removing slip lanes) and accommodating bus/transit service to future development on the site.	Not Provided	-76.90971864	38.99774732
General	Other	Do you want this to be a street, or a road? When you try to do both you get a stroad, a thing as ugly as it sounds (and what Greenbelt road currently is). Decide whether this is infrastructure for cars to pass through, or a place for people.	Not Provided	-76.91135254	38.99782092
Greenbelt Road heading East	Walking	East of the project area is hostile to everything except vehicles	Not Provided	-76.90161702	38.99631796
Not Specified	Biking	No painted bicycle gutters or car-ticklers, please.	Not Provided	-76.91634503	38.99802798
Not Specified	Walking	There is no accessibility to the development at this sidewalk, just a staircase up.	Not Provided	-76.91809786	38.99874511
Not Specified	Walking	This trail north has staircases before reaching the development. Inaccessible to wheelchairs and such.	Not Provided	-76.91730661	38.99871802
Not Specified	Walking	Walking through this parking lot to the mall is low-traffic, but still feels unsafe and exposed due to there being no infrastructure	Not Provided	-76.91392703	38.99841437
Not Specified	Driving	If you blocked vehicle traffic on the bridge, there wouldn't be a loss of accessibility to drivers. Both stumps hit beltway interchanges almost immediately. This car-route is redundant, except to local traffic	Not Provided	-76.92035224	38.99809084
Not Specified	Transit	Limit this bridge to buses and walking/cycling/etc. This will do wonders for the street, and heavily encourage walking/cycling/etc.	Not Provided	-76.92002824	38.99804792
Not Specified	Walking	overgrown bushes next to the sidewalk hindering walking	Not Provided	-76.91672994	38.99866590
Not Specified	Driving	Consider a road diet here to prevent weaving, add protected bike lanes and, landscaping.	Person X	-76.92773415	38.99829069
Ballew Ave.	Walking	Would love to see completed sidewalks on both sides of Ballew Ave. so that walking is safer in this area.	Person O	-76.91988064	38.99833238

Location	Theme	Comment	Commenter	Latitude	Longitude
Greenbelt Rd. from Berwyn neighborhood to Beltway Plaza	Walking	Improved sidewalks and pedestrian safety for those of us who might walk from the neighborhood to the mall, etc.	Person O	-76.91909743	38.99803221
Intersection of Rt. 1 and Metzertott/193	Walking	This intersection is a nightmare for folks trying to walk to the Ritas, access the Paint Branch Trail from east of Rt. 1, etc. Something to make it safer would be great.	Person O	-76.93139268	38.99869925
193 between Rt. 1 and the 7-11	Driving	Cars go so fast here as they speed up to get onto 193 proper. Lowered speed limit or other solution to make this safer for bikers and pedestrians?	Person O	-76.92628575	38.99819480
Stairs from Branchville up to Greenbelt Rd.	Walking	Improve steps up to Greenbelt Rd. from Branchville Rd. below. These steps/stairs to get up onto Greenbelt Rd. are not well maintained - it's not even clear that pedestrians are supposed to be using them?	Person O	-76.91765977	38.99878680
South side of Greenbelt Rd. where it crosses Indian Creek	Other	Trash and debris collect here, and make it feel unpleasant/unsafe for pedestrians. Something to deter littering?	Person O	-76.91609336	38.99796134
End of corridor near Kenilworth Ave	Walking	Walking or biking to Greenbelt Park from nearby neighborhoods is virtually impossible. Create a pedestrian bridge or other safe crossing to increase park access?	Person O	-76.90172745	38.99562663
Greenbelt Rd. between Berwyn and mall	Walking	I just want a safe way to walk or bike from my home in Berwyn to the mall. There is no way to do this currently that feels safe. Either I walk/ride on a poorly maintained sidewalk next to high-speed traffic on 193, or on Ballew Ave. with no sidewalk.	Person O	-76.91963388	38.99800303
49th Ave.	Driving	This is currently one of the only ways in and out of this corner of Berwyn, and cars go really fast on 49th as a result - regular running of the stop sign at Tecumseh and 49th. Traffic calming devices to make driving/walking safer, please.	Person O	-76.92718698	38.99781125
Village Pump driveway and 49th	Driving	Cars turning in/out of the parking lot here make it hard to get in and out of the neighborhood. Close this entrance to the Village Pump parking lot - there are two others on 193 already.	Person O	-76.92711724	38.99807807
Beltway Plaza Parking Lot	Walking	The expanse of parking lot between Greenbelt Rd. and the mall makes it hard to walkers/bikers to access the mall safely from Greenbelt Rd.	Person O	-76.91159530	38.99829185

Location	Theme	Comment	Commenter	Latitude	Longitude
Turn into Target	Driving	This turn into the parking lot from 62nd Ave. is always congested. Better access to this side of the lot needed to accommodate heavy use due to Target traffic.	Person O	-76.90686924	38.99778740
Not Specified	Walking	No easy way for pedestrians to cross these lanes in and out of Beltway Plaza if you are walking down Greenbelt Rd..	Person O	-76.90957291	38.99770818
All along the corridor	Other	Plantings of trees and shrubs would do wonders to make this section of road more appealing, and feel like more a part of the surrounding community than a highway that passes through.	Person O	-76.90880848	38.99737350
Not Specified	Walking	No easy way for pedestrians to cross from one side of Greenbelt Rd. to the other at this location. A walker has to go all the way down to Rhode Island or use to Greenbelt Station Pkwy. to cross easily.	Person O	-76.92347480	38.99830737
Greenbelt Road	Biking	There is a strong need for a protected bike lane along the length of Greenbelt Road. Currently, it is hazardous to ride the entire stretch of road.	Not Provided	-76.92507340	38.99812393
Bridge over train tracks	Walking	It is dangerous to walk over the bridge. There are narrow, unprotected sidewalks	Not Provided	-76.92052437	38.99775705
Indian creek trail	Biking	There is no connection between the two parts of the trail -- south of Greenbelt Rd and North of the road. You have to cross a busy road to continue on the trail and it is unclear to cyclists how to do so safely.	Not Provided	-76.91637589	38.99843522
Greenbelt Mall	Walking	There is no sidewalk in front of the mall which makes it dangerous to walk to the mall.	Not Provided	-76.91184117	38.99884100
Rhode Island Ave	Walking	Cars frequently do not stop for pedestrians despite the crosswalk and signage. There should be flashing lights to warn cars to stop for pedestrians, and further traffic calming devices to slow down cars that are driving well over the speed limit.	Not Provided	-76.92577435	38.99825178
length of Greenbelt Road	Driving	There is a need for speed cameras on the length of Greenbelt Road to deter speeding. Cars often go well over the speed limit, which is a danger to pedestrians and bicyclists, as well as other motorists.	Not Provided	-76.92487313	38.99825178
Branchville Volunteer Fire Department	Other	Don't forget the need for swift passage of emergency vehicles. The VFD uses Greenbelt Road as a major access route.	Not Provided	-76.92631794	38.99879931
Bridge over the railroad tracks	Walking	Widen the sidewalk to allow more space for pedestrians	Person W	-76.92029549	38.99827123

Location	Theme	Comment	Commenter	Latitude	Longitude
Bridge over railroad tracks	Biking	Create bike lanes on both sides of the street to allow safe passage for cyclists that doesn't force them to share narrow sidewalk with pedestrians	Person W	-76.92052079	38.99798774
from 57th Ave to Crazy Car Audio	Walking	Remove dead trees and branches that impede safe passage for pedestrians	Person W	-76.92142917	38.99795161
Greenbelt Rd and 60th Ave	Walking	Add a marked crosswalk. Traffic going out of gas station makes it tricky for pedestrians	Person W	-76.91204859	38.99780152
Not Specified	Walking	Continue property walking paths to next commercial area/old greenbelt	Person N	-76.90022394	38.99619421
Not Specified	Transit	Dedicated bus/taxi lanes	Person N	-76.90611428	38.99708558
Not Specified	Transit	Dedicated bus/taxi lanes in the entire corridor	Person N	-76.90049784	38.99620124
Not Specified	Transit	Free shuttles connecting main greenbelt areas with Metro and commercial zones will reduce private transit and increase accessibility in the entire area	Person N	-76.90330017	38.99652234

DRAFT



Greenbelt Road (MD 193) Corridor Plan

Greenbelt, Maryland

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