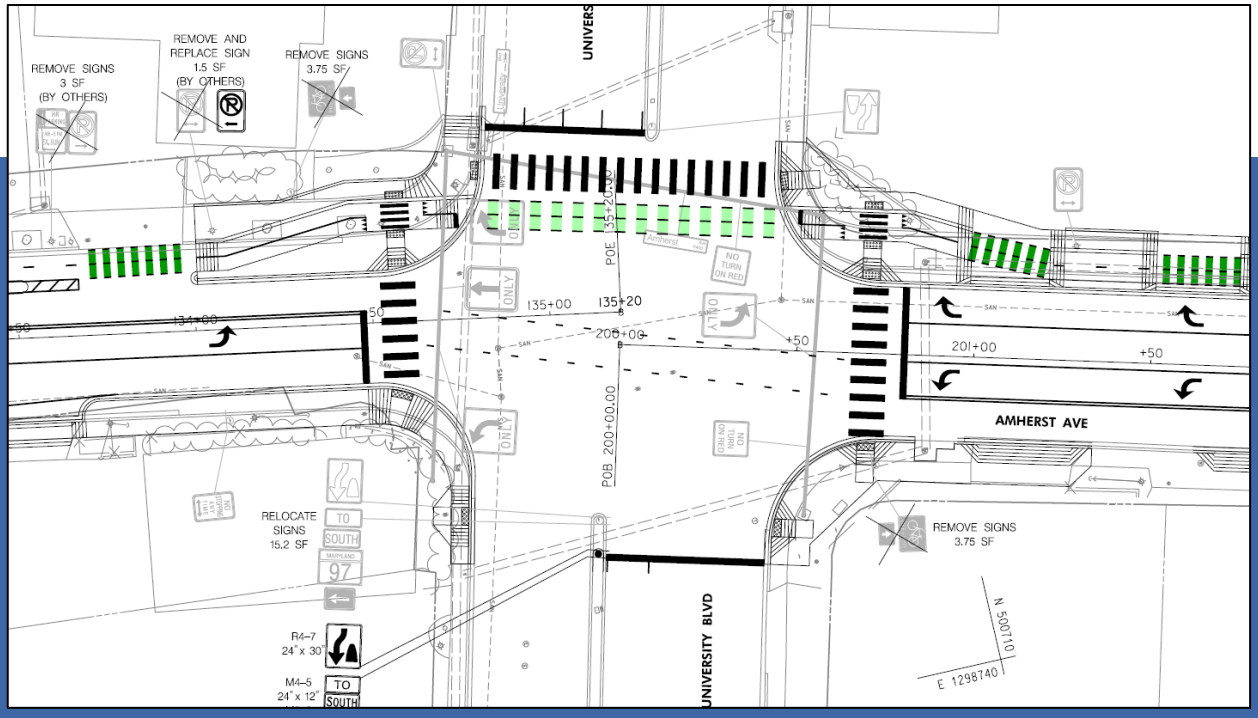
Montgomery Planning

AMHERST AVENUE BIKEWAY PROJECT

MANDATORY REFERRAL NO. MR2023008



Description

Construction of two-way separated bike lanes along the southbound side of Amherst Avenue between Windham Lane and Arcola Avenue.

No. MR2023008

Completed: April 7, 2023

MCPB
Item No. 14
May 4, 2023

2425 Reedie Drive
Floor 14
Wheaton, MD 20902

Planning Staff

EG Eli Glazier, Planner III, eli.glazier@montgomeryplanning.org, 301-495-4548

DA David Anspacher, Master Plan Supervisor, david.anspacher@montgomeryplanning.org, 301-495-2191

JS Jason Sartori, Chief, jason.sartori@montgomeryplanning.org, 301-495-2172

LOCATION

Amherst Avenue in Downtown Wheaton

MASTER PLAN

2018 *Bicycle Master Plan*

APPLICANT

Montgomery County Department of Transportation

ACCEPTANCE DATE

January 17, 2023

REVIEW BASIS

Maryland Land Use Article, Section 20-301

Summary:

- Staff recommends approval of the Mandatory Referral with comments
- Proposal is to construct two-way separated bike lanes along Amherst Avenue between Windham Lane and Arcola Avenue
- The Planning Board review of a Mandatory Referral is advisory

SECTION 1:

MANDATORY REFERRAL REVIEW

This proposal for the construction of separated bike lanes on Amherst Avenue requires the Mandatory Referral review process under the Montgomery County Planning Department's Uniform Standards for Mandatory Referral Review. State law requires all federal, state, and local governments and public utilities to submit proposed projects for a Mandatory Referral review by the Commission. The law requires the Planning Board to review and approve the proposed location, character, grade and extent of any road, park, public way or ground, public (including federal) building or structure, or public utility (whether publicly or privately owned) prior to the project being located, constructed or authorized.

SECTION 2:

RECOMMENDATIONS

Staff recommends approval of the Amherst Avenue Bikeway Project, Mandatory Referral Plan No. MR2023008, for construction of two-way separated bike lanes along the southbound side of Amherst Avenue between Windham Lane and Arcola Avenue with comments provided here and expanded on later in this document.

1. Provide additional consideration for the pedestrian realm along this corridor:
    a. Widen sidewalks to 6 feet where curbs are proposed to be relocated.
    b. Ensure that push buttons for Accessible Pedestrian Signals at the University Boulevard intersection are accessible to people with disabilities.
    c. Ensure that sidewalk cross-slope and width remains consistent across driveways.
    d. Provide curb ramps that align with marked crosswalks at the intersection of Amherst Avenue and Prichard Road and the intersection of Amherst Avenue and Cobble Hill Terrace.
    e. Widen curb ramps on the east side of the Amherst Avenue/Blueridge Avenue intersection to shared use path width (10 ft).
    f. Enhance pedestrian-scale lighting in the project area by installing additional pedestrian lighting north of Blueridge Avenue on the west side of Amherst Avenue and along the entire east side of the corridor.

2. Modify the bikeway to improve separation from motor vehicles:
    a. Improve the quality of the concrete buffer.
    b. Close gaps in concrete barrier and lengthen barrier use to tighten driveway entrances at (or between) Stations:
        i. 107+50

ii. 110+75
iii. 113+50
iv. 115+00
v. 125+50
vi. 131+50
vii. 132+50
viii. 219+75

c. At the intersection of Amherst Avenue and Arcola Avenue either provide a bicycle signal or install a "BIKES USE PED SIGNAL" sign (Maryland Manual on Uniform Traffic Control Devices R9-5).

3. Tighten curb radii at stop-controlled intersections:
    a. Add mountable corner islands to the northwest and southwest corners of the following intersections:
        i. Elkin Street (Stations 213+00-214+00)
        ii. Blueridge Avenue (Stations 207+00-208+00)
        iii. Reedie Drive (Stations 126+50-127+50)
        iv. Prichard Road (Stations 117+00-118+00)

4. Reconsider the design of the transition between the bikeway and Amherst Avenue south of Windham Lane to remove the protected intersection features to increase bicyclist predictability and visibility.

5. Develop a wayfinding plan using the bikeway branding signage standards.

6. Address environmental issues:
    a. Ensure that the Limit of Disturbance in the plan set matches the Limit of Disturbance in the approved Forest Conservation Exemption.
    b. Ensure all existing trees are shown in the plan set.
    c. Consult MCDOT-approved street trees list when considering plantings, and do not plant invasive trees like Rose of Sharon.
    d. Plant fewer, bigger trees—trees currently shown are all understory trees and will not provide sufficient tree canopy.
    e. Tree protection during construction should be provided using wire fencing, not temporary orange construction fencing.
    f. Show tree protection measures on all sheets.

SECTION 3:

PROJECT DESCRIPTION

The Montgomery County Department of Transportation (MCDOT) is proposing to construct a bikeway along a 1.1-mile section of Amherst Avenue between Windham Lane and Arcola Avenue. This bikeway is the spine of the area's bicycle network and will connect communities to the Wheaton Central Business District from the north and south. Future efforts (Figure 1) will extend this bikeway south to Forest Glen Road as a Neighborhood Greenway (a traffic-calmed shared roadway). At the northern limit of this project, MCDOT intends to begin a feasibility study for a pedestrian/bicycle connection along unimproved right-of-way that extends from Arcola Avenue to Henderson Avenue, providing future connectivity into Wheaton Regional Park, the Wheaton Public Library and other community resources. Nearly every street that intersects with the project corridor has master-planned bikeway improvements. The Amherst Avenue Bikeway Project is part of the Capital Improvement Program Project #502002. Project construction is scheduled to begin in Spring 2025.

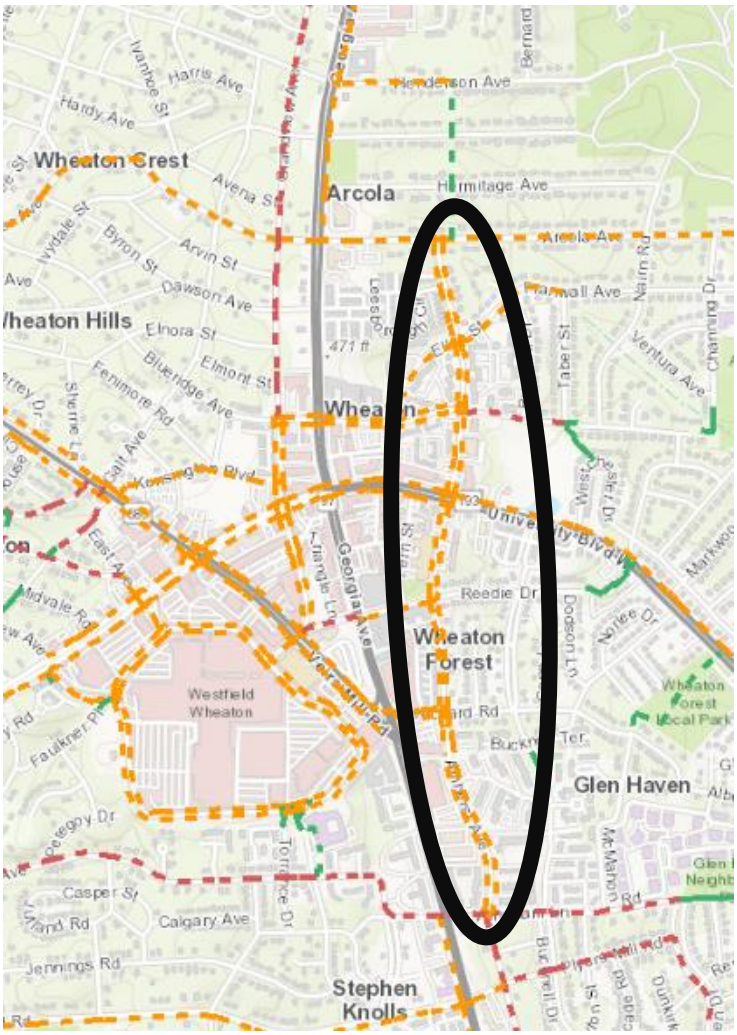


Figure 1: Master-Planned Bikeways along the Project Corridor

BACKGROUND

The Amherst Avenue Bikeway Project is identified in the *Bicycle Master Plan* as one of the highest priority bikeways in Montgomery County. It would substantially improve the safety and comfort of the bicycle experience for people travelling to and through the Wheaton Central Business District by installing a bikeway from Windham Lane to Arcola Avenue that would be comfortable for people of all ages and bicycling abilities. On December 3, 2020, Planning staff briefed the Planning Board on five potential designs (or alternatives) for this bikeway. The Planning Board identified a recommended alternative and transmitted comments to County Council (Attachment A). The Council supported the Planning Board's recommended alternative and in the intervening years, additional public engagement has occurred, and the bikeway design has progressed to 35 percent design plans.

Figure 2: Two-Way Separated Bike Lane along Woodglen Drive

AREA DESCRIPTION

Amherst Avenue is a two-way, two-lane roadway that runs in the north-south direction between Dennis Avenue and Arcola Avenue. The street is classified as a Neighborhood Connector at its northern and southern ends, and as a Downtown Street between Reedie Drive and Blueridge Avenue. The project extents are from Windham Lane at the south to Arcola Avenue at the north along the east side of the Wheaton CBD, a distance of 1.1 miles (Figure 3). Through the study area, the posted speed limit is 25 miles per hour.

Figure 3: Project Limits

In addition to the two through lanes, turn lanes are currently present at the intersection of Amherst Avenue and University Boulevard and the intersection of Amherst Avenue and Arcola Avenue. On-street parking is present on many roadway segments, both designated metered spaces and residential permit parking.

The curb-to-curb width of the corridor varies, from 36 feet to 48 feet (Figure 4). The right-of-way extends beyond the existing sidewalks and varies between 60 feet and 90 feet. The roadway is currently signed as a bicycle route in both directions, in which bicyclists typically share the roadway with motor vehicles. There are currently no bicycle pavement markings on the roadway along the corridor. At the intersection with Blueridge Avenue there is a connection to the Sligo Creek Trail on the east side of the road. There are also three Capital Bikeshare stations: one at the intersection with Elkin Street, another just south of Prichard Road, and a third at the Windham Lane intersection. There are sidewalks along both sides of Amherst Avenue.

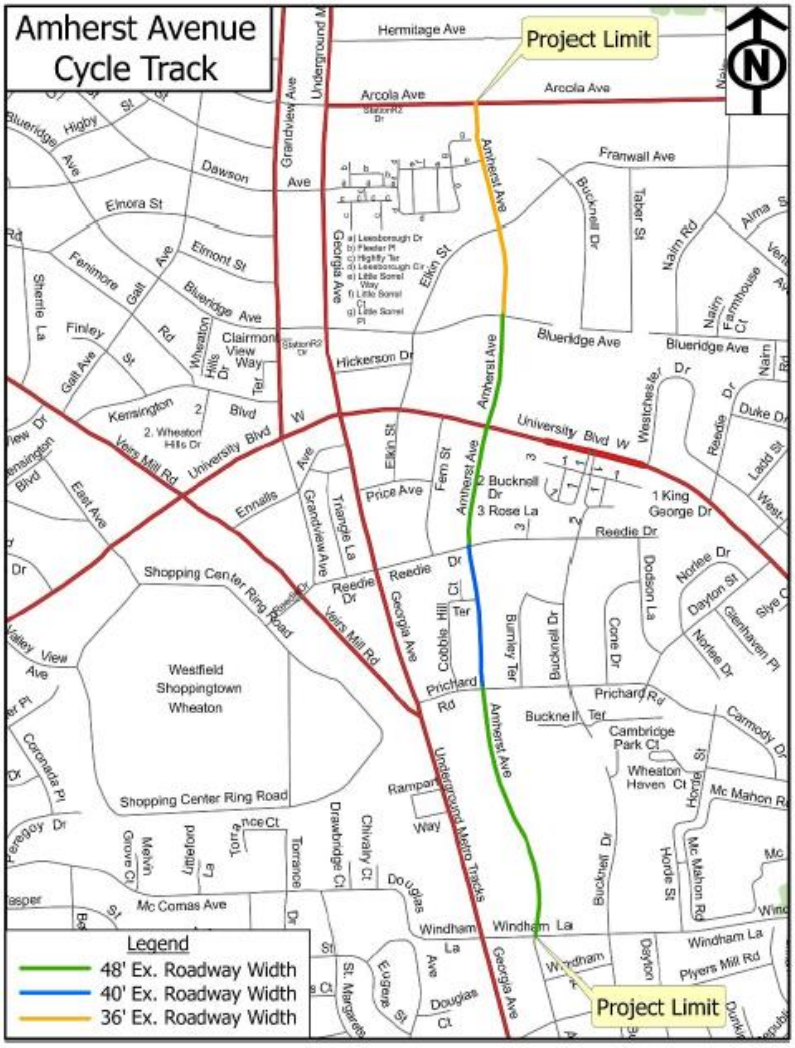


Figure 4: Curb-to-Curb Widths

The existing corridor includes traffic signals at the University Boulevard intersection and the Arcola Avenue intersection. All other intersections are stop-controlled. There are curb extensions with stormwater bioretention at the intersection of Elkin Street and Amherst Avenue.

Figure 5: A curb extension with stormwater management at the Elkin Street intersection with Amherst Avenue

The project corridor abuts a mixture of land uses, both commercial and residential. Along the corridor, there are apartment buildings, townhouses and single-family detached houses. Small-scale retail, restaurant and civic uses are also present, as is MCDOT Garage 45, Wheaton Veterans Park, a car dealership, big-box retail and self-storage.

DESIGN ELEMENTS

Among other things, MCDOT relies on three documents when designing bikeway projects:

- **Master Plan of Highways and Transitways**: This master plan specifies the street type for all non-residential streets in the county, as well as the number of traffic lanes and the right-of-way width. This map displays these recommendations for each street: https://mcatlas.org/mpoht/
- **Bicycle Master Plan**: This master plan identifies a network of bikeways that are safe and comfortable for everyone, including young children and older adults. View the Bicycle Master Plan: https://montgomeryplanning.org/bikeplan/
- **Complete Streets Design Guide**: This document was jointly developed between MCDOT and the Planning Department and provides policy and design guidance on the planning, design and operation of county streets. Among other things, it shows the design characteristics of 13 street types, specifying widths of travel lanes, sidewalks, bikeways and street buffers. View the Complete Streets Design Guide: https://montgomeryplanning.org/planning/transportation/complete-streets/

The bikeway project includes the construction of eight-foot-wide two-way separated bike lanes along the southbound (west) side of Amherst Avenue from Windham Lane to Arcola Avenue. The design includes improvements to the roadway, bus stops, signage, pavement markings, signals, sidewalks, lighting, curb ramps, and reconstructed driveway aprons. Table 1 includes a description of the existing road and the proposed changes to the road to incorporate the bikeway design along each street segment, along with the Complete Streets Design Guide (CSDG) default and minimum widths for each streetscape element.

Element	Traffic Lane	Parking Lane	Street Buffer	Bike Lane	Bus Stop/ Bikeway	Roadway Widening
Segment 1: Windham Lane to Prichard Road						
Existing	16’ thru lane	8’ (both sides)	---	---	---	---
MCDOT Proposal	11’ thru lane	8’ (both sides)	3’	8’	N/A	N/A
CSDG	10.5’	8’	6’ default; 3’ min	11’ default. 8’ min	N/A	N/A
Segment 2: Prichard Road to Reedie Drive						
Existing	12’ thru lane	8’ (both sides)	---	---	---	---
MCDOT Proposal	10’ thru lane	8’ (both sides)	2’	8’	N/A	~6’ (east side)
CSDG	10.5’	8’	6’ default; 3’ min	11’ default. 8’ min	N/A	N/A
Segment 3: Reedie Drive to Blueridge Avenue						
Existing	16’ thru lane	8’ (both sides)	---	---	---	---
MCDOT Proposal	11.5’ (west side) / 10.5’ (east side)	8’ (both sides)	3’	8’	Floating	N/A
CSDG	10.5’	8’	6’ default; 3’ min	11’ default. 8’ min	N/A	N/A
Segment 4: Blueridge Avenue to Arcola Avenue						
Existing	11’ thru lane	7’ (both sides)	---	---	---	---
MCDOT Proposal	10.5’ (both sides)	8’ (both sides)	3’	8’	Floating	11’ (west side)
CSDG	10.5’	8’	6’ default; 3’ min	11’ default. 8’ min.	N/A	N/A

Table 1:Summary of Bicycle Improvements by Alternative and Segment

Corridor-long concept drawings and associated cross-sections are found in Attachment B. Complete 30% engineering drawings are found in Attachment C.

SECTION 4:

PLANNING STAFF ANALYSIS

MASTER PLAN CONSISTENCY

The 2018 Bicycle Master Plan recommends one-way separated bike lanes on both sides of Amherst Avenue from Arcola Avenue to Windham Lane. Amherst Avenue in Downtown Wheaton is identified as one of the highest priority bikeways in the county. It is also identified as part of the proposed Breezeway Network, a designation for bikeways that are to provide a high level of comfort and that prioritize higher speed bicycle travel between major activity centers – these are the arterials of the bicycle network.

The proposed bikeway is not fully consistent with the Bicycle Master Plan for two reasons:

- It will be constructed as a two-way separated bike lanes on the west side of the road, not one-way separated bike lanes on both sides of the road.
- It will not be constructed to the Breezeway dimensions identified beginning on Page 68 of the Bicycle Master Plan.

Nonetheless, the proposed bikeway is a significant improvement for bicyclists and moves in the direction of the master planned vision.

PRIORITY ISSUES FOR REVIEW

To review this project, staff identified the following issues in order of importance.

1. University Boulevard crossing
2. Separation from parked cars
3. Separation from traffic
4. Bikeway width
5. Minor intersection crossings

UNIVERSITY BOULEVARD CROSSING

The success of this bikeway project is directly tied to the safety of bicyclists crossing University Boulevard. The best practice in bicycle planning and design is to convert major crossings into protection intersections. High-quality protected intersection design includes the following elements shown in Figure 6 (the numbered list corresponds to the numbered markers in the figure):

1) A **Corner Island** to physically separate the bikeway up to the intersection crossing point where potential conflicts with turning motor vehicles can be controlled more easily.
2) **Bicycle Queuing Space** to provide a waiting area for stopped bicyclists that is fully within the view of motorists waiting at the stop bar.
3) The **Clear Distance** maintains the necessary sight lines between motorists and bicyclists to stop (or yield) as appropriate.
4) The **Motorist Yield Zone** is the space for turning motorists to yield to bicyclists and pedestrians. Research shows safety benefits at locations where bicycle crossings are offset from the motorist travel way at a distance of between 6' and 16.5'. This offset improves motorist view of approaching bicyclists by reducing the need for motorists to scan behind them, creates space for a motorist to yield to bicyclists and pedestrians without blocking traffic approaching from the rear (for right turns) or the side (for left turns across two-way streets), and provides more time for all users to react to each other and negotiate the crossing.
5) A **Pedestrian Refuge** is a space within the street buffer where pedestrians can wait between the bikeway and general-purpose travel lanes.
6) **Crossings & Markings** increase visibility of crossing bicyclists and pedestrians and clarify where pedestrians and bicyclists should cross the street.
7) **Signalization** is an approach to separate bicyclists and motor vehicles in time either by providing a bicycle-only signal or allowing bicyclists to cross the street using the pedestrian signal. Having bicyclists use separate signals from motorists reduces conflicts between these modes.

The proposed project provides a protected intersection at the intersection of Amherst Avenue and University Boulevard that includes all the appropriate elements.

For more information on the purpose and characteristics of protected intersections, see this video: http://www.protectedintersection.com/ and review the Planning Department's Protected Intersection Review Checklist for private development (Attachment D).

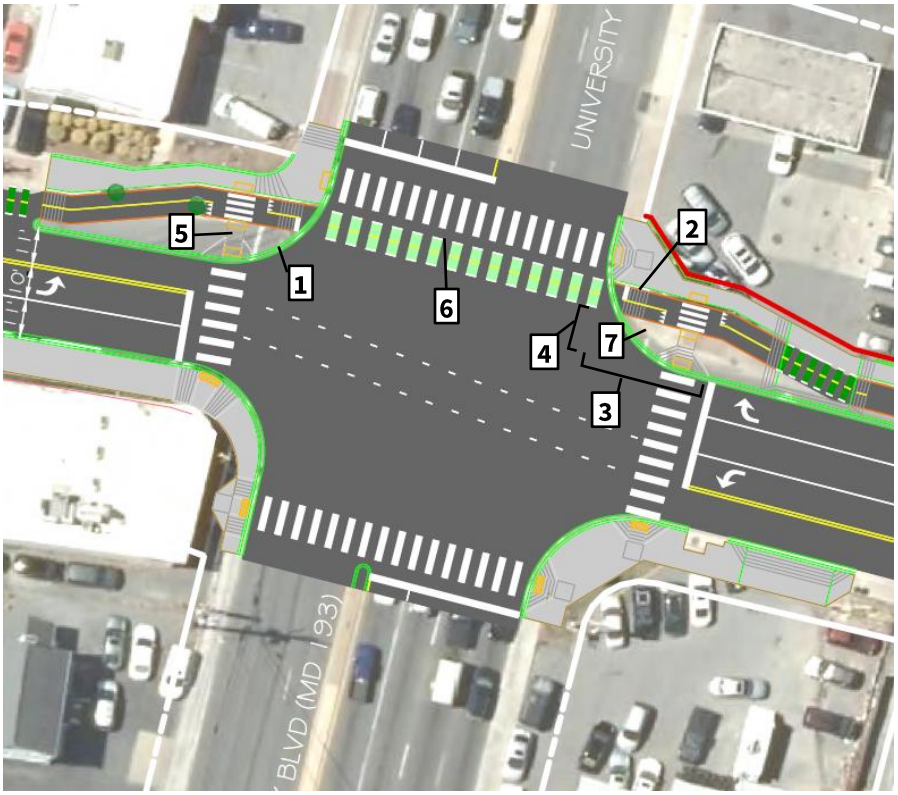


Figure 6: Amherst Avenue/University Boulevard Protected Intersection

SEPARATION FROM PARKED CARS

Parked cars are a common tool to buffer separated bike lanes from traffic. The street buffer between the bikeway and parked cars should be at least three feet to allow vehicle doors to safely open without entering the bikeway, where it could strike a bicyclist. This issue is especially important in commercial areas, as the higher rate of parking turnover means that there are more vehicle doors swinging opening.

The proposed project provides at least a three-foot buffer between the bikeway and the parking lane in the commercial areas between Reedie Drive and Blueridge Drive, which meets minimum requirements. However, the design only includes a two-foot buffer along the block between Prichard Road and Reedie Drive, which does not meet minimum requirements. While this is not desirable, the lower rate of parking turnover in residential areas means there is less chance a swinging door will strike a bicyclist.

SEPARATION FROM TRAFFIC

Without the protection on-street parking provides, a minimum five-foot-wide buffer is preferable between a bikeway and travel lanes. A buffer between three feet and five feet is acceptable, and a buffer narrower than three feet is substandard.

The only location where parking is absent is near the intersection with University Boulevard. At these locations, the buffer is three feet or greater.

BIKEWAY WIDTH

An important consideration after separation from traffic is the width of the bikeway itself. For two-way bikeways, the Complete Streets Design Guide and the Breezeway guidelines and preferred dimensions identified in the Bicycle Master Plan are:

- a preferred width of eleven feet or more, which allows two bicyclists riding side-by-side to be passed by another bicyclist
- a standard width of between eight and eleven feet, which allows bicyclists to pass each other
- a substandard width of less than eight feet

The proposed project provides a consistent eight-foot bikeway, which meets minimum requirements.

MINOR INTERSECTION CROSSINGS

In addition to the crossing at University Boulevard, the proposed bikeway intersects six other streets. Other than the Arcola Avenue intersection at the project's northern terminus, which is signalized, these intersections are managed with stop signs. These intersections are often safer for bicyclists to navigate than signalized intersections because all vehicles come to a stop and right-of-way to continue through the intersection is determined by arrival order.

ANALYSIS CONCLUSIONS

The Amherst Avenue Bikeway project satisfactorily addresses all design standards except for the street buffer width separating the bikeway from parked cars between Prichard Road and Reedie Drive. The constrained nature of this block makes it challenging to widen this buffer space from two feet to three feet. Doing so would require either moving the western curb line (which would be costly) or removing a lane of parking (which would be a community hardship). While this is unfortunate, the bikeway will still provide substantial benefits for bicyclists.

The recommendations below are design issues for the MCDOT project team to consider as design continues.

SECTION 5:

RECOMMENDATIONS

Staff recommends approval of the Mandatory Referral with the following comments:

PROVIDE ADDITIONAL CONSIDERATION FOR THE PEDESTRIAN REALM ALONG THE CORRIDOR

While this project is focused on improving bicycling conditions in Wheaton, it is important that this improvement is not to the detriment of pedestrians. There is room for improvement in a few ways:

1) **Widen sidewalks to Complete Streets Design Guide minimum widths where curbs are being moved to provide the bikeway and maintain on-street parking.**
   On the east side of Amherst Avenue between Prichard Road and Reedie Drive, the curb is proposed to be shifted to the east to accommodate the bikeway while preserving the two existing travel lanes and two existing parking lanes. The added space (six feet) outside the curb comes at the expense of the street buffer between the parking lane and the sidewalk. The sidewalk along the east side of the roadway is proposed to be four feet wide (Figure 7), which is narrower than the Complete Streets Design Guide minimum of six feet for a Neighborhood Street. A wider sidewalk could be provided within the existing right-of-way.

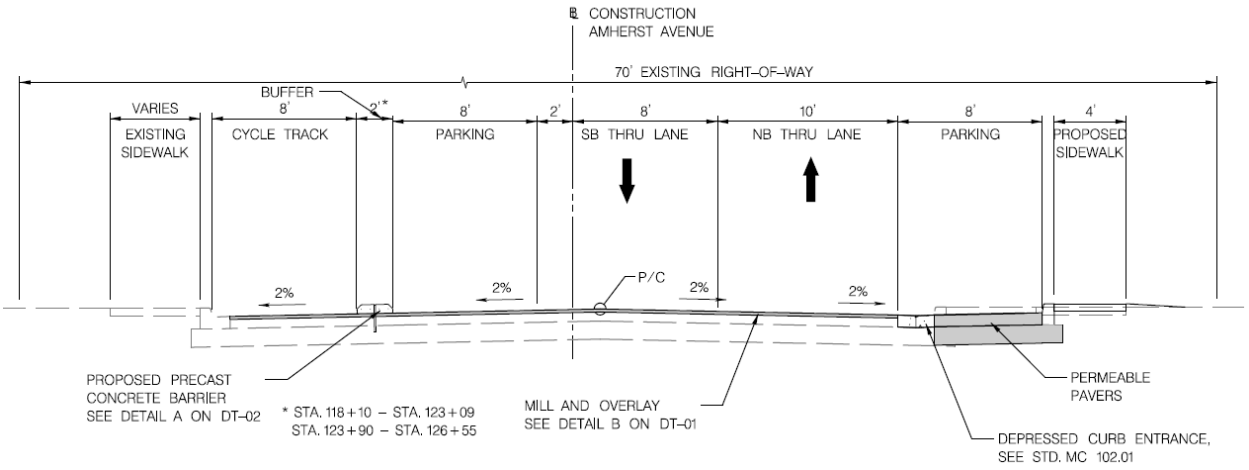


Figure 7: Typical Section between Prichard Road and Reedie Drive

2) **As design of this project advances, continue to ensure that push buttons for Accessible Pedestrian Signals at the University Boulevard intersection are made accessible to people with disabilities.**
   Today, the Accessible Pedestrian Signals (APS), particularly at the southeast corner of the intersection, are difficult or impossible for people with disabilities to access. APS allow pedestrians to trigger a pedestrian crossing signal, but also provide important wayfinding and

navigation information to pedestrians who are blind or have other disabilities. If the APS are inaccessible, they have limited utility. When this intersection is redesigned as part of this project, designers should make certain that these push buttons are installed in an accessible way.

Figure 8: Accessible Pedestrian Signal push button located in an inaccessible location behind sidewalk

3) **Ensure that sidewalk crossings of driveways maintain sidewalk cross-slope and width.** In the constrained block between Prichard Road and Reedie Drive, the sidewalk appears to narrow and potentially ramp down at driveway aprons (Figure 9). As these sidewalks are already narrow at four feet wide, the sidewalk width should be maintained across the driveways for accessibility reasons.

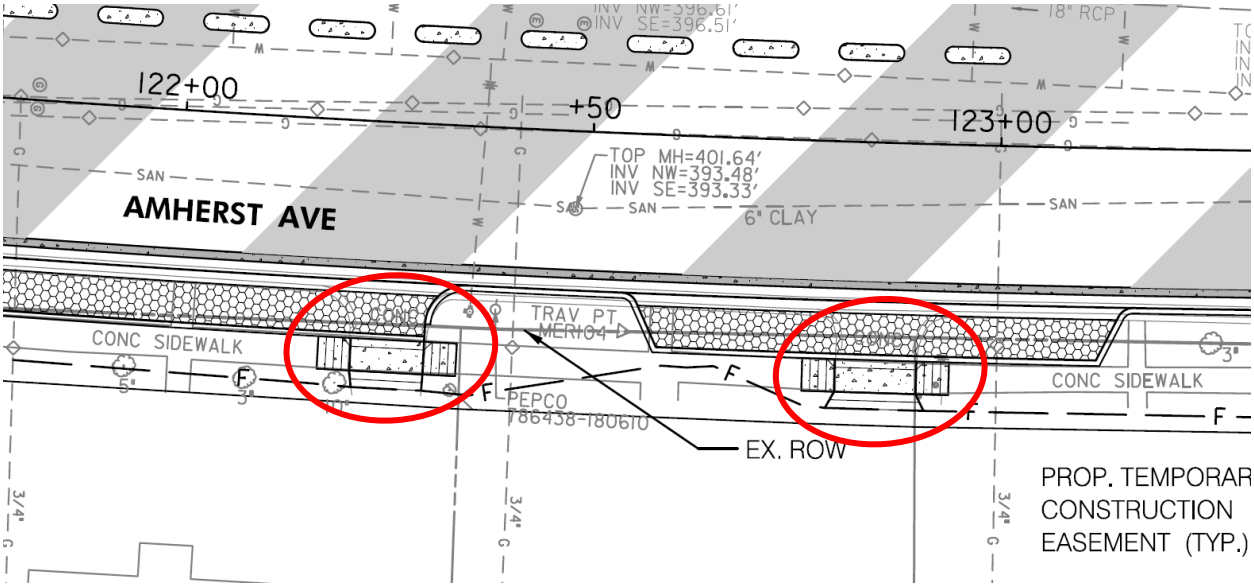


Figure 9: Examples of driveway aprons narrowing sidewalk space between Prichard Road and Reedie Drive (light grey lines reflect existing conditions, dark lines represent proposed changes)

4) **Provide curb ramps that align with marked crosswalks.** Aligning curb ramps with marked crosswalks makes it easier for all pedestrians, but especially people with disabilities, to safely and confidently cross streets. Because they guide pedestrians along the shortest path across the street, reducing pedestrian exposure to traffic, a curb ramp aligned with the crosswalk is a best practice. Most of the crossing locations along the project corridor include crosswalk-aligned curb ramps. The intersection of Reedie Drive and Amherst Avenue is an example (Figure 10).

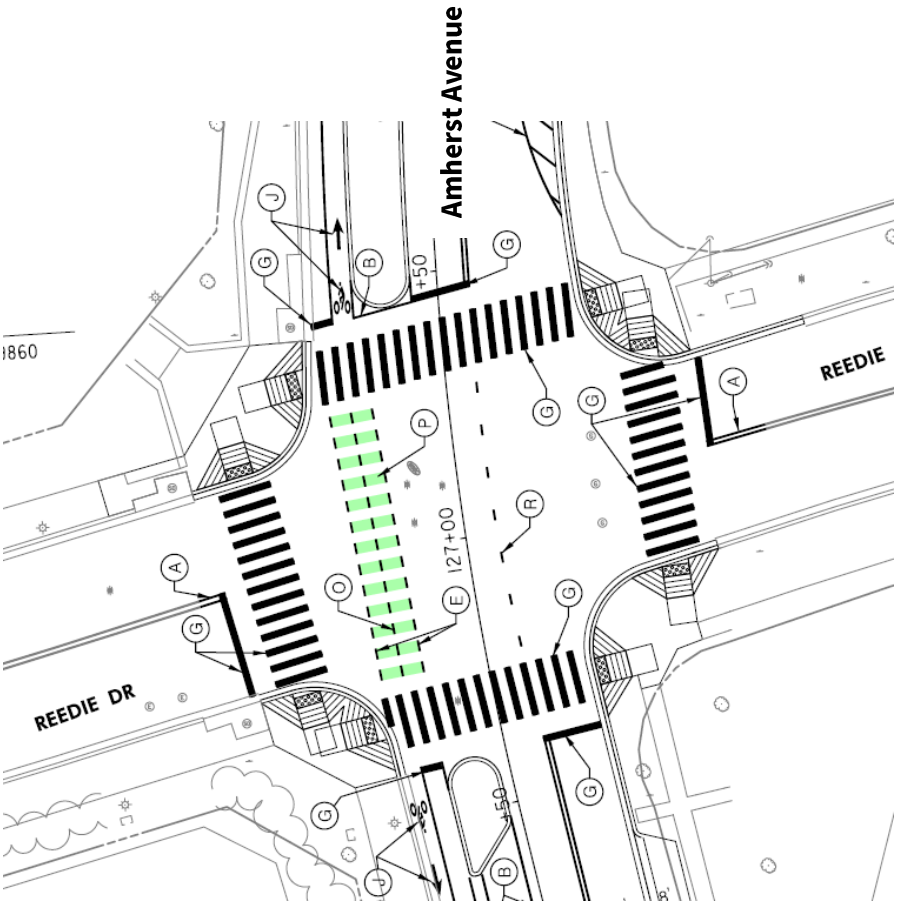


Figure 10: Crosswalks aligned with curb ramps at the intersection of Reedie Drive and Amherst Avenue (light grey lines reflect existing conditions, dark lines represent proposed changes)

Unaligned curb ramps at the intersection of Amherst Avenue with Prichard Road and with Cobble Hill Terrace should be redesigned. For example, at the southwest corner of the Prichard Road intersection (see Figure 11), the circled corner has a single curb ramp that directs pedestrians into the middle of the street, rather than into one of the marked crosswalks. This is a safety issue because it puts pedestrians and motor vehicles in close contact. It's a particular issue for pedestrians with low or no vision because it is more difficult for these pedestrians to reorient themselves and proceed through the crosswalk.

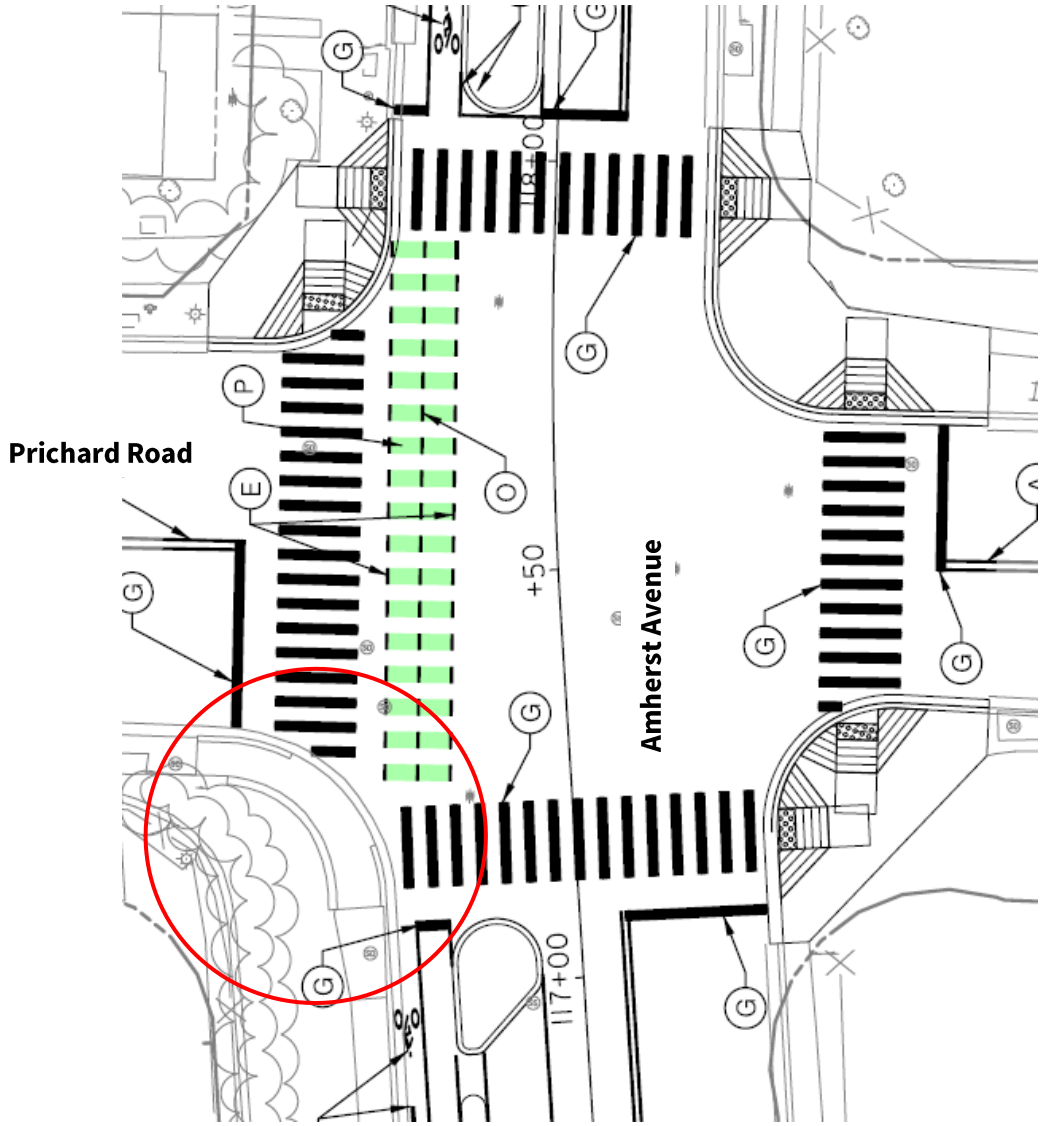


Figure 11: Diagonal curb ramp at southwest corner of Prichard Road and Amherst Avenue (light grey lines reflect existing conditions, dark lines represent proposed changes)

5) **Widen curb ramps on the east side of the Amherst Avenue/Blueridge Avenue intersection to shared use path width.**
Blueridge Avenue provides a connection between Amherst Avenue and the Sligo Creek Trail. Because this connection is a vital part of the regional bikeway network, the needs of bicyclists should be considered. The curb ramps highlighted at the bottom of Figure 12 should be widened to ten feet to accommodate pedestrians and bicyclists making this trail connection.

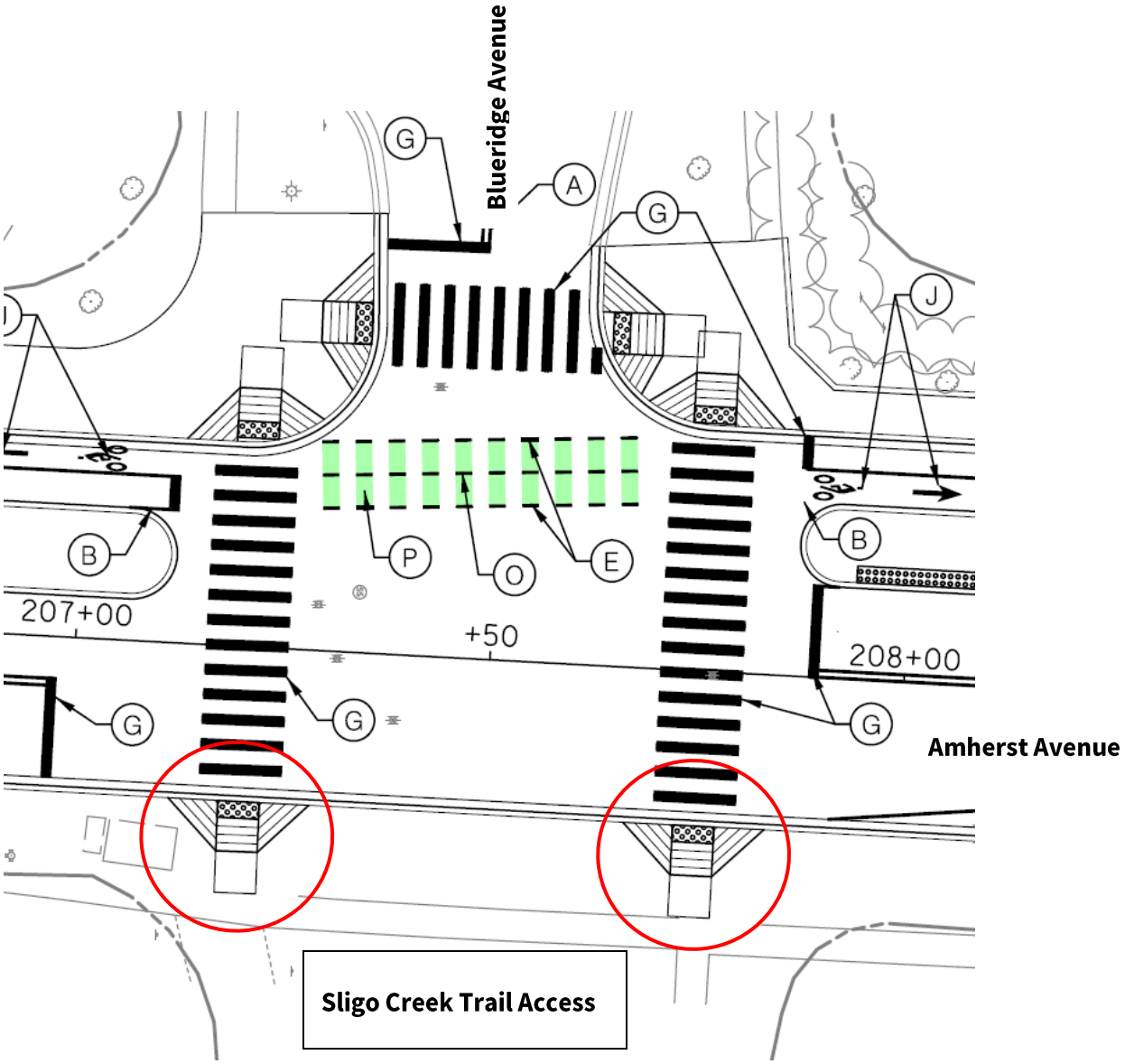


Figure 12: Curb ramp locations at Blueridge Avenue that should be widened (light grey lines reflect existing conditions, dark lines represent proposed changes)

6) **Enhance pedestrian-scale lighting in the project area.**
Pedestrian-scale lighting is currently present on the west side of Amherst Avenue from Windham Lane to Blueridge Avenue. This lighting should be extended on the west side of the street from Blueridge Avenue to Arcola Avenue. On the east side, the project team should consider providing pedestrian-scale lighting. Currently, the only lighting on this side of the street comes from roadway-focused overhead lights. Pedestrian-scale lighting is important because it increases personal safety. It also improves visibility and makes it easier for drivers to see pedestrians, reducing the likelihood of collisions. Both things lead to more walking.

MAKE BIKEWAY CHANGES TO IMPROVE SEPARATION FROM MOTOR VEHICLES

There are several adjustments that should be considered to improve bicyclist safety and ensure separation from motor vehicle traffic.

1. **Improve the quality of the street buffer.**
   The bikeway design typically uses pre-cast concrete curbing to separate the bikeway from the parking lane or adjacent travel lanes. This material is not currently used in other bikeway projects across the county because it is not as durable and has a more temporary aesthetic. Poured-in-place concrete is the preferred concrete buffer, particularly for Breezeways where right-of-way makes a landscaped buffer infeasible.

Figure 13: The poured-in-place street buffer along Montgomery Lane/Avenue in Bethesda

2. **Close gaps in concrete street buffer and lengthen street buffer to tighten driveway entrances.**
   There are several locations along the project corridor where the street buffer can be improved.
   - **At Station 107+50**, the street buffer is interrupted to provide access to a driveway that does not exist (Figure 14, Figure 15) and encourages motorists to illegally park in the bike lanes. If this property redevelops in the future, the curb cut and break in the street buffer could be added.

Figure 14: Driveway curb cut without driveway

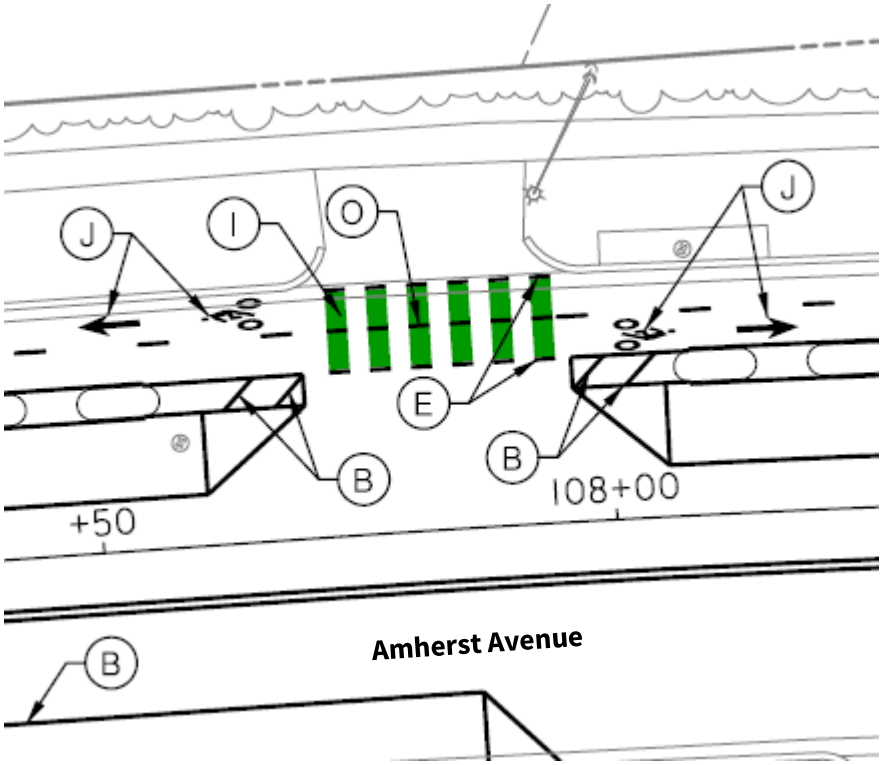


Figure 15: Break in concrete barrier for driveway (light grey lines reflect existing conditions, dark lines represent proposed changes)

- Where possible, extend the street buffer closer to driveway entrances to tighten the turning radius, which will help achieve the 10-mph maximum turning speed defined in the Complete Streets Design Guide. Locations where the street buffer could potentially be lengthened are **Stations 110+75**, **Station 113+50**, **Station 131+50**, **Station 132+50**, and **Stations 219+75**). An example is shown in Figure 16.

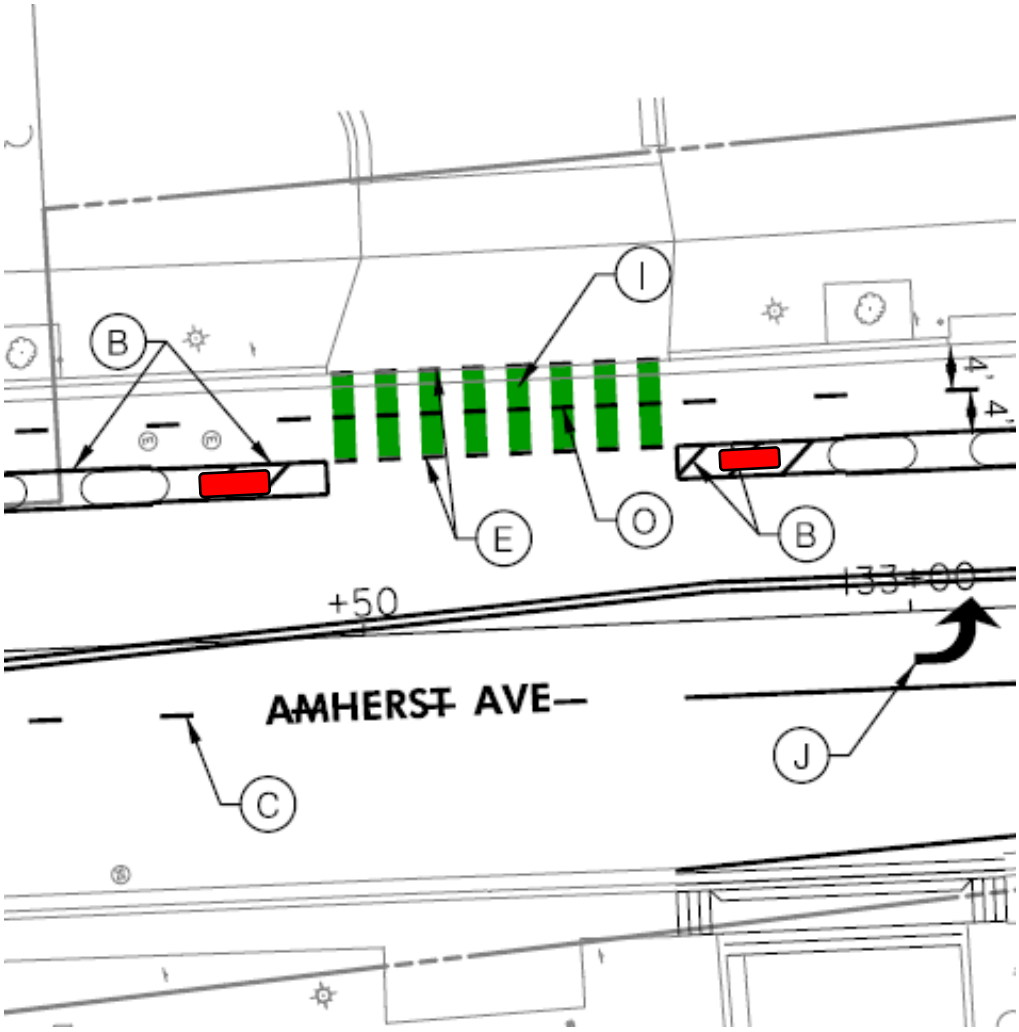


Figure 16: Driveway at Station 132+50 (light grey lines reflect existing conditions, dark lines represent proposed changes, red boxes identify opportunities to extend concrete protection in the bikeway buffer)

- At **Station 125+50**, the design shows a gap in the street buffer to enable access to a proposed curb ramp connecting to a sidewalk into a townhouse community, as shown in Figure 17 and Figure 18. This curb ramp does not exist today, and it is not clear why this curb ramp is needed as it would create a midblock crossing that is only about 140 feet from the nearest intersection. It should be removed and replaced with a concrete street buffer.

Figure 17: Station 125+50 street view

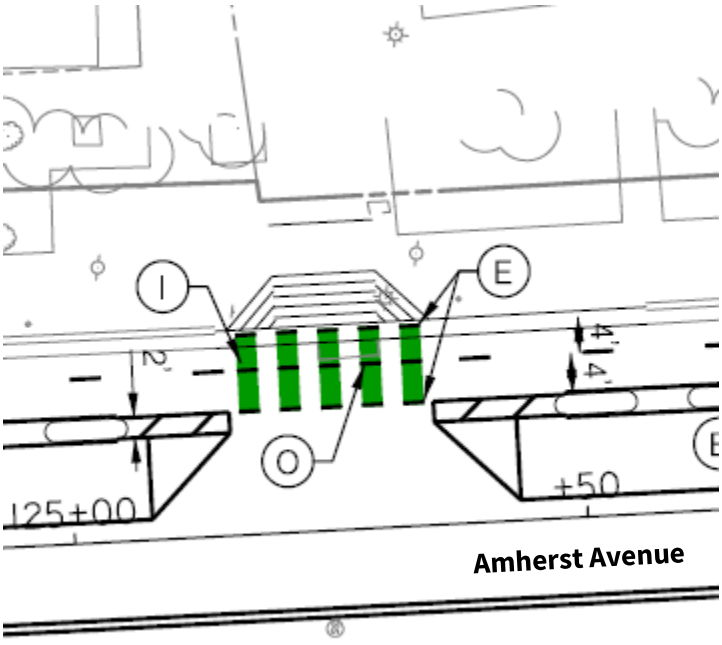


Figure 18: Station 125+50 plan view (light grey lines reflect existing conditions, dark lines represent proposed changes)

At **Station 115+00,** a gap in the on-street parking and concrete street buffer is proposed to provide access to a fire hydrant on the curb side (Figure 19). This break in the concrete buffer creates an opportunity for motorists to illegally park in the bike lanes. The fire hydrant should be relocated into the parking lane as part of a curb extension. If this is not possible, other design alternatives should be considered that make illegal parking and encroachment into the bikeway impossible.

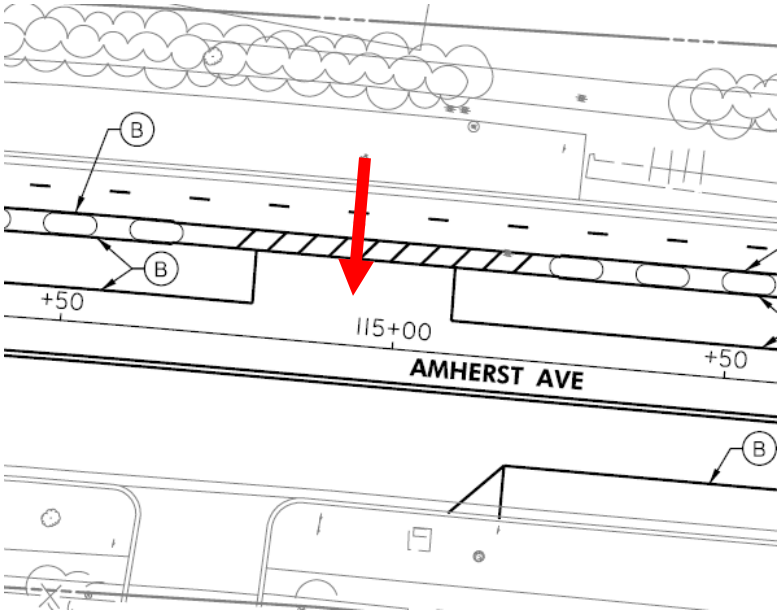


Figure 19: A gap in the street buffer at Station 115+00 is provided for access to a fire hydrant (light grey lines reflect existing conditions, dark lines represent proposed changes, the red arrow indicates where the fire hydrant should be moved)

3. **Provide a bicycle signal at the Arcola Avenue terminus of the bikeway or install a "BIKES USE PED SIGNAL sign (Maryland Manual on Uniform Traffic Control Devices R9-5).**
   It is important to provide bicyclists guidance on how to successfully leave the bikeway at its northern terminus. While a dedicated bicycle signal would be preferable, at a minimum bicyclists must be directed to follow the pedestrian signal.

TIGHTEN CURB RADII AT STOP-CONTROLLED INTERSECTIONS

Most intersections along the Amherst Avenue corridor are stop-controlled. To improve visibility and reduce turning speeds at these locations, MCDOT should consider the following:

1. **Add mountable corner islands to the northwest and southwest corners of the following intersections:**
   - **Elkin Street (Stations 213+00-214+00)**
   - **Blueridge Avenue (Stations 207+00-208+00)**
   - **Reedie Drive (Stations 126+50-127+50)**

- **Prichard Road (Stations 117+00-118+00)**

These mountable islands should look like those at the intersection of Second Avenue and Spring Street in downtown Silver Spring (Figure 20), reduce the speed of turning vehicles and improve visibility between motorists, bicyclists and pedestrians, while still allowing larger vehicles with wider turning radii to safely navigate the intersection.

Figure 20: Mountable curb at the intersection of Second Avenue and Spring Street in Downtown Silver Spring

DEVELOP A NEW APPROACH TO TRANSITION BETWEEN THE BIKEWAY AND AMHERST AVENUE SOUTH OF WINDHAM LANE

The southern terminus of the Amherst Avenue Bikeway at Windham Lane (Figure 21) requires bicyclists to travel out of their way when transitioning to and from the bikeway.

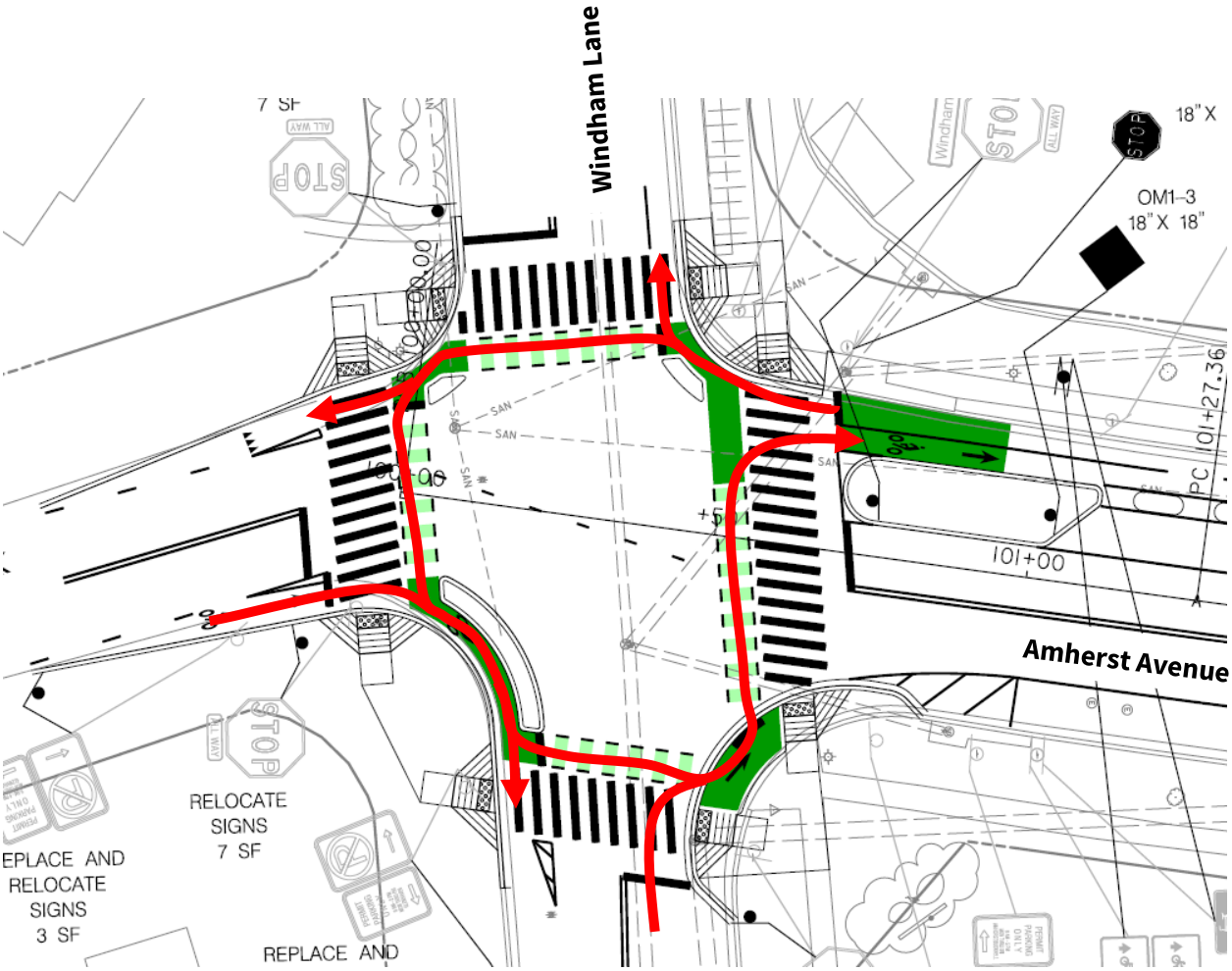


Figure 21: Amherst Avenue intersection with Windham Lane (light grey lines reflect existing conditions, dark lines represent proposed changes)

While protected intersections are beneficial in most instances, the unique nature of this intersection makes a different approach worth considering. This is because requiring bicyclists to divert around the entire intersection and yield the right-of-way multiple times will likely result in poor compliance by bicyclists. Instead, the design should do everything possible to improve visibility and tighten turning radii while allowing bicyclists to travel freely, as shown in Figure 22. Designers should consider providing cross-bike markings (shown in yellow below) for bicyclists traveling north and south to make it easier for drivers to understand potential bicycle movements. Additionally, the separate

bicycle space created in the northbound direction of Amherst Avenue south of Windham Lane should be removed, and bicyclists should be encouraged to queue like other vehicles at this intersection.

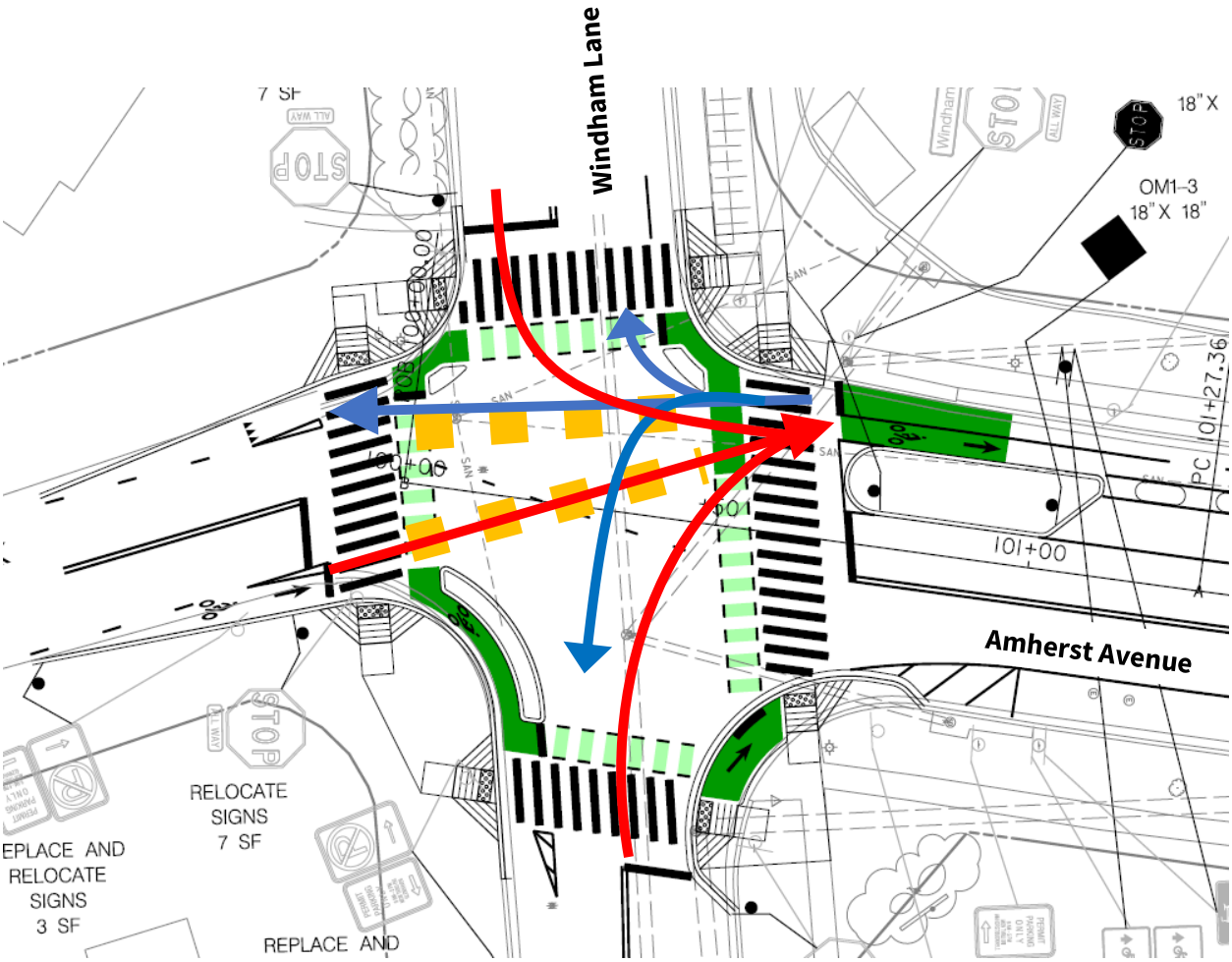


Figure 22: Amherst Avenue intersection with Windham Lane with transition options (light grey lines reflect existing conditions, dark lines represent proposed changes)

DEVELOP A WAYFINDING PLAN USING THE BIKEWAY BRANDING SIGNAGE STANDARDS

Montgomery Planning, in consultation with MCDOT, is completing a branding plan for the county's bikeway network. This brand includes a wayfinding component to help bicyclists navigate the bikeway network to reach local and regional destinations. A pilot effort with MCDOT in North Bethesda will be launched in the coming months. MCDOT should develop and install wayfinding using the same standards as part of the Amherst Avenue project.

Figure 23: Example of a Breezeway banner

Figure 24: Example of Breezeway directional signage

ADDRESS ENVIRONMENTAL ISSUES

There are six general environmental issues the project team should address.

1) **Ensure that the Limit of Disturbance in the plan set matches the Limit of Disturbance in the approved Forest Conservation Exemption.**
2) **Ensure all existing trees are accounted for in the plan set.**
3) **Consult MCDOT approved street trees list when considering plantings, and do not plant invasives like Rose of Sharon.**

4) **Plant fewer, bigger trees—trees currently shown are all understory trees and will not provide sufficient tree canopy.**
5) **Tree protection during construction should be provided using wire fencing, not temporary orange construction fencing.**
6) **Show tree protection measures on all sheets.**

SECTION 6:

PUBLIC ENGAGEMENT

Since the December 2020 Planning Board Alternatives Analysis Briefing, MCDOT has engaged with community members about this project on three occasions, including:

- June 2022: In-person focus group for the Prichard Road to Reedie Drive block
- June 2022: Virtual public meeting
- July 2022: Montgomery County Bicycle Advisory Group presentation

As the project has evolved, community newsletters have been distributed to interested residents. Information has also been shared through the Wheaton Urban District Advisory Committee and Midcounty Citizens Advisory Board newsletters and at their meetings. The MCDOT project manager has also engaged individual residents by email and phone to answer questions and address concerns.

After staff accepted the Mandatory Referral for review, Montgomery Planning notified local civic and homeowners' associations and other interested parties of this proposal. As of the date of this report, Planning staff have received correspondence from four individuals. That correspondence (and MCDOT responses where appropriate) is provided as *Attachment E*. Submitted testimony is generally supportive of the project.

SECTION 7:

CONCLUSION

Planning staff believes the Amherst Avenue Bikeway project will be a high-quality connection through the Wheaton Central Business District, acting as a north-south spine for the area's low-stress bikeway network. While the comments provided in this staff report will improve the design, MCDOT should be commended for navigating the unique challenges of this corridor effectively and with attention to detail.

Attachment A: Alternatives Analysis Transmittal Letter

Attachment B: Concept Drawings and Cross-Sections

Attachment C: Mandatory Referral Engineering Drawings
Attachment D: Protected Intersection Design Checklist
Attachment E: Written Testimony