
Transportation Facility Planning Conway Road from MD 3 to the Western Terminus

Project No.: H539600

Contract No.: H539620

FINAL Technical Memorandum Phase 3: Preliminary Recommendations August 2022

1. Introduction

This Preliminary Recommendations Technical Memorandum has been prepared by the Anne Arundel County Department of Public Works (DPW) to document the potential implementation of proposed conceptual improvements considered to address the needs of the study area.

For additional details, graphical depictions of proposed improvements, and background on the recommended alternatives discussed herein and the related future forecasted traffic conditions, please refer to the *Phase 3: Future Conditions Technical Memorandum*. For additional information on the existing conditions within the project study area, including traffic and safety data, please refer to the *Phase 1: Existing Conditions Technical Memorandum*, finalized in January 2022. For additional details on the project purpose, study area needs, goals and objectives, and future forecasted traffic conditions, please refer to the *Phase 2: Purpose and Need Statement*.

2. Preliminary Recommendations

Recommendations were developed based on alternatives analysis, feedback from County staff, and community outreach.

Before the outlining the preliminary recommendations of this study, it is important to highlight the current concerns expressed by the County's Office of Planning and Zoning (OPZ). From a letter dated July 11th, OPZ expressed concerns about the following:

- Impacts to designated Scenic and Historic Roads, specifically Patuxent Road, Meyers Station Road, and Grays Ford Road.
- Expressed opposition to Alternative 7 – Option B related to potential impacts to Scenic and Historic character of Meyer Station Road and the surrounding ecological resources.
- Major concerns about the proposed bus turnaround proposed in the vicinity of the Wilsonville community at the western end of Conway Road. OPZ notes a long history of public project impacts to this community and stresses that careful and thoughtful coordination should occur with community members as part of future planning and design efforts.
- Concerns raised about the potential for higher vehicle speeds related to shoulder widening along Conway Road.

DPW is committed to coordinating with OPZ to reconcile their documented concerns as part of future phases of design development.

As the project proceeds through future phases of the approval and design process, additional efforts should be made to incorporate traffic calming measures like speed warning signs, variable shoulder widths, traffic bollards, road diets, and pavement markings as appropriate in order to deter vehicle speeds in excess of posted limits. Similarly, future development phases of the proposed Shared Use Path should be designed in a way that best fits the character of the corridor with particular attention given to:

- the scenic and historic nature of the designated roadway;
- protected public lands;
- culturally significant resources and communities;
- the sensitivity of adjacent ecological resources (including but not limited to wetlands, waters, forest interior dwelling species, any endangered/threatened species, and forested areas); and
- the potential affects to private properties.

Considerations for the time and costs required to obtain permit approvals will be critical for future planning and design phases for this project. Conversion of parkland must be approved in advance by the Maryland Board of Public Works.

With the above concerns noted, the alternatives are suggested to be implemented in three separate phases. The phases increase in scope and cost to allow short term improvements to be implemented while allowing the County to plan for cost associated with long-term capital improvements. **A matrix of impacts and costs for each phase and improvement element is provided at the end of this document.** The following phases are recommended:

- **Phase 1:** Introduce shared-use path (between WB&A Trail and MD 3), widen shoulders (from Two Rivers Boulevard / Patuxent Ridge Road to Anchor Concrete) along Conway Road, all-way stop control (AWSC) at Conway Road and Two Rivers Boulevard / Patuxent Ridge Road, pavement markings at Princess Shopping Center, and bus turnaround. (Considerations for segmental implementation of shoulders is suggested, as detailed in Section 3, below.)
- **Phase 2:** Implement Alternative 7 Option B (2-foot shoulders and no Shared Use Path) connection from Two Rivers Development to Meyers Station Road.
- **Phase 3A:** Complete Alternative 7 Option B from Meyers Station Road to Cronson Boulevard.
- **Phase 3B:** Introduce Roundabout at Two Rivers Boulevard and Conway Road.

From a traffic operations perspective, if Phases 2 and 3A are implemented by 2040, the Phase 1 all-way stop control and Phase 3B are not necessary as Phases 2 and 3A would alleviate volumes at the intersection of Two Rivers Boulevard and Conway Road.

3. Phase 1

The recommendations in Phase 1 are to provide relatively short-term improvements to Conway Road. Short-term improvements are those considered to be those that could be implemented within 5 to 10 years.

Widen Shoulders

Eight-foot shoulders are proposed along eastbound and westbound Conway Road between Two Rivers Boulevard / Patuxent Ridge Road and the Anchor Concrete Products driveway. The proposed shoulders are to provide additional safety and accessibility of emergency vehicles. The clearing associated with shoulder implementation may also enhance sight distances, reduce conflicts between fixed objects and vehicles along Conway Road, and lessen the chance for vehicles to run off road. It is noted that the possibility of narrower shoulders will be evaluated during future phases of the design development process.

The study team acknowledges and has discussed the potential for increased vehicle speeds that wider shoulders could induce. As noted previously, future phases of design development should look to incorporate elements that would deter higher than posted speeds. A balance between providing a facility that allows for safe pedestrian, bicycle, and motor vehicle travel must be strived for in accordance with the County's commitment to Vision Zero. Ultimately, considerations for variable width shoulders should be investigated to potentially calm vehicle speeds, reduce impacts, and lower implementation costs.

The County may also consider a segmental implementation approach to lower costs and expedite construction. For example, the County could initially design and construct shoulders from Two Rivers to the Patuxent Road / Meyers Station Road Roundabout as Segment 1. Then at a later time, design and construct Segment 2 from the Roundabout to Anchor Concrete to complete the project.

There were 18 public written comments provided via the interactive commenting website and two comments documented in public meeting transcript summaries in support of widening Conway Road. In the public meeting transcript, there was one comment against improvements to Conway Road over concerns that it may increase speeds along the corridor.

The anticipated cost (rounded) for the shoulder improvement is \$24,570,000.

Shared-Use Path

The proposed ten-foot **shared-use path** along westbound Conway Road between MD 3 and Patuxent Ridge Road is not expected to impact traffic operations along Conway Road or at corresponding intersections. This meets the Purpose and Need by reducing conflicts between vehicles and pedestrians/bicyclists as well as by enhancing Pedestrian Level of Comfort (PLOC) and bicyclist Level of Traffic Stress (LTS) and enhance connective facilities.

There were 39 public comments in support of improving pedestrian facilities along Conway Road and two comments documented in public meeting transcript summaries in support of additional bicycle facilities along Conway Road. There were no comments explicitly against the development of a share-use path along Conway Road.

The anticipated cost (rounded) for the shared-use path improvement is \$8,470,000.

Princess Shopping Center Roadway Improvement

At the three-legged intersection of Conway Road and the Princess Shopping Center, the future forecasted traffic is anticipated to operate at LOS F in 2045, with delays in excess of 90 seconds per vehicle for those turning left out of Princess Shopping Center. If Professional Drive is ultimately extended to create a full four-legged intersection (as planned), it is anticipated that a traffic signal would be warranted and introduced as part of that developer planned improvement. However, until the time that Professional Drive is extended, the study team recommends improving sight distance for drivers by trimming vegetation at the intersection and to consider modifying existing lane markings to provide vehicles a center turn/receiving lane on Conway Road.

There were three public comments in support of intersection improvements at the Princess Shopping Center and Conway Road. There were no comments explicitly against the improvement of the intersection at Princess Shopping Center.

The anticipated cost for the intersection improvement is \$8,000.

All-Way Stop Control

Converting the intersection of Conway Road at Two Rivers Boulevard / Patuxent Ridge Road to an all-way stop control (AWSC) intersection would enhance traffic safety and reduce the delay in the AM and Weekend peak hours, as shown in **Table 1**. The AWSC is also anticipated to help improve safety for pedestrians and bicyclists by potentially slowing traffic and providing gaps for added crossing safety. From a traffic perspective, if Phases 2 and 3 can be completed by 2040, the AWSC is not necessary as short-term operations improvement; however, it is still recommended as a traffic safety enhancement.

The anticipated cost (rounded) for the intersection improvement is \$16,000.

Table 1: Forecasted Future 2045 Build LOS and Delay – AWSC

Intersection	AM		PM		Weekend	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Conway Road at Two Rivers Boulevard / Patuxent Ridge Road	50.2	F	> 90.0	F	56.8	F

Bus Turnaround

With the introduction of the new West County Elementary School, a new bus turnaround area near the western terminus of Conway Road was considered to assist with anticipated increases in school bus traffic. Currently school buses serving Anne Arundel Public Schools use the St. John A.M.E. Zion Church parking area located at the western terminus of Conway Road as their turnaround location. The implementation of this bus turnaround could be considered a change to the character of Conway Road’s Scenic and Historic route designation and subject to the permitting requirements of County Code Article 17-6-504.

The County has also noted that this area has historically been a neighborhood with concentrations of minority and lower-income populations where Environmental Justice issues will ultimately need to be acknowledged and addressed. Specifically, the community of Wilson Town and the leadership of St. John A.M.E. Zion Church should be consulted and included in the decision-making process if/when this bus turnaround feature is further developed. OPZ notes this historically black community has experienced many adverse effects from lands taken from them over the centuries by public actions that have cut away and bifurcated their historic community. Any further takings or impositions of public needs upon their lands should be carefully considered and undertaken only after thoughtful consultation with the community.

It is recommended that a context sensitive turnaround area where school buses serving students within the western part of Conway Road be provided near this historically underserved community, done in a way that is inclusive and sensitive to the needs of the residents while making efforts to preserve the character of the neighborhood and historic nature of St. John A.M.E. Zion Church.

The Study Team identified an open area directly adjacent to Conway Road that would potentially utilize a grassy frontage space, see Section 12 of the *Phase 3: Future Conditions Technical Memorandum*. This location would allow buses to run routes serving Conway Road, the Two Rivers Development, and homes on Collins Lane and Lucinda Lane.

While there were no comments that directly state support for or against a bus turnaround, there are 14 public comments in support of improving access to school facilities. The County Public Schools have indicated adding a bus turnaround is a high priority. These improvements to Conway Road would increase safety for pedestrians, bicyclists, and drivers. It is recommended that this phase be implemented first because it will provide short-term improvements to Conway Road.

The anticipated cost for the bus turnaround improvement is \$150,000.

4. Phase 2

Phase 2 will provide a new access route connection from the Two Rivers Development to Meyers Station Road. This phase recommends implementation of access route Alternative 7 Option B (2-foot shoulders with no shared use path) to the development for additional accessibility for residents and emergency responders and to potentially alleviate the left turn traffic from Conway Road onto Two Rivers Boulevard. With the connection from the Two Rivers Development to Meyers Station Road, traffic volumes on Meyers Station Road and the new access route are anticipated to **draw 200 to 500 vehicles per day**. Therefore 200-500 fewer vehicles will use Conway Road west of Patuxent Road. The minor diversion of vehicles alone will not bring the LOS to an acceptable level. The implementation of access route Alternative 7 Option B would be a change to the character of Meyers Station Road's Scenic and Historic route designation and subject to the permitting requirements of County Code Article 17-6-504.

There were 76 public comments in support of providing additional access points to the Two Rivers Development. Of those 76 comments, 38 were specifically in support of the providing an access from the Meyers Station Road points south of Conway Road. There were several additional documented comments in support of additional access provided in the public meeting transcript summaries. During the public meeting, there were two comments against providing additional access from the Two Rivers Development to Meyers Station Road due to increased traffic on Meyers Station Road. Based on the overall public comments received as part of this study, this phase would be supported by the residents who voiced concerns about limited access as a near-term solution.

The anticipated cost (rounded) for Phase 2 access route is \$10,640,000.

5. Phase 3

Phase 3A achieves the accessibility goals set forth in the study purpose and need by providing a full additional redundant access point to the communities along Conway Road including the Two Rivers Developments. If Phase 3A is not implemented, it is recommended that Phase 3B be implemented to improve traffic along Conway Road at Two Rivers Boulevard/Patuxent Ridge Road.

Phase 3A

Phase 3A will complete the connection from Two Rivers Development to Cronson Boulevard via the Alternative 7 Option B access route alignment. This connection will run from Meyers Station Road to Cronson Boulevard. This alternative would meet the Purpose and Need by avoiding flooding and other

blockage hazards resulting in closure of the Patuxent Road and Conway Road that create safety and accessibility issues for residents who can be cut off from vehicular ingress/egress and emergency response services. The new connector road would impact wetlands, floodplains, and waterway systems associated with the Little Patuxent River; however, future design development phases should look to strategically incorporate elevated roadway and structures to mitigate potential impacts and eliminate possible flooding risks. The conceptual alignment would require structure crossings of the Little Patuxent River. No improvements will be made to Meyers Station Road.

Forecasted future 2045 no-build peak hour conditions at un-signalized intersections in the study area are shown in **Table 2**. Forecasted future 2045 Alternative 7 peak hour conditions at un-signalized intersections in the study area are shown in **Table 3**. This phase improves LOS for AM, PM, and Weekend for all unsignalized intersections within the study area. Similar to Phase 2, The implementation of access route Alternative 7 Option B could be considered a change to the character of Meyers Station Road’s Scenic and Historic route designation and subject to the permitting requirements of County Code Article 17-6-504.

There were 22 public comments in support of providing an alternative access to provide redundant access in the event of road closures and numerous more documented comments of support in the public meeting transcript summaries. In the public meeting, there were two comments against providing additional access to Meyers Station Road due to increased traffic on Meyers Station Road.

The anticipated cost (rounded) for Phase 3A access route is \$31,650,000.

Table 2: Forecasted Future 2045 No-Build LOS and Delay – Un-Signalized Intersections

Intersection	AM		PM		Weekend	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Conway Road at Concord Boulevard	14.5	B	34.0	D	24.4	C
Conway Road at Princess Shopping Center	16.7	C	> 90.0	F	60.5	F
Conway Road at Two Rivers Boulevard / Patuxent Ridge Road	>90.0	F	> 90.0	F	> 90.0	F
Conway Road at Upper Patuxent Ridge Road	9.3	A	9.5	A	9.5	A

Table 3: Forecasted Future 2045 Build Alternative 7 LOS and Delay – Un-Signalized Intersections

Intersection	AM		PM		Weekend	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Conway Road at Concord Boulevard	11.6	B	17.4	C	14.1	B
Conway Road at Princess Shopping Center	12.5	B	29.0	D	21.0	C
Conway Road at Two Rivers Boulevard / Patuxent Ridge Road	18.7	C	16.2	C	17.4	C
Conway Road at Upper Patuxent Ridge Road	9.3	A	9.5	A	9.5	A

Phase 3B

The roundabout is recommended because the AWSC does not bring Conway Road at Two Rivers Boulevard / Patuxent Ridge Road to an acceptable LOS, the study team analyzed the impacts of a

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potential roundabout. Because the AWSC does not bring Conway Road at Two Rivers Blvd / Patuxent Ridge Road to an acceptable LOS, the study team recommends constructing a roundabout. Converting Conway Road at Two Rivers Boulevard / Patuxent Ridge Road to a roundabout would reduce the delays in all peak hour periods, as shown in **Table 4**, resulting in LOS A during all three peak periods. If Phases 2 and 3A are completed by 2040, Phase 3B would not be necessary.

The anticipated cost for Phase 3A is \$3,200,000.

Table 4: Forecasted Future Build 2045 LOS and Delay – Conceptual Roundabout

Intersection	AM		PM		Weekend	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Conway Road at Two Rivers Boulevard / Patuxent Ridge Road	7.9	A	8.8	A	8.1	A

Matrix of Impacts and Costs by Phase and Improvement Element

Phase	Proposed Improvement Elements	Wetlands & Floodplains	Streams	Cultural Resources	Open Space/Parks**	Forested Areas	Forest Interior Dwelling Species	Conservation Areas	Private Property	Planned Two Rivers Development	Estimated Cost (rounded)
Phase 1	Conway Road Shoulder Widening	0.27 acres (AC) Wetlands 0.18 AC Floodplain	113.57. Linear Feet (LF)	Scenic & Historic Conway Road*	0.29 AC Open Space 1.28 AC Parks	2.96 AC	0.79 AC	0.01 AC	4.20 AC	N/A	\$24,570,000
	Shared Use Path	0.13 AC Wetlands 2.81 AC Floodplain	382.63 LF	Scenic & Historic Conway Road*	1.16 AC Parks	2.10 AC	0.57 AC	N/A	2.42 AC	N/A	\$8,470,000
	Traffic Control Signs/Markings at Princess Shopping Center	N/A	N/A	N/A	N/A	0.1 AC	N/A	N/A	N/A	N/A	\$8,000
	Traffic Control Signs/Markings at Two Rivers Boulevard	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$16,000
	Bus Turnaround	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.14 AC	N/A	\$150,000
	<i>Phase 1 Total</i>	<i>0.40 AC Wetlands 2.99 AC Floodplain</i>	<i>496.20 LF</i>	<i>Scenic & Historic Conway Road*</i>	<i>0.29 AC Open Space 2.44 AC Parks</i>	<i>5.07 AC</i>	<i>1.36 AC</i>	<i>0.01 AC</i>	<i>6.76 AC</i>	<i>N/A</i>	<i>\$33,220,000</i>
Phase 2	Access Route Alternative 7 Option B (Two Rivers Boulevard to Meyers Station Road*)	N/A	N/A	Scenic & Historic Meyers Station Road*	0.15 AC Open Space	1.93 AC	2.02 AC	N/A	2.12 AC	0.18 AC Developer Owned	\$10,640,000
Phase 3A	Alternative 7 Option B (Meyers Station Road* to Cronson Boulevard)	1.02 AC Wetlands 1.50 AC Floodplains	65.65 LF	Scenic & Historic Meyers Station Road*	N/A	2.45 AC	2.88 AC	0.82 AC	4.79 AC	N/A	\$31,650,000
Phase 3B	Roundabout at Two Rivers Boulevard	N/A	N/A	Scenic & Historic Conway Road*	0.24 AC Open Space 0.19 AC Parks	N/A	N/A	N/A	0.15 AC	0.15 AC Developer Owned	\$3,200,000
Total		1.42 AC Wetlands 4.49 AC Floodplains	561.85 LF	Scenic & Historic Conway Road & Meyers Station Road*	0.68 AC Open Space 2.63 AC Parks	9.45 AC	6.26 AC	0.83 AC	13.82 AC	0.33 AC Developer Owned	\$78,700,000

*Impacts to Conway Road and Meyers Station Road Scenic & Historic Route include new intersections, tree clearing, pavement markings and signage, possible drainage areas, and changes to traffic volumes. Permit coordination for impacts to conservation areas and scenic & historic routes, per County Code Article 17-6-504, will be required as needed.

**Considerations for the time and costs required to obtain permit approvals will be critical for future planning and design phases for this project. Conversion of parkland must be approved in advance by the Maryland Board of Public Works.