



FREDERICK COUNTY GOVERNMENT

DIVISION OF PUBLIC WORKS

Department of Engineering & Construction Management

Jessica Fitzwater
County Executive

Jason M. Stitt, P.E., Division Director
Bret Fouche, Department Head

February 11, 2025

Susan Hanson
Chair, Frederick County Rustic Roads Commission
30 North Market Street, Third Floor
Frederick, MD 21701

RE: **Comments on Bridge No. F-1501 for submission to the State Highway Administration – Frederick County Division of Public Works Response**

Dear Susan Hanson,

Frederick County Division of Public Works (DPW) has received the Rustic Roads Commission (RRC) letter dated November 18, 2024, regarding the Hessong Bridge Replacement project. DPW has reviewed the information provided in the RRC letter and understands its intent to provide additional public comment on the project. Please note – official public comment and response for this project has concluded and the meeting minutes have been attached and can be found on the project website. The following is in response to the RRC letter.

CIP Project Design Background

The Hessong Bridge Replacement project has been a part of the Frederick County Capital Improvement Program (CIP) since 2017 and has been listed on Frederick County's Federal Highway Administration (FHWA) approved structure management plan for Federal funding eligibility. Since then, the project has completed the initial design study and has begun the design work, specifically the preliminary design. As required for FHWA funding, review of the preliminary design is required by Federal and State stakeholders in the project, including but not limited to the Maryland Department of Transportation State Highway Administration (MDOT SHA), Maryland Department of the Environment (MDE), Maryland Historical Trust (MHT), United States Army Corps of Engineers (USACE), and others. These stakeholder reviews are required to ensure compliance with Federal design specifications and to receive funding to offset the direct cost impact to Frederick County. Therefore, to maintain eligibility for FHWA funding, considerations for specific design components must comply with FHWA design criteria. These stakeholders have since provided comments on the preliminary design for DPW and its design consultants to utilize.

RRC Letter Responses

1. Proximity to Candidate Roads

Frederick County: Rich History, Bright Future

Bourne Building • 355 Montevue Lane, Suite 200, Frederick, MD 21702 • 301-600-1129 • Fax 301-600-3517
www.FrederickCountyMD.gov

RE: Comments on Bridge No. F-1501 for submission to the State Highway Administration – Frederick County
Division of Public Works Response

February 11, 2025

Page 2

As stated in the RRC letter, both Hessong Bridge Road beyond Blacks Mill Road and Blacks Mill Road are included on the candidate roads list. DPW understands that these roads are near the CIP project limits. However, the adjacency of a CIP project to a candidate rustic road should not preclude the project from adhering to its stakeholders' design specifications.

DPW recognizes that this segment of roadway is utilized by both vehicles and bicyclists. Respectfully, the intent of the proposed design is to replace the existing temporary bridge and provide safety improvements to the roadway – not to increase or change the existing posted speeds. The design must consider all vehicle types while adhering to design requirements.

2. Design Qualities are Inconsistent with Rustic Roads

DPW appreciates RRC's stance that bridge replacements should be in line with the Rustic Roads Program for roads included in the Rustic Road program. However, the project limits are not within a Rustic Road or candidate road overlay.

As stated, adherence to design specifications is required for approval by the federal and state regulatory agencies. The preliminary design of the bridge will result in a bridge meeting these requirements. The design will allow for two 11-foot lanes and two 5-foot shoulders. This design is in accordance with section D-85-32(G) of the MDOT SHA Office of Structures Guidelines and Procedures Memorandum ([GPM-OOS-01-Design.pdf](#)). Additionally, the MDOT SHA policy manual requires bridge lane widths to match the approach roadway lane widths and for a minimum of 3-foot-wide shoulder to accommodate bicyclists on known bicycle routes ([Bridge: Width - MDOT Policy Manual](#)). The preliminary design adheres to these design requirements.

The ultimate alignment of the roadway through this segment is not intended to be changed. The existing bridge is a one-lane across bridge with a total length of 65-ft and width of 9-ft. By increasing the length and width of the bridge, a perception of a straighter roadway will occur by removing the temporary narrowing of the road at the bridge. DPW has taken careful consideration to ensure that the limits of the project have limited impact on the southern & northern approaches, including the intersection with Blacks Mill Road.

Regarding the RRC's statements on changes to the design speed, DPW references and reiterates its previous response from the August 6, 2024, memo. DPW presumes that RRC's concern is about posted speed rather than design speed. Design speed is the speed at which a road is intended to be safely traveled when taking into consideration elevation, curvature, and other factors, and is used during the design process. As such, DPW must reiterate that the current project design will not change the existing posted road speed, however, design speeds are being reviewed as part of the overall design process. Design speeds and posted road speeds are distinct and may not be the same value.

RE: Comments on Bridge No. F-1501 for submission to the State Highway Administration – Frederick County
Division of Public Works Response

February 11, 2025

Page 3

3. Significance

DPW understands that Hessong Bridge Road is frequented by cyclists in the area. However, RRC must also recognize that Hessong Bridge Road is designated as a collector road, allowing commuters a route from Frederick City to Thurmont in the north. Therefore, DPW must balance the needs of all vehicles and users in design, construction, and maintenance of the road. Additionally, the surrounding area roads shown in RRC previous Attachment 1 are local roads with less vehicular traffic volume. Hessong Bridge Road handles between 2-3 times the vehicular traffic volume as the surrounding roads. Lastly, as Hessong Bridge has been designated as an on-road bikeway, design standards from the MDOT Bicycle Policy & Design Guidelines (2015) apply, stating that project on roads with posted speeds between 35 mph and 45 mph must have a design with a minimum shoulder width of 5 feet. A copy of the design table from the MDOT Bicycle Policy & Design Guideline is attached for reference.

4. Safety

DPW has reviewed the John's Hopkins study referenced in the RRC's letter. We understand that the findings show that narrower roadway lanes reduce the chance of collisions. However, the situation on Hessong Bridge Road is unique as the roadway narrows from two lanes to one lane over the bridge, then reverts to two lanes. The case study does not provide information on this situation; therefore, accurate conclusions cannot be drawn regarding the impact of lane widths through this segment. DPW reiterates that the proposed lane widths will match the existing southern approach lane widths. The approaches from the northern end and from Blacks Mill Road are to remain.

Additionally, the RRC may be confusing design speed with posted speeds in their statement that the "lack of injuries is related to the low design speed of the existing bridge." Reiterating previous points, DPW is not altering or increasing the current posted speeds.

While DPW agrees that increasing the width of the road from one lane to two lanes will result in higher construction costs, DPW restates the necessity of following stakeholders' design specifications. As this project is receiving Federal funding, the design must adhere to the design specifications of the governing body, in this case the MDOT SHA.

5. Lack of Necessity

DPW understands RRC's stance that both US 15 & MD 550 serve the same destination, however, as stated above, Hessong Bridge Road serves as a collector road from Frederick City to Thurmont for Frederick County. This collector road serves as a main route for local traffic/commuters and a backup route for State road system. Maintaining and upgrading the safety of collector roads, such as Hessong Bridge Road, is important in minimizing potential impacts to the community.

RE: Comments on Bridge No. F-1501 for submission to the State Highway Administration – Frederick County
Division of Public Works Response

February 11, 2025

Page 4

The RRC stated that “With other options for higher speed travel, the necessity of accommodating higher speeds through the bridge design on the Hessong Bridge Road bridge should only be considered if other routes are inadequate.” DPW is uncertain of the intent of this statement. A County road that is adjacent to other higher volume roads does not preclude the necessity for maintenance and upgrading the existing infrastructure. The intent of this CIP project is not to accommodate higher traveling speeds; it is to provide necessary safety upgrades and improvements to the bridge.

6. Recommendation

The RRC summarized and provided its recommendations to DPW that a two-lane bridge with shoulders may be suitable. DPW agrees with this stance and appreciates RRC’s recommendation in that regard. However, DPW must review RRC’s request for the bridge to be designed with components that resonate with the County’s smaller bridges. In consideration of the residents of Frederick County, additional design components such as decorative wood, stone, or steel, that increase the overall cost may be considered only if funding allows.

Conclusion

DPW appreciates the input of the RRC for the Hessong Road Bridge project and will evaluate its request for including design components that are comparable to other County bridges. However, DPW has investigated and reviewed a potential design exception to reduce the overall width of the bridge and has determined that there is not enough compelling evidence or well-founded justification for a design exception of this kind.

DPW’s goal is to provide the maximum safety upgrades and improvements to the community while limiting the cost to its residents. If the cost burden to Frederick County residents is not feasible with the requested design components, DPW must decline the request and continue with the most cost-effective and sensible design.

Sincerely,

Signed by:


Tracy Diggs
0B105CBF5E1841F...

Tracy Diggs
Chief, Office of Transportation Engineering
Frederick County, Division of Public Works

Attachment 01 - Hessong Bridge Road Public Comment Minutes
Attachment 02 - MDOT Bicycle Policy & Design Guideline Table 2.1



Jan H. Gardner
County Executive

FREDERICK COUNTY GOVERNMENT

DIVISION OF PUBLIC WORKS

Department of Engineering & Construction Management *Charles F. Nipe, Division Director*

Yau-Ming (Robert) Shen, P.E., Department Head

June 13, 2018

RE: REPLACEMENT OF HESSONG BRIDGE ROAD BRIDGE (STRUCTURE NO. 15-01) PROJECT PUBLIC MEETING MINUTES

Meeting Minutes from the April 5, 2018, Public Meeting

The purpose of this mailing is to provide the attached meeting minutes from the April 5, 2018, Public Meeting for the Replacement of Hessong Bridge Road Bridge (Structure No. 15-01) over Little Hunting Creek project. Thank you to all who attended.

All comments and questions received by mail, email, phone, or during the Public Meeting have been read, documented, and answered.

For more information, please contact Jennifer Bohager, Project Manager, at 301-600-3505, or jbohager@FrederickCountyMD.gov, or Jason Stitt, Office of Transportation Engineering Chief, at 301-600-2932 or jstitt@FrederickCountyMD.gov.

The Division of Public Works values your participation in the development of this bridge replacement project.

By: Frederick County Division of Public Works
Department of Engineering and Construction Management
Office of Transportation Engineering

Attachments

cc: Jan H. Gardner, County Executive, Frederick County Executive Office
Raymond V. Barnes Jr., Chief Administrative Officer, Office of the County Executive
Charles F. Nipe, Director, Division of Public Works
Robert Shen, P.E., Department Head, Department of Engineering and Construction Management
Jason M. Stitt, P.E., Chief, Office of Transportation Engineering

Hessong Bridge Road Bridge Replacement Project

RE: Public Meeting Minutes from April 5, 2018

June 13, 2018

Page 2 of 7

Replacement of Hessong Bridge Road Bridge (Structure No. 15-01) Project,
Public Meeting Minutes and Summary of Contents

On Thursday, April 5, 2018, staff from the Frederick County Office of Transportation Engineering (OTE) conducted a public meeting concerning the planning/study phase of the Replacement of Hessong Bridge Road Bridge project.

The meeting began at approximately 7:00 PM and was held at the Thurmont Regional Library, 76 East Moser Road, Thurmont, Maryland, 21788. Approximately 14 community members attended. Four representatives from Frederick County Government were present.

Division of Public Works:

| | |
|--|---------------|
| Jason Stitt, P.E., Chief of the Office of Transportation Engineering | (301)600-2932 |
| Amanda Radcliffe, P.E., Project Manager..... | (301)600-1959 |
| Crystal Chamberlain, Land Acquisition Coordinator..... | (301)600-1494 |
| Jennifer Bohager, Project Manager..... | (301)600-3505 |

Questions regarding the project should be directed to Ms. Jennifer Bohager, Office of Transportation Engineering, at (301) 600-3505 or jbohager@FrederickCountyMD.gov.

The purpose of the meeting was to provide a project summary and concept bridge design, the proposed funding schedule, an overview of the current planning/study phase, and next steps to the residents within the project vicinity.

Attendees began arriving around 6:30 PM. County staff was positioned to welcome citizens, have them sign-in, and take handouts. Comment sheets were provided to each attendee to record comments and questions during and after the meeting. OTE requested comments within the two weeks following the Public Meeting, but no later than April 20, 2018.

The formal presentation began around 7:05 PM. Ms. Bohager introduced staff, described the project location, and outlined the meeting agenda. Ms. Bohager discussed the existing bridge, including its type, dimensions, decking, and waterway crossing. She explained the proposed funding schedule, funding sources (federal and County), budgets for each phase, the current planning/study phase, and next steps for the project.

A brief discussion of the study report that included the hydrologic and hydraulics elements was followed by the alternative analysis of several bridge concept designs. The selected concept design was presented to the audience, including the proposed typical bridge and roadway section and bridge plan view within the proposed project limits. Construction of the proposed concept requires maintenance of traffic, and the study report recommended a full-time signed detour, which has already been coordinated with local agencies, emergency personnel, and the Maryland

Hessong Bridge Road Bridge Replacement Project

RE: Public Meeting Minutes from April 5, 2018

June 13, 2018

Page 3 of 7

State Highway Administration (SHA). The last agenda item concerned rights-of-way, and these needs and impacts will be determined during design.

After the presentation, time was provided for questions and general comments from the group. Thereafter, staff was available to answer individual questions. The meeting concluded at approximately 8:20 PM.

Questions and Comments Received Regarding the Replacement of Hessong Bridge Road Bridge Project

The summary of questions and comments includes questions discussed at the Public Meeting, as well as questions or comments received before and after the meeting. Questions that pertained to the same issue were grouped together and may have been edited or reworded for clarity. Answers follow each question.

Project Description: This Capital Improvement Program (CIP) project will replace the existing one-lane, prefabricated steel modular truss (ACROW) bridge, on Hessong Bridge Road (Structure No. 15-01) over Little Hunting Creek, located just south of the Blacks Mill Road and Hessong Bridge Road intersection. Hessong Bridge Road is an existing two-way, two-lane road. The project will improve the roadway approaches to include two lanes, bicycle-compatible five-foot paved shoulders, and grass shoulders to meet collector standards. The selected bridge concept design proposes a twin-cell concrete box culvert having the same paved typical section as the roadway approaches. The project for the box culvert starts at the Hessong Bridge Road and Blacks Mill Road intersection on the north and extends approximately 525 feet south of this intersection.

Other proposed improvements may include horizontal and vertical adjustments, road widening, shoulder construction, and intersection improvements. The 2015 Average Daily Traffic (ADT) is 591 vehicles per day (near the bridge location), and the 2018 estimated ADT is 620 vehicles per day. While under construction, the project will require maintenance of traffic and utilize a full-time road closure along Hessong Bridge Road at the bridge location. A signed detour route is proposed to include the following roads: Hessong Bridge Road to Fish Hatchery Road, to U.S. 15 (Catoctin Mountain Highway), to MD 77/MD 550 (Main Street), to MD 550 (Jimtown Road), to Hessong Bridge Road.

Project Questions/Concerns**1. Is there a project website?**

*Yes, the Division of Public Works (DPW) project website is accessed using the following link:
<https://www.frederickcountymd.gov/7636/Hessong-Bridge-Road>*

2. How can I best make concerns/issues about County-maintained roadways known?

Hessong Bridge Road Bridge Replacement Project

RE: Public Meeting Minutes from April 5, 2018

June 13, 2018

Page 4 of 7

Notification is best through the County's online work request system using the following link: https://maps.frederickcountymd.gov/Html5Viewer/Index.html?configBase=https://maps.frederickcountymd.gov/Geocortex/Essentials/REST/sites/Work_Request_Viewer/viewers/DPW_Work_Request_System/virtualdirectory/Resources/Config/Default .

Alternatively, the Office of Highway Operations can be contacted at 301-600-1564.

- 3. How can I find out about upcoming paving projects in my area?**

The County's Pavement Management Program (PMP) website is accessed using the following link: <https://www.frederickcountymd.gov/4634/Pavement-Management-Program>. This page contains roads lists for various paving contracts and provides additional contact information regarding planned paving projects. Maintenance needs can be addressed using the link provided in the response for Question 2.
- 4. There are several drop-offs along the edge of pavement on Blacks Mill Road in the vicinity of the Hessong Bridge Road Bridge project. Will these conditions be addressed?**

This concern has been submitted as a work order request to the County's Office of Highway Operations (OHO). OHO will evaluate roadway drop-off locations and address identified issues as warranted.
- 5. It appears the bridge replacement alternative and project as a whole is a done deal. Will public input influence the project at this point?**

Project details and funding are not final at this point. Public input does shape the outcome of these important projects. As the project progresses through the design stage, the public will have opportunities to ask questions and provide comments. A second public meeting will be scheduled to discuss preliminary design plans when initial design is complete, which is anticipated in 2019. Please check the DPW project website, provided in the Question 1 response, for updates on the next public meeting. Citizens may also contact the Project Manager, Jennifer Bohager, (301) 600-3505 or jbohager@FrederickCountyMD.gov, or the Chief of the Office of Transportation Engineering, Jason Stitt, (301) 600-2932 or jstitt@FrederickCountyMD.gov, with comments and questions.
- 6. Won't widening the bridge to two lanes encourage higher speeds? Couldn't higher speeds through the intersection, especially northbound, increase the likelihood of crashes?**

This is a valid concern that will be evaluated and addressed as the project progresses through the design phase.
- 7. Hessong Bridge Road in the northbound direction, towards the existing bridge, is posted at 30 mph, while southbound, heading away from the bridge, is posted at 40 mph. What is the reason for signing the speed limits like this?**

The Office of Transportation Engineering's (OTE) Traffic Section will evaluate, and a response to this question will be posted on Frederick County's DPW project website, provided in the Question 1 response.
- 8. Costs for the project discussed in the presentation seem to be high for a rural county road regardless of the funding source. What can be done to reduce project costs?**

Construction project costs consider many factors (e.g., site constraints, utility relocations, complexity of work, duration of project, environmental and waterway impacts, right-of-way impacts, length of project limits, maintenance of traffic, permit requirements and restrictions). Construction costs are also impacted by unforeseen site conditions. DPW generally estimates costs based upon similar, previously constructed County or area projects. Generally speaking,

Hessong Bridge Road Bridge Replacement Project

RE: Public Meeting Minutes from April 5, 2018

June 13, 2018

Page 5 of 7

base costs developed for funding County CIP projects are adjusted over time and increased with inflation. As we receive more information on the project through design and site investigation, further adjustment may be needed to reflect a more realistic anticipated cost. During planning/study and design phases, cost-effective methods are explored and incorporated as feasible. Achieving the goals and scope of the project while minimizing costs is the objective of County projects.

9. The proposed bridge and approaches seem to be too wide for this area. Why not match the width of the surrounding roadways?

A priority for County projects is to improve the safety and traffic needs of the project location by meeting the current American Association of State Highway and Transportation Officials (AASHTO) guidelines for roads and bridges. The County strives to meet these requirements whenever possible, which may require widening the roadway, meeting a standard lane/shoulder width, adding shoulders to allow for proper, safe vehicle recovery and bicycle and pedestrian compatibility.

10. The current bridge project on Old Frederick Road has had the road closed for an extended period of time. Why is that so? We are concerned that the project for the Hessong Bridge Road Bridge will have similar issues.

The Old Frederick Road Bridge is a project that included rehabilitation of the existing bridge. Conditions with the underlying structure that could not have been foreseen during design were discovered during construction, when the deck was removed. Additional work was required and added time for review/approval by the County and SHA of design documents, construction items, and materials. "Unknowns" cannot be accurately estimated during pre-construction stages. Unforeseen, unanticipated factors are discovered and addressed at the time of construction. Old Frederick Road is scheduled to re-open before June 30, 2018.

The Hessong Bridge Road Bridge project is a complete replacement of the existing bridge, so construction will mirror the approved design. Design will not be influenced by an existing structure or elements of a structure, and the consultant can work practically from a "clean slate." Because the structural design and construction will be "all new," from foundation to superstructure, there is less chance for "unknowns" to be encountered.

11. U.S. 15 is a terrible route to utilize in the signed detour due to safety concerns. Can't a different route be considered?

Motorists can choose to take alternative routes, other than the signed detour route, that fit their needs. The proposed detour route has been coordinated with local agencies, emergency personnel, and SHA, and is a route that can accommodate all legal vehicles, such as school buses, farm equipment, and large trucks. Detour routes to the east of the project site were reviewed, but there are posted weight restrictions on bridges along these roads that do not permit all legal vehicles to cross these bridges. We understand the safety concerns with U.S. 15 and have coordinated with SHA to determine which intersecting County road would be a safer route to enter and exit onto U.S. 15. As a result, Fish Hatchery Road at U.S. 15 was considered a safer route than some of the other County roads that intersect with U.S. 15.

12. A wider bridge is desirable to accommodate modern farm equipment, but excessive closure time has significant impacts on local farming operations, not to mention other local road users. Can the closure period be reduced to minimize these impacts?

During design we will continue to consider ways to minimize the closure period and impacts to local farming operations and local road users.

- 13. You mentioned very little about nearby historic sites or the potential for impacts to archeological sites within the project limits. These items are very important to the community and we are afraid that the project may neglect to pay proper attention to them. How will the project address these concerns?**

This concern will be evaluated during design. The project must be reviewed by various agencies, including the Maryland Historical Trust and several other environmental agencies. If warranted, during design, per Section 106 of the National Historic Preservation Act, archeological investigations may be incorporated as part of the design process for this project.

- 14. Blacks Mill Road and Hessong Bridge Road are used heavily by agricultural equipment. Will that be taken into consideration when designing the project? Barricades at the intersection of Blacks Mill Road should be set so that farm equipment can navigate through this intersection.**

Roadway barricades will likely be included to safely block motorists from entering the project site. Allowing passage of agricultural equipment through the intersection will be taken into consideration and coordinated through design and construction.

- 15. There is a private drive on a property off of Spars Quarry Road that is used by trespassers on occasion. Closure of Hessong Bridge Road may increase the unauthorized use of this drive. What will be done to address this concern?**

This issue will be considered during design and implementation of the signed detour route plan. If warranted, an appropriate means will be implemented to deter trespassing on the private drive. Additional County collaboration with the property owner during design may be needed.

- 16. Why is Alternate 2 more expensive than the chosen concept design?**

Alternate 2, the pre-stressed concrete slab panel bridge concept, would require raising the profile of the roadway and increasing the project limits. Alternates 3 and 4 would require the same. Raising the roadway requires more earthwork, longer bridge approach work to allow for proper roadway transition with the bridge, and a longer construction duration, which increases costs. The project limits would be almost double the length of the chosen concept, Alternate 1. Alternate 1, the twin-cell concrete box culvert concept, retains almost the existing elevation of the roadway (existing elevation of the bridge) and shorter project limits.

- 17. Will federal funds be utilized for the proposed alignment or only the bridge? There are concerns with the speed of this road because of a two-lane bridge and the roadway alignment (i.e., curve in the road north of the intersection).**

The federal funding being utilized for this project is for bridge replacement and rehabilitation projects and not for roadway improvement projects. These federal funds, which cover 80% of construction costs, typically cover the installation of the proposed bridge and allow for minimum bridge approach work, only that necessary for the proper tie-ins to the existing roadway. There are no planned roadway projects for Hessong Bridge Road north of the intersection with Blacks Mill Road.

- 18. How will concerns about sight distance because of the bridge railing be addressed?**

Chosen Alternate 1, twin-cell concrete box culvert, will have a railing. This sight distance concern will be considered and evaluated during design.

- 19. There are sight distance concerns on Blacks Mill (west side) at Hessong Bridge Road intersection.**

These concerns will be evaluated during design.

Hessong Bridge Road Bridge Replacement Project

RE: Public Meeting Minutes from April 5, 2018

June 13, 2018

Page 7 of 7

- 20. Will the profile of the bridge be any lower? During construction, will the intersection be a three-way intersection and will a stop sign be needed all three ways? There are also concerns about having a two-lane bridge and increased speeds at the intersection.**
The profile of the proposed two-lane bridge is anticipated to be approximately the same as the profile of the existing one-lane bridge. Maintenance of traffic through the intersection during construction will be evaluated during design, as will the speeding concern.
- 21. There are concerns with water lying on Hessong Bridge Road and Fish Hatchery Road at the intersection. In the winter, water freezes on the road at the stop sign.**
This concern has been submitted as a work order request to OHO. OHO will evaluate and address as warranted.

Thank you for sharing your ideas and concerns. Over the next two years, this bridge replacement project will be in the design phase. Updates will be posted on the County's project website at <https://www.frederickcountymd.gov/7636/Hessong-Bridge-Road>. Design funding will become available July 1, 2018.

Please do not hesitate to contact Ms. Jennifer Bohager regarding this public project, (301) 600-3505 or jbohager@FrederickCountyMD.gov.

Table 2.1 – Marked Bike Lanes

| MINIMUM SHOULDER WIDTHS FOR MARKED BIKE LANES | | |
|---|----------------------|----------------------|
| POSTED SPEED LIMIT | TRUCK VOLUMES (%ADT) | SHOULDER/LANE WIDTH* |
| ≤ 35 MPH | ----- | 4 FEET |
| > 35 MPH and ≤ 45 MPH | ≤ 8% trucks | 5 FEET |
| | > 8% trucks | 6 FEET |
| > 45 MPH | ----- | 6 FEET |

*The shoulder/lane width is measured excluding the gutter pan.

*Add 1 foot minimum to the shoulder/lane width if operating adjacent to traffic barrier, concrete barrier, a curb without a gutter pan, or on-street parking.

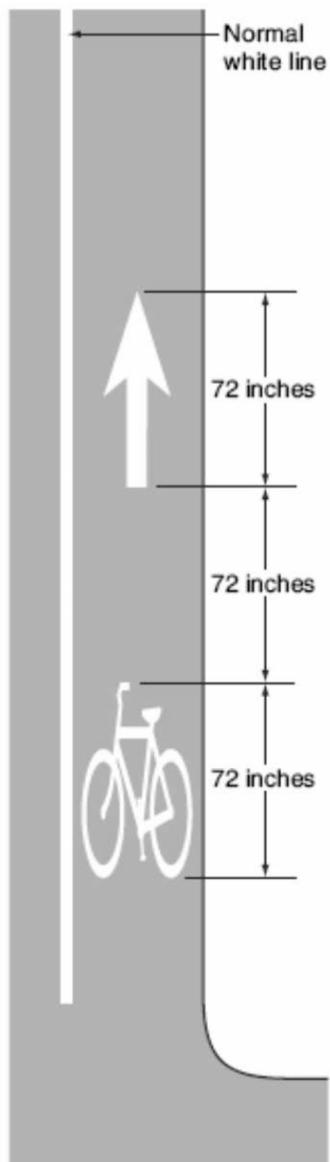


Figure 2.2
Bike Lane Marking

If parking lanes exist along the roadway, a minimum 5 ft bike lane is required between the through lane and parking lane. When shoulders are converted to bike lanes with the appropriate signs and pavement markings, they shall be referred to as bike lanes and not as shoulders. In addition, parking may be prohibited on these facilities once a thorough review has been undertaken through an engineering study and Memorandum of Agreement with appropriate parties has been executed. However, it is important to note that the establishment of a bike lane on what was previously a shoulder does not prohibit its use by emergency vehicles or disabled motor vehicles for a short period of time.

2.2 Bike Lane Pavement Markings and Signs

Bike Lane Pavement Markings

The MdMUTCD Part 9 establishes standards and guidance on the use of pavement markings (a bicycle without a rider and an arrow) to designate bike lanes, and should be referenced in addition to the guidance provided herein.

While the MdMUTCD allows the use of several different bicycle symbols for designating bike lanes, all new installations shall be the *bicycle without a rider symbol*, as shown in Figure 2.2. The symbol should generally be placed in the center of the bike lane and shall be accompanied by a straight arrow pavement marking. Both the bicycle symbol and the arrow shall be a white, thermoplastic, preformed pavement marking. If the shoulder meets the required width and it is determined that it will be designated as a bike lane, the pavement markings shown in Figure 2.2 shall be installed immediately beyond each major intersection. In addition to being placed after major intersections, bicycle pavement markings shall be placed at about every $\frac{1}{2}$ mile along the bike lane where there is a sufficiently long section with no intersections in rural areas; and at about every $\frac{1}{4}$ mile in urban areas.

Bike lane pavement markings shall only be used in conjunction with a solid and/or dashed white line that delineates the bike lane from the motor vehicle travel lane. The delineation striping shall be per the MdMUTCD. Dashed white lines with a minimum width of 5 in., may be used to guide bicyclists through intersections and other situations where such guidance would be desirable. Where on-street parking is permitted, a solid

the motor vehicle travel lane. The delineation striping shall be per the MdMUTCD. Dashed white lines with a minimum width of 5 in., may be used to guide bicyclists through intersections and other situations where such guidance would be desirable. Where on-street parking is permitted, a solid